

APPENDIX I: WETLANDS

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL1	Treed swamp; Bog; Marsh	Fringe	North	A1: Histosol	Surface water; High water table; Saturation; Water marks; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns	Low	Velvet-leaved blueberry (<i>Vaccinium myrtilloides</i>)	Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghaniensis</i>)	Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghaniensis</i>)	Mixed woods
WL2	Shrub swamp	Basin	None apparent	A1: Histosol	Saturation	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Tawny Cottongrass (<i>Eriophorum virginicum</i>); Bunchberry (<i>Cornus canadensis</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>)	Mixed woods
WL3	Treed swamp	Flat	None apparent	A1: Histosol	Saturation	Low	Velvet-leaved Blueberry (<i>Vaccinium myrtilloides</i>); Goldthread (<i>Coptis trifolia</i>); Bunchberry (<i>Cornus canadensis</i>)	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Mountain holly (<i>Ilex mucronata</i>); Balsam fir (<i>Abies balsamea</i>)	Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>)	Mixed woods
WL4	Vernal pool	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation; Water marks; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns; Hydrogen sulfide odour	Low	Tawny Cottongrass (<i>Eriophorum virginicum</i>); Common woolly bulrush (<i>Scirpus cyperinus</i>); Bunchberry (<i>Cornus canadensis</i>)	Red maple (<i>Acer rubrum</i>); Sheep laurel (<i>Kalmia angustifolia</i>); Tamarack (<i>Larix laricina</i>)	Red maple (<i>Acer rubrum</i>); Black spruce (<i>Picea mariana</i>); Tamarack (<i>Larix laricina</i>)	Young mixed woods
WL5	Shrub swamp; Vernal pool; Treed swamp	Fringe	None apparent	A1: Histosol	Surface water; High water table; Saturation; Water marks; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns; Surface soil cracks; Hydrogen sulfide odour	Low	Common woolly bulrush (<i>Scirpus cyperinus</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Crested Crested wood fern (<i>Dryopteris cristata</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>)	Red spruce (<i>Picea rubens</i>); Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Mixed woods
WL6	Shrub swamp; Treed swamp	Fringe	None apparent	A1: Histosol	High water table; Saturation; Water stained leaves	Low	Sensitive fern (<i>Onoclea sensibilis</i>); Canada Goldenrod (<i>Solidago canadensis</i>); Common Woolly Bulrush (<i>Scirpus cyperinus</i>)	Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghaniensis</i>); White meadowsweet (<i>Spiraea alba</i>); Pin cherry (<i>Prunus pensylvanica</i>)	Black spruce (<i>Picea mariana</i>); Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghaniensis</i>)	Hardwood regeneration
WL7	Treed swamp	Flat	None apparent	A1: Histosol	Saturation; Water marks; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns; Surface soil cracks	Low	Sensitive fern (<i>Onoclea sensibilis</i>); Common Woolly Bulrush (<i>Scirpus cyperinus</i>); Tawny Cottongrass (<i>Eriophorum virginicum</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Balsam fir (<i>Abies balsamea</i>); Tamarack (<i>Larix laricina</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Balsam fir (<i>Abies balsamea</i>); Tamarack (<i>Larix laricina</i>)	Mixed woods

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							Herbaceous	Shrub	Trees	
WL8	Shrub Swamp	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation	Low	Common woolly bulrush (<i>Scirpus cyperinus</i>); Twinflower (<i>Linnaea borealis</i>); Creeping snowberry (<i>Gaultheria hispidula</i>); Velvet-leaved blueberry (<i>Vaccinium myrtilloides</i>)	Red spruce (<i>Picea rubens</i>); Yellow birch (<i>Betula alleghaniensis</i>); Red maple (<i>Acer rubrum</i>)	Red spruce (<i>Picea rubens</i>); Yellow birch (<i>Betula alleghaniensis</i>); Balsam fir (<i>Abies balsamea</i>);	Regenerating mix wood stand; abundant deadwood
WL9	Treed swamp; Bog	Flat	South	A1: Histosol	High water table; Saturation; Water stained leaves	Low	Canada Goldenrod (<i>Solidago canadensis</i>); Sensitive fern (<i>Onoclea sensibilis</i>)	White meadowsweet (<i>Spiraea alba</i>)	None	Hardwood regeneration
WL10	Shrub swamp	Flat	None apparent	A1: Histosol	Saturation	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Wild lily-of-the-valley (<i>Maianthemum canadense</i>)	Speckled alder (<i>Alnus incana</i>); Yellow birch (<i>Betula alleghaniensis</i>); Balsam fir (<i>Abies balsamea</i>)	Red spruce (<i>Picea rubens</i>); Balsam fir (<i>Abies balsamea</i>)	Mixed wood regeneration
WL11	Treed Swamp	Basin	None apparent	A1: Histosol	High water table; Saturation	Low	Bunchberry (<i>Cornus canadensis</i>); Three-leaved False Solomons seal (<i>Maianthemum trifolium</i>); Wild sarsaparilla (<i>Aralia nudicaulis</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); <i>Dryopteris</i> sp.	Balsam fir (<i>Abies balsamea</i>); Mountain holly (<i>Ilex mucronata</i>); Yellow birch (<i>Betula alleghaniensis</i>)	Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghaniensis</i>); Red spruce (<i>Picea rubens</i>)	Sloped mixed wood forest
WL12	Shrub swamp	Flat	None apparent	A1: Histosol	High water table; Saturation; Drainage patterns	Low	Northern pitcher plant (<i>Sarracenia purpurea</i>); Tawny cottongrass (<i>Eriophorum virginicum</i>)	White meadowsweet (<i>Spiraea alba</i>); Sugar maple (<i>Acer saccharum</i>); Yellow birch (<i>Betula alleghaniensis</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>)	Red maple (<i>Acer rubrum</i>); Red spruce (<i>Picea rubens</i>); Staghorn sumac (<i>Rhus typhina</i>)	Road
WL13	Shrub swamp	Flat	None apparent	A1: Histosol	Surface water; High water table; Saturation; Drainage patterns	Low	Sensitive fern (<i>Onoclea sensibilis</i>); Bracken fern (<i>Pteridium aquilinum</i>); Twinflower (<i>Linnaea borealis</i>); Bunchberry (<i>Cornus canadensis</i>); Broad-leaved cattail (<i>Typha latifolia</i>)	Red maple (<i>Acer rubrum</i>); Tamarack (<i>Larix laricina</i>)	Tamarack (<i>Larix laricina</i>); Red maple (<i>Acer rubrum</i>); Black spruce (<i>Picea mariana</i>)	Mixed woods
WL14	Shrub swamp; Bog	Fringe	None apparent	A1: Histosol	Surface water; High water table; Saturation; Water marks; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns	Low	Tawny Cottongrass (<i>Eriophorum virginicum</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Pitcher plant (<i>Sarracenia purpurea</i>)	Red maple (<i>Acer rubrum</i>); Black spruce (<i>Picea mariana</i>); Balsam fir (<i>Abies balsamea</i>)	Red maple (<i>Acer rubrum</i>); Black spruce (<i>Picea mariana</i>); Balsam fir (<i>Abies balsamea</i>); Yellow birch (<i>Betula alleghaniensis</i>)	Mixed woods

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							Herbaceous	Shrub	Trees	
WL15	Marsh	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation; Water marks; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Tawny Cottongrass (<i>Eriophorum virginicum</i>); Bunchberry (<i>Cornus canadensis</i>)	Speckled alder (<i>Alnus incana</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Hardwoods
WL16	Bog	Basin	None apparent	A1: Histosol	High water table; Saturation; Hydrogen sulfide odour	Low	Two-seeded Sedge (<i>Carex disperma</i>); Common woolly bulrush (<i>Scirpus cyperinus</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Cranberry viburnum (<i>Viburnum opulus var. opulus</i>); <i>Carex sp.</i> ; <i>Juncus sp.</i>	Mountain holly (<i>Ilex mucronata</i>); Red maple (<i>Acer rubrum</i>); Northern Wild Raisin (<i>Viburnum cassinoides</i>); Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>); Pin cherry (<i>Prunus pennsylvanica</i>)	White birch (<i>Betula papyrifera</i>); Red spruce (<i>Picea rubens</i>); Yellow birch (<i>Betula alleghaniensis</i>); Red maple (<i>Acer rubrum</i>); Trembling aspen (<i>Populus tremuloides</i>); Pin cherry (<i>Prunus pennsylvanica</i>)	Dense mixed wood regeneration with sparse shrub coverage.
WL17	Shrub swamp; Treed swamp	Flat	None apparent	A1: Histosol	Saturation; Water marks; Water stained leaves	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Bunchberry (<i>Cornus canadensis</i>)	Black spruce (<i>Picea mariana</i>); Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Black spruce (<i>Picea mariana</i>); Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Mixed woods
WL18	Bog	Basin	None apparent	A1: Histosol	High water table; Saturation	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Tuberous grass pink (<i>Calopogon tuberosus</i>); Northern purple pitcher plant (<i>Sarracenia purpurea ssp. purpurea</i>); Cranberry viburnum (<i>Viburnum opulus var. opulus</i>); Common woolly bulrush (<i>Scirpus cyperinus</i>); Bog aster (<i>Oclemena nemoralis</i>); Three-leaved False Solomons seal (<i>Maianthemum trifolium</i>); <i>Grass spp.</i> ; <i>Sedge spp.</i> ; Bunchberry (<i>Cornus canadensis</i>)	Red maple (<i>Acer rubrum</i>); Speckled alder (<i>Alnus incana</i>); Sheep laurel (<i>Kalmia angustifolia</i>); <i>Aster spp.</i> ; Red spruce (<i>Picea rubens</i>); Northern Wild Raisin (<i>Viburnum cassinoides</i>)	Tamarack (<i>Larix laricina</i>); Black spruce (<i>Picea mariana</i>)	Sloped surface; early succession with evidence of recent forestry.

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							Herbaceous	Shrub	Trees	
WL19	Shrub swamp	Flat	None apparent	A1: Histosol	Saturation	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Creeping snowberry (<i>Gaultheria hispidula</i>); Bunchberry (<i>Cornus canadensis</i>)	Red maple (<i>Acer rubrum</i>); Tamarack (<i>Larix laricina</i>); Common Labrador Tea (<i>Rhododendron groenlandicum</i>)	Tamarack (<i>Larix laricina</i>); Black spruce (<i>Picea mariana</i>); Red maple (<i>Acer rubrum</i>); Speckled alder (<i>Alnus incana</i>)	Softwood regeneration
WL20	Shrub swamp; Treed swamp	Flat	None apparent	A1: Histosol	High water table; Saturation; Water stained leaves	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Bunchberry (<i>Cornus canadensis</i>)	Speckled alder (<i>Alnus incana</i>); Red maple (<i>Acer rubrum</i>); Black spruce (<i>Picea mariana</i>)	Speckled alder (<i>Alnus incana</i>); Red maple (<i>Acer rubrum</i>); Black spruce (<i>Picea mariana</i>)	Hardwood regeneration
WL21	Shrub Swamp	Basin	None apparent	A1: Histosol	High water table; Saturation	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Three-leaved False Solomons seal (<i>Maianthemum trifolium</i>)	Sheep laurel (<i>Kalmia angustifolia</i>); Mountain holly (<i>Ilex mucronata</i>); White birch (<i>Betula papyrifera</i>); Black spruce (<i>Picea mariana</i>); Speckled alder (<i>Alnus incana</i>)	Black spruce (<i>Picea mariana</i>); Gray birch (<i>Betula populifolia</i>); White birch (<i>Betula papyrifera</i>); Eastern White pine (<i>Pinus strobus</i>)	Sharply sloped topography featuring exposed boulder and bedrock.
WL22	Bog	Basin	South	A1: Histosol; F2: Loamy Gleyed Matrix	Saturation; Surface Water	Low	Twinflower (<i>Linnaea borealis</i>); Northern Star flower (<i>Lysimachia borealis</i>); Convulsion-Root (<i>Monotropa uniflora</i>); Grass spp.	Red maple (<i>Acer rubrum</i>); American holly (<i>Ilex opaca</i>)	Balsam fir (<i>Abies balsamea</i>); Canada holly (<i>Ilex opaca</i>); Black spruce (<i>Picea mariana</i>); Eastern white pine (<i>Pinus strobus</i>); Speckled alder (<i>Alnus incana</i>); Red maple (<i>Acer rubrum</i>)	Softwood forest with dense moss coverage.
WL23	Shrub swamp		None apparent	A1: Histosol	Surface water; Saturation; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Creeping cinquefoil (<i>Potentilla reptans</i>)	White meadowsweet (<i>Spiraea alba</i>); Red spruce (<i>Picea rubens</i>); Prunus spp.	Black spruce (<i>Picea mariana</i>); Red spruce (<i>Picea rubens</i>); Balsam fir (<i>Abies balsamea</i>)	Softwood
WL24	Bog; Marsh	Basin	None apparent	A1: Histosol	High water table; Saturation; Water stained leaves	Low	Twinflower (<i>Linnaea borealis</i>); Velvet-leaved blueberry (<i>Vaccinium myrtilloides</i>); Canada Goldenrod (<i>Solidago canadensis</i>)	Northern wild raisin (<i>Viburnum cassinoides</i>); Speckled alder (<i>Alnus incana</i>); Prunus spp.	Black spruce (<i>Picea mariana</i>); Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Mixed woods

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							Herbaceous	Shrub	Trees	
WL25	Bog	Flat	None apparent	A1: Histosol	Saturation; Water stained leaves	Low	Whorled Wood Aster (<i>Oclemena acuminata</i>); Goldthread (<i>Coptis trifolia</i>); Creeping snowberry (<i>Gaultheria hispida</i>)	Sheep laurel (<i>Kalmia angustifolia</i>); Black spruce (<i>Picea mariana</i>); Red maple (<i>Acer rubrum</i>)	Red maple (<i>Acer rubrum</i>); Black spruce (<i>Picea mariana</i>); Trembling aspen (<i>Populus tremuloides</i>)	Mixed woods
WL26	Bog	Basin	South	A1: Histosol	Surface water; High water table; Saturation	Low	Small cranberry (<i>Vaccinium oxycoccos</i>); <i>Carex</i> spp.; Common labrador tea (<i>Rhododendron groenlandicum</i>)	Black spruce (<i>Picea mariana</i>); Green alder (<i>Alnus alnobetula</i>)	Black spruce (<i>Picea mariana</i>); Balsam fir (<i>Abies balsamea</i>)	Mixedwood stand, fir dominant.
WL27	Treed Swamp	Basin	None apparent	A1: Histosol	High water table; Saturation; Hydrogen sulfide odour	Low	Two-seeded Sedge (<i>Carex disperma</i>); Twinflower (<i>Linnaea borealis</i>); wood fern sp.; Whorled wooded aster (<i>Oclemena acuminata</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Bog aster (<i>Oclemena nemoralis</i>)	Balsam fir (<i>Abies balsamea</i>); Yellow birch (<i>Betula alleghanensis</i>); Red spruce (<i>Picea rubens</i>); Velvet-leaved blueberry (<i>Vaccinium myrtilloides</i>); Red maple (<i>Acer rubrum</i>)	Yellow birch (<i>Betula alleghanensis</i>); Black spruce (<i>Picea mariana</i>); Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>)	Upland features exposed boulders and thin soils. Young mixed woods.
WL28	Bog	Basin	South	A1: Histosol	Surface water; High water table; Saturation; Water stained leaves; Drainage patterns	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Common Woolly Bulrush (<i>Scirpus cyperinus</i>)	Speckled alder (<i>Alnus incana</i>); Red maple (<i>Acer rubrum</i>); White meadowsweet (<i>Spiraea alba</i>)	Black spruce (<i>Picea mariana</i>); Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Softwoods
WL29	Bog	Basin	East	A1: Histosol	High water table; Saturation	Low	Crested wood fern (<i>Dryopteris cristata</i>); Starflower (<i>Lysimachia borealis</i>); Sensitive fern (<i>Onoclea sensibilis</i>)	Sugar maple (<i>Acer saccharum</i>)	Red maple (<i>Acer rubrum</i>); Sugar maple (<i>Acer saccharum</i>); Yellow birch (<i>Betula alleghaniensis</i>)	Mature hardwood
WL30	Shrub swamp; Treed swamp	Basin	None apparent	A1: Histosol	Saturation; Water marks; Water stained leaves	Low	Bunchberry (<i>Cornus canadensis</i>); Creeping snowberry (<i>Gaultheria hispida</i>); Velvet-leaved Blueberry (<i>Vaccinium myrtilloides</i>)	Black spruce (<i>Picea mariana</i>); Sheep laurel (<i>Kalmia angustifolia</i>); Mountain holly (<i>Ilex mucronata</i>)	Black spruce (<i>Picea mariana</i>); Tamarack (<i>Larix laricina</i>); <i>Prunus</i> spp.	Mixed woods

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							Herbaceous	Shrub	Trees	
WL31	Treed Swamp	Basin	None apparent	A1: Histosol	High water table; Saturation; Sediment Deposits; Water Stained Leaves	Low	Fringed sedge (<i>Carex crinita</i>); Sensitive fern (<i>Onoclea sensibilis</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Common woolly bulrush (<i>Scirpus cyperinus</i>); Three-leaved False Solomons seal (<i>Maianthemum trifolium</i>); Whorled wood aster (<i>Oclemena acuminata</i>)	Yellow birch (<i>Betula alleghanensis</i>); Velvet-leaved blueberry (<i>Vaccinium myrtilloides</i>); Common Labrador Tea (<i>Rhododendron groenlandicum</i>); Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>)	Yellow birch (<i>Betula alleghanensis</i>); Red spruce (<i>Picea rubens</i>); Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>); Black spruce (<i>Picea mariana</i>)	Young hardwood
WL32	Marsh	Basin	None apparent	A1: Histosol	Surface water; Saturation; Water Marks; Sediment Deposits; Water Stained Leaves; Hydrogen sulfide odour	Low	Fringed sedge (<i>Carex crinita</i>); Common woolly bulrush (<i>Scirpus cyperinus</i>); Red raspberry (<i>Rubus idaeus</i>); Rough-stemmed goldenrod (<i>Solidago rugosa</i>); Grass sp.; Three-leaved False Solomons seal (<i>Maianthemum trifolium</i>)	Yellow birch (<i>Betula alleghanensis</i>)	Yellow birch (<i>Betula alleghanensis</i>); Red maple (<i>Acer rubrum</i>)	Mixed woods but hardwood dominant. Scarce shrub cover.
WL33	Treed swamp	Flat	None apparent	A1: Histosol	Saturation; Water marks	Low	Sarsaparilla (<i>Aralia nudicaulis</i>); Starflower (<i>Lysimachia borealis</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>)	Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Mixed woods
WL34	Shrub swamp; Treed swamp	Flat	None apparent	A1: Histosol	High water table; Saturation; Water stained leaves	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Creeping snowberry (<i>Gaultheria hispidula</i>); Velvet-leaved Blueberry (<i>Vaccinium myrtilloides</i>); Tawny Cottongrass (<i>Eriophorum virginicum</i>)	Northern wild raisin (<i>Viburnum cassinoides</i>); Common Labrador Tea (<i>Rhododendron groenlandicum</i>); Black spruce (<i>Picea mariana</i>)	Black spruce (<i>Picea mariana</i>); Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Mixed woods
WL35	Bog; Treed swamp	Flat	None apparent	A1: Histosol	Saturation	Low	Northern pitcher plant (<i>Sarracenia purpurea</i>); Bluebead lily (<i>Clintonia borealis</i>); Tawny Cottongrass (<i>Eriophorum virginicum</i>)	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Red spruce (<i>Picea rubens</i>); Mountain holly (<i>Ilex mucronata</i>)	Red maple (<i>Acer rubrum</i>); Red spruce (<i>Picea rubens</i>)	Mixed woods

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WL36	Marsh; Bog	Flat	None apparent	A1: Histosol	Saturation	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Whorled Wood Aster (<i>Oclemena acuminata</i>)	White meadowsweet (<i>Spiraea alba</i>); Black spruce (<i>Picea mariana</i>); Raspberry (<i>Rubus idaeus</i>)	Red spruce (<i>Picea rubens</i>); Tamarack (<i>Larix laricina</i>)	Softwood regeneration
WL37	Treed swamp; Bog	Flat	None apparent	A1: Histosol	Saturation	Low	Bunchberry (<i>Cornus canadensis</i>); Creeping snowberry (<i>Gaultheria hispidula</i>); Goldthread (<i>Coptis trifolia</i>)	None	Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Mixed woods
WL38	Shrub swamp	Basin	North	A1: Histosol	Surface water; High water table; Saturation; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface	Low	Canada Goldenrod (<i>Solidago canadensis</i>)	White meadowsweet (<i>Spiraea alba</i>); Red maple (<i>Acer rubrum</i>); Red spruce (<i>Picea rubens</i>); <i>Prunus</i> spp.	Red maple (<i>Acer rubrum</i>); Red spruce (<i>Picea rubens</i>); <i>Prunus</i> spp.	Mixed woods regeneration
WL39	Treed swamp	Basin	West	A1: Histosol	Surface water; High water table; Saturation; Water marks; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns; Surface soil cracks; Hydrogen sulfide odour	Moderate	Fowl manna grass (<i>Glyceria striata</i>); Common Woolly Bulrush (<i>Scirpus cyperinus</i>)	Speckled alder (<i>Alnus incana</i>)	None	Mixed shrubs
WL40	Shrub swamp	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation; Water marks; Water stained leaves; Drainage patterns	Low	Tawny Cottongrass (<i>Eriophorum virginicum</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Broad-leaved cattail (<i>Typha latifolia</i>)	White meadowsweet (<i>Spiraea alba</i>); Red maple (<i>Acer rubrum</i>)	Red spruce (<i>Picea rubens</i>); Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Mixed woods
WL41	Bog	Flat	None apparent	A1: Histosol	High water table; Saturation; Water stained leaves; Drainage patterns	Low	Bunchberry (<i>Cornus canadensis</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Creeping snowberry (<i>Gaultheria hispidula</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>)	Young mixed woods
WL42	Bog	Basin	North	A1: Histosol	High water table; Saturation; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns	Low	Bunchberry (<i>Cornus canadensis</i>); Starflower (<i>Lysimachia borealis</i>)	Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Mixed woods

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL43	Shrub swamp	Fringe	West	A1: Histosol	Surface water; Saturation; Water marks; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns	Low	Bunchberry (<i>Cornus canadensis</i>); Starflower (<i>Lysimachia borealis</i>); Sensitive fern (<i>Onoclea sensibilis</i>);	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Speckled alder (<i>Alnus incana</i>)	Speckled alder (<i>Alnus incana</i>); Yellow birch (<i>Betula alleghaniensis</i>); Red maple (<i>Acer rubrum</i>)	Young hardwood
WL44	Shrub swamp	Basin	None apparent	A1: Histosol	High water table; Saturation; Sediment deposits; Water stained leaves; Drainage patterns	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Canada Goldenrod (<i>Solidago canadensis</i>); Velvet-leaved Blueberry (<i>Vaccinium myrtilloides</i>); Sensitive fern (<i>Onoclea sensibilis</i>)	Leatherleaf (<i>Chamaedaphne calyculata</i>); Sheep laurel (<i>Kalmia angustifolia</i>)	None	Mixed regeneration
WL45	Treed swamp	Flat	None apparent	A1: Histosol	High water table; Saturation; Sediment deposits; Drainage patterns	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Common Woolly Bulrush (<i>Scirpus cyperinus</i>); Wild lily-of-the-valley (<i>Maianthemum canadense</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Speckled alder (<i>Alnus incana</i>); Balsam fir (<i>Abies balsamea</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Speckled alder (<i>Alnus incana</i>); Balsam fir (<i>Abies balsamea</i>)	Mixed woods
WL46	Shrub swamp	Flat	None apparent	A1: Histosol	Saturation	Low	Canada Goldenrod (<i>Solidago canadensis</i>); Broad-leaved cattail (<i>Typha latifolia</i>)	White meadowsweet (<i>Spiraea alba</i>)	None	Mixed regeneration
WL47	Treed Swamp	Basin	West	S1: Sandy Mucky Mineral	Water Marks; Sediment Deposits; Water Stained Leaves; Sparsely vegetated concave surfaces; Drainage Patterns	Low	Common woolly bulrush (<i>Scirpus cyperinus</i>); Royal fern (<i>Osmunda regalis</i>)	Sheep laurel (<i>Kalmia angustifolia</i>); Yellow birch (<i>Betula alleghanensis</i>); Black spruce (<i>Picea mariana</i>); Mountain holly (<i>Ilex mucronata</i>)	Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>); Eastern White pine (<i>Pinus strobus</i>); Yellow birch (<i>Betula alleghanensis</i>); Trembling aspen (<i>Populus tremuloides</i>)	Mixed woods; primary spp are balsam fir and yellow birch.
WL48	Treed Swamp; Bog	Basin	North	A2: Histic Epipedon	Hydrogen sulfide odour; Surface water; High water table; Saturation Sediment Deposits; Water Stained Leaves	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Soft rush (<i>Juncus effusus</i>); Shiny flat-top-goldenrod (<i>Oligoneuron nitidum</i>); Northern dewberry (<i>Rubus flagellaris</i>); Bog aster (<i>Oclemena nemoralis</i>)	Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghanensis</i>); Red spruce (<i>Picea rubens</i>)	Yellow birch (<i>Betula alleghanensis</i>); Balsam fir (<i>Abies balsamea</i>); Black spruce (<i>Picea mariana</i>); Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>)	Mixed wood; gentle slope

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL49	Shrub swamp	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation; Water marks; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns; Surface soil cracks; Hydrogen sulfide odour	Low	Canada Goldenrod (<i>Solidago canadensis</i>)	Red maple (<i>Acer rubrum</i>); Red spruce (<i>Picea rubens</i>); Yellow birch (<i>Betula alleghaniensis</i>); White meadowsweet (<i>Spiraea alba</i>)	Trembling aspen (<i>Populus tremuloides</i>); Red spruce (<i>Picea rubens</i>); Yellow birch (<i>Betula alleghaniensis</i>)	Young hardwoods
WL50	Shrub swamp	Flat	East	A1: Histosol	Saturation	Low	Canada Goldenrod (<i>Solidago canadensis</i>); Creeping cinquefoil (<i>Potentilla reptans</i>); Broad-leaved cattail (<i>Typha latifolia</i>)	None	None	Softwoods
WL51	Treed Swamp; Floodplain	Basin	South	S1: Sandy Mucky Mineral	Saturation; Sediment deposits; Sparsely vegetated concave surfaces; Drainage patterns; Surface soil cracks; Surface water	Low	Two-seeded Sedge (<i>Carex disperma</i>); Common woolly bulrush (<i>Scirpus cyperinus</i>); Fringed sedge (<i>Carex crinita</i>); Eastern Hay-Scented Fern (<i>Dennstaedtia punctilobula</i>); Rosy sedge (<i>Carex rosea</i>)	Mountain holly (<i>Ilex mucronata</i>); Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghaniensis</i>); Red spruce (<i>Picea rubens</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>)	Historically logged; mixed wood.
WL52	Treed swamp; Shrub swamp	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation; Water marks; Water stained leaves	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Whorled Wood Aster (<i>Oclemea acuminata</i>); Canada Goldenrod (<i>Solidago canadensis</i>); Tawny Cottongrass (<i>Eriophorum virginicum</i>)	Leatherleaf (<i>Chamaedaphne calyculata</i>); Red maple (<i>Acer rubrum</i>)	Tamarack (<i>Larix laricina</i>); Black spruce (<i>Picea mariana</i>); Red maple (<i>Acer rubrum</i>); Speckled alder (<i>Alnus incana</i>)	Softwoods
WL53	Marsh	Basin	West	A1: Histosol	Surface water; High water table; Saturation; Water marks; Sediment deposits; Water stained leaves; Drainage patterns	Moderate	Broad-leaved cattail (<i>Typha latifolia</i>)	None	Speckled alder (<i>Alnus incana</i>)	Hardwood regeneration
WL54	Shrub swamp; Treed swamp	Flat	None apparent	A1: Histosol	Surface water; High water table; Saturation; Water marks; Sediment deposits; Water stained leaves; Sparsley vegetated concave surfaces; Hydrogen sulfide odour	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Whorled Wood Aster (<i>Oclemea acuminata</i>); Canada Goldenrod (<i>Solidago canadensis</i>); Common Woolly Bulrush (<i>Scirpus cyperinus</i>)	White meadowsweet (<i>Spiraea alba</i>); Red maple (<i>Acer rubrum</i>); <i>Prunus spp.</i>	Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Mixed woods

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL55	Treed swamp	Flat	None apparent	A1: Histosol	Saturation; Water stained leaves	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Bunchberry (<i>Cornus canadensis</i>); Starflower (<i>Lysimachia borealis</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Sugar maple (<i>Acer saccharum</i>); Balsam fir (<i>Abies balsamea</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Young hardwoods
WL56	Marsh	Basin	None apparent	A1: Histosol	High water table; Saturation; Water marks; Sediment deposits; water stained leaves; Drainage patterns	Low	Canada Goldenrod (<i>Solidago canadensis</i>); Broad-leaved cattail (<i>Typha latifolia</i>)	White meadowsweet (<i>Spiraea alba</i>)	Speckled alder (<i>Alnus incana</i>)	Hardwood regeneration
WL57	Treed Swamp; Bog	Flat	East	A1: Histosol	High water table; Saturation	Low	Fringed sedge (<i>Carex crinita</i>); Sensitive fern (<i>Onoclea sensibilis</i>); Hairy Flat-top White Aster (<i>Doellingeria umbellata</i>); Three-leaved False Solomons seal (<i>Maianthemum trifolium</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Fowl mana grass (<i>Glyceria striata</i>)	Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>); Red spruce (<i>Picea rubens</i>)	Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghanensis</i>); Mountain ash (<i>Sorbus americana</i>); White ash (<i>Fraxinus americana</i>); Tamarack (<i>Larix laricina</i>)	Softwood dominant
WL58	Shrub Swamp	Basin	South	S9: Thin Dark Surface	Saturation; Drainage Patterns	Low	Common woolly bulrush (<i>Scirpus cyperinus</i>); Fringed sedge (<i>Carex crinita</i>); Rough stemmed goldenrod (<i>Solidago rugosa</i>); Grass leaf goldenrod (<i>Euthamia graminifolia</i>); Ragged robin (<i>Silene flos-cuculi</i>); Eastern Hay-Scented Fern (<i>Dennstaedtia punctilobula</i>)	Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>); Yellow birch (<i>Betula alleghanensis</i>)	Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghanensis</i>)	Softwood dominant mixed woods
WL59	Treed Swamp	Basin	None apparent	A1: Histosol	Surface water; Saturation	Low	Bunchberry (<i>Cornus canadensis</i>); Sheep laurel (<i>Kalmia angustifolia</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>)	Balsam fir (<i>Abies balsamea</i>)	Black spruce (<i>Picea mariana</i>); Balsam fir (<i>Abies balsamea</i>);	Softwood dominant

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL60	Shrub Swamp; Treed Swamp	Flat	West	S1: Sandy Mucky Mineral	Drainage Patterns	Low	White fringed orchid (<i>Platanthera blephariglottis</i>); Common woolly bulrush (<i>Scirpus cyperinus</i>); Northern purple pitcher plant (<i>Sarracenia purpurea</i> ssp. <i>purpurea</i>); Small cranberry (<i>Vaccinium oxycoccos</i>); Tuberous grass pink (<i>Calopogon tuberosus</i>)	Sheep laurel (<i>Kalmia angustifolia</i>); Creeping juniper (<i>Juniperus horizontalis</i>); Leatherleaf (<i>Chamaedaphne calyculata</i>); Black spruce (<i>Picea mariana</i>); Mountain holly (<i>Ilex mucronata</i>); Pale bog laurel (<i>Kalmia polifolia</i>)	Tamarack (<i>Larix laricina</i>); Black spruce (<i>Picea mariana</i>)	Softwood dominant
WL61	Treed Swamp	Floodplain	North	S1: Sandy Mucky Mineral	Water Marks; Water Stained Leaves; Sparsely vegetated concave surfaces	Moderate	Sensitive fern (<i>Onoclea sensibilis</i>); Royal fern (<i>Osmunda regalis</i>); Fowl manna grass (<i>Glyceria striata</i>); Creeping bugleweed (<i>Ajuga reptans</i>); Northern dewberry (<i>Rubus flagellaris</i>); Spotted jewelweed (<i>Impatiens capensis</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>)	Alder-leaved buckthorn (<i>Endotropis alnifolia</i>); Sugar maple (<i>Acer saccharum</i>); Balsam fir (<i>Abies balsamea</i>)	Yellow birch (<i>Betula alleghanensis</i>); White ash (<i>Fraxinus americana</i>); Sugar maple (<i>Acer saccharum</i>); Red maple (<i>Acer rubrum</i>)	Softwood dominant
WL62	Shrub swamp	Basin	None apparent	A1: Histosol	Surface water; Saturation; Water stained leaves; Sparsely vegetated concave surface; Drainage patterns	Low	Sensitive fern (<i>Onoclea sensibilis</i>)	Speckled alder (<i>Alnus incana</i>)	Speckled alder (<i>Alnus incana</i>)	Mixed woods
WL63	Treed Swamp	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation	Low	Tawny cotton grass (<i>Eriophorum virginicum</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Rough-stemmed goldenrod (<i>Solidago rugosa</i>); Bristly dewberry (<i>Rubus hispidus</i>); Canada violet (<i>Viola canadensis</i>)	Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>)	Balsam fir (<i>Abies balsamea</i>); Tamarack (<i>Larix laricina</i>)	Softwood dominant

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL64	Bog	Basin	None apparent	A1: Histosol	Saturation; Sparsely vegetated concave surfaces	Low	Twany cotton grass (<i>Eriophorum virginicum</i>); Three-leaved False Solomons seal (<i>Maianthemum trifolium</i>); Fringed sedge (<i>Carex crinita</i>)	Sheep laurel (<i>Kalmia angustifolia</i>); Black spruce (<i>Picea mariana</i>)	Red maple (<i>Acer rubrum</i>); Black spruce (<i>Picea mariana</i>); White birch (<i>Betula papyrifera</i>); White spruce (<i>Picea glauca</i>); Eastern White pine (<i>Pinus strobus</i>)	Barrens
WL65	Treed Swamp	Slope	East	A12: Thick Dark Surface	Surface water; High water table; Saturation	Low	Bog aster (<i>Oclemena nemoralis</i>); Fringed sedge (<i>Carex crinita</i>); Bunchberry (<i>Cornus canadensis</i>) Red maple (<i>Acer rubrum</i>) wood fern spp.	Yellow birch (<i>Betula alleghanensis</i>); Balsam fir (<i>Abies balsamea</i>); Eastern White pine (<i>Pinus strobus</i>); Red maple (<i>Acer rubrum</i>); Mountain ash (<i>Sorbus americana</i>)	Yellow birch (<i>Betula alleghanensis</i>); Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>); Black spruce (<i>Picea mariana</i>)	Clearcut regeneration
WL66	Treed Swamp	Flat	None apparent	A2: Histic Epipedon	Surface water; High water table; Saturation; Drainage Patterns	Low	Whorled wood aster (<i>Oclemena acuminata</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Goldthread (<i>Coptis trifolia</i>); Sensitive fern (<i>Onoclea sensibilis</i>)	Red spruce (<i>Picea rubens</i>); Balsam fir (<i>Abies balsamea</i>); Mountain holly (<i>Ilex mucronata</i>); Mountain fly honeysuckle (<i>Lonicera villosa</i>)	Black spruce (<i>Picea mariana</i>); Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>); Yellow birch (<i>Betula alleghanensis</i>)	Clearcut regeneration
WL67	Treed Swamp; Shrub Swamp	Flat	South	A2: Histic Epipedon	High water table; Saturation	Moderate	White fringed orchid (<i>Platanthera blephariglottis</i>); Bog aster (<i>Oclemena nemoralis</i>); Tawny cotton grass (<i>Eriophorum virginicum</i>); Three-leaved False Solomons seal (<i>Maianthemum trifolium</i>)	Speckled alder (<i>Alnus incana</i>); Northern Wild Raisin (<i>Viburnum cassinoides</i>); Black spruce (<i>Picea mariana</i>)	Tamarack (<i>Larix laricina</i>); Black spruce (<i>Picea mariana</i>); Red maple (<i>Acer rubrum</i>)	Softwood dominant slope

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL68	Bog	Slope	None apparent	A1: Histosol	Saturation	Low	Bog aster (<i>Oclemena nemoralis</i>); Sundew (<i>Drosera rotundifolia</i>); cranberry spp.; White fringed orchid (<i>Platanthera blephariglottis</i>); Tawny cotton grass (<i>Eriophorum virginicum</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Black huckleberry (<i>Gaylussacia baccata</i>); Three leaved false Solomon's seal (<i>Maianthemum trifolium</i>); Red maple (<i>Acer rubrum</i>)	Northern Wild Raisin (<i>Viburnum cassinoides</i>); Red maple (<i>Acer rubrum</i>); Black huckleberry (<i>Gaylussacia baccata</i>); Broad-leaved cattail (<i>Typha latifolia</i>)	Black spruce (<i>Picea mariana</i>); Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghanensis</i>)	Softwood dominant mixed wood
WL69	Shrub swamp	Basin	South	A1: Histosol	Surface water; High water table; Saturation	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); <i>Carex</i> spp.; Bunchberry (<i>Cornus canadensis</i>)	Red spruce (<i>Picea rubens</i>); Balsam fir (<i>Abies balsamea</i>)	Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>)	Mixed woods
WL70	Bog; Shrub Swamp	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation; Sparsely vegetated concave surfaces	Low	Bunchberry (<i>Cornus canadensis</i>); Whorled wood aster (<i>Oclemena acuminata</i>); Rough-stemmed goldenrod (<i>Solidago rugosa</i>)	Yellow birch (<i>Betula alleghanensis</i>); Mountain holly (<i>Ilex mucronata</i>)	Yellow birch (<i>Betula alleghanensis</i>)	Hardwood dominant mixed regeneration; sloped; rocky
WL71	Treed Swamp	Slope	None apparent	A1: Histosol	Saturation	Low	Sheep laurel (<i>Kalmia angustifolia</i>); Bunchberry (<i>Cornus canadensis</i>); Cinnamon fern (<i>Osmundastrum cinnamomeum</i>)	Northern wild raisin (<i>Viburnum cassinoides</i>); Yellow birch (<i>Betula alleghanensis</i>); American mountain ash (<i>Sorbus americana</i>); Mountain holly (<i>Ilex mucronata</i>); Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>)	Black spruce (<i>Picea mariana</i>); Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghanensis</i>)	Sloped; thin soil; rocky
WL72	Marsh	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation; Water marks; Water stained leaves	Low	Common woolly bulrush (<i>Scirpus cyperinus</i>); <i>Carex</i> spp.	Red maple (<i>Acer rubrum</i>); Sheep laurel (<i>Kalmia angustifolia</i>)	Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>); Tamarack (<i>Larix laricina</i>)	Softwoods

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL73	Treed Swamp	Basin	East	S1: Sandy Mucky Mineral; Other problematic Hydric soils	Saturation; High water table; Hydrogen sulfide odour	Low	Sensitive fern (<i>Onoclea sensibilis</i>); Fireweed (<i>Chamaenerion angustifolium</i>); Northern dewberry (<i>Rubus flagellaris</i>); Twinflower (<i>Linnaea borealis</i>); Rattlesnake manna grass (<i>Glyceria maxima</i>); Rough-stemmed goldenrod (<i>Solidago rugosa</i>)	Broad-leaved cattail (<i>Typha latifolia</i>) 60; Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>); Tamarack (<i>Larix laricina</i>); Gray birch (<i>Betula populifolia</i>); Red maple (<i>Acer rubrum</i>); Sheep laurel (<i>Kalmia angustifolia</i>)	Black spruce (<i>Picea mariana</i>); Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Softwood dominant barrens on bedrock
WL74	Bog	Slope	None apparent	A1: Histosol; Other problematic Hydric soils	Saturation; Hydrogen sulfide odour	Low	Bunchberry (<i>Cornus canadensis</i>); Twinflower (<i>Linnaea borealis</i>); wood fern sp.	Sheep laurel (<i>Kalmia angustifolia</i>); Red maple (<i>Acer rubrum</i>); Canada holly (<i>Ilex opaca</i>); Northern Wild Raisin (<i>Viburnum cassinoides</i>); Black spruce (<i>Picea mariana</i>); Balsam fir (<i>Abies balsamea</i>)	Black spruce (<i>Picea mariana</i>); Yellow birch (<i>Betula alleghanensis</i>); Mountain ash (<i>Sorbus americana</i>); Red maple (<i>Acer rubrum</i>); Eastern White pine (<i>Pinus strobus</i>)	Mixed wood regeneration
WL75	Treed swamp	Basin	None apparent	A1: Histosol	Surface water; Saturation; Drainage patterns	Low	Canada Goldenrod (<i>Solidago canadensis</i>); <i>Carex spp.</i> ; Fowl manna grass (<i>Glyceria striata</i>)	Trembling aspen (<i>Populus tremuloides</i>); Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Tamarack (<i>Larix laricina</i>); <i>Prunus spp.</i> ; Yellow birch (<i>Betula alleghanensis</i>)	Mixed wood regeneration
WL76	Bog	Basin	None apparent	A1: Histosol	High water table; Saturation	Low	Wild calla (<i>Calla palustris</i>); Grass spp.	Northern Wild Raisin (<i>Viburnum cassinoides</i>)	Balsam fir (<i>Abies balsamea</i>); Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghanensis</i>)	Softwood dominant mixed wood

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL77	Treed Swamp	Basin	West	F3: Depleted Matrix	Saturation	Low	Cinnamon fern (<i>Osmundastrum cinnamomeum</i>); Three-leaved False Solomons seal (<i>Maianthemum trifolium</i>); Bunchberry (<i>Cornus canadensis</i>); Goldthread (<i>Coptis trifolia</i>); Twinflower (<i>Linnaea borealis</i>); Partridgeberry (<i>Mitchella repens</i>); New york fern (<i>Parathelypteris noveboracensis</i>); Wild sarsaparilla (<i>Aralia nudicaulis</i>); <i>Carex spp.</i>	Velvet-leaved blueberry (<i>Vaccinium myrtilloides</i>); Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>); Hairy flat-top white aster (<i>Doellingeria umbellata</i>); Bog aster (<i>Oclemena nemoralis</i>); Wild sarsaparilla (<i>Aralia nudicaulis</i>); Mountain holly (<i>Ilex mucronata</i>);	Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>); Red spruce (<i>Picea rubens</i>);	Slopes into wetland. Young hardwood regeneration with aged forestry evidence such as ruts and slash.
WL78	Fen	Floodplain	East	A1: Histosol	Surface water; High water table; Saturation	Moderate	Rough-stemmed goldenrod (<i>Solidago rugosa</i>)	Green alder (<i>Alnus alnobetula</i>)	Red maple (<i>Acer rubrum</i>); Green alder (<i>Alnus alnobetula</i>); Red spruce (<i>Picea rubens</i>)	Sloped. Mixed wood regeneration; softwood dominant.
WL79	Treed Swamp	Basin	East	S1: Sandy Mucky Mineral	Surface water; High water table; Saturation	Moderate	Rough-stemmed goldenrod (<i>Solidago rugosa</i>); Bristly dewberry (<i>Rubus hispida</i>); Common woolly bulrush (<i>Scirpus cyperinus</i>)	Raspberry (<i>Rubus idaeus</i>)	Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>)	Mixed wood regeneration
WL80	Marsh	Basin	North	A1: Histosol	Surface water; High water table; Saturation; Water stained leaves; Drainage patterns	Low	Whorled Wood Aster (<i>Oclemena acuminata</i>); Fowl manna grass (<i>Glyceria striata</i>); Common woolly bulrush (<i>Scirpus cyperinus</i>); Tearthumb (<i>Persicaria arifolia</i>); Broad-leaved cattail (<i>Typha latifolia</i>)	Red maple (<i>Acer rubrum</i>)	None	Softwoods
WL81	Marsh	Basin	North	A1: Histosol	Saturation	Low	Sensitive fern (<i>Onoclea sensibilis</i>); Velvet-leaved Blueberry (<i>Vaccinium myrtilloides</i>); Broad-leaved cattail (<i>Typha latifolia</i>)	Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Trembling aspen (<i>Populus tremuloides</i>); Red maple (<i>Acer rubrum</i>)	Young mixed woods

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL82	Treed swamp; Bog	Flat	West	A1: Histosol	High water table; Saturation; Water stained leaves	Low	Tawny Cottongrass (<i>Eriophorum virginicum</i>); Creeping snowberry (<i>Gaultheria hispidula</i>); <i>Carex</i> spp.	Northern wild raisin (<i>Viburnum cassinoides</i>); Mountain holly (<i>Ilex mucronata</i>); Sheep laurel (<i>Kalmia angustifolia</i>)	Red spruce (<i>Picea rubens</i>); Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Softwoods
WL83	Marsh	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation; Sediment deposits; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Sensitive fern (<i>Onoclea sensibilis</i>); Pearly everlasting (<i>Anaphalis margaritacea</i>)	Red maple (<i>Acer rubrum</i>); Red spruce (<i>Picea rubens</i>); White meadowsweet (<i>Spiraea alba</i>)	Red spruce (<i>Picea rubens</i>); Yellow birch (<i>Betula alleghanensis</i>)	Young mixed woods
WL84	Marsh	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation; Water marks; Water stained leaves; Sparsley vegetated concave surface; Drainage patterns	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Common Woolly Bulrush (<i>Scirpus cyperinus</i>); <i>Carex</i> spp.; Whorled wood aster (<i>Oclemena acuminata</i>)	Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Tamarack (<i>Larix laricina</i>); Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>)	Softwoods
WL85	Vernal pool	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation; Sparsley vegetated concave surface; Drainage patterns	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Common woolly bulrush (<i>Scirpus cyperinus</i>); Tawny cottongrass (<i>Eriophorum virginicum</i>)	Speckled alder (<i>Alnus incana</i>); Leatherleaf (<i>Chamaedaphne calyculata</i>)	Tamarack (<i>Larix laricina</i>); Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>)	Softwoods
WL86	Shrub swamp	Flat	West	A1: Histosol	Surface water; High water table; Saturation; Water stained leaves	Low	Broad-leaved cattail (<i>Typha latifolia</i>); Canada Goldenrod (<i>Solidago canadensis</i>); Common woolly bulrush (<i>Scirpus cyperinus</i>); <i>Carex</i> spp.	Speckled alder (<i>Alnus incana</i>)	Tamarack (<i>Larix laricina</i>); Red spruce (<i>Picea rubens</i>); Red maple (<i>Acer rubrum</i>); Speckled alder (<i>Alnus incana</i>)	Softwoods
WL87	Treed swamp	Flat	West	A1: Histosol	Saturation	Low	Broad-leaved cattail (<i>Typha latifolia</i>); <i>Carex</i> spp.; Canada Goldenrod (<i>Solidago canadensis</i>)	White meadowsweet (<i>Spiraea alba</i>); Red spruce (<i>Picea rubens</i>); Speckled alder (<i>Alnus incana</i>); Sheep laurel (<i>Kalmia angustifolia</i>)	Red spruce (<i>Picea rubens</i>); Speckled alder (<i>Alnus incana</i>)	Mixed woods
WL88	Treed Swamp	Flat	None apparent	F3: Depleted Matrix	Saturation	Low	Bunchberry (<i>Cornus canadensis</i>); Wild lily of the valley (<i>Maianthemum canadense</i>); Black huckleberry (<i>Gaylussacia baccata</i>); Bracken fern (<i>Pteridium aquilinum</i>)	Black huckleberry (<i>Gaylussacia baccata</i>); Northern Wild Raisin (<i>Viburnum cassinoides</i>); Mountain holly (<i>Ilex mucronata</i>); Red maple (<i>Acer rubrum</i>); Sheep laurel (<i>Kalmia angustifolia</i>); Black spruce (<i>Picea mariana</i>)	Black spruce (<i>Picea mariana</i>); Tamarack (<i>Larix laricina</i>)	Clear cut regeneration with abundant slash and early successional species .

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL89	Treed Swamp; Marsh	Basin	East	A1: Histosol	High water table; Saturation; Sparsely vegetated concave surfaces; Sediment Deposits	Low	Northern dewberry (<i>Rubus flagellaris</i>); Sensitive fern (<i>Onoclea sensibilis</i>); Eastern Hay-Scented Fern (<i>Dennstaedtia punctilobula</i>); Hairy Flat-top White Aster (<i>Doellingeria umbellata</i>)	Red maple (<i>Acer rubrum</i>); Yellow birch (<i>Betula alleghanensis</i>); Balsam fir (<i>Abies balsamea</i>)	Yellow birch (<i>Betula alleghanensis</i>); Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Slope; heavy logging; abundance of slash
WL90	Shrub Swamp; Bog	Slope	East	S4: Sandy Gleyed Matrix	Saturation; High water table	Low	Sensitive fern (<i>Onoclea sensibilis</i>); Hairy flat-top white aster (<i>Doellingeria umbellata</i>); Grass-leaved goldenrod (<i>Euthamia graminifolia</i>); Fowl mana grass (<i>Glyceria striata</i>); Three-leaved False Solomons seal (<i>Maianthemum trifolium</i>); Canada violet (<i>Viola canadensis</i>)	Northern Wild Raisin (<i>Viburnum cassinoides</i>); Speckled alder (<i>Alnus incana</i>); Balsam fir (<i>Abies balsamea</i>)	Red maple (<i>Acer rubrum</i>); White ash (<i>Fraxinus americana</i>); Yellow birch (<i>Betula alleghanensis</i>); White birch (<i>Betula papyrifera</i>); Balsam fir (<i>Abies balsamea</i>)	Hardwood dominant mixed wood.
WL91	Marsh; other	Slope	East	F3: Depleted Matrix	High water table	Low	Common woolly bulrush (<i>Scirpus cyperinus</i>); <i>Carex spp.</i>	Speckled alder (<i>Alnus incana</i>)	Tamarack (<i>Larix laricina</i>); Black spruce (<i>Picea mariana</i>)	Softwood dominant
WL92	Marsh	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation	Low	Canada Goldenrod (<i>Solidago canadensis</i>); <i>Carex spp.</i> ; Common woolly bulrush (<i>Scirpus cyperinus</i>); Broad-leaved cattail (<i>Typha latifolia</i>)	<i>Prunus spp.</i>	Tamarack (<i>Larix laricina</i>); Red spruce (<i>Picea rubens</i>); <i>Prunus spp.</i>	Softwoods
WL93	Treed swamp	Flat	None apparent	A1: Histosol	Saturation; Drainage patterns	Low	Common woolly bulrush (<i>Scirpus cyperinus</i>); <i>Carex spp.</i>	Tamarack (<i>Larix laricina</i>); Red maple (<i>Acer rubrum</i>); Raspberry (<i>Rubus idaeus</i>)	Yellow birch (<i>Betula alleghaniensis</i>); Red maple (<i>Acer rubrum</i>); Balsam fir (<i>Abies balsamea</i>)	Young hardwoods
WL94	Marsh	Basin	None apparent	A1: Histosol	Surface water; High water table; Saturation; Water marks; Water stained leaves	Low	Tawny Cottongrass (<i>Eriophorum virginicum</i>); Common Woolly Bulrush (<i>Scirpus cyperinus</i>); <i>Carex spp.</i>	Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Black spruce (<i>Picea mariana</i>); Balsam fir (<i>Abies balsamea</i>); Red maple (<i>Acer rubrum</i>)	Mixed woods

Wetland ID	Wetland Type	Landform	Direction of Flow	Soil Type	Surface/Hydrologic Conditions	Fish-Bearing Potential	Dominant Vegetation			Upland Habitat
							Herbaceous	Shrub	Trees	
WL95	Treed Swamp; Bog	Flat	East	A4: Hydrogen Sulfide	High water table; Saturation; Surface Water	Low	White fringed orchid (<i>Platanthera blephariglottis</i>); Tuberous grass pink (<i>Calopogon tuberosus</i>); White fringed orchid (<i>Platanthera blephariglottis</i>); Northern purple pitcher plant (<i>Sarracenia purpurea</i> ssp. <i>purpurea</i>); Tawny cotton grass (<i>Eriophorum virginicum</i>); Sedge spp.; Cranberry spp.	Mountain holly (<i>Ilex mucronata</i>); Leatherleaf (<i>Chamaedaphne calyculata</i>); Tamarack (<i>Larix laricina</i>); Black spruce (<i>Picea mariana</i>); Northern Wild Raisin (<i>Viburnum cassinoides</i>)	Tamarack (<i>Larix laricina</i>); Black spruce (<i>Picea mariana</i>)	Dry barren area on bedrock; shrub dominant



Photo 1. A representative photo of WL1.



Photo 2. A representative photo of WL2.



Photo 3. A representative photo of WL3.



Photo 4. A representative photo of WL4.



Photo 5. A representative photo of WL5.



Photo 6. A representative photo of WL6.



Photo 7. A representative photo of WL7.



Photo 8. A representative photo of WL8.



Photo 9. A representative photo of WL9.



Photo 10. A representative photo of WL10.



Photo 11. A representative photo of WL11.



Photo 12. A representative photo of WL12.



Photo 13. A representative photo of WL13.



Photo 14. A representative photo of WL14.



Photo 15. A representative photo of WL15.



Photo 16. A representative photo of WL16.



Photo 17. A representative photo of WL17.



Photo 18. A representative photo of WL18.



Photo 19. A representative photo of WL19.



Photo 20. A representative photo of WL20.



Photo 21. A representative photo of WL21.



Photo 22. A representative photo of WL22.



Photo 23. A representative photo of WL23.



Photo 24. A representative photo of WL24.



Photo 25. A representative photo of WL25.



Photo 26. A representative photo of WL26.



Photo 27. A representative photo of WL27.



Photo 28. A representative photo of WL28.



Photo 29. A representative photo of WL29.



Photo 30. A representative photo of WL30.



Photo 31. A representative photo of WL31.



Photo 32. A representative photo of WL32.



Photo 33. A representative photo of WL33.



Photo 34. A representative photo of WL34.



Photo 35. A representative photo of WL35.



Photo 36. A representative photo of WL36.



Photo 37. A representative photo of WL37.



Photo 38. A representative photo of WL38.



Photo 39. A representative photo of WL39.



Photo 40. A representative photo of WL40.



Photo 41. A representative photo of WL41.



Photo 42. A representative photo of WL42.



Photo 43. A representative photo of WL43.



Photo 44. A representative photo of WL44.



Photo 45. A representative photo of WL45.



Photo 46. A representative photo of WL46.



Photo 47. A representative photo of WL47.



Photo 48. A representative photo of WL48.



Photo 49. A representative photo of WL49.



Photo 50. A representative photo of WL50.



Photo 51. A representative photo of WL51.



Photo 52. A representative photo of WL52.



Photo 53. A representative photo of WL53.



Photo 54. A representative photo of WL54.



Photo 55. A representative photo of WL55.



Photo 56. A representative photo of WL56.



Photo 57. A representative photo of WL57.



Photo 58. A representative photo of WL58.



Photo 59. A representative photo of WL59.



Photo 60. A representative photo of WL60.



Photo 61. A representative photo of WL61.



Photo 62. A representative photo of WL62.



Photo 63. A representative photo of WL63.



Photo 64. A representative photo of WL64.



Photo 65. A representative photo of WL65.



Photo 66. A representative photo of WL66.



Photo 67. A representative photo of WL67.



Photo 68. A representative photo of WL68.



Photo 69. A representative photo of WL69.



Photo 70. A representative photo of WL70.



Photo 71. A representative photo of WL71.



Photo 72. A representative photo of WL72.



Photo 73. A representative photo of WL73.



Photo 74. A representative photo of WL74.



Photo 75. A representative photo of WL75.



Photo 76. A representative photo of WL76.



Photo 77. A representative photo of WL77.



Photo 78. A representative photo of WL78.



Photo 79. A representative photo of WL79.



Photo 80. A representative photo of WL80.



Photo 81. A representative photo of WL81.



Photo 82. A representative photo of WL82.



Photo 83. A representative photo of WL83.



Photo 84. A representative photo of WL84.



Photo 85. A representative photo of WL85.



Photo 86. A representative photo of WL86.



Photo 87. A representative photo of WL87.



Photo 88. A representative photo of WL88.



Photo 89. A representative photo of WL89.



Photo 90. A representative photo of WL90.



Photo 91. A representative photo of WL91.



Photo 92. A representative photo of WL92.



Photo 93. A representative photo of WL93.



Photo 94. A representative photo of WL94.



Photo 95. A representative photo of WL95.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	Goose Harbour Lake Wind Farm, Wetland 1
Investigator Name:	Rohan Kariyawansa Madeline Maher
Date of Field Assessment:	2022-09-21
Nearest Town:	Antigonish
Latitude (decimal degrees):	45.54707500
Longitude (decimal degrees):	61.57067778
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	0.24
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	8.4%
What percent (approx.) of the wetland were you able to visit?	100%
What percent (approx.) of the AA were you able to visit?	8.4%
Were you able to ask the site owner/manager about any of the questions?	No
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	No
How many wetlands have you assessed previously using WESP-AC? (approx.)	50+
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

	A	B	C	D	E
1	Date: 20 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 1	Investigator: RK MM	
2	<p>Form OF (Office). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia wetlands only. DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answering many of the questions below will require using these online map viewers: Google Earth Pro: https://www.google.com/earth/download/gep/agree.html Provincial Landscape Viewer: https://nsgi.novascotia.ca/plv/</p> <p>For most wetlands, completing this office data form will require 1-2 hours. For a list of functions to which each question pertains, see bracketed abbreviations in the Definitions/Explanations column. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.</p>				
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	OF1	Province	Mark the province in which the AA is located by changing the 0 in the column next to it to a "1". Mark only one.		This determines to which province's calibration wetlands the raw score of any wetland is normalised. In the function and benefits models, it also triggers the automatic exclusion of indicators for which no spatial data exists in a particular province.
5			New Brunswick	0	
6			Nova Scotia	1	
7			Prince Edward Island	0	
8			Newfoundland-Labrador	0	
9	OF2	Ponded Area Within 1 km.	The area of surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		"Adjacent" means not separated from the AA by a wide expanse (>50 m) of upland (including roads >50 m wide). Include ponded areas likely to be hidden by wetland vegetation. If surface water extends beyond 1 km, include only the part within 1 km. Do not include tidal areas. Measure the area from aerial imagery using Google Earth Pro (click on Ruler icon in toolbar, then Polygon in pop-up menu). [PH, SBM, WBN]
10			<0.01 hectare (about 10 m x 10 m).	0	
11			0.01 - 0.1 hectare.	0	
12			0.1 - 1 hectare.	1	
13			1 to 10 hectares.	0	
14			10 to 100 hectares.	0	
15		>100 hectares.	0		
16	OF3	Ponded Water & Wetland Within 1 km.	The area of wetlands and surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		See definition of adjacent in OF2. If the AA's wetland vegetation extends beyond 1 km, include only the part within 1 km. "Ponded" means not flowing in rivers or streams. [Sens, WBF]
17			<0.01 hectare (about 10 m x 10 m).	0	
18			0.01 - 0.1 hectare.	0	
19			0.1 - 1 hectare.	0	
20			1 to 10 hectares.	1	
21			10 to 100 hectares.	0	
22		>100 hectares.	0		
23	OF4	Size of Largest Nearby Vegetated Tract or Corridor	The largest vegetated patch or corridor that includes the AA's vegetation plus all adjacent upland vegetation that is not lawn, row crops, heavily grazed lands, conifer plantation is:		See definition of adjacent in OF2. Use Google Earth Pro's polygon ruler (as described above). Exclude conifer plantations only if it is obvious that trees were planted in rows. [AM, PH, SBM, Sens]
24			<0.01 hectare (about 10 m x 10 m).	0	
25			0.01 - 0.1 hectare.	0	
26			0.1 - 1 hectare.	0	
27			1 to 10 hectares.	0	
28			10 to 100 hectares.	0	
29		100 to 1000 hectares.	1		
30		>1000 hectares. [This is nearly always the answer in relatively undeveloped landscapes.]	0		

	A	B	C	D	E
31	OF5	Distance to Large Vegetated Tract	The minimum distance from the edge of the AA to the edge of the closest vegetated land (but excluding row crops, lawn, conifer plantation) larger than 375 hectares (about 2 km on a side), is:		To measure distance, use Google Earth Pro (Ruler > Line tool). The 375-ha criterion is from the Fundy Model Forest Project. [AM, PH, POL, SBM, Sens]
32			<50 m, and not separated from the 375-ha vegetated area by any width of paved roads, stretches of open water, row crops, bare ground, lawn, or impervious surface. Or the AA itself contains >375 ha of vegetation. [This is often the answer in relatively undeveloped landscapes.]	1	
33			<50 m, but completely separated from the 375-ha vegetated area by those features, and AA does not contain >375 ha of vegetation.	0	
34			50-500 m, and not separated.	0	
35			50-500 m, but separated by those features.	0	
36			0.5 - 5 km, and not separated.	0	
37			0.5 - 5 km, but separated by those features.	0	
38			None of the above (the closest patches or corridors which are that large are >5 km away).	0	
39	OF6	Herbaceous Uniqueness	The AA's vegetation cover is >10% herbaceous* but uplands within 5 km have <10% herbaceous cover. If so, enter "3" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 1 km have <10% herbaceous cover. If so enter "2" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 100 m of the wetland edge have <10% herbaceous cover. If so, enter "1". [* NOTE: Exclude lawns, row crops, heavily grazed lands, forest, shrublands. Include moss as well as grasslike plants in this use of "herbaceous vegetation"]	1	
40	OF7	Woody Uniqueness	The AA's vegetation cover is >10% woody* but uplands within 5 km have <10% woody cover. If so, enter "3" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 1 km have <10% woody cover. If so enter "2" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 100 m of the wetland edge have <10% woody cover. If so, enter "1" [* NOTE: woody cover = trees & shrubs taller than 1 m.]	0	See above. Do not consider conifer plantations to be forest if it is obvious that trees were planted in rows. [AMv, PHv, POLv, SBMv]
41	OF8	Local Vegetated Cover Percentage	Draw a 5-km radius circle measured from the center of the AA. Ignoring all permanent water in the circle, the percent of the remaining area that is wooded or unmanaged herbaceous vegetation (NOT lawn, row crops, bare or heavily grazed land, clearcuts, or conifer plantations) is:		In Google Earth, draw the 5 km buffer and then estimate land cover percentages, or do GIS analysis of an appropriate land cover layer. [AM, PH, POL, SBM, Sens]
42			<5% of the land.	0	
43			5 to 20% of the land.	0	
44			20 to 60% of the land.	1	
45			60 to 90% of the land.	0	
46			>90% of the land. SKIP to OF10.	0	
47	OF9	Type of Land Cover Alteration	Within the 5-km radius circle, and ignoring all permanent water, the land area that is bare or non-perennial cover is mostly:		[AM, SBM]
48			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
49			Bare pervious surface, e.g., lawn, recent (<5 yrs ago) clearcut, dirt or gravel road, cropland, landslide, conifer plantation.	1	
50	OF10	Distance by Road to Nearest Population Center	Measured along the maintained road nearest the AA, the distance to the nearest population center is:		"Population center" means a settled area with more than about 5 regularly- inhabited structures per square kilometer. In Google Earth Pro, click on the Ruler icon, then Path, and draw and measure the route. [FAv, FRv, NRv, PH, PU, SBM, WBFv]
51			<100 m.	0	
52			100 - 500 m.	0	
53			0.5- 1 km.	0	
54			1 - 5 km.	0	
55			>5 km.	1	

	A	B	C	D	E
56	OF11	Distance to Nearest Maintained Road	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:		Determine this by viewing aerial imagery in Google Earth Pro and measuring with the Ruler-Line tool [AM, FAv, FRv, NRv, PH, PU, SBM, STR, WBN]
57			<10 m.	1	
58			10 - 25 m.	0	
59			25 - 50 m.	0	
60			50 - 100 m.	0	
61			100 - 500 m.	0	
62		>500 m.	0		
63	OF12	Wildlife Access	Draw a circle of radius of 5 km from the center of the AA. If mammals and amphibians can move from the center of the AA to ALL other separate wetlands and ponds located within the circle without being forced to cross pavement (any width), lawns, bare ground, and/or marine waters, mark 1= yes can move to all, 0= no. Change to blank if there are no other wetlands within 5 km.	0	Draw the 5 km circle in Google Earth Pro using the Circle tool and search for roads and wetlands within it, being alert for roads hidden under forest canopy. [AM, SBM, STR]
64	OF13	Distance to Poned Water	The distance from the AA center to the closest (but separate) ponded water body visible in GoogleEarth imagery is:		In Google Earth Pro, zoom in closely to examine the surrounding landscape for ponds, lakes, and wetlands that appear to be permanently flooded. [AM, PH, SBM, Sens, WBF, WBN]
65			<50 m, and not separated by any width of paved roads, stretches of open water, row crops, lawn, bare ground, or impervious surface.	0	
66			<50 m, but completely separated by those features.	0	
67			50-500 m, and not separated.	0	
68			50-500 m, but separated by those features.	0	
69			0.5 - 1 km, and not separated.	1	
70		0.5 - 1 km, but separated by those features.	0		
71		None of the above (the closest patches or corridors that large are >1 km away).	0		
72	OF14	Distance to Large Poned Water	The distance from the AA center to the closest (but separate) non-tidal body of water that is ponded during most of the year and is larger than 8 hectares during most of a normal year is:		Determine this by viewing aerial imagery in Google Earth. [Sens, WBF, WBN]
73			<100 m.	0	
74			100 m - 1 km.	0	
75			1 - 2 km.	0	
76			2-5 km.	1	
77			5-10 km.	0	
78		>10 km.	0		
79	OF15	Tidal Proximity	The distance from the AA edge to the closest tidal water body (regardless of its salinity) is:		In Google Earth, measure the distance to the ocean (including Bay of Fundy) or tidal river, whichever is closer. If you need to see how far upriver a river is tidal, see the KMZ file provided with this calculator for NS (NS Hightide). Points shown in those files are only an approximation, so local information if available may be preferable. [FA, WBF]
80			<100 m.	0	
81			100 m - 1 km.	0	
82			1 - 5 km.	0	
83			5-10 km.	1	
84			10-40 km.	0	
85		>40 km.	0		
86	OF16	Upland Edge Contact	Select one:		[NR, SBM, Sens]
87			The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by (& contiguous with) other wetlands or water.	0	
88			1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	1	
89			25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
90			50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91		More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA. This will be true for most assessments done with WESP-AC.	0		

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92	OF17	Flood Damage from Non-tidal Waters	Within 5 km downstream or downslope of the AA (select first true choice):		Contact local authorities to determine if such maps exist. Where available, LiDAR imagery can provide finer elevational resolution useful for flood modeling. [WSv]
93	Maps show Flood Zone or Flood Risk areas and there appears to be infrastructure vulnerable to river flooding not caused by tidal storm surges.		0		
94	Maps show Flood Zone or Flood Risk areas, but infrastructure is absent or is not vulnerable to floods from a non-tidal river. In some cases levees, upriver dams, or other measures may partly limit damage or risk from smaller events.		0		
95	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there appears to be infrastructure vulnerable to river flooding unrelated to tidal storm surges.		0		
96	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there is no infrastructure vulnerable to river flooding unrelated to tidal storm surges.		1		
97	OF18	Relative Elevation in Watershed	In Google Earth, enable the Terrain layer (lower left menu) and open the NS_Watersheds Secondary KMZ file that accompanies this calculator. Then determine the AA's approximate elevation (bottom right, NOT the "eye alt"). Then move cursor around to determine the watershed's maximum and minimum elevation. Divide the AA's elevation by the (max-min).	0.67	[FA, NR, Sens, SFSv, WCv, WSv]
98	OF19	Water Quality Sensitive Watershed or Area	The AA is in a Protected Water Supply area (Designated Water Supply Area, Natural Watershed Municipal Surface Water Supply Area, or Municipal Water Supply Area) according to the provided KMZ overlay ("NS Protected Water Supply Areas"). Enter 1= yes, 0= no.	0	If an ACCDC report is available for this AA, it also may contain such information. [NRv]
99	OF20	Degraded Water Upstream	Sampling indicates a problem with concentrations of metals, hydrocarbons, nutrients, or other substances (excluding bacteria, acidic water, high temperatures) being present at levels harmful to aquatic life or humans, and:		May use existing data, or sample those waters as part of this wetland assessment. "Harmful" should be evaluated with regard to current federal or provincial water quality standards. [AM, FA, FR, NRv, PRv, SRv, STR, WBF, WBN]
100			The condition is present within the AA.	0	
101			The condition is present in waters within 1 km that flow into the AA, but has not been documented in the AA itself.	0	
102			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
103			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
104	OF21	Degraded Water Downstream	The problem described above is downslope from the AA, and:		May use existing data, or monitor waters as part of this wetland assessment. [NRv, PRv, SRv]
105			The condition is present within 1 km downslope and connected to the AA by a channel.	0	
106			The condition is present within 5 km downslope and connected to the AA by a channel, or within 1 km but not connected to the AA by a channel.	0	
107			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
108			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
109	OF22	Wetland as a % of Its Contributing Area (Catchment)	From a topographic map and field observations, estimate the approximate boundaries of the catchment (CA) of the entire wetland of which the AA may be only a part. Then adjust those boundaries if necessary based on your field observations of the surrounding terrain, and/or by using procedures described in the Manual. Divide the area of the wetland (not just the AA) by the approximate area of its catchment excluding the area of the wetland itself. When doing the calculation, if ponded water is adjacent to the wetland, include that in the wetland area. The result is:		Topographic maps may be viewed online at the National Atlas of Canada (Toporama): http://atlas.gc.ca/toporama/en/index.html [NR, PR, Sens, SR, WS]
110			<0.01, or catchment size unknown due to stormwater pipes that collect water from an indeterminate area.	0	
111			0.01 to 0.1.	1	
112			0.1 to 1.	0	
113			>1 (wetland is larger than its catchment (e.g., wetland with flat surrounding terrain and no inlet, or is entirely isolated by dikes, or is a raised bog).	0	

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114	OF23	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 m upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, landslides, and other mostly-bare surface is about :		[FA, INV, NRv, PRv, SRv, STR, WCv, WSv]
115			<10%.	1	
116			10 to 25%.	0	
117			>25%.	0	
118	OF24	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following: (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow (bedrock near surface) and/or have high runoff coefficients. This statement is:		[NRv, PRv, SRv, WSv]
119			Mostly true.	0	
120			Somewhat true.	0	
121			Mostly untrue.	1	
122	OF25	Aspect	The overland flow direction of most surface water (in streams, rivers, or runoff) that enters the AA is:		[AM, NR, SFS, WC, WS]
123			Northward (N, NE). north-facing contributing area.	0	
124			Southward (S, SW). south-facing contributing area.	0	
125			Other (E, SE, W, NW), or no detectable uphill slope or input channel (flat).	1	
126	OF26	Internal Flow Distance (Path Length)	The horizontal flow distance from the wetland's inlet to outlet is:		Identify inlets and outlets, if any, from topographic maps (use elevations to determine which are inlets and which are outlets) and augment by field inspection. With the Provincial Landscape Viewer, select Nova Scotia Topo as the Basemap. Also enable the layer Forestry-WAM Predicted Flow. Then measure the inlet-outlet distance. [NR, OE, PR, SR, WS]
127			<10 m.	0	
128			10 - 50 m.	0	
129			50 - 100 m.	0	
130			100 - 1000 m.	1	
131			1 - 2 km.	0	
132			>2 km, or wetland lacks an inlet and outlet.	0	
133	OF27	Growing Degree Days	In Google Earth, open the KMZ file that accompanies this calculator, called NS_GrowingDegreeDays. Place your cursor over the AA and left-click. From the pop-up window, enter the GRIDCODE number in the next column.	1957	This layer was provided by Dr. Dan McKenney of the Canadian Forest Service [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WCv, WS]
134	OF28	Fish Access or Use	According to agency biologists and/or your own observations, the AA. <i>[Mark just the first choice that is true.]</i> :		Regarding the last choice, if uncertain if an AA is fishless, consider the possibility its waters have been stocked. [AM, FA, FR, INV, WBF, WBN]
135			Is known to support rearing and/or spawning by Atlantic salmon or other anadromous species or eels. Go to Provincial Landscape Viewer->Wildlife>Significant Habitat>Species at Risk. Contact local fishery biologists, review the ACCDC report, and visit these websites: http://www.salmonatlas.com/atlanticsalmon/canada-east/index.1.html http://atlanticsalmonfederation.org/rivers/introduction.html	0	
136			Has not been documented to support Atlantic salmon rearing and/or spawning, but is connected to nearby waters likely to contain Atlantic salmon or other anadromous species or eels and is probably accessed by those during some conditions.	0	
137			Is probably is not accessed by any anadromous fish species but is known or likely to have other fish at least seasonally.	0	
138			Is known or likely to be fishless (e.g., too small, dry, and/or not accessible even temporarily, and not stocked).	1	

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139	OF29	Species of Conservation Concern	Within the past 10 years, in the AA (or in its adjoining waters or wetland), qualified observers have documented (mark all applicable) :		Request information from ACCDC and/or conduct your own survey at an appropriate season using an approved protocol. For birds, also check eBird.org. NOTE for NS: If your WESP-AC is being completed for a Wetland Alteration Application to NS-ECC, your ACCDC results and any taxon-specific survey results must be submitted along with your WESP-AC results, and application. [AMv, EC, PHv, POLv, SBMv, Sens, WBFv, WBNv]
140			Presence of one or more of the plant species listed in the Plants_Rare worksheet of the accompanying Supplnfo file, or the AA is within a mapped Atlantic Coastal Plain Flora Buffer (go to Provincial Landscape Viewer> Wildlife> Special Management Practice Zones).	0	
141			Presence of one or more of the amphibian or reptile species (AM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file.	0	
142			Presence of one or more of the waterbird species (WBF, WBN) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file.	0	
143			Presence of one or more of the nesting songbird or raptor species (SBM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file, during their nesting season (May-July for most species).	0	
144			None of the above, or no data.	1	
145	OF30	Important Bird Area (IBA)	In Google Earth, open the KMZ file that accompanies this calculator, called IBAs_Canada . The AA is all or part of an officially designated IBA. Enter 1= yes, 0= no.	0	The source of this layer, which should be checked periodically for updates, is: http://www.ibacanada.com/mapviewer.jsp?lang=EN [SBMv, WBFv, WBNv]
146	OF31	Black Duck Nesting Area	In Google Earth, open the KMZ file that accompanies this calculator, called BlackDuck . Adjust its alignment and opacity. Determine the predicted density (pairs per 25 sq. km) of nesting American Black Duck in the AA's vicinity: <10 (enter 0), 10-20 (enter 1), 20-30 (enter 2), >30 (enter 3). If outside of region shown in map, change to blank .	1	This was provided by Dr. David Leske. [WBNv]
147	OF32	Wintering Deer or Moose Concentration Areas	If AA is on private land with no information, change to blank (not 0). Otherwise: With the Provincial Landscape Viewer, for Wintering Moose, go to Wildlife> Significant Habitat. For Mainland Moose Concentration Areas, go to Wildlife> Special Management Practice Zones. Enter: yes= 1, no= 0.	0	[SBM]
148	OF33	Other Conservation Designation	The AA is all or part of an area designated by government, First Nations, or the Nature Conservancy of Canada (NCC) for its exceptional ecological features or highly intact natural conditions. With Provincial Landscape Viewer, see Protected Areas. Enter: yes= 1, no= 0. If uncertain, consult NCC and agencies for more recent information.	0	See: https://novascotia.ca/parksandprotectedareas/plan/interactive-map/ [PU]
149	OF34	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, or enhance the wetland (excluding mitigation wetlands). Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank (not 0).	0	[PU]
150	OF35	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
151	OF36	Sustained Scientific Use	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
152	OF37	Calcareous Region	The AA is NOT in a subregion that has been heavily exposed to acid precipitation. Enter "1" if true (green or yellow in map in Appendix A of the Manual). Enter "0" if false. If no information, change to blank .		[AM, FA, FR, INV, PH]
153	OF38	Ownership	Select the ONE ownership that covers the most of the AA. In Google Earth, open KMZ file called NS_Crownlands Use more recent information if available.		"Private lands" may include those owned or leased by non-governmental organizations, e.g., charitable conservation land trusts, DUC, TNC. [PU, STR]
154			New timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles) are permanently prohibited. Includes many publicly-owned Protected Lands, and private lands under long-term (30+ year) legal agreements to maintain nearly-unaltered conditions.	0	
155			Ownership is public (e.g., municipal, Crown Reservations/Notations) but some or all of the above activities are allowed.	1	
156			Ownership is private but public access is allowed, and/or a shorter-term conservation easement (whether renewable or not) is in place.	0	
157			Ownership is private and owner does not allow access, or access permission unknown, and not a conservation easement.	0	

A	B	C	D	E		
1	Date: 21 Sept 2022	Site Identifier: Goose Harbour Lake Wind Farm, Wetland 1	Investigator: RK MM			
2	Form F (Field). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia. DIRECTIONS: Walk for no less than 10 minutes from the wetland edge towards its core, in the part of the AA that is proposed for alteration. If no alteration is proposed, walk in a portion that appears to be most representative of the wetland overall. Walk only where it is safe and legal to do so. Conduct the assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgeable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form will require 1-2 hours on a site. For a list of functions to which each question pertains, see the accompanying Interpretations form. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage & Delay, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.					
3	#	Indicators	Condition Choices	Data	Definitions/Explanations	
4	F1	Wetland Type	Follow the key below and mark the ONE row that best describes MOST of the vegetated part of the AA:		Ericaceous shrubs are ones in the heather family (Ericaceae). Most have leathery evergreen leaves. They include rhododendron, azalea, swamp laurel, leatherleaf, Labrador tea, and others. Most require acidic soil. Although not in the family Ericaceae, sweetgale (<i>Myrica gale</i>) should be counted also. [AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]	
5			A. Moss and/or lichen cover more than 25% of the ground. Often dominated by ericaceous shrubs (e.g., Labrador tea) or other acid-tolerant plants (e.g., bog cranberry, pitcher plant, sundew, orchids). Substrate is mostly undecomposed peat. Choose between A1 and A2 and mark the choice with a 1 in their adjoining column. Otherwise go to B below.			
6			A1. Surface water is usually absent or, if present, pH is typically <4.5 and conductivity is usually <100 µS/cm (<64 ppm TDS). Trees are absent or nearly so. Sedge cover usually sparse or absent but cottongrass and/or lichen cover may be extensive, as well as cloudberry, lingonberry, sheep laurel, and a sedge (<i>Carex rariflora</i>). Wetland surface and surrounding landscape are seldom sloping and wetland often is domed (convex). Inlet and outlet channels are usually absent. If known, pH of peat is <4.0.	0		
7			A2. Not A1. Surface water, if present, has pH typically >4.5 and conductivity is usually >100 µS/cm (>64 ppm TDS). Sedge cover is usually extensive, and/or tree and tall shrub cover is extensive. Sometimes at toe of slope or edge of water body. An exit channel is usually present. Wetter than A1 and peat depth may be shallower (<2 m).	1		
8			B. Moss and/or lichen cover less than 25% of the ground. Soil is mineral or decomposed organic (muck). Choose between B1 and B2 and mark the choice with a 1 in their adjoining column:			
9			B1. Trees and shrubs taller than 1 m comprise more than 25% of the vegetated cover. Surface water is mostly absent or inundates the vegetation only seasonally (e.g., vernal pools or floodplain).	0		
10			B2. Not B1. Tree & tall shrubs comprise less than 25% of the vegetated cover. Vegetation is mostly herbaceous, e.g., cattail, bulrush, burreed, pond lily, horsetail. Surface water may be extensive and fluctuates seasonally, being either persistent or drying up partly or entirely.	0		
11	<i>Reminder: For all questions, the AA should include all persistent waters in ponds smaller than 8 hectares (~283 m on a side) that are adjacent to the AA. The AA should also include part of the water area of adjacent ponded water larger than 8 ha and adjacent rivers wider than 20 m. Specifically, the AA should include the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone. Throughout this data form, "adjacent" is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.</i>					
12	F2	Wetland Types - Adjoining or Subordinate	If the AA is smaller than 1 ha, mark all other types that occupy more than 1% of the vegetated AA. If the AA is larger than 1 ha, mark all other types which are within or adjacent to the AA and occupy more than 1 ha, as visible from the AA or as interpreted from aerial imagery. Do not mark again the type marked in F1.			1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, INV, SBM, WBF]
13			A1.	0		
14			A2.	0		
15			B1.	1		
16			B2.	0		

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17	F3	Woody Height & Form Diversity	Following EACH row below, indicate with a number code the percentage of the living vegetation in the AA which is occupied by that feature (6 if >95%, 5 if 75-95%, 4 if 50-75%, 3 if 25-50%, 2 if 5-25%, 1 if <5%, 0 if none). If the vegetated part of the AA is largely herbaceous (non-woody) vegetation, these percentages should not sum to 100%.		Deciduous shrubs in this region usually include buttonbush, Labrador tea, bayberry (<i>Morella</i>), huckleberry, cranberry, cloudberry, sweetgale, alder, willow, birch, ash, dogwood, and a few others. If you assigned a code of 3 or higher to any of the first four choices and the ground cover beneath the trees/shrubs is <25% moss, then question F1 might be "B1". [CS, INV, NR, PH, POL, SBM, Sens]
18	coniferous trees (may include tamarack) taller than 3 m.		4		
19	deciduous trees taller than 3 m.		2		
20	coniferous or ericaceous shrubs or trees 1-3 m tall not directly below the canopy of trees.		2		
21	deciduous shrubs or trees 1-3 m tall not directly below the canopy of trees.		2		
22	coniferous or ericaceous shrubs <1 m tall not directly below the canopy of taller vegetation.		2		
23	deciduous shrubs or trees <1 m tall (e.g., deciduous seedlings) not directly below the canopy of taller vegetation.	1			
24	Note: If none of top 4 rows in F3 was marked 2 or greater, SKIP to F9 (N fixers).				
25	F4	Dominance of Most Abundant Shrub Species	Determine which two woody plant species comprise the greatest portion of the low (<3 m) woody cover. Then choose one:		[PH, POL, SBM, Sens]
26	those species together comprise > 50% of such cover.		0		
27	those species together do not comprise > 50% of such cover.		1		
28	F5	Woody Diameter Classes	Mark ALL the types that comprise >5% of the woody canopy cover in the AA or >5% of the wooded areas (if any) along its upland edge (perimeter). The edge should include only the trees whose canopies extend into the AA.		Estimate the diameters at chest height. If small-diameter trees are overtopped (shaded) by larger ones, visualise a "subcanopy" at the average height of the smaller-dbh trees, to serve as a basis for the minimum 5% canopy requirement in this question. The trees and shrubs need not be wetland species. [AM, CS, POL, SBM, Sens, WBN]
29	coniferous, 1-9 cm diameter and >1 m tall.		1		
30	broad-leaved deciduous 1-9 cm diameter and >1 m tall.		1		
31	coniferous, 10-19 cm diameter.		1		
32	broad-leaved deciduous 10-19 cm diameter.		1		
33	coniferous, 20-40 cm diameter.		0		
34	broad-leaved deciduous 20-40 cm diameter.		1		
35	coniferous, >40 cm diameter.		0		
36	broad-leaved deciduous >40 cm diameter.	0			
37	F6	Height Class Interspersion	Follow the key below and mark the ONE row that best describes MOST of the AA:		[AM, INV, NR, PH, SBM, Sens]
38	A. Neither the vegetation taller than 1 m nor the vegetation shorter than that comprise >70% of the vegetated part of the AA. They each comprise 30-70%. Choose between A1 and A2 and mark the choice with a 1 in the adjoining column. Otherwise go to B below.				
39	A1. The two height classes are mostly scattered and intermixed throughout the AA.		1		
40	A2. Not A1. The two height classes are mostly in separate zones or bands, or in proportionately large clumps.		0		
41	B. Either the vegetation shorter than 1 m comprises >70% of the vegetated part of the AA, or the vegetation taller than that does. One size class might even be totally absent. Choose between B1 and B2 and mark the choice with a 1 in the adjoining column:				
42	B1. The less prevalent height class is mostly scattered and intermixed within the prevalent one.		0		
43	B2. Not B1. The less prevalent height class is mostly located apart from the prevalent one, in separate zones or clumps, or is completely absent.	0			
44	F7	Large Snags (Dead Standing Trees)	The number of large snags (diameter >20 cm) in the AA plus adjacent upland area within 10 m of the wetland edge is:		Snags are dead standing trees that often (not always) lack bark and foliage. Include only ones that are at least 2 m tall. [POL, SBM, WBN]
45	None, or fewer than 8/ hectare which exceed this diameter.		0		
46	Several (>8/hectare) and a pond, lake, or slow-flowing water wider than 10 m is within 1 km.		1		
47	Several (>8/hectare) but above not true.		0		
48	F8	Downed Wood	The number of downed wood pieces longer than 2 m and with diameter >10 cm, and not persistently submerged, is:		Exclude temporary "burn piles." [AM, INV, POL, SBM]
49	Few or none that meet these criteria.		0		
50	Several (>5 if AA is >5 hectares, less for smaller AAs) meet these criteria.		1		
51	F9	N Fixers	The percentage of the AA's vegetated cover that contains nitrogen-fixing plants (e.g., alder, sweetgale, clover, lupine, alfalfa, other legumes) is:		Do not include N-fixing algae or lichens. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
52	<1% or none.		0		
53	1-25% of the vegetated cover, in the AA or along its water edge (whichever has more).		1		
54	25-50% of the vegetated cover, in the AA or along its water edge (whichever has more).		0		
55	50-75% of the vegetated cover, in the AA or along its water edge (whichever has more).		0		
56	>75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0			

	A	B	C	D	E
57	F10	Sphagnum Moss Extent	The cover of Sphagnum moss (or any moss that forms a dense cushion many centimeters thick), including the moss obscured by taller sedges and other plants rooted in it, is:		Exclude moss growing on trees and rocks. [CS, PH]
58			<5% of the vegetated part of the AA.	0	
59			5-25% of the vegetated part of the AA.	0	
60			25-50% of the vegetated part of the AA.	1	
61			50-95% of the vegetated part of the AA.	0	
62			>95% of the vegetated part of the AA.	0	
63	F11	% Bare Ground & Thatch	Consider the parts of the AA that lack surface water at the driest time of the growing season. Viewed from directly above the ground layer, the predominant condition in those areas at that time is:		Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is present under a tree or shrub canopy should be counted. Boulders count as bare ground. Wetlands with mineral soils and that are heavily shaded or are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens]
64			Little or no (<5%) <i>bare ground</i> is visible between erect stems or under canopy anywhere in the vegetated AA. Ground is extensively blanketed by dense thatch, moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	1	
65			Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0	
66			Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the AA.	0	
67			Other conditions.	0	
68			Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0	
69	F12	Ground Irregularity	Imagine the AA without any living vegetation. Excluding the portion of the AA that is always under water, the number of hummocks, small pits, raised mounds, animal burrows, ruts, gullies, natural levees, microdepressions, and other areas of peat or mineral soil that are raised or depressed >10 cm compared to most of the area within a few meters surrounding them is:		The depressions may be of human or natural origin. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
70			Few or none (minimal microtopography: <1% of the land has such features, or entire AA is always water-covered).	0	
71			Intermediate.	1	
72			Several (extensive micro-topography).	0	
73	F13	Upland Inclusions	Within the AA, inclusions of upland are:		[AM, NR, SBM]
74			Few or none.	0	
75			Intermediate (1 - 10% of vegetated part of the AA).	0	
76			Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).	1	
77	F14	Soil Texture	In parts of the AA that lack persistent water, the texture of soil in the uppermost layer is mostly: [<i>To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key (in Appendix A of the Manual).</i>]		[CS, NR, OE, PH, PR, Sens, SFS, WS]
78			Loamy: soils that may contain a little fine grit and do not make a "ribbon" longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
79			Fines: includes silt, clay, silt, soils that make a ribbon longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
80			Deep Peat, to 40 cm depth or greater.	0	
81			Shallow Peat or organic <40 cm deep.	1	
82			Coarse: includes sand, loamy sand, gravel, cobble, soils that do not make a ribbon when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
83	F15	Shorebird Feeding Habitats	During any 2 consecutive weeks of the growing season, the extent of mudflats, bare unshaded saturated areas not covered by thatch, and unshaded waters shallower than 6 cm is: [Include also any area that is adjacent to the AA.]		This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
84			None, or <100 sq. m.	1	
85			100-1000 sq. m.	0	
86			1000 – 10,000 sq. m.	0	
87			>10,000 sq. m.	0	
88	F16	Herbaceous % of Vegetated Wetland	In aerial ("ducks eye") view, the maximum annual cover of herbaceous vegetation (all non-woody plants except moss) is:		[AM, WBF, WBN]
89			<5% of the vegetated part of the AA or <0.01 hectare (whichever is less). Mark "1" here and SKIP to F20 (Invasive Plant Cover).	0	
90			5-25% of the vegetated part of the AA.	0	
91			25-50% of the vegetated part of the AA.	0	
92			50-95% of the vegetated part of the AA.	1	
93			>95% of the vegetated part of the AA.	0	

	A	B	C	D	E
94	F17	Forb Cover	Within parts of the AA having herbaceous cover (excluding SAV), the areal cover of forbs reaches an annual maximum of:		Forbs are flowering plants. Do not include grasses, sedges, cattail, other graminoids, ferns, horsetails, or others that lack showy flowers. [POL]
95	<5% of the herbaceous part of the AA.		0		
96	5-25% of the herbaceous part of the AA.		1		
97	25-50% of the herbaceous part of the AA.		0		
98	50-95% of the herbaceous part of the AA.		0		
99	>95% of the herbaceous part of the AA.	0			
100	F18	Sedge Cover	Sedges (<i>Carex</i> spp.) and cottongrass (<i>Eriophorum</i> spp.) occupy:		[CS]
101	<5% of the vegetated area, or none.		0		
102	5-50% of the vegetated area.		1		
103	50-95% of the vegetated area.		0		
104	>95% of the vegetated area.	0			
105	F19	Dominance of Most Abundant Herbaceous Species	Determine which two herbaceous species comprise the greatest portion of the herbaceous cover (excluding mosses and floating-leaved aquatic plants). Then choose one of the following:		For this question, include ferns as well as graminoids and forbs. [EC, INV, PH, POL, Sens]
106	those species together comprise > 50% of the areal cover of herbaceous plants at any time during the year.		0		
107	those species together do not comprise > 50% of the areal cover of herbaceous plants at any time during the year.		1		
108	F20	Invasive Plant Cover	How extensive is the cover of invasive plant species in the AA? For species, see Plants_invasive worksheet in the accompanying SupplInfo file.		[EC, PH, POL, Sens]
109	invasive species appear to be absent in the AA, or are present only in trace amount (a few individuals).		1		
110	invasive species are present in more than trace amounts, but comprise <5% of herbaceous cover (or woody cover, if the invasives are woody).		0		
111	invasive species comprise 5-20% of the herb cover (or woody cover, if the invasives are woody).		0		
112	invasive species comprise 20-50% of the herb cover (or woody cover, if the invasives are woody).		0		
113	invasive species comprise >50% of the herb cover (or woody cover, if the invasives are woody).	0			
114	F21	Invasive Cover Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 3 m upslope from the wetland) that is occupied by invasive plant species is:		If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an exotic species, assume the unidentified plant to also be exotic. If vegetation is so senesced that exotic species cannot be identified, answer "none". [PH, STR]
115	none of the upland edge (invasives apparently absent), or AA has no upland edge.		1		
116	some (but <5%) of the upland edge.		0		
117	5-50% of the upland edge.		0		
118	most (>50%) of the upland edge.	0			
119	F22	Fringe Wetland	During most of the year, open water within or adjacent to the vegetated part of the wetland is much wider than the maximum width of the vegetated zone within the wetland. Enter "1" if true, "0" if false.	1	[WBF, WBN, WCv]
120	F23	Lacustrine Wetland	The vegetated part of the AA is within or adjacent to a body of non-tidal standing open water whose size exceeds 8 hectares during most of a normal year.	0	[FR, PR, PU, WBF, WBN]
121	F24	% of AA Without Surface Water	The percentage of the AA that <u>never</u> contains <u>surface</u> water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC]
122	<1% . In other words, all or nearly all of the AA is covered by water permanently or at least seasonally.		0		
123	1-25% of the AA, or <1% but >0.01 ha never contains surface water.		0		
124	25-50% of the AA never contains surface water.		0		
125	50-75% of the AA never contains surface water.		0		
126	75-99% of the AA never contains surface water, OR >99% and there is at least one persistently ponded water body larger than 1 ha in the AA.		1		
127	99-100%. AND there is no persistently ponded water body larger than 1 ha within the AA. Enter "1" and SKIP to F42 (Channel Connection).	0			

	A	B	C	D	E
128	F25	% of AA with Persistent Surface Water	Identify the parts of the AA that still contain surface water (flowing or ponded, open or hidden beneath vegetation) even during the driest times of a normal year, i.e., when the AA's surface water is at its lowest annual level. At that time, the percentage of the AA that still contains surface water is:		If you are unable to determine the condition at the driest time of year, ask the land owner or neighbors about it if possible. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [AM, CS, FA, FR, INV, NR, POL, PR, SBM, WBF, WBN]
129	None. The AA dries up completely (no water in channels either) or never has surface water during most years. SKIP to F27.		0		
130	1-20% of the AA.		1		
131	20-50% of the AA.		0		
132	50-95% of the AA.		0		
133	>95% of the AA. True for many fringe wetlands.		0		
134	F26	% of Summertime Water that Is Shaded	At mid-day during the warmest time of year, the area of surface water <u>within</u> the AA that is shaded by vegetation and other features that are <u>within</u> the AA at that time is:		[FA, WC]
135	<5% of the water is shaded, or no surface water is present then.		0		
136	5-25% of the water is shaded.		1		
137	25-50% of the water is shaded.		0		
138	50-75% of the water is shaded.		0		
139	>75% of the water is shaded.		0		
140	F27	% of AA that is Flooded Only Seasonally	The percentage of the AA's area that is between the annual high water and the annual low water (surface water) is:		Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualising where that would intercept the land along the river. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
141	None, or <0.01 hectare and <1% of the AA. SKIP to F29.		0		
142	1-20% of the AA, or <1% but >0.01 ha.		0		
143	20-50% of the AA.		0		
144	50-95% of the AA.		1		
145	>95% of the AA.		0		
146	F28	Annual Water Fluctuation Range	The annual fluctuation in surface water level within most of the parts of the AA that contain surface water at least temporarily is:		Look for flood marks (see above). Because the annual range of water levels is difficult to estimate without multiple visits, consider asking the land owner or neighbors about it. [AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
147	<10 cm change (stable or nearly so).		0		
148	10 cm - 50 cm change.		1		
149	0.5 - 1 m change.		0		
150	1-2 m change.		0		
151	>2 m change.		0		
152	Is the AA plus adjacent ponded water smaller than 0.01 hectare (about 10m x 10m, or 1m x 100 m)? If so, enter "1" in column D and SKIP TO F42 (Connection).			0	
153	F29	Predominant Depth Class	During most of the time when surface water is present during the growing season, its depth, averaged over the entire inundated part of the AA, is:		If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth of the most persistently inundated part of the wetland. Include surface water in channels and ditches as well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC]
154	<10 cm deep (but >0).		0		
155	10 - 50 cm deep.		1		
156	0.5 - 1 m deep.		0		
157	1 - 2 m deep.		0		
158	>2 m deep. True for many fringe wetlands.		0		
159	F30	Depth Classes - Evenness of Proportions	When present, surface water in most of the AA usually consists of (select one):		Estimate these proportions by considering the gradient and microtopography of the site. [FR, INV, WBF, WBN]
160	One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).		0		
161	One depth class that comprises 50-90% of the AA's inundated area.		0		
162	Neither of above. There are 3 or more depth classes and none occupy >50%.		1		
163	F31	% of Water That Is Ponded (not Flowing)	During most times when surface water is present, the percentage that is (1) ponded (stagnant, or flows so slowly that fine sediment is not held in suspension) AND (2) is likely to be deeper than 0.5 m in some places, is:		Nearly all wetlands with surface water have some ponded water. [AM, CS, INV, NR, OE, PR, Sens, SR, WBF, WBN, WC, WS]
164	<5% of the water, or it occupies <100 sq.m cumulatively. Nearly all the surface water is flowing. SKIP to F34.		0		
165	5-30% of the water.		0		
166	30-70% of the water.		1		
167	70-95% of the water.		0		
168	>95% of the water.		0		

	A	B	C	D	E
169	F32	Ponded Open Water - Minimum Size	During most of the growing season, the largest patch of open water that is ponded and is in or bordering the AA is >0.01 hectare (about 10 m by 10 m) and mostly deeper than 0.5 m. If true enter "1" and continue. If false, enter "0" and SKIP to F41 (Floating Algae & Duckweed).	1	Open water is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it.
170	F33	% of Ponded Water that is Open	In ducks-eye aerial view, the percentage of the ponded water that is open (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:		[AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC]
171			None, or <1% of the AA and largest pool occupies <0.01 hectares. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
172			1-4% of the ponded water. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
173			5-30% of the ponded water.	0	
174			30-70% of the ponded water.	1	
175			70-99% of the ponded water.	0	
176			100% of the ponded water.	0	
177	F34	Width of Vegetated Zone within Wetland	At the time during the growing season when the AA's water level is lowest, the average width of vegetated area <u>in the AA</u> that separates adjoining uplands from open water within the AA is:		"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. [AM, CS, NR, OE, PH, PR, SBM, Sens, SR, WBN]
178			<1 m.	0	
179			1 - 9 m.	1	
180			10 - 29 m.	0	
181			30 - 49 m.	0	
182			50 - 100 m.	0	
183			> 100 m, or open water is absent at that time.	0	
184	F35	Flat Shoreline Extent	During most of the part of the growing season when water is present, the percentage of the AA's water edge length that is nearly flat (a slope less than about 5% measured within 5 m landward of the water) is:		If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
185			<1% of the water edge.	0	
186			1-25% of the water edge.	0	
187			25-50% of the water edge.	1	
188			50-75% of the water edge.	0	
189			>75% of the water edge.	0	
190	F36	Robust Emergents	The percentage of the emergent vegetation cover in the AA that is cattail (<i>Typha</i> spp.), common reed (<i>Phragmites</i>), or tall (>1m) bulrush is:		Emergent vegetation is herbaceous plants whose stems are partly above and partly below the water surface during most of the time water is present. [WBN]
191			<1% of the emergent vegetation, or emergent vegetation is absent. SKIP to F38 .	0	
192			1-25% of the emergent vegetation.	0	
193			25-75% of the emergent vegetation.	1	
194			>75%, of the emergent vegetation.	0	
195	F37	Interspersion of Emergents & Open Water	During most of the part of the growing season when water is present, the spatial pattern of emergent vegetation within the water is mostly:		[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
196			Scattered. More than 30% of such vegetation forms small islands or corridors surrounded by water.	0	
197			Intermediate.	0	
198			Clumped. More than 70% of such vegetation is in bands along the wetland perimeter or is clumped at one or a few sides of the surface water area.	1	
199	F38	Persistent Deepwater Area	If the deepest patch of surface water (flowing or ponded) in or directly adjacent to the AA is mostly deeper than 0.5 m for >2 weeks during the growing season, enter "1" and continue. If not, enter "0" and SKIP to F42 .(Connection).	0	
200	F39	Non-vegetated Aquatic Cover	During most of the growing season and in waters deeper than 0.5 m, the cover for fish, aquatic invertebrates, and/or amphibians that is provided NOT by living vegetation, but by accumulations of dead wood and undercut banks is:		For this question, consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are unreliable so should not be attempted. [AM, FA, FR, INV]
201			Little or none.	0	
202			Intermediate.	0	
203			Extensive.	0	
204	F40	Isolated Island	The AA contains (or is part of) an island or beaver lodge within a lake, pond, or river, and is isolated from the shore by water depths >1 m on all sides during an average June. The island may be solid, or it may be a floating vegetation mat that is sufficiently large and dense to support a waterbird nest.	0	[WBN]
205	F41	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed are likely to cover >50% of the AA's otherwise-unshaded water surface, or blanket >50% of the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	[EC, PR, WBF]

	A	B	C	D	E
206	F42	Channel Connection & Outflow Duration	The most persistent surface water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and a downslope stream network is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of the wetland, or the surface connection between the wetland and the downslope stream network.]		Consider the connection regardless of whether the surface water is frozen. The "downslope stream network" could consist of ditches, rivers, ponds, or lakes which eventually connect to the ocean. If this cannot be determined while visiting the AA, consult topographic maps perhaps by viewing these online with Toporama (http://atlas.nrcan.gc.ca/toporama/en/index.html) [CS, FA, FR, NR, OE, PR, Sens, SFS, SR, WCV, WS]
207			Persistent (surface water flows out for >9 months/year).	0	
208			Seasonal (surface water flows out for 14 days to 9 months/year, not necessarily consecutive).	1	
209			Temporary (surface water flows out for <14 days, not necessarily consecutive).	0	
210			None -- but maps show a stream network downslope from the AA and within a distance that is less than the AA's length. SKIP to F47 (pH Measurement).	0	
211			No surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. SKIP to F47 (pH Measurement).	0	
212	F43	Outflow Confinement	During major runoff events, in the places where surface water exits the AA or connected waters nearby, the water:		"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS, NR, OE, PR, Sens, SR, STR, WS]
213			Mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not appear to drain the wetland artificially during most of the growing season.	0	
214			Leaves through natural exits (channels or diffuse outflow), not mainly through artificial or temporary features.	1	
215			Is exported more quickly than usual due to ditches or pipes within the AA or connected to its outlet, or within 10 m of the AA's edge, which drain the wetland artificially, or water is pumped out of the AA.	0	
216	F44	Tributary Channel	At least once annually, surface water from a tributary channel that is >100 m long moves into the AA. Or, surface water from a larger permanent water body adjacent to the AA spills into the AA. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. If no, SKIP to F47 (pH Measurement).	0	
217	F45	Input Water Temperature	Based on lack of shade, water source characteristics, or actual temperature measurements, the inflow is likely to be warmer than surface water in the AA during part of most years. Enter 1= yes, 0= no.	0	[WCV]
218	F46	Throughflow Resistance	During its travel through the AA at the time of peak annual flow, water arriving in channels: [select only the ONE encountered by most of the incoming water].		[FA, FR, INV, NR, OE, PR, SR, WS]
219			Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel in unvegetated (often incised) channels that have minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0	
220			Bumps into herbaceous vegetation but mostly remains in fairly straight channels.	0	
221			Bumps into herbaceous vegetation and mostly spreads throughout, or is in widely meandering, multi-branched, or braided channels.	0	
222			Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels.	0	
223			Bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0	
224	F47	pH Measurement	The pH in most of the AA's surface water:		Preferably, measure this in larger areas of ponded surface water within the AA, or in streams that have passed through (not along) most of the AA. Unless surface water is completely absent, do not dig holes or make depressions in peat in order to provide water for this measurement. Avoid measuring near roads or in puddles formed only by recent rain. [AM, FA, FR, NR, WBF, PH, PR, Sens, WBF, WBN]
225			Was measured, and is: [enter the reading in the column to the right.]		
226			Was not measured but surface water is present and is darkly tea-coloured. Or if no surface water, then mosses and plants that indicate peatland (e.g., Labrador tea) are prevalent. Enter "1".	0	
227			Neither of above. Enter "1".	1	
228	F48	TDS and/or Conductivity	The TDS (total dissolved solids) or conductivity of the AA's surface water is: (select the first true row with information):		
229			TDS is: [Enter the reading in ppm or mg/L in the column to the right, if measured, or answer next row.]		
230			Conductivity is [Enter the reading in µS/cm in the column to the right.]		
231			Was not measured, but plants that indicate saline conditions cover much of the vegetated AA. Enter "1".	0	
232			Neither of above	0	
233	F49	Beaver Probability	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
234			Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).	1	
235			Likely based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.	0	
236			Unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed.	0	

	A	B	C	D	E
237	F50	Groundwater Strength of Evidence	Select first applicable choice:		Adhere to these criteria strictly -- do not use personal judgment based on fen conditions, pH, or other evidence. Consult topographic maps to detect breaks in slope described here. Rust deposits associated with groundwater seeps may be most noticeable as orange discoloration in ice formations along streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS]
238			Springs are known to be present within the AA, or if groundwater levels have been monitored, that has demonstrated that groundwater primarily discharges to the wetland for longer periods during the year than periods when the wetland recharges the groundwater.	0	
239			Most of the AA has a slope of >5%, or is very close to the base of a natural slope longer than 100 and much steeper than the slope of the AA, AND the pH of surface water, if known, is >5.5.	0	
240			Neither of above is true, although some groundwater may discharge to or flow through the AA. Or groundwater influx is unknown.	1	
241	F51	Internal Gradient	The gradient along most of the flow path within the AA is:		This is not the same as the shoreline slope. It is the elevational difference between the AA's inlet and outlet, divided by the flow-distance between them and converted to percent. If available, use a clinometer to measure this. Free clinometer apps can be downloaded to smartphones. If the wetland is large (longer than ~1 km), this may be estimated using Google Earth to determine the minimum and maximum elevation within the AA, then dividing by length and multiplying by 100. [CS, NR, OE, PR, SR, WBF, WBN, WS]
242			<2% or the AA has no surface water outlet (not even seasonally).	0	
243			2-5%.	1	
244			6-10%.	0	
245			>10%.	0	
246		Note for the next three questions: If the AA lacks an upland edge, evaluate based on the AA's entire perimeter, and moving outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.			
247	F52	Vegetated Buffer as % of Perimeter	Within a zone extending 30 m laterally from the AA's edge with upland and/or other wetlands, the percentage that contains perennial vegetation cover (except lawns, row crops, heavily grazed land, conifer plantations) is:		[AM, FA, FR, INV, NRv, PH, POL, PRv, SBM, Sens, SRv, STR, WBN]
248			<5%.	0	
249			5 to 30%.	0	
250			30 to 60%.	1	
251			60 to 90%.	0	
252			>90%, or all the area within 30 m of the AA edge is other wetlands. SKIP to F55.	0	
253	F53	Type of Cover in Buffer	Within 30 m upslope of where the wetland transitions to upland, the upland land cover that is NOT perennial vegetation is mostly (mark ONE):		[AM, FA, INV, NRv, PH, POL, SBM, STR, WBN]
254			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
255			Bare or nearly bare pervious surface or managed vegetation, e.g., lawn, row crops, unpaved road, dike, landslide.	1	
256	F54	Buffer Slope	The steepest and/or most disturbed part of the upland area that is within 30 m of the wetland and occupies >10% of that upland area has a percent slope of:		[NRv, PRv, Sens, SRv]
257			<1% (flat -- almost no noticeable slope) or all the area within 30 m of the AA edge is other wetlands.	0	
258			2-5%.	1	
259			5-30%.	0	
260			>30%.	0	
261	F55	Cliffs or Steep Banks	In the AA or within 100 m, there are elevated terrestrial features such as cliffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 2 m nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	0	Do not include upturned trees as potential den sites. [POL, SBM]
262	F56	New or Expanded Wetland	Human actions within or adjacent to the AA have persistently expanded a naturally occurring wetland or created a wetland where there previously was none (e.g., by excavation, impoundment):		Determine this using historical aerial photography, old maps, soil maps, or permit files as available [CS, NR, OE, PH, Sens]
263			No.	1	
264			Yes, and created or expanded 20 - 100 years ago.	0	
265			Yes, and created or expanded 3-20 years ago.	0	
266			Yes, and created or expanded within last 3 years.	0	
267			Yes, but time of origin or expansion unknown.	0	
268			Unknown if new or expanded within 20 years or not.	0	
269	F57	Burn History	More than 1% of the AA's previously vegetated area:		Look for charred soil or stumps (in multiple widely-spaced locations) or ask landowner. [CS, PH, STR]
270			Burned within past 5 years.	0	
271			Burned 6-10 years ago.	0	
272			Burned 11-30 years ago.	0	
273			Burned >30 years ago, or no evidence of a burn and no data.	1	
274	F58	Visibility	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 100 m of the AA (select one) is:		[PU, STR, WBFv]
275			<25%.	1	
276			25-50%.	0	
277			>50%.	0	

	A	B	C	D	E
278	F59	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select ALL statements that are true of the AA as it currently exists:		[PU, STR]
279			For an average person, walking is physically possible in (not just near) >5% of the AA during most of the growing season, e.g., free of deep water and dense shrub thickets.	0	
280			Maintained roads, parking areas, or foot-trails are within 10 m of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0	
281			Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0	
282	F60	Unvisited Core Area	The percentage of the AA almost never visited by humans during an average growing season probably comprises: <i>[Note: Only include the part actually walked or driven (not simply viewed from) with a vehicle or boat. Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 30 m of the wetland edge. In that case include only the area occupied by the trail.]</i>		[AM, FAv, FRv, PH, PU, SBM, STR, WBF, WBN]
283			<5% and no inhabited building is within 100 m of the AA.	0	
284			<5% and inhabited building is within 100 m of the AA.	0	
285			5-50% and no inhabited building is within 100 m of the AA.	0	
286			5-50% and inhabited building is within 100 m of the AA.	0	
287			50-95%, with or without inhabited building nearby.	1	
288			>95% of the AA with or without inhabited building nearby.	0	
289	F61	Frequently Visited Area	The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: <i>[See note above.]</i>		[AM, PH, PU, SBM, STR, WBF, WBN]
290			<5%. If F60 was answered ">95%" (mostly never visited), SKIP to F64.	1	
291			5-50%.	0	
292			50-95%.	0	
293			>95% of the AA.	0	
294	F62	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on soil within nearly all of the AA when the soil is unfrozen. Enter "1" if true.	0	[PH, PU]
295	F63	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorised boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	0	[AM, PU, WBF, WBN]
296	F64	Consumptive Uses (Provisioning Services)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select ALL that apply.		[FAv, FRv, WBFv]
297			Low-impact commercial timber harvest (e.g., selective thinning).	0	
298			Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.	0	
299			Waterfowl hunting.	0	
300			Fishing.	0	
301			Trapping of furbearers.	0	
302		None of the above.	0		
303	F65	Domestic Wells	The closest wells or water bodies that currently provide drinking water are:		[NRv]
304			Within 0-100 m. of the AA.	0	
305			100-500 m. away.	0	
306			>500 m. away, or no information.	1	
307	F66	Calcareous Fen	The AA is, or is part of, a calcareous fen. See the Plants_Calcar worksheet in the accompanying SuppInfo file for list of plant indicators (calciphiles). Enter 1 if more than two Strong or more than five Moderate calciphile species are present; otherwise enter 0, but if not able to identify those and no information, change to blank.		[PH, PR]

Investigator: RK MM	Site Identifier: Goose Harbour Lake Wind Farm, Wetland 1	Date: 21 Sept 2022
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Stressor (S) Data Form for Non-Tidal Wetlands. WESP-AC for Nova Scotia version 2.

				Data	
S1	Aberrant Timing of Water Inputs				
	<i>In the last column, place a check mark next to any item that is likely to have caused the timing of water inputs (but not necessarily their volume) to shift by hours, days, or weeks, becoming either more muted (smaller or less frequent peaks spread over longer times, more temporal homogeneity of flow or water levels) or more flashy (larger or more frequent spikes but over shorter times). [FA, FR, INV, PH, STR]</i>				
	Stormwater from impervious surfaces that drains directly to the wetland.				
	Water subsidies from wastewater effluent, septic system leakage, snow storage areas, or irrigation.				
	Regular removal of surface or groundwater for irrigation or other consumptive use.				
	Flow regulation in tributaries or water level regulation in adjoining water body, or other control structure at water entry points that regulates inflow to the wetland.				
	A dam, dike, levee, weir, berm, or fill -- within or downgradient from the wetland -- that interferes with surface or subsurface flow in/out of the AA (e.g., road fill, wellpads, pipelines).				
	Excavation within the wetland, e.g., dugout, artificial pond, dead-end ditch.				
	Artificial drains or ditches in or near the wetland.				
	Accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level).				
	Logging within the wetland.				
	Subsidence or compaction of the wetland's substrate as a result of machinery, livestock, fire, drainage, or off road vehicles.				
	Straightening, ditching, dredging, and/or lining of tributary channels.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items had no measurable effect on the timing of water conditions in any part of the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of timing shift within the wetland:	>95% of wetland.	5-95% of wetland.	<5% of wetland.	0
	When most of the timing shift began:	<3 yrs ago.	3-9 yrs ago.	10-100 yrs ago.	0
	<i>Score the following 2 rows only if the altered inputs began within past 10 years, and only for the part of the wetland that experiences those.</i>				
	Input timing now vs. previously:	Shift of weeks.	Shift of days.	Shift of hours or minutes.	0
	Flashiness or muting:	Became very flashy or controlled.	Intermediate.	Became mildly flashy or controlled.	0
Sum=				0	
Stressor subscore=				0.00	

S2	Accelerated Inputs of Contaminants and/or Salts				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of contaminants or salts to the AA. [AM, FA, PH, POL, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills, industrial facilities.				
	Metals & chemical wastes from mining, shooting ranges, snow storage areas, oil/ gas extraction, other sources (download many locations from National Pollutant Release Inventory and view KMZ overlay in Google Earth. https://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=B85A1846-1)				
	Road salt.				
	Spraying of pesticides, as applied to lawns, croplands, roadsides, or other areas in the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly higher levels of contaminants and/or salts, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Usual toxicity of most toxic contaminants:	Industrial effluent, mining waste, unmanaged landfill.	Cropland, managed landfill, pipeline or transmission rights-of-way.	Low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	
S3	Accelerated Inputs of Nutrients				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of nutrients to the wetland. [NRv, PRv, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills.				
	Fertilizers applied to lawns, ag lands, or other areas in the CA.				
	Livestock, dogs.				
	Artificial drainage of upslope lands.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly more nutrients, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Type of loading:	High density of unmaintained septic, some types of industrial sources.	Moderate density septic, cropland, secondary wastewater treatment plant.	Livestock, pets, low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	

S4	Excessive Sediment Loading from Contributing Area				
	<i>In the last column, place a check mark next to any item present in the CA that is likely to have elevated the load of waterborne or windborne sediment reaching the wetland from its CA. [FA, FR, INV, PH, SRv, STR]</i>				
	Erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fires.				
	Erosion from construction, in-channel machinery in the CA.				
	Erosion from off-road vehicles in the CA.				
	Erosion from livestock or foot traffic in the CA.				
	Stormwater or wastewater effluent.				
	Sediment from road sanding, gravel mining, other mining, oil/ gas extraction.				
	Accelerated channel downcutting or headcutting of tributaries due to altered land use.				
	Other human-related disturbances within the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not cumulatively add significantly more sediment or suspended solids to the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Erosion in CA:	Extensive evidence, high intensity.*	Potentially (based on high-intensity* land use) or scattered evidence.	Potentially (based on low-intensity* land use) with little or no direct evidence.	0
	Recentness of significant soil disturbance in the CA:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration of sediment inputs to the wetland:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0	
AA proximity to actual or potential sources:	0 - 15 m.	15-100 m.	In more distant part of contributing area.	0	
* high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erosion with or without veg removal; low-intensity= veg removal only with little or no apparent erosion or disturbance of soil or sediment.					
			Sum=	0	
			Stressor subscore=	0.00	

S5	Soil or Sediment Alteration Within the Assessment Area				
	<i>In the last column, place a check mark next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil. Consider only items occurring within past 100 years or since wetland was created or restored (whichever is less). [CS, INV, NR, PH, SR, STR]</i>				
	Compaction from machinery, off-road vehicles, livestock, or mountain bikes, especially during wetter periods.				1
	Leveling or other grading not to the natural contour.				1
	Tillage, plowing (but excluding disking for enhancement of native plants).				
	Fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland.				1
	Excavation.				
	Ditch cleaning or dredging in or adjacent to the wetland.				
	Boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments.				
	Artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of altered soil:	>95% of wetland or >95% of its upland edge (if any).	5-95% of wetland or 5-95% of its upland edge (if any).	<5% of wetland and <5% of its upland edge (if any).	1
	Recentness of significant soil alteration in wetland:	Current & ongoing.	1-12 months ago.	>1 yr ago.	1
Duration:	Long-lasting, minimal veg recovery.	Long-lasting but mostly revegetated.	Short-term, revegetated, not intense.	3	
Timing of soil alteration:	Frequent and year-round.	Frequent but mostly seasonal.	Mainly during one-time or scattered events.	1	
			Sum=	6	
			Stressor subscore=	0.50	

Assessment Area (AA) Results:

Wetland ID: Goose Harbour Lake Wind Farm, Wetland 1

Date: Sept 21, 2022

Observer: Rohan Kariyawansa, Madeline Maher

Latitude & Longitude (decimal degrees): 45.54707500 & 61.57067778

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	3.17	Lower	3.78	Moderate	4.31	1.68
Stream Flow Support (SFS)	3.14	Moderate	6.73	Moderate	2.53	4.48
Water Cooling (WC)	5.29	Higher	1.21	Lower	3.53	0.66
Sediment Retention & Stabilisation (SR)	3.32	Lower	1.69	Moderate	4.79	0.83
Phosphorus Retention (PR)	2.54	Lower	1.61	Moderate	5.34	1.25
Nitrate Removal & Retention (NR)	3.14	Moderate	5.00	Moderate	5.04	5.00
Carbon Sequestration (CS)	3.70	Moderate			6.95	
Organic Nutrient Export (OE)	9.40	Higher			6.14	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	8.06	Higher	5.80	Moderate	6.78	4.37
Amphibian & Turtle Habitat (AM)	5.86	Moderate	5.42	Moderate	6.19	6.23
Waterbird Feeding Habitat (WBF)	7.39	Higher	5.00	Moderate	5.63	5.00
Waterbird Nesting Habitat (WBN)	8.74	Higher	5.00	Higher	6.34	5.00
Songbird, Raptor, & Mammal Habitat (SBM)	9.26	Higher	5.00	Moderate	8.06	5.00
Pollinator Habitat (POL)	9.53	Higher	3.33	Moderate	7.90	3.33
Native Plant Habitat (PH)	4.90	Moderate	6.43	Moderate	5.86	6.43
Public Use & Recognition (PU)			1.09	Lower		1.05
Wetland Sensitivity (Sens)			10.00	Higher		5.66
Wetland Ecological Condition (EC)			8.26	Higher		9.17
Wetland Stressors (STR) (higher score means more stress)			7.28	Higher		3.68
Summary Ratings for Grouped Functions:						
HYDROLOGIC Group (WS)	3.17	Lower	3.78	Moderate	4.31	1.68
WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS)	3.44	Moderate	3.88	Moderate	6.24	3.68
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC)	7.94	Higher	5.66	Moderate	5.76	3.82
AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN)	6.57	Higher	4.25	Moderate	4.98	4.74
TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL)	8.71	Higher	5.68	Moderate	7.67	5.68
WETLAND CONDITION (EC)			8.26	Higher		9.17
WETLAND RISK (average of Sensitivity & Stressors)			8.64	Higher		4.67

NOTE: A score of 0 does not mean the function or benefit is absent from the wetland. It means only that this wetland has a capacity that is equal or less than the lowest-scoring one, for that function or benefit, from among all the NS calibration wetlands that were assessed previously.

NOVA SCOTIA - Functional WSS Interpretation Tool

Function-Benefit Product (FBP)	FBP SCORE	FBP SCORE CATEGORY
SUPPORT SUPERGROUP - HYDROLOGIC	11.99285256	Low
SUPPORT SUPERGROUP - WATER QUALITY SUPPORT	13.35600372	Low
SUPPORT SUPERGROUP - AQUATIC SUPPORT	44.90919343	Low
HABITAT SUPERGROUP - AQUATIC HABITAT	27.94647958	Low
HABITAT SUPERGROUP - TRANSITION HABITAT	49.45097112	Low

3a. Functional WSS Determination: Automatic Method

Habitat Rule Satisfied? NO
 Support Rule Satisfied? NO
 Habitat/Support Hybrid Rule Satisfied? NO

CONCLUSION: **Site is not a WSS**

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	Goose Harbour Lake Wind Farm, Wetland 5
Investigator Name:	Rohan Kariyawansa Madeline Maher
Date of Field Assessment:	2022-09-21
Nearest Town:	Monastary
Latitude (decimal degrees):	45.54507203
Longitude (decimal degrees):	61.53672997
Is a map based on a formal on-site wetland delineation available?	yes
Approximate size of the Assessment Area (AA, in hectares):	0.1
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	100
What percent (approx.) of the wetland were you able to visit?	100
What percent (approx.) of the AA were you able to visit?	100
Were you able to ask the site owner/manager about any of the questions?	no
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	yes, Maddie & Rohan Oct 2022
How many wetlands have you assessed previously using WESP-AC? (approx.)	4-5 dozen
Comments about the site or this WESP-AC assessment (attach extra page if desired):	Coordinates are in UTM 20T

	A	B	C	D	E
1	Date: 20 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 5	Investigator: RK MM	
2	<p>Form OF (Office). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia wetlands only. DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answering many of the questions below will require using these online map viewers:</p> <p>Google Earth Pro: https://www.google.com/earth/download/gep/agree.html</p> <p>Provincial Landscape Viewer: https://nsgi.novascotia.ca/plv/</p> <p>For most wetlands, completing this office data form will require 1-2 hours. For a list of functions to which each question pertains, see bracketed abbreviations in the Definitions/Explanations column. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.</p>				
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	OF1	Province	Mark the province in which the AA is located by changing the 0 in the column next to it to a "1". Mark only one.		This determines to which province's calibration wetlands the raw score of any wetland is normalised. In the function and benefits models, it also triggers the automatic exclusion of indicators for which no spatial data exists in a particular province.
5			New Brunswick	0	
6			Nova Scotia	1	
7			Prince Edward Island	0	
8			Newfoundland-Labrador	0	
9	OF2	Ponded Area Within 1 km.	The area of surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		"Adjacent" means not separated from the AA by a wide expanse (>50 m) of upland (including roads >50 m wide). Include ponded areas likely to be hidden by wetland vegetation. If surface water extends beyond 1 km, include only the part within 1 km. Do not include tidal areas. Measure the area from aerial imagery using Google Earth Pro (click on Ruler icon in toolbar, then Polygon in pop-up menu). [PH, SBM, WBN]
10			<0.01 hectare (about 10 m x 10 m).	0	
11			0.01 - 0.1 hectare.	0	
12			0.1 - 1 hectare.	0	
13			1 to 10 hectares.	1	
14			10 to 100 hectares.	0	
15		>100 hectares.	0		
16	OF3	Ponded Water & Wetland Within 1 km.	The area of wetlands and surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		See definition of adjacent in OF2. If the AA's wetland vegetation extends beyond 1 km, include only the part within 1 km. "Ponded" means not flowing in rivers or streams. [Sens, WBF]
17			<0.01 hectare (about 10 m x 10 m).	0	
18			0.01 - 0.1 hectare.	0	
19			0.1 - 1 hectare.	0	
20			1 to 10 hectares.	1	
21			10 to 100 hectares.	0	
22		>100 hectares.	0		
23	OF4	Size of Largest Nearby Vegetated Tract or Corridor	The largest vegetated patch or corridor that includes the AA's vegetation plus all adjacent upland vegetation that is not lawn, row crops, heavily grazed lands, conifer plantation is:		See definition of adjacent in OF2. Use Google Earth Pro's polygon ruler (as described above). Exclude conifer plantations only if it is obvious that trees were planted in rows. [AM, PH, SBM, Sens]
24			<0.01 hectare (about 10 m x 10 m).	0	
25			0.01 - 0.1 hectare.	0	
26			0.1 - 1 hectare.	0	
27			1 to 10 hectares.	0	
28			10 to 100 hectares.	0	
29		100 to 1000 hectares.	0		
30		>1000 hectares. [This is nearly always the answer in relatively undeveloped landscapes.]	1		

	A	B	C	D	E
31	OF5	Distance to Large Vegetated Tract	The minimum distance from the edge of the AA to the edge of the closest vegetated land (but excluding row crops, lawn, conifer plantation) larger than 375 hectares (about 2 km on a side), is:		To measure distance, use Google Earth Pro (Ruler > Line tool). The 375-ha criterion is from the Fundy Model Forest Project. [AM, PH, POL, SBM, Sens]
32			<50 m, and not separated from the 375-ha vegetated area by any width of paved roads, stretches of open water, row crops, bare ground, lawn, or impervious surface. Or the AA itself contains >375 ha of vegetation. [This is often the answer in relatively undeveloped landscapes.]	1	
33			<50 m, but completely separated from the 375-ha vegetated area by those features, and AA does not contain >375 ha of vegetation.	0	
34			50-500 m, and not separated.	0	
35			50-500 m, but separated by those features.	0	
36			0.5 - 5 km, and not separated.	0	
37			0.5 - 5 km, but separated by those features.	0	
38			None of the above (the closest patches or corridors which are that large are >5 km away).	0	
39	OF6	Herbaceous Uniqueness	The AA's vegetation cover is >10% herbaceous* but uplands within 5 km have <10% herbaceous cover. If so, enter "3" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 1 km have <10% herbaceous cover. If so enter "2" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 100 m of the wetland edge have <10% herbaceous cover. If so, enter "1". [* NOTE: Exclude lawns, row crops, heavily grazed lands, forest, shrublands. Include moss as well as grasslike plants in this use of "herbaceous vegetation"]	3	
40	OF7	Woody Uniqueness	The AA's vegetation cover is >10% woody* but uplands within 5 km have <10% woody cover. If so, enter "3" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 1 km have <10% woody cover. If so enter "2" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 100 m of the wetland edge have <10% woody cover. If so, enter "1" [* NOTE: woody cover = trees & shrubs taller than 1 m.]	2	See above. Do not consider conifer plantations to be forest if it is obvious that trees were planted in rows. [AMv, PHv, POLv, SBMv]
41	OF8	Local Vegetated Cover Percentage	Draw a 5-km radius circle measured from the center of the AA. Ignoring all permanent water in the circle, the percent of the remaining area that is wooded or unmanaged herbaceous vegetation (NOT lawn, row crops, bare or heavily grazed land, clearcuts, or conifer plantations) is:		In Google Earth, draw the 5 km buffer and then estimate land cover percentages, or do GIS analysis of an appropriate land cover layer. [AM, PH, POL, SBM, Sens]
42			<5% of the land.	0	
43			5 to 20% of the land.	0	
44			20 to 60% of the land.	0	
45			60 to 90% of the land.	1	
46			>90% of the land. SKIP to OF10.	0	
47	OF9	Type of Land Cover Alteration	Within the 5-km radius circle, and ignoring all permanent water, the land area that is bare or non-perennial cover is mostly:		[AM, SBM]
48			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	1	
49			Bare pervious surface, e.g., lawn, recent (<5 yrs ago) clearcut, dirt or gravel road, cropland, landslide, conifer plantation.	0	
50	OF10	Distance by Road to Nearest Population Center	Measured along the maintained road nearest the AA, the distance to the nearest population center is:		"Population center" means a settled area with more than about 5 regularly- inhabited structures per square kilometer. In Google Earth Pro, click on the Ruler icon, then Path, and draw and measure the route. [FAv, FRv, NRv, PH, PU, SBM, WBFv]
51			<100 m.	0	
52			100 - 500 m.	0	
53			0.5- 1 km.	0	
54			1 - 5 km.	1	
55			>5 km.	0	

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56	OF11	Distance to Nearest Maintained Road	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:		Determine this by viewing aerial imagery in Google Earth Pro and measuring with the Ruler-Line tool [AM, FAv, FRv, NRv, PH, PU, SBM, STR, WBN]
57			<10 m.	1	
58			10 - 25 m.	0	
59			25 - 50 m.	0	
60			50 - 100 m.	0	
61			100 - 500 m.	0	
62		>500 m.	0		
63	OF12	Wildlife Access	Draw a circle of radius of 5 km from the center of the AA. If mammals and amphibians can move from the center of the AA to ALL other separate wetlands and ponds located within the circle without being forced to cross pavement (any width), lawns, bare ground, and/or marine waters, mark 1= yes can move to all, 0= no. Change to blank if there are no other wetlands within 5 km.	0	Draw the 5 km circle in Google Earth Pro using the Circle tool and search for roads and wetlands within it, being alert for roads hidden under forest canopy. [AM, SBM, STR]
64	OF13	Distance to Poned Water	The distance from the AA center to the closest (but separate) ponded water body visible in GoogleEarth imagery is:		In Google Earth Pro, zoom in closely to examine the surrounding landscape for ponds, lakes, and wetlands that appear to be permanently flooded. [AM, PH, SBM, Sens, WBF, WBN]
65			<50 m, and not separated by any width of paved roads, stretches of open water, row crops, lawn, bare ground, or impervious surface.	0	
66			<50 m, but completely separated by those features.	0	
67			50-500 m, and not separated.	0	
68			50-500 m, but separated by those features.	0	
69			0.5 - 1 km, and not separated.	1	
70		0.5 - 1 km, but separated by those features.	0		
71		None of the above (the closest patches or corridors that large are >1 km away).	0		
72	OF14	Distance to Large Poned Water	The distance from the AA center to the closest (but separate) non-tidal body of water that is ponded during most of the year and is larger than 8 hectares during most of a normal year is:		Determine this by viewing aerial imagery in Google Earth. [Sens, WBF, WBN]
73			<100 m.	0	
74			100 m - 1 km.	0	
75			1 - 2 km.	1	
76			2-5 km.	0	
77			5-10 km.	0	
78		>10 km.	0		
79	OF15	Tidal Proximity	The distance from the AA edge to the closest tidal water body (regardless of its salinity) is:		In Google Earth, measure the distance to the ocean (including Bay of Fundy) or tidal river, whichever is closer. If you need to see how far upriver a river is tidal, see the KMZ file provided with this calculator for NS (NS Hightide). Points shown in those files are only an approximation, so local information if available may be preferable. [FA, WBF]
80			<100 m.	0	
81			100 m - 1 km.	0	
82			1 - 5 km.	0	
83			5-10 km.	1	
84			10-40 km.	0	
85		>40 km.	0		
86	OF16	Upland Edge Contact	Select one:		[NR, SBM, Sens]
87			The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by (& contiguous with) other wetlands or water.	0	
88			1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA	0	
89			25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
90			50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91		More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA. This will be true for most assessments done with WESP-AC.	1		

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92	OF17	Flood Damage from Non-tidal Waters	Within 5 km downstream or downslope of the AA (select first true choice):		Contact local authorities to determine if such maps exist. Where available, LiDAR imagery can provide finer elevational resolution useful for flood modeling. [WSv]
93	Maps show Flood Zone or Flood Risk areas and there appears to be infrastructure vulnerable to river flooding not caused by tidal storm surges.		0		
94	Maps show Flood Zone or Flood Risk areas, but infrastructure is absent or is not vulnerable to floods from a non-tidal river. In some cases levees, upriver dams, or other measures may partly limit damage or risk from smaller events.		0		
95	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there appears to be infrastructure vulnerable to river flooding unrelated to tidal storm surges.		0		
96	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there is no infrastructure vulnerable to river flooding unrelated to tidal storm surges.		1		
97	OF18	Relative Elevation in Watershed	In Google Earth, enable the Terrain layer (lower left menu) and open the NS_Watersheds Secondary KMZ file that accompanies this calculator. Then determine the AA's approximate elevation (bottom right, NOT the "eye alt"). Then move cursor around to determine the watershed's maximum and minimum elevation. Divide the AA's elevation by the (max-min).	0.76	[FA, NR, Sens, SFSv, WCv, WSv]
98	OF19	Water Quality Sensitive Watershed or Area	The AA is in a Protected Water Supply area (Designated Water Supply Area, Natural Watershed Municipal Surface Water Supply Area, or Municipal Water Supply Area) according to the provided KMZ overlay ("NS Protected Water Supply Areas"). Enter 1= yes, 0= no.	0	If an ACCDC report is available for this AA, it also may contain such information. [NRv]
99	OF20	Degraded Water Upstream	Sampling indicates a problem with concentrations of metals, hydrocarbons, nutrients, or other substances (excluding bacteria, acidic water, high temperatures) being present at levels harmful to aquatic life or humans, and:		May use existing data, or sample those waters as part of this wetland assessment. "Harmful" should be evaluated with regard to current federal or provincial water quality standards. [AM, FA, FR, NRv, PRv, SRv, STR, WBF, WBN]
100			The condition is present within the AA.	0	
101			The condition is present in waters within 1 km that flow into the AA, but has not been documented in the AA itself.	0	
102			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
103			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
104	OF21	Degraded Water Downstream	The problem described above is downslope from the AA, and:		May use existing data, or monitor waters as part of this wetland assessment. [NRv, PRv, SRv]
105			The condition is present within 1 km downslope and connected to the AA by a channel.	0	
106			The condition is present within 5 km downslope and connected to the AA by a channel, or within 1 km but not connected to the AA by a channel.	0	
107			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
108			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
109	OF22	Wetland as a % of Its Contributing Area (Catchment)	From a topographic map and field observations, estimate the approximate boundaries of the catchment (CA) of the entire wetland of which the AA may be only a part. Then adjust those boundaries if necessary based on your field observations of the surrounding terrain, and/or by using procedures described in the Manual. Divide the area of the wetland (not just the AA) by the approximate area of its catchment excluding the area of the wetland itself. When doing the calculation, if ponded water is adjacent to the wetland, include that in the wetland area. The result is:		Topographic maps may be viewed online at the National Atlas of Canada (Toporama): http://atlas.gc.ca/toporama/en/index.html [NR, PR, Sens, SR, WS]
110			<0.01, or catchment size unknown due to stormwater pipes that collect water from an indeterminate area.	0	
111			0.01 to 0.1.	1	
112			0.1 to 1.	0	
113			>1 (wetland is larger than its catchment (e.g., wetland with flat surrounding terrain and no inlet, or is entirely isolated by dikes, or is a raised bog).	0	
114	OF23	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 m upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, landslides, and other mostly-bare surface is about :		[FA, INV, NRv, PRv, SRv, STR, WCv, WSv]
115			<10%.	1	
116			10 to 25%.	0	
117			>25%.	0	

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118	OF24	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following: (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow (bedrock near surface) and/or have high runoff coefficients. This statement is:		[NRv, PRv, SRv, WSv]
119			Mostly true.	0	
120			Somewhat true.	0	
121			Mostly untrue.	1	
122	OF25	Aspect	The overland flow direction of most surface water (in streams, rivers, or runoff) that enters the AA is:		[AM, NR, SFS, WC, WS]
123			Northward (N, NE). north-facing contributing area.	0	
124			Southward (S, SW). south-facing contributing area.	0	
125			Other (E, SE, W, NW), or no detectable uphill slope or input channel (flat).	1	
126	OF26	Internal Flow Distance (Path Length)	The horizontal flow distance from the wetland's inlet to outlet is:		Identify inlets and outlets, if any, from topographic maps (use elevations to determine which are inlets and which are outlets) and augment by field inspection. With the Provincial Landscape Viewer, select Nova Scotia Topo as the Basemap. Also enable the layer Forestry-WAM Predicted Flow. Then measure the inlet-outlet distance. [NR, OE, PR, SR, WS]
127			<10 m.	0	
128			10 - 50 m.	0	
129			50 - 100 m.	1	
130			100 - 1000 m.	0	
131			1- 2 km.	0	
132			>2 km, or wetland lacks an inlet and outlet.	0	
133	OF27	Growing Degree Days	In Google Earth, open the KMZ file that accompanies this calculator, called NS_GrowingDegreeDays. Place your cursor over the AA and left-click. From the pop-up window, enter the GRIDCODE number in the next column.	1957	This layer was provided by Dr. Dan McKenney of the Canadian Forest Service [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WCv, WS]
134	OF28	Fish Access or Use	According to agency biologists and/or your own observations, the AA. <i>[Mark just the first choice that is true.]</i>		Regarding the last choice, if uncertain if an AA is fishless, consider the possibility its waters have been stocked. [AM, FA, FR, INV, WBF, WBN]
135			Is known to support rearing and/or spawning by Atlantic salmon or other anadromous species or eels. Go to Provincial Landscape Viewer>Wildlife>Significant Habitat>Species at Risk. Contact local fishery biologists, review the ACCDC report, and visit these websites: http://www.salmonatlas.com/atlanticsalmon/canada-east/index.1.html http://atlanticsalmonfederation.org/rivers/introduction.html	0	
136			Has not been documented to support Atlantic salmon rearing and/or spawning, but is connected to nearby waters likely to contain Atlantic salmon or other anadromous species or eels and is probably accessed by those during some conditions.	0	
137			Is probably is not accessed by any anadromous fish species but is known or likely to have other fish at least seasonally.	0	
138			Is known or likely to be fishless (e.g., too small, dry, and/or not accessible even temporarily, and not stocked).	1	
139	OF29	Species of Conservation Concern	Within the past 10 years, in the AA (or in its adjoining waters or wetland), qualified observers have documented <i>[mark all applicable]</i> :		Request information from ACCDC and/or conduct your own survey at an appropriate season using an approved protocol. For birds, also check eBird.org. NOTE for NS: If your WESP-AC is being completed for a Wetland Alteration Application to NS-ECC, your ACCDC results and any taxon-specific survey results must be submitted along with your WESP-AC results, and application. [AMv, EC, PHv, POLv, SBMv, Sens, WBFv, WBNv]
140			Presence of one or more of the plant species listed in the Plants_Rare worksheet of the accompanying SupplInfo file, or the AA is within a mapped Atlantic Coastal Plain Flora Buffer (go to Provincial Landscape Viewer> Wildlife> Special Management Practice Zones).	0	
141			Presence of one or more of the amphibian or reptile species (AM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
142			Presence of one or more of the waterbird species (WBF, WBN) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
143			Presence of one or more of the nesting songbird or raptor species (SBM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file, during their nesting season (May-July for most species).	0	
144			None of the above, or no data.	1	

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145	OF30	Important Bird Area (IBA)	In Google Earth, open the KMZ file that accompanies this calculator, called IBAs_Canada . The AA is all or part of an officially designated IBA. Enter 1= yes, 0= no.	0	The source of this layer, which should be checked periodically for updates, is: http://www.ibacanada.com/mapviewer.jsp?lang=EN [SBMv, WBFv, WBNv]
146	OF31	Black Duck Nesting Area	In Google Earth, open the KMZ file that accompanies this calculator, called BlackDuck . Adjust its alignment and opacity. Determine the predicted density (pairs per 25 sq. km) of nesting American Black Duck in the AA's vicinity: <10 (enter 0), 10-20 (enter 1), 20-30 (enter 2), >30 (enter 3). If outside of region shown in map, change to blank .	1	This was provided by Dr. David Leske. [WBNv]
147	OF32	Wintering Deer or Moose Concentration Areas	If AA is on private land with no information, change to blank (not 0). Otherwise: With the Provincial Landscape Viewer, for Wintering Moose, go to Wildlife> Significant Habitat . For Mainland Moose Concentration Areas, go to Wildlife> Special Management Practice Zones . Enter: yes= 1, no= 0.	0	[SBM]
148	OF33	Other Conservation Designation	The AA is all or part of an area designated by government, First Nations, or the Nature Conservancy of Canada (NCC) for its exceptional ecological features or highly intact natural conditions. With Provincial Landscape Viewer, see Protected Areas. Enter: yes= 1, no= 0. If uncertain, consult NCC and agencies for more recent information.	0	See: https://novascotia.ca/parksandprotectedareas/plan/interactive-map/ [PU]
149	OF34	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, or enhance the wetland (excluding mitigation wetlands). Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank (not 0).	0	[PU]
150	OF35	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
151	OF36	Sustained Scientific Use	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
152	OF37	Calcareous Region	The AA is NOT in a subregion that has been heavily exposed to acid precipitation. Enter "1" if true (green or yellow in map in Appendix A of the Manual). Enter "0" if false. If no information, change to blank .	0	[AM, FA, FR, INV, PH]
153	OF38	Ownership	Select the ONE ownership that covers the most of the AA. In Google Earth, open KMZ file called NS_Crownlands Use more recent information if available.		"Private lands" may include those owned or leased by non-governmental organizations, e.g., charitable conservation land trusts, DUC, TNC. [PU, STR]
154			New timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles) are permanently prohibited. Includes many publicly-owned Protected Lands, and private lands under long-term (30+ year) legal agreements to maintain nearly-unaltered conditions.	0	
155			Ownership is public (e.g., municipal, Crown Reservations/Notations) but some or all of the above activities are allowed.	1	
156			Ownership is private but public access is allowed, and/or a shorter-term conservation easement (whether renewable or not) is in place.	0	
157			Ownership is private and owner does not allow access, or access permission unknown, and not a conservation easement.	0	

	A	B	C	D	E
1	Date: 21 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 5	Investigator: RK MM	
Form F (Field). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia. DIRECTIONS: Walk for no less than 10 minutes from the wetland edge towards its core, in the part of the AA that is proposed for alteration. If no alteration is proposed, walk in a portion that appears to be most representative of the wetland overall. Walk only where it is safe and legal to do so. Conduct the assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgeable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form will require 1-2 hours on a site. For a list of functions to which each question pertains, see the accompanying Interpretations form. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage & Delay, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.					
2					
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	F1	Wetland Type	Follow the key below and mark the ONE row that best describes MOST of the vegetated part of the AA:		Ericaceous shrubs are ones in the heather family (Ericaceae). Most have leathery evergreen leaves. They include rhododendron, azalea, swamp laurel, leatherleaf, Labrador tea, and others. Most require acidic soil. Although not in the family Ericaceae, sweetgale (<i>Myrica gale</i>) should be counted also. [AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
5			A. Moss and/or lichen cover more than 25% of the ground. Often dominated by ericaceous shrubs (e.g., Labrador tea) or other acid-tolerant plants (e.g., bog cranberry, pitcher plant, sundew, orchids). Substrate is mostly undecomposed peat. Choose between A1 and A2 and mark the choice with a 1 in their adjoining column. Otherwise go to B below.		
6			A1. Surface water is usually absent or, if present, pH is typically <4.5 and conductivity is usually <100 µS/cm (<64 ppm TDS). Trees are absent or nearly so. Sedge cover usually sparse or absent but cottongrass and/or lichen cover may be extensive, as well as cloudberry, lingonberry, sheep laurel, and a sedge (<i>Carex rariflora</i>). Wetland surface and surrounding landscape are seldom sloping and wetland often is domed (convex). Inlet and outlet channels are usually absent. If known, pH of peat is <4.0.	0	
7			A2. Not A1. Surface water, if present, has pH typically >4.5 and conductivity is usually >100 µS/cm (>64 ppm TDS). Sedge cover is usually extensive, and/or tree and tall shrub cover is extensive. Sometimes at toe of slope or edge of water body. An exit channel is usually present. Wetter than A1 and peat depth may be shallower (<2 m).	0	
8			B. Moss and/or lichen cover less than 25% of the ground. Soil is mineral or decomposed organic (muck). Choose between B1 and B2 and mark the choice with a 1 in their adjoining column:		
9			B1. Trees and shrubs taller than 1 m comprise more than 25% of the vegetated cover. Surface water is mostly absent or inundates the vegetation only seasonally (e.g., vernal pools or floodplain).	1	
10			B2. Not B1. Tree & tall shrubs comprise less than 25% of the vegetated cover. Vegetation is mostly herbaceous, e.g., cattail, bulrush, burreed, pond lily, horsetail. Surface water may be extensive and fluctuates seasonally, being either persistent or drying up partly or entirely.	0	
11	Reminder : For all questions, the AA should include all persistent waters in ponds smaller than 8 hectares (~283 m on a side) that are adjacent to the AA. The AA should also include part of the water area of adjacent ponded water larger than 8 ha and adjacent rivers wider than 20 m. Specifically, the AA should include the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone. Throughout this data form, "adjacent" is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.				
12	F2	Wetland Types - Adjoining or Subordinate	If the AA is smaller than 1 ha, mark all other types that occupy more than 1% of the vegetated AA. If the AA is larger than 1 ha, mark all other types which are within or adjacent to the AA and occupy more than 1 ha, as visible from the AA or as interpreted from aerial imagery. Do not mark again the type marked in F1.		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, INV, SBM, WBF]
13			A1.	0	
14			A2.	1	
15			B1.	0	
16			B2.	0	

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17	F3	Woody Height & Form Diversity	Following EACH row below, indicate with a number code the percentage of the living vegetation in the AA which is occupied by that feature (6 if >95%, 5 if 75-95%, 4 if 50-75%, 3 if 25-50%, 2 if 5-25%, 1 if <5%, 0 if none). If the vegetated part of the AA is largely herbaceous (non-woody) vegetation, these percentages should not sum to 100%.		Deciduous shrubs in this region usually include buttonbush, Labrador tea, bayberry (<i>Morella</i>), huckleberry, cranberry, cloudberry, sweetgale, alder, willow, birch, ash, dogwood, and a few others. If you assigned a code of 3 or higher to any of the first four choices and the ground cover beneath the trees/shrubs is <25% moss, then question F1 might be "B1". [CS, INV, NR, PH, POL, SBM, Sens]
18			coniferous trees (may include tamarack) taller than 3 m.	2	
19			deciduous trees taller than 3 m.	4	
20			coniferous or ericaceous shrubs or trees 1-3 m tall not directly below the canopy of trees.	2	
21			deciduous shrubs or trees 1-3 m tall not directly below the canopy of trees.	2	
22			coniferous or ericaceous shrubs <1 m tall not directly below the canopy of taller vegetation.	0	
23			deciduous shrubs or trees <1 m tall (e.g., deciduous seedlings) not directly below the canopy of taller vegetation.	0	
24	<i>Note: If none of top 4 rows in F3 was marked 2 or greater, SKIP to F9 (N fixers).</i>				
25	F4	Dominance of Most Abundant Shrub Species	Determine which two woody plant species comprise the greatest portion of the low (<3 m) woody cover. Then choose one:		[PH, POL, SBM, Sens]
26			those species together comprise > 50% of such cover.	0	
27			those species together do not comprise > 50% of such cover.	1	
28	F5	Woody Diameter Classes	Mark ALL the types that comprise >5% of the woody canopy cover in the AA or >5% of the wooded areas (if any) along its upland edge (perimeter). The edge should include only the trees whose canopies extend into the AA.		Estimate the diameters at chest height. If small-diameter trees are overtopped (shaded) by larger ones, visualise a "subcanopy" at the average height of the smaller-dbh trees, to serve as a basis for the minimum 5% canopy requirement in this question. The trees and shrubs need not be wetland species. [AM, CS, POL, SBM, Sens, WBN]
29			coniferous, 1-9 cm diameter and >1 m tall.	1	
30			broad-leaved deciduous 1-9 cm diameter and >1 m tall.	1	
31			coniferous, 10-19 cm diameter.	1	
32			broad-leaved deciduous 10-19 cm diameter.	1	
33			coniferous, 20-40 cm diameter.	0	
34			broad-leaved deciduous 20-40 cm diameter.	0	
35			coniferous, >40 cm diameter.	0	
36			broad-leaved deciduous >40 cm diameter.	0	
37	F6	Height Class Interspersion	Follow the key below and mark the ONE row that best describes MOST of the AA:		[AM, INV, NR, PH, SBM, Sens]
38			A. Neither the vegetation taller than 1 m nor the vegetation shorter than that comprise >70% of the vegetated part of the AA. They <u>each</u> comprise 30-70%. Choose between A1 and A2 and mark the choice with a 1 in the adjoining column. Otherwise go to B below.		
39			A1. The two height classes are mostly scattered and intermixed throughout the AA.	0	
40			A2. Not A1. The two height classes are mostly in separate zones or bands, or in proportionately large clumps.	0	
41			B. Either the vegetation shorter than 1 m comprises >70% of the vegetated part of the AA, or the vegetation taller than that does. One size class might even be totally absent. Choose between B1 and B2 and mark the choice with a 1 in the adjoining column:		
42			B1. The less prevalent height class is mostly scattered and intermixed within the prevalent one.	1	
43			B2. Not B1. The less prevalent height class is mostly located apart from the prevalent one, in separate zones or clumps, or is completely absent.	0	
44	F7	Large Snags (Dead Standing Trees)	The number of large snags (diameter >20 cm) in the AA plus adjacent upland area within 10 m of the wetland edge is:		Snags are dead standing trees that often (not always) lack bark and foliage. Include only ones that are at least 2 m tall. [POL, SBM, WBN]
45			None, or fewer than 8/ hectare which exceed this diameter.	1	
46			Several (>8/hectare) and a pond, lake, or slow-flowing water wider than 10 m is within 1 km.	0	
47			Several (>8/hectare) but above not true.	0	
48	F8	Downed Wood	The number of downed wood pieces longer than 2 m and with diameter >10 cm, and not persistently submerged, is:		Exclude temporary "burn piles." [AM, INV, POL, SBM]
49			Few or none that meet these criteria.	1	
50			Several (>5 if AA is >5 hectares, less for smaller AAs) meet these criteria.	0	
51	F9	N Fixers	The percentage of the AA's vegetated cover that contains nitrogen-fixing plants (e.g., alder, sweetgale, clover, lupine, alfalfa, other legumes) is:		Do not include N-fixing algae or lichens. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
52			<1% or none.	0	
53			1-25% of the vegetated cover, in the AA or along its water edge (whichever has more).	1	
54			25-50% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
55			50-75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
56			>75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	

	A	B	C	D	E
57	F10	Sphagnum Moss Extent	The cover of Sphagnum moss (or any moss that forms a dense cushion many centimeters thick), including the moss obscured by taller sedges and other plants rooted in it, is:		Exclude moss growing on trees and rocks. [CS, PH]
58			<5% of the vegetated part of the AA.	0	
59			5-25% of the vegetated part of the AA.	0	
60			25-50% of the vegetated part of the AA.	0	
61			50-95% of the vegetated part of the AA.	1	
62			>95% of the vegetated part of the AA.	0	
63	F11	% Bare Ground & Thatch	Consider the parts of the AA that lack surface water at the driest time of the growing season. Viewed from directly above the ground layer, the predominant condition in those areas at that time is:		Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is present under a tree or shrub canopy should be counted. Boulders count as bare ground. Wetlands with mineral soils and that are heavily shaded or are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens]
64			Little or no (<5%) <i>bare ground</i> is visible between erect stems or under canopy anywhere in the vegetated AA. Ground is extensively blanketed by dense thatch, moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	0	
65			Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	1	
66			Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the AA.	0	
67			Other conditions.	0	
68			Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0	
69	F12	Ground Irregularity	Imagine the AA without any living vegetation. Excluding the portion of the AA that is always under water, the number of hummocks, small pits, raised mounds, animal burrows, ruts, gullies, natural levees, microdepressions, and other areas of peat or mineral soil that are raised or depressed >10 cm compared to most of the area within a few meters surrounding them is:		The depressions may be of human or natural origin. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
70			Few or none (minimal microtopography; <1% of the land has such features, or entire AA is always water-covered).	0	
71			Intermediate.	1	
72			Several (extensive micro-topography).	0	
73	F13	Upland Inclusions	Within the AA, inclusions of upland are:		[AM, NR, SBM]
74			Few or none.	0	
75			Intermediate (1 - 10% of vegetated part of the AA).	1	
76			Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).		
77	F14	Soil Texture	In parts of the AA that lack persistent water, the texture of soil in the uppermost layer is mostly: <i>[To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key (in Appendix A of the Manual).]</i>		[CS, NR, OE, PH, PR, Sens, SFS, WS]
78			Loamy: soils that may contain a little fine grit and do not make a "ribbon" longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
79			Fines: includes silt, clay, silt, soils that make a ribbon longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
80			Deep Peat, to 40 cm depth or greater.	0	
81			Shallow Peat or organic <40 cm deep.	1	
82			Coarse: includes sand, loamy sand, gravel, cobble, soils that do not make a ribbon when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
83	F15	Shorebird Feeding Habitats	During any 2 consecutive weeks of the growing season, the extent of mudflats, bare unshaded saturated areas not covered by thatch, and unshaded waters shallower than 6 cm is: <i>[Include also any area that is adjacent to the AA.]</i>		This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
84			None, or <100 sq. m.	1	
85			100-1000 sq. m.	0	
86			1000 - 10,000 sq. m.	0	
87			>10,000 sq. m.	0	
88	F16	Herbaceous % of Vegetated Wetland	In aerial ("ducks eye") view, the maximum annual cover of herbaceous vegetation (all non-woody plants except moss) is:		[AM, WBF, WBN]
89			<5% of the vegetated part of the AA or <0.01 hectare (whichever is less). Mark "1" here and SKIP to F20 (Invasive Plant Cover).	0	
90			5-25% of the vegetated part of the AA.	0	
91			25-50% of the vegetated part of the AA.	1	
92			50-95% of the vegetated part of the AA.	0	
93			>95% of the vegetated part of the AA.	0	

	A	B	C	D	E
94	F17	Forb Cover	Within parts of the AA having herbaceous cover (excluding SAV), the areal cover of forbs reaches an annual maximum of:		Forbs are flowering plants. Do not include grasses, sedges, cattail, other graminoids, ferns, horsetails, or others that lack showy flowers. [POL]
95	<5% of the herbaceous part of the AA.		0		
96	5-25% of the herbaceous part of the AA.		1		
97	25-50% of the herbaceous part of the AA.		0		
98	50-95% of the herbaceous part of the AA.		0		
99	>95% of the herbaceous part of the AA.		0		
100	F18	Sedge Cover	Sedges (<i>Carex</i> spp.) and cottongrass (<i>Eriophorum</i> spp.) occupy:		[CS]
101	<5% of the vegetated area, or none.		0		
102	5-50% of the vegetated area.		1		
103	50-95% of the vegetated area.		0		
104	>95% of the vegetated area.		0		
105	F19	Dominance of Most Abundant Herbaceous Species	Determine which two herbaceous species comprise the greatest portion of the herbaceous cover (excluding mosses and floating-leaved aquatic plants). Then choose one of the following:		For this question, include ferns as well as graminoids and forbs. [EC, INV, PH, POL, Sens]
106	those species together comprise > 50% of the areal cover of herbaceous plants at any time during the year.		0		
107	those species together do not comprise > 50% of the areal cover of herbaceous plants at any time during the year.		1		
108	F20	Invasive Plant Cover	How extensive is the cover of invasive plant species in the AA? For species, see Plants_invasive worksheet in the accompanying SupplInfo file.		[EC, PH, POL, Sens]
109	invasive species appear to be absent in the AA, or are present only in trace amount (a few individuals).		1		
110	invasive species are present in more than trace amounts, but comprise <5% of herbaceous cover (or woody cover, if the invasives are woody).		0		
111	invasive species comprise 5-20% of the herb cover (or woody cover, if the invasives are woody).		0		
112	invasive species comprise 20-50% of the herb cover (or woody cover, if the invasives are woody).		0		
113	invasive species comprise >50% of the herb cover (or woody cover, if the invasives are woody).		0		
114	F21	Invasive Cover Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 3 m upslope from the wetland) that is occupied by invasive plant species is:		If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an exotic species, assume the unidentified plant to also be exotic. If vegetation is so senesced that exotic species cannot be identified, answer "none". [PH, STR]
115	none of the upland edge (invasives apparently absent), or AA has no upland edge.		1		
116	some (but <5%) of the upland edge.		0		
117	5-50% of the upland edge.		0		
118	most (>50%) of the upland edge.		0		
119	F22	Fringe Wetland	During most of the year, open water within or adjacent to the vegetated part of the wetland is much wider than the maximum width of the vegetated zone within the wetland. Enter "1" if true, "0" if false.	0	[WBF, WBN, WCv]
120	F23	Lacustrine Wetland	The vegetated part of the AA is within or adjacent to a body of non-tidal standing open water whose size exceeds 8 hectares during most of a normal year.	0	[FR, PR, PU, WBF, WBN]
121	F24	% of AA Without Surface Water	The percentage of the AA that <u>never</u> contains <u>surface</u> water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC]
122	<1% . In other words, all or nearly all of the AA is covered by water permanently or at least seasonally.		0		
123	1-25% of the AA, or <1% but >0.01 ha never contains surface water.		0		
124	25-50% of the AA never contains surface water.		1		
125	50-75% of the AA never contains surface water.		0		
126	75-99% of the AA never contains surface water, OR >99% and there is at least one persistently ponded water body larger than 1 ha in the AA.		0		
127	99-100%. AND there is no persistently ponded water body larger than 1 ha within the AA. Enter "1" and SKIP to F42 (Channel Connection).		0		

	A	B	C	D	E
128	F25	% of AA with Persistent Surface Water	Identify the parts of the AA that still contain surface water (flowing or ponded, open or hidden beneath vegetation) even during the driest times of a normal year, i.e., when the AA's surface water is at its lowest annual level. At that time, the percentage of the AA that still contains surface water is:		If you are unable to determine the condition at the driest time of year, ask the land owner or neighbors about it if possible. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [AM, CS, FA, FR, INV, NR, POL, PR, SBM, WBF, WBN]
129	None. The AA dries up completely (no water in channels either) or never has surface water during most years. SKIP to F27.		0		
130	1-20% of the AA.		0		
131	20-50% of the AA.		1		
132	50-95% of the AA.		0		
133	>95% of the AA. True for many fringe wetlands.	0			
134	F26	% of Summertime Water that Is Shaded	At mid-day during the warmest time of year, the area of surface water <u>within</u> the AA that is shaded by vegetation and other features that are <u>within</u> the AA at that time is:		[FA, WC]
135	<5% of the water is shaded, or no surface water is present then.		0		
136	5-25% of the water is shaded.		1		
137	25-50% of the water is shaded.		0		
138	50-75% of the water is shaded.		0		
139	>75% of the water is shaded.	0			
140	F27	% of AA that is Flooded Only Seasonally	The percentage of the AA's area that is between the annual high water and the annual low water (surface water) is:		Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualising where that would intercept the land along the river. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
141	None, or <0.01 hectare and <1% of the AA. SKIP to F29.		0		
142	1-20% of the AA, or <1% but >0.01 ha.		0		
143	20-50% of the AA.		1		
144	50-95% of the AA.		0		
145	>95% of the AA.	0			
146	F28	Annual Water Fluctuation Range	The annual fluctuation in surface water level within most of the parts of the AA that contain surface water at least temporarily is:		Look for flood marks (see above). Because the annual range of water levels is difficult to estimate without multiple visits, consider asking the land owner or neighbors about it. [AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
147	<10 cm change (stable or nearly so).		0		
148	10 cm - 50 cm change.		1		
149	0.5 - 1 m change.		0		
150	1-2 m change.		0		
151	>2 m change.	0			
152	Is the AA plus adjacent ponded water smaller than 0.01 hectare (about 10m x 10m, or 1m x 100 m)? If so, enter "1" in column D and SKIP TO F42 (Connection).			0	
153	F29	Predominant Depth Class	During most of the time when surface water is present during the growing season, its depth, averaged over the entire inundated part of the AA, is:		If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth of the most persistently inundated part of the wetland. Include surface water in channels and ditches as well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC]
154	<10 cm deep (but >0).		0		
155	10 - 50 cm deep.		1		
156	0.5 - 1 m deep.		0		
157	1 - 2 m deep.		0		
158	>2 m deep. True for many fringe wetlands.	0			
159	F30	Depth Classes - Evenness of Proportions	When present, surface water in most of the AA usually consists of (select one):		Estimate these proportions by considering the gradient and microtopography of the site. [FR, INV, WBF, WBN]
160	One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).		0		
161	One depth class that comprises 50-90% of the AA's inundated area.		1		
162	Neither of above. There are 3 or more depth classes and none occupy >50%.		0		
163	F31	% of Water That Is Ponded (not Flowing)	During most times when surface water is present, the percentage that is (1) ponded (stagnant, or flows so slowly that fine sediment is not held in suspension) AND (2) is likely to be deeper than 0.5 m in some places, is:		Nearly all wetlands with surface water have some ponded water. [AM, CS, INV, NR, OE, PR, Sens, SR, WBF, WBN, WC, WS]
164	<5% of the water, or it occupies <100 sq.m cumulatively. Nearly all the surface water is flowing. SKIP to F34.		0		
165	5-30% of the water.		0		
166	30-70% of the water.		1		
167	70-95% of the water.		0		
168	>95% of the water.	0			

	A	B	C	D	E
169	F32	Ponded Open Water - Minimum Size	During most of the growing season, the largest patch of open water that is ponded and is in or bordering the AA is >0.01 hectare (about 10 m by 10 m) and mostly deeper than 0.5 m. If true enter "1" and continue. If false, enter "0" and SKIP to F41 (Floating Algae & Duckweed).	0	Open water is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it.
170	F33	% of Ponded Water that is Open	In ducks-eye aerial view, the percentage of the ponded water that is open (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:		[AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC]
171			None, or <1% of the AA and largest pool occupies <0.01 hectares. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
172			1-4% of the ponded water. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
173			5-30% of the ponded water.	0	
174			30-70% of the ponded water.	0	
175			70-99% of the ponded water.	0	
176			100% of the ponded water.	0	
177	F34	Width of Vegetated Zone within Wetland	At the time during the growing season when the AA's water level is lowest, the average width of vegetated area <u>in the AA</u> that separates adjoining uplands from open water within the AA is:		"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. [AM, CS, NR, OE, PH, PR, SBM, Sens, SR, WBN]
178			<1 m.	0	
179			1 - 9 m.	0	
180			10 - 29 m.	0	
181			30 - 49 m.	0	
182			50 - 100 m.	0	
183			> 100 m, or open water is absent at that time.	0	
184	F35	Flat Shoreline Extent	During most of the part of the growing season when water is present, the percentage of the AA's water edge length that is nearly flat (a slope less than about 5% measured within 5 m landward of the water) is:		If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
185			<1% of the water edge.	0	
186			1-25% of the water edge.	0	
187			25-50% of the water edge.	0	
188			50-75% of the water edge.	0	
189			>75% of the water edge.	0	
190	F36	Robust Emergents	The percentage of the emergent vegetation cover in the AA that is cattail (<i>Typha</i> spp.), common reed (<i>Phragmites</i>), or tall (>1m) bulrush is:		Emergent vegetation is herbaceous plants whose stems are partly above and partly below the water surface during most of the time water is present. [WBN]
191			<1% of the emergent vegetation, or emergent vegetation is absent. SKIP to F38.	0	
192			1-25% of the emergent vegetation.	0	
193			25-75% of the emergent vegetation.	0	
194			>75% of the emergent vegetation.	0	
195	F37	Interspersion of Emergents & Open Water	During most of the part of the growing season when water is present, the spatial pattern of emergent vegetation within the water is mostly:		[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
196			Scattered. More than 30% of such vegetation forms small islands or corridors surrounded by water.	0	
197			Intermediate.	0	
198			Clumped. More than 70% of such vegetation is in bands along the wetland perimeter or is clumped at one or a few sides of the surface water area.	0	
199	F38	Persistent Deepwater Area	If the deepest patch of surface water (flowing or ponded) in or directly adjacent to the AA is mostly deeper than 0.5 m for >2 weeks during the growing season, enter "1" and continue. If not, enter "0" and SKIP to F42 (Connection).	0	
200	F39	Non-vegetated Aquatic Cover	During most of the growing season and in waters deeper than 0.5 m, the cover for fish, aquatic invertebrates, and/or amphibians that is provided NOT by living vegetation, but by accumulations of dead wood and undercut banks is:		For this question, consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are unreliable so should not be attempted. [AM, FA, FR, INV]
201			Little or none.	0	
202			Intermediate.	0	
203			Extensive.	0	
204	F40	Isolated Island	The AA contains (or is part of) an island or beaver lodge within a lake, pond, or river, and is isolated from the shore by water depths >1 m on all sides during an average June. The island may be solid, or it may be a floating vegetation mat that is sufficiently large and dense to support a waterbird nest.	0	[WBN]
205	F41	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed are likely to cover >50% of the AA's otherwise-unshaded water surface, or blanket >50% of the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	[EC, PR, WBF]

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206	F42	Channel Connection & Outflow Duration	The most persistent surface water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and a downslope stream network is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of the wetland, or the surface connection between the wetland and the downslope stream network.]		Consider the connection regardless of whether the surface water is frozen. The "downslope stream network" could consist of ditches, rivers, ponds, or lakes which eventually connect to the ocean. If this cannot be determined while visiting the AA, consult topographic maps perhaps by viewing these online with Toporama (http://atlas.nrcan.gc.ca/toporama/en/index.html) [CS, FA, FR, NR, OE, PR, Sens, SFS, SR, WCv, WS]
207	Persistent (surface water flows out for >9 months/year).		0		
208	Seasonal (surface water flows out for 14 days to 9 months/year, not necessarily consecutive).		0		
209	Temporary (surface water flows out for <14 days, not necessarily consecutive).		0		
210	None -- but maps show a stream network downslope from the AA and within a distance that is less than the AA's length. SKIP to F47 (pH Measurement).		0		
211	No surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. SKIP to F47 (pH Measurement).		1		
212	F43	Outflow Confinement	During major runoff events, in the places where surface water exits the AA or connected waters nearby, the water:		"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS, NR, OE, PR, Sens, SR, STR, WS]
213	Mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not appear to drain the wetland artificially during most of the growing season.		0		
214	Leaves through natural exits (channels or diffuse outflow), not mainly through artificial or temporary features.		1		
215	Is exported more quickly than usual due to ditches or pipes within the AA or connected to its outlet, or within 10 m of the AA's edge, which drain the wetland artificially, or water is pumped out of the AA.		0		
216	F44	Tributary Channel	At least once annually, surface water from a tributary channel that is >100 m long moves into the AA. Or, surface water from a larger permanent water body adjacent to the AA spills into the AA. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. If no, SKIP to F47 (pH Measurement).	0	If inlet tributaries cannot be searched for due to inaccessibility of part of the AA, follow suggestions in F42 above. [NRv, PH, PRv, SRv]
217	F45	Input Water Temperature	Based on lack of shade, water source characteristics, or actual temperature measurements, the inflow is likely to be warmer than surface water in the AA during part of most years. Enter 1= yes, 0= no.	0	[WCv]
218	F46	Throughflow Resistance	During its travel through the AA at the time of peak annual flow, water arriving in channels: [select only the ONE encountered by most of the incoming water].		[FA, FR, INV, NR, OE, PR, SR, WS]
219	Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel in unvegetated (often incised) channels that have minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.		0		
220	Bumps into herbaceous vegetation but mostly remains in fairly straight channels.		0		
221	Bumps into herbaceous vegetation and mostly spreads throughout, or is in widely meandering, multi-branched, or braided channels.		0		
222	Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels.		0		
223	Bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).		0		
224	F47	pH Measurement	The pH in most of the AA's surface water:		Preferably, measure this in larger areas of ponded surface water within the AA, or in streams that have passed through (not along) most of the AA. Unless surface water is completely absent, do not dig holes or make depressions in peat in order to provide water for this measurement. Avoid measuring near roads or in puddles formed only by recent rain. [AM, FA, FR, NR, WBF, PH, PR, Sens, WBF, WBN]
225	Was measured, and is: [enter the reading in the column to the right.]				
226	Was not measured but surface water is present and is darkly tea-coloured. Or if no surface water, then mosses and plants that indicate peatland (e.g., Labrador tea) are prevalent. Enter "1".		0		
227	Neither of above. Enter "1".		1		
228	F48	TDS and/or Conductivity	The TDS (total dissolved solids) or conductivity of the AA's surface water is: (select the first true row with information):		See above for measurement guidance. [FR, INV, NRv, PH, PRv, Sens]
229	TDS is: [Enter the reading in ppm or mg/L in the column to the right, if measured, or answer next row.]				
230	Conductivity is [Enter the reading in µS/cm in the column to the right.]				
231	Was not measured, but plants that indicate saline conditions cover much of the vegetated AA. Enter "1".		0		
232	Neither of above		0		
233	F49	Beaver Probability	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
234	Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		0		
235	Likely based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.		0		
236	Unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed.		1		

	A	B	C	D	E
237	F50	Groundwater Strength of Evidence	Select first applicable choice:		Adhere to these criteria strictly -- do not use personal judgment based on fen conditions, pH, or other evidence. Consult topographic maps to detect breaks in slope described here. Rust deposits associated with groundwater seeps may be most noticeable as orange discoloration in ice formations along streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS]
238			Springs are known to be present within the AA, or if groundwater levels have been monitored, that has demonstrated that groundwater primarily discharges to the wetland for longer periods during the year than periods when the wetland recharges the groundwater.	0	
239			Most of the AA has a slope of >5%, or is very close to the base of a natural slope longer than 100 and much steeper than the slope of the AA, AND the pH of surface water, if known, is >5.5.	0	
240			Neither of above is true, although some groundwater may discharge to or flow through the AA. Or groundwater influx is unknown.	1	
241	F51	Internal Gradient	The gradient along most of the flow path within the AA is:		This is not the same as the shoreline slope. It is the elevational difference between the AA's inlet and outlet, divided by the flow-distance between them and converted to percent. If available, use a clinometer to measure this. Free clinometer apps can be downloaded to smartphones. If the wetland is large (longer than ~1 km), this may be estimated using Google Earth to determine the minimum and maximum elevation within the AA, then dividing by length and multiplying by 100. [CS, NR, OE, PR, SR, WBF, WBN, WS]
242			<2% or the AA has no surface water outlet (not even seasonally).	0	
243			2-5%.	1	
244			6-10%.	0	
245			>10%.	0	
246	Note for the next three questions: If the AA lacks an upland edge, evaluate based on the AA's entire perimeter, and moving outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.				
247	F52	Vegetated Buffer as % of Perimeter	Within a zone extending 30 m laterally from the AA's edge with upland and/or other wetlands, the percentage that contains perennial vegetation cover (except lawns, row crops, heavily grazed land, conifer plantations) is:		[AM, FA, FR, INV, NRv, PH, POL, PRv, SBM, Sens, SRv, STR, WBN]
248			<5%.	0	
249			5 to 30%.	0	
250			30 to 60%.	1	
251			60 to 90%.	0	
252			>90%, or all the area within 30 m of the AA edge is other wetlands. SKIP to F55.	0	
253	F53	Type of Cover in Buffer	Within 30 m upslope of where the wetland transitions to upland, the upland land cover that is NOT perennial vegetation is mostly (mark ONE):		[AM, FA, INV, NRv, PH, POL, SBM, STR, WBN]
254			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
255			Bare or nearly bare pervious surface or managed vegetation, e.g., lawn, row crops, unpaved road, dike, landslide.	1	
256	F54	Buffer Slope	The steepest and/or most disturbed part of the upland area that is within 30 m of the wetland and occupies >10% of that upland area has a percent slope of:		[NRv, PRv, Sens, SRv]
257			<1% (flat -- almost no noticeable slope) or all the area within 30 m of the AA edge is other wetlands.	0	
258			2-5%.	1	
259			5-30%.	0	
260			>30%.	0	
261	F55	Cliffs or Steep Banks	In the AA or within 100 m, there are elevated terrestrial features such as cliffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 2 m nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	0	Do not include upturned trees as potential den sites. [POL, SBM]
262	F56	New or Expanded Wetland	Human actions within or adjacent to the AA have persistently expanded a naturally occurring wetland or created a wetland where there previously was none (e.g., by excavation, impoundment):		Determine this using historical aerial photography, old maps, soil maps, or permit files as available [CS, NR, OE, PH, Sens]
263			No.	0	
264			Yes, and created or expanded 20 - 100 years ago.	1	
265			Yes, and created or expanded 3-20 years ago.	0	
266			Yes, and created or expanded within last 3 years.	0	
267			Yes, but time of origin or expansion unknown.	0	
268		Unknown if new or expanded within 20 years or not.	0		
269	F57	Burn History	More than 1% of the AA's previously vegetated area:		Look for charred soil or stumps (in multiple widely-spaced locations) or ask landowner. [CS, PH, STR]
270			Burned within past 5 years.	0	
271			Burned 6-10 years ago.	0	
272			Burned 11-30 years ago.	0	
273			Burned >30 years ago, or no evidence of a burn and no data.	1	

	A	B	C	D	E
274	F58	Visibility	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 100 m of the AA (select one) is:		[PU, STR, WBFv]
275			<25%.	0	
276			25-50%.	0	
277			>50%.	1	
278	F59	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select ALL statements that are true of the AA as it currently exists:		[PU, STR]
279			For an average person, walking is physically possible <u>in</u> (not just near) >5% of the AA during most of the growing season, e.g., free of deep water and dense shrub thickets.	0	
280			Maintained roads, parking areas, or foot-trails are within 10 m of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0	
281			Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0	
282	F60	Unvisited Core Area	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [<i>Note: Only include the part actually walked or driven (not simply viewed from) with a vehicle or boat. Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 30 m of the wetland edge. In that case include only the area occupied by the trail.</i>]		[AM, FAv, FRv, PH, PU, SBM, STR, WBF, WBN]
283			<5% and no inhabited building is within 100 m of the AA.	0	
284			<5% and inhabited building is within 100 m of the AA.	0	
285			5-50% and no inhabited building is within 100 m of the AA.	0	
286			5-50% and inhabited building is within 100 m of the AA.	0	
287			50-95%, with or without inhabited building nearby.	1	
288			>95% of the AA with or without inhabited building nearby.	0	
289	F61	Frequently Visited Area	The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [<i>See note above.</i>]		[AM, PH, PU, SBM, STR, WBF, WBN]
290			<5%. If F60 was answered ">95%" (mostly never visited), SKIP to F64.	1	
291			5-50%.	0	
292			50-95%.	0	
293			>95% of the AA.	0	
294	F62	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on soil within nearly all of the AA when the soil is unfrozen. Enter "1" if true.	0	[PH, PU]
295	F63	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorised boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	0	[AM, PU, WBF, WBN]
296	F64	Consumptive Uses (Provisioning Services)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select ALL that apply.		[FAv, FRv, WBFv]
297			Low-impact commercial timber harvest (e.g., selective thinning).	0	
298			Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.	0	
299			Waterfowl hunting.	0	
300			Fishing.	0	
301			Trapping of furbearers.	0	
302			None of the above.	1	
303	F65	Domestic Wells	The closest wells or water bodies that currently provide drinking water are:		[NRv]
304			Within 0-100 m. of the AA.	0	
305			100-500 m. away.	0	
306			>500 m. away, or no information.	1	
307	F66	Calcareous Fen	The AA is, or is part of, a calcareous fen. See the Plants_Calcar worksheet in the accompanying SuppInfo file for list of plant indicators (calciphiles). Enter 1 if more than two Strong or more than five Moderate calciphile species are present; otherwise enter 0, but if not able to identify those and no information, change to blank .		[PH, PR]

Investigator: RK MM	Site Identifier: Goose Harbour Lake Wind Farm, Wetland 5	Date: 21 Sept 2022
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Stressor (S) Data Form for Non-Tidal Wetlands. WESP-AC for Nova Scotia version 2.

				Data	
S1	Aberrant Timing of Water Inputs				
	<i>In the last column, place a check mark next to any item that is likely to have caused the timing of water inputs (but not necessarily their volume) to shift by hours, days, or weeks, becoming either more muted (smaller or less frequent peaks spread over longer times, more temporal homogeneity of flow or water levels) or more flashy (larger or more frequent spikes but over shorter times). [FA, FR, INV, PH, STR]</i>				
	Stormwater from impervious surfaces that drains directly to the wetland.				
	Water subsidies from wastewater effluent, septic system leakage, snow storage areas, or irrigation.				
	Regular removal of surface or groundwater for irrigation or other consumptive use.				
	Flow regulation in tributaries or water level regulation in adjoining water body, or other control structure at water entry points that regulates inflow to the wetland.				
	A dam, dike, levee, weir, berm, or fill -- within or downgradient from the wetland -- that interferes with surface or subsurface flow in/out of the AA (e.g., road fill, wellpads, pipelines).				
	Excavation within the wetland, e.g., dugout, artificial pond, dead-end ditch.				
	Artificial drains or ditches in or near the wetland.				
	Accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level).				
	Logging within the wetland.				
	Subsidence or compaction of the wetland's substrate as a result of machinery, livestock, fire, drainage, or off road vehicles.				
	Straightening, ditching, dredging, and/or lining of tributary channels.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items had no measurable effect on the timing of water conditions in any part of the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of timing shift within the wetland:	>95% of wetland.	5-95% of wetland.	<5% of wetland.	0
	When most of the timing shift began:	<3 yrs ago.	3-9 yrs ago.	10-100 yrs ago.	0
	<i>Score the following 2 rows only if the altered inputs began within past 10 years, and only for the part of the wetland that experiences those.</i>				
	Input timing now vs. previously:	Shift of weeks.	Shift of days.	Shift of hours or minutes.	0
	Flashiness or muting:	Became very flashy or controlled.	Intermediate.	Became mildly flashy or controlled.	0
Sum=				0	
Stressor subscore=				0.00	

S2	Accelerated Inputs of Contaminants and/or Salts				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of contaminants or salts to the AA. [AM, FA, PH, POL, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills, industrial facilities.				
	Metals & chemical wastes from mining, shooting ranges, snow storage areas, oil/ gas extraction, other sources (download many locations from National Pollutant Release Inventory and view KMZ overlay in Google Earth. https://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=B85A1846-1)				
	Road salt.				
	Spraying of pesticides, as applied to lawns, croplands, roadsides, or other areas in the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly higher levels of contaminants and/or salts, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Usual toxicity of most toxic contaminants:	Industrial effluent, mining waste, unmanaged landfill.	Cropland, managed landfill, pipeline or transmission rights-of-way.	Low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	
S3	Accelerated Inputs of Nutrients				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of nutrients to the wetland. [NRv, PRv, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills.				
	Fertilizers applied to lawns, ag lands, or other areas in the CA.				
	Livestock, dogs.				
	Artificial drainage of upslope lands.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly more nutrients, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Type of loading:	High density of unmaintained septic, some types of industrial sources.	Moderate density septic, cropland, secondary wastewater treatment plant.	Livestock, pets, low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	

S4	Excessive Sediment Loading from Contributing Area				
	<i>In the last column, place a check mark next to any item present in the CA that is likely to have elevated the load of waterborne or windborne sediment reaching the wetland from its CA. [FA, FR, INV, PH, SRv, STR]</i>				
	Erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fires.				1
	Erosion from construction, in-channel machinery in the CA.				
	Erosion from off-road vehicles in the CA.				
	Erosion from livestock or foot traffic in the CA.				
	Stormwater or wastewater effluent.				
	Sediment from road sanding, gravel mining, other mining, oil/ gas extraction.				
	Accelerated channel downcutting or headcutting of tributaries due to altered land use.				
	Other human-related disturbances within the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not cumulatively add significantly more sediment or suspended solids to the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Erosion in CA:	Extensive evidence, high intensity.*	Potentially (based on high-intensity* land use) or scattered evidence.	Potentially (based on low-intensity* land use) with little or no direct evidence.	2
	Recentness of significant soil disturbance in the CA:	Current & ongoing.	1-12 months ago.	>1 yr ago.	1
	Duration of sediment inputs to the wetland:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	2
AA proximity to actual or potential sources:	0 - 15 m.	15-100 m.	In more distant part of contributing area.	3	
* high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erosion with or without veg removal; low-intensity= veg removal only with little or no apparent erosion or disturbance of soil or sediment.				Sum= 8	
				Stressor subscore= 0.67	
S5	Soil or Sediment Alteration Within the Assessment Area				
	<i>In the last column, place a check mark next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil. Consider only items occurring within past 100 years or since wetland was created or restored (whichever is less). [CS, INV, NR, PH, SR, STR]</i>				
	Compaction from machinery, off-road vehicles, livestock, or mountain bikes, especially during wetter periods.				
	Leveling or other grading not to the natural contour.				
	Tillage, plowing (but excluding disking for enhancement of native plants).				
	Fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland.				
	Excavation.				
	Ditch cleaning or dredging in or adjacent to the wetland.				
	Boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments.				
	Artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of altered soil:	>95% of wetland or >95% of its upland edge (if any).	5-95% of wetland or 5-95% of its upland edge (if any).	<5% of wetland and <5% of its upland edge (if any).	0
	Recentness of significant soil alteration in wetland:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
	Duration:	Long-lasting, minimal veg recovery.	Long-lasting but mostly revegetated.	Short-term, revegetated, not intense.	0
Timing of soil alteration:	Frequent and year-round.	Frequent but mostly seasonal.	Mainly during one-time or scattered events.	0	
				Sum= 0	
				Stressor subscore= 0.00	

Assessment Area (AA) Results:

Wetland ID: Goose Harbour Lake Wind Farm, Wetland 5

Date: Sept 20, 2022

Observer: Rohan Kariyawansa & Madeline Maher

Latitude & Longitude (decimal degrees): 45.54507203 & 61.53672997

Scores will appear below after data are entered in worksheets OF, F, and S.
See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	7.05	Moderate	4.29	Moderate	7.21	1.90
Stream Flow Support (SFS)	0.00	Lower	0.00	Lower	0.00	0.00
Water Cooling (WC)	3.29	Moderate	0.00	Lower	2.19	0.00
Sediment Retention & Stabilisation (SR)	10.00	Higher	2.33	Moderate	10.00	1.14
Phosphorus Retention (PR)	10.00	Higher	1.61	Moderate	10.00	1.25
Nitrate Removal & Retention (NR)	10.00	Higher	5.00	Moderate	10.00	5.00
Carbon Sequestration (CS)	3.19	Lower			6.70	
Organic Nutrient Export (OE)	5.52	Moderate			3.61	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	3.57	Moderate	3.87	Moderate	4.95	3.33
Amphibian & Turtle Habitat (AM)	6.19	Moderate	6.17	Higher	6.37	6.84
Waterbird Feeding Habitat (WBF)	5.84	Moderate	10.00	Higher	4.44	10.00
Waterbird Nesting Habitat (WBN)	4.23	Moderate	10.00	Higher	3.07	10.00
Songbird, Raptor, & Mammal Habitat (SBM)	6.99	Moderate	10.00	Higher	6.08	10.00
Pollinator Habitat (POL)	8.32	Higher	10.00	Higher	6.90	10.00
Native Plant Habitat (PH)	4.25	Moderate	7.66	Moderate	5.60	7.66
Public Use & Recognition (PU)			1.92	Moderate		1.62
Wetland Sensitivity (Sens)			10.00	Higher		5.03
Wetland Ecological Condition (EC)			7.10	Higher		8.61
Wetland Stressors (STR) (higher score means more stress)			7.74	Higher		3.90
Summary Ratings for Grouped Functions:						
HYDROLOGIC Group (WS)	7.05	Moderate	4.29	Moderate	7.21	1.90
WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS)	9.15	Higher	3.99	Moderate	9.59	3.73
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC)	4.30	Moderate	2.58	Lower	3.82	2.22
AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN)	4.72	Moderate	7.62	Higher	4.57	7.68
TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL)	7.42	Higher	9.61	Higher	6.54	9.61
WETLAND CONDITION (EC)			7.10	Higher		8.61
WETLAND RISK (average of Sensitivity & Stressors)			8.87	Higher		4.47

NOTE: A score of 0 does not mean the function or benefit is absent from the wetland. It means only that this wetland has a capacity that is equal or less than the lowest-scoring one, for that function or benefit, from among all the NS calibration wetlands that were assessed previously.

NOVA SCOTIA - Functional WSS Interpretation Tool

Function-Benefit Product (FBP)	FBP SCORE	FBP SCORE CATEGORY
SUPPORT SUPERGROUP - HYDROLOGIC	30.23675813	Low
SUPPORT SUPERGROUP - WATER QUALITY SUPPORT	36.50227896	Low
SUPPORT SUPERGROUP - AQUATIC SUPPORT	11.09632635	Low
HABITAT SUPERGROUP - AQUATIC HABITAT	35.94321673	Low
HABITAT SUPERGROUP - TRANSITION HABITAT	71.31836718	Low

3a. Functional WSS Determination: Automatic Method

Habitat Rule Satisfied? NO
 Support Rule Satisfied? NO
 Habitat/Support Hybrid Rule Satisfied? NO

CONCLUSION: **Site is not a WSS**

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	Goose Harbour Lake Wind Farm, Wetland 18
Investigator Name:	Rohan Kariyawansa Madeline Maher
Date of Field Assessment:	2022-09-21
Nearest Town:	Antigonish
Latitude (decimal degrees):	45.59163056
Longitude (decimal degrees):	61.48552500
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	0.31
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	100%
What percent (approx.) of the wetland were you able to visit?	100%
What percent (approx.) of the AA were you able to visit?	100%
Were you able to ask the site owner/manager about any of the questions?	No
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	No
How many wetlands have you assessed previously using WESP-AC? (approx.)	2 Dozen
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

	A	B	C	D	E
1	Date: 20 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 18	Investigator: RK MM	
2	<p>Form OF (Office). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia wetlands only. DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answering many of the questions below will require using these online map viewers:</p> <p>Google Earth Pro: https://www.google.com/earth/download/gep/agree.html</p> <p>Provincial Landscape Viewer: https://nsgi.novascotia.ca/plv/</p> <p>For most wetlands, completing this office data form will require 1-2 hours. For a list of functions to which each question pertains, see bracketed abbreviations in the Definitions/Explanations column. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.</p>				
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	OF1	Province	Mark the province in which the AA is located by changing the 0 in the column next to it to a "1". Mark only one.		This determines to which province's calibration wetlands the raw score of any wetland is normalised. In the function and benefits models, it also triggers the automatic exclusion of indicators for which no spatial data exists in a particular province.
5			New Brunswick	0	
6			Nova Scotia	1	
7			Prince Edward Island	0	
8			Newfoundland-Labrador	0	
9	OF2	Ponded Area Within 1 km.	The area of surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		"Adjacent" means not separated from the AA by a wide expanse (>50 m) of upland (including roads >50 m wide). Include ponded areas likely to be hidden by wetland vegetation. If surface water extends beyond 1 km, include only the part within 1 km. Do not include tidal areas. Measure the area from aerial imagery using Google Earth Pro (click on Ruler icon in toolbar, then Polygon in pop-up menu). [PH, SBM, WBN]
10			<0.01 hectare (about 10 m x 10 m).	1	
11			0.01 - 0.1 hectare.	0	
12			0.1 - 1 hectare.	0	
13			1 to 10 hectares.	0	
14			10 to 100 hectares.	0	
15		>100 hectares.	0		
16	OF3	Ponded Water & Wetland Within 1 km.	The area of wetlands and surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		See definition of adjacent in OF2. If the AA's wetland vegetation extends beyond 1 km, include only the part within 1 km. "Ponded" means not flowing in rivers or streams. [Sens, WBF]
17			<0.01 hectare (about 10 m x 10 m).	0	
18			0.01 - 0.1 hectare.	0	
19			0.1 - 1 hectare.	1	
20			1 to 10 hectares.	0	
21			10 to 100 hectares.	0	
22		>100 hectares.	0		
23	OF4	Size of Largest Nearby Vegetated Tract or Corridor	The largest vegetated patch or corridor that includes the AA's vegetation plus all adjacent upland vegetation that is not lawn, row crops, heavily grazed lands, conifer plantation is:		See definition of adjacent in OF2. Use Google Earth Pro's polygon ruler (as described above). Exclude conifer plantations only if it is obvious that trees were planted in rows. [AM, PH, SBM, Sens]
24			<0.01 hectare (about 10 m x 10 m).	0	
25			0.01 - 0.1 hectare.	0	
26			0.1 - 1 hectare.	0	
27			1 to 10 hectares.	0	
28			10 to 100 hectares.	1	
29		100 to 1000 hectares.	0		
30		>1000 hectares. [This is nearly always the answer in relatively undeveloped landscapes.]	0		

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31	OF5	Distance to Large Vegetated Tract	The minimum distance from the edge of the AA to the edge of the closest vegetated land (but excluding row crops, lawn, conifer plantation) larger than 375 hectares (about 2 km on a side), is:		To measure distance, use Google Earth Pro (Ruler > Line tool). The 375-ha criterion is from the Fundy Model Forest Project. [AM, PH, POL, SBM, Sens]
32			<50 m, and not separated from the 375-ha vegetated area by any width of paved roads, stretches of open water, row crops, bare ground, lawn, or impervious surface. Or the AA itself contains >375 ha of vegetation. [This is often the answer in relatively undeveloped landscapes.]	0	
33			<50 m, but completely separated from the 375-ha vegetated area by those features, and AA does not contain >375 ha of vegetation.	0	
34			50-500 m, and not separated.	0	
35			50-500 m, but separated by those features.	0	
36			0.5 - 5 km, and not separated.	0	
37			0.5 - 5 km, but separated by those features.	1	
38			None of the above (the closest patches or corridors which are that large are >5 km away).	0	
39	OF6	Herbaceous Uniqueness	The AA's vegetation cover is >10% herbaceous* but uplands within 5 km have <10% herbaceous cover. If so, enter "3" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 1 km have <10% herbaceous cover. If so enter "2" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 100 m of the wetland edge have <10% herbaceous cover. If so, enter "1". [* NOTE: Exclude lawns, row crops, heavily grazed lands, forest, shrublands. Include moss as well as grasslike plants in this use of "herbaceous vegetation"]	1	For this question only, consider moss to be herbaceous vegetation. Determine the score by viewing aerial imagery in Google Earth after successively drawing or estimating the boundaries of the buffers of 5 km, 1 km, and 100 m radius focused on the center of the AA. Circles of specified radius can be drawn in Google Earth Pro by clicking on the Ruler icon, then Circle in the pop-up menu. [AMv, PHv, POLv, SBMv, WBFv, WBNv]
40	OF7	Woody Uniqueness	The AA's vegetation cover is >10% woody* but uplands within 5 km have <10% woody cover. If so, enter "3" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 1 km have <10% woody cover. If so enter "2" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 100 m of the wetland edge have <10% woody cover. If so, enter "1" [* NOTE: woody cover = trees & shrubs taller than 1 m.]	1	See above. Do not consider conifer plantations to be forest if it is obvious that trees were planted in rows. [AMv, PHv, POLv, SBMv]
41	OF8	Local Vegetated Cover Percentage	Draw a 5-km radius circle measured from the center of the AA. Ignoring all permanent water in the circle, the percent of the remaining area that is wooded or unmanaged herbaceous vegetation (NOT lawn, row crops, bare or heavily grazed land, clearcuts, or conifer plantations) is:		In Google Earth, draw the 5 km buffer and then estimate land cover percentages, or do GIS analysis of an appropriate land cover layer. [AM, PH, POL, SBM, Sens]
42			<5% of the land.	0	
43			5 to 20% of the land.	0	
44			20 to 60% of the land.	1	
45			60 to 90% of the land.	0	
46			>90% of the land. SKIP to OF10.	0	
47	OF9	Type of Land Cover Alteration	Within the 5-km radius circle, and ignoring all permanent water, the land area that is bare or non-perennial cover is mostly:		[AM, SBM]
48			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
49			Bare pervious surface, e.g., lawn, recent (<5 yrs ago) clearcut, dirt or gravel road, cropland, landslide, conifer plantation.	1	
50	OF10	Distance by Road to Nearest Population Center	Measured along the maintained road nearest the AA, the distance to the nearest population center is:		"Population center" means a settled area with more than about 5 regularly- inhabited structures per square kilometer. In Google Earth Pro, click on the Ruler icon, then Path, and draw and measure the route. [FAv, FRv, NRv, PH, PU, SBM, WBFv]
51			<100 m.	0	
52			100 - 500 m.	0	
53			0.5- 1 km.	0	
54			1 - 5 km.	0	
55			>5 km.	1	

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56	OF11	Distance to Nearest Maintained Road	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:		Determine this by viewing aerial imagery in Google Earth Pro and measuring with the Ruler-Line tool [AM, FAv, FRv, NRv, PH, PU, SBM, STR, WBN]
57			<10 m.	1	
58			10 - 25 m.	0	
59			25 - 50 m.	0	
60			50 - 100 m.	0	
61			100 - 500 m.	0	
62		>500 m.	0		
63	OF12	Wildlife Access	Draw a circle of radius of 5 km from the center of the AA. If mammals and amphibians can move from the center of the AA to ALL other separate wetlands and ponds located within the circle without being forced to cross pavement (any width), lawns, bare ground, and/or marine waters, mark 1= yes can move to all, 0= no. Change to blank if there are no other wetlands within 5 km.	0	Draw the 5 km circle in Google Earth Pro using the Circle tool and search for roads and wetlands within it, being alert for roads hidden under forest canopy. [AM, SBM, STR]
64	OF13	Distance to Poned Water	The distance from the AA center to the closest (but separate) ponded water body visible in GoogleEarth imagery is:		In Google Earth Pro, zoom in closely to examine the surrounding landscape for ponds, lakes, and wetlands that appear to be permanently flooded. [AM, PH, SBM, Sens, WBF, WBN]
65			<50 m, and not separated by any width of paved roads, stretches of open water, row crops, lawn, bare ground, or impervious surface.	0	
66			<50 m, but completely separated by those features.	0	
67			50-500 m, and not separated.	0	
68			50-500 m, but separated by those features.	0	
69			0.5 - 1 km, and not separated.	1	
70		0.5 - 1 km, but separated by those features.	0		
71		None of the above (the closest patches or corridors that large are >1 km away).	0		
72	OF14	Distance to Large Poned Water	The distance from the AA center to the closest (but separate) non-tidal body of water that is ponded during most of the year and is larger than 8 hectares during most of a normal year is:		Determine this by viewing aerial imagery in Google Earth. [Sens, WBF, WBN]
73			<100 m.	0	
74			100 m - 1 km.	1	
75			1 - 2 km.	0	
76			2-5 km.	0	
77			5-10 km.	0	
78		>10 km.	0		
79	OF15	Tidal Proximity	The distance from the AA edge to the closest tidal water body (regardless of its salinity) is:		In Google Earth, measure the distance to the ocean (including Bay of Fundy) or tidal river, whichever is closer. If you need to see how far upriver a river is tidal, see the KMZ file provided with this calculator for NS (NS Hightide). Points shown in those files are only an approximation, so local information if available may be preferable. [FA, WBF]
80			<100 m.	0	
81			100 m - 1 km.	0	
82			1 - 5 km.	0	
83			5-10 km.	1	
84			10-40 km.	0	
85		>40 km.	0		
86	OF16	Upland Edge Contact	Select one:		[NR, SBM, Sens]
87			The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by (& contiguous with) other wetlands or water.	0	
88			1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
89			25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
90			50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91		More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA. This will be true for most assessments done with WESP-AC.	1		

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92	OF17	Flood Damage from Non-tidal Waters	Within 5 km downstream or downslope of the AA (select first true choice):		Contact local authorities to determine if such maps exist. Where available, LiDAR imagery can provide finer elevational resolution useful for flood modeling. [WSv]
93	Maps show Flood Zone or Flood Risk areas and there appears to be infrastructure vulnerable to river flooding not caused by tidal storm surges.		0		
94	Maps show Flood Zone or Flood Risk areas, but infrastructure is absent or is not vulnerable to floods from a non-tidal river. In some cases levees, upriver dams, or other measures may partly limit damage or risk from smaller events.		0		
95	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there appears to be infrastructure vulnerable to river flooding unrelated to tidal storm surges.		0		
96	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there is no infrastructure vulnerable to river flooding unrelated to tidal storm surges.		1		
97	OF18	Relative Elevation in Watershed	In Google Earth, enable the Terrain layer (lower left menu) and open the NS_Watersheds Secondary KMZ file that accompanies this calculator. Then determine the AA's approximate elevation (bottom right, NOT the "eye alt"). Then move cursor around to determine the watershed's maximum and minimum elevation. Divide the AA's elevation by the (max-min).	0.81	[FA, NR, Sens, SFSv, WCv, WSv]
98	OF19	Water Quality Sensitive Watershed or Area	The AA is in a Protected Water Supply area (Designated Water Supply Area, Natural Watershed Municipal Surface Water Supply Area, or Municipal Water Supply Area) according to the provided KMZ overlay ("NS Protected Water Supply Areas"). Enter 1= yes, 0= no.	0	If an ACCDC report is available for this AA, it also may contain such information. [NRv]
99	OF20	Degraded Water Upstream	Sampling indicates a problem with concentrations of metals, hydrocarbons, nutrients, or other substances (excluding bacteria, acidic water, high temperatures) being present at levels harmful to aquatic life or humans, and:		May use existing data, or sample those waters as part of this wetland assessment. "Harmful" should be evaluated with regard to current federal or provincial water quality standards. [AM, FA, FR, NRv, PRv, SRv, STR, WBF, WBN]
100			The condition is present within the AA.	0	
101			The condition is present in waters within 1 km that flow into the AA, but has not been documented in the AA itself.	0	
102			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
103			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
104	OF21	Degraded Water Downstream	The problem described above is downslope from the AA, and:		May use existing data, or monitor waters as part of this wetland assessment. [NRv, PRv, SRv]
105			The condition is present within 1 km downslope and connected to the AA by a channel.	0	
106			The condition is present within 5 km downslope and connected to the AA by a channel, or within 1 km but not connected to the AA by a channel.	0	
107			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
108			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
109	OF22	Wetland as a % of Its Contributing Area (Catchment)	From a topographic map and field observations, estimate the approximate boundaries of the catchment (CA) of the entire wetland of which the AA may be only a part. Then adjust those boundaries if necessary based on your field observations of the surrounding terrain, and/or by using procedures described in the Manual. Divide the area of the wetland (not just the AA) by the approximate area of its catchment excluding the area of the wetland itself. When doing the calculation, if ponded water is adjacent to the wetland, include that in the wetland area. The result is:		Topographic maps may be viewed online at the National Atlas of Canada (Toporama): http://atlas.gc.ca/toporama/en/index.html [NR, PR, Sens, SR, WS]
110			<0.01, or catchment size unknown due to stormwater pipes that collect water from an indeterminate area.	0	
111			0.01 to 0.1.	1	
112			0.1 to 1.	0	
113			>1 (wetland is larger than its catchment (e.g., wetland with flat surrounding terrain and no inlet, or is entirely isolated by dikes, or is a raised bog).	0	
114	OF23	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 m upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, landslides, and other mostly-bare surface is about :		[FA, INV, NRv, PRv, SRv, STR, WCv, WSv]
115			<10%.	1	
116			10 to 25%.	0	
117			>25%.	0	

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118	OF24	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following: (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow (bedrock near surface) and/or have high runoff coefficients. This statement is:		[NRv, PRv, SRv, WSv]
119			Mostly true.	0	
120			Somewhat true.	0	
121			Mostly untrue.	1	
122	OF25	Aspect	The overland flow direction of most surface water (in streams, rivers, or runoff) that enters the AA is:		[AM, NR, SFS, WC, WS]
123			Northward (N, NE). north-facing contributing area.	0	
124			Southward (S, SW). south-facing contributing area.	0	
125			Other (E, SE, W, NW), or no detectable uphill slope or input channel (flat).	1	
126	OF26	Internal Flow Distance (Path Length)	The horizontal flow distance from the wetland's inlet to outlet is:		Identify inlets and outlets, if any, from topographic maps (use elevations to determine which are inlets and which are outlets) and augment by field inspection. With the Provincial Landscape Viewer, select Nova Scotia Topo as the Basemap. Also enable the layer Forestry-WAM Predicted Flow. Then measure the inlet-outlet distance. [NR, OE, PR, SR, WS]
127			<10 m.	0	
128			10 - 50 m.	0	
129			50 - 100 m.	0	
130			100 - 1000 m.	0	
131			1- 2 km.	0	
132			>2 km, or wetland lacks an inlet and outlet.	1	
133	OF27	Growing Degree Days	In Google Earth, open the KMZ file that accompanies this calculator, called NS_GrowingDegreeDays. Place your cursor over the AA and left-click. From the pop-up window, enter the GRIDCODE number in the next column.	2030	This layer was provided by Dr. Dan McKenney of the Canadian Forest Service [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WCv, WS]
134	OF28	Fish Access or Use	According to agency biologists and/or your own observations, the AA. <i>[Mark just the first choice that is true.]</i>		Regarding the last choice, if uncertain if an AA is fishless, consider the possibility its waters have been stocked. [AM, FA, FR, INV, WBF, WBN]
135			Is known to support rearing and/or spawning by Atlantic salmon or other anadromous species or eels. Go to Provincial Landscape Viewer>Wildlife>Significant Habitat>Species at Risk. Contact local fishery biologists, review the ACCDC report, and visit these websites: http://www.salmonatlas.com/atlanticsalmon/canada-east/index.1.html http://atlanticsalmonfederation.org/rivers/introduction.html	0	
136			Has not been documented to support Atlantic salmon rearing and/or spawning, but is connected to nearby waters likely to contain Atlantic salmon or other anadromous species or eels and is probably accessed by those during some conditions.	0	
137			Is probably is not accessed by any anadromous fish species but is known or likely to have other fish at least seasonally.	0	
138			Is known or likely to be fishless (e.g., too small, dry, and/or not accessible even temporarily, and not stocked).	1	
139	OF29	Species of Conservation Concern	Within the past 10 years, in the AA (or in its adjoining waters or wetland), qualified observers have documented <i>[mark all applicable]</i> :		Request information from ACCDC and/or conduct your own survey at an appropriate season using an approved protocol. For birds, also check eBird.org. NOTE for NS: If your WESP-AC is being completed for a Wetland Alteration Application to NS-ECC, your ACCDC results and any taxon-specific survey results must be submitted along with your WESP-AC results, and application. [AMv, EC, PHv, POLv, SBMv, Sens, WBFv, WBNv]
140			Presence of one or more of the plant species listed in the Plants_Rare worksheet of the accompanying SupplInfo file, or the AA is within a mapped Atlantic Coastal Plain Flora Buffer (go to Provincial Landscape Viewer> Wildlife> Special Management Practice Zones).	0	
141			Presence of one or more of the amphibian or reptile species (AM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
142			Presence of one or more of the waterbird species (WBF, WBN) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
143			Presence of one or more of the nesting songbird or raptor species (SBM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file, during their nesting season (May-July for most species).	0	
144			None of the above, or no data.	1	
145	OF30	Important Bird Area (IBA)	In Google Earth, open the KMZ file that accompanies this calculator, called IBAs_Canada . The AA is all or part of an officially designated IBA. Enter 1= yes, 0= no.	0	The source of this layer, which should be checked periodically for updates, is: http://www.ibacanada.com/mapviewer.jsp?lang=EN [SBMv, WBFv, WBNv]

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146	OF31	Black Duck Nesting Area	In Google Earth, open the KMZ file that accompanies this calculator, called BlackDuck. Adjust its alignment and opacity. Determine the predicted density (pairs per 25 sq. km) of nesting American Black Duck in the AA's vicinity: <10 (enter 0), 10-20 (enter 1), 20-30 (enter 2), >30 (enter 3). If outside of region shown in map, change to blank .	0	This was provided by Dr. David Leske. [WBNv]
147	OF32	Wintering Deer or Moose Concentration Areas	If AA is on private land with no information, change to blank (not 0). Otherwise: With the Provincial Landscape Viewer, for Wintering Moose, go to Wildlife> Significant Habitat. For Mainland Moose Concentration Areas, go to Wildlife> Special Management Practice Zones. Enter: yes= 1, no= 0.	0	[SBM]
148	OF33	Other Conservation Designation	The AA is all or part of an area designated by government, First Nations, or the Nature Conservancy of Canada (NCC) for its exceptional ecological features or highly intact natural conditions. With Provincial Landscape Viewer, see Protected Areas. Enter: yes= 1, no= 0. If uncertain, consult NCC and agencies for more recent information.	0	See: https://novascotia.ca/parksandprotectedareas/plan/interactive-map/ [PU]
149	OF34	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, or enhance the wetland (excluding mitigation wetlands). Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank (not 0).	0	[PU]
150	OF35	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
151	OF36	Sustained Scientific Use	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
152	OF37	Calcareous Region	The AA is NOT in a subregion that has been heavily exposed to acid precipitation. Enter "1" if true (green or yellow in map in Appendix A of the Manual). Enter "0" if false. If no information, change to blank .		[AM, FA, FR, INV, PH]
153	OF38	Ownership	Select the ONE ownership that covers the most of the AA. In Google Earth, open KMZ file called NS_CrownlandsUse more recent information if available.		"Private lands" may include those owned or leased by non-governmental organizations, e.g., charitable conservation land trusts, DUC, TNC. [PU, STR]
154			New timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles) are permanently prohibited. Includes many publicly-owned Protected Lands, and private lands under long-term (30+ year) legal agreements to maintain nearly-unaltered conditions.	0	
155			Ownership is public (e.g., municipal, Crown Reservations/Notations) but some or all of the above activities are allowed.	1	
156			Ownership is private but public access is allowed, and/or a shorter-term conservation easement (whether renewable or not) is in place.	0	
157			Ownership is private and owner does not allow access, or access permission unknown, and not a conservation easement.	0	

	A	B	C	D	E
1	Date: 21 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 18	Investigator: RK MM	
Form F (Field). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia. DIRECTIONS: Walk for no less than 10 minutes from the wetland edge towards its core, in the part of the AA that is proposed for alteration. If no alteration is proposed, walk in a portion that appears to be most representative of the wetland overall. Walk only where it is safe and legal to do so. Conduct the assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgeable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form will require 1-2 hours on a site. For a list of functions to which each question pertains, see the accompanying Interpretations form. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage & Delay, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.					
2					
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	F1	Wetland Type	Follow the key below and mark the ONE row that best describes MOST of the vegetated part of the AA:		Ericaceous shrubs are ones in the heather family (Ericaceae). Most have leathery evergreen leaves. They include rhododendron, azalea, swamp laurel, leatherleaf, Labrador tea, and others. Most require acidic soil. Although not in the family Ericaceae, sweetgale (<i>Myrica gale</i>) should be counted also. [AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
5			A. Moss and/or lichen cover more than 25% of the ground. Often dominated by ericaceous shrubs (e.g., Labrador tea) or other acid-tolerant plants (e.g., bog cranberry, pitcher plant, sundew, orchids). Substrate is mostly undecomposed peat. Choose between A1 and A2 and mark the choice with a 1 in their adjoining column. Otherwise go to B below.		
6			A1. Surface water is usually absent or, if present, pH is typically <4.5 and conductivity is usually <100 µS/cm (<64 ppm TDS). Trees are absent or nearly so. Sedge cover usually sparse or absent but cottongrass and/or lichen cover may be extensive, as well as cloudberry, lingonberry, sheep laurel, and a sedge (<i>Carex rariflora</i>). Wetland surface and surrounding landscape are seldom sloping and wetland often is domed (convex). Inlet and outlet channels are usually absent. If known, pH of peat is <4.0.	0	
7			A2. Not A1. Surface water, if present, has pH typically >4.5 and conductivity is usually >100 µS/cm (>64 ppm TDS). Sedge cover is usually extensive, and/or tree and tall shrub cover is extensive. Sometimes at toe of slope or edge of water body. An exit channel is usually present. Wetter than A1 and peat depth may be shallower (<2 m).	1	
8			B. Moss and/or lichen cover less than 25% of the ground. Soil is mineral or decomposed organic (muck). Choose between B1 and B2 and mark the choice with a 1 in their adjoining column:		
9			B1. Trees and shrubs taller than 1 m comprise more than 25% of the vegetated cover. Surface water is mostly absent or inundates the vegetation only seasonally (e.g., vernal pools or floodplain).	0	
10			B2. Not B1. Tree & tall shrubs comprise less than 25% of the vegetated cover. Vegetation is mostly herbaceous, e.g., cattail, bulrush, burreed, pond lily, horsetail. Surface water may be extensive and fluctuates seasonally, being either persistent or drying up partly or entirely.	0	
11	Reminder : For all questions, the AA should include all persistent waters in ponds smaller than 8 hectares (~283 m on a side) that are adjacent to the AA. The AA should also include part of the water area of adjacent ponded water larger than 8 ha and adjacent rivers wider than 20 m. Specifically, the AA should include the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone. Throughout this data form, "adjacent" is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.				
12	F2	Wetland Types - Adjoining or Subordinate	If the AA is smaller than 1 ha, mark all other types that occupy more than 1% of the vegetated AA. If the AA is larger than 1 ha, mark all other types which are within or adjacent to the AA and occupy more than 1 ha, as visible from the AA or as interpreted from aerial imagery. Do not mark again the type marked in F1.		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, INV, SBM, WBF]
13			A1.	0	
14			A2.	0	
15			B1.	0	
16			B2.	0	

	A	B	C	D	E
17	F3	Woody Height & Form Diversity	Following EACH row below, indicate with a number code the percentage of the living vegetation in the AA which is occupied by that feature (6 if >95%, 5 if 75-95%, 4 if 50-75%, 3 if 25-50%, 2 if 5-25%, 1 if <5%, 0 if none). If the vegetated part of the AA is largely herbaceous (non-woody) vegetation, these percentages should not sum to 100%.		Deciduous shrubs in this region usually include buttonbush, Labrador tea, bayberry (<i>Morella</i>), huckleberry, cranberry, cloudberry, sweetgale, alder, willow, birch, ash, dogwood, and a few others. If you assigned a code of 3 or higher to any of the first four choices and the ground cover beneath the trees/shrubs is <25% moss, then question F1 might be "B1". [CS, INV, NR, PH, POL, SBM, Sens]
18			coniferous trees (may include tamarack) taller than 3 m.	3	
19			deciduous trees taller than 3 m.	3	
20			coniferous or ericaceous shrubs or trees 1-3 m tall not directly below the canopy of trees.	2	
21			deciduous shrubs or trees 1-3 m tall not directly below the canopy of trees.	3	
22			coniferous or ericaceous shrubs <1 m tall not directly below the canopy of taller vegetation.	2	
23			deciduous shrubs or trees <1 m tall (e.g., deciduous seedlings) not directly below the canopy of taller vegetation.	2	
24	<i>Note: If none of top 4 rows in F3 was marked 2 or greater, SKIP to F9 (N fixers).</i>				
25	F4	Dominance of Most Abundant Shrub Species	Determine which two woody plant species comprise the greatest portion of the low (<3 m) woody cover. Then choose one:		[PH, POL, SBM, Sens]
26			those species together comprise > 50% of such cover.	1	
27			those species together do not comprise > 50% of such cover.	0	
28	F5	Woody Diameter Classes	Mark ALL the types that comprise >5% of the woody canopy cover in the AA or >5% of the wooded areas (if any) along its upland edge (perimeter). The edge should include only the trees whose canopies extend into the AA.		Estimate the diameters at chest height. If small-diameter trees are overtopped (shaded) by larger ones, visualise a "subcanopy" at the average height of the smaller-dbh trees, to serve as a basis for the minimum 5% canopy requirement in this question. The trees and shrubs need not be wetland species. [AM, CS, POL, SBM, Sens, WBN]
29			coniferous, 1-9 cm diameter and >1 m tall.	1	
30			broad-leaved deciduous 1-9 cm diameter and >1 m tall.	1	
31			coniferous, 10-19 cm diameter.	1	
32			broad-leaved deciduous 10-19 cm diameter.	1	
33			coniferous, 20-40 cm diameter.	1	
34			broad-leaved deciduous 20-40 cm diameter.	0	
35			coniferous, >40 cm diameter.	0	
36			broad-leaved deciduous >40 cm diameter.	0	
37	F6	Height Class Interspersion	Follow the key below and mark the ONE row that best describes MOST of the AA:		[AM, INV, NR, PH, SBM, Sens]
38			A. Neither the vegetation taller than 1 m nor the vegetation shorter than that comprise >70% of the vegetated part of the AA. They <u>each</u> comprise 30-70%. Choose between A1 and A2 and mark the choice with a 1 in the adjoining column. Otherwise go to B below.		
39			A1. The two height classes are mostly scattered and intermixed throughout the AA.	0	
40			A2. Not A1. The two height classes are mostly in separate zones or bands, or in proportionately large clumps.	0	
41			B. Either the vegetation shorter than 1 m comprises >70% of the vegetated part of the AA, or the vegetation taller than that does. One size class might even be totally absent. Choose between B1 and B2 and mark the choice with a 1 in the adjoining column:		
42			B1. The less prevalent height class is mostly scattered and intermixed within the prevalent one.	1	
43			B2. Not B1. The less prevalent height class is mostly located apart from the prevalent one, in separate zones or clumps, or is completely absent.	0	
44	F7	Large Snags (Dead Standing Trees)	The number of large snags (diameter >20 cm) in the AA plus adjacent upland area within 10 m of the wetland edge is:		Snags are dead standing trees that often (not always) lack bark and foliage. Include only ones that are at least 2 m tall. [POL, SBM, WBN]
45			None, or fewer than 8/ hectare which exceed this diameter.	1	
46			Several (>8/hectare) and a pond, lake, or slow-flowing water wider than 10 m is within 1 km.	0	
47			Several (>8/hectare) but above not true.	0	
48	F8	Downed Wood	The number of downed wood pieces longer than 2 m and with diameter >10 cm, and not persistently submerged, is:		Exclude temporary "burn piles." [AM, INV, POL, SBM]
49			Few or none that meet these criteria.	1	
50			Several (>5 if AA is >5 hectares, less for smaller AAs) meet these criteria.	0	
51	F9	N Fixers	The percentage of the AA's vegetated cover that contains nitrogen-fixing plants (e.g., alder, sweetgale, clover, lupine, alfalfa, other legumes) is:		Do not include N-fixing algae or lichens. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
52			<1% or none.	0	
53			1-25% of the vegetated cover, in the AA or along its water edge (whichever has more).	1	
54			25-50% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
55			50-75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
56			>75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	

	A	B	C	D	E
57	F10	Sphagnum Moss Extent	The cover of Sphagnum moss (or any moss that forms a dense cushion many centimeters thick), including the moss obscured by taller sedges and other plants rooted in it, is:		Exclude moss growing on trees and rocks. [CS, PH]
58			<5% of the vegetated part of the AA.	0	
59			5-25% of the vegetated part of the AA.	0	
60			25-50% of the vegetated part of the AA.	0	
61			50-95% of the vegetated part of the AA.	1	
62			>95% of the vegetated part of the AA.	0	
63	F11	% Bare Ground & Thatch	Consider the parts of the AA that lack surface water at the driest time of the growing season. Viewed from directly above the ground layer, the predominant condition in those areas at that time is:		Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is present under a tree or shrub canopy should be counted. Boulders count as bare ground. Wetlands with mineral soils and that are heavily shaded or are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens]
64			Little or no (<5%) <i>bare ground</i> is visible between erect stems or under canopy anywhere in the vegetated AA. Ground is extensively blanketed by dense thatch, moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	1	
65			Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0	
66			Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the AA.	0	
67			Other conditions.	0	
68			Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0	
69	F12	Ground Irregularity	Imagine the AA without any living vegetation. Excluding the portion of the AA that is always under water, the number of hummocks, small pits, raised mounds, animal burrows, ruts, gullies, natural levees, microdepressions, and other areas of peat or mineral soil that are raised or depressed >10 cm compared to most of the area within a few meters surrounding them is:		The depressions may be of human or natural origin. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
70			Few or none (minimal microtopography; <1% of the land has such features, or entire AA is always water-covered).	0	
71			Intermediate.	1	
72			Several (extensive micro-topography).	0	
73	F13	Upland Inclusions	Within the AA, inclusions of upland are:		[AM, NR, SBM]
74			Few or none.	0	
75			Intermediate (1 - 10% of vegetated part of the AA).	1	
76			Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).		
77	F14	Soil Texture	In parts of the AA that lack persistent water, the texture of soil in the uppermost layer is mostly: [To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key (in Appendix A of the Manual).]		[CS, NR, OE, PH, PR, Sens, SFS, WS]
78			Loamy : soils that may contain a little fine grit and do not make a "ribbon" longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	1	
79			Fines : includes silt, clay, silt, soils that make a ribbon longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
80			Deep Peat , to 40 cm depth or greater.	0	
81			Shallow Peat or organic <40 cm deep.	0	
82			Coarse : includes sand, loamy sand, gravel, cobble, soils that do not make a ribbon when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
83	F15	Shorebird Feeding Habitats	During any 2 consecutive weeks of the growing season, the extent of mudflats, bare unshaded saturated areas not covered by thatch, and unshaded waters shallower than 6 cm is: [Include also any area that is adjacent to the AA.]		This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
84			None, or <100 sq. m.	1	
85			100-1000 sq. m.	0	
86			1000 - 10,000 sq. m.	0	
87			>10,000 sq. m.	0	
88	F16	Herbaceous % of Vegetated Wetland	In aerial ("ducks eye") view, the maximum annual cover of herbaceous vegetation (all non-woody plants except moss) is:		[AM, WBF, WBN]
89			<5% of the vegetated part of the AA or <0.01 hectare (whichever is less). Mark "1" here and SKIP to F20 (Invasive Plant Cover).	0	
90			5-25% of the vegetated part of the AA.	0	
91			25-50% of the vegetated part of the AA.	0	
92			50-95% of the vegetated part of the AA.	1	
93			>95% of the vegetated part of the AA.	0	

	A	B	C	D	E
94	F17	Forb Cover	Within parts of the AA having herbaceous cover (excluding SAV), the areal cover of forbs reaches an annual maximum of:		Forbs are flowering plants. Do not include grasses, sedges, cattail, other graminoids, ferns, horsetails, or others that lack showy flowers. [POL]
95	<5% of the herbaceous part of the AA.		0		
96	5-25% of the herbaceous part of the AA.		1		
97	25-50% of the herbaceous part of the AA.		0		
98	50-95% of the herbaceous part of the AA.		0		
99	>95% of the herbaceous part of the AA.		0		
100	F18	Sedge Cover	Sedges (<i>Carex</i> spp.) and cottongrass (<i>Eriophorum</i> spp.) occupy:		[CS]
101	<5% of the vegetated area, or none.		0		
102	5-50% of the vegetated area.		0		
103	50-95% of the vegetated area.		1		
104	>95% of the vegetated area.		0		
105	F19	Dominance of Most Abundant Herbaceous Species	Determine which two herbaceous species comprise the greatest portion of the herbaceous cover (excluding mosses and floating-leaved aquatic plants). Then choose one of the following:		For this question, include ferns as well as graminoids and forbs. [EC, INV, PH, POL, Sens]
106	those species together comprise > 50% of the areal cover of herbaceous plants at any time during the year.		0		
107	those species together do not comprise > 50% of the areal cover of herbaceous plants at any time during the year.		1		
108	F20	Invasive Plant Cover	How extensive is the cover of invasive plant species in the AA? For species, see Plants_invasive worksheet in the accompanying SupplInfo file.		[EC, PH, POL, Sens]
109	invasive species appear to be absent in the AA, or are present only in trace amount (a few individuals).		1		
110	invasive species are present in more than trace amounts, but comprise <5% of herbaceous cover (or woody cover, if the invasives are woody).		0		
111	invasive species comprise 5-20% of the herb cover (or woody cover, if the invasives are woody).		0		
112	invasive species comprise 20-50% of the herb cover (or woody cover, if the invasives are woody).		0		
113	invasive species comprise >50% of the herb cover (or woody cover, if the invasives are woody).		0		
114	F21	Invasive Cover Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 3 m upslope from the wetland) that is occupied by invasive plant species is:		If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an exotic species, assume the unidentified plant to also be exotic. If vegetation is so senesced that exotic species cannot be identified, answer "none". [PH, STR]
115	none of the upland edge (invasives apparently absent), or AA has no upland edge.		1		
116	some (but <5%) of the upland edge.		0		
117	5-50% of the upland edge.		0		
118	most (>50%) of the upland edge.		0		
119	F22	Fringe Wetland	During most of the year, open water within or adjacent to the vegetated part of the wetland is much wider than the maximum width of the vegetated zone within the wetland. Enter "1" if true, "0" if false.	0	[WBF, WBN, WCv]
120	F23	Lacustrine Wetland	The vegetated part of the AA is within or adjacent to a body of non-tidal standing open water whose size exceeds 8 hectares during most of a normal year.	0	[FR, PR, PU, WBF, WBN]
121	F24	% of AA Without Surface Water	The percentage of the AA that <u>never</u> contains <u>surface</u> water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC]
122	<1% . In other words, all or nearly all of the AA is covered by water permanently or at least seasonally.		0		
123	1-25% of the AA, or <1% but >0.01 ha never contains surface water.		0		
124	25-50% of the AA never contains surface water.		0		
125	50-75% of the AA never contains surface water.		1		
126	75-99% of the AA never contains surface water, OR >99% and there is at least one persistently ponded water body larger than 1 ha in the AA.		0		
127	99-100%. AND there is no persistently ponded water body larger than 1 ha within the AA. Enter "1" and SKIP to F42 (Channel Connection).		0		

	A	B	C	D	E
128	F25	% of AA with Persistent Surface Water	Identify the parts of the AA that still contain surface water (flowing or ponded, open or hidden beneath vegetation) even during the driest times of a normal year, i.e., when the AA's surface water is at its lowest annual level. At that time, the percentage of the AA that still contains surface water is:		If you are unable to determine the condition at the driest time of year, ask the land owner or neighbors about it if possible. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [AM, CS, FA, FR, INV, NR, POL, PR, SBM, WBF, WBN]
129	None. The AA dries up completely (no water in channels either) or never has surface water during most years. SKIP to F27.		0		
130	1-20% of the AA.		1		
131	20-50% of the AA.		0		
132	50-95% of the AA.		0		
133	>95% of the AA. True for many fringe wetlands.	0			
134	F26	% of Summertime Water that Is Shaded	At mid-day during the warmest time of year, the area of surface water <u>within</u> the AA that is shaded by vegetation and other features that are <u>within</u> the AA at that time is:		[FA, WC]
135	<5% of the water is shaded, or no surface water is present then.		0		
136	5-25% of the water is shaded.		1		
137	25-50% of the water is shaded.		0		
138	50-75% of the water is shaded.		0		
139	>75% of the water is shaded.	0			
140	F27	% of AA that is Flooded Only Seasonally	The percentage of the AA's area that is between the annual high water and the annual low water (surface water) is:		Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualising where that would intercept the land along the river. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
141	None, or <0.01 hectare and <1% of the AA. SKIP to F29.		0		
142	1-20% of the AA, or <1% but >0.01 ha.		0		
143	20-50% of the AA.		0		
144	50-95% of the AA.		1		
145	>95% of the AA.	0			
146	F28	Annual Water Fluctuation Range	The annual fluctuation in surface water level within most of the parts of the AA that contain surface water at least temporarily is:		Look for flood marks (see above). Because the annual range of water levels is difficult to estimate without multiple visits, consider asking the land owner or neighbors about it. [AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
147	<10 cm change (stable or nearly so).		0		
148	10 cm - 50 cm change.		1		
149	0.5 - 1 m change.		0		
150	1-2 m change.		0		
151	>2 m change.	0			
152	Is the AA plus adjacent ponded water smaller than 0.01 hectare (about 10m x 10m, or 1m x 100 m)? If so, enter "1" in column D and SKIP TO F42 (Connection).			0	
153	F29	Predominant Depth Class	During most of the time when surface water is present during the growing season, its depth, averaged over the entire inundated part of the AA, is:		If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth of the most persistently inundated part of the wetland. Include surface water in channels and ditches as well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC]
154	<10 cm deep (but >0).		0		
155	10 - 50 cm deep.		1		
156	0.5 - 1 m deep.		0		
157	1 - 2 m deep.		0		
158	>2 m deep. True for many fringe wetlands.	0			
159	F30	Depth Classes - Evenness of Proportions	When present, surface water in most of the AA usually consists of (select one):		Estimate these proportions by considering the gradient and microtopography of the site. [FR, INV, WBF, WBN]
160	One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).		0		
161	One depth class that comprises 50-90% of the AA's inundated area.		0		
162	Neither of above. There are 3 or more depth classes and none occupy >50%.		1		
163	F31	% of Water That Is Ponded (not Flowing)	During most times when surface water is present, the percentage that is (1) ponded (stagnant, or flows so slowly that fine sediment is not held in suspension) AND (2) is likely to be deeper than 0.5 m in some places, is:		Nearly all wetlands with surface water have some ponded water. [AM, CS, INV, NR, OE, PR, Sens, SR, WBF, WBN, WC, WS]
164	<5% of the water, or it occupies <100 sq.m cumulatively. Nearly all the surface water is flowing. SKIP to F34.		0		
165	5-30% of the water.		0		
166	30-70% of the water.		0		
167	70-95% of the water.		1		
168	>95% of the water.	0			

	A	B	C	D	E
169	F32	Ponded Open Water - Minimum Size	During most of the growing season, the largest patch of open water that is ponded and is in or bordering the AA is >0.01 hectare (about 10 m by 10 m) and mostly deeper than 0.5 m. If true enter "1" and continue. If false, enter "0" and SKIP to F41 (Floating Algae & Duckweed).	0	Open water is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it.
170	F33	% of Ponded Water that is Open	In ducks-eye aerial view, the percentage of the ponded water that is open (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:		[AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC]
171			None, or <1% of the AA and largest pool occupies <0.01 hectares. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
172			1-4% of the ponded water. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	1	
173			5-30% of the ponded water.	0	
174			30-70% of the ponded water.	0	
175			70-99% of the ponded water.	0	
176			100% of the ponded water.	0	
177	F34	Width of Vegetated Zone within Wetland	At the time during the growing season when the AA's water level is lowest, the average width of vegetated area <u>in the AA</u> that separates adjoining uplands from open water within the AA is:		"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. [AM, CS, NR, OE, PH, PR, SBM, Sens, SR, WBN]
178			<1 m.	0	
179			1 - 9 m.	0	
180			10 - 29 m.	0	
181			30 - 49 m.	0	
182			50 - 100 m.	0	
183			> 100 m, or open water is absent at that time.	0	
184	F35	Flat Shoreline Extent	During most of the part of the growing season when water is present, the percentage of the AA's water edge length that is nearly flat (a slope less than about 5% measured within 5 m landward of the water) is:		If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
185			<1% of the water edge.	0	
186			1-25% of the water edge.	0	
187			25-50% of the water edge.	0	
188			50-75% of the water edge.	0	
189			>75% of the water edge.	0	
190	F36	Robust Emergents	The percentage of the emergent vegetation cover in the AA that is cattail (<i>Typha</i> spp.), common reed (<i>Phragmites</i>), or tall (>1m) bulrush is:		Emergent vegetation is herbaceous plants whose stems are partly above and partly below the water surface during most of the time water is present. [WBN]
191			<1% of the emergent vegetation, or emergent vegetation is absent. SKIP to F38.	0	
192			1-25% of the emergent vegetation.	0	
193			25-75% of the emergent vegetation.	0	
194			>75% of the emergent vegetation.	0	
195	F37	Interspersion of Emergents & Open Water	During most of the part of the growing season when water is present, the spatial pattern of emergent vegetation within the water is mostly:		[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
196			Scattered. More than 30% of such vegetation forms small islands or corridors surrounded by water.	0	
197			Intermediate.	0	
198			Clumped. More than 70% of such vegetation is in bands along the wetland perimeter or is clumped at one or a few sides of the surface water area.	0	
199	F38	Persistent Deepwater Area	If the deepest patch of surface water (flowing or ponded) in or directly adjacent to the AA is mostly deeper than 0.5 m for >2 weeks during the growing season, enter "1" and continue. If not, enter "0" and SKIP to F42 (Connection).	0	
200	F39	Non-vegetated Aquatic Cover	During most of the growing season and in waters deeper than 0.5 m, the cover for fish, aquatic invertebrates, and/or amphibians that is provided NOT by living vegetation, but by accumulations of dead wood and undercut banks is:		For this question, consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are unreliable so should not be attempted. [AM, FA, FR, INV]
201			Little or none.	0	
202			Intermediate.	0	
203			Extensive.	0	
204	F40	Isolated Island	The AA contains (or is part of) an island or beaver lodge within a lake, pond, or river, and is isolated from the shore by water depths >1 m on all sides during an average June. The island may be solid, or it may be a floating vegetation mat that is sufficiently large and dense to support a waterbird nest.	0	[WBN]

	A	B	C	D	E
205	F41	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed are likely to cover >50% of the AA's otherwise-unshaded water surface, or blanket >50% of the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	[EC, PR, WBF]
206	F42	Channel Connection & Outflow Duration	The most persistent surface water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and a downslope stream network is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of the wetland, or the surface connection between the wetland and the downslope stream network.]		Consider the connection regardless of whether the surface water is frozen. The "downslope stream network" could consist of ditches, rivers, ponds, or lakes which eventually connect to the ocean. If this cannot be determined while visiting the AA, consult topographic maps perhaps by viewing these online with Toporama (http://atlas.nrcan.gc.ca/toporama/en/index.html) [CS, FA, FR, NR, OE, PR, Sens, SFS, SR, WCv, WS]
207	Persistent (surface water flows out for >9 months/year).		0		
208	Seasonal (surface water flows out for 14 days to 9 months/year, not necessarily consecutive).		0		
209	Temporary (surface water flows out for <14 days, not necessarily consecutive).		0		
210	None -- but maps show a stream network downslope from the AA and within a distance that is less than the AA's length. SKIP to F47 (pH Measurement).		0		
211		No surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. SKIP to F47 (pH Measurement).	1		
212	F43	Outflow Confinement	During major runoff events, in the places where surface water exits the AA or connected waters nearby, the water:		"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS, NR, OE, PR, Sens, SR, STR, WS]
213			Mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not appear to drain the wetland artificially during most of the growing season.	0	
214			Leaves through natural exits (channels or diffuse outflow), not mainly through artificial or temporary features.	0	
215			Is exported more quickly than usual due to ditches or pipes within the AA or connected to its outlet, or within 10 m of the AA's edge, which drain the wetland artificially, or water is pumped out of the AA.	0	
216	F44	Tributary Channel	At least once annually, surface water from a tributary channel that is >100 m long moves into the AA. Or, surface water from a larger permanent water body adjacent to the AA spills into the AA. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. If no, SKIP to F47 (pH Measurement).	0	If inlet tributaries cannot be searched for due to inaccessibility of part of the AA, follow suggestions in F42 above. [NRv, PH, PRv, SRv]
217	F45	Input Water Temperature	Based on lack of shade, water source characteristics, or actual temperature measurements, the inflow is likely to be warmer than surface water in the AA during part of most years. Enter 1= yes, 0= no.	0	[WCv]
218	F46	Throughflow Resistance	During its travel through the AA at the time of peak annual flow, water arriving in channels: [select only the ONE encountered by most of the incoming water].		[FA, FR, INV, NR, OE, PR, SR, WS]
219			Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel in unvegetated (often incised) channels that have minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0	
220			Bumps into herbaceous vegetation but mostly remains in fairly straight channels.	0	
221			Bumps into herbaceous vegetation and mostly spreads throughout, or is in widely meandering, multi-branched, or braided channels.	0	
222			Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels.	0	
223			Bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0	
224	F47	pH Measurement	The pH in most of the AA's surface water:		Preferably, measure this in larger areas of ponded surface water within the AA, or in streams that have passed through (not along) most of the AA. Unless surface water is completely absent, do not dig holes or make depressions in peat in order to provide water for this measurement. Avoid measuring near roads or in puddles formed only by recent rain. [AM, FA, FR, NR, WBF, PH, PR, Sens, WBF, WBN]
225			Was measured, and is: [enter the reading in the column to the right.]		
226			Was not measured but surface water is present and is darkly tea-coloured. Or if no surface water, then mosses and plants that indicate peatland (e.g., Labrador tea) are prevalent. Enter "1".	0	
227			Neither of above. Enter "1".	1	
228	F48	TDS and/or Conductivity	The TDS (total dissolved solids) or conductivity of the AA's surface water is: (select the first true row with information):		See above for measurement guidance. [FR, INV, NRv, PH, PRv, Sens]
229			TDS is: [Enter the reading in ppm or mg/L in the column to the right, if measured, or answer next row.]		
230			Conductivity is [Enter the reading in µS/cm in the column to the right.]		
231			Was not measured, but plants that indicate saline conditions cover much of the vegetated AA. Enter "1".	0	
232			Neither of above	0	

	A	B	C	D	E
233	F49	Beaver Probability	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
234	Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		0		
235	Likely based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.		0		
236	Unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed.		1		
237	F50	Groundwater Strength of Evidence	Select first applicable choice:		Adhere to these criteria strictly -- do not use personal judgment based on fen conditions, pH, or other evidence. Consult topographic maps to detect breaks in slope described here. Rust deposits associated with groundwater seeps may be most noticeable as orange discoloration in ice formations along streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS]
238	Springs are known to be present within the AA, or if groundwater levels have been monitored, that has demonstrated that groundwater primarily discharges to the wetland for longer periods during the year than periods when the wetland recharges the groundwater.		0		
239	Most of the AA has a slope of >5%, or is very close to the base of a natural slope longer than 100 and much steeper than the slope of the AA, AND the pH of surface water, if known, is >5.5.		0		
240	Neither of above is true, although some groundwater may discharge to or flow through the AA. Or groundwater influx is unknown.		1		
241	F51	Internal Gradient	The gradient along most of the flow path within the AA is:		This is not the same as the shoreline slope. It is the elevational difference between the AA's inlet and outlet, divided by the flow-distance between them and converted to percent. If available, use a clinometer to measure this. Free clinometer apps can be downloaded to smartphones. If the wetland is large (longer than ~1 km), this may be estimated using Google Earth to determine the minimum and maximum elevation within the AA, then dividing by length and multiplying by 100. [CS, NR, OE, PR, SR, WBF, WBN, WS]
242	<2% or the AA has no surface water outlet (not even seasonally).		0		
243	2-5%.		1		
244	6-10%.		0		
245	>10%.		0		
246	Note for the next three questions: If the AA lacks an upland edge, evaluate based on the AA's entire perimeter, and moving outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.				
247	F52	Vegetated Buffer as % of Perimeter	Within a zone extending 30 m laterally from the AA's edge with upland and/or other wetlands, the percentage that contains perennial vegetation cover (except lawns, row crops, heavily grazed land, conifer plantations) is:		[AM, FA, FR, INV, NRv, PH, POL, PRv, SBM, Sens, SRv, STR, WBN]
248	<5%.		0		
249	5 to 30%.		0		
250	30 to 60%.		1		
251	60 to 90%.		0		
252	>90%, or all the area within 30 m of the AA edge is other wetlands. SKIP to F55.		0		
253	F53	Type of Cover in Buffer	Within 30 m upslope of where the wetland transitions to upland, the upland land cover that is NOT perennial vegetation is mostly (mark ONE):		[AM, FA, INV, NRv, PH, POL, SBM, STR, WBN]
254	Impervious surface, e.g., paved road, parking lot, building, exposed rock.		0		
255	Bare or nearly bare pervious surface or managed vegetation, e.g., lawn, row crops, unpaved road, dike, landslide.		1		
256	F54	Buffer Slope	The steepest and/or most disturbed part of the upland area that is within 30 m of the wetland and occupies >10% of that upland area has a percent slope of:		[NRv, PRv, Sens, SRv]
257	<1% (flat -- almost no noticeable slope) or all the area within 30 m of the AA edge is other wetlands.		0		
258	2-5%.		1		
259	5-30%.		0		
260	>30%.		0		
261	F55	Cliffs or Steep Banks	In the AA or within 100 m, there are elevated terrestrial features such as cliffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 2 m nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	0	Do not include upturned trees as potential den sites. [POL, SBM]

	A	B	C	D	E
262	F56	New or Expanded Wetland	Human actions within or adjacent to the AA have persistently expanded a naturally occurring wetland or created a wetland where there previously was none (e.g., by excavation, impoundment):		Determine this using historical aerial photography, old maps, soil maps, or permit files as available [CS, NR, OE, PH, Sens]
263			No.	0	
264			Yes, and created or expanded 20 - 100 years ago.	1	
265			Yes, and created or expanded 3-20 years ago.	0	
266			Yes, and created or expanded within last 3 years.	0	
267			Yes, but time of origin or expansion unknown.	0	
268			Unknown if new or expanded within 20 years or not.	0	
269	F57	Burn History	More than 1% of the AA's previously vegetated area:		Look for charred soil or stumps (in multiple widely-spaced locations) or ask landowner. [CS, PH, STR]
270			Burned within past 5 years.	0	
271			Burned 6-10 years ago.	0	
272			Burned 11-30 years ago.	0	
273			Burned >30 years ago, or no evidence of a burn and no data.	1	
274	F58	Visibility	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 100 m of the AA (select one) is:		[PU, STR, WBFv]
275			<25%.	1	
276			25-50%.	0	
277			>50%.	0	
278	F59	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select ALL statements that are true of the AA as it currently exists:		[PU, STR]
279			For an average person, walking is physically possible <u>in</u> (not just near) >5% of the AA during most of the growing season, e.g., free of deep water and dense shrub thickets.	0	
280			Maintained roads, parking areas, or foot-trails are within 10 m of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	1	
281			Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0	
282	F60	Unvisited Core Area	The percentage of the AA almost never visited by humans during an average growing season probably comprises: <i>[Note: Only include the part actually walked or driven (not simply viewed from) with a vehicle or boat. Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 30 m of the wetland edge. In that case include only the area occupied by the trail.]</i>		[AM, FAv, FRv, PH, PU, SBM, STR, WBF, WBN]
283			<5% and no inhabited building is within 100 m of the AA.	0	
284			<5% and inhabited building is within 100 m of the AA.	0	
285			5-50% and no inhabited building is within 100 m of the AA.	0	
286			5-50% and inhabited building is within 100 m of the AA.	0	
287			50-95%, with or without inhabited building nearby.	0	
288			>95% of the AA with or without inhabited building nearby.	1	
289	F61	Frequently Visited Area	The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: <i>[See note above.]</i>		[AM, PH, PU, SBM, STR, WBF, WBN]
290			<5%. If F60 was answered ">95%" (mostly never visited), SKIP to F64.	0	
291			5-50%.	0	
292			50-95%.	0	
293			>95% of the AA.	1	
294	F62	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on soil within nearly all of the AA when the soil is unfrozen. Enter "1" if true.	0	[PH, PU]
295	F63	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorised boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	0	[AM, PU, WBF, WBN]

	A	B	C	D	E
296	F64	Consumptive Uses (Provisioning Services)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select ALL that apply.		[FAv, FRv, WBFv]
297			Low-impact commercial timber harvest (e.g., selective thinning).	0	
298			Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.	0	
299			Waterfowl hunting.	0	
300			Fishing.	0	
301			Trapping of furbearers.	0	
302			None of the above.	1	
303	F65	Domestic Wells	The closest wells or water bodies that currently provide drinking water are:		[NRv]
304			Within 0-100 m. of the AA.	0	
305			100-500 m. away.	0	
306			>500 m. away, or no information.	1	
307	F66	Calcareous Fen	The AA is, or is part of, a calcareous fen. See the Plants_Calcar worksheet in the accompanying SuppInfo file for list of plant indicators (calciphiles). Enter 1 if more than two Strong or more than five Moderate calciphile species are present; otherwise enter 0, but if not able to identify those and no information, change to blank .		[PH, PR]

Investigator: RK MM	Site Identifier: Goose Harbour Lake Wind Farm, Wetland 18	Date: 21 Sept 2022
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Stressor (S) Data Form for Non-Tidal Wetlands. WESP-AC for Nova Scotia version 2.				Data	
S1	Aberrant Timing of Water Inputs				
	<i>In the last column, place a check mark next to any item that is likely to have caused the timing of water inputs (but not necessarily their volume) to shift by hours, days, or weeks, becoming either more muted (smaller or less frequent peaks spread over longer times, more temporal homogeneity of flow or water levels) or more flashy (larger or more frequent spikes but over shorter times). [FA, FR, INV, PH, STR]</i>				
	Stormwater from impervious surfaces that drains directly to the wetland.				
	Water subsidies from wastewater effluent, septic system leakage, snow storage areas, or irrigation.				
	Regular removal of surface or groundwater for irrigation or other consumptive use.				
	Flow regulation in tributaries or water level regulation in adjoining water body, or other control structure at water entry points that regulates inflow to the wetland.				
	A dam, dike, levee, weir, berm, or fill -- within or downgradient from the wetland -- that interferes with surface or subsurface flow in/out of the AA (e.g., road fill, wellpads, pipelines).				
	Excavation within the wetland, e.g., dugout, artificial pond, dead-end ditch.				
	Artificial drains or ditches in or near the wetland.				
	Accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level).				
	Logging within the wetland.				
	Subsidence or compaction of the wetland's substrate as a result of machinery, livestock, fire, drainage, or off road vehicles.				
	Straightening, ditching, dredging, and/or lining of tributary channels.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items had no measurable effect on the timing of water conditions in any part of the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of timing shift within the wetland:	>95% of wetland.	5-95% of wetland.	<5% of wetland.	0
	When most of the timing shift began:	<3 yrs ago.	3-9 yrs ago.	10-100 yrs ago.	0
	<i>Score the following 2 rows only if the altered inputs began within past 10 years, and only for the part of the wetland that experiences those.</i>				
	Input timing now vs. previously:	Shift of weeks.	Shift of days.	Shift of hours or minutes.	0
	Flashiness or muting:	Became very flashy or controlled.	Intermediate.	Became mildly flashy or controlled.	0
			Sum=	0	
			Stressor subscore=	0.00	

S2	Accelerated Inputs of Contaminants and/or Salts				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of contaminants or salts to the AA. [AM, FA, PH, POL, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills, industrial facilities.				
	Metals & chemical wastes from mining, shooting ranges, snow storage areas, oil/ gas extraction, other sources (download many locations from National Pollutant Release Inventory and view KMZ overlay in Google Earth. https://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=B85A1846-1)				
	Road salt.				
	Spraying of pesticides, as applied to lawns, croplands, roadsides, or other areas in the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly higher levels of contaminants and/or salts, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Usual toxicity of most toxic contaminants:	Industrial effluent, mining waste, unmanaged landfill.	Cropland, managed landfill, pipeline or transmission rights-of-way.	Low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	
S3	Accelerated Inputs of Nutrients				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of nutrients to the wetland. [NRv, PRv, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills.				
	Fertilizers applied to lawns, ag lands, or other areas in the CA.				
	Livestock, dogs.				
	Artificial drainage of upslope lands.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly more nutrients, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Type of loading:	High density of unmaintained septic, some types of industrial sources.	Moderate density septic, cropland, secondary wastewater treatment plant.	Livestock, pets, low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	

S4	Excessive Sediment Loading from Contributing Area				
	<i>In the last column, place a check mark next to any item present in the CA that is likely to have elevated the load of waterborne or windborne sediment reaching the wetland from its CA. [FA, FR, INV, PH, SRv, STR]</i>				
	Erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fires.				
	Erosion from construction, in-channel machinery in the CA.				
	Erosion from off-road vehicles in the CA.				
	Erosion from livestock or foot traffic in the CA.				
	Stormwater or wastewater effluent.				
	Sediment from road sanding, gravel mining, other mining, oil/ gas extraction.				
	Accelerated channel downcutting or headcutting of tributaries due to altered land use.				
	Other human-related disturbances within the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not cumulatively add significantly more sediment or suspended solids to the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Erosion in CA:	Extensive evidence, high intensity.*	Potentially (based on high-intensity* land use) or scattered evidence.	Potentially (based on low-intensity* land use) with little or no direct evidence.	0
	Recentness of significant soil disturbance in the CA:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration of sediment inputs to the wetland:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0	
AA proximity to actual or potential sources:	0 - 15 m.	15-100 m.	In more distant part of contributing area.	0	
* high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erosion with or without veg removal; low-intensity= veg removal only with little or no apparent erosion or disturbance of soil or sediment.				Sum= 0	
				Stressor subscore= 0.00	

S5	Soil or Sediment Alteration Within the Assessment Area				
	<i>In the last column, place a check mark next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil. Consider only items occurring within past 100 years or since wetland was created or restored (whichever is less). [CS, INV, NR, PH, SR, STR]</i>				
	Compaction from machinery, off-road vehicles, livestock, or mountain bikes, especially during wetter periods.				
	Leveling or other grading not to the natural contour.				
	Tillage, plowing (but excluding disking for enhancement of native plants).				
	Fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland.				
	Excavation.				
	Ditch cleaning or dredging in or adjacent to the wetland.				
	Boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments.				
	Artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of altered soil:	>95% of wetland or >95% of its upland edge (if any).	5-95% of wetland or 5-95% of its upland edge (if any).	<5% of wetland and <5% of its upland edge (if any).	0
	Recentness of significant soil alteration in wetland:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration:	Long-lasting, minimal veg recovery.	Long-lasting but mostly revegetated.	Short-term, revegetated, not intense.	0	
Timing of soil alteration:	Frequent and year-round.	Frequent but mostly seasonal.	Mainly during one-time or scattered events.	0	
				Sum= 0	
				Stressor subscore= 0.00	

Assessment Area (AA) Results:

Wetland ID: Goose Harbour Lake Wind Farm, Wetland 18

Date: Sept 21, 2022

Observer: Rohan Kariyawansa & Madeline Maher

Latitude & Longitude (decimal degrees): 45.59163056 & 61.48552500

Scores will appear below after data are entered in worksheets OF, F, and S.
See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	7.88	Higher	4.57	Moderate	7.82	2.03
Stream Flow Support (SFS)	0.00	Lower	0.00	Lower	0.00	0.00
Water Cooling (WC)	5.17	Moderate	0.00	Lower	3.44	0.00
Sediment Retention & Stabilisation (SR)	10.00	Higher	1.69	Moderate	10.00	0.83
Phosphorus Retention (PR)	10.00	Higher	1.61	Moderate	10.00	1.25
Nitrate Removal & Retention (NR)	10.00	Higher	5.00	Moderate	10.00	5.00
Carbon Sequestration (CS)	4.17	Moderate			7.17	
Organic Nutrient Export (OE)	6.88	Moderate			4.49	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	6.78	Higher	4.32	Moderate	6.26	3.57
Amphibian & Turtle Habitat (AM)	5.95	Moderate	4.51	Moderate	6.24	5.48
Waterbird Feeding Habitat (WBF)	5.52	Moderate	5.00	Moderate	4.21	5.00
Waterbird Nesting Habitat (WBN)	5.19	Moderate	5.00	Higher	3.76	5.00
Songbird, Raptor, & Mammal Habitat (SBM)	8.31	Higher	5.00	Moderate	7.24	5.00
Pollinator Habitat (POL)	7.49	Moderate	3.33	Moderate	6.21	3.33
Native Plant Habitat (PH)	2.47	Lower	5.59	Moderate	4.89	5.59
Public Use & Recognition (PU)			2.19	Moderate		1.80
Wetland Sensitivity (Sens)			9.89	Higher		4.99
Wetland Ecological Condition (EC)			8.26	Higher		9.17
Wetland Stressors (STR) (higher score means more stress)			7.40	Higher		3.74
Summary Ratings for Grouped Functions:						
HYDROLOGIC Group (WS)	7.88	Higher	4.57	Moderate	7.82	2.03
WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS)	9.27	Higher	3.88	Moderate	9.65	3.68
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC)	5.79	Higher	2.88	Lower	4.91	2.38
AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN)	4.64	Moderate	3.95	Moderate	4.54	4.29
TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL)	7.20	Higher	5.12	Lower	6.67	5.12
WETLAND CONDITION (EC)			8.26	Higher		9.17
WETLAND RISK (average of Sensitivity & Stressors)			8.65	Higher		4.36

NOTE: A score of 0 does not mean the function or benefit is absent from the wetland. It means only that this wetland has a capacity that is equal or less than the lowest-scoring one, for that function or benefit, from among all the NS calibration wetlands that were assessed previously.

NOVA SCOTIA - Functional WSS Interpretation Tool

Function-Benefit Product (FBP)	FBP SCORE	FBP SCORE CATEGORY
SUPPORT SUPERGROUP - HYDROLOGIC	35.99432943	Moderate
SUPPORT SUPERGROUP - WATER QUALITY SUPPORT	35.993165	Low
SUPPORT SUPERGROUP - AQUATIC SUPPORT	16.69794738	Low
HABITAT SUPERGROUP - AQUATIC HABITAT	18.33031723	Low
HABITAT SUPERGROUP - TRANSITION HABITAT	36.84540865	Low

3a. Functional WSS Determination: Automatic Method

Habitat Rule Satisfied? NO
 Support Rule Satisfied? NO
 Habitat/Support Hybrid Rule Satisfied? NO

CONCLUSION: **Site is not a WSS**

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	Goose Harbour Lake Wind Farm, Wetland 22
Investigator Name:	Rohan Kariyawansa Madeline Maher
Date of Field Assessment:	2022-09-21
Nearest Town:	Antigonish
Latitude (decimal degrees):	45.59845556
Longitude (decimal degrees):	61.51644722
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	2.49
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	100%
What percent (approx.) of the wetland were you able to visit?	100%
What percent (approx.) of the AA were you able to visit?	100%
Were you able to ask the site owner/manager about any of the questions?	No
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	No
How many wetlands have you assessed previously using WESP-AC? (approx.)	2 Dozen
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

	A	B	C	D	E
1	Date: 20 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 18	Investigator: RK MM	
2	<p>Form OF (Office). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia wetlands only. DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answering many of the questions below will require using these online map viewers: Google Earth Pro: https://www.google.com/earth/download/gep/agree.html Provincial Landscape Viewer: https://nsgi.novascotia.ca/plv/</p> <p>For most wetlands, completing this office data form will require 1-2 hours. For a list of functions to which each question pertains, see bracketed abbreviations in the Definitions/Explanations column. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.</p>				
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	OF1	Province	Mark the province in which the AA is located by changing the 0 in the column next to it to a "1". Mark only one.		This determines to which province's calibration wetlands the raw score of any wetland is normalised. In the function and benefits models, it also triggers the automatic exclusion of indicators for which no spatial data exists in a particular province.
5			New Brunswick	0	
6			Nova Scotia	1	
7			Prince Edward Island	0	
8			Newfoundland-Labrador	0	
9	OF2	Ponded Area Within 1 km.	The area of surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		"Adjacent" means not separated from the AA by a wide expanse (>50 m) of upland (including roads >50 m wide). Include ponded areas likely to be hidden by wetland vegetation. If surface water extends beyond 1 km, include only the part within 1 km. Do not include tidal areas. Measure the area from aerial imagery using Google Earth Pro (click on Ruler icon in toolbar, then Polygon in pop-up menu). [PH, SBM, WBN]
10			<0.01 hectare (about 10 m x 10 m).	1	
11			0.01 - 0.1 hectare.	0	
12			0.1 - 1 hectare.	0	
13			1 to 10 hectares.	0	
14			10 to 100 hectares.	0	
15		>100 hectares.	0		
16	OF3	Ponded Water & Wetland Within 1 km.	The area of wetlands and surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		See definition of adjacent in OF2. If the AA's wetland vegetation extends beyond 1 km, include only the part within 1 km. "Ponded" means not flowing in rivers or streams. [Sens, WBF]
17			<0.01 hectare (about 10 m x 10 m).	0	
18			0.01 - 0.1 hectare.	0	
19			0.1 - 1 hectare.	1	
20			1 to 10 hectares.	0	
21			10 to 100 hectares.	0	
22		>100 hectares.	0		
23	OF4	Size of Largest Nearby Vegetated Tract or Corridor	The largest vegetated patch or corridor that includes the AA's vegetation plus all adjacent upland vegetation that is not lawn, row crops, heavily grazed lands, conifer plantation is:		See definition of adjacent in OF2. Use Google Earth Pro's polygon ruler (as described above). Exclude conifer plantations only if it is obvious that trees were planted in rows. [AM, PH, SBM, Sens]
24			<0.01 hectare (about 10 m x 10 m).	0	
25			0.01 - 0.1 hectare.	0	
26			0.1 - 1 hectare.	0	
27			1 to 10 hectares.	0	
28			10 to 100 hectares.	1	
29		100 to 1000 hectares.	0		
30		>1000 hectares. [This is nearly always the answer in relatively undeveloped landscapes.]	0		

	A	B	C	D	E
31	OF5	Distance to Large Vegetated Tract	The minimum distance from the edge of the AA to the edge of the closest vegetated land (but excluding row crops, lawn, conifer plantation) larger than 375 hectares (about 2 km on a side), is:		To measure distance, use Google Earth Pro (Ruler > Line tool). The 375-ha criterion is from the Fundy Model Forest Project. [AM, PH, POL, SBM, Sens]
32			<50 m, and not separated from the 375-ha vegetated area by any width of paved roads, stretches of open water, row crops, bare ground, lawn, or impervious surface. Or the AA itself contains >375 ha of vegetation. [This is often the answer in relatively undeveloped landscapes.]	0	
33			<50 m, but completely separated from the 375-ha vegetated area by those features, and AA does not contain >375 ha of vegetation.	0	
34			50-500 m, and not separated.	0	
35			50-500 m, but separated by those features.	0	
36			0.5 - 5 km, and not separated.	0	
37			0.5 - 5 km, but separated by those features.	1	
38			None of the above (the closest patches or corridors which are that large are >5 km away).	0	
39	OF6	Herbaceous Uniqueness	The AA's vegetation cover is >10% herbaceous* but uplands within 5 km have <10% herbaceous cover. If so, enter "3" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 1 km have <10% herbaceous cover. If so enter "2" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 100 m of the wetland edge have <10% herbaceous cover. If so, enter "1". [* NOTE: Exclude lawns, row crops, heavily grazed lands, forest, shrublands. Include moss as well as grasslike plants in this use of "herbaceous vegetation"]	1	
40	OF7	Woody Uniqueness	The AA's vegetation cover is >10% woody* but uplands within 5 km have <10% woody cover. If so, enter "3" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 1 km have <10% woody cover. If so enter "2" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 100 m of the wetland edge have <10% woody cover. If so, enter "1" [* NOTE: woody cover = trees & shrubs taller than 1 m.]	1	See above. Do not consider conifer plantations to be forest if it is obvious that trees were planted in rows. [AMv, PHv, POLv, SBMv]
41	OF8	Local Vegetated Cover Percentage	Draw a 5-km radius circle measured from the center of the AA. Ignoring all permanent water in the circle, the percent of the remaining area that is wooded or unmanaged herbaceous vegetation (NOT lawn, row crops, bare or heavily grazed land, clearcuts, or conifer plantations) is:		In Google Earth, draw the 5 km buffer and then estimate land cover percentages, or do GIS analysis of an appropriate land cover layer. [AM, PH, POL, SBM, Sens]
42			<5% of the land.	0	
43			5 to 20% of the land.	0	
44			20 to 60% of the land.	1	
45			60 to 90% of the land.	0	
46			>90% of the land. SKIP to OF10.	0	
47	OF9	Type of Land Cover Alteration	Within the 5-km radius circle, and ignoring all permanent water, the land area that is bare or non-perennial cover is mostly:		[AM, SBM]
48			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
49			Bare pervious surface, e.g., lawn, recent (<5 yrs ago) clearcut, dirt or gravel road, cropland, landslide, conifer plantation.	1	
50	OF10	Distance by Road to Nearest Population Center	Measured along the maintained road nearest the AA, the distance to the nearest population center is:		"Population center" means a settled area with more than about 5 regularly- inhabited structures per square kilometer. In Google Earth Pro, click on the Ruler icon, then Path, and draw and measure the route. [FAv, FRv, NRv, PH, PU, SBM, WBFv]
51			<100 m.	0	
52			100 - 500 m.	0	
53			0.5- 1 km.	0	
54			1 - 5 km.	0	
55			>5 km.	1	

	A	B	C	D	E
56	OF11	Distance to Nearest Maintained Road	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:		Determine this by viewing aerial imagery in Google Earth Pro and measuring with the Ruler-Line tool [AM, FAv, FRv, NRv, PH, PU, SBM, STR, WBN]
57			<10 m.	1	
58			10 - 25 m.	0	
59			25 - 50 m.	0	
60			50 - 100 m.	0	
61			100 - 500 m.	0	
62		>500 m.	0		
63	OF12	Wildlife Access	Draw a circle of radius of 5 km from the center of the AA. If mammals and amphibians can move from the center of the AA to ALL other separate wetlands and ponds located within the circle without being forced to cross pavement (any width), lawns, bare ground, and/or marine waters, mark 1= yes can move to all, 0= no. Change to blank if there are no other wetlands within 5 km.	0	Draw the 5 km circle in Google Earth Pro using the Circle tool and search for roads and wetlands within it, being alert for roads hidden under forest canopy. [AM, SBM, STR]
64	OF13	Distance to Poned Water	The distance from the AA center to the closest (but separate) ponded water body visible in GoogleEarth imagery is:		In Google Earth Pro, zoom in closely to examine the surrounding landscape for ponds, lakes, and wetlands that appear to be permanently flooded. [AM, PH, SBM, Sens, WBF, WBN]
65			<50 m, and not separated by any width of paved roads, stretches of open water, row crops, lawn, bare ground, or impervious surface.	0	
66			<50 m, but completely separated by those features.	0	
67			50-500 m, and not separated.	0	
68			50-500 m, but separated by those features.	0	
69			0.5 - 1 km, and not separated.	1	
70		0.5 - 1 km, but separated by those features.	0		
71		None of the above (the closest patches or corridors that large are >1 km away).	0		
72	OF14	Distance to Large Poned Water	The distance from the AA center to the closest (but separate) non-tidal body of water that is ponded during most of the year and is larger than 8 hectares during most of a normal year is:		Determine this by viewing aerial imagery in Google Earth. [Sens, WBF, WBN]
73			<100 m.	0	
74			100 m - 1 km.	1	
75			1 - 2 km.	0	
76			2-5 km.	0	
77			5-10 km.	0	
78		>10 km.	0		
79	OF15	Tidal Proximity	The distance from the AA edge to the closest tidal water body (regardless of its salinity) is:		In Google Earth, measure the distance to the ocean (including Bay of Fundy) or tidal river, whichever is closer. If you need to see how far upriver a river is tidal, see the KMZ file provided with this calculator for NS (NS Hightide). Points shown in those files are only an approximation, so local information if available may be preferable. [FA, WBF]
80			<100 m.	0	
81			100 m - 1 km.	0	
82			1 - 5 km.	0	
83			5-10 km.	1	
84			10-40 km.	0	
85		>40 km.	0		
86	OF16	Upland Edge Contact	Select one:		[NR, SBM, Sens]
87			The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by (& contiguous with) other wetlands or water.	0	
88			1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
89			25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
90			50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91		More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA. This will be true for most assessments done with WESP-AC.	1		

	A	B	C	D	E
92	OF17	Flood Damage from Non-tidal Waters	Within 5 km downstream or downslope of the AA (select first true choice):		Contact local authorities to determine if such maps exist. Where available, LiDAR imagery can provide finer elevational resolution useful for flood modeling. [WSv]
93	Maps show Flood Zone or Flood Risk areas and there appears to be infrastructure vulnerable to river flooding not caused by tidal storm surges.		0		
94	Maps show Flood Zone or Flood Risk areas, but infrastructure is absent or is not vulnerable to floods from a non-tidal river. In some cases levees, upriver dams, or other measures may partly limit damage or risk from smaller events.		0		
95	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there appears to be infrastructure vulnerable to river flooding unrelated to tidal storm surges.		0		
96	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there is no infrastructure vulnerable to river flooding unrelated to tidal storm surges.		1		
97	OF18	Relative Elevation in Watershed	In Google Earth, enable the Terrain layer (lower left menu) and open the NS_Watersheds Secondary KMZ file that accompanies this calculator. Then determine the AA's approximate elevation (bottom right, NOT the "eye alt"). Then move cursor around to determine the watershed's maximum and minimum elevation. Divide the AA's elevation by the (max-min).	0.81	[FA, NR, Sens, SFSv, WCv, WSv]
98	OF19	Water Quality Sensitive Watershed or Area	The AA is in a Protected Water Supply area (Designated Water Supply Area, Natural Watershed Municipal Surface Water Supply Area, or Municipal Water Supply Area) according to the provided KMZ overlay ("NS Protected Water Supply Areas"). Enter 1= yes, 0= no.	0	If an ACCDC report is available for this AA, it also may contain such information. [NRv]
99	OF20	Degraded Water Upstream	Sampling indicates a problem with concentrations of metals, hydrocarbons, nutrients, or other substances (excluding bacteria, acidic water, high temperatures) being present at levels harmful to aquatic life or humans, and:		May use existing data, or sample those waters as part of this wetland assessment. "Harmful" should be evaluated with regard to current federal or provincial water quality standards. [AM, FA, FR, NRv, PRv, SRv, STR, WBF, WBN]
100			The condition is present within the AA.	0	
101			The condition is present in waters within 1 km that flow into the AA, but has not been documented in the AA itself.	0	
102			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
103			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
104	OF21	Degraded Water Downstream	The problem described above is downslope from the AA, and:		May use existing data, or monitor waters as part of this wetland assessment. [NRv, PRv, SRv]
105			The condition is present within 1 km downslope and connected to the AA by a channel.	0	
106			The condition is present within 5 km downslope and connected to the AA by a channel, or within 1 km but not connected to the AA by a channel.	0	
107			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
108			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
109	OF22	Wetland as a % of Its Contributing Area (Catchment)	From a topographic map and field observations, estimate the approximate boundaries of the catchment (CA) of the entire wetland of which the AA may be only a part. Then adjust those boundaries if necessary based on your field observations of the surrounding terrain, and/or by using procedures described in the Manual. Divide the area of the wetland (not just the AA) by the approximate area of its catchment excluding the area of the wetland itself. When doing the calculation, if ponded water is adjacent to the wetland, include that in the wetland area. The result is:		Topographic maps may be viewed online at the National Atlas of Canada (Toporama): http://atlas.gc.ca/toporama/en/index.html [NR, PR, Sens, SR, WS]
110			<0.01, or catchment size unknown due to stormwater pipes that collect water from an indeterminate area.	0	
111			0.01 to 0.1.	1	
112			0.1 to 1.	0	
113			>1 (wetland is larger than its catchment (e.g., wetland with flat surrounding terrain and no inlet, or is entirely isolated by dikes, or is a raised bog).	0	
114	OF23	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 m upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, landslides, and other mostly-bare surface is about :		[FA, INV, NRv, PRv, SRv, STR, WCv, WSv]
115			<10%.	1	
116			10 to 25%.	0	
117			>25%.	0	

	A	B	C	D	E
118	OF24	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following: (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow (bedrock near surface) and/or have high runoff coefficients. This statement is:		[NRv, PRv, SRv, WSv]
119			Mostly true.	0	
120			Somewhat true.	0	
121			Mostly untrue.	1	
122	OF25	Aspect	The overland flow direction of most surface water (in streams, rivers, or runoff) that enters the AA is:		[AM, NR, SFS, WC, WS]
123			Northward (N, NE). north-facing contributing area.	0	
124			Southward (S, SW). south-facing contributing area.	0	
125			Other (E, SE, W, NW), or no detectable uphill slope or input channel (flat).	1	
126	OF26	Internal Flow Distance (Path Length)	The horizontal flow distance from the wetland's inlet to outlet is:		Identify inlets and outlets, if any, from topographic maps (use elevations to determine which are inlets and which are outlets) and augment by field inspection. With the Provincial Landscape Viewer, select Nova Scotia Topo as the Basemap. Also enable the layer Forestry-WAM Predicted Flow. Then measure the inlet-outlet distance. [NR, OE, PR, SR, WS]
127			<10 m.	0	
128			10 - 50 m.	0	
129			50 - 100 m.	0	
130			100 - 1000 m.	0	
131			1- 2 km.	0	
132			>2 km, or wetland lacks an inlet and outlet.	1	
133	OF27	Growing Degree Days	In Google Earth, open the KMZ file that accompanies this calculator, called NS_GrowingDegreeDays. Place your cursor over the AA and left-click. From the pop-up window, enter the GRIDCODE number in the next column.	2030	This layer was provided by Dr. Dan McKenney of the Canadian Forest Service [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WCv, WS]
134	OF28	Fish Access or Use	According to agency biologists and/or your own observations, the AA. <i>[Mark just the first choice that is true.]</i>		Regarding the last choice, if uncertain if an AA is fishless, consider the possibility its waters have been stocked. [AM, FA, FR, INV, WBF, WBN]
135			Is known to support rearing and/or spawning by Atlantic salmon or other anadromous species or eels. Go to Provincial Landscape Viewer>Wildlife>Significant Habitat>Species at Risk. Contact local fishery biologists, review the ACCDC report, and visit these websites: http://www.salmonatlas.com/atlanticsalmon/canada-east/index.1.html http://atlanticsalmonfederation.org/rivers/introduction.html	0	
136			Has not been documented to support Atlantic salmon rearing and/or spawning, but is connected to nearby waters likely to contain Atlantic salmon or other anadromous species or eels and is probably accessed by those during some conditions.	0	
137			Is probably is not accessed by any anadromous fish species but is known or likely to have other fish at least seasonally.	0	
138			Is known or likely to be fishless (e.g., too small, dry, and/or not accessible even temporarily, and not stocked).	1	
139	OF29	Species of Conservation Concern	Within the past 10 years, in the AA (or in its adjoining waters or wetland), qualified observers have documented <i>[mark all applicable]</i> :		Request information from ACCDC and/or conduct your own survey at an appropriate season using an approved protocol. For birds, also check eBird.org. NOTE for NS: If your WESP-AC is being completed for a Wetland Alteration Application to NS-ECC, your ACCDC results and any taxon-specific survey results must be submitted along with your WESP-AC results, and application. [AMv, EC, PHv, POLv, SBMv, Sens, WBFv, WBNv]
140			Presence of one or more of the plant species listed in the Plants_Rare worksheet of the accompanying SupplInfo file, or the AA is within a mapped Atlantic Coastal Plain Flora Buffer (go to Provincial Landscape Viewer> Wildlife> Special Management Practice Zones).	0	
141			Presence of one or more of the amphibian or reptile species (AM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
142			Presence of one or more of the waterbird species (WBF, WBN) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
143			Presence of one or more of the nesting songbird or raptor species (SBM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file, during their nesting season (May-July for most species).	0	
144			None of the above, or no data.	1	
145	OF30	Important Bird Area (IBA)	In Google Earth, open the KMZ file that accompanies this calculator, called IBAs_Canada . The AA is all or part of an officially designated IBA. Enter 1= yes, 0= no.	0	The source of this layer, which should be checked periodically for updates, is: http://www.ibacanada.com/mapviewer.jsp?lang=EN [SBMv, WBFv, WBNv]

	A	B	C	D	E
146	OF31	Black Duck Nesting Area	In Google Earth, open the KMZ file that accompanies this calculator, called BlackDuck. Adjust its alignment and opacity. Determine the predicted density (pairs per 25 sq. km) of nesting American Black Duck in the AA's vicinity: <10 (enter 0), 10-20 (enter 1), 20-30 (enter 2), >30 (enter 3). If outside of region shown in map, change to blank .	0	This was provided by Dr. David Leske. [WBNv]
147	OF32	Wintering Deer or Moose Concentration Areas	If AA is on private land with no information, change to blank (not 0). Otherwise: With the Provincial Landscape Viewer, for Wintering Moose, go to Wildlife> Significant Habitat. For Mainland Moose Concentration Areas, go to Wildlife> Special Management Practice Zones. Enter: yes= 1, no= 0.	0	[SBM]
148	OF33	Other Conservation Designation	The AA is all or part of an area designated by government, First Nations, or the Nature Conservancy of Canada (NCC) for its exceptional ecological features or highly intact natural conditions. With Provincial Landscape Viewer, see Protected Areas. Enter: yes= 1, no= 0. If uncertain, consult NCC and agencies for more recent information.	0	See: https://novascotia.ca/parksandprotectedareas/plan/interactive-map/ [PU]
149	OF34	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, or enhance the wetland (excluding mitigation wetlands). Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank (not 0).	0	[PU]
150	OF35	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
151	OF36	Sustained Scientific Use	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
152	OF37	Calcareous Region	The AA is NOT in a subregion that has been heavily exposed to acid precipitation. Enter "1" if true (green or yellow in map in Appendix A of the Manual). Enter "0" if false. If no information, change to blank .		[AM, FA, FR, INV, PH]
153	OF38	Ownership	Select the ONE ownership that covers the most of the AA. In Google Earth, open KMZ file called NS_CrownlandsUse more recent information if available.		"Private lands" may include those owned or leased by non-governmental organizations, e.g., charitable conservation land trusts, DUC, TNC. [PU, STR]
154			New timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles) are permanently prohibited. Includes many publicly-owned Protected Lands, and private lands under long-term (30+ year) legal agreements to maintain nearly-unaltered conditions.	0	
155			Ownership is public (e.g., municipal, Crown Reservations/Notations) but some or all of the above activities are allowed.	1	
156			Ownership is private but public access is allowed, and/or a shorter-term conservation easement (whether renewable or not) is in place.	0	
157			Ownership is private and owner does not allow access, or access permission unknown, and not a conservation easement.	0	

	A	B	C	D	E
1	Date: 21 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 18	Investigator: RK MM	
Form F (Field). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia. DIRECTIONS: Walk for no less than 10 minutes from the wetland edge towards its core, in the part of the AA that is proposed for alteration. If no alteration is proposed, walk in a portion that appears to be most representative of the wetland overall. Walk only where it is safe and legal to do so. Conduct the assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgeable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form will require 1-2 hours on a site. For a list of functions to which each question pertains, see the accompanying Interpretations form. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage & Delay, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.					
2					
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	F1	Wetland Type	Follow the key below and mark the ONE row that best describes MOST of the vegetated part of the AA:		Ericaceous shrubs are ones in the heather family (Ericaceae). Most have leathery evergreen leaves. They include rhododendron, azalea, swamp laurel, leatherleaf, Labrador tea, and others. Most require acidic soil. Although not in the family Ericaceae, sweetgale (<i>Myrica gale</i>) should be counted also. [AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
5			A. Moss and/or lichen cover more than 25% of the ground. Often dominated by ericaceous shrubs (e.g., Labrador tea) or other acid-tolerant plants (e.g., bog cranberry, pitcher plant, sundew, orchids). Substrate is mostly undecomposed peat. Choose between A1 and A2 and mark the choice with a 1 in their adjoining column. Otherwise go to B below.		
6			A1. Surface water is usually absent or, if present, pH is typically <4.5 and conductivity is usually <100 µS/cm (<64 ppm TDS). Trees are absent or nearly so. Sedge cover usually sparse or absent but cottongrass and/or lichen cover may be extensive, as well as cloudberry, lingonberry, sheep laurel, and a sedge (<i>Carex rariflora</i>). Wetland surface and surrounding landscape are seldom sloping and wetland often is domed (convex). Inlet and outlet channels are usually absent. If known, pH of peat is <4.0.	0	
7			A2. Not A1. Surface water, if present, has pH typically >4.5 and conductivity is usually >100 µS/cm (>64 ppm TDS). Sedge cover is usually extensive, and/or tree and tall shrub cover is extensive. Sometimes at toe of slope or edge of water body. An exit channel is usually present. Wetter than A1 and peat depth may be shallower (<2 m).	1	
8			B. Moss and/or lichen cover less than 25% of the ground. Soil is mineral or decomposed organic (muck). Choose between B1 and B2 and mark the choice with a 1 in their adjoining column:		
9			B1. Trees and shrubs taller than 1 m comprise more than 25% of the vegetated cover. Surface water is mostly absent or inundates the vegetation only seasonally (e.g., vernal pools or floodplain).	0	
10			B2. Not B1. Tree & tall shrubs comprise less than 25% of the vegetated cover. Vegetation is mostly herbaceous, e.g., cattail, bulrush, burreed, pond lily, horsetail. Surface water may be extensive and fluctuates seasonally, being either persistent or drying up partly or entirely.	0	
11	Reminder : For all questions, the AA should include all persistent waters in ponds smaller than 8 hectares (~283 m on a side) that are adjacent to the AA. The AA should also include part of the water area of adjacent ponded water larger than 8 ha and adjacent rivers wider than 20 m. Specifically, the AA should include the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone. Throughout this data form, "adjacent" is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.				
12	F2	Wetland Types - Adjoining or Subordinate	If the AA is smaller than 1 ha, mark all other types that occupy more than 1% of the vegetated AA. If the AA is larger than 1 ha, mark all other types which are within or adjacent to the AA and occupy more than 1 ha, as visible from the AA or as interpreted from aerial imagery. Do not mark again the type marked in F1.		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, INV, SBM, WBF]
13			A1.	0	
14			A2.	0	
15			B1.	0	
16			B2.	0	

	A	B	C	D	E
17	F3	Woody Height & Form Diversity	Following EACH row below, indicate with a number code the percentage of the living vegetation in the AA which is occupied by that feature (6 if >95%, 5 if 75-95%, 4 if 50-75%, 3 if 25-50%, 2 if 5-25%, 1 if <5%, 0 if none). If the vegetated part of the AA is largely herbaceous (non-woody) vegetation, these percentages should not sum to 100%.		Deciduous shrubs in this region usually include buttonbush, Labrador tea, bayberry (<i>Morella</i>), huckleberry, cranberry, cloudberry, sweetgale, alder, willow, birch, ash, dogwood, and a few others. If you assigned a code of 3 or higher to any of the first four choices and the ground cover beneath the trees/shrubs is <25% moss, then question F1 might be "B1". [CS, INV, NR, PH, POL, SBM, Sens]
18			coniferous trees (may include tamarack) taller than 3 m.	3	
19			deciduous trees taller than 3 m.	3	
20			coniferous or ericaceous shrubs or trees 1-3 m tall not directly below the canopy of trees.	2	
21			deciduous shrubs or trees 1-3 m tall not directly below the canopy of trees.	3	
22			coniferous or ericaceous shrubs <1 m tall not directly below the canopy of taller vegetation.	2	
23			deciduous shrubs or trees <1 m tall (e.g., deciduous seedlings) not directly below the canopy of taller vegetation.	2	
24	<i>Note: If none of top 4 rows in F3 was marked 2 or greater, SKIP to F9 (N fixers).</i>				
25	F4	Dominance of Most Abundant Shrub Species	Determine which two woody plant species comprise the greatest portion of the low (<3 m) woody cover. Then choose one:		[PH, POL, SBM, Sens]
26			those species together comprise > 50% of such cover.	1	
27			those species together do not comprise > 50% of such cover.	0	
28	F5	Woody Diameter Classes	Mark ALL the types that comprise >5% of the woody canopy cover in the AA or >5% of the wooded areas (if any) along its upland edge (perimeter). The edge should include only the trees whose canopies extend into the AA.		Estimate the diameters at chest height. If small-diameter trees are overtopped (shaded) by larger ones, visualise a "subcanopy" at the average height of the smaller-dbh trees, to serve as a basis for the minimum 5% canopy requirement in this question. The trees and shrubs need not be wetland species. [AM, CS, POL, SBM, Sens, WBN]
29			coniferous, 1-9 cm diameter and >1 m tall.	1	
30			broad-leaved deciduous 1-9 cm diameter and >1 m tall.	1	
31			coniferous, 10-19 cm diameter.	1	
32			broad-leaved deciduous 10-19 cm diameter.	1	
33			coniferous, 20-40 cm diameter.	1	
34			broad-leaved deciduous 20-40 cm diameter.	0	
35			coniferous, >40 cm diameter.	0	
36			broad-leaved deciduous >40 cm diameter.	0	
37	F6	Height Class Interspersion	Follow the key below and mark the ONE row that best describes MOST of the AA:		[AM, INV, NR, PH, SBM, Sens]
38			A. Neither the vegetation taller than 1 m nor the vegetation shorter than that comprise >70% of the vegetated part of the AA. They <u>each</u> comprise 30-70%. Choose between A1 and A2 and mark the choice with a 1 in the adjoining column. Otherwise go to B below.		
39			A1. The two height classes are mostly scattered and intermixed throughout the AA.	0	
40			A2. Not A1. The two height classes are mostly in separate zones or bands, or in proportionately large clumps.	0	
41			B. Either the vegetation shorter than 1 m comprises >70% of the vegetated part of the AA, or the vegetation taller than that does. One size class might even be totally absent. Choose between B1 and B2 and mark the choice with a 1 in the adjoining column:		
42			B1. The less prevalent height class is mostly scattered and intermixed within the prevalent one.	1	
43			B2. Not B1. The less prevalent height class is mostly located apart from the prevalent one, in separate zones or clumps, or is completely absent.	0	
44	F7	Large Snags (Dead Standing Trees)	The number of large snags (diameter >20 cm) in the AA plus adjacent upland area within 10 m of the wetland edge is:		Snags are dead standing trees that often (not always) lack bark and foliage. Include only ones that are at least 2 m tall. [POL, SBM, WBN]
45			None, or fewer than 8/ hectare which exceed this diameter.	1	
46			Several (>8/hectare) and a pond, lake, or slow-flowing water wider than 10 m is within 1 km.	0	
47			Several (>8/hectare) but above not true.	0	
48	F8	Downed Wood	The number of downed wood pieces longer than 2 m and with diameter >10 cm, and not persistently submerged, is:		Exclude temporary "burn piles." [AM, INV, POL, SBM]
49			Few or none that meet these criteria.	1	
50			Several (>5 if AA is >5 hectares, less for smaller AAs) meet these criteria.	0	
51	F9	N Fixers	The percentage of the AA's vegetated cover that contains nitrogen-fixing plants (e.g., alder, sweetgale, clover, lupine, alfalfa, other legumes) is:		Do not include N-fixing algae or lichens. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
52			<1% or none.	0	
53			1-25% of the vegetated cover, in the AA or along its water edge (whichever has more).	1	
54			25-50% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
55			50-75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
56			>75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	

	A	B	C	D	E
57	F10	Sphagnum Moss Extent	The cover of Sphagnum moss (or any moss that forms a dense cushion many centimeters thick), including the moss obscured by taller sedges and other plants rooted in it, is:		Exclude moss growing on trees and rocks. [CS, PH]
58			<5% of the vegetated part of the AA.	0	
59			5-25% of the vegetated part of the AA.	0	
60			25-50% of the vegetated part of the AA.	0	
61			50-95% of the vegetated part of the AA.	1	
62			>95% of the vegetated part of the AA.	0	
63	F11	% Bare Ground & Thatch	Consider the parts of the AA that lack surface water at the driest time of the growing season. Viewed from directly above the ground layer, the predominant condition in those areas at that time is:		Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is present under a tree or shrub canopy should be counted. Boulders count as bare ground. Wetlands with mineral soils and that are heavily shaded or are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens]
64			Little or no (<5%) <i>bare ground</i> is visible between erect stems or under canopy anywhere in the vegetated AA. Ground is extensively blanketed by dense thatch, moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	1	
65			Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0	
66			Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the AA.	0	
67			Other conditions.	0	
68			Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0	
69	F12	Ground Irregularity	Imagine the AA without any living vegetation. Excluding the portion of the AA that is always under water, the number of hummocks, small pits, raised mounds, animal burrows, ruts, gullies, natural levees, microdepressions, and other areas of peat or mineral soil that are raised or depressed >10 cm compared to most of the area within a few meters surrounding them is:		The depressions may be of human or natural origin. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
70			Few or none (minimal microtopography; <1% of the land has such features, or entire AA is always water-covered).	0	
71			Intermediate.	1	
72			Several (extensive micro-topography).	0	
73	F13	Upland Inclusions	Within the AA, inclusions of upland are:		[AM, NR, SBM]
74			Few or none.	0	
75			Intermediate (1 - 10% of vegetated part of the AA).	1	
76			Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).		
77	F14	Soil Texture	In parts of the AA that lack persistent water, the texture of soil in the uppermost layer is mostly: <i>[To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key (in Appendix A of the Manual).]</i>		[CS, NR, OE, PH, PR, Sens, SFS, WS]
78			Loamy : soils that may contain a little fine grit and do not make a "ribbon" longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	1	
79			Fines : includes silt, clay, silt, soils that make a ribbon longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
80			Deep Peat , to 40 cm depth or greater.	0	
81			Shallow Peat or organic <40 cm deep.	0	
82			Coarse : includes sand, loamy sand, gravel, cobble, soils that do not make a ribbon when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
83	F15	Shorebird Feeding Habitats	During any 2 consecutive weeks of the growing season, the extent of mudflats, bare unshaded saturated areas not covered by thatch, and unshaded waters shallower than 6 cm is: <i>[Include also any area that is adjacent to the AA.]</i>		This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
84			None, or <100 sq. m.	1	
85			100-1000 sq. m.	0	
86			1000 - 10,000 sq. m.	0	
87			>10,000 sq. m.	0	
88	F16	Herbaceous % of Vegetated Wetland	In aerial ("ducks eye") view, the maximum annual cover of herbaceous vegetation (all non-woody plants except moss) is:		[AM, WBF, WBN]
89			<5% of the vegetated part of the AA or <0.01 hectare (whichever is less). Mark "1" here and SKIP to F20 (Invasive Plant Cover).	0	
90			5-25% of the vegetated part of the AA.	0	
91			25-50% of the vegetated part of the AA.	0	
92			50-95% of the vegetated part of the AA.	1	
93			>95% of the vegetated part of the AA.	0	

	A	B	C	D	E
94	F17	Forb Cover	Within parts of the AA having herbaceous cover (excluding SAV), the areal cover of forbs reaches an annual maximum of:		Forbs are flowering plants. Do not include grasses, sedges, cattail, other graminoids, ferns, horsetails, or others that lack showy flowers. [POL]
95	<5% of the herbaceous part of the AA.		0		
96	5-25% of the herbaceous part of the AA.		1		
97	25-50% of the herbaceous part of the AA.		0		
98	50-95% of the herbaceous part of the AA.		0		
99	>95% of the herbaceous part of the AA.		0		
100	F18	Sedge Cover	Sedges (<i>Carex</i> spp.) and cottongrass (<i>Eriophorum</i> spp.) occupy:		[CS]
101	<5% of the vegetated area, or none.		0		
102	5-50% of the vegetated area.		0		
103	50-95% of the vegetated area.		1		
104	>95% of the vegetated area.		0		
105	F19	Dominance of Most Abundant Herbaceous Species	Determine which two herbaceous species comprise the greatest portion of the herbaceous cover (excluding mosses and floating-leaved aquatic plants). Then choose one of the following:		For this question, include ferns as well as graminoids and forbs. [EC, INV, PH, POL, Sens]
106	those species together comprise > 50% of the areal cover of herbaceous plants at any time during the year.		0		
107	those species together do not comprise > 50% of the areal cover of herbaceous plants at any time during the year.		1		
108	F20	Invasive Plant Cover	How extensive is the cover of invasive plant species in the AA? For species, see Plants_invasive worksheet in the accompanying SupplInfo file.		[EC, PH, POL, Sens]
109	invasive species appear to be absent in the AA, or are present only in trace amount (a few individuals).		1		
110	invasive species are present in more than trace amounts, but comprise <5% of herbaceous cover (or woody cover, if the invasives are woody).		0		
111	invasive species comprise 5-20% of the herb cover (or woody cover, if the invasives are woody).		0		
112	invasive species comprise 20-50% of the herb cover (or woody cover, if the invasives are woody).		0		
113	invasive species comprise >50% of the herb cover (or woody cover, if the invasives are woody).		0		
114	F21	Invasive Cover Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 3 m upslope from the wetland) that is occupied by invasive plant species is:		If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an exotic species, assume the unidentified plant to also be exotic. If vegetation is so senesced that exotic species cannot be identified, answer "none". [PH, STR]
115	none of the upland edge (invasives apparently absent), or AA has no upland edge.		1		
116	some (but <5%) of the upland edge.		0		
117	5-50% of the upland edge.		0		
118	most (>50%) of the upland edge.		0		
119	F22	Fringe Wetland	During most of the year, open water within or adjacent to the vegetated part of the wetland is much wider than the maximum width of the vegetated zone within the wetland. Enter "1" if true, "0" if false.	0	[WBF, WBN, WCv]
120	F23	Lacustrine Wetland	The vegetated part of the AA is within or adjacent to a body of non-tidal standing open water whose size exceeds 8 hectares during most of a normal year.	0	[FR, PR, PU, WBF, WBN]
121	F24	% of AA Without Surface Water	The percentage of the AA that <u>never</u> contains <u>surface</u> water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC]
122	<1% . In other words, all or nearly all of the AA is covered by water permanently or at least seasonally.		0		
123	1-25% of the AA, or <1% but >0.01 ha never contains surface water.		0		
124	25-50% of the AA never contains surface water.		0		
125	50-75% of the AA never contains surface water.		1		
126	75-99% of the AA never contains surface water, OR >99% and there is at least one persistently ponded water body larger than 1 ha in the AA.		0		
127	99-100%. AND there is no persistently ponded water body larger than 1 ha within the AA. Enter "1" and SKIP to F42 (Channel Connection).		0		

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128	F25	% of AA with Persistent Surface Water	Identify the parts of the AA that still contain surface water (flowing or ponded, open or hidden beneath vegetation) even during the driest times of a normal year, i.e., when the AA's surface water is at its lowest annual level. At that time, the percentage of the AA that still contains surface water is:		If you are unable to determine the condition at the driest time of year, ask the land owner or neighbors about it if possible. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [AM, CS, FA, FR, INV, NR, POL, PR, SBM, WBF, WBN]
129	None. The AA dries up completely (no water in channels either) or never has surface water during most years. SKIP to F27.		0		
130	1-20% of the AA.		1		
131	20-50% of the AA.		0		
132	50-95% of the AA.		0		
133	>95% of the AA. True for many fringe wetlands.	0			
134	F26	% of Summertime Water that Is Shaded	At mid-day during the warmest time of year, the area of surface water <u>within</u> the AA that is shaded by vegetation and other features that are <u>within</u> the AA at that time is:		[FA, WC]
135	<5% of the water is shaded, or no surface water is present then.		0		
136	5-25% of the water is shaded.		1		
137	25-50% of the water is shaded.		0		
138	50-75% of the water is shaded.		0		
139	>75% of the water is shaded.	0			
140	F27	% of AA that is Flooded Only Seasonally	The percentage of the AA's area that is between the annual high water and the annual low water (surface water) is:		Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualising where that would intercept the land along the river. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
141	None, or <0.01 hectare and <1% of the AA. SKIP to F29.		0		
142	1-20% of the AA, or <1% but >0.01 ha.		0		
143	20-50% of the AA.		0		
144	50-95% of the AA.		1		
145	>95% of the AA.	0			
146	F28	Annual Water Fluctuation Range	The annual fluctuation in surface water level within most of the parts of the AA that contain surface water at least temporarily is:		Look for flood marks (see above). Because the annual range of water levels is difficult to estimate without multiple visits, consider asking the land owner or neighbors about it. [AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
147	<10 cm change (stable or nearly so).		0		
148	10 cm - 50 cm change.		1		
149	0.5 - 1 m change.		0		
150	1-2 m change.		0		
151	>2 m change.	0			
152	Is the AA plus adjacent ponded water smaller than 0.01 hectare (about 10m x 10m, or 1m x 100 m)? If so, enter "1" in column D and SKIP TO F42 (Connection).			0	
153	F29	Predominant Depth Class	During most of the time when surface water is present during the growing season, its depth, averaged over the entire inundated part of the AA, is:		If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth of the most persistently inundated part of the wetland. Include surface water in channels and ditches as well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC]
154	<10 cm deep (but >0).		0		
155	10 - 50 cm deep.		1		
156	0.5 - 1 m deep.		0		
157	1 - 2 m deep.		0		
158	>2 m deep. True for many fringe wetlands.	0			
159	F30	Depth Classes - Evenness of Proportions	When present, surface water in most of the AA usually consists of (select one):		Estimate these proportions by considering the gradient and microtopography of the site. [FR, INV, WBF, WBN]
160	One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).		0		
161	One depth class that comprises 50-90% of the AA's inundated area.		0		
162	Neither of above. There are 3 or more depth classes and none occupy >50%.		1		
163	F31	% of Water That Is Ponded (not Flowing)	During most times when surface water is present, the percentage that is (1) ponded (stagnant, or flows so slowly that fine sediment is not held in suspension) AND (2) is likely to be deeper than 0.5 m in some places, is:		Nearly all wetlands with surface water have some ponded water. [AM, CS, INV, NR, OE, PR, Sens, SR, WBF, WBN, WC, WS]
164	<5% of the water, or it occupies <100 sq.m cumulatively. Nearly all the surface water is flowing. SKIP to F34.		0		
165	5-30% of the water.		0		
166	30-70% of the water.		0		
167	70-95% of the water.		1		
168	>95% of the water.	0			

	A	B	C	D	E
169	F32	Ponded Open Water - Minimum Size	During most of the growing season, the largest patch of open water that is ponded and is in or bordering the AA is >0.01 hectare (about 10 m by 10 m) and mostly deeper than 0.5 m. If true enter "1" and continue. If false, enter "0" and SKIP to F41 (Floating Algae & Duckweed).	0	Open water is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it.
170	F33	% of Ponded Water that is Open	In ducks-eye aerial view, the percentage of the ponded water that is open (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:		[AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC]
171			None, or <1% of the AA and largest pool occupies <0.01 hectares. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
172			1-4% of the ponded water. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	1	
173			5-30% of the ponded water.	0	
174			30-70% of the ponded water.	0	
175			70-99% of the ponded water.	0	
176			100% of the ponded water.	0	
177	F34	Width of Vegetated Zone within Wetland	At the time during the growing season when the AA's water level is lowest, the average width of vegetated area <u>in the AA</u> that separates adjoining uplands from open water within the AA is:		"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. [AM, CS, NR, OE, PH, PR, SBM, Sens, SR, WBN]
178			<1 m.	0	
179			1 - 9 m.	0	
180			10 - 29 m.	0	
181			30 - 49 m.	0	
182			50 - 100 m.	0	
183			> 100 m, or open water is absent at that time.	0	
184	F35	Flat Shoreline Extent	During most of the part of the growing season when water is present, the percentage of the AA's water edge length that is nearly flat (a slope less than about 5% measured within 5 m landward of the water) is:		If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
185			<1% of the water edge.	0	
186			1-25% of the water edge.	0	
187			25-50% of the water edge.	0	
188			50-75% of the water edge.	0	
189			>75% of the water edge.	0	
190	F36	Robust Emergents	The percentage of the emergent vegetation cover in the AA that is cattail (<i>Typha</i> spp.), common reed (<i>Phragmites</i>), or tall (>1m) bulrush is:		Emergent vegetation is herbaceous plants whose stems are partly above and partly below the water surface during most of the time water is present. [WBN]
191			<1% of the emergent vegetation, or emergent vegetation is absent. SKIP to F38.	0	
192			1-25% of the emergent vegetation.	0	
193			25-75% of the emergent vegetation.	0	
194			>75% of the emergent vegetation.	0	
195	F37	Interspersion of Emergents & Open Water	During most of the part of the growing season when water is present, the spatial pattern of emergent vegetation within the water is mostly:		[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
196			Scattered. More than 30% of such vegetation forms small islands or corridors surrounded by water.	0	
197			Intermediate.	0	
198			Clumped. More than 70% of such vegetation is in bands along the wetland perimeter or is clumped at one or a few sides of the surface water area.	0	
199	F38	Persistent Deepwater Area	If the deepest patch of surface water (flowing or ponded) in or directly adjacent to the AA is mostly deeper than 0.5 m for >2 weeks during the growing season, enter "1" and continue. If not, enter "0" and SKIP to F42 (Connection).	0	
200	F39	Non-vegetated Aquatic Cover	During most of the growing season and in waters deeper than 0.5 m, the cover for fish, aquatic invertebrates, and/or amphibians that is provided NOT by living vegetation, but by accumulations of dead wood and undercut banks is:		For this question, consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are unreliable so should not be attempted. [AM, FA, FR, INV]
201			Little or none.	0	
202			Intermediate.	0	
203			Extensive.	0	
204	F40	Isolated Island	The AA contains (or is part of) an island or beaver lodge within a lake, pond, or river, and is isolated from the shore by water depths >1 m on all sides during an average June. The island may be solid, or it may be a floating vegetation mat that is sufficiently large and dense to support a waterbird nest.	0	[WBN]

	A	B	C	D	E
205	F41	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed are likely to cover >50% of the AA's otherwise-unshaded water surface, or blanket >50% of the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	[EC, PR, WBF]
206	F42	Channel Connection & Outflow Duration	The most persistent surface water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and a downslope stream network is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of the wetland, or the surface connection between the wetland and the downslope stream network.]		Consider the connection regardless of whether the surface water is frozen. The "downslope stream network" could consist of ditches, rivers, ponds, or lakes which eventually connect to the ocean. If this cannot be determined while visiting the AA, consult topographic maps perhaps by viewing these online with Toporama (http://atlas.nrcan.gc.ca/toporama/en/index.html) [CS, FA, FR, NR, OE, PR, Sens, SFS, SR, WCv, WS]
207	Persistent (surface water flows out for >9 months/year).		0		
208	Seasonal (surface water flows out for 14 days to 9 months/year, not necessarily consecutive).		0		
209	Temporary (surface water flows out for <14 days, not necessarily consecutive).		0		
210	None -- but maps show a stream network downslope from the AA and within a distance that is less than the AA's length. SKIP to F47 (pH Measurement).		0		
211		No surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. SKIP to F47 (pH Measurement).	1		
212	F43	Outflow Confinement	During major runoff events, in the places where surface water exits the AA or connected waters nearby, the water:		"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS, NR, OE, PR, Sens, SR, STR, WS]
213	Mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not appear to drain the wetland artificially during most of the growing season.		0		
214	Leaves through natural exits (channels or diffuse outflow), not mainly through artificial or temporary features.		0		
215	Is exported more quickly than usual due to ditches or pipes within the AA or connected to its outlet, or within 10 m of the AA's edge, which drain the wetland artificially, or water is pumped out of the AA.		0		
216	F44	Tributary Channel	At least once annually, surface water from a tributary channel that is >100 m long moves into the AA. Or, surface water from a larger permanent water body adjacent to the AA spills into the AA. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. If no, SKIP to F47 (pH Measurement).	0	If inlet tributaries cannot be searched for due to inaccessibility of part of the AA, follow suggestions in F42 above. [NRv, PH, PRv, SRv]
217	F45	Input Water Temperature	Based on lack of shade, water source characteristics, or actual temperature measurements, the inflow is likely to be warmer than surface water in the AA during part of most years. Enter 1= yes, 0= no.	0	[WCv]
218	F46	Throughflow Resistance	During its travel through the AA at the time of peak annual flow, water arriving in channels: [select only the ONE encountered by most of the incoming water].		[FA, FR, INV, NR, OE, PR, SR, WS]
219	Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel in unvegetated (often incised) channels that have minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.		0		
220	Bumps into herbaceous vegetation but mostly remains in fairly straight channels.		0		
221	Bumps into herbaceous vegetation and mostly spreads throughout, or is in widely meandering, multi-branched, or braided channels.		0		
222	Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels.		0		
223	Bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0			
224	F47	pH Measurement	The pH in most of the AA's surface water:		Preferably, measure this in larger areas of ponded surface water within the AA, or in streams that have passed through (not along) most of the AA. Unless surface water is completely absent, do not dig holes or make depressions in peat in order to provide water for this measurement. Avoid measuring near roads or in puddles formed only by recent rain. [AM, FA, FR, NR, WBF, PH, PR, Sens, WBF, WBN]
225	Was measured, and is: [enter the reading in the column to the right.]				
226	Was not measured but surface water is present and is darkly tea-coloured. Or if no surface water, then mosses and plants that indicate peatland (e.g., Labrador tea) are prevalent. Enter "1".		0		
227	Neither of above. Enter "1".		1		
228	F48	TDS and/or Conductivity	The TDS (total dissolved solids) or conductivity of the AA's surface water is: (select the first true row with information):		See above for measurement guidance. [FR, INV, NRv, PH, PRv, Sens]
229	TDS is: [Enter the reading in ppm or mg/L in the column to the right, if measured, or answer next row.]				
230	Conductivity is [Enter the reading in µS/cm in the column to the right.]				
231	Was not measured, but plants that indicate saline conditions cover much of the vegetated AA. Enter "1".		0		
232	Neither of above		0		

	A	B	C	D	E
233	F49	Beaver Probability	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
234	Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		0		
235	Likely based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.		0		
236	Unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed.		1		
237	F50	Groundwater Strength of Evidence	Select first applicable choice:		Adhere to these criteria strictly -- do not use personal judgment based on fen conditions, pH, or other evidence. Consult topographic maps to detect breaks in slope described here. Rust deposits associated with groundwater seeps may be most noticeable as orange discoloration in ice formations along streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS]
238	Springs are known to be present within the AA, or if groundwater levels have been monitored, that has demonstrated that groundwater primarily discharges to the wetland for longer periods during the year than periods when the wetland recharges the groundwater.		0		
239	Most of the AA has a slope of >5%, or is very close to the base of a natural slope longer than 100 and much steeper than the slope of the AA, AND the pH of surface water, if known, is >5.5.		0		
240	Neither of above is true, although some groundwater may discharge to or flow through the AA. Or groundwater influx is unknown.		1		
241	F51	Internal Gradient	The gradient along most of the flow path within the AA is:		This is not the same as the shoreline slope. It is the elevational difference between the AA's inlet and outlet, divided by the flow-distance between them and converted to percent. If available, use a clinometer to measure this. Free clinometer apps can be downloaded to smartphones. If the wetland is large (longer than ~1 km), this may be estimated using Google Earth to determine the minimum and maximum elevation within the AA, then dividing by length and multiplying by 100. [CS, NR, OE, PR, SR, WBF, WBN, WS]
242	<2% or the AA has no surface water outlet (not even seasonally).		0		
243	2-5%.		1		
244	6-10%.		0		
245	>10%.		0		
246	Note for the next three questions: If the AA lacks an upland edge, evaluate based on the AA's entire perimeter, and moving outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.				
247	F52	Vegetated Buffer as % of Perimeter	Within a zone extending 30 m laterally from the AA's edge with upland and/or other wetlands, the percentage that contains perennial vegetation cover (except lawns, row crops, heavily grazed land, conifer plantations) is:		[AM, FA, FR, INV, NRv, PH, POL, PRv, SBM, Sens, SRv, STR, WBN]
248	<5%.		0		
249	5 to 30%.		0		
250	30 to 60%.		1		
251	60 to 90%.		0		
252	>90%, or all the area within 30 m of the AA edge is other wetlands. SKIP to F55.		0		
253	F53	Type of Cover in Buffer	Within 30 m upslope of where the wetland transitions to upland, the upland land cover that is NOT perennial vegetation is mostly (mark ONE):		[AM, FA, INV, NRv, PH, POL, SBM, STR, WBN]
254	Impervious surface, e.g., paved road, parking lot, building, exposed rock.		0		
255	Bare or nearly bare pervious surface or managed vegetation, e.g., lawn, row crops, unpaved road, dike, landslide.		1		
256	F54	Buffer Slope	The steepest and/or most disturbed part of the upland area that is within 30 m of the wetland and occupies >10% of that upland area has a percent slope of:		[NRv, PRv, Sens, SRv]
257	<1% (flat -- almost no noticeable slope) or all the area within 30 m of the AA edge is other wetlands.		0		
258	2-5%.		1		
259	5-30%.		0		
260	>30%.		0		
261	F55	Cliffs or Steep Banks	In the AA or within 100 m, there are elevated terrestrial features such as cliffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 2 m nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	0	Do not include upturned trees as potential den sites. [POL, SBM]

	A	B	C	D	E
262	F56	New or Expanded Wetland	Human actions within or adjacent to the AA have persistently expanded a naturally occurring wetland or created a wetland where there previously was none (e.g., by excavation, impoundment):		Determine this using historical aerial photography, old maps, soil maps, or permit files as available [CS, NR, OE, PH, Sens]
263			No.	0	
264			Yes, and created or expanded 20 - 100 years ago.	1	
265			Yes, and created or expanded 3-20 years ago.	0	
266			Yes, and created or expanded within last 3 years.	0	
267			Yes, but time of origin or expansion unknown.	0	
268			Unknown if new or expanded within 20 years or not.	0	
269	F57	Burn History	More than 1% of the AA's previously vegetated area:		Look for charred soil or stumps (in multiple widely-spaced locations) or ask landowner. [CS, PH, STR]
270			Burned within past 5 years.	0	
271			Burned 6-10 years ago.	0	
272			Burned 11-30 years ago.	0	
273			Burned >30 years ago, or no evidence of a burn and no data.	1	
274	F58	Visibility	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 100 m of the AA (select one) is:		[PU, STR, WBFv]
275			<25%.	1	
276			25-50%.	0	
277			>50%.	0	
278	F59	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select ALL statements that are true of the AA as it currently exists:		[PU, STR]
279			For an average person, walking is physically possible <u>in</u> (not just near) >5% of the AA during most of the growing season, e.g., free of deep water and dense shrub thickets.	0	
280			Maintained roads, parking areas, or foot-trails are within 10 m of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	1	
281			Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0	
282	F60	Unvisited Core Area	The percentage of the AA almost never visited by humans during an average growing season probably comprises: <i>[Note: Only include the part actually walked or driven (not simply viewed from) with a vehicle or boat. Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 30 m of the wetland edge. In that case include only the area occupied by the trail.]</i>		[AM, FAv, FRv, PH, PU, SBM, STR, WBF, WBN]
283			<5% and no inhabited building is within 100 m of the AA.	0	
284			<5% and inhabited building is within 100 m of the AA.	0	
285			5-50% and no inhabited building is within 100 m of the AA.	0	
286			5-50% and inhabited building is within 100 m of the AA.	0	
287			50-95%, with or without inhabited building nearby.	0	
288			>95% of the AA with or without inhabited building nearby.	1	
289	F61	Frequently Visited Area	The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: <i>[See note above.]</i>		[AM, PH, PU, SBM, STR, WBF, WBN]
290			<5%. If F60 was answered ">95%" (mostly never visited), SKIP to F64.	0	
291			5-50%.	0	
292			50-95%.	0	
293			>95% of the AA.	1	
294	F62	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on soil within nearly all of the AA when the soil is unfrozen. Enter "1" if true.	0	[PH, PU]
295	F63	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorised boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	0	[AM, PU, WBF, WBN]

	A	B	C	D	E
296	F64	Consumptive Uses (Provisioning Services)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select ALL that apply.		[FAv, FRv, WBFv]
297			Low-impact commercial timber harvest (e.g., selective thinning).	0	
298			Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.	0	
299			Waterfowl hunting.	0	
300			Fishing.	0	
301			Trapping of furbearers.	0	
302			None of the above.	1	
303	F65	Domestic Wells	The closest wells or water bodies that currently provide drinking water are:		[NRv]
304			Within 0-100 m. of the AA.	0	
305			100-500 m. away.	0	
306			>500 m. away, or no information.	1	
307	F66	Calcareous Fen	The AA is, or is part of, a calcareous fen. See the Plants_Calcar worksheet in the accompanying SuppInfo file for list of plant indicators (calciphiles). Enter 1 if more than two Strong or more than five Moderate calciphile species are present; otherwise enter 0, but if not able to identify those and no information, change to blank .		[PH, PR]

Investigator: RK MM	Site Identifier: Goose Harbour Lake Wind Farm, Wetland 18	Date: 21 Sept 2022
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Stressor (S) Data Form for Non-Tidal Wetlands. WESP-AC for Nova Scotia version 2.

				Data	
S1	Aberrant Timing of Water Inputs				
	<i>In the last column, place a check mark next to any item that is likely to have caused the timing of water inputs (but not necessarily their volume) to shift by hours, days, or weeks, becoming either more muted (smaller or less frequent peaks spread over longer times, more temporal homogeneity of flow or water levels) or more flashy (larger or more frequent spikes but over shorter times). [FA, FR, INV, PH, STR]</i>				
	Stormwater from impervious surfaces that drains directly to the wetland.				
	Water subsidies from wastewater effluent, septic system leakage, snow storage areas, or irrigation.				
	Regular removal of surface or groundwater for irrigation or other consumptive use.				
	Flow regulation in tributaries or water level regulation in adjoining water body, or other control structure at water entry points that regulates inflow to the wetland.				
	A dam, dike, levee, weir, berm, or fill -- within or downgradient from the wetland -- that interferes with surface or subsurface flow in/out of the AA (e.g., road fill, wellpads, pipelines).				
	Excavation within the wetland, e.g., dugout, artificial pond, dead-end ditch.				
	Artificial drains or ditches in or near the wetland.				
	Accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level).				
	Logging within the wetland.				
	Subsidence or compaction of the wetland's substrate as a result of machinery, livestock, fire, drainage, or off road vehicles.				
	Straightening, ditching, dredging, and/or lining of tributary channels.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items had no measurable effect on the timing of water conditions in any part of the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of timing shift within the wetland:	>95% of wetland.	5-95% of wetland.	<5% of wetland.	0
	When most of the timing shift began:	<3 yrs ago.	3-9 yrs ago.	10-100 yrs ago.	0
	<i>Score the following 2 rows only if the altered inputs began within past 10 years, and only for the part of the wetland that experiences those.</i>				
	Input timing now vs. previously:	Shift of weeks.	Shift of days.	Shift of hours or minutes.	0
	Flashiness or muting:	Became very flashy or controlled.	Intermediate.	Became mildly flashy or controlled.	0
Sum=				0	
Stressor subscore=				0.00	

S2	Accelerated Inputs of Contaminants and/or Salts				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of contaminants or salts to the AA. [AM, FA, PH, POL, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills, industrial facilities.				
	Metals & chemical wastes from mining, shooting ranges, snow storage areas, oil/ gas extraction, other sources (download many locations from National Pollutant Release Inventory and view KMZ overlay in Google Earth. https://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=B85A1846-1)				
	Road salt.				
	Spraying of pesticides, as applied to lawns, croplands, roadsides, or other areas in the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly higher levels of contaminants and/or salts, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Usual toxicity of most toxic contaminants:	Industrial effluent, mining waste, unmanaged landfill.	Cropland, managed landfill, pipeline or transmission rights-of-way.	Low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	
S3	Accelerated Inputs of Nutrients				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of nutrients to the wetland. [NRv, PRv, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills.				
	Fertilizers applied to lawns, ag lands, or other areas in the CA.				
	Livestock, dogs.				
	Artificial drainage of upslope lands.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly more nutrients, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Type of loading:	High density of unmaintained septic, some types of industrial sources.	Moderate density septic, cropland, secondary wastewater treatment plant.	Livestock, pets, low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	

S4	Excessive Sediment Loading from Contributing Area				
	<i>In the last column, place a check mark next to any item present in the CA that is likely to have elevated the load of waterborne or windborne sediment reaching the wetland from its CA. [FA, FR, INV, PH, SRv, STR]</i>				
	Erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fires.				
	Erosion from construction, in-channel machinery in the CA.				
	Erosion from off-road vehicles in the CA.				
	Erosion from livestock or foot traffic in the CA.				
	Stormwater or wastewater effluent.				
	Sediment from road sanding, gravel mining, other mining, oil/ gas extraction.				
	Accelerated channel downcutting or headcutting of tributaries due to altered land use.				
	Other human-related disturbances within the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not cumulatively add significantly more sediment or suspended solids to the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Erosion in CA:	Extensive evidence, high intensity.*	Potentially (based on high-intensity* land use) or scattered evidence.	Potentially (based on low-intensity* land use) with little or no direct evidence.	0
	Recentness of significant soil disturbance in the CA:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration of sediment inputs to the wetland:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0	
AA proximity to actual or potential sources:	0 - 15 m.	15-100 m.	In more distant part of contributing area.	0	
* high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erosion with or without veg removal; low-intensity= veg removal only with little or no apparent erosion or disturbance of soil or sediment.				Sum= 0	
				Stressor subscore= 0.00	
S5	Soil or Sediment Alteration Within the Assessment Area				
	<i>In the last column, place a check mark next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil. Consider only items occurring within past 100 years or since wetland was created or restored (whichever is less). [CS, INV, NR, PH, SR, STR]</i>				
	Compaction from machinery, off-road vehicles, livestock, or mountain bikes, especially during wetter periods.				
	Leveling or other grading not to the natural contour.				
	Tillage, plowing (but excluding disking for enhancement of native plants).				
	Fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland.				
	Excavation.				
	Ditch cleaning or dredging in or adjacent to the wetland.				
	Boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments.				
	Artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of altered soil:	>95% of wetland or >95% of its upland edge (if any).	5-95% of wetland or 5-95% of its upland edge (if any).	<5% of wetland and <5% of its upland edge (if any).	0
	Recentness of significant soil alteration in wetland:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration:	Long-lasting, minimal veg recovery.	Long-lasting but mostly revegetated.	Short-term, revegetated, not intense.	0	
Timing of soil alteration:	Frequent and year-round.	Frequent but mostly seasonal.	Mainly during one-time or scattered events.	0	
				Sum= 0	
				Stressor subscore= 0.00	

Assessment Area (AA) Results:

Wetland ID: Goose Harbour Lake Wind Farm, Wetland 18

Date: Sept 21, 2022

Observer: Rohan Kariyawansa & Madeline Maher

Latitude & Longitude (decimal degrees): 45.59163056 & 61.48552500

Scores will appear below after data are entered in worksheets OF, F, and S.
See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	7.88	Higher	4.57	Moderate	7.82	2.03
Stream Flow Support (SFS)	0.00	Lower	0.00	Lower	0.00	0.00
Water Cooling (WC)	5.17	Moderate	0.00	Lower	3.44	0.00
Sediment Retention & Stabilisation (SR)	10.00	Higher	1.69	Moderate	10.00	0.83
Phosphorus Retention (PR)	10.00	Higher	1.61	Moderate	10.00	1.25
Nitrate Removal & Retention (NR)	10.00	Higher	5.00	Moderate	10.00	5.00
Carbon Sequestration (CS)	4.17	Moderate			7.17	
Organic Nutrient Export (OE)	6.88	Moderate			4.49	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	6.78	Higher	4.32	Moderate	6.26	3.57
Amphibian & Turtle Habitat (AM)	5.95	Moderate	4.51	Moderate	6.24	5.48
Waterbird Feeding Habitat (WBF)	5.52	Moderate	5.00	Moderate	4.21	5.00
Waterbird Nesting Habitat (WBN)	5.19	Moderate	5.00	Higher	3.76	5.00
Songbird, Raptor, & Mammal Habitat (SBM)	8.31	Higher	5.00	Moderate	7.24	5.00
Pollinator Habitat (POL)	7.49	Moderate	3.33	Moderate	6.21	3.33
Native Plant Habitat (PH)	2.47	Lower	5.59	Moderate	4.89	5.59
Public Use & Recognition (PU)			2.19	Moderate		1.80
Wetland Sensitivity (Sens)			9.89	Higher		4.99
Wetland Ecological Condition (EC)			8.26	Higher		9.17
Wetland Stressors (STR) (higher score means more stress)			7.40	Higher		3.74
Summary Ratings for Grouped Functions:						
HYDROLOGIC Group (WS)	7.88	Higher	4.57	Moderate	7.82	2.03
WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS)	9.27	Higher	3.88	Moderate	9.65	3.68
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC)	5.79	Higher	2.88	Lower	4.91	2.38
AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN)	4.64	Moderate	3.95	Moderate	4.54	4.29
TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL)	7.20	Higher	5.12	Lower	6.67	5.12
WETLAND CONDITION (EC)			8.26	Higher		9.17
WETLAND RISK (average of Sensitivity & Stressors)			8.65	Higher		4.36

NOTE: A score of 0 does not mean the function or benefit is absent from the wetland. It means only that this wetland has a capacity that is equal or less than the lowest-scoring one, for that function or benefit, from among all the NS calibration wetlands that were assessed previously.

NOVA SCOTIA - Functional WSS Interpretation Tool

Function-Benefit Product (FBP)	FBP SCORE	FBP SCORE CATEGORY
SUPPORT SUPERGROUP - HYDROLOGIC	35.99432943	Moderate
SUPPORT SUPERGROUP - WATER QUALITY SUPPORT	35.993165	Low
SUPPORT SUPERGROUP - AQUATIC SUPPORT	16.69794738	Low
HABITAT SUPERGROUP - AQUATIC HABITAT	18.33031723	Low
HABITAT SUPERGROUP - TRANSITION HABITAT	36.84540865	Low

3a. Functional WSS Determination: Automatic Method

Habitat Rule Satisfied? NO
 Support Rule Satisfied? NO
 Habitat/Support Hybrid Rule Satisfied? NO

CONCLUSION: **Site is not a WSS**

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	Goose Harbour Lake Wind Farm, Wetland 31
Investigator Name:	Rohan Kariyawansa Madeline Maher
Date of Field Assessment:	2022-09-21
Nearest Town:	Antigonish
Latitude (decimal degrees):	45.57317500
Longitude (decimal degrees):	61.51470833
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	0.55
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	100%
What percent (approx.) of the wetland were you able to visit?	100%
What percent (approx.) of the AA were you able to visit?	100%
Were you able to ask the site owner/manager about any of the questions?	No
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	No
How many wetlands have you assessed previously using WESP-AC? (approx.)	2 Dozen
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

	A	B	C	D	E
1	Date: 20 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 31	Investigator: RK MM	
2	<p>Form OF (Office). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia wetlands only. DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answering many of the questions below will require using these online map viewers:</p> <p>Google Earth Pro: https://www.google.com/earth/download/gep/agree.html</p> <p>Provincial Landscape Viewer: https://nsgi.novascotia.ca/plv/</p> <p>For most wetlands, completing this office data form will require 1-2 hours. For a list of functions to which each question pertains, see bracketed abbreviations in the Definitions/Explanations column. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.</p>				
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	OF1	Province	Mark the province in which the AA is located by changing the 0 in the column next to it to a "1". Mark only one.		This determines to which province's calibration wetlands the raw score of any wetland is normalised. In the function and benefits models, it also triggers the automatic exclusion of indicators for which no spatial data exists in a particular province.
5			New Brunswick	0	
6			Nova Scotia	1	
7			Prince Edward Island	0	
8			Newfoundland-Labrador	0	
9	OF2	Ponded Area Within 1 km.	The area of surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		"Adjacent" means not separated from the AA by a wide expanse (>50 m) of upland (including roads >50 m wide). Include ponded areas likely to be hidden by wetland vegetation. If surface water extends beyond 1 km, include only the part within 1 km. Do not include tidal areas. Measure the area from aerial imagery using Google Earth Pro (click on Ruler icon in toolbar, then Polygon in pop-up menu). [PH, SBM, WBN]
10			<0.01 hectare (about 10 m x 10 m).	1	
11			0.01 - 0.1 hectare.	0	
12			0.1 - 1 hectare.	0	
13			1 to 10 hectares.	0	
14			10 to 100 hectares.	0	
15			>100 hectares.	0	
16	OF3	Ponded Water & Wetland Within 1 km.	The area of wetlands and surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		See definition of adjacent in OF2. If the AA's wetland vegetation extends beyond 1 km, include only the part within 1 km. "Ponded" means not flowing in rivers or streams. [Sens, WBF]
17			<0.01 hectare (about 10 m x 10 m).	0	
18			0.01 - 0.1 hectare.	0	
19			0.1 - 1 hectare.	1	
20			1 to 10 hectares.	0	
21			10 to 100 hectares.	0	
22			>100 hectares.	0	
23	OF4	Size of Largest Nearby Vegetated Tract or Corridor	The largest vegetated patch or corridor that includes the AA's vegetation plus all adjacent upland vegetation that is not lawn, row crops, heavily grazed lands, conifer plantation is:		See definition of adjacent in OF2. Use Google Earth Pro's polygon ruler (as described above). Exclude conifer plantations only if it is obvious that trees were planted in rows. [AM, PH, SBM, Sens]
24			<0.01 hectare (about 10 m x 10 m).	0	
25			0.01 - 0.1 hectare.	0	
26			0.1 - 1 hectare.	0	
27			1 to 10 hectares.	0	
28			10 to 100 hectares.	0	
29			100 to 1000 hectares.	1	
30			>1000 hectares. [This is nearly always the answer in relatively undeveloped landscapes.]	0	

	A	B	C	D	E
31	OF5	Distance to Large Vegetated Tract	The minimum distance from the edge of the AA to the edge of the closest <i>vegetated land</i> (but excluding row crops, lawn, conifer plantation) larger than 375 hectares (about 2 km on a side), is:		To measure distance, use Google Earth Pro (Ruler > Line tool). The 375-ha criterion is from the Fundy Model Forest Project. [AM, PH, POL, SBM, Sens]
32			<50 m, and not separated from the 375-ha vegetated area by any width of paved roads, stretches of open water, row crops, bare ground, lawn, or impervious surface. Or the AA itself contains >375 ha of vegetation. [This is often the answer in relatively undeveloped landscapes.]	1	
33			<50 m, but completely separated from the 375-ha vegetated area by those features, and AA does not contain >375 ha of vegetation.	0	
34			50-500 m, and not separated.	0	
35			50-500 m, but separated by those features.	0	
36			0.5 - 5 km, and not separated.	0	
37			0.5 - 5 km, but separated by those features.	0	
38			None of the above (the closest patches or corridors which are that large are >5 km away).	0	
39	OF6	Herbaceous Uniqueness	The AA's vegetation cover is >10% herbaceous* but uplands within 5 km have <10% herbaceous cover. If so, enter "3" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 1 km have <10% herbaceous cover. If so enter "2" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 100 m of the wetland edge have <10% herbaceous cover. If so, enter "1". [* NOTE: Exclude lawns, row crops, heavily grazed lands, forest, shrublands. Include moss as well as grasslike plants in this use of "herbaceous vegetation"]	1	For this question only, consider moss to be herbaceous vegetation. Determine the score by viewing aerial imagery in Google Earth after successively drawing or estimating the boundaries of the buffers of 5 km, 1 km, and 100 m radius focused on the center of the AA. Circles of specified radius can be drawn in Google Earth Pro by clicking on the Ruler icon, then Circle in the pop-up menu. [AMv, PHv, POLv, SBMv, WBFv, WBNv]
40	OF7	Woody Uniqueness	The AA's vegetation cover is >10% woody* but uplands within 5 km have <10% woody cover. If so, enter "3" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 1 km have <10% woody cover. If so enter "2" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 100 m of the wetland edge have <10% woody cover. If so, enter "1" [* NOTE: woody cover = trees & shrubs taller than 1 m.]	1	See above. Do not consider conifer plantations to be forest if it is obvious that trees were planted in rows. [AMv, PHv, POLv, SBMv]
41	OF8	Local Vegetated Cover Percentage	Draw a 5-km radius circle measured from the center of the AA. Ignoring all permanent water in the circle, the percent of the remaining area that is wooded or unmanaged herbaceous vegetation (NOT lawn, row crops, bare or heavily grazed land, clearcuts, or conifer plantations) is:		In Google Earth, draw the 5 km buffer and then estimate land cover percentages, or do GIS analysis of an appropriate land cover layer. [AM, PH, POL, SBM, Sens]
42			<5% of the land.	0	
43			5 to 20% of the land.	0	
44			20 to 60% of the land.	1	
45			60 to 90% of the land.	0	
46			>90% of the land. SKIP to OF10.	0	
47	OF9	Type of Land Cover Alteration	Within the 5-km radius circle, and ignoring all permanent water, the land area that is bare or non-perennial cover is mostly:		[AM, SBM]
48			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
49			Bare pervious surface, e.g., lawn, recent (<5 yrs ago) clearcut, dirt or gravel road, cropland, landslide, conifer plantation.	1	
50	OF10	Distance by Road to Nearest Population Center	Measured along the maintained road nearest the AA, the distance to the nearest population center is:		"Population center" means a settled area with more than about 5 regularly- inhabited structures per square kilometer. In Google Earth Pro, click on the Ruler icon, then Path, and draw and measure the route. [FAv, FRv, NRv, PH, PU, SBM, WBFv]
51			<100 m.	0	
52			100 - 500 m.	0	
53			0.5- 1 km.	0	
54			1 - 5 km.	0	
55			>5 km.	1	

	A	B	C	D	E
56	OF11	Distance to Nearest Maintained Road	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:		Determine this by viewing aerial imagery in Google Earth Pro and measuring with the Ruler>Line tool. [AM, FAv, FRv, NRv, PH, PU, SBM, STR, WBN]
57			<10 m.	1	
58			10 - 25 m.	0	
59			25 - 50 m.	0	
60			50 - 100 m.	0	
61			100 - 500 m.	0	
62		>500 m.	0		
63	OF12	Wildlife Access	Draw a circle of radius of 5 km from the center of the AA. If mammals and amphibians can move from the center of the AA to ALL other separate wetlands and ponds located within the circle without being forced to cross pavement (any width), lawns, bare ground, and/or marine waters, mark 1= yes can move to all, 0= no. Change to blank if there are no other wetlands within 5 km.	0	Draw the 5 km circle in Google Earth Pro using the Circle tool and search for roads and wetlands within it, being alert for roads hidden under forest canopy. [AM, SBM, STR]
64	OF13	Distance to Poned Water	The distance from the AA center to the closest (but separate) ponded water body visible in GoogleEarth imagery is:		In Google Earth Pro, zoom in closely to examine the surrounding landscape for ponds, lakes, and wetlands that appear to be permanently flooded. [AM, PH, SBM, Sens, WBF, WBN]
65			<50 m, and not separated by any width of paved roads, stretches of open water, row crops, lawn, bare ground, or impervious surface.	0	
66			<50 m, but completely separated by those features.	0	
67			50-500 m, and not separated.	0	
68			50-500 m, but separated by those features.	0	
69			0.5 - 1 km, and not separated.	0	
70			0.5 - 1 km, but separated by those features.	1	
71		None of the above (the closest patches or corridors that large are >1 km away).	0		
72	OF14	Distance to Large Poned Water	The distance from the AA center to the closest (but separate) non-tidal body of water that is ponded during most of the year and is larger than 8 hectares during most of a normal year is:		Determine this by viewing aerial imagery in Google Earth. [Sens, WBF, WBN]
73			<100 m.	0	
74			100 m - 1 km.	0	
75			1 -2 km.	0	
76			2-5 km.	1	
77			5-10 km.	0	
78		>10 km.	0		
79	OF15	Tidal Proximity	The distance from the AA edge to the closest tidal water body (regardless of its salinity) is:		In Google Earth, measure the distance to the ocean (including Bay of Fundy) or tidal river, whichever is closer. If you need to see how far upriver a river is tidal, see the KMZ file provided with this calculator for NS (NS Headtide). Points shown in those files are only an approximation, so local information if available may be preferable. [FA, WBF]
80			<100 m.	0	
81			100 m - 1 km.	0	
82			1 - 5 km.	0	
83			5-10 km.	1	
84			10-40 km.	0	
85		>40 km.	0		
86	OF16	Upland Edge Contact	Select one:		[NR, SBM, Sens]
87			The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by (& contiguous with) other wetlands or water.	0	
88			1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
89			25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
90			50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91			More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA. This will be true for most assessments done with WESP-AC.	1	
92	OF17	Flood Damage from Non-tidal Waters	Within 5 km downstream or downslope of the AA (select first true choice):		Contact local authorities to determine if such maps exist. Where available, LiDAR imagery can provide finer elevational resolution useful for flood modeling. [WSv]
93			Maps show Flood Zone or Flood Risk areas and there appears to be infrastructure vulnerable to river flooding not caused by tidal storm surges.	0	
94			Maps show Flood Zone or Flood Risk areas, but infrastructure is absent or is not vulnerable to floods from a non-tidal river. In some cases levees, upriver dams, or other measures may partly limit damage or risk from smaller events.	0	
95			Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there appears to be infrastructure vulnerable to river flooding unrelated to tidal storm surges.	0	
96			Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there is no infrastructure vulnerable to river flooding unrelated to tidal storm surges.	1	

	A	B	C	D	E
97	OF18	Relative Elevation in Watershed	In Google Earth, enable the Terrain layer (lower left menu) and open the NS_Watersheds Secondary KMZ file that accompanies this calculator. Then determine the AA's approximate elevation (bottom right, NOT the "eye alt"). Then move cursor around to determine the watershed's maximum and minimum elevation. Divide the AA's elevation by the (max-min).	0.82	[FA, NR, Sens, SFSv, WCv, WSv]
98	OF19	Water Quality Sensitive Watershed or Area	The AA is in a Protected Water Supply area (Designated Water Supply Area, Natural Watershed Municipal Surface Water Supply Area, or Municipal Water Supply Area) according to the provided KMZ overlay ("NS Protected Water Supply Areas"). Enter 1= yes, 0= no.	0	If an ACCDC report is available for this AA, it also may contain such information. [NRv]
99	OF20	Degraded Water Upstream	Sampling indicates a problem with concentrations of metals, hydrocarbons, nutrients , or other substances (excluding bacteria, acidic water, high temperatures) being present at levels harmful to aquatic life or humans, and:		May use existing data, or sample those waters as part of this wetland assessment. "Harmful" should be evaluated with regard to current federal or provincial water quality standards. [AM, FA, FR, NRv, PRv, SRv, STR, WBF, WBN]
100			The condition is present within the AA.	0	
101			The condition is present in waters within 1 km that flow into the AA, but has not been documented in the AA itself.	0	
102			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
103			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
104	OF21	Degraded Water Downstream	The problem described above is downslope from the AA, and:		May use existing data, or monitor waters as part of this wetland assessment. [NRv, PRv, SRv]
105			The condition is present within 1 km downslope and connected to the AA by a channel.	0	
106			The condition is present within 5 km downslope and connected to the AA by a channel, or within 1 km but not connected to the AA by a channel.	0	
107			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
108			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
109	OF22	Wetland as a % of Its Contributing Area (Catchment)	From a topographic map and field observations, estimate the approximate boundaries of the catchment (CA) of the entire wetland of which the AA may be only a part. Then adjust those boundaries if necessary based on your field observations of the surrounding terrain, and/or by using procedures described in the Manual. Divide the area of the wetland (not just the AA) by the approximate area of its catchment excluding the area of the wetland itself. When doing the calculation, if ponded water is adjacent to the wetland, include that in the wetland's area. The result is:		Topographic maps may be viewed online at the National Atlas of Canada (Toporama): http://atlas.gc.ca/toporama/en/index.html [NR, PR, Sens, SR, WS]
110			<0.01, or catchment size unknown due to stormwater pipes that collect water from an indeterminate area.	0	
111			0.01 to 0.1.	0	
112			0.1 to 1.	1	
113			>1 (wetland is larger than its catchment (e.g., wetland with flat surrounding terrain and no inlet, or is entirely isolated by dikes, or is a raised bog).	0	
114	OF23	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 m upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, landslides, and other mostly-bare surface is about :		[FA, INV, NRv, PRv, SRv, STR, WCv, WSv]
115			<10%.	1	
116			10 to 25%.	0	
117			>25%.	0	
118	OF24	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following: (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow (bedrock near surface) and/or have high runoff coefficients. This statement is:		[NRv, PRv, SRv, WSv]
119			Mostly true.	0	
120			Somewhat true.	0	
121			Mostly untrue.	1	
122	OF25	Aspect	The overland flow direction of most surface water (in streams, rivers, or runoff) that enters the AA is:		[AM, NR, SFS, WC, WS]
123			Northward (N, NE). north-facing contributing area.	1	
124			Southward (S, SW). south-facing contributing area.	0	
125			Other (E, SE, W, NW), or no detectable uphill slope or input channel (flat).	0	

	A	B	C	D	E
126	OF26	Internal Flow Distance (Path Length)	The horizontal flow distance from the wetland's inlet to outlet is:		Identify inlets and outlets, if any, from topographic maps (use elevations to determine which are inlets and which are outlets) and augment by field inspection. With the Provincial Landscape Viewer, select Nova Scotia Topo as the Basemap. Also enable the layer Forestry-WAM Predicted Flow. Then measure the inlet-outlet distance. [NR, OE, PR, SR, WS]
127			<10 m.	0	
128			10 - 50 m.	0	
129			50 - 100 m.	0	
130			100 - 1000 m.	0	
131			1- 2 km.	0	
132		>2 km, or wetland lacks an inlet and outlet.	1		
133	OF27	Growing Degree Days	In Google Earth, open the KMZ file that accompanies this calculator, called NS_GrowingDegreeDays. Place your cursor over the AA and left-click. From the pop-up window, enter the GRIDCODE number in the next column.	2030	This layer was provided by Dr. Dan McKenney of the Canadian Forest Service [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WCv, WS]
134	OF28	Fish Access or Use	According to agency biologists and/or your own observations, the AA. [Mark just the first choice that is true.]:		Regarding the last choice, if uncertain if an AA is fishless, consider the possibility its waters have been stocked. [AM, FA, FR, INV, WBF, WBN]
135			Is known to support rearing and/or spawning by Atlantic salmon or other anadromous species or eels. Go to Provincial Landscape Viewer>Wildlife>Significant Habitat>Species at Risk. Contact local fishery biologists, review the ACCDC report, and visit these websites: http://www.salmonatlas.com/atlanticsalmon/canada-east/index.1.html http://atlanticsalmonfederation.org/rivers/introduction.html	0	
136			Has not been documented to support Atlantic salmon rearing and/or spawning, but is connected to nearby waters likely to contain Atlantic salmon or other anadromous species or eels and is probably accessed by those during some conditions.	0	
137			Is probably is not accessed by any anadromous fish species but is known or likely to have other fish at least seasonally.	0	
138			Is known or likely to be fishless (e.g., too small, dry, and/or not accessible even temporarily, and not stocked).	1	
139	OF29	Species of Conservation Concern	Within the past 10 years, in the AA (or in its adjoining waters or wetland), qualified observers have documented [mark all applicable]:		Request information from ACCDC and/or conduct your own survey at an appropriate season using an approved protocol. For birds, also check eBird.org. NOTE for NS: If your WESP-AC is being completed for a Wetland Alteration Application to NS-ECC, your ACCDC results and any taxon-specific survey results must be submitted along with your WESP-AC results, and application. [AMv, EC, PHv, POLv, SBMv, Sens, WBFv, WBNv]
140			Presence of one or more of the plant species listed in the Plants_Rare worksheet of the accompanying Supplnfo file, or the AA is within a mapped Atlantic Coastal Plain Flora Buffer (go to Provincial Landscape Viewer> Wildlife> Special Management Practice Zones).	0	
141			Presence of one or more of the amphibian or reptile species (AM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file.	0	
142			Presence of one or more of the waterbird species (WBF, WBN) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file.	0	
143			Presence of one or more of the nestling songbird or raptor species (SBM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file, during their nesting season (May-July for most species).	0	
144		None of the above, or no data.	1		
145	OF30	Important Bird Area (IBA)	In Google Earth, open the KMZ file that accompanies this calculator, called IBAs_Canada. The AA is all or part of an officially designated IBA. Enter 1= yes, 0= no.	0	The source of this layer, which should be checked periodically for updates, is: http://www.ibacanada.com/mapviewer.jsp?lang=EN [SBMv, WBFv, WBNv]
146	OF31	Black Duck Nesting Area	In Google Earth, open the KMZ file that accompanies this calculator, called BlackDuck. Adjust its alignment and opacity. Determine the predicted density (pairs per 25 sq. km) of nesting American Black Duck in the AA's vicinity: <10 (enter 0), 10-20 (enter 1), 20-30 (enter 2), >30 (enter 3). If outside of region shown in map, change to blank.	0	This was provided by Dr. David Leske. [WBNv]
147	OF32	Wintering Deer or Moose Concentration Areas	If AA is on private land with no information, change to blank (not 0). Otherwise: With the Provincial Landscape Viewer, for Wintering Moose, go to Wildlife> Significant Habitat. For Mainland Moose Concentration Areas, go to Wildlife> Special Management Practice Zones. Enter: yes= 1, no= 0.	0	[SBM]
148	OF33	Other Conservation Designation	The AA is all or part of an area designated by government, First Nations, or the Nature Conservancy of Canada (NCC) for its exceptional ecological features or highly intact natural conditions. With Provincial Landscape Viewer, see Protected Areas. Enter: yes= 1, no= 0. If uncertain, consult NCC and agencies for more recent information.	0	See: https://novascotia.ca/parksandprotectedareas/plan/interactive-map/ [PU]
149	OF34	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, or enhance the wetland (excluding mitigation wetlands). Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank (not 0).	0	[PU]
150	OF35	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank.		[PU]
151	OF36	Sustained Scientific Use	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank.		[PU]
152	OF37	Calcareous Region	The AA is NOT in a subregion that has been heavily exposed to acid precipitation. Enter "1" if true (green or yellow in map in Appendix A of the Manual). Enter "0" if false. If no information, change to blank.		[AM, FA, FR, INV, PH]

	A	B	C	D	E
153	OF38	Ownership	Select the ONE ownership that covers the most of the AA. In Google Earth, open KMZ file called NS_CrownlandsUse more recent information if available.		"Private lands" may include those owned or leased by non-governmental organizations, e.g., charitable conservation land trusts, DUC, TNC. [PU, STR]
154			New timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles) are permanently prohibited. Includes many publicly-owned Protected Lands, and private lands under long-term (30+ year) legal agreements to maintain nearly-unaltered conditions.	0	
155			Ownership is public (e.g., municipal, Crown Reservations/Notations) but some or all of the above activities are allowed.	1	
156			Ownership is private but public access is allowed, and/or a shorter-term conservation easement (whether renewable or not) is in place.	0	
157			Ownership is private and owner does not allow access, or access permission unknown, and not a conservation easement.	0	

	A	B	C	D	E	
1	Date: 21 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 31	Investigator: RK MM		
2	<p>Form F (Field). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia. DIRECTIONS: Walk for no less than 10 minutes from the wetland edge towards its core, in the part of the AA that is proposed for alteration. If no alteration is proposed, walk in a portion that appears to be most representative of the wetland overall. Walk only where it is safe and legal to do so. Conduct the assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgeable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form will require 1-2 hours on a site. For a list of functions to which each question pertains, see the accompanying Interpretations form. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage & Delay, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.</p>					
3	#	Indicators	Condition Choices	Data	Definitions/Explanations	
4	F1	Wetland Type	Follow the key below and mark the ONE row that best describes MOST of the vegetated part of the AA:		<p>Ericaceous shrubs are ones in the heather family (Ericaceae). Most have leathery evergreen leaves. They include rhododendron, azalea, swamp laurel, leatherleaf, Labrador tea, and others. Most require acidic soil. Although not in the family Ericaceae, sweetgale (<i>Myrica gale</i>) should be counted also. [AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]</p>	
5			A. Moss and/or lichen cover more than 25% of the ground. Often dominated by ericaceous shrubs (e.g., Labrador tea) or other acid-tolerant plants (e.g., bog cranberry, pitcher plant, sundew, orchids). Substrate is mostly undecomposed peat. Choose between A1 and A2 and mark the choice with a 1 in their adjoining column. Otherwise go to B below.			
6			A1. Surface water is usually absent or, if present, pH is typically <4.5 and conductivity is usually <100 µS/cm (<64 ppm TDS). Trees are absent or nearly so. Sedge cover usually sparse or absent but cottongrass and/or lichen cover may be extensive, as well as cloudberry, lingonberry, sheep laurel, and a sedge (<i>Carex rariflora</i>). Wetland surface and surrounding landscape are seldom sloping and wetland often is domed (convex). Inlet and outlet channels are usually absent. If known, pH of peat is <4.0.	0		
7			A2. Not A1. Surface water, if present, has pH typically >4.5 and conductivity is usually >100 µS/cm (>64 ppm TDS). Sedge cover is usually extensive, and/or tree and tall shrub cover is extensive. Sometimes at toe of slope or edge of water body. An exit channel is usually present. Wetter than A1 and peat depth may be shallower (<2 m).	1		
8			B. Moss and/or lichen cover less than 25% of the ground. Soil is mineral or decomposed organic (muck). Choose between B1 and B2 and mark the choice with a 1 in their adjoining column:			
9			B1. Trees and shrubs taller than 1 m comprise more than 25% of the vegetated cover. Surface water is mostly absent or inundates the vegetation only seasonally (e.g., vernal pools or floodplain).	0		
10			B2. Not B1. Tree & tall shrubs comprise less than than 25% of the vegetated cover. Vegetation is mostly herbaceous, e.g., cattail, bulrush, burreed, pond lily, horsetail. Surface water may be extensive and fluctuates seasonally, being either persistent or drying up partly or entirely.	0		
11	<p>Reminder: For all questions, the AA should include all persistent waters in ponds smaller than 8 hectares (~283 m on a side) that are adjacent to the AA. The AA should also include part of the water area of adjacent ponded water larger than 8 ha and adjacent rivers wider than 20 m. Specifically, the AA should include the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone. Throughout this data form, "adjacent" is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.</p>					
12	F2	Wetland Types - Adjoining or Subordinate	If the AA is smaller than 1 ha, mark all other types that occupy more than 1% of the vegetated AA. If the AA is larger than 1 ha, mark all other types which are within or adjacent to the AA and occupy more than 1 ha, as visible from the AA or as interpreted from aerial imagery. Do not mark again the type marked in F1.			<p>1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, INV, SBM, WBF]</p>
13			A1.	0		
14			A2.	0		
15			B1.	0		
16			B2.	0		

	A	B	C	D	E
17	F3	Woody Height & Form Diversity	Following EACH row below, indicate with a number code the percentage of the living vegetation in the AA which is occupied by that feature (6 if >95%, 5 if 75-95%, 4 if 50-75%, 3 if 25-50%, 2 if 5-25%, 1 if <5%, 0 if none). If the vegetated part of the AA is largely herbaceous (non-woody) vegetation, these percentages should not sum to 100%.		Deciduous shrubs in this region usually include buttonbush, Labrador tea, bayberry (<i>Morella</i>), huckleberry, cranberry, cloudberry, sweetgale, alder, willow, birch, ash, dogwood, and a few others. If you assigned a code of 3 or higher to any of the first four choices and the ground cover beneath the trees/shrubs is <25% moss, then question F1 might be "B1". [CS, INV, NR, PH, POL, SBM, Sens]
18			coniferous trees (may include tamarack) taller than 3 m.	3	
19			deciduous trees taller than 3 m.	4	
20			coniferous or ericaceous shrubs or trees 1-3 m tall not directly below the canopy of trees.	1	
21			deciduous shrubs or trees 1-3 m tall not directly below the canopy of trees.	1	
22			coniferous or ericaceous shrubs <1 m tall not directly below the canopy of taller vegetation.	1	
23			deciduous shrubs or trees <1 m tall (e.g., deciduous seedlings) not directly below the canopy of taller vegetation.	1	
24	Note: If none of top 4 rows in F3 was marked 2 or greater, SKIP to F9 (N fixers).				
25	F4	Dominance of Most Abundant Shrub Species	Determine which two woody plant species comprise the greatest portion of the low (<3 m) woody cover. Then choose one:		[PH, POL, SBM, Sens]
26			those species together comprise > 50% of such cover.	1	
27			those species together do not comprise > 50% of such cover.	0	
28	F5	Woody Diameter Classes	Mark ALL the types that comprise >5% of the woody canopy cover in the AA or >5% of the wooded areas (if any) along its upland edge (perimeter). The edge should include only the trees whose canopies extend into the AA.		Estimate the diameters at chest height. If small-diameter trees are overtopped (shaded) by larger ones, visualise a "subcanopy" at the average height of the smaller-dbh trees, to serve as a basis for the minimum 5% canopy requirement in this question. The trees and shrubs need not be wetland species. [AM, CS, POL, SBM, Sens, WBN]
29			coniferous, 1-9 cm diameter and >1 m tall.	1	
30			broad-leaved deciduous 1-9 cm diameter and >1 m tall.	1	
31			coniferous, 10-19 cm diameter.	1	
32			broad-leaved deciduous 10-19 cm diameter.	1	
33			coniferous, 20-40 cm diameter.	0	
34			broad-leaved deciduous 20-40 cm diameter.	1	
35			coniferous, >40 cm diameter.	0	
36			broad-leaved deciduous >40 cm diameter.	0	
37	F6	Height Class Interspersion	Follow the key below and mark the ONE row that best describes MOST of the AA:		[AM, INV, NR, PH, SBM, Sens]
38			A. Neither the vegetation taller than 1 m nor the vegetation shorter than that comprise >70% of the vegetated part of the AA. They each comprise 30-70%. Choose between A1 and A2 and mark the choice with a 1 in the adjoining column. Otherwise go to B below.		
39			A1. The two height classes are mostly scattered and intermixed throughout the AA.	0	
40			A2. Not A1. The two height classes are mostly in separate zones or bands, or in proportionately large clumps.	1	
41			B. Either the vegetation shorter than 1 m comprises >70% of the vegetated part of the AA, or the vegetation taller than that does. One size class might even be totally absent. Choose between B1 and B2 and mark the choice with a 1 in the adjoining column:		
42			B1. The less prevalent height class is mostly scattered and intermixed within the prevalent one.	0	
43			B2. Not B1. The less prevalent height class is mostly located apart from the prevalent one, in separate zones or clumps, or is completely absent.	0	
44	F7	Large Snags (Dead Standing Trees)	The number of large snags (diameter >20 cm) in the AA plus adjacent upland area within 10 m of the wetland edge is:		Snags are dead standing trees that often (not always) lack bark and foliage. Include only ones that are at least 2 m tall. [POL, SBM, WBN]
45			None, or fewer than 8/ hectare which exceed this diameter.	1	
46			Several (>8/hectare) and a pond, lake, or slow-flowing water wider than 10 m is within 1 km.	0	
47			Several (>8/hectare) but above not true.	0	
48	F8	Downed Wood	The number of downed wood pieces longer than 2 m and with diameter >10 cm, and not persistently submerged, is:		Exclude temporary "burn piles." [AM, INV, POL, SBM]
49			Few or none that meet these criteria.	1	
50			Several (>5 if AA is >5 hectares, less for smaller AAs) meet these criteria.	0	
51	F9	N Fixers	The percentage of the AA's vegetated cover that contains nitrogen-fixing plants (e.g., alder, sweetgale, clover, lupine, alfalfa, other legumes) is:		Do not include N-fixing algae or lichens. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
52			<1% or none.	1	
53			1-25% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
54			25-50% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
55			50-75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
56			>75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	

	A	B	C	D	E
57	F10	Sphagnum Moss Extent	The cover of Sphagnum moss (or any moss that forms a dense cushion many centimeters thick), including the moss obscured by taller sedges and other plants rooted in it, is:		Exclude moss growing on trees and rocks. [CS, PH]
58			<5% of the vegetated part of the AA.	0	
59			5-25% of the vegetated part of the AA.	0	
60			25-50% of the vegetated part of the AA.	0	
61			50-95% of the vegetated part of the AA.	1	
62			>95% of the vegetated part of the AA.	0	
63	F11	% Bare Ground & Thatch	Consider the parts of the AA that lack surface water at the driest time of the growing season. Viewed from directly above the ground layer, the predominant condition in those areas at that time is:		Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is present under a tree or shrub canopy should be counted. Boulders count as bare ground. Wetlands with mineral soils and that are heavily shaded or are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens]
64			Little or no (<5%) <i>bare ground</i> is visible between erect stems or under canopy anywhere in the vegetated AA. Ground is extensively blanketed by dense thatch, moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	1	
65			Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0	
66			Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the AA.	0	
67			Other conditions.	0	
68			Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0	
69	F12	Ground Irregularity	Imagine the AA without any living vegetation. Excluding the portion of the AA that is always under water, the number of hummocks, small pits, raised mounds, animal burrows, ruts, gullies, natural levees, microdepressions, and other areas of peat or mineral soil that are raised or depressed >10 cm compared to most of the area within a few meters surrounding them is:		The depressions may be of human or natural origin. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
70			Few or none (minimal microtopography: <1% of the land has such features, or entire AA is always water-covered).	0	
71			Intermediate.	1	
72			Several (extensive micro-topography).	0	
73	F13	Upland Inclusions	Within the AA, inclusions of upland are:		[AM, NR, SBM]
74			Few or none.	1	
75			Intermediate (1 - 10% of vegetated part of the AA).	0	
76			Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).		
77	F14	Soil Texture	In parts of the AA that lack persistent water, the texture of soil in the uppermost layer is mostly: [<i>To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key (in Appendix A of the Manual).</i>]		[CS, NR, OE, PH, PR, Sens, SFS, WS]
78			Loamy: soils that may contain a little fine grit and do not make a "ribbon" longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
79			Fines: includes silt, clay, silt, soils that make a ribbon longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
80			Deep Peat, to 40 cm depth or greater.	0	
81			Shallow Peat or organic <40 cm deep.	1	
82			Coarse: includes sand, loamy sand, gravel, cobble, soils that do not make a ribbon when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
83	F15	Shorebird Feeding Habitats	During any 2 consecutive weeks of the growing season, the extent of mudflats, bare unshaded saturated areas not covered by thatch, and unshaded waters shallower than 6 cm is: [Include also any area that is adjacent to the AA.]		This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
84			None, or <100 sq. m.	1	
85			100-1000 sq. m.	0	
86			1000 – 10,000 sq. m.	0	
87			>10,000 sq. m.	0	
88	F16	Herbaceous % of Vegetated Wetland	In aerial ("ducks eye") view, the maximum annual cover of herbaceous vegetation (all non-woody plants except moss) is:		[AM, WBF, WBN]
89			<5% of the vegetated part of the AA or <0.01 hectare (whichever is less). Mark "1" here and SKIP to F20 (Invasive Plant Cover).	0	
90			5-25% of the vegetated part of the AA.	0	
91			25-50% of the vegetated part of the AA.	0	
92			50-95% of the vegetated part of the AA.	1	
93			>95% of the vegetated part of the AA.	0	

	A	B	C	D	E
94	F17	Forb Cover	Within parts of the AA having herbaceous cover (excluding SAV), the areal cover of forbs reaches an annual maximum of:		Forbs are flowering plants. Do not include grasses, sedges, cattail, other graminoids, ferns, horsetails, or others that lack showy flowers. [POL]
95	<5% of the herbaceous part of the AA.		0		
96	5-25% of the herbaceous part of the AA.		0		
97	25-50% of the herbaceous part of the AA.		0		
98	50-95% of the herbaceous part of the AA.		1		
99	>95% of the herbaceous part of the AA.	0			
100	F18	Sedge Cover	Sedges (<i>Carex</i> spp.) and cottongrass (<i>Eriophorum</i> spp.) occupy:		[CS]
101	<5% of the vegetated area, or none.		1		
102	5-50% of the vegetated area.		0		
103	50-95% of the vegetated area.		0		
104	>95% of the vegetated area.		0		
105	F19	Dominance of Most Abundant Herbaceous Species	Determine which two herbaceous species comprise the greatest portion of the herbaceous cover (excluding mosses and floating-leaved aquatic plants). Then choose one of the following:		For this question, include ferns as well as graminoids and forbs. [EC, INV, PH, POL, Sens]
106			those species together comprise > 50% of the areal cover of herbaceous plants at any time during the year.	0	
107			those species together do not comprise > 50% of the areal cover of herbaceous plants at any time during the year.	1	
108	F20	Invasive Plant Cover	How extensive is the cover of invasive plant species in the AA? For species, see Plants_invasive worksheet in the accompanying SuppInfo file.		[EC, PH, POL, Sens]
109			invasive species appear to be absent in the AA, or are present only in trace amount (a few individuals).	1	
110			invasive species are present in more than trace amounts, but comprise <5% of herbaceous cover (or woody cover, if the invasives are woody).	0	
111			invasive species comprise 5-20% of the herb cover (or woody cover, if the invasives are woody).	0	
112			invasive species comprise 20-50% of the herb cover (or woody cover, if the invasives are woody).	0	
113			invasive species comprise >50% of the herb cover (or woody cover, if the invasives are woody).	0	
114	F21	Invasive Cover Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 3 m upslope from the wetland) that is occupied by invasive plant species is:		If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an exotic species, assume the unidentified plant to also be exotic. If vegetation is so senesced that exotic species cannot be identified, answer "none". [PH, STR]
115			none of the upland edge (invasives apparently absent), or AA has no upland edge.	1	
116			some (but <5%) of the upland edge.	0	
117			5-50% of the upland edge.	0	
118			most (>50%) of the upland edge.	0	
119	F22	Fringe Wetland	During most of the year, open water within or adjacent to the vegetated part of the wetland is much wider than the maximum width of the vegetated zone within the wetland. Enter "1" if true, "0" if false.	0	[WBF, WBN, WCV]
120	F23	Lacustrine Wetland	The vegetated part of the AA is within or adjacent to a body of non-tidal standing open water whose size exceeds 8 hectares during most of a normal year.	0	[FR, PR, PU, WBF, WBN]
121	F24	% of AA Without Surface Water	The percentage of the AA that <u>never</u> contains <u>surface</u> water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC]
122			<1% . In other words, all or nearly all of the AA is covered by water permanently or at least seasonally.	0	
123			1-25% of the AA, or <1% but >0.01 ha never contains surface water.	0	
124			25-50% of the AA never contains surface water.	0	
125			50-75% of the AA never contains surface water.	0	
126			75-99% of the AA never contains surface water, OR >99% and there is at least one persistently ponded water body larger than 1 ha in the AA.	1	
127			99-100%. AND there is no persistently ponded water body larger than 1 ha within the AA. Enter "1" and SKIP to F42 (Channel Connection).	0	
128	F25	% of AA with Persistent Surface Water	Identify the parts of the AA that still contain surface water (flowing or ponded, open or hidden beneath vegetation) even during the driest times of a normal year, i.e., when the AA's surface water is at its lowest annual level. At that time, the percentage of the AA that still contains surface water is:		if you are unable to determine the condition at the driest time of year, ask the land owner or neighbors about it if possible. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [AM, CS, FA, FR, INV, NR, POL, PR, SBM, WBF, WBN]
129			None. The AA dries up completely (no water in channels either) or never has surface water during most years. SKIP to F27.	1	
130			1-20% of the AA.	0	
131			20-50% of the AA.	0	
132			50-95% of the AA.	0	
133			>95% of the AA. True for many fringe wetlands.	0	

	A	B	C	D	E
134	F26	% of Summertime Water that Is Shaded	At mid-day during the warmest time of year, the area of surface water <u>within</u> the AA that is shaded by vegetation and other features that are within the AA at that time is:		[FA, WC]
135			<5% of the water is shaded, or no surface water is present then.	0	
136			5-25% of the water is shaded.	0	
137			25-50% of the water is shaded.	0	
138			50-75% of the water is shaded.	0	
139			>75% of the water is shaded.	0	
140	F27	% of AA that is Flooded Only Seasonally	The percentage of the AA's area that is between the annual high water and the annual low water (surface water) is:		Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualising where that would intercept the land along the river. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
141			None, or <0.01 hectare and <1% of the AA. SKIP to F29.	1	
142			1-20% of the AA, or <1% but >0.01 ha.	0	
143			20-50% of the AA.	0	
144			50-95% of the AA.	0	
145			>95% of the AA.	0	
146	F28	Annual Water Fluctuation Range	The annual fluctuation in surface water level within most of the parts of the AA that contain surface water at least temporarily is:		Look for flood marks (see above). Because the annual range of water levels is difficult to estimate without multiple visits, consider asking the land owner or neighbors about it. [AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
147			<10 cm change (stable or nearly so).	0	
148			10 cm - 50 cm change.	0	
149			0.5 - 1 m change.	0	
150			1-2 m change.	0	
151			>2 m change.	0	
152			Is the AA plus adjacent ponded water smaller than 0.01 hectare (about 10m x 10m, or 1m x 100 m)? If so, enter "1" in column D and SKIP TO F42 (Connection).	0	
153	F29	Predominant Depth Class	During most of the time when surface water is present during the growing season, its depth, averaged over the entire inundated part of the AA, is:		If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth of the most persistently inundated part of the wetland. Include surface water in channels and ditches as well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC]
154			<10 cm deep (but >0).	1	
155			10 - 50 cm deep.	0	
156			0.5 - 1 m deep.	0	
157			1 - 2 m deep.	0	
158			>2 m deep. True for many fringe wetlands.	0	
159	F30	Depth Classes - Evenness of Proportions	When present, surface water in most of the AA usually consists of (select one):		Estimate these proportions by considering the gradient and microtopography of the site. [FR, INV, WBF, WBN]
160			One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).	1	
161			One depth class that comprises 50-90% of the AA's inundated area.	0	
162			Neither of above. There are 3 or more depth classes and none occupy >50%.	0	
163	F31	% of Water That Is Ponded (not Flowing)	During most times when surface water is present, the percentage that is (1) ponded (stagnant, or flows so slowly that fine sediment is not held in suspension) AND (2) is likely to be deeper than 0.5 m in some places, is:		Nearly all wetlands with surface water have some ponded water. [AM, CS, INV, NR, OE, PR, Sens, SR, WBF, WBN, WC, WS]
164			<5% of the water, or it occupies <100 sq.m cumulatively. Nearly all the surface water is flowing. SKIP to F34.	1	
165			5-30% of the water.	0	
166			30-70% of the water.	0	
167			70-95% of the water.	0	
168			>95% of the water.	0	
169	F32	Ponded Open Water - Minimum Size	During most of the growing season, the largest patch of open water that is ponded and is in or bordering the AA is >0.01 hectare (about 10 m by 10 m) and mostly deeper than 0.5 m. If true enter "1" and continue, If false, enter "0" and SKIP to F41 (Floating Algae & Duckweed).	0	Open water is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it.
170	F33	% of Ponded Water that is Open	In ducks-eye aerial view, the percentage of the ponded water that is open (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:		[AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC]
171			None, or <1% of the AA and largest pool occupies <0.01 hectares. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
172			1-4% of the ponded water. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
173			5-30% of the ponded water.	0	
174			30-70% of the ponded water.	0	
175			70-99% of the ponded water.	0	
176			100% of the ponded water.	0	

	A	B	C	D	E
177	F34	Width of Vegetated Zone within Wetland	At the time during the growing season when the AA's water level is lowest, the average width of vegetated area <u>in the AA</u> that separates adjoining uplands from open water within the AA is:		"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. [AM, CS, NR, OE, PH, PR, SBM, Sens, SR, WBN]
178	<1 m.		0		
179	1 - 9 m.		1		
180	10 - 29 m.		0		
181	30 - 49 m.		0		
182	50 - 100 m.		0		
183	> 100 m, or open water is absent at that time.	0			
184	F35	Flat Shoreline Extent	During most of the part of the growing season when water is present, the percentage of the AA's water edge length that is nearly flat (a slope less than about 5% measured within 5 m landward of the water) is:		If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
185	<1% of the water edge.		0		
186	1-25% of the water edge.		0		
187	25-50% of the water edge.		1		
188	50-75% of the water edge.		0		
189	>75% of the water edge.	0			
190	F36	Robust Emergents	The percentage of the emergent vegetation cover in the AA that is cattail (<i>Typha</i> spp.), common reed (<i>Phragmites</i>), or tall (>1m) bulrush is:		Emergent vegetation is herbaceous plants whose stems are partly above and partly below the water surface during most of the time water is present. [WBN]
191	<1% of the emergent vegetation, or emergent vegetation is absent. SKIP to F38.		1		
192	1-25% of the emergent vegetation.		0		
193	25-75% of the emergent vegetation.		0		
194	>75% of the emergent vegetation.	0			
195	F37	Interspersion of Emergents & Open Water	During most of the part of the growing season when water is present, the spatial pattern of emergent vegetation within the water is mostly:		[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
196	Scattered. More than 30% of such vegetation forms small islands or corridors surrounded by water.		0		
197	Intermediate.		0		
198	Clumped. More than 70% of such vegetation is in bands along the wetland perimeter or is clumped at one or a few sides of the surface water area.		0		
199	F38	Persistent Deepwater Area	If the deepest patch of surface water (flowing or ponded) in or directly adjacent to the AA is mostly deeper than 0.5 m for >2 weeks during the growing season, enter "1" and continue. If not, enter "0" and SKIP to F42. (Connection).	0	
200	F39	Non-vegetated Aquatic Cover	During most of the growing season and in waters deeper than 0.5 m, the cover for fish, aquatic invertebrates, and/or amphibians that is provided NOT by living vegetation, but by accumulations of dead wood and undercut banks is:		For this question, consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are unreliable so should not be attempted. [AM, FA, FR, INV]
201	Little or none.		1		
202	Intermediate.		0		
203	Extensive.	0			
204	F40	Isolated Island	The AA contains (or is part of) an island or beaver lodge within a lake, pond, or river, and is isolated from the shore by water depths >1 m on all sides during an average June. The island may be solid, or it may be a floating vegetation mat that is sufficiently large and dense to support a waterbird nest.	0	[WBN]
205	F41	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed are likely to cover >50% of the AA's otherwise-unshaded water surface, or blanket >50% of the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	[EC, PR, WBF]

	A	B	C	D	E
206	F42	Channel Connection & Outflow Duration	The most persistent surface water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and a downslope stream network is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of the wetland, or the surface connection between the wetland and the downslope stream network.]		Consider the connection regardless of whether the surface water is frozen. The "downslope stream network" could consist of ditches, rivers, ponds, or lakes which eventually connect to the ocean. If this cannot be determined while visiting the AA, consult topographic maps perhaps by viewing these online with Toporama (http://atlas.nrcan.gc.ca/toporama/en/index.html) [CS, FA, FR, NR, OE, PR, Sens, SFS, SR, WCv, WS]
207	Persistent (surface water flows out for >9 months/year).		0		
208	Seasonal (surface water flows out for 14 days to 9 months/year, not necessarily consecutive).		0		
209	Temporary (surface water flows out for <14 days, not necessarily consecutive).		0		
210	None -- but maps show a stream network downslope from the AA and within a distance that is less than the AA's length. SKIP to F47 (pH Measurement).		0		
211	No surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. SKIP to F47 (pH Measurement).	1			
212	F43	Outflow Confinement	During major runoff events, in the places where surface water exits the AA or connected waters nearby, the water:		"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS, NR, OE, PR, Sens, SR, STR, WS]
213	Mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not appear to drain the wetland artificially during most of the growing season.		0		
214	Leaves through natural exits (channels or diffuse outflow), not mainly through artificial or temporary features.		0		
215	Is exported more quickly than usual due to ditches or pipes within the AA or connected to its outlet, or within 10 m of the AA's edge, which drain the wetland artificially, or water is pumped out of the AA.		0		
216	F44	Tributary Channel	At least once annually, surface water from a tributary channel that is >100 m long moves into the AA. Or, surface water from a larger permanent water body adjacent to the AA spills into the AA. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. If no, SKIP to F47 (pH Measurement).	0	If inlet tributaries cannot be searched for due to inaccessibility of part of the AA, follow suggestions in F42 above. [NRv, PH, PRv, SRv]
217	F45	Input Water Temperature	Based on lack of shade, water source characteristics, or actual temperature measurements, the inflow is likely to be warmer than surface water in the AA during part of most years. Enter 1= yes, 0= no.	0	[WCv]
218	F46	Throughflow Resistance	During its travel through the AA at the time of peak annual flow, water arriving in channels: [select only the ONE encountered by most of the incoming water].		[FA, FR, INV, NR, OE, PR, SR, WS]
219	Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel in unvegetated (often incised) channels that have minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.		0		
220	Bumps into herbaceous vegetation but mostly remains in fairly straight channels.		0		
221	Bumps into herbaceous vegetation and mostly spreads throughout, or is in widely meandering, multi-branched, or braided channels.		0		
222	Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels.		0		
223	Bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).		0		
224	F47	pH Measurement	The pH in most of the AA's surface water:		Preferably, measure this in larger areas of ponded surface water within the AA, or in streams that have passed through (not along) most of the AA. Unless surface water is completely absent, do not dig holes or make depressions in peat in order to provide water for this measurement. Avoid measuring near roads or in puddles formed only by recent rain. [AM, FA, FR, NR, WBF, PH, PR, Sens, WBF, WBN]
225	Was measured, and is: [enter the reading in the column to the right.]				
226	Was not measured but surface water is present and is darkly tea-coloured. Or if no surface water, then mosses and plants that indicate peatland (e.g., Labrador tea) are prevalent. Enter "1".		0		
227	Neither of above. Enter "1".		1		
228	F48	TDS and/or Conductivity	The TDS (total dissolved solids) or conductivity off the AA's surface water is: (select the first true row with information):		See above for measurement guidance. [FR, INV, NRv, PH, PRv, Sens]
229	TDS is: [Enter the reading in ppm or mg/L in the column to the right, if measured, or answer next row.]				
230	Conductivity is: [Enter the reading in µS/cm in the column to the right.]				
231	Was not measured, but plants that indicate saline conditions cover much of the vegetated AA. Enter "1".		0		
232	Neither of above		1		
233	F49	Beaver Probability	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
234	Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		0		
235	Likely based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.		0		
236	Unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed.		1		

	A	B	C	D	E
237	F50	Groundwater Strength of Evidence	Select first applicable choice:		Adhere to these criteria strictly -- do not use personal judgment based on fen conditions, pH, or other evidence. Consult topographic maps to detect breaks in slope described here. Rust deposits associated with groundwater seeps may be most noticeable as orange discoloration in ice formations along streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS]
238			Springs are known to be present within the AA, or if groundwater levels have been monitored, that has demonstrated that groundwater primarily discharges to the wetland for longer periods during the year than periods when the wetland recharges the groundwater.	0	
239			Most of the AA has a slope of >5%, or is very close to the base of a natural slope longer than 100 and much steeper than the slope of the AA, AND the pH of surface water, if known, is >5.5.	0	
240			Neither of above is true, although some groundwater may discharge to or flow through the AA. Or groundwater influx is unknown.	1	
241	F51	Internal Gradient	The gradient along most of the flow path within the AA is:		This is not the same as the shoreline slope. It is the elevational difference between the AA's inlet and outlet, divided by the flow-distance between them and converted to percent. If available, use a clinometer to measure this. Free clinometer apps can be downloaded to smartphones. If the wetland is large (longer than -1 km), this may be estimated using Google Earth to determine the minimum and maximum elevation within the AA, then dividing by length and multiplying by 100. [CS, NR, OE, PR, SR, WBF, WBN, WS]
242			<2% or the AA has no surface water outlet (not even seasonally).	1	
243			2-5%.	0	
244			6-10%.	0	
245			>10%.	0	
246		Note for the next three questions: If the AA lacks an upland edge, evaluate based on the AA's entire perimeter, and moving outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.			
247	F52	Vegetated Buffer as % of Perimeter	Within a zone extending 30 m laterally from the AA's edge with upland and/or other wetlands, the percentage that contains perennial vegetation cover (except lawns, row crops, heavily grazed land, conifer plantations) is:		[AM, FA, FR, INV, NRv, PH, POL, PRv, SBM, Sens, SRv, STR, WBN]
248			<5%.	0	
249			5 to 30%.	0	
250			30 to 60%.	0	
251			60 to 90%.	0	
252			>90%, or all the area within 30 m of the AA edge is other wetlands. SKIP to F55.	1	
253	F53	Type of Cover in Buffer	Within 30 m upslope of where the wetland transitions to upland, the upland land cover that is NOT perennial vegetation is mostly (mark ONE):		[AM, FA, INV, NRv, PH, POL, SBM, STR, WBN]
254			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
255			Bare or nearly bare pervious surface or managed vegetation, e.g., lawn, row crops, unpaved road, dike, landslide.	0	
256	F54	Buffer Slope	The steepest and/or most disturbed part of the upland area that is within 30 m of the wetland and occupies >10% of that upland area has a percent slope of:		[NRv, PRv, Sens, SRv]
257			<1% (flat -- almost no noticeable slope) or all the area within 30 m of the AA edge is other wetlands.	0	
258			2-5%.	0	
259			5-30%.	0	
260			>30%.	0	
261	F55	Cliffs or Steep Banks	In the AA or within 100 m, there are elevated terrestrial features such as cliffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 2 m nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	0	Do not include upturned trees as potential den sites. [POL, SBM]
262	F56	New or Expanded Wetland	Human actions within or adjacent to the AA have persistently expanded a naturally occurring wetland or created a wetland where there previously was none (e.g., by excavation, impoundment):		Determine this using historical aerial photography, old maps, soil maps, or permit files as available [CS, NR, OE, PH, Sens]
263			No.	0	
264			Yes, and created or expanded 20 - 100 years ago.	0	
265			Yes, and created or expanded 3-20 years ago.	0	
266			Yes, and created or expanded within last 3 years.	0	
267			Yes, but time of origin or expansion unknown.	0	
268		Unknown if new or expanded within 20 years or not.	1		
269	F57	Burn History	More than 1% of the AA's previously vegetated area:		Look for charred soil or stumps (in multiple widely-spaced locations) or ask landowner. [CS, PH, STR]
270			Burned within past 5 years.	0	
271			Burned 6-10 years ago.	0	
272			Burned 11-30 years ago.	0	
273			Burned >30 years ago, or no evidence of a burn and no data.	1	

	A	B	C	D	E
274	F58	Visibility	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 100 m of the AA (select one) is:		[PU, STR, WBFv]
275	<25%.		0		
276	25-50%.		0		
277	>50%.		1		
278	F59	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select ALL statements that are true of the AA as it currently exists:		[PU, STR]
279	For an average person, walking is physically possible in (not just near) >5% of the AA during most of the growing season, e.g., free of deep water and dense shrub thickets.		1		
280	Maintained roads, parking areas, or foot-trails are within 10 m of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.		1		
281	Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.		0		
282	F60	Unvisited Core Area	The percentage of the AA almost never visited by humans during an average growing season probably comprises: <i>[Note: Only include the part actually walked or driven (not simply viewed from) with a vehicle or boat. Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 30 m of the wetland edge. In that case include only the area occupied by the trail.]</i>		[AM, FAv, FRv, PH, PU, SBM, STR, WBF, WBN]
283	<5% and no inhabited building is within 100 m of the AA.		0		
284	<5% and inhabited building is within 100 m of the AA.		0		
285	5-50% and no inhabited building is within 100 m of the AA.		0		
286	5-50% and inhabited building is within 100 m of the AA.		0		
287	50-95%, with or without inhabited building nearby.		0		
288	>95% of the AA with or without inhabited building nearby.		1		
289	F61	Frequently Visited Area	The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: <i>[See note above.]</i>		[AM, PH, PU, SBM, STR, WBF, WBN]
290	<5%. If F60 was answered ">95%" (mostly never visited), SKIP to F64.		1		
291	5-50%.		0		
292	50-95%.		0		
293	>95% of the AA.		0		
294	F62	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on soil within nearly all of the AA when the soil is unfrozen. Enter "1" if true.	0	[PH, PU]
295	F63	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorised boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	0	[AM, PU, WBF, WBN]
296	F64	Consumptive Uses (Provisioning Services)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select ALL that apply.		[FAv, FRv, WBFv]
297	Low-impact commercial timber harvest (e.g., selective thinning).		0		
298	Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.		0		
299	Waterfowl hunting.		0		
300	Fishing.		0		
301	Trapping of furbearers.		0		
302	None of the above.	1			
303	F65	Domestic Wells	The closest wells or water bodies that currently provide drinking water are:		[NRv]
304	Within 0-100 m. of the AA.		0		
305	100-500 m. away.		0		
306	>500 m. away, or no information.		1		
307	F66	Calcareous Fen	The AA is, or is part of, a calcareous fen. See the Plants_Calcar worksheet in the accompanying SupplInfo file for list of plant indicators (calciphiles). Enter 1 if more than two Strong or more than five Moderate calciphile species are present; otherwise enter 0, but if not able to identify those and no information, change to blank.		[PH, PR]

Investigator: RK MM	Site Identifier: Goose Harbour Lake Wind Farm, Wetland 31	Date: 21 Sept 2022
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Stressor (S) Data Form for Non-Tidal Wetlands. WESP-AC for Nova Scotia version 2.

				Data	
S1	Aberrant Timing of Water Inputs				
	<i>In the last column, place a check mark next to any item that is likely to have caused the timing of water inputs (but not necessarily their volume) to shift by hours, days, or weeks, becoming either more muted (smaller or less frequent peaks spread over longer times, more temporal homogeneity of flow or water levels) or more flashy (larger or more frequent spikes but over shorter times). [FA, FR, INV, PH, STR]</i>				
	Stormwater from impervious surfaces that drains directly to the wetland.				
	Water subsidies from wastewater effluent, septic system leakage, snow storage areas, or irrigation.				
	Regular removal of surface or groundwater for irrigation or other consumptive use.				
	Flow regulation in tributaries or water level regulation in adjoining water body, or other control structure at water entry points that regulates inflow to the wetland.				
	A dam, dike, levee, weir, berm, or fill -- within or downgradient from the wetland -- that interferes with surface or subsurface flow in/out of the AA (e.g., road fill, wellpads, pipelines).				
	Excavation within the wetland, e.g., dugout, artificial pond, dead-end ditch.				
	Artificial drains or ditches in or near the wetland.				
	Accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level).				
	Logging within the wetland.				
	Subsidence or compaction of the wetland's substrate as a result of machinery, livestock, fire, drainage, or off road vehicles.				
	Straightening, ditching, dredging, and/or lining of tributary channels.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items had no measurable effect on the timing of water conditions in any part of the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of timing shift within the wetland:	>95% of wetland.	5-95% of wetland.	<5% of wetland.	0
	When most of the timing shift began:	<3 yrs ago.	3-9 yrs ago.	10-100 yrs ago.	0
	<i>Score the following 2 rows only if the altered inputs began within past 10 years, and only for the part of the wetland that experiences those.</i>				
	Input timing now vs. previously:	Shift of weeks.	Shift of days.	Shift of hours or minutes.	0
	Flashiness or muting:	Became very flashy or controlled.	Intermediate.	Became mildly flashy or controlled.	0
			Sum=	0	
			Stressor subscore=	0.00	

S2	Accelerated Inputs of Contaminants and/or Salts				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of contaminants or salts to the AA. [AM, FA, PH, POL, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills, industrial facilities.				
	Metals & chemical wastes from mining, shooting ranges, snow storage areas, oil/ gas extraction, other sources (download many locations from National Pollutant Release Inventory and view KMZ overlay in Google Earth. https://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=B85A1846-1)				
	Road salt.				
	Spraying of pesticides, as applied to lawns, croplands, roadsides, or other areas in the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly higher levels of contaminants and/or salts, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Usual toxicity of most toxic contaminants:	Industrial effluent, mining waste, unmanaged landfill.	Cropland, managed landfill, pipeline or transmission rights-of-way.	Low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	
S3	Accelerated Inputs of Nutrients				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of nutrients to the wetland. [NRv, PRv, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills.				
	Fertilizers applied to lawns, ag lands, or other areas in the CA.				
	Livestock, dogs.				
	Artificial drainage of upslope lands.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly more nutrients, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Type of loading:	High density of unmaintained septic, some types of industrial sources.	Moderate density septic, cropland, secondary wastewater treatment plant.	Livestock, pets, low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	

S4	Excessive Sediment Loading from Contributing Area				
	<i>In the last column, place a check mark next to any item present in the CA that is likely to have elevated the load of waterborne or windborne sediment reaching the wetland from its CA. [FA, FR, INV, PH, SRv, STR]</i>				
	Erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fires.				
	Erosion from construction, in-channel machinery in the CA.				
	Erosion from off-road vehicles in the CA.				
	Erosion from livestock or foot traffic in the CA.				
	Stormwater or wastewater effluent.				
	Sediment from road sanding, gravel mining, other mining, oil/ gas extraction.				
	Accelerated channel downcutting or headcutting of tributaries due to altered land use.				
	Other human-related disturbances within the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not cumulatively add significantly more sediment or suspended solids to the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Erosion in CA:	Extensive evidence, high intensity.*	Potentially (based on high-intensity* land use) or scattered evidence.	Potentially (based on low-intensity* land use) with little or no direct evidence.	0
	Recentness of significant soil disturbance in the CA:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration of sediment inputs to the wetland:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0	
AA proximity to actual or potential sources:	0 - 15 m.	15-100 m.	In more distant part of contributing area.	0	
* high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erosion with or without veg removal; low-intensity= veg removal only with little or no apparent erosion or disturbance of soil or sediment.					
			Sum=	0	
			Stressor subscore=	0.00	

S5	Soil or Sediment Alteration Within the Assessment Area				
	<i>In the last column, place a check mark next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil. Consider only items occurring within past 100 years or since wetland was created or restored (whichever is less). [CS, INV, NR, PH, SR, STR]</i>				
	Compaction from machinery, off-road vehicles, livestock, or mountain bikes, especially during wetter periods.				
	Leveling or other grading not to the natural contour.				
	Tillage, plowing (but excluding disking for enhancement of native plants).				
	Fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland.				
	Excavation.				
	Ditch cleaning or dredging in or adjacent to the wetland.				
	Boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments.				
	Artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of altered soil:	>95% of wetland or >95% of its upland edge (if any).	5-95% of wetland or 5-95% of its upland edge (if any).	<5% of wetland and <5% of its upland edge (if any).	0
	Recentness of significant soil alteration in wetland:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration:	Long-lasting, minimal veg recovery.	Long-lasting but mostly revegetated.	Short-term, revegetated, not intense.	0	
Timing of soil alteration:	Frequent and year-round.	Frequent but mostly seasonal.	Mainly during one-time or scattered events.	0	
			Sum=	0	
			Stressor subscore=	0.00	

Assessment Area (AA) Results:

Wetland ID: Goose Harbour Lake Wind Farm, Wetland 31

Date: Sept 21, 2022

Observer: Rohan Kariyawansa & Madeline Maher

Latitude & Longitude (decimal degrees): 45.57317500 & 61.51470833

Scores will appear below after data are entered in worksheets OF, F, and S.
See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	5.64	Moderate	4.62	Moderate	6.15	2.05
Stream Flow Support (SFS)	0.00	Lower	0.00	Lower	0.00	0.00
Water Cooling (WC)	6.75	Higher	0.00	Lower	4.50	0.00
Sediment Retention & Stabilisation (SR)	10.00	Higher	0.45	Lower	10.00	0.22
Phosphorus Retention (PR)	10.00	Higher	0.43	Lower	10.00	0.33
Nitrate Removal & Retention (NR)	10.00	Higher	3.33	Lower	10.00	3.33
Carbon Sequestration (CS)	4.64	Moderate			7.39	
Organic Nutrient Export (OE)	8.30	Higher			5.42	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	7.13	Higher	3.38	Moderate	6.40	3.06
Amphibian & Turtle Habitat (AM)	2.21	Lower	3.97	Moderate	4.28	5.03
Waterbird Feeding Habitat (WBF)	5.04	Moderate	5.00	Moderate	3.84	5.00
Waterbird Nesting Habitat (WBN)	5.54	Moderate	5.00	Higher	4.02	5.00
Songbird, Raptor, & Mammal Habitat (SBM)	7.18	Moderate	5.00	Moderate	6.25	5.00
Pollinator Habitat (POL)	9.01	Higher	3.33	Moderate	7.47	3.33
Native Plant Habitat (PH)	2.70	Lower	5.68	Moderate	4.98	5.68
Public Use & Recognition (PU)			4.88	Higher		3.65
Wetland Sensitivity (Sens)			10.00	Higher		5.99
Wetland Ecological Condition (EC)			8.26	Higher		9.17
Wetland Stressors (STR) (higher score means more stress)			6.18	Higher		3.15
Summary Ratings for Grouped Functions:						
HYDROLOGIC Group (WS)	5.64	Moderate	4.62	Moderate	6.15	2.05
WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS)	9.33	Higher	2.37	Lower	9.67	2.31
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC)	6.92	Higher	2.25	Lower	5.24	2.04
AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN)	4.05	Moderate	3.90	Moderate	3.35	4.02
TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL)	7.66	Higher	5.18	Lower	6.85	5.18
WETLAND CONDITION (EC)			8.26	Higher		9.17
WETLAND RISK (average of Sensitivity & Stressors)			8.09	Higher		4.57

NOTE: A score of 0 does not mean the function or benefit is absent from the wetland. It means only that this wetland has a capacity that is equal or less than the lowest-scoring one, for that function or benefit, from among all the NS calibration wetlands that were assessed previously.

NOVA SCOTIA - Functional WSS Interpretation Tool

Function-Benefit Product (FBP)	FBP SCORE	FBP SCORE CATEGORY
SUPPORT SUPERGROUP - HYDROLOGIC	26.07102223	Low
SUPPORT SUPERGROUP - WATER QUALITY SUPPORT	22.10455404	Low
SUPPORT SUPERGROUP - AQUATIC SUPPORT	15.58794849	Low
HABITAT SUPERGROUP - AQUATIC HABITAT	15.77137119	Low
HABITAT SUPERGROUP - TRANSITION HABITAT	39.64436584	Low

3a. Functional WSS Determination: Automatic Method

Habitat Rule Satisfied? NO
 Support Rule Satisfied? NO
 Habitat/Support Hybrid Rule Satisfied? NO

CONCLUSION: **Site is not a WSS**

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	Goose Harbour Lake Wind Farm, Wetland 39
Investigator Name:	Rohan Kariyawansa Madeline Maher
Date of Field Assessment:	09/21/2022
Nearest Town:	Antigonish
Latitude (decimal degrees):	45.54292222
Longitude (decimal degrees):	61.50432500
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	0.36
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	52%
What percent (approx.) of the wetland were you able to visit?	52%
What percent (approx.) of the AA were you able to visit?	100%
Were you able to ask the site owner/manager about any of the questions?	No
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	No
How many wetlands have you assessed previously using WESP-AC? (approx.)	2 Dozen
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

	A	B	C	D	E
1	Date: 21 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 39	Investigator: RK MM	
2	<p>Form OF (Office). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia wetlands only. DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answering many of the questions below will require using these online map viewers:</p> <p>Google Earth Pro: https://www.google.com/earth/download/gep/agree.html</p> <p>Provincial Landscape Viewer: https://nsgi.novascotia.ca/plv/</p> <p>For most wetlands, completing this office data form will require 1-2 hours. For a list of functions to which each question pertains, see bracketed abbreviations in the Definitions/Explanations column. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.</p>				
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	OF1	Province	Mark the province in which the AA is located by changing the 0 in the column next to it to a "1". Mark only one.		This determines to which province's calibration wetlands the raw score of any wetland is normalised. In the function and benefits models, it also triggers the automatic exclusion of indicators for which no spatial data exists in a particular province.
5			New Brunswick	0	
6			Nova Scotia	1	
7			Prince Edward Island	0	
8			Newfoundland-Labrador	0	
9	OF2	Ponded Area Within 1 km.	The area of surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		"Adjacent" means not separated from the AA by a wide expanse (>50 m) of upland (including roads >50 m wide). Include ponded areas likely to be hidden by wetland vegetation. If surface water extends beyond 1 km, include only the part within 1 km. Do not include tidal areas. Measure the area from aerial imagery using Google Earth Pro (click on Ruler icon in toolbar, then Polygon in pop-up menu). [PH, SBM, WBN]
10			<0.01 hectare (about 10 m x 10 m).	0	
11			0.01 - 0.1 hectare.	0	
12			0.1 - 1 hectare.	1	
13			1 to 10 hectares.	0	
14			10 to 100 hectares.	0	
15		>100 hectares.	0		
16	OF3	Ponded Water & Wetland Within 1 km.	The area of wetlands and surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		See definition of adjacent in OF2. If the AA's wetland vegetation extends beyond 1 km, include only the part within 1 km. "Ponded" means not flowing in rivers or streams. [Sens, WBF]
17			<0.01 hectare (about 10 m x 10 m).	0	
18			0.01 - 0.1 hectare.	0	
19			0.1 - 1 hectare.	1	
20			1 to 10 hectares.	0	
21			10 to 100 hectares.	0	
22		>100 hectares.	0		
23	OF4	Size of Largest Nearby Vegetated Tract or Corridor	The largest vegetated patch or corridor that includes the AA's vegetation plus all adjacent upland vegetation that is not lawn, row crops, heavily grazed lands, conifer plantation is:		See definition of adjacent in OF2. Use Google Earth Pro's polygon ruler (as described above). Exclude conifer plantations only if it is obvious that trees were planted in rows. [AM, PH, SBM, Sens]
24			<0.01 hectare (about 10 m x 10 m).	0	
25			0.01 - 0.1 hectare.	0	
26			0.1 - 1 hectare.	0	
27			1 to 10 hectares.	0	
28			10 to 100 hectares.	0	
29		100 to 1000 hectares.	1		
30		>1000 hectares. [<i>This is nearly always the answer in relatively undeveloped landscapes.</i>]	0		

	A	B	C	D	E
31	OF5	Distance to Large Vegetated Tract	The minimum distance from the edge of the AA to the edge of the closest vegetated land (but excluding row crops, lawn, conifer plantation) larger than 375 hectares (about 2 km on a side), is:		To measure distance, use Google Earth Pro (Ruler > Line tool). The 375-ha criterion is from the Fundy Model Forest Project. [AM, PH, POL, SBM, Sens]
32			<50 m, and not separated from the 375-ha vegetated area by any width of paved roads, stretches of open water, row crops, bare ground, lawn, or impervious surface. Or the AA itself contains >375 ha of vegetation. [This is often the answer in relatively undeveloped landscapes.]	1	
33			<50 m, but completely separated from the 375-ha vegetated area by those features, and AA does not contain >375 ha of vegetation.	0	
34			50-500 m, and not separated.	0	
35			50-500 m, but separated by those features.	0	
36			0.5 - 5 km, and not separated.	0	
37			0.5 - 5 km, but separated by those features.	0	
38			None of the above (the closest patches or corridors which are that large are >5 km away).	0	
39	OF6	Herbaceous Uniqueness	The AA's vegetation cover is >10% herbaceous* but uplands within 5 km have <10% herbaceous cover. If so, enter "3" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 1 km have <10% herbaceous cover. If so enter "2" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 100 m of the wetland edge have <10% herbaceous cover. If so, enter "1". [* NOTE: Exclude lawns, row crops, heavily grazed lands, forest, shrublands. Include moss as well as grasslike plants in this use of "herbaceous vegetation"]	0	
40	OF7	Woody Uniqueness	The AA's vegetation cover is >10% woody* but uplands within 5 km have <10% woody cover. If so, enter "3" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 1 km have <10% woody cover. If so enter "2" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 100 m of the wetland edge have <10% woody cover. If so, enter "1" [* NOTE: woody cover = trees & shrubs taller than 1 m.]	0	See above. Do not consider conifer plantations to be forest if it is obvious that trees were planted in rows. [AMv, PHv, POLv, SBMv]
41	OF8	Local Vegetated Cover Percentage	Draw a 5-km radius circle measured from the center of the AA. Ignoring all permanent water in the circle, the percent of the remaining area that is wooded or unmanaged herbaceous vegetation (NOT lawn, row crops, bare or heavily grazed land, clearcuts, or conifer plantations) is:		In Google Earth, draw the 5 km buffer and then estimate land cover percentages, or do GIS analysis of an appropriate land cover layer. [AM, PH, POL, SBM, Sens]
42			<5% of the land.	0	
43			5 to 20% of the land.	0	
44			20 to 60% of the land.	1	
45			60 to 90% of the land.	0	
46			>90% of the land. SKIP to OF10.	0	
47	OF9	Type of Land Cover Alteration	Within the 5-km radius circle, and ignoring all permanent water, the land area that is bare or non-perennial cover is mostly:		[AM, SBM]
48			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
49			Bare pervious surface, e.g., lawn, recent (<5 yrs ago) clearcut, dirt or gravel road, cropland, landslide, conifer plantation.	1	
50	OF10	Distance by Road to Nearest Population Center	Measured along the maintained road nearest the AA, the distance to the nearest population center is:		"Population center" means a settled area with more than about 5 regularly- inhabited structures per square kilometer. In Google Earth Pro, click on the Ruler icon, then Path, and draw and measure the route. [FAv, FRv, NRv, PH, PU, SBM, WBFv]
51			<100 m.	0	
52			100 - 500 m.	0	
53			0.5- 1 km.	0	
54			1 - 5 km.	0	
55			>5 km.	1	

	A	B	C	D	E
56	OF11	Distance to Nearest Maintained Road	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:		Determine this by viewing aerial imagery in Google Earth Pro and measuring with the Ruler-Line tool [AM, FAv, FRv, NRv, PH, PU, SBM, STR, WBN]
57			<10 m.	1	
58			10 - 25 m.	0	
59			25 - 50 m.	0	
60			50 - 100 m.	0	
61			100 - 500 m.	0	
62			>500 m.	0	
63	OF12	Wildlife Access	Draw a circle of radius of 5 km from the center of the AA. If mammals and amphibians can move from the center of the AA to ALL other separate wetlands and ponds located within the circle without being forced to cross pavement (any width), lawns, bare ground, and/or marine waters, mark 1= yes can move to all, 0= no. Change to blank if there are no other wetlands within 5 km.	0	Draw the 5 km circle in Google Earth Pro using the Circle tool and search for roads and wetlands within it, being alert for roads hidden under forest canopy. [AM, SBM, STR]
64	OF13	Distance to Poned Water	The distance from the AA center to the closest (but separate) ponded water body visible in GoogleEarth imagery is:		In Google Earth Pro, zoom in closely to examine the surrounding landscape for ponds, lakes, and wetlands that appear to be permanently flooded. [AM, PH, SBM, Sens, WBF, WBN]
65			<50 m, and not separated by any width of paved roads, stretches of open water, row crops, lawn, bare ground, or impervious surface.	0	
66			<50 m, but completely separated by those features.	0	
67			50-500 m, and not separated.	0	
68			50-500 m, but separated by those features.	1	
69			0.5 - 1 km, and not separated.	0	
70			0.5 - 1 km, but separated by those features.	0	
71	None of the above (the closest patches or corridors that large are >1 km away).	0			
72	OF14	Distance to Large Poned Water	The distance from the AA center to the closest (but separate) non-tidal body of water that is ponded during most of the year and is larger than 8 hectares during most of a normal year is:		Determine this by viewing aerial imagery in Google Earth. [Sens, WBF, WBN]
73			<100 m.	0	
74			100 m - 1 km.	1	
75			1 - 2 km.	0	
76			2-5 km.	0	
77			5-10 km.	0	
78			>10 km.	0	
79	OF15	Tidal Proximity	The distance from the AA edge to the closest tidal water body (regardless of its salinity) is:		In Google Earth, measure the distance to the ocean (including Bay of Fundy) or tidal river, whichever is closer. If you need to see how far upriver a river is tidal, see the KMZ file provided with this calculator for NS (NS Hightide). Points shown in those files are only an approximation, so local information if available may be preferable. [FA, WBF]
80			<100 m.	0	
81			100 m - 1 km.	0	
82			1 - 5 km.	0	
83			5-10 km.	0	
84			10-40 km.	1	
85			>40 km.	0	
86	OF16	Upland Edge Contact	Select one:		[NR, SBM, Sens]
87			The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by (& contiguous with) other wetlands or water.	0	
88			1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA	0	
89			25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	1	
90			50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91			More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA. This will be true for most assessments done with WESP-AC.	0	

	A	B	C	D	E
92	OF17	Flood Damage from Non-tidal Waters	Within 5 km downstream or downslope of the AA (select first true choice):		Contact local authorities to determine if such maps exist. Where available, LiDAR imagery can provide finer elevational resolution useful for flood modeling. [WSv]
93	Maps show Flood Zone or Flood Risk areas and there appears to be infrastructure vulnerable to river flooding not caused by tidal storm surges.		0		
94	Maps show Flood Zone or Flood Risk areas, but infrastructure is absent or is not vulnerable to floods from a non-tidal river. In some cases levees, upriver dams, or other measures may partly limit damage or risk from smaller events.		0		
95	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there appears to be infrastructure vulnerable to river flooding unrelated to tidal storm surges.		0		
96	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there is no infrastructure vulnerable to river flooding unrelated to tidal storm surges.		1		
97	OF18	Relative Elevation in Watershed	In Google Earth, enable the Terrain layer (lower left menu) and open the NS_Watersheds Secondary KMZ file that accompanies this calculator. Then determine the AA's approximate elevation (bottom right, NOT the "eye alt"). Then move cursor around to determine the watershed's maximum and minimum elevation. Divide the AA's elevation by the (max-min).	0.89	[FA, NR, Sens, SFSv, WCv, WSv]
98	OF19	Water Quality Sensitive Watershed or Area	The AA is in a Protected Water Supply area (Designated Water Supply Area, Natural Watershed Municipal Surface Water Supply Area, or Municipal Water Supply Area) according to the provided KMZ overlay ("NS Protected Water Supply Areas"). Enter 1= yes, 0= no.	0	If an ACCDC report is available for this AA, it also may contain such information. [NRv]
99	OF20	Degraded Water Upstream	Sampling indicates a problem with concentrations of metals, hydrocarbons, nutrients, or other substances (excluding bacteria, acidic water, high temperatures) being present at levels harmful to aquatic life or humans, and:		May use existing data, or sample those waters as part of this wetland assessment. "Harmful" should be evaluated with regard to current federal or provincial water quality standards. [AM, FA, FR, NRv, PRv, SRv, STR, WBF, WBN]
100			The condition is present within the AA.	0	
101			The condition is present in waters within 1 km that flow into the AA, but has not been documented in the AA itself.	0	
102			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
103			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
104	OF21	Degraded Water Downstream	The problem described above is downslope from the AA, and:		May use existing data, or monitor waters as part of this wetland assessment. [NRv, PRv, SRv]
105			The condition is present within 1 km downslope and connected to the AA by a channel.	0	
106			The condition is present within 5 km downslope and connected to the AA by a channel, or within 1 km but not connected to the AA by a channel.	0	
107			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
108			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
109	OF22	Wetland as a % of Its Contributing Area (Catchment)	From a topographic map and field observations, estimate the approximate boundaries of the catchment (CA) of the entire wetland of which the AA may be only a part. Then adjust those boundaries if necessary based on your field observations of the surrounding terrain, and/or by using procedures described in the Manual. Divide the area of the wetland (not just the AA) by the approximate area of its catchment excluding the area of the wetland itself. When doing the calculation, if ponded water is adjacent to the wetland, include that in the wetland area. The result is:		Topographic maps may be viewed online at the National Atlas of Canada (Toporama): http://atlas.gc.ca/toporama/en/index.html [NR, PR, Sens, SR, WS]
110			<0.01, or catchment size unknown due to stormwater pipes that collect water from an indeterminate area.	0	
111			0.01 to 0.1.	1	
112			0.1 to 1.	0	
113			>1 (wetland is larger than its catchment (e.g., wetland with flat surrounding terrain and no inlet, or is entirely isolated by dikes, or is a raised bog).	0	
114	OF23	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 m upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, landslides, and other mostly-bare surface is about :		[FA, INV, NRv, PRv, SRv, STR, WCv, WSv]
115			<10%.	0	
116			10 to 25%.	1	
117			>25%.	0	

	A	B	C	D	E
118	OF24	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following: (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow (bedrock near surface) and/or have high runoff coefficients. This statement is:		[NRv, PRv, SRv, WSv]
119			Mostly true.	0	
120			Somewhat true.	0	
121			Mostly untrue.	1	
122	OF25	Aspect	The overland flow direction of most surface water (in streams, rivers, or runoff) that enters the AA is:		[AM, NR, SFS, WC, WS]
123			Northward (N, NE). north-facing contributing area.	0	
124			Southward (S, SW). south-facing contributing area.	0	
125			Other (E, SE, W, NW), or no detectable uphill slope or input channel (flat).	1	
126	OF26	Internal Flow Distance (Path Length)	The horizontal flow distance from the wetland's inlet to outlet is:		Identify inlets and outlets, if any, from topographic maps (use elevations to determine which are inlets and which are outlets) and augment by field inspection. With the Provincial Landscape Viewer, select Nova Scotia Topo as the Basemap. Also enable the layer Forestry-WAM Predicted Flow. Then measure the inlet-outlet distance. [NR, OE, PR, SR, WS]
127			<10 m.	0	
128			10 - 50 m.	0	
129			50 - 100 m.	0	
130			100 - 1000 m.	1	
131			1 - 2 km.	0	
132			>2 km, or wetland lacks an inlet and outlet.	0	
133	OF27	Growing Degree Days	In Google Earth, open the KMZ file that accompanies this calculator, called NS_GrowingDegreeDays. Place your cursor over the AA and left-click. From the pop-up window, enter the GRIDCODE number in the next column.	2052	This layer was provided by Dr. Dan McKenney of the Canadian Forest Service [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WCv, WS]
134	OF28	Fish Access or Use	According to agency biologists and/or your own observations, the AA. <i>[Mark just the first choice that is true.]</i>		Regarding the last choice, if uncertain if an AA is fishless, consider the possibility its waters have been stocked. [AM, FA, FR, INV, WBF, WBN]
135			Is known to support rearing and/or spawning by Atlantic salmon or other anadromous species or eels. Go to Provincial Landscape Viewer>Wildlife>Significant Habitat>Species at Risk. Contact local fishery biologists, review the ACCDC report, and visit these websites: http://www.salmonatlas.com/atlanticsalmon/canada-east/index.1.html http://atlanticsalmonfederation.org/rivers/introduction.html	0	
136			Has not been documented to support Atlantic salmon rearing and/or spawning, but is connected to nearby waters likely to contain Atlantic salmon or other anadromous species or eels and is probably accessed by those during some conditions.	0	
137			Is probably is not accessed by any anadromous fish species but is known or likely to have other fish at least seasonally.	0	
138			Is known or likely to be fishless (e.g., too small, dry, and/or not accessible even temporarily, and not stocked).	1	
139	OF29	Species of Conservation Concern	Within the past 10 years, in the AA (or in its adjoining waters or wetland), qualified observers have documented <i>[mark all applicable]</i> :		Request information from ACCDC and/or conduct your own survey at an appropriate season using an approved protocol. For birds, also check eBird.org. NOTE for NS: If your WESP-AC is being completed for a Wetland Alteration Application to NS-ECC, your ACCDC results and any taxon-specific survey results must be submitted along with your WESP-AC results, and application. [AMv, EC, PHv, POLv, SBMv, Sens, WBFv, WBNv]
140			Presence of one or more of the plant species listed in the Plants_Rare worksheet of the accompanying SupplInfo file, or the AA is within a mapped Atlantic Coastal Plain Flora Buffer (go to Provincial Landscape Viewer> Wildlife> Special Management Practice Zones).	0	
141			Presence of one or more of the amphibian or reptile species (AM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
142			Presence of one or more of the waterbird species (WBF, WBN) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
143			Presence of one or more of the nesting songbird or raptor species (SBM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file, during their nesting season (May-July for most species).	0	
144			None of the above, or no data.	1	

	A	B	C	D	E
145	OF30	Important Bird Area (IBA)	In Google Earth, open the KMZ file that accompanies this calculator, called IBAs_Canada . The AA is all or part of an officially designated IBA. Enter 1= yes, 0= no.	0	The source of this layer, which should be checked periodically for updates, is: http://www.ibacanada.com/mapviewer.jsp?lang=EN [SBMv, WBFv, WBNv]
146	OF31	Black Duck Nesting Area	In Google Earth, open the KMZ file that accompanies this calculator, called BlackDuck . Adjust its alignment and opacity. Determine the predicted density (pairs per 25 sq. km) of nesting American Black Duck in the AA's vicinity: <10 (enter 0), 10-20 (enter 1), 20-30 (enter 2), >30 (enter 3). If outside of region shown in map, change to blank .	0	This was provided by Dr. David Leske. [WBNv]
147	OF32	Wintering Deer or Moose Concentration Areas	If AA is on private land with no information, change to blank (not 0). Otherwise: With the Provincial Landscape Viewer, for Wintering Moose, go to Wildlife> Significant Habitat . For Mainland Moose Concentration Areas, go to Wildlife> Special Management Practice Zones . Enter: yes= 1, no= 0.	0	[SBM]
148	OF33	Other Conservation Designation	The AA is all or part of an area designated by government, First Nations, or the Nature Conservancy of Canada (NCC) for its exceptional ecological features or highly intact natural conditions. With Provincial Landscape Viewer, see Protected Areas. Enter: yes= 1, no= 0. If uncertain, consult NCC and agencies for more recent information.	0	See: https://novascotia.ca/parksandprotectedareas/plan/interactive-map/ [PU]
149	OF34	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, or enhance the wetland (excluding mitigation wetlands). Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank (not 0).	0	[PU]
150	OF35	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
151	OF36	Sustained Scientific Use	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
152	OF37	Calcareous Region	The AA is NOT in a subregion that has been heavily exposed to acid precipitation. Enter "1" if true (green or yellow in map in Appendix A of the Manual). Enter "0" if false. If no information, change to blank .		[AM, FA, FR, INV, PH]
153	OF38	Ownership	Select the ONE ownership that covers the most of the AA. In Google Earth, open KMZ file called NS_Crownlands Use more recent information if available.		"Private lands" may include those owned or leased by non-governmental organizations, e.g., charitable conservation land trusts, DUC, TNC. [PU, STR]
154			New timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles) are permanently prohibited. Includes many publicly-owned Protected Lands, and private lands under long-term (30+ year) legal agreements to maintain nearly-unaltered conditions.	0	
155			Ownership is public (e.g., municipal, Crown Reservations/Notations) but some or all of the above activities are allowed.	1	
156			Ownership is private but public access is allowed, and/or a shorter-term conservation easement (whether renewable or not) is in place.	0	
157			Ownership is private and owner does not allow access, or access permission unknown, and not a conservation easement.	0	

	A	B	C	D	E	
1	Date: 21 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 39	Investigator: RK MM		
Form F (Field). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia. DIRECTIONS: Walk for no less than 10 minutes from the wetland edge towards its core, in the part of the AA that is proposed for alteration. If no alteration is proposed, walk in a portion that appears to be most representative of the wetland overall. Walk only where it is safe and legal to do so. Conduct the assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgeable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form will require 1-2 hours on a site. For a list of functions to which each question pertains, see the accompanying Interpretations form. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage & Delay, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.						
2						
3	#	Indicators	Condition Choices	Data	Definitions/Explanations	
4	F1	Wetland Type	Follow the key below and mark the ONE row that best describes MOST of the vegetated part of the AA:		Ericaceous shrubs are ones in the heather family (Ericaceae). Most have leathery evergreen leaves. They include rhododendron, azalea, swamp laurel, leatherleaf, Labrador tea, and others. Most require acidic soil. Although not in the family Ericaceae, sweetgale (<i>Myrica gale</i>) should be counted also. [AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]	
5			A. Moss and/or lichen cover more than 25% of the ground. Often dominated by ericaceous shrubs (e.g., Labrador tea) or other acid-tolerant plants (e.g., bog cranberry, pitcher plant, sundew, orchids). Substrate is mostly undecomposed peat. Choose between A1 and A2 and mark the choice with a 1 in their adjoining column. Otherwise go to B below.			
6			A1. Surface water is usually absent or, if present, pH is typically <4.5 and conductivity is usually <100 µS/cm (<64 ppm TDS). Trees are absent or nearly so. Sedge cover usually sparse or absent but cottongrass and/or lichen cover may be extensive, as well as cloudberry, lingonberry, sheep laurel, and a sedge (<i>Carex rariflora</i>). Wetland surface and surrounding landscape are seldom sloping and wetland often is domed (convex). Inlet and outlet channels are usually absent. If known, pH of peat is <4.0.	0		
7			A2. Not A1. Surface water, if present, has pH typically >4.5 and conductivity is usually >100 µS/cm (>64 ppm TDS). Sedge cover is usually extensive, and/or tree and tall shrub cover is extensive. Sometimes at toe of slope or edge of water body. An exit channel is usually present. Wetter than A1 and peat depth may be shallower (<2 m).	0		
8			B. Moss and/or lichen cover less than 25% of the ground. Soil is mineral or decomposed organic (muck). Choose between B1 and B2 and mark the choice with a 1 in their adjoining column:			
9			B1. Trees and shrubs taller than 1 m comprise more than 25% of the vegetated cover. Surface water is mostly absent or inundates the vegetation only seasonally (e.g., vernal pools or floodplain).	0		
10			B2. Not B1. Tree & tall shrubs comprise less than 25% of the vegetated cover. Vegetation is mostly herbaceous, e.g., cattail, bulrush, burreed, pond lily, horsetail. Surface water may be extensive and fluctuates seasonally, being either persistent or drying up partly or entirely.	1		
11	Reminder : For all questions, the AA should include all persistent waters in ponds smaller than 8 hectares (~283 m on a side) that are adjacent to the AA. The AA should also include part of the water area of adjacent ponded water larger than 8 ha and adjacent rivers wider than 20 m. Specifically, the AA should include the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone. Throughout this data form, "adjacent" is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.					
12	F2	Wetland Types - Adjoining or Subordinate	If the AA is smaller than 1 ha, mark all other types that occupy more than 1% of the vegetated AA. If the AA is larger than 1 ha, mark all other types which are within or adjacent to the AA and occupy more than 1 ha, as visible from the AA or as interpreted from aerial imagery. Do not mark again the type marked in F1.			1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, INV, SBM, WBF]
13			A1.	1		
14			A2.	0		
15			B1.	0		
16			B2.	0		

	A	B	C	D	E
17	F3	Woody Height & Form Diversity	Following EACH row below, indicate with a number code the percentage of the living vegetation in the AA which is occupied by that feature (6 if >95%, 5 if 75-95%, 4 if 50-75%, 3 if 25-50%, 2 if 5-25%, 1 if <5%, 0 if none). If the vegetated part of the AA is largely herbaceous (non-woody) vegetation, these percentages should not sum to 100%.		Deciduous shrubs in this region usually include buttonbush, Labrador tea, bayberry (<i>Morella</i>), huckleberry, cranberry, cloudberry, sweetgale, alder, willow, birch, ash, dogwood, and a few others. If you assigned a code of 3 or higher to any of the first four choices and the ground cover beneath the trees/shrubs is <25% moss, then question F1 might be "B1". [CS, INV, NR, PH, POL, SBM, Sens]
18			coniferous trees (may include tamarack) taller than 3 m.	0	
19			deciduous trees taller than 3 m.	0	
20			coniferous or ericaceous shrubs or trees 1-3 m tall not directly below the canopy of trees.	0	
21			deciduous shrubs or trees 1-3 m tall not directly below the canopy of trees.	0	
22			coniferous or ericaceous shrubs <1 m tall not directly below the canopy of taller vegetation.	0	
23			deciduous shrubs or trees <1 m tall (e.g., deciduous seedlings) not directly below the canopy of taller vegetation.	0	
24	<i>Note: If none of top 4 rows in F3 was marked 2 or greater, SKIP to F9 (N fixers).</i>				
25	F4	Dominance of Most Abundant Shrub Species	Determine which two woody plant species comprise the greatest portion of the low (<3 m) woody cover. Then choose one:		[PH, POL, SBM, Sens]
26			those species together comprise > 50% of such cover.	0	
27			those species together do not comprise > 50% of such cover.	0	
28	F5	Woody Diameter Classes	Mark ALL the types that comprise >5% of the woody canopy cover in the AA or >5% of the wooded areas (if any) along its upland edge (perimeter). The edge should include only the trees whose canopies extend into the AA.		Estimate the diameters at chest height. If small-diameter trees are overtopped (shaded) by larger ones, visualise a "subcanopy" at the average height of the smaller-dbh trees, to serve as a basis for the minimum 5% canopy requirement in this question. The trees and shrubs need not be wetland species. [AM, CS, POL, SBM, Sens, WBN]
29			coniferous, 1-9 cm diameter and >1 m tall.	0	
30			broad-leaved deciduous 1-9 cm diameter and >1 m tall.	0	
31			coniferous, 10-19 cm diameter.	0	
32			broad-leaved deciduous 10-19 cm diameter.	0	
33			coniferous, 20-40 cm diameter.	0	
34			broad-leaved deciduous 20-40 cm diameter.	0	
35			coniferous, >40 cm diameter.	0	
36			broad-leaved deciduous >40 cm diameter.	0	
37	F6	Height Class Interspersion	Follow the key below and mark the ONE row that best describes MOST of the AA:		[AM, INV, NR, PH, SBM, Sens]
38			A. Neither the vegetation taller than 1 m nor the vegetation shorter than that comprise >70% of the vegetated part of the AA. They <u>each</u> comprise 30-70%. Choose between A1 and A2 and mark the choice with a 1 in the adjoining column. Otherwise go to B below.		
39			A1. The two height classes are mostly scattered and intermixed throughout the AA.	0	
40			A2. Not A1. The two height classes are mostly in separate zones or bands, or in proportionately large clumps.	0	
41			B. Either the vegetation shorter than 1 m comprises >70% of the vegetated part of the AA, or the vegetation taller than that does. One size class might even be totally absent. Choose between B1 and B2 and mark the choice with a 1 in the adjoining column:		
42			B1. The less prevalent height class is mostly scattered and intermixed within the prevalent one.	0	
43			B2. Not B1. The less prevalent height class is mostly located apart from the prevalent one, in separate zones or clumps, or is completely absent.	0	
44	F7	Large Snags (Dead Standing Trees)	The number of large snags (diameter >20 cm) in the AA plus adjacent upland area within 10 m of the wetland edge is:		Snags are dead standing trees that often (not always) lack bark and foliage. Include only ones that are at least 2 m tall. [POL, SBM, WBN]
45			None, or fewer than 8/ hectare which exceed this diameter.	0	
46			Several (>8/hectare) and a pond, lake, or slow-flowing water wider than 10 m is within 1 km.	0	
47			Several (>8/hectare) but above not true.	0	
48	F8	Downed Wood	The number of downed wood pieces longer than 2 m and with diameter >10 cm, and not persistently submerged, is:		Exclude temporary "burn piles." [AM, INV, POL, SBM]
49			Few or none that meet these criteria.	0	
50			Several (>5 if AA is >5 hectares, less for smaller AAs) meet these criteria.	0	
51	F9	N Fixers	The percentage of the AA's vegetated cover that contains nitrogen-fixing plants (e.g., alder, sweetgale, clover, lupine, alfalfa, other legumes) is:		Do not include N-fixing algae or lichens. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
52			<1% or none.	0	
53			1-25% of the vegetated cover, in the AA or along its water edge (whichever has more).	1	
54			25-50% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
55			50-75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
56			>75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	

	A	B	C	D	E
57	F10	Sphagnum Moss Extent	The cover of Sphagnum moss (or any moss that forms a dense cushion many centimeters thick), including the moss obscured by taller sedges and other plants rooted in it, is:		Exclude moss growing on trees and rocks. [CS, PH]
58			<5% of the vegetated part of the AA.	1	
59			5-25% of the vegetated part of the AA.	0	
60			25-50% of the vegetated part of the AA.	0	
61			50-95% of the vegetated part of the AA.	0	
62			>95% of the vegetated part of the AA.	0	
63	F11	% Bare Ground & Thatch	Consider the parts of the AA that lack surface water at the driest time of the growing season. Viewed from directly above the ground layer, the predominant condition in those areas at that time is:		Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is present under a tree or shrub canopy should be counted. Boulders count as bare ground. Wetlands with mineral soils and that are heavily shaded or are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens]
64			Little or no (<5%) <i>bare ground</i> is visible between erect stems or under canopy anywhere in the vegetated AA. Ground is extensively blanketed by dense thatch, moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	0	
65			Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	1	
66			Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the AA.	0	
67			Other conditions.	0	
68			Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0	
69	F12	Ground Irregularity	Imagine the AA without any living vegetation. Excluding the portion of the AA that is always under water, the number of hummocks, small pits, raised mounds, animal burrows, ruts, gullies, natural levees, microdepressions, and other areas of peat or mineral soil that are raised or depressed >10 cm compared to most of the area within a few meters surrounding them is:		The depressions may be of human or natural origin. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
70			Few or none (minimal microtopography; <1% of the land has such features, or entire AA is always water-covered).	1	
71			Intermediate.	0	
72			Several (extensive micro-topography).	0	
73	F13	Upland Inclusions	Within the AA, inclusions of upland are:		[AM, NR, SBM]
74			Few or none.	1	
75			Intermediate (1 - 10% of vegetated part of the AA).	0	
76			Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).	0	
77	F14	Soil Texture	In parts of the AA that lack persistent water, the texture of soil in the uppermost layer is mostly: <i>[To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key (in Appendix A of the Manual).]</i>		[CS, NR, OE, PH, PR, Sens, SFS, WS]
78			Loamy : soils that may contain a little fine grit and do not make a "ribbon" longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
79			Fines : includes silt, clay, silt, soils that make a ribbon longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
80			Deep Peat , to 40 cm depth or greater.	0	
81			Shallow Peat or organic <40 cm deep.	1	
82			Coarse : includes sand, loamy sand, gravel, cobble, soils that do not make a ribbon when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
83	F15	Shorebird Feeding Habitats	During any 2 consecutive weeks of the growing season, the extent of mudflats, bare unshaded saturated areas not covered by thatch, and unshaded waters shallower than 6 cm is: <i>[Include also any area that is adjacent to the AA.]</i>		This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
84			None, or <100 sq. m.	1	
85			100-1000 sq. m.	0	
86			1000 - 10,000 sq. m.	0	
87			>10,000 sq. m.	0	

	A	B	C	D	E
88	F16	Herbaceous % of Vegetated Wetland	In aerial ("ducks eye") view, the maximum annual cover of herbaceous vegetation (all non-woody plants except moss) is:		[AM, WBF, WBN]
89			<5% of the vegetated part of the AA or <0.01 hectare (whichever is less). Mark "1" here and SKIP to F20 (Invasive Plant Cover).	0	
90			5-25% of the vegetated part of the AA.	0	
91			25-50% of the vegetated part of the AA.	0	
92			50-95% of the vegetated part of the AA.	1	
93			>95% of the vegetated part of the AA.	0	
94	F17	Forb Cover	Within parts of the AA having herbaceous cover (excluding SAV), the areal cover of forbs reaches an annual maximum of:		Forbs are flowering plants. Do not include grasses, sedges, cattail, other graminoids, ferns, horsetails, or others that lack showy flowers. [POL]
95			<5% of the herbaceous part of the AA.	0	
96			5-25% of the herbaceous part of the AA.	1	
97			25-50% of the herbaceous part of the AA.	0	
98			50-95% of the herbaceous part of the AA.	0	
99			>95% of the herbaceous part of the AA.	0	
100	F18	Sedge Cover	Sedges (<i>Carex</i> spp.) and cottongrass (<i>Eriophorum</i> spp.) occupy:		[CS]
101			<5% of the vegetated area, or none.	1	
102			5-50% of the vegetated area.	0	
103			50-95% of the vegetated area.	0	
104			>95% of the vegetated area.	0	
105	F19	Dominance of Most Abundant Herbaceous Species	Determine which two herbaceous species comprise the greatest portion of the herbaceous cover (excluding mosses and floating-leaved aquatic plants). Then choose one of the following:		For this question, include ferns as well as graminoids and forbs. [EC, INV, PH, POL, Sens]
106			those species together comprise > 50% of the areal cover of herbaceous plants at any time during the year.	1	
107			those species together do not comprise > 50% of the areal cover of herbaceous plants at any time during the year.	0	
108	F20	Invasive Plant Cover	How extensive is the cover of invasive plant species in the AA? For species, see Plants_invasive worksheet in the accompanying SupplInfo file.		[EC, PH, POL, Sens]
109			invasive species appear to be absent in the AA, or are present only in trace amount (a few individuals).	1	
110			invasive species are present in more than trace amounts, but comprise <5% of herbaceous cover (or woody cover, if the invasives are woody).	0	
111			invasive species comprise 5-20% of the herb cover (or woody cover, if the invasives are woody).	0	
112			invasive species comprise 20-50% of the herb cover (or woody cover, if the invasives are woody).	0	
113			invasive species comprise >50% of the herb cover (or woody cover, if the invasives are woody).	0	
114	F21	Invasive Cover Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 3 m upslope from the wetland) that is occupied by invasive plant species is:		If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an exotic species, assume the unidentified plant to also be exotic. If vegetation is so senesced that exotic species cannot be identified, answer "none". [PH, STR]
115			none of the upland edge (invasives apparently absent), or AA has no upland edge.	1	
116			some (but <5%) of the upland edge.	0	
117			5-50% of the upland edge.	0	
118			most (>50%) of the upland edge.	0	
119	F22	Fringe Wetland	During most of the year, open water within or adjacent to the vegetated part of the wetland is much wider than the maximum width of the vegetated zone within the wetland. Enter "1" if true, "0" if false.	0	[WBF, WBN, WCv]
120	F23	Lacustrine Wetland	The vegetated part of the AA is within or adjacent to a body of non-tidal standing open water whose size exceeds 8 hectares during most of a normal year.	0	[FR, PR, PU, WBF, WBN]
121	F24	% of AA Without Surface Water	The percentage of the AA that never contains surface water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC]
122			<1% . In other words, all or nearly all of the AA is covered by water permanently or at least seasonally.	1	
123			1-25% of the AA, or <1% but >0.01 ha never contains surface water.	0	
124			25-50% of the AA never contains surface water.	0	
125			50-75% of the AA never contains surface water.	0	
126			75-99% of the AA never contains surface water, OR >99% and there is at least one persistently ponded water body larger than 1 ha in the AA.	0	
127			99-100%. AND there is no persistently ponded water body larger than 1 ha within the AA. Enter "1" and SKIP to F42 (Channel Connection).	0	

	A	B	C	D	E
128	F25	% of AA with Persistent Surface Water	Identify the parts of the AA that still contain surface water (flowing or ponded, open or hidden beneath vegetation) even during the driest times of a normal year, i.e., when the AA's surface water is at its lowest annual level. At that time, the percentage of the AA that still contains surface water is:		If you are unable to determine the condition at the driest time of year, ask the land owner or neighbors about it if possible. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [AM, CS, FA, FR, INV, NR, POL, PR, SBM, WBF, WBN]
129	None. The AA dries up completely (no water in channels either) or never has surface water during most years. SKIP to F27.		0		
130	1-20% of the AA.		0		
131	20-50% of the AA.		0		
132	50-95% of the AA.		0		
133	>95% of the AA. True for many fringe wetlands.	1			
134	F26	% of Summertime Water that Is Shaded	At mid-day during the warmest time of year, the area of surface water <u>within</u> the AA that is shaded by vegetation and other features <u>that are within</u> the AA at that time is:		[FA, WC]
135	<5% of the water is shaded, or no surface water is present then.		0		
136	5-25% of the water is shaded.		1		
137	25-50% of the water is shaded.		0		
138	50-75% of the water is shaded.		0		
139	>75% of the water is shaded.	0			
140	F27	% of AA that is Flooded Only Seasonally	The percentage of the AA's area that is between the annual high water and the annual low water (surface water) is:		Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualising where that would intercept the land along the river. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
141	None, or <0.01 hectare and <1% of the AA. SKIP to F29.		1		
142	1-20% of the AA, or <1% but >0.01 ha.		0		
143	20-50% of the AA.		0		
144	50-95% of the AA.		0		
145	>95% of the AA.	0			
146	F28	Annual Water Fluctuation Range	The annual fluctuation in surface water level within most of the parts of the AA that contain surface water at least temporarily is:		Look for flood marks (see above). Because the annual range of water levels is difficult to estimate without multiple visits, consider asking the land owner or neighbors about it. [AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
147	<10 cm change (stable or nearly so).		0		
148	10 cm - 50 cm change.		0		
149	0.5 - 1 m change.		0		
150	1-2 m change.		0		
151	>2 m change.	0			
152	Is the AA plus adjacent ponded water smaller than 0.01 hectare (about 10m x 10m, or 1m x 100 m)? If so, enter "1" in column D and SKIP TO F42 (Connection).			0	
153	F29	Predominant Depth Class	During most of the time when surface water is present during the growing season, its depth, averaged over the entire inundated part of the AA, is:		If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth of the most persistently inundated part of the wetland. Include surface water in channels and ditches as well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC]
154	<10 cm deep (but >0).		0		
155	10 - 50 cm deep.		0		
156	0.5 - 1 m deep.		1		
157	1 - 2 m deep.		0		
158	>2 m deep. True for many fringe wetlands.	0			
159	F30	Depth Classes - Evenness of Proportions	When present, surface water in most of the AA usually consists of (select one):		Estimate these proportions by considering the gradient and microtopography of the site. [FR, INV, WBF, WBN]
160	One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).		0		
161	One depth class that comprises 50-90% of the AA's inundated area.		0		
162	Neither of above. There are 3 or more depth classes and none occupy >50%.		1		

	A	B	C	D	E
163	F31	% of Water That Is Ponded (not Flowing)	During most times when surface water is present, the percentage that is (1) ponded (stagnant, or flows so slowly that fine sediment is not held in suspension) AND (2) is likely to be deeper than 0.5 m in some places, is:		Nearly all wetlands with surface water have some ponded water. [AM, CS, INV, NR, OE, PR, Sens, SR, WBF, WBN, WC, WS]
164			<5% of the water, or it occupies <100 sq.m cumulatively. Nearly all the surface water is flowing. SKIP to F34.	0	
165			5-30% of the water.	0	
166			30-70% of the water.	1	
167			70-95% of the water.	0	
168			>95% of the water.	0	
169	F32	Ponded Open Water - Minimum Size	During most of the growing season, the largest patch of open water that is ponded and is in or bordering the AA is >0.01 hectare (about 10 m by 10 m) and mostly deeper than 0.5 m. If true enter "1" and continue, If false, enter "0" and SKIP to F41 (Floating Algae & Duckweed).	1	Open water is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it.
170	F33	% of Ponded Water that is Open	In ducks-eye aerial view, the percentage of the ponded water that is open (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:		[AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC]
171			None, or <1% of the AA and largest pool occupies <0.01 hectares. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
172			1-4% of the ponded water. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
173			5-30% of the ponded water.	1	
174			30-70% of the ponded water.	0	
175			70-99% of the ponded water.	0	
176			100% of the ponded water.	0	
177	F34	Width of Vegetated Zone within Wetland	At the time during the growing season when the AA's water level is lowest, the average width of vegetated area in the AA that separates adjoining uplands from open water within the AA is:		"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. [AM, CS, NR, OE, PH, PR, SBM, Sens, SR, WBN]
178			<1 m.	0	
179			1 - 9 m.	1	
180			10 - 29 m.	0	
181			30 - 49 m.	0	
182			50 - 100 m.	0	
183			> 100 m, or open water is absent at that time.	0	
184	F35	Flat Shoreline Extent	During most of the part of the growing season when water is present, the percentage of the AA's water edge length that is nearly flat (a slope less than about 5% measured within 5 m landward of the water) is:		If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
185			<1% of the water edge.	0	
186			1-25% of the water edge.	1	
187			25-50% of the water edge.	0	
188			50-75% of the water edge.	0	
189			>75% of the water edge.	0	
190	F36	Robust Emergents	The percentage of the emergent vegetation cover in the AA that is cattail (<i>Typha</i> spp.), common reed (<i>Phragmites</i>), or tall (>1m) bulrush is:		Emergent vegetation is herbaceous plants whose stems are partly above and partly below the water surface during most of the time water is present. [WBN]
191			<1% of the emergent vegetation, or emergent vegetation is absent. SKIP to F38.	0	
192			1-25% of the emergent vegetation.	0	
193			25-75% of the emergent vegetation.	0	
194			>75% of the emergent vegetation.	1	
195	F37	Interspersion of Emergents & Open Water	During most of the part of the growing season when water is present, the spatial pattern of emergent vegetation within the water is mostly:		[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
196			Scattered. More than 30% of such vegetation forms small islands or corridors surrounded by water.	0	
197			Intermediate.	1	
198			Clumped. More than 70% of such vegetation is in bands along the wetland perimeter or is clumped at one or a few sides of the surface water area.	0	
199	F38	Persistent Deepwater Area	If the deepest patch of surface water (flowing or ponded) in or directly adjacent to the AA is mostly deeper than 0.5 m for >2 weeks during the growing season, enter "1" and continue. If not, enter "0" and SKIP to F42 (Connection).	1	

	A	B	C	D	E
200	F39	Non-vegetated Aquatic Cover	During most of the growing season and in waters deeper than 0.5 m, the cover for fish, aquatic invertebrates, and/or amphibians that is provided NOT by living vegetation, but by accumulations of dead wood and undercut banks is:		For this question, consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are unreliable so should not be attempted. [AM, FA, FR, INV]
201		Little or none.	0		
202		Intermediate.	0		
203		Extensive.	1		
204	F40	Isolated Island	The AA contains (or is part of) an island or beaver lodge within a lake, pond, or river, and is isolated from the shore by water depths >1 m on all sides during an average June. The island may be solid, or it may be a floating vegetation mat that is sufficiently large and dense to support a waterbird nest.	0	[WBN]
205	F41	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed are likely to cover >50% of the AA's otherwise-unshaded water surface, or blanket >50% of the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	[EC, PR, WBF]
206	F42	Channel Connection & Outflow Duration	The most persistent surface water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and a downslope stream network is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of the wetland, or the surface connection between the wetland and the downslope stream network.]		Consider the connection regardless of whether the surface water is frozen. The "downslope stream network" could consist of ditches, rivers, ponds, or lakes which eventually connect to the ocean. If this cannot be determined while visiting the AA, consult topographic maps perhaps by viewing these online with Toporama (http://atlas.nrcan.gc.ca/toporama/en/index.html) [CS, FA, FR, NR, OE, PR, Sens, SFS, SR, WCv, WS]
207		Persistent (surface water flows out for >9 months/year).	1		
208		Seasonal (surface water flows out for 14 days to 9 months/year, not necessarily consecutive).	0		
209		Temporary (surface water flows out for <14 days, not necessarily consecutive).	0		
210		None -- but maps show a stream network downslope from the AA and within a distance that is less than the AA's length. SKIP to F47 (pH Measurement).	0		
211		No surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. SKIP to F47 (pH Measurement).	0		
212	F43	Outflow Confinement	During major runoff events, in the places where surface water exits the AA or connected waters nearby, the water:		"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS, NR, OE, PR, Sens, SR, STR, WS]
213		Mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not appear to drain the wetland artificially during most of the growing season.	1		
214		Leaves through natural exits (channels or diffuse outflow), not mainly through artificial or temporary features.	0		
215		Is exported more quickly than usual due to ditches or pipes within the AA or connected to its outlet, or within 10 m of the AA's edge, which drain the wetland artificially, or water is pumped out of the AA.	0		
216	F44	Tributary Channel	At least once annually, surface water from a tributary channel that is >100 m long moves into the AA. Or, surface water from a larger permanent water body adjacent to the AA spills into the AA. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. If no, SKIP to F47 (pH Measurement).	0	If inlet tributaries cannot be searched for due to inaccessibility of part of the AA, follow suggestions in F42 above. [NRv, PH, PRv, SRv]
217	F45	Input Water Temperature	Based on lack of shade, water source characteristics, or actual temperature measurements, the inflow is likely to be warmer than surface water in the AA during part of most years. Enter 1= yes, 0= no.	0	[WCv]
218	F46	Throughflow Resistance	During its travel through the AA at the time of peak annual flow, water arriving in channels: [select only the ONE encountered by most of the incoming water].		[FA, FR, INV, NR, OE, PR, SR, WS]
219		Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel in unvegetated (often incised) channels that have minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0		
220		Bumps into herbaceous vegetation but mostly remains in fairly straight channels.	0		
221		Bumps into herbaceous vegetation and mostly spreads throughout, or is in widely meandering, multi-branched, or braided channels.	0		
222		Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels.	0		
223		Bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0		
224	F47	pH Measurement	The pH in most of the AA's surface water:		Preferably, measure this in larger areas of ponded surface water within the AA, or in streams that have passed through (not along) most of the AA. Unless surface water is completely absent, do not dig holes or make depressions in peat in order to provide water for this measurement. Avoid measuring near roads or in puddles formed only by recent rain. [AM, FA, FR, NR, WBF, PH, PR, Sens, WBF, WBN]
225		Was measured, and is: [enter the reading in the column to the right.]			
226		Was not measured but surface water is present and is darkly tea-coloured. Or if no surface water, then mosses and plants that indicate peatland (e.g., Labrador tea) are prevalent. Enter "1".	0		
227		Neither of above. Enter "1".	1		

	A	B	C	D	E
228	F48	TDS and/or Conductivity	The TDS (total dissolved solids) or conductivity off the AA's surface water is: (select the first true row with information):		See above for measurement guidance. [FR, INV, NRv, PH, PRv, Sens]
229	TDS is: [Enter the reading in ppm or mg/L in the column to the right, if measured, or answer next row.]				
230	Conductivity is [Enter the reading in µS/cm in the column to the right.]				
231	Was not measured, but plants that indicate saline conditions cover much of the vegetated AA. Enter "1".		0		
232	Neither of above		0		
233	F49	Beaver Probability	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
234	Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		0		
235	Likely based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.		1		
236	Unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed.		0		
237	F50	Groundwater Strength of Evidence	Select first applicable choice:		Adhere to these criteria strictly -- do not use personal judgment based on fen conditions, pH, or other evidence. Consult topographic maps to detect breaks in slope described here. Rust deposits associated with groundwater seeps may be most noticeable as orange discoloration in ice formations along streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS]
238	Springs are known to be present within the AA, or if groundwater levels have been monitored, that has demonstrated that groundwater primarily discharges to the wetland for longer periods during the year than periods when the wetland recharges the groundwater.		0		
239	Most of the AA has a slope of >5%, or is very close to the base of a natural slope longer than 100 and much steeper than the slope of the AA, AND the pH of surface water, if known, is >5.5.		0		
240	Neither of above is true, although some groundwater may discharge to or flow through the AA. Or groundwater influx is unknown.		1		
241	F51	Internal Gradient	The gradient along most of the flow path within the AA is:		This is not the same as the shoreline slope. It is the elevational difference between the AA's inlet and outlet, divided by the flow-distance between them and converted to percent. If available, use a clinometer to measure this. Free clinometer apps can be downloaded to smartphones. If the wetland is large (longer than ~1 km), this may be estimated using Google Earth to determine the minimum and maximum elevation within the AA, then dividing by length and multiplying by 100. [CS, NR, OE, PR, SR, WBF, WBN, WS]
242	<2% or the AA has no surface water outlet (not even seasonally).		0		
243	2-5%.		1		
244	6-10%.		0		
245	>10%.		0		
246	Note for the next three questions: If the AA lacks an upland edge, evaluate based on the AA's entire perimeter, and moving outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.				
247	F52	Vegetated Buffer as % of Perimeter	Within a zone extending 30 m laterally from the AA's edge with upland and/or other wetlands, the percentage that contains perennial vegetation cover (except lawns, row crops, heavily grazed land, conifer plantations) is:		[AM, FA, FR, INV, NRv, PH, POL, PRv, SBM, Sens, SRv, STR, WBN]
248	<5%.		0		
249	5 to 30%.		1		
250	30 to 60%.		0		
251	60 to 90%.		0		
252	>90%, or all the area within 30 m of the AA edge is other wetlands. SKIP to F55.		0		
253	F53	Type of Cover in Buffer	Within 30 m upslope of where the wetland transitions to upland, the upland land cover that is NOT perennial vegetation is mostly (mark ONE):		[AM, FA, INV, NRv, PH, POL, SBM, STR, WBN]
254	Impervious surface, e.g., paved road, parking lot, building, exposed rock.		0		
255	Bare or nearly bare pervious surface or managed vegetation, e.g., lawn, row crops, unpaved road, dike, landslide.		1		
256	F54	Buffer Slope	The steepest and/or most disturbed part of the upland area that is within 30 m of the wetland and occupies >10% of that upland area has a percent slope of:		[NRv, PRv, Sens, SRv]
257	<1% (flat -- almost no noticeable slope) or all the area within 30 m of the AA edge is other wetlands.		0		
258	2-5%.		1		
259	5-30%.		0		
260	>30%.		0		
261	F55	Cliffs or Steep Banks	In the AA or within 100 m, there are elevated terrestrial features such as cliffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 2 m nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	0	Do not include upturned trees as potential den sites. [POL, SBM]

	A	B	C	D	E
262	F56	New or Expanded Wetland	Human actions within or adjacent to the AA have persistently expanded a naturally occurring wetland or created a wetland where there previously was none (e.g., by excavation, impoundment):		Determine this using historical aerial photography, old maps, soil maps, or permit files as available [CS, NR, OE, PH, Sens]
263			No.	0	
264			Yes, and created or expanded 20 - 100 years ago.	1	
265			Yes, and created or expanded 3-20 years ago.	0	
266			Yes, and created or expanded within last 3 years.	0	
267			Yes, but time of origin or expansion unknown.	0	
268			Unknown if new or expanded within 20 years or not.	0	
269	F57	Burn History	More than 1% of the AA's previously vegetated area:		Look for charred soil or stumps (in multiple widely-spaced locations) or ask landowner. [CS, PH, STR]
270			Burned within past 5 years.	0	
271			Burned 6-10 years ago.	0	
272			Burned 11-30 years ago.	0	
273			Burned >30 years ago, or no evidence of a burn and no data.	1	
274	F58	Visibility	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 100 m of the AA (select one) is:		[PU, STR, WBFv]
275			<25%.	0	
276			25-50%.	0	
277			>50%.	1	
278	F59	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select ALL statements that are true of the AA as it currently exists:		[PU, STR]
279			For an average person, walking is physically possible <u>in</u> (not just near) >5% of the AA during most of the growing season, e.g., free of deep water and dense shrub thickets.	0	
280			Maintained roads, parking areas, or foot-trails are within 10 m of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0	
281			Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0	
282	F60	Unvisited Core Area	The percentage of the AA almost never visited by humans during an average growing season probably comprises: <i>[Note: Only include the part actually walked or driven (not simply viewed from) with a vehicle or boat. Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 30 m of the wetland edge. In that case include only the area occupied by the trail.]</i>		[AM, FAv, FRv, PH, PU, SBM, STR, WBF, WBN]
283			<5% and no inhabited building is within 100 m of the AA.	0	
284			<5% and inhabited building is within 100 m of the AA.	0	
285			5-50% and no inhabited building is within 100 m of the AA.	0	
286			5-50% and inhabited building is within 100 m of the AA.	0	
287			50-95%, with or without inhabited building nearby.	1	
288			>95% of the AA with or without inhabited building nearby.	0	
289	F61	Frequently Visited Area	The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: <i>[See note above.]</i>		[AM, PH, PU, SBM, STR, WBF, WBN]
290			<5%. If F60 was answered ">95%" (mostly never visited), SKIP to F64.	1	
291			5-50%.	0	
292			50-95%.	0	
293			>95% of the AA.	0	
294	F62	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on soil within nearly all of the AA when the soil is unfrozen. Enter "1" if true.	0	[PH, PU]
295	F63	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorised boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	0	[AM, PU, WBF, WBN]

	A	B	C	D	E
296	F64	Consumptive Uses (Provisioning Services)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select ALL that apply.		[FAv, FRv, WBFv]
297			Low-impact commercial timber harvest (e.g., selective thinning).	0	
298			Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.	0	
299			Waterfowl hunting.	0	
300			Fishing.	0	
301			Trapping of furbearers.	0	
302		None of the above.	0		
303	F65	Domestic Wells	The closest wells or water bodies that currently provide drinking water are:		[NRv]
304			Within 0-100 m. of the AA.	0	
305			100-500 m. away.	0	
306			>500 m. away, or no information.	1	
307	F66	Calcareous Fen	The AA is, or is part of, a calcareous fen. See the Plants_Calcar worksheet in the accompanying SupplInfo file for list of plant indicators (calciphiles). Enter 1 if more than two Strong or more than five Moderate calciphile species are present; otherwise enter 0, but if not able to identify those and no information, change to blank .		[PH, PR]

Investigator: RK MM	Site Identifier: Goose Harbour Lake Wind Farm, Wetland 39	Date: 21 Sept 2022
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Stressor (S) Data Form for Non-Tidal Wetlands. WESP-AC for Nova Scotia version 2.

				Data	
S1	Aberrant Timing of Water Inputs				
	<i>In the last column, place a check mark next to any item that is likely to have caused the timing of water inputs (but not necessarily their volume) to shift by hours, days, or weeks, becoming either more muted (smaller or less frequent peaks spread over longer times, more temporal homogeneity of flow or water levels) or more flashy (larger or more frequent spikes but over shorter times). [FA, FR, INV, PH, STR]</i>				
	Stormwater from impervious surfaces that drains directly to the wetland.				
	Water subsidies from wastewater effluent, septic system leakage, snow storage areas, or irrigation.				
	Regular removal of surface or groundwater for irrigation or other consumptive use.				
	Flow regulation in tributaries or water level regulation in adjoining water body, or other control structure at water entry points that regulates inflow to the wetland.				
	A dam, dike, levee, weir, berm, or fill -- within or downgradient from the wetland -- that interferes with surface or subsurface flow in/out of the AA (e.g., road fill, wellpads, pipelines).				
	Excavation within the wetland, e.g., dugout, artificial pond, dead-end ditch.				
	Artificial drains or ditches in or near the wetland.				
	Accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level).				
	Logging within the wetland.				
	Subsidence or compaction of the wetland's substrate as a result of machinery, livestock, fire, drainage, or off road vehicles.				
	Straightening, ditching, dredging, and/or lining of tributary channels.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items had no measurable effect on the timing of water conditions in any part of the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of timing shift within the wetland:	>95% of wetland.	5-95% of wetland.	<5% of wetland.	0
	When most of the timing shift began:	<3 yrs ago.	3-9 yrs ago.	10-100 yrs ago.	0
	<i>Score the following 2 rows only if the altered inputs began within past 10 years, and only for the part of the wetland that experiences those.</i>				
	Input timing now vs. previously:	Shift of weeks.	Shift of days.	Shift of hours or minutes.	0
	Flashiness or muting:	Became very flashy or controlled.	Intermediate.	Became mildly flashy or controlled.	0
Sum=				0	
Stressor subscore=				0.00	

S2	Accelerated Inputs of Contaminants and/or Salts				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of contaminants or salts to the AA. [AM, FA, PH, POL, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills, industrial facilities.				
	Metals & chemical wastes from mining, shooting ranges, snow storage areas, oil/ gas extraction, other sources (download many locations from National Pollutant Release Inventory and view KMZ overlay in Google Earth. https://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=B85A1846-1)				
	Road salt.				
	Spraying of pesticides, as applied to lawns, croplands, roadsides, or other areas in the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly higher levels of contaminants and/or salts, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Usual toxicity of most toxic contaminants:	Industrial effluent, mining waste, unmanaged landfill.	Cropland, managed landfill, pipeline or transmission rights-of-way.	Low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	
S3	Accelerated Inputs of Nutrients				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of nutrients to the wetland. [NRv, PRv, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills.				
	Fertilizers applied to lawns, ag lands, or other areas in the CA.				
	Livestock, dogs.				
	Artificial drainage of upslope lands.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly more nutrients, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Type of loading:	High density of unmaintained septic, some types of industrial sources.	Moderate density septic, cropland, secondary wastewater treatment plant.	Livestock, pets, low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	

S4	Excessive Sediment Loading from Contributing Area				
	<i>In the last column, place a check mark next to any item present in the CA that is likely to have elevated the load of waterborne or windborne sediment reaching the wetland from its CA. [FA, FR, INV, PH, SRv, STR]</i>				
	Erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fires.				
	Erosion from construction, in-channel machinery in the CA.				
	Erosion from off-road vehicles in the CA.				
	Erosion from livestock or foot traffic in the CA.				
	Stormwater or wastewater effluent.				
	Sediment from road sanding, gravel mining, other mining, oil/ gas extraction.				
	Accelerated channel downcutting or headcutting of tributaries due to altered land use.				
	Other human-related disturbances within the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not cumulatively add significantly more sediment or suspended solids to the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Erosion in CA:	Extensive evidence, high intensity.*	Potentially (based on high-intensity* land use) or scattered evidence.	Potentially (based on low-intensity* land use) with little or no direct evidence.	0
	Recentness of significant soil disturbance in the CA:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration of sediment inputs to the wetland:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0	
AA proximity to actual or potential sources:	0 - 15 m.	15-100 m.	In more distant part of contributing area.	0	
* high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erosion with or without veg removal; low-intensity= veg removal only with little or no apparent erosion or disturbance of soil or sediment.				Sum= 0	
				Stressor subscore= 0.00	

S5	Soil or Sediment Alteration Within the Assessment Area				
	<i>In the last column, place a check mark next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil. Consider only items occurring within past 100 years or since wetland was created or restored (whichever is less). [CS, INV, NR, PH, SR, STR]</i>				
	Compaction from machinery, off-road vehicles, livestock, or mountain bikes, especially during wetter periods.				1
	Leveling or other grading not to the natural contour.				1
	Tillage, plowing (but excluding disking for enhancement of native plants).				
	Fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland.				1
	Excavation.				
	Ditch cleaning or dredging in or adjacent to the wetland.				
	Boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments.				
	Artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of altered soil:	>95% of wetland or >95% of its upland edge (if any).	5-95% of wetland or 5-95% of its upland edge (if any).	<5% of wetland and <5% of its upland edge (if any).	1
	Recentness of significant soil alteration in wetland:	Current & ongoing.	1-12 months ago.	>1 yr ago.	1
Duration:	Long-lasting, minimal veg recovery.	Long-lasting but mostly revegetated.	Short-term, revegetated, not intense.	3	
Timing of soil alteration:	Frequent and year-round.	Frequent but mostly seasonal.	Mainly during one-time or scattered events.	1	
				Sum= 6	
				Stressor subscore= 0.50	

Assessment Area (AA) Results:

Wetland ID: Goose Harbour Lake Wind Farm, Wetland 39

Date: Sept 21, 2022

Observer: Rohan Kariyawansa & Madeline Maher

Latitude & Longitude (decimal degrees): 45.54292222 & 61.50432500

Scores will appear below after data are entered in worksheets OF, F, and S.
See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	0.05	Lower	9.24	Higher	1.98	4.10
Stream Flow Support (SFS)	3.52	Moderate	8.26	Higher	2.83	5.50
Water Cooling (WC)	4.21	Moderate	5.15	Moderate	2.81	2.79
Sediment Retention & Stabilisation (SR)	0.88	Lower	2.36	Moderate	2.88	1.16
Phosphorus Retention (PR)	2.08	Lower	2.41	Moderate	5.05	1.88
Nitrate Removal & Retention (NR)	2.36	Lower	5.42	Moderate	4.47	5.42
Carbon Sequestration (CS)	2.24	Lower			6.26	
Organic Nutrient Export (OE)	8.37	Higher			5.47	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	6.98	Higher	4.20	Moderate	6.34	3.51
Amphibian & Turtle Habitat (AM)	9.51	Higher	1.66	Lower	8.10	3.13
Waterbird Feeding Habitat (WBF)	9.04	Higher	3.33	Moderate	6.88	3.33
Waterbird Nesting Habitat (WBN)	8.35	Higher	2.50	Moderate	6.05	2.50
Songbird, Raptor, & Mammal Habitat (SBM)	0.00	Lower	0.00	Lower	0.00	0.00
Pollinator Habitat (POL)	0.00	Lower	0.00	Lower	0.00	0.00
Native Plant Habitat (PH)	1.04	Lower	0.00	Lower	4.32	0.00
Public Use & Recognition (PU)			1.67	Moderate		1.44
Wetland Sensitivity (Sens)			5.16	Moderate		3.64
Wetland Ecological Condition (EC)			1.88	Lower		6.11
Wetland Stressors (STR) (higher score means more stress)			9.64	Higher		4.81
Summary Ratings for Grouped Functions:						
HYDROLOGIC Group (WS)	0.05	Lower	9.24	Higher	1.98	4.10
WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS)	2.12	Lower	4.41	Moderate	5.46	4.12
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC)	7.07	Higher	7.07	Moderate	5.35	4.71
AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN)	7.44	Higher	2.42	Moderate	6.16	2.56
TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL)	0.69	Lower	0.00	Lower	2.88	0.00
WETLAND CONDITION (EC)			1.88	Lower		6.11
WETLAND RISK (average of Sensitivity & Stressors)			7.40	Higher		4.22

NOTE: A score of 0 does not mean the function or benefit is absent from the wetland. It means only that this wetland has a capacity that is equal or less than the lowest-scoring one, for that function or benefit, from among all the NS calibration wetlands that were assessed previously.

NOVA SCOTIA - Functional WSS Interpretation Tool

Function-Benefit Product (FBP)	FBP SCORE	FBP SCORE CATEGORY
SUPPORT SUPERGROUP - HYDROLOGIC	0.466815929	Low
SUPPORT SUPERGROUP - WATER QUALITY SUPPORT	9.351791372	Low
SUPPORT SUPERGROUP - AQUATIC SUPPORT	49.9359085	Low
HABITAT SUPERGROUP - AQUATIC HABITAT	17.97940472	Low
HABITAT SUPERGROUP - TRANSITION HABITAT	0	Low

3a. Functional WSS Determination: Automatic Method

Habitat Rule Satisfied? NO
 Support Rule Satisfied? NO
 Habitat/Support Hybrid Rule Satisfied? NO

CONCLUSION: **Site is not a WSS**

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	Goose Harbour Lake Wind Farm, Wetland 43
Investigator Name:	Rohan Kariyawansa Madeline Maher
Date of Field Assessment:	2022-09-21
Nearest Town:	Monestary
Latitude (decimal degrees):	45.53628190
Longitude (decimal degrees):	61.49957400
Is a map based on a formal on-site wetland delineation available?	no
Approximate size of the Assessment Area (AA, in hectares):	0.02
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	90
What percent (approx.) of the wetland were you able to visit?	90
What percent (approx.) of the AA were you able to visit?	100
Were you able to ask the site owner/manager about any of the questions?	no
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	All three, Oct 2022
How many wetlands have you assessed previously using WESP-AC? (approx.)	4-5 dozen
Comments about the site or this WESP-AC assessment (attach extra page if desired):	Coordinates are in UTM 20T

	A	B	C	D	E
1	Date: 20 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 43	Investigator: RK MM	
2	<p>Form OF (Office). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia wetlands only. DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answering many of the questions below will require using these online map viewers: Google Earth Pro: https://www.google.com/earth/download/gep/agree.html Provincial Landscape Viewer: https://nsgi.novascotia.ca/plv/</p> <p>For most wetlands, completing this office data form will require 1-2 hours. For a list of functions to which each question pertains, see bracketed abbreviations in the Definitions/Explanations column. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.</p>				
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	OF1	Province	Mark the province in which the AA is located by changing the 0 in the column next to it to a "1". Mark only one.		This determines to which province's calibration wetlands the raw score of any wetland is normalised. In the function and benefits models, it also triggers the automatic exclusion of indicators for which no spatial data exists in a particular province.
5			New Brunswick	0	
6			Nova Scotia	1	
7			Prince Edward Island	0	
8			Newfoundland-Labrador	0	
9	OF2	Ponded Area Within 1 km.	The area of surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		"Adjacent" means not separated from the AA by a wide expanse (>50 m) of upland (including roads >50 m wide). Include ponded areas likely to be hidden by wetland vegetation. If surface water extends beyond 1 km, include only the part within 1 km. Do not include tidal areas. Measure the area from aerial imagery using Google Earth Pro (click on Ruler icon in toolbar, then Polygon in pop-up menu). [PH, SBM, WBN]
10			<0.01 hectare (about 10 m x 10 m).	0	
11			0.01 - 0.1 hectare.	0	
12			0.1 - 1 hectare.	0	
13			1 to 10 hectares.	0	
14			10 to 100 hectares.	1	
15		>100 hectares.	0		
16	OF3	Ponded Water & Wetland Within 1 km.	The area of wetlands and surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		See definition of adjacent in OF2. If the AA's wetland vegetation extends beyond 1 km, include only the part within 1 km. "Ponded" means not flowing in rivers or streams. [Sens, WBF]
17			<0.01 hectare (about 10 m x 10 m).	0	
18			0.01 - 0.1 hectare.	0	
19			0.1 - 1 hectare.	0	
20			1 to 10 hectares.	0	
21			10 to 100 hectares.	0	
22		>100 hectares.	1		
23	OF4	Size of Largest Nearby Vegetated Tract or Corridor	The largest vegetated patch or corridor that includes the AA's vegetation plus all adjacent upland vegetation that is not lawn, row crops, heavily grazed lands, conifer plantation is:		See definition of adjacent in OF2. Use Google Earth Pro's polygon ruler (as described above). Exclude conifer plantations only if it is obvious that trees were planted in rows. [AM, PH, SBM, Sens]
24			<0.01 hectare (about 10 m x 10 m).	0	
25			0.01 - 0.1 hectare.	0	
26			0.1 - 1 hectare.	0	
27			1 to 10 hectares.	0	
28			10 to 100 hectares.	0	
29		100 to 1000 hectares.	0		
30		>1000 hectares. [This is nearly always the answer in relatively undeveloped landscapes.]	1		

	A	B	C	D	E
31	OF5	Distance to Large Vegetated Tract	The minimum distance from the edge of the AA to the edge of the closest vegetated land (but excluding row crops, lawn, conifer plantation) larger than 375 hectares (about 2 km on a side), is:		To measure distance, use Google Earth Pro (Ruler > Line tool). The 375-ha criterion is from the Fundy Model Forest Project. [AM, PH, POL, SBM, Sens]
32			<50 m, and not separated from the 375-ha vegetated area by any width of paved roads, stretches of open water, row crops, bare ground, lawn, or impervious surface. Or the AA itself contains >375 ha of vegetation. [This is often the answer in relatively undeveloped landscapes.]	1	
33			<50 m, but completely separated from the 375-ha vegetated area by those features, and AA does not contain >375 ha of vegetation.	0	
34			50-500 m, and not separated.	0	
35			50-500 m, but separated by those features.	0	
36			0.5 - 5 km, and not separated.	0	
37			0.5 - 5 km, but separated by those features.	0	
38			None of the above (the closest patches or corridors which are that large are >5 km away).	0	
39	OF6	Herbaceous Uniqueness	The AA's vegetation cover is >10% herbaceous* but uplands within 5 km have <10% herbaceous cover. If so, enter "3" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 1 km have <10% herbaceous cover. If so enter "2" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 100 m of the wetland edge have <10% herbaceous cover. If so, enter "1". [* NOTE: Exclude lawns, row crops, heavily grazed lands, forest, shrublands. Include moss as well as grasslike plants in this use of "herbaceous vegetation"]	1	
40	OF7	Woody Uniqueness	The AA's vegetation cover is >10% woody* but uplands within 5 km have <10% woody cover. If so, enter "3" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 1 km have <10% woody cover. If so enter "2" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 100 m of the wetland edge have <10% woody cover. If so, enter "1" [* NOTE: woody cover = trees & shrubs taller than 1 m.]	2	See above. Do not consider conifer plantations to be forest if it is obvious that trees were planted in rows. [AMv, PHv, POLv, SBMv]
41	OF8	Local Vegetated Cover Percentage	Draw a 5-km radius circle measured from the center of the AA. Ignoring all permanent water in the circle, the percent of the remaining area that is wooded or unmanaged herbaceous vegetation (NOT lawn, row crops, bare or heavily grazed land, clearcuts, or conifer plantations) is:		In Google Earth, draw the 5 km buffer and then estimate land cover percentages, or do GIS analysis of an appropriate land cover layer. [AM, PH, POL, SBM, Sens]
42			<5% of the land.	0	
43			5 to 20% of the land.	0	
44			20 to 60% of the land.	0	
45			60 to 90% of the land.	1	
46			>90% of the land. SKIP to OF10.	0	
47	OF9	Type of Land Cover Alteration	Within the 5-km radius circle, and ignoring all permanent water, the land area that is bare or non-perennial cover is mostly:		[AM, SBM]
48			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
49			Bare pervious surface, e.g., lawn, recent (<5 yrs ago) clearcut, dirt or gravel road, cropland, landslide, conifer plantation.	1	
50	OF10	Distance by Road to Nearest Population Center	Measured along the maintained road nearest the AA, the distance to the nearest population center is:		"Population center" means a settled area with more than about 5 regularly- inhabited structures per square kilometer. In Google Earth Pro, click on the Ruler icon, then Path, and draw and measure the route. [FAv, FRv, NRv, PH, PU, SBM, WBFv]
51			<100 m.	0	
52			100 - 500 m.	0	
53			0.5- 1 km.	0	
54			1 - 5 km.	0	
55			>5 km.	1	

	A	B	C	D	E
56	OF11	Distance to Nearest Maintained Road	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:		Determine this by viewing aerial imagery in Google Earth Pro and measuring with the Ruler-Line tool [AM, FAv, FRv, NRv, PH, PU, SBM, STR, WBN]
57			<10 m.	1	
58			10 - 25 m.	0	
59			25 - 50 m.	0	
60			50 - 100 m.	0	
61			100 - 500 m.	0	
62		>500 m.	0		
63	OF12	Wildlife Access	Draw a circle of radius of 5 km from the center of the AA. If mammals and amphibians can move from the center of the AA to ALL other separate wetlands and ponds located within the circle without being forced to cross pavement (any width), lawns, bare ground, and/or marine waters, mark 1= yes can move to all, 0= no. Change to blank if there are no other wetlands within 5 km.	0	Draw the 5 km circle in Google Earth Pro using the Circle tool and search for roads and wetlands within it, being alert for roads hidden under forest canopy. [AM, SBM, STR]
64	OF13	Distance to Poned Water	The distance from the AA center to the closest (but separate) ponded water body visible in GoogleEarth imagery is:		In Google Earth Pro, zoom in closely to examine the surrounding landscape for ponds, lakes, and wetlands that appear to be permanently flooded. [AM, PH, SBM, Sens, WBF, WBN]
65			<50 m, and not separated by any width of paved roads, stretches of open water, row crops, lawn, bare ground, or impervious surface.	0	
66			<50 m, but completely separated by those features.	0	
67			50-500 m, and not separated.	1	
68			50-500 m, but separated by those features.	0	
69			0.5 - 1 km, and not separated.	0	
70		0.5 - 1 km, but separated by those features.	0		
71		None of the above (the closest patches or corridors that large are >1 km away).	0		
72	OF14	Distance to Large Poned Water	The distance from the AA center to the closest (but separate) non-tidal body of water that is ponded during most of the year and is larger than 8 hectares during most of a normal year is:		Determine this by viewing aerial imagery in Google Earth. [Sens, WBF, WBN]
73			<100 m.	0	
74			100 m - 1 km.	1	
75			1 - 2 km.	0	
76			2-5 km.	0	
77			5-10 km.	0	
78		>10 km.	0		
79	OF15	Tidal Proximity	The distance from the AA edge to the closest tidal water body (regardless of its salinity) is:		In Google Earth, measure the distance to the ocean (including Bay of Fundy) or tidal river, whichever is closer. If you need to see how far upriver a river is tidal, see the KMZ file provided with this calculator for NS (NS Hightide). Points shown in those files are only an approximation, so local information if available may be preferable. [FA, WBF]
80			<100 m.	0	
81			100 m - 1 km.	0	
82			1 - 5 km.	0	
83			5-10 km.	1	
84			10-40 km.	0	
85		>40 km.	0		
86	OF16	Upland Edge Contact	Select one:		[NR, SBM, Sens]
87			The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by (& contiguous with) other wetlands or water.	0	
88			1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
89			25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
90			50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91		More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA. This will be true for most assessments done with WESP-AC.	1		

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92	OF17	Flood Damage from Non-tidal Waters	Within 5 km downstream or downslope of the AA (select first true choice):		Contact local authorities to determine if such maps exist. Where available, LiDAR imagery can provide finer elevational resolution useful for flood modeling. [WSv]
93	Maps show Flood Zone or Flood Risk areas and there appears to be infrastructure vulnerable to river flooding not caused by tidal storm surges.		0		
94	Maps show Flood Zone or Flood Risk areas, but infrastructure is absent or is not vulnerable to floods from a non-tidal river. In some cases levees, upriver dams, or other measures may partly limit damage or risk from smaller events.		0		
95	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there appears to be infrastructure vulnerable to river flooding unrelated to tidal storm surges.		0		
96	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there is no infrastructure vulnerable to river flooding unrelated to tidal storm surges.		1		
97	OF18	Relative Elevation in Watershed	In Google Earth, enable the Terrain layer (lower left menu) and open the NS_Watersheds Secondary KMZ file that accompanies this calculator. Then determine the AA's approximate elevation (bottom right, NOT the "eye alt"). Then move cursor around to determine the watershed's maximum and minimum elevation. Divide the AA's elevation by the (max-min).	0.80	[FA, NR, Sens, SFSv, WCv, WSv]
98	OF19	Water Quality Sensitive Watershed or Area	The AA is in a Protected Water Supply area (Designated Water Supply Area, Natural Watershed Municipal Surface Water Supply Area, or Municipal Water Supply Area) according to the provided KMZ overlay ("NS Protected Water Supply Areas"). Enter 1= yes, 0= no.	0	If an ACCDC report is available for this AA, it also may contain such information. [NRv]
99	OF20	Degraded Water Upstream	Sampling indicates a problem with concentrations of metals, hydrocarbons, nutrients , or other substances (excluding bacteria, acidic water, high temperatures) being present at levels harmful to aquatic life or humans, and:		May use existing data, or sample those waters as part of this wetland assessment. "Harmful" should be evaluated with regard to current federal or provincial water quality standards. [AM, FA, FR, NRv, PRv, SRv, STR, WBF, WBN]
100			The condition is present within the AA.	0	
101			The condition is present in waters within 1 km that flow into the AA, but has not been documented in the AA itself.	0	
102			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
103			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
104	OF21	Degraded Water Downstream	The problem described above is downslope from the AA, and:		May use existing data, or monitor waters as part of this wetland assessment. [NRv, PRv, SRv]
105			The condition is present within 1 km downslope and connected to the AA by a channel.	0	
106			The condition is present within 5 km downslope and connected to the AA by a channel, or within 1 km but not connected to the AA by a channel.	0	
107			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
108			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
109	OF22	Wetland as a % of Its Contributing Area (Catchment)	From a topographic map and field observations, estimate the approximate boundaries of the catchment (CA) of the entire wetland of which the AA may be only a part. Then adjust those boundaries if necessary based on your field observations of the surrounding terrain, and/or by using procedures described in the Manual. Divide the area of the wetland (not just the AA) by the approximate area of its catchment excluding the area of the wetland itself. When doing the calculation, if ponded water is adjacent to the wetland, include that in the wetland area. The result is:		Topographic maps may be viewed online at the National Atlas of Canada (Toporama): http://atlas.gc.ca/toporama/en/index.html [NR, PR, Sens, SR, WS]
110			<0.01, or catchment size unknown due to stormwater pipes that collect water from an indeterminate area.	1	
111			0.01 to 0.1.	0	
112			0.1 to 1.	0	
113			>1 (wetland is larger than its catchment (e.g., wetland with flat surrounding terrain and no inlet, or is entirely isolated by dikes, or is a raised bog).	0	
114	OF23	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 m upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, landslides, and other mostly-bare surface is about :		[FA, INV, NRv, PRv, SRv, STR, WCv, WSv]
115			<10%.	0	
116			10 to 25%.	1	
117			>25%.	0	

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118	OF24	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following: (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow (bedrock near surface) and/or have high runoff coefficients. This statement is:		[NRv, PRv, SRv, WSv]
119			Mostly true.	0	
120			Somewhat true.	0	
121			Mostly untrue.	1	
122	OF25	Aspect	The overland flow direction of most surface water (in streams, rivers, or runoff) that enters the AA is:		[AM, NR, SFS, WC, WS]
123			Northward (N, NE). north-facing contributing area.	1	
124			Southward (S, SW). south-facing contributing area.	0	
125			Other (E, SE, W, NW), or no detectable uphill slope or input channel (flat).	0	
126	OF26	Internal Flow Distance (Path Length)	The horizontal flow distance from the wetland's inlet to outlet is:		Identify inlets and outlets, if any, from topographic maps (use elevations to determine which are inlets and which are outlets) and augment by field inspection. With the Provincial Landscape Viewer, select Nova Scotia Topo as the Basemap. Also enable the layer Forestry-WAM Predicted Flow. Then measure the inlet-outlet distance. [NR, OE, PR, SR, WS]
127			<10 m.	0	
128			10 - 50 m.	1	
129			50 - 100 m.	0	
130			100 - 1000 m.	0	
131			1 - 2 km.	0	
132			>2 km, or wetland lacks an inlet and outlet.	0	
133	OF27	Growing Degree Days	In Google Earth, open the KMZ file that accompanies this calculator, called NS_GrowingDegreeDays. Place your cursor over the AA and left-click. From the pop-up window, enter the GRIDCODE number in the next column.	2052	This layer was provided by Dr. Dan McKenney of the Canadian Forest Service [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WCv, WS]
134	OF28	Fish Access or Use	According to agency biologists and/or your own observations, the AA. <i>[Mark just the first choice that is true.]</i>		Regarding the last choice, if uncertain if an AA is fishless, consider the possibility its waters have been stocked. [AM, FA, FR, INV, WBF, WBN]
135			Is known to support rearing and/or spawning by Atlantic salmon or other anadromous species or eels. Go to Provincial Landscape Viewer>Wildlife>Significant Habitat>Species at Risk. Contact local fishery biologists, review the ACCDC report, and visit these websites: http://www.salmonatlas.com/atlanticsalmon/canada-east/index.1.html http://atlanticsalmonfederation.org/rivers/introduction.html	0	
136			Has not been documented to support Atlantic salmon rearing and/or spawning, but is connected to nearby waters likely to contain Atlantic salmon or other anadromous species or eels and is probably accessed by those during some conditions.	0	
137			Is probably is not accessed by any anadromous fish species but is known or likely to have other fish at least seasonally.	0	
138			Is known or likely to be fishless (e.g., too small, dry, and/or not accessible even temporarily, and not stocked).	1	
139	OF29	Species of Conservation Concern	Within the past 10 years, in the AA (or in its adjoining waters or wetland), qualified observers have documented <i>[mark all applicable]</i> :		Request information from ACCDC and/or conduct your own survey at an appropriate season using an approved protocol. For birds, also check eBird.org. NOTE for NS: If your WESP-AC is being completed for a Wetland Alteration Application to NS-ECC, your ACCDC results and any taxon-specific survey results must be submitted along with your WESP-AC results, and application. [AMv, EC, PHv, POLv, SBMv, Sens, WBFv, WBNv]
140			Presence of one or more of the plant species listed in the Plants_Rare worksheet of the accompanying SupplInfo file, or the AA is within a mapped Atlantic Coastal Plain Flora Buffer (go to Provincial Landscape Viewer> Wildlife> Special Management Practice Zones).	0	
141			Presence of one or more of the amphibian or reptile species (AM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
142			Presence of one or more of the waterbird species (WBF, WBN) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
143			Presence of one or more of the nesting songbird or raptor species (SBM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file, during their nesting season (May-July for most species).	0	
144			None of the above, or no data.	0	

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145	OF30	Important Bird Area (IBA)	In Google Earth, open the KMZ file that accompanies this calculator, called IBAs_Canada . The AA is all or part of an officially designated IBA. Enter 1= yes, 0= no.	0	The source of this layer, which should be checked periodically for updates, is: http://www.ibacanada.com/mapviewer.jsp?lang=EN [SBMv, WBFv, WBNv]
146	OF31	Black Duck Nesting Area	In Google Earth, open the KMZ file that accompanies this calculator, called BlackDuck . Adjust its alignment and opacity. Determine the predicted density (pairs per 25 sq. km) of nesting American Black Duck in the AA's vicinity: <10 (enter 0), 10-20 (enter 1), 20-30 (enter 2), >30 (enter 3). If outside of region shown in map, change to blank .	1	This was provided by Dr. David Leske. [WBNv]
147	OF32	Wintering Deer or Moose Concentration Areas	If AA is on private land with no information, change to blank (not 0). Otherwise: With the Provincial Landscape Viewer, for Wintering Moose, go to Wildlife> Significant Habitat. For Mainland Moose Concentration Areas, go to Wildlife> Special Management Practice Zones. Enter: yes= 1, no= 0.	0	[SBM]
148	OF33	Other Conservation Designation	The AA is all or part of an area designated by government, First Nations, or the Nature Conservancy of Canada (NCC) for its exceptional ecological features or highly intact natural conditions. With Provincial Landscape Viewer, see Protected Areas. Enter: yes= 1, no= 0. If uncertain, consult NCC and agencies for more recent information.	0	See: https://novascotia.ca/parksandprotectedareas/plan/interactive-map/ [PU]
149	OF34	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, or enhance the wetland (excluding mitigation wetlands). Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank (not 0).	0	[PU]
150	OF35	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
151	OF36	Sustained Scientific Use	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
152	OF37	Calcareous Region	The AA is NOT in a subregion that has been heavily exposed to acid precipitation. Enter "1" if true (green or yellow in map in Appendix A of the Manual). Enter "0" if false. If no information, change to blank .	0	[AM, FA, FR, INV, PH]
153	OF38	Ownership	Select the ONE ownership that covers the most of the AA. In Google Earth, open KMZ file called NS_Crownlands Use more recent information if available.		"Private lands" may include those owned or leased by non-governmental organizations, e.g., charitable conservation land trusts, DUC, TNC. [PU, STR]
154			New timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles) are permanently prohibited. Includes many publicly-owned Protected Lands, and private lands under long-term (30+ year) legal agreements to maintain nearly-unaltered conditions.	0	
155			Ownership is public (e.g., municipal, Crown Reservations/Notations) but some or all of the above activities are allowed.	1	
156			Ownership is private but public access is allowed, and/or a shorter-term conservation easement (whether renewable or not) is in place.	0	
157			Ownership is private and owner does not allow access, or access permission unknown, and not a conservation easement.	0	

	A	B	C	D	E
1	Date: 21 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 43	Investigator: RK MM	
Form F (Field). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia. DIRECTIONS: Walk for no less than 10 minutes from the wetland edge towards its core, in the part of the AA that is proposed for alteration. If no alteration is proposed, walk in a portion that appears to be most representative of the wetland overall. Walk only where it is safe and legal to do so. Conduct the assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgeable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form will require 1-2 hours on a site. For a list of functions to which each question pertains, see the accompanying Interpretations form. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage & Delay, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.					
2					
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	F1	Wetland Type	Follow the key below and mark the ONE row that best describes MOST of the vegetated part of the AA:		Ericaceous shrubs are ones in the heather family (Ericaceae). Most have leathery evergreen leaves. They include rhododendron, azalea, swamp laurel, leatherleaf, Labrador tea, and others. Most require acidic soil. Although not in the family Ericaceae, sweetgale (<i>Myrica gale</i>) should be counted also. [AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
5			A. Moss and/or lichen cover more than 25% of the ground. Often dominated by ericaceous shrubs (e.g., Labrador tea) or other acid-tolerant plants (e.g., bog cranberry, pitcher plant, sundew, orchids). Substrate is mostly undecomposed peat. Choose between A1 and A2 and mark the choice with a 1 in their adjoining column. Otherwise go to B below.		
6			A1. Surface water is usually absent or, if present, pH is typically <4.5 and conductivity is usually <100 µS/cm (<64 ppm TDS). Trees are absent or nearly so. Sedge cover usually sparse or absent but cottongrass and/or lichen cover may be extensive, as well as cloudberry, lingonberry, sheep laurel, and a sedge (<i>Carex rariflora</i>). Wetland surface and surrounding landscape are seldom sloping and wetland often is domed (convex). Inlet and outlet channels are usually absent. If known, pH of peat is <4.0.	0	
7			A2. Not A1. Surface water, if present, has pH typically >4.5 and conductivity is usually >100 µS/cm (>64 ppm TDS). Sedge cover is usually extensive, and/or tree and tall shrub cover is extensive. Sometimes at toe of slope or edge of water body. An exit channel is usually present. Wetter than A1 and peat depth may be shallower (<2 m).	0	
8			B. Moss and/or lichen cover less than 25% of the ground. Soil is mineral or decomposed organic (muck). Choose between B1 and B2 and mark the choice with a 1 in their adjoining column:		
9			B1. Trees and shrubs taller than 1 m comprise more than 25% of the vegetated cover. Surface water is mostly absent or inundates the vegetation only seasonally (e.g., vernal pools or floodplain).	1	
10			B2. Not B1. Tree & tall shrubs comprise less than 25% of the vegetated cover. Vegetation is mostly herbaceous, e.g., cattail, bulrush, burreed, pond lily, horsetail. Surface water may be extensive and fluctuates seasonally, being either persistent or drying up partly or entirely.	0	
11	Reminder : For all questions, the AA should include all persistent waters in ponds smaller than 8 hectares (~283 m on a side) that are adjacent to the AA. The AA should also include part of the water area of adjacent ponded water larger than 8 ha and adjacent rivers wider than 20 m. Specifically, the AA should include the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone. Throughout this data form, "adjacent" is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.				
12	F2	Wetland Types - Adjoining or Subordinate	If the AA is smaller than 1 ha, mark all other types that occupy more than 1% of the vegetated AA. If the AA is larger than 1 ha, mark all other types which are within or adjacent to the AA and occupy more than 1 ha, as visible from the AA or as interpreted from aerial imagery. Do not mark again the type marked in F1.		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, INV, SBM, WBF]
13			A1.	0	
14			A2.	1	
15			B1.	0	
16			B2.	0	

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17	F3	Woody Height & Form Diversity	Following EACH row below, indicate with a number code the percentage of the living vegetation in the AA which is occupied by that feature (6 if >95%, 5 if 75-95%, 4 if 50-75%, 3 if 25-50%, 2 if 5-25%, 1 if <5%, 0 if none). If the vegetated part of the AA is largely herbaceous (non-woody) vegetation, these percentages should not sum to 100%.		Deciduous shrubs in this region usually include buttonbush, Labrador tea, bayberry (<i>Morella</i>), huckleberry, cranberry, cloudberry, sweetgale, alder, willow, birch, ash, dogwood, and a few others. If you assigned a code of 3 or higher to any of the first four choices and the ground cover beneath the trees/shrubs is <25% moss, then question F1 might be "B1". [CS, INV, NR, PH, POL, SBM, Sens]
18			coniferous trees (may include tamarack) taller than 3 m.	2	
19			deciduous trees taller than 3 m.	5	
20			coniferous or ericaceous shrubs or trees 1-3 m tall not directly below the canopy of trees.	0	
21			deciduous shrubs or trees 1-3 m tall not directly below the canopy of trees.	0	
22			coniferous or ericaceous shrubs <1 m tall not directly below the canopy of taller vegetation.	0	
23			deciduous shrubs or trees <1 m tall (e.g., deciduous seedlings) not directly below the canopy of taller vegetation.	0	
24	<i>Note: If none of top 4 rows in F3 was marked 2 or greater, SKIP to F9 (N fixers).</i>				
25	F4	Dominance of Most Abundant Shrub Species	Determine which two woody plant species comprise the greatest portion of the low (<3 m) woody cover. Then choose one:		[PH, POL, SBM, Sens]
26			those species together comprise > 50% of such cover.	0	
27			those species together do not comprise > 50% of such cover.	1	
28	F5	Woody Diameter Classes	Mark ALL the types that comprise >5% of the woody canopy cover in the AA or >5% of the wooded areas (if any) along its upland edge (perimeter). The edge should include only the trees whose canopies extend into the AA.		Estimate the diameters at chest height. If small-diameter trees are overtopped (shaded) by larger ones, visualise a "subcanopy" at the average height of the smaller-dbh trees, to serve as a basis for the minimum 5% canopy requirement in this question. The trees and shrubs need not be wetland species. [AM, CS, POL, SBM, Sens, WBN]
29			coniferous, 1-9 cm diameter and >1 m tall.	1	
30			broad-leaved deciduous 1-9 cm diameter and >1 m tall.	1	
31			coniferous, 10-19 cm diameter.	0	
32			broad-leaved deciduous 10-19 cm diameter.	1	
33			coniferous, 20-40 cm diameter.	0	
34			broad-leaved deciduous 20-40 cm diameter.	1	
35			coniferous, >40 cm diameter.	0	
36			broad-leaved deciduous >40 cm diameter.	0	
37	F6	Height Class Interspersion	Follow the key below and mark the ONE row that best describes MOST of the AA:		[AM, INV, NR, PH, SBM, Sens]
38			A. Neither the vegetation taller than 1 m nor the vegetation shorter than that comprise >70% of the vegetated part of the AA. They <u>each</u> comprise 30-70%. Choose between A1 and A2 and mark the choice with a 1 in the adjoining column. Otherwise go to B below.		
39			A1. The two height classes are mostly scattered and intermixed throughout the AA.	0	
40			A2. Not A1. The two height classes are mostly in separate zones or bands, or in proportionately large clumps.	0	
41			B. Either the vegetation shorter than 1 m comprises >70% of the vegetated part of the AA, or the vegetation taller than that does. One size class might even be totally absent. Choose between B1 and B2 and mark the choice with a 1 in the adjoining column:		
42			B1. The less prevalent height class is mostly scattered and intermixed within the prevalent one.	1	
43			B2. Not B1. The less prevalent height class is mostly located apart from the prevalent one, in separate zones or clumps, or is completely absent.	0	
44	F7	Large Snags (Dead Standing Trees)	The number of large snags (diameter >20 cm) in the AA plus adjacent upland area within 10 m of the wetland edge is:		Snags are dead standing trees that often (not always) lack bark and foliage. Include only ones that are at least 2 m tall. [POL, SBM, WBN]
45			None, or fewer than 8/ hectare which exceed this diameter.	1	
46			Several (>8/hectare) and a pond, lake, or slow-flowing water wider than 10 m is within 1 km.	0	
47			Several (>8/hectare) but above not true.	0	
48	F8	Downed Wood	The number of downed wood pieces longer than 2 m and with diameter >10 cm, and not persistently submerged, is:		Exclude temporary "burn piles." [AM, INV, POL, SBM]
49			Few or none that meet these criteria.	1	
50			Several (>5 if AA is >5 hectares, less for smaller AAs) meet these criteria.	0	
51	F9	N Fixers	The percentage of the AA's vegetated cover that contains nitrogen-fixing plants (e.g., alder, sweetgale, clover, lupine, alfalfa, other legumes) is:		Do not include N-fixing algae or lichens. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
52			<1% or none.	0	
53			1-25% of the vegetated cover, in the AA or along its water edge (whichever has more).	1	
54			25-50% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
55			50-75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
56			>75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	

	A	B	C	D	E
57	F10	Sphagnum Moss Extent	The cover of Sphagnum moss (or any moss that forms a dense cushion many centimeters thick), including the moss obscured by taller sedges and other plants rooted in it, is:		Exclude moss growing on trees and rocks. [CS, PH]
58			<5% of the vegetated part of the AA.	0	
59			5-25% of the vegetated part of the AA.	1	
60			25-50% of the vegetated part of the AA.	0	
61			50-95% of the vegetated part of the AA.	0	
62			>95% of the vegetated part of the AA.	0	
63	F11	% Bare Ground & Thatch	Consider the parts of the AA that lack surface water at the driest time of the growing season. Viewed from directly above the ground layer, the predominant condition in those areas at that time is:		Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is present under a tree or shrub canopy should be counted. Boulders count as bare ground. Wetlands with mineral soils and that are heavily shaded or are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens]
64			Little or no (<5%) <i>bare ground</i> is visible between erect stems or under canopy anywhere in the vegetated AA. Ground is extensively blanketed by dense thatch, moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	0	
65			Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	1	
66			Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the AA.	0	
67			Other conditions.	0	
68			Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0	
69	F12	Ground Irregularity	Imagine the AA without any living vegetation. Excluding the portion of the AA that is always under water, the number of hummocks, small pits, raised mounds, animal burrows, ruts, gullies, natural levees, microdepressions, and other areas of peat or mineral soil that are raised or depressed >10 cm compared to most of the area within a few meters surrounding them is:		The depressions may be of human or natural origin. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
70			Few or none (minimal microtopography; <1% of the land has such features, or entire AA is always water-covered).	0	
71			Intermediate.	1	
72			Several (extensive micro-topography).	0	
73	F13	Upland Inclusions	Within the AA, inclusions of upland are:		[AM, NR, SBM]
74			Few or none.	0	
75			Intermediate (1 - 10% of vegetated part of the AA).	1	
76			Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).		
77	F14	Soil Texture	In parts of the AA that lack persistent water, the texture of soil in the uppermost layer is mostly: [To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key (in Appendix A of the Manual).]		[CS, NR, OE, PH, PR, Sens, SFS, WS]
78			Loamy : soils that may contain a little fine grit and do not make a "ribbon" longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	1	
79			Fines : includes silt, clay, silt, soils that make a ribbon longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
80			Deep Peat , to 40 cm depth or greater.	0	
81			Shallow Peat or organic <40 cm deep.	0	
82			Coarse : includes sand, loamy sand, gravel, cobble, soils that do not make a ribbon when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
83	F15	Shorebird Feeding Habitats	During any 2 consecutive weeks of the growing season, the extent of mudflats, bare unshaded saturated areas not covered by thatch, and unshaded waters shallower than 6 cm is: [Include also any area that is adjacent to the AA.]		This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
84			None, or <100 sq. m.	1	
85			100-1000 sq. m.	0	
86			1000 - 10,000 sq. m.	0	
87			>10,000 sq. m.	0	
88	F16	Herbaceous % of Vegetated Wetland	In aerial ("ducks eye") view, the maximum annual cover of herbaceous vegetation (all non-woody plants except moss) is:		[AM, WBF, WBN]
89			<5% of the vegetated part of the AA or <0.01 hectare (whichever is less). Mark "1" here and SKIP to F20 (Invasive Plant Cover).	0	
90			5-25% of the vegetated part of the AA.	0	
91			25-50% of the vegetated part of the AA.	1	
92			50-95% of the vegetated part of the AA.	0	
93			>95% of the vegetated part of the AA.	0	

	A	B	C	D	E
94	F17	Forb Cover	Within parts of the AA having herbaceous cover (excluding SAV), the areal cover of forbs reaches an annual maximum of:		Forbs are flowering plants. Do not include grasses, sedges, cattail, other graminoids, ferns, horsetails, or others that lack showy flowers. [POL]
95	<5% of the herbaceous part of the AA.		0		
96	5-25% of the herbaceous part of the AA.		1		
97	25-50% of the herbaceous part of the AA.		0		
98	50-95% of the herbaceous part of the AA.		0		
99	>95% of the herbaceous part of the AA.		0		
100	F18	Sedge Cover	Sedges (<i>Carex</i> spp.) and cottongrass (<i>Eriophorum</i> spp.) occupy:		[CS]
101	<5% of the vegetated area, or none.		0		
102	5-50% of the vegetated area.		1		
103	50-95% of the vegetated area.		0		
104	>95% of the vegetated area.		0		
105	F19	Dominance of Most Abundant Herbaceous Species	Determine which two herbaceous species comprise the greatest portion of the herbaceous cover (excluding mosses and floating-leaved aquatic plants). Then choose one of the following:		For this question, include ferns as well as graminoids and forbs. [EC, INV, PH, POL, Sens]
106	those species together comprise > 50% of the areal cover of herbaceous plants at any time during the year.		1		
107	those species together do not comprise > 50% of the areal cover of herbaceous plants at any time during the year.		0		
108	F20	Invasive Plant Cover	How extensive is the cover of invasive plant species in the AA? For species, see Plants_invasive worksheet in the accompanying SuppInfo file.		[EC, PH, POL, Sens]
109	invasive species appear to be absent in the AA, or are present only in trace amount (a few individuals).		1		
110	invasive species are present in more than trace amounts, but comprise <5% of herbaceous cover (or woody cover, if the invasives are woody).		0		
111	invasive species comprise 5-20% of the herb cover (or woody cover, if the invasives are woody).		0		
112	invasive species comprise 20-50% of the herb cover (or woody cover, if the invasives are woody).		0		
113	invasive species comprise >50% of the herb cover (or woody cover, if the invasives are woody).		0		
114	F21	Invasive Cover Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 3 m upslope from the wetland) that is occupied by invasive plant species is:		If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an exotic species, assume the unidentified plant to also be exotic. If vegetation is so senesced that exotic species cannot be identified, answer "none". [PH, STR]
115	none of the upland edge (invasives apparently absent), or AA has no upland edge.		1		
116	some (but <5%) of the upland edge.		0		
117	5-50% of the upland edge.		0		
118	most (>50%) of the upland edge.		0		
119	F22	Fringe Wetland	During most of the year, open water within or adjacent to the vegetated part of the wetland is much wider than the maximum width of the vegetated zone within the wetland. Enter "1" if true, "0" if false.	0	[WBF, WBN, WCv]
120	F23	Lacustrine Wetland	The vegetated part of the AA is within or adjacent to a body of non-tidal standing open water whose size exceeds 8 hectares during most of a normal year.	0	[FR, PR, PU, WBF, WBN]
121	F24	% of AA Without Surface Water	The percentage of the AA that <u>never</u> contains <u>surface</u> water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC]
122	<1% . In other words, all or nearly all of the AA is covered by water permanently or at least seasonally.		0		
123	1-25% of the AA, or <1% but >0.01 ha never contains surface water.		1		
124	25-50% of the AA never contains surface water.		0		
125	50-75% of the AA never contains surface water.		0		
126	75-99% of the AA never contains surface water, OR >99% and there is at least one persistently ponded water body larger than 1 ha in the AA.		0		
127	99-100%. AND there is no persistently ponded water body larger than 1 ha within the AA. Enter "1" and SKIP to F42 (Channel Connection).		0		

	A	B	C	D	E
128	F25	% of AA with Persistent Surface Water	Identify the parts of the AA that still contain surface water (flowing or ponded, open or hidden beneath vegetation) even during the driest times of a normal year, i.e., when the AA's surface water is at its lowest annual level. At that time, the percentage of the AA that still contains surface water is:		If you are unable to determine the condition at the driest time of year, ask the land owner or neighbors about it if possible. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [AM, CS, FA, FR, INV, NR, POL, PR, SBM, WBF, WBN]
129	None. The AA dries up completely (no water in channels either) or never has surface water during most years. SKIP to F27.		0		
130	1-20% of the AA.		0		
131	20-50% of the AA.		1		
132	50-95% of the AA.		0		
133	>95% of the AA. True for many fringe wetlands.	0			
134	F26	% of Summertime Water that Is Shaded	At mid-day during the warmest time of year, the area of surface water <u>within</u> the AA that is shaded by vegetation and other features that are <u>within</u> the AA at that time is:		[FA, WC]
135	<5% of the water is shaded, or no surface water is present then.		0		
136	5-25% of the water is shaded.		0		
137	25-50% of the water is shaded.		0		
138	50-75% of the water is shaded.		0		
139	>75% of the water is shaded.	1			
140	F27	% of AA that is Flooded Only Seasonally	The percentage of the AA's area that is between the annual high water and the annual low water (surface water) is:		Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualising where that would intercept the land along the river. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
141	None, or <0.01 hectare and <1% of the AA. SKIP to F29.		0		
142	1-20% of the AA, or <1% but >0.01 ha.		1		
143	20-50% of the AA.		0		
144	50-95% of the AA.		0		
145	>95% of the AA.	0			
146	F28	Annual Water Fluctuation Range	The annual fluctuation in surface water level within most of the parts of the AA that contain surface water at least temporarily is:		Look for flood marks (see above). Because the annual range of water levels is difficult to estimate without multiple visits, consider asking the land owner or neighbors about it. [AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
147	<10 cm change (stable or nearly so).		0		
148	10 cm - 50 cm change.		1		
149	0.5 - 1 m change.		0		
150	1-2 m change.		0		
151	>2 m change.	0			
152	Is the AA plus adjacent ponded water smaller than 0.01 hectare (about 10m x 10m, or 1m x 100 m)? If so, enter "1" in column D and SKIP TO F42 (Connection).			0	
153	F29	Predominant Depth Class	During most of the time when surface water is present during the growing season, its depth, averaged over the entire inundated part of the AA, is:		If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth of the most persistently inundated part of the wetland. Include surface water in channels and ditches as well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC]
154	<10 cm deep (but >0).		0		
155	10 - 50 cm deep.		1		
156	0.5 - 1 m deep.		0		
157	1 - 2 m deep.		0		
158	>2 m deep. True for many fringe wetlands.	0			
159	F30	Depth Classes - Evenness of Proportions	When present, surface water in most of the AA usually consists of (select one):		Estimate these proportions by considering the gradient and microtopography of the site. [FR, INV, WBF, WBN]
160	One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).		0		
161	One depth class that comprises 50-90% of the AA's inundated area.		1		
162	Neither of above. There are 3 or more depth classes and none occupy >50%.		0		
163	F31	% of Water That Is Ponded (not Flowing)	During most times when surface water is present, the percentage that is (1) ponded (stagnant, or flows so slowly that fine sediment is not held in suspension) AND (2) is likely to be deeper than 0.5 m in some places, is:		Nearly all wetlands with surface water have some ponded water. [AM, CS, INV, NR, OE, PR, Sens, SR, WBF, WBN, WC, WS]
164	<5% of the water, or it occupies <100 sq.m cumulatively. Nearly all the surface water is flowing. SKIP to F34.		0		
165	5-30% of the water.		0		
166	30-70% of the water.		0		
167	70-95% of the water.		1		
168	>95% of the water.	0			

	A	B	C	D	E
169	F32	Ponded Open Water - Minimum Size	During most of the growing season, the largest patch of open water that is ponded and is in or bordering the AA is >0.01 hectare (about 10 m by 10 m) and mostly deeper than 0.5 m. If true enter "1" and continue. If false, enter "0" and SKIP to F41 (Floating Algae & Duckweed).	0	Open water is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it.
170	F33	% of Ponded Water that is Open	In ducks-eye aerial view, the percentage of the ponded water that is open (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:		[AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC]
171			None, or <1% of the AA and largest pool occupies <0.01 hectares. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	1	
172			1-4% of the ponded water. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
173			5-30% of the ponded water.	0	
174			30-70% of the ponded water.	0	
175			70-99% of the ponded water.	0	
176			100% of the ponded water.	0	
177	F34	Width of Vegetated Zone within Wetland	At the time during the growing season when the AA's water level is lowest, the average width of vegetated area <u>in the AA</u> that separates adjoining uplands from open water within the AA is:		"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. [AM, CS, NR, OE, PH, PR, SBM, Sens, SR, WBN]
178			<1 m.	0	
179			1 - 9 m.	0	
180			10 - 29 m.	0	
181			30 - 49 m.	0	
182			50 - 100 m.	0	
183			> 100 m, or open water is absent at that time.	0	
184	F35	Flat Shoreline Extent	During most of the part of the growing season when water is present, the percentage of the AA's water edge length that is nearly flat (a slope less than about 5% measured within 5 m landward of the water) is:		If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
185			<1% of the water edge.	0	
186			1-25% of the water edge.	0	
187			25-50% of the water edge.	0	
188			50-75% of the water edge.	0	
189			>75% of the water edge.	0	
190	F36	Robust Emergents	The percentage of the emergent vegetation cover in the AA that is cattail (<i>Typha</i> spp.), common reed (<i>Phragmites</i>), or tall (>1m) bulrush is:		Emergent vegetation is herbaceous plants whose stems are partly above and partly below the water surface during most of the time water is present. [WBN]
191			<1% of the emergent vegetation, or emergent vegetation is absent. SKIP to F38.	0	
192			1-25% of the emergent vegetation.	0	
193			25-75% of the emergent vegetation.	0	
194			>75% of the emergent vegetation.	0	
195	F37	Interspersion of Emergents & Open Water	During most of the part of the growing season when water is present, the spatial pattern of emergent vegetation within the water is mostly:		[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
196			Scattered. More than 30% of such vegetation forms small islands or corridors surrounded by water.	0	
197			Intermediate.	0	
198			Clumped. More than 70% of such vegetation is in bands along the wetland perimeter or is clumped at one or a few sides of the surface water area.	0	
199	F38	Persistent Deepwater Area	If the deepest patch of surface water (flowing or ponded) in or directly adjacent to the AA is mostly deeper than 0.5 m for >2 weeks during the growing season, enter "1" and continue. If not, enter "0" and SKIP to F42 (Connection).	0	
200	F39	Non-vegetated Aquatic Cover	During most of the growing season and in waters deeper than 0.5 m, the cover for fish, aquatic invertebrates, and/or amphibians that is provided NOT by living vegetation, but by accumulations of dead wood and undercut banks is:		For this question, consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are unreliable so should not be attempted. [AM, FA, FR, INV]
201			Little or none.	0	
202			Intermediate.	0	
203			Extensive.	0	
204	F40	Isolated Island	The AA contains (or is part of) an island or beaver lodge within a lake, pond, or river, and is isolated from the shore by water depths >1 m on all sides during an average June. The island may be solid, or it may be a floating vegetation mat that is sufficiently large and dense to support a waterbird nest.	0	[WBN]
205	F41	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed are likely to cover >50% of the AA's otherwise-unshaded water surface, or blanket >50% of the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	[EC, PR, WBF]

	A	B	C	D	E
206	F42	Channel Connection & Outflow Duration	The most persistent surface water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and a downslope stream network is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of the wetland, or the surface connection between the wetland and the downslope stream network.]		Consider the connection regardless of whether the surface water is frozen. The "downslope stream network" could consist of ditches, rivers, ponds, or lakes which eventually connect to the ocean. If this cannot be determined while visiting the AA, consult topographic maps perhaps by viewing these online with Toporama (http://atlas.nrcan.gc.ca/toporama/en/index.html) [CS, FA, FR, NR, OE, PR, Sens, SFS, SR, WCv, WS]
207	Persistent (surface water flows out for >9 months/year).		0		
208	Seasonal (surface water flows out for 14 days to 9 months/year, not necessarily consecutive).		1		
209	Temporary (surface water flows out for <14 days, not necessarily consecutive).		0		
210	None -- but maps show a stream network downslope from the AA and within a distance that is less than the AA's length. SKIP to F47 (pH Measurement).		0		
211	No surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. SKIP to F47 (pH Measurement).		0		
212	F43	Outflow Confinement	During major runoff events, in the places where surface water exits the AA or connected waters nearby, the water:		"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS, NR, OE, PR, Sens, SR, STR, WS]
213	Mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not appear to drain the wetland artificially during most of the growing season.		0		
214	Leaves through natural exits (channels or diffuse outflow), not mainly through artificial or temporary features.		1		
215	Is exported more quickly than usual due to ditches or pipes within the AA or connected to its outlet, or within 10 m of the AA's edge, which drain the wetland artificially, or water is pumped out of the AA.		0		
216	F44	Tributary Channel	At least once annually, surface water from a tributary channel that is >100 m long moves into the AA. Or, surface water from a larger permanent water body adjacent to the AA spills into the AA. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. If no, SKIP to F47 (pH Measurement).	0	If inlet tributaries cannot be searched for due to inaccessibility of part of the AA, follow suggestions in F42 above. [NRv, PH, PRv, SRv]
217	F45	Input Water Temperature	Based on lack of shade, water source characteristics, or actual temperature measurements, the inflow is likely to be warmer than surface water in the AA during part of most years. Enter 1= yes, 0= no.	0	[WCv]
218	F46	Throughflow Resistance	During its travel through the AA at the time of peak annual flow, water arriving in channels: [select only the ONE encountered by most of the incoming water].		[FA, FR, INV, NR, OE, PR, SR, WS]
219	Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel in unvegetated (often incised) channels that have minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.		0		
220	Bumps into herbaceous vegetation but mostly remains in fairly straight channels.		0		
221	Bumps into herbaceous vegetation and mostly spreads throughout, or is in widely meandering, multi-branched, or braided channels.		0		
222	Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels.		0		
223	Bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).		0		
224	F47	pH Measurement	The pH in most of the AA's surface water:		Preferably, measure this in larger areas of ponded surface water within the AA, or in streams that have passed through (not along) most of the AA. Unless surface water is completely absent, do not dig holes or make depressions in peat in order to provide water for this measurement. Avoid measuring near roads or in puddles formed only by recent rain. [AM, FA, FR, NR, WBF, PH, PR, Sens, WBF, WBN]
225	Was measured, and is: [enter the reading in the column to the right.]				
226	Was not measured but surface water is present and is darkly tea-coloured. Or if no surface water, then mosses and plants that indicate peatland (e.g., Labrador tea) are prevalent. Enter "1".		0		
227	Neither of above. Enter "1".		1		
228	F48	TDS and/or Conductivity	The TDS (total dissolved solids) or conductivity of the AA's surface water is: (select the first true row with information):		See above for measurement guidance. [FR, INV, NRv, PH, PRv, Sens]
229	TDS is: [Enter the reading in ppm or mg/L in the column to the right, if measured, or answer next row.]				
230	Conductivity is [Enter the reading in µS/cm in the column to the right.]				
231	Was not measured, but plants that indicate saline conditions cover much of the vegetated AA. Enter "1".		0		
232	Neither of above		0		
233	F49	Beaver Probability	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
234	Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		0		
235	Likely based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.		0		
236	Unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed.		1		

	A	B	C	D	E
237	F50	Groundwater Strength of Evidence	Select first applicable choice:		Adhere to these criteria strictly -- do not use personal judgment based on fen conditions, pH, or other evidence. Consult topographic maps to detect breaks in slope described here. Rust deposits associated with groundwater seeps may be most noticeable as orange discoloration in ice formations along streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS]
238			Springs are known to be present within the AA, or if groundwater levels have been monitored, that has demonstrated that groundwater primarily discharges to the wetland for longer periods during the year than periods when the wetland recharges the groundwater.	0	
239			Most of the AA has a slope of >5%, or is very close to the base of a natural slope longer than 100 and much steeper than the slope of the AA, AND the pH of surface water, if known, is >5.5.	0	
240			Neither of above is true, although some groundwater may discharge to or flow through the AA. Or groundwater influx is unknown.	1	
241	F51	Internal Gradient	The gradient along most of the flow path within the AA is:		This is not the same as the shoreline slope. It is the elevational difference between the AA's inlet and outlet, divided by the flow-distance between them and converted to percent. If available, use a clinometer to measure this. Free clinometer apps can be downloaded to smartphones. If the wetland is large (longer than ~1 km), this may be estimated using Google Earth to determine the minimum and maximum elevation within the AA, then dividing by length and multiplying by 100. [CS, NR, OE, PR, SR, WBF, WBN, WS]
242			<2% or the AA has no surface water outlet (not even seasonally).	1	
243			2-5%.	0	
244			6-10%.	0	
245			>10%.	0	
246	Note for the next three questions: If the AA lacks an upland edge, evaluate based on the AA's entire perimeter, and moving outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.				
247	F52	Vegetated Buffer as % of Perimeter	Within a zone extending 30 m laterally from the AA's edge with upland and/or other wetlands, the percentage that contains perennial vegetation cover (except lawns, row crops, heavily grazed land, conifer plantations) is:		[AM, FA, FR, INV, NRv, PH, POL, PRv, SBM, Sens, SRv, STR, WBN]
248			<5%.	0	
249			5 to 30%.	1	
250			30 to 60%.	0	
251			60 to 90%.	0	
252			>90%, or all the area within 30 m of the AA edge is other wetlands. SKIP to F55.	0	
253	F53	Type of Cover in Buffer	Within 30 m upslope of where the wetland transitions to upland, the upland land cover that is NOT perennial vegetation is mostly (mark ONE):		[AM, FA, INV, NRv, PH, POL, SBM, STR, WBN]
254			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
255			Bare or nearly bare pervious surface or managed vegetation, e.g., lawn, row crops, unpaved road, dike, landslide.	1	
256	F54	Buffer Slope	The steepest and/or most disturbed part of the upland area that is within 30 m of the wetland and occupies >10% of that upland area has a percent slope of:		[NRv, PRv, Sens, SRv]
257			<1% (flat -- almost no noticeable slope) or all the area within 30 m of the AA edge is other wetlands.	0	
258			2-5%.	0	
259			5-30%.	1	
260			>30%.	0	
261	F55	Cliffs or Steep Banks	In the AA or within 100 m, there are elevated terrestrial features such as cliffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 2 m nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	0	Do not include upturned trees as potential den sites. [POL, SBM]
262	F56	New or Expanded Wetland	Human actions within or adjacent to the AA have persistently expanded a naturally occurring wetland or created a wetland where there previously was none (e.g., by excavation, impoundment):		Determine this using historical aerial photography, old maps, soil maps, or permit files as available [CS, NR, OE, PH, Sens]
263			No.	0	
264			Yes, and created or expanded 20 - 100 years ago.	1	
265			Yes, and created or expanded 3-20 years ago.	0	
266			Yes, and created or expanded within last 3 years.	0	
267			Yes, but time of origin or expansion unknown.	0	
268			Unknown if new or expanded within 20 years or not.	0	
269	F57	Burn History	More than 1% of the AA's previously vegetated area:		Look for charred soil or stumps (in multiple widely-spaced locations) or ask landowner. [CS, PH, STR]
270			Burned within past 5 years.	0	
271			Burned 6-10 years ago.	0	
272			Burned 11-30 years ago.	0	
273			Burned >30 years ago, or no evidence of a burn and no data.	1	

	A	B	C	D	E
274	F58	Visibility	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 100 m of the AA (select one) is:		[PU, STR, WBFv]
275			<25%.	0	
276			25-50%.	0	
277			>50%.	1	
278	F59	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select ALL statements that are true of the AA as it currently exists:		[PU, STR]
279			For an average person, walking is physically possible <u>in</u> (not just near) >5% of the AA during most of the growing season, e.g., free of deep water and dense shrub thickets.	0	
280			Maintained roads, parking areas, or foot-trails are within 10 m of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0	
281			Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0	
282	F60	Unvisited Core Area	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [<i>Note: Only include the part actually walked or driven (not simply viewed from) with a vehicle or boat. Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 30 m of the wetland edge. In that case include only the area occupied by the trail.</i>]		[AM, FAv, FRv, PH, PU, SBM, STR, WBF, WBN]
283			<5% and no inhabited building is within 100 m of the AA.	0	
284			<5% and inhabited building is within 100 m of the AA.	0	
285			5-50% and no inhabited building is within 100 m of the AA.	0	
286			5-50% and inhabited building is within 100 m of the AA.	0	
287			50-95%, with or without inhabited building nearby.	1	
288			>95% of the AA with or without inhabited building nearby.	0	
289	F61	Frequently Visited Area	The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [<i>See note above.</i>]		[AM, PH, PU, SBM, STR, WBF, WBN]
290			<5%. If F60 was answered ">95%" (mostly never visited), SKIP to F64.	1	
291			5-50%.	0	
292			50-95%.	0	
293			>95% of the AA.	0	
294	F62	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on soil within nearly all of the AA when the soil is unfrozen. Enter "1" if true.	0	[PH, PU]
295	F63	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorised boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	0	[AM, PU, WBF, WBN]
296	F64	Consumptive Uses (Provisioning Services)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select ALL that apply.		[FAv, FRv, WBFv]
297			Low-impact commercial timber harvest (e.g., selective thinning).	0	
298			Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.	0	
299			Waterfowl hunting.	0	
300			Fishing.	0	
301			Trapping of furbearers.	0	
302			None of the above.	0	
303	F65	Domestic Wells	The closest wells or water bodies that currently provide drinking water are:		[NRv]
304			Within 0-100 m. of the AA.	0	
305			100-500 m. away.	0	
306			>500 m. away, or no information.	1	
307	F66	Calcareous Fen	The AA is, or is part of, a calcareous fen. See the Plants_Calcar worksheet in the accompanying SuppInfo file for list of plant indicators (calciphiles). Enter 1 if more than two Strong or more than five Moderate calciphile species are present; otherwise enter 0, but if not able to identify those and no information, change to blank .		[PH, PR]

Investigator: RK MM	Site Identifier: Goose Harbour Lake Wind Farm, Wetland 43	Date: 21 Sept 2022
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Stressor (S) Data Form for Non-Tidal Wetlands. WESP-AC for Nova Scotia version 2.

				Data	
S1	Aberrant Timing of Water Inputs				
	<i>In the last column, place a check mark next to any item that is likely to have caused the timing of water inputs (but not necessarily their volume) to shift by hours, days, or weeks, becoming either more muted (smaller or less frequent peaks spread over longer times, more temporal homogeneity of flow or water levels) or more flashy (larger or more frequent spikes but over shorter times). [FA, FR, INV, PH, STR]</i>				
	Stormwater from impervious surfaces that drains directly to the wetland.				
	Water subsidies from wastewater effluent, septic system leakage, snow storage areas, or irrigation.				
	Regular removal of surface or groundwater for irrigation or other consumptive use.				
	Flow regulation in tributaries or water level regulation in adjoining water body, or other control structure at water entry points that regulates inflow to the wetland.				
	A dam, dike, levee, weir, berm, or fill -- within or downgradient from the wetland -- that interferes with surface or subsurface flow in/out of the AA (e.g., road fill, wellpads, pipelines).				
	Excavation within the wetland, e.g., dugout, artificial pond, dead-end ditch.				
	Artificial drains or ditches in or near the wetland.				
	Accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level).				
	Logging within the wetland.				
	Subsidence or compaction of the wetland's substrate as a result of machinery, livestock, fire, drainage, or off road vehicles.				
	Straightening, ditching, dredging, and/or lining of tributary channels.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items had no measurable effect on the timing of water conditions in any part of the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of timing shift within the wetland:	>95% of wetland.	5-95% of wetland.	<5% of wetland.	0
	When most of the timing shift began:	<3 yrs ago.	3-9 yrs ago.	10-100 yrs ago.	0
	<i>Score the following 2 rows only if the altered inputs began within past 10 years, and only for the part of the wetland that experiences those.</i>				
	Input timing now vs. previously:	Shift of weeks.	Shift of days.	Shift of hours or minutes.	0
	Flashiness or muting:	Became very flashy or controlled.	Intermediate.	Became mildly flashy or controlled.	0
Sum=				0	
Stressor subscore=				0.00	

S2	Accelerated Inputs of Contaminants and/or Salts				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of contaminants or salts to the AA. [AM, FA, PH, POL, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills, industrial facilities.				
	Metals & chemical wastes from mining, shooting ranges, snow storage areas, oil/ gas extraction, other sources (download many locations from National Pollutant Release Inventory and view KMZ overlay in Google Earth. https://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=B85A1846-1)				
	Road salt.				
	Spraying of pesticides, as applied to lawns, croplands, roadsides, or other areas in the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly higher levels of contaminants and/or salts, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Usual toxicity of most toxic contaminants:	Industrial effluent, mining waste, unmanaged landfill.	Cropland, managed landfill, pipeline or transmission rights-of-way.	Low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
	AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0
				Sum=	0
			Stressor subscore=	0.00	
S3	Accelerated Inputs of Nutrients				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of nutrients to the wetland. [NRv, PRv, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills.				
	Fertilizers applied to lawns, ag lands, or other areas in the CA.				
	Livestock, dogs.				
	Artificial drainage of upslope lands.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly more nutrients, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Type of loading:	High density of unmaintained septic, some types of industrial sources.	Moderate density septic, cropland, secondary wastewater treatment plant.	Livestock, pets, low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
	AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0
				Sum=	0
			Stressor subscore=	0.00	

S4	Excessive Sediment Loading from Contributing Area				
	<i>In the last column, place a check mark next to any item present in the CA that is likely to have elevated the load of waterborne or windborne sediment reaching the wetland from its CA. [FA, FR, INV, PH, SRv, STR]</i>				
	Erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fires.				1
	Erosion from construction, in-channel machinery in the CA.				
	Erosion from off-road vehicles in the CA.				1
	Erosion from livestock or foot traffic in the CA.				
	Stormwater or wastewater effluent.				
	Sediment from road sanding, gravel mining, other mining, oil/ gas extraction.				
	Accelerated channel downcutting or headcutting of tributaries due to altered land use.				
	Other human-related disturbances within the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not cumulatively add significantly more sediment or suspended solids to the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Erosion in CA:	Extensive evidence, high intensity.*	Potentially (based on high-intensity* land use) or scattered evidence.	Potentially (based on low-intensity* land use) with little or no direct evidence.	3
	Recentness of significant soil disturbance in the CA:	Current & ongoing.	1-12 months ago.	>1 yr ago.	3
Duration of sediment inputs to the wetland:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	3	
AA proximity to actual or potential sources:	0 - 15 m.	15-100 m.	In more distant part of contributing area.	3	
* high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erosion with or without veg removal; low-intensity= veg removal only with little or no apparent erosion or disturbance of soil or sediment.				Sum= 12	
				Stressor subscore= 1.00	
S5	Soil or Sediment Alteration Within the Assessment Area				
	<i>In the last column, place a check mark next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil. Consider only items occurring within past 100 years or since wetland was created or restored (whichever is less). [CS, INV, NR, PH, SR, STR]</i>				
	Compaction from machinery, off-road vehicles, livestock, or mountain bikes, especially during wetter periods.				
	Leveling or other grading not to the natural contour.				
	Tillage, plowing (but excluding disking for enhancement of native plants).				
	Fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland.				
	Excavation.				
	Ditch cleaning or dredging in or adjacent to the wetland.				
	Boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments.				
	Artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of altered soil:	>95% of wetland or >95% of its upland edge (if any).	5-95% of wetland or 5-95% of its upland edge (if any).	<5% of wetland and <5% of its upland edge (if any).	0
	Recentness of significant soil alteration in wetland:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration:	Long-lasting, minimal veg recovery.	Long-lasting but mostly revegetated.	Short-term, revegetated, not intense.	0	
Timing of soil alteration:	Frequent and year-round.	Frequent but mostly seasonal.	Mainly during one-time or scattered events.	0	
				Sum= 0	
				Stressor subscore= 0.00	

Assessment Area (AA) Results:

Wetland ID: Goose Harbour Lake Wind Farm, Wetland 43

Date: Sept 21, 2022

Observer: Rohan Kariyawansa & Madeline Maher

Latitude & Longitude (decimal degrees): 45.53628190 & 61.49957400

Scores will appear below after data are entered in worksheets OF, F, and S.
See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	2.09	Lower	8.74	Higher	3.51	3.88
Stream Flow Support (SFS)	2.31	Moderate	7.28	Moderate	1.86	4.85
Water Cooling (WC)	6.54	Higher	1.52	Lower	4.36	0.82
Sediment Retention & Stabilisation (SR)	2.72	Lower	4.20	Higher	4.32	2.06
Phosphorus Retention (PR)	0.00	Lower	3.13	Higher	3.73	2.43
Nitrate Removal & Retention (NR)	4.34	Moderate	6.53	Moderate	5.91	6.53
Carbon Sequestration (CS)	2.08	Lower			6.18	
Organic Nutrient Export (OE)	5.94	Moderate			3.88	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	3.88	Moderate	5.05	Moderate	5.08	3.97
Amphibian & Turtle Habitat (AM)	7.72	Higher	5.58	Higher	7.17	6.36
Waterbird Feeding Habitat (WBF)	7.92	Higher	3.33	Moderate	6.03	3.33
Waterbird Nesting Habitat (WBN)	5.82	Moderate	3.33	Moderate	4.22	3.33
Songbird, Raptor, & Mammal Habitat (SBM)	7.33	Moderate	6.67	Moderate	6.38	6.67
Pollinator Habitat (POL)	6.52	Moderate	6.67	Moderate	5.40	6.67
Native Plant Habitat (PH)	3.97	Moderate	6.15	Moderate	5.49	6.15
Public Use & Recognition (PU)			1.79	Moderate		1.52
Wetland Sensitivity (Sens)			6.61	Moderate		4.05
Wetland Ecological Condition (EC)			3.62	Lower		6.94
Wetland Stressors (STR) (higher score means more stress)			9.20	Higher		4.60
Summary Ratings for Grouped Functions:						
HYDROLOGIC Group (WS)	2.09	Lower	8.74	Higher	3.51	3.88
WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS)	3.31	Moderate	5.57	Moderate	5.61	5.10
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC)	5.60	Higher	5.95	Moderate	4.44	4.03
AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN)	6.10	Moderate	4.02	Moderate	5.32	4.48
TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL)	6.64	Moderate	6.58	Moderate	6.07	6.58
WETLAND CONDITION (EC)			3.62	Lower		6.94
WETLAND RISK (average of Sensitivity & Stressors)			7.90	Higher		4.33

NOTE: A score of 0 does not mean the function or benefit is absent from the wetland. It means only that this wetland has a capacity that is equal or less than the lowest-scoring one, for that function or benefit, from among all the NS calibration wetlands that were assessed previously.

NOVA SCOTIA - Functional WSS Interpretation Tool

Function-Benefit Product (FBP)	FBP SCORE	FBP SCORE CATEGORY
SUPPORT SUPERGROUP - HYDROLOGIC	18.28169022	Low
SUPPORT SUPERGROUP - WATER QUALITY SUPPORT	18.45248163	Low
SUPPORT SUPERGROUP - AQUATIC SUPPORT	33.34955656	Low
HABITAT SUPERGROUP - AQUATIC HABITAT	24.51286795	Low
HABITAT SUPERGROUP - TRANSITION HABITAT	43.67690252	Low

3a. Functional WSS Determination: Automatic Method

Habitat Rule Satisfied? NO
 Support Rule Satisfied? NO
 Habitat/Support Hybrid Rule Satisfied? NO

CONCLUSION: **Site is not a WSS**

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	Goose Harbour Lake Wind Farm, Wetland 57
Investigator Name:	Rohan Kariyawansa Madeline Maher
Date of Field Assessment:	2022-09-21
Nearest Town:	Antigonish
Latitude (decimal degrees):	45.58378611
Longitude (decimal degrees):	61.47619444
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	0.82
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	95%
What percent (approx.) of the wetland were you able to visit?	100%
What percent (approx.) of the AA were you able to visit?	95%
Were you able to ask the site owner/manager about any of the questions?	No
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	No
How many wetlands have you assessed previously using WESP-AC? (approx.)	2 Dozen
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

	A	B	C	D	E
1	Date: 20 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 57	Investigator: RK MM	
2	<p>Form OF (Office). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia wetlands only. DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answering many of the questions below will require using these online map viewers:</p> <p>Google Earth Pro: https://www.google.com/earth/download/gep/agree.html</p> <p>Provincial Landscape Viewer: https://nsgi.novascotia.ca/plv/</p> <p>For most wetlands, completing this office data form will require 1-2 hours. For a list of functions to which each question pertains, see bracketed abbreviations in the Definitions/Explanations column. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.</p>				
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	OF1	Province	Mark the province in which the AA is located by changing the 0 in the column next to it to a "1". Mark only one.		This determines to which province's calibration wetlands the raw score of any wetland is normalised. In the function and benefits models, it also triggers the automatic exclusion of indicators for which no spatial data exists in a particular province.
5			New Brunswick	0	
6			Nova Scotia	1	
7			Prince Edward Island	0	
8			Newfoundland-Labrador	0	
9	OF2	Ponded Area Within 1 km.	The area of surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		"Adjacent" means not separated from the AA by a wide expanse (>50 m) of upland (including roads >50 m wide). Include ponded areas likely to be hidden by wetland vegetation. If surface water extends beyond 1 km, include only the part within 1 km. Do not include tidal areas. Measure the area from aerial imagery using Google Earth Pro (click on Ruler icon in toolbar, then Polygon in pop-up menu). [PH, SBM, WBN]
10			<0.01 hectare (about 10 m x 10 m).	1	
11			0.01 - 0.1 hectare.	0	
12			0.1 - 1 hectare.	0	
13			1 to 10 hectares.	0	
14			10 to 100 hectares.	0	
15			>100 hectares.	0	
16	OF3	Ponded Water & Wetland Within 1 km.	The area of wetlands and surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		See definition of adjacent in OF2. If the AA's wetland vegetation extends beyond 1 km, include only the part within 1 km. "Ponded" means not flowing in rivers or streams. [Sens, WBF]
17			<0.01 hectare (about 10 m x 10 m).	0	
18			0.01 - 0.1 hectare.	0	
19			0.1 - 1 hectare.	1	
20			1 to 10 hectares.	0	
21			10 to 100 hectares.	0	
22			>100 hectares.	0	
23	OF4	Size of Largest Nearby Vegetated Tract or Corridor	The largest vegetated patch or corridor that includes the AA's vegetation plus all adjacent upland vegetation that is not lawn, row crops, heavily grazed lands, conifer plantation is:		See definition of adjacent in OF2. Use Google Earth Pro's polygon ruler (as described above). Exclude conifer plantations only if it is obvious that trees were planted in rows. [AM, PH, SBM, Sens]
24			<0.01 hectare (about 10 m x 10 m).	0	
25			0.01 - 0.1 hectare.	0	
26			0.1 - 1 hectare.	0	
27			1 to 10 hectares.	0	
28			10 to 100 hectares.	1	
29			100 to 1000 hectares.	0	
30			>1000 hectares. [This is nearly always the answer in relatively undeveloped landscapes.]	0	

	A	B	C	D	E
31	OF5	Distance to Large Vegetated Tract	The minimum distance from the edge of the AA to the edge of the closest <i>vegetated land</i> (but excluding row crops, lawn, conifer plantation) larger than 375 hectares (about 2 km on a side), is:		To measure distance, use Google Earth Pro (Ruler > Line tool). The 375-ha criterion is from the Fundy Model Forest Project. [AM, PH, POL, SBM, Sens]
32			<50 m, and not separated from the 375-ha vegetated area by any width of paved roads, stretches of open water, row crops, bare ground, lawn, or impervious surface. Or the AA itself contains >375 ha of vegetation. [This is often the answer in relatively undeveloped landscapes.]	0	
33			<50 m, but completely separated from the 375-ha vegetated area by those features, and AA does not contain >375 ha of vegetation.	0	
34			50-500 m, and not separated.	0	
35			50-500 m, but separated by those features.	1	
36			0.5 - 5 km, and not separated.	0	
37			0.5 - 5 km, but separated by those features.	0	
38			None of the above (the closest patches or corridors which are that large are >5 km away).	0	
39	OF6	Herbaceous Uniqueness	The AA's vegetation cover is >10% herbaceous* but uplands within 5 km have <10% herbaceous cover. If so, enter "3" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 1 km have <10% herbaceous cover. If so enter "2" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 100 m of the wetland edge have <10% herbaceous cover. If so, enter "1". [* NOTE: Exclude lawns, row crops, heavily grazed lands, forest, shrublands. Include moss as well as grasslike plants in this use of "herbaceous vegetation"]	1	For this question only, consider moss to be herbaceous vegetation. Determine the score by viewing aerial imagery in Google Earth after successively drawing or estimating the boundaries of the buffers of 5 km, 1 km, and 100 m radius focused on the center of the AA. Circles of specified radius can be drawn in Google Earth Pro by clicking on the Ruler icon, then Circle in the pop-up menu. [AMv, PHv, POLv, SBMv, WBFv, WBNv]
40	OF7	Woody Uniqueness	The AA's vegetation cover is >10% woody* but uplands within 5 km have <10% woody cover. If so, enter "3" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 1 km have <10% woody cover. If so enter "2" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 100 m of the wetland edge have <10% woody cover. If so, enter "1" [* NOTE: woody cover = trees & shrubs taller than 1 m.]	1	See above. Do not consider conifer plantations to be forest if it is obvious that trees were planted in rows. [AMv, PHv, POLv, SBMv]
41	OF8	Local Vegetated Cover Percentage	Draw a 5-km radius circle measured from the center of the AA. Ignoring all permanent water in the circle, the percent of the remaining area that is wooded or unmanaged herbaceous vegetation (NOT lawn, row crops, bare or heavily grazed land, clearcuts, or conifer plantations) is:		In Google Earth, draw the 5 km buffer and then estimate land cover percentages, or do GIS analysis of an appropriate land cover layer. [AM, PH, POL, SBM, Sens]
42			<5% of the land.	0	
43			5 to 20% of the land.	0	
44			20 to 60% of the land.	1	
45			60 to 90% of the land.	0	
46			>90% of the land. SKIP to OF10.	0	
47	OF9	Type of Land Cover Alteration	Within the 5-km radius circle, and ignoring all permanent water, the land area that is bare or non-perennial cover is mostly:		[AM, SBM]
48			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
49			Bare pervious surface, e.g., lawn, recent (<5 yrs ago) clearcut, dirt or gravel road, cropland, landslide, conifer plantation.	1	
50	OF10	Distance by Road to Nearest Population Center	Measured along the maintained road nearest the AA, the distance to the nearest population center is:		"Population center" means a settled area with more than about 5 regularly- inhabited structures per square kilometer. In Google Earth Pro, click on the Ruler icon, then Path, and draw and measure the route. [FAv, FRv, NRv, PH, PU, SBM, WBFv]
51			<100 m.	0	
52			100 - 500 m.	0	
53			0.5- 1 km.	0	
54			1 - 5 km.	0	
55			>5 km.	1	

	A	B	C	D	E
56	OF11	Distance to Nearest Maintained Road	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:		Determine this by viewing aerial imagery in Google Earth Pro and measuring with the Ruler>Line tool. [AM, FAv, FRv, NRv, PH, PU, SBM, STR, WBN]
57			<10 m.	1	
58			10 - 25 m.	0	
59			25 - 50 m.	0	
60			50 - 100 m.	0	
61			100 - 500 m.	0	
62		>500 m.	0		
63	OF12	Wildlife Access	Draw a circle of radius of 5 km from the center of the AA. If mammals and amphibians can move from the center of the AA to ALL other separate wetlands and ponds located within the circle without being forced to cross pavement (any width), lawns, bare ground, and/or marine waters, mark 1= yes can move to all, 0= no. Change to blank if there are no other wetlands within 5 km.	0	Draw the 5 km circle in Google Earth Pro using the Circle tool and search for roads and wetlands within it, being alert for roads hidden under forest canopy. [AM, SBM, STR]
64	OF13	Distance to Poned Water	The distance from the AA center to the closest (but separate) ponded water body visible in GoogleEarth imagery is:		In Google Earth Pro, zoom in closely to examine the surrounding landscape for ponds, lakes, and wetlands that appear to be permanently flooded. [AM, PH, SBM, Sens, WBF, WBN]
65			<50 m, and not separated by any width of paved roads, stretches of open water, row crops, lawn, bare ground, or impervious surface.	0	
66			<50 m, but completely separated by those features.	0	
67			50-500 m, and not separated.	0	
68			50-500 m, but separated by those features.	0	
69			0.5 - 1 km, and not separated.	0	
70			0.5 - 1 km, but separated by those features.	0	
71		None of the above (the closest patches or corridors that large are >1 km away).	1		
72	OF14	Distance to Large Poned Water	The distance from the AA center to the closest (but separate) non-tidal body of water that is ponded during most of the year and is larger than 8 hectares during most of a normal year is:		Determine this by viewing aerial imagery in Google Earth. [Sens, WBF, WBN]
73			<100 m.	0	
74			100 m - 1 km.	0	
75			1 -2 km.	1	
76			2-5 km.	0	
77			5-10 km.	0	
78		>10 km.	0		
79	OF15	Tidal Proximity	The distance from the AA edge to the closest tidal water body (regardless of its salinity) is:		In Google Earth, measure the distance to the ocean (including Bay of Fundy) or tidal river, whichever is closer. If you need to see how far upriver a river is tidal, see the KMZ file provided with this calculator for NS (NS Headtide). Points shown in those files are only an approximation, so local information if available may be preferable. [FA, WBF]
80			<100 m.	0	
81			100 m - 1 km.	0	
82			1 - 5 km.	0	
83			5-10 km.	1	
84			10-40 km.	0	
85		>40 km.	0		
86	OF16	Upland Edge Contact	Select one:		[NR, SBM, Sens]
87			The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by (& contiguous with) other wetlands or water.	0	
88			1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
89			25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
90			50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91			More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA. This will be true for most assessments done with WESP-AC.	1	
92	OF17	Flood Damage from Non-tidal Waters	Within 5 km downstream or downslope of the AA (select first true choice):		Contact local authorities to determine if such maps exist. Where available, LiDAR imagery can provide finer elevational resolution useful for flood modeling. [WSv]
93			Maps show Flood Zone or Flood Risk areas and there appears to be infrastructure vulnerable to river flooding not caused by tidal storm surges.	0	
94			Maps show Flood Zone or Flood Risk areas, but infrastructure is absent or is not vulnerable to floods from a non-tidal river. In some cases levees, upriver dams, or other measures may partly limit damage or risk from smaller events.	0	
95			Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there appears to be infrastructure vulnerable to river flooding unrelated to tidal storm surges.	0	
96			Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there is no infrastructure vulnerable to river flooding unrelated to tidal storm surges.	1	

	A	B	C	D	E
97	OF18	Relative Elevation in Watershed	In Google Earth, enable the Terrain layer (lower left menu) and open the NS_Watersheds Secondary KMZ file that accompanies this calculator. Then determine the AA's approximate elevation (bottom right, NOT the "eye alt"). Then move cursor around to determine the watershed's maximum and minimum elevation. Divide the AA's elevation by the (max-min).	0.88	[FA, NR, Sens, SFSv, WCv, WSv]
98	OF19	Water Quality Sensitive Watershed or Area	The AA is in a Protected Water Supply Area (Designated Water Supply Area, Natural Watershed Municipal Surface Water Supply Area, or Municipal Water Supply Area) according to the provided KMZ overlay ("NS Protected Water Supply Areas"). Enter 1= yes, 0= no.	0	If an ACCDC report is available for this AA, it also may contain such information. [NRv]
99	OF20	Degraded Water Upstream	Sampling indicates a problem with concentrations of metals, hydrocarbons, nutrients , or other substances (excluding bacteria, acidic water, high temperatures) being present at levels harmful to aquatic life or humans, and:		May use existing data, or sample those waters as part of this wetland assessment. "Harmful" should be evaluated with regard to current federal or provincial water quality standards. [AM, FA, FR, NRv, PRv, SRv, STR, WBF, WBN]
100			The condition is present within the AA.	0	
101			The condition is present in waters within 1 km that flow into the AA, but has not been documented in the AA itself.	0	
102			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
103			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
104	OF21	Degraded Water Downstream	The problem described above is downslope from the AA, and:		May use existing data, or monitor waters as part of this wetland assessment. [NRv, PRv, SRv]
105			The condition is present within 1 km downslope and connected to the AA by a channel.	0	
106			The condition is present within 5 km downslope and connected to the AA by a channel, or within 1 km but not connected to the AA by a channel.	0	
107			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
108			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
109	OF22	Wetland as a % of Its Contributing Area (Catchment)	From a topographic map and field observations, estimate the approximate boundaries of the catchment (CA) of the entire wetland of which the AA may be only a part. Then adjust those boundaries if necessary based on your field observations of the surrounding terrain, and/or by using procedures described in the Manual. Divide the area of the wetland (not just the AA) by the approximate area of its catchment excluding the area of the wetland itself. When doing the calculation, if ponded water is adjacent to the wetland, include that in the wetland's area. The result is:		Topographic maps may be viewed online at the National Atlas of Canada (Toporama): http://atlas.gc.ca/toporama/en/index.html [NR, PR, Sens, SR, WS]
110			<0.01, or catchment size unknown due to stormwater pipes that collect water from an indeterminate area.	0	
111			0.01 to 0.1.	1	
112			0.1 to 1.	0	
113			>1 (wetland is larger than its catchment (e.g., wetland with flat surrounding terrain and no inlet, or is entirely isolated by dikes, or is a raised bog).	0	
114	OF23	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 m upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, landslides, and other mostly-bare surface is about :		[FA, INV, NRv, PRv, SRv, STR, WCv, WSv]
115			<10%.	1	
116			10 to 25%.	0	
117			>25%.	0	
118	OF24	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following: (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow (bedrock near surface) and/or have high runoff coefficients. This statement is:		[NRv, PRv, SRv, WSv]
119			Mostly true.	0	
120			Somewhat true.	0	
121			Mostly untrue.	1	
122	OF25	Aspect	The overland flow direction of most surface water (in streams, rivers, or runoff) that enters the AA is:		[AM, NR, SFS, WC, WS]
123			Northward (N, NE). north-facing contributing area.	1	
124			Southward (S, SW). south-facing contributing area.	0	
125			Other (E, SE, W, NW), or no detectable uphill slope or input channel (flat).	0	

	A	B	C	D	E
126	OF26	Internal Flow Distance (Path Length)	The horizontal flow distance from the wetland's inlet to outlet is:		Identify inlets and outlets, if any, from topographic maps (use elevations to determine which are inlets and which are outlets) and augment by field inspection. With the Provincial Landscape Viewer, select Nova Scotia Topo as the Basemap. Also enable the layer Forestry-WAM Predicted Flow. Then measure the inlet-outlet distance. [NR, OE, PR, SR, WS]
127	<10 m.		0		
128	10 - 50 m.		0		
129	50 - 100 m.		0		
130	100 - 1000 m.		0		
131	1 - 2 km.		0		
132	>2 km, or wetland lacks an inlet and outlet.	1			
133	OF27	Growing Degree Days	In Google Earth, open the KMZ file that accompanies this calculator, called NS_GrowingDegreeDays. Place your cursor over the AA and left-click. From the pop-up window, enter the GRIDCODE number in the next column.	2030	This layer was provided by Dr. Dan McKenney of the Canadian Forest Service [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WCv, WS]
134	OF28	Fish Access or Use	According to agency biologists and/or your own observations, the AA. [Mark just the first choice that is true.]:		Regarding the last choice, if uncertain if an AA is fishless, consider the possibility its waters have been stocked. [AM, FA, FR, INV, WBF, WBN]
135	Is known to support rearing and/or spawning by Atlantic salmon or other anadromous species or eels. Go to Provincial Landscape Viewer>Wildlife>Significant Habitat>Species at Risk. Contact local fishery biologists, review the ACCDC report, and visit these websites: http://www.salmonatlas.com/atlanticsalmon/canada-east/index.1.html http://atlanticsalmonfederation.org/rivers/introduction.html		0		
136	Has not been documented to support Atlantic salmon rearing and/or spawning, but is connected to nearby waters likely to contain Atlantic salmon or other anadromous species or eels and is probably accessed by those during some conditions.		0		
137	Is probably is not accessed by any anadromous fish species but is known or likely to have other fish at least seasonally.		0		
138	Is known or likely to be fishless (e.g., too small, dry, and/or not accessible even temporarily, and not stocked).		1		
139	OF29	Species of Conservation Concern	Within the past 10 years, in the AA (or in its adjoining waters or wetland), qualified observers have documented [mark all applicable]:		Request information from ACCDC and/or conduct your own survey at an appropriate season using an approved protocol. For birds, also check eBird.org. NOTE for NS: If your WESP-AC is being completed for a Wetland Alteration Application to NS-ECC, your ACCDC results and any taxon-specific survey results must be submitted along with your WESP-AC results, and application. [AMv, EC, PHv, POLv, SBMv, Sens, WBFv, WBNv]
140	Presence of one or more of the plant species listed in the Plants_Rare worksheet of the accompanying Supplnfo file, or the AA is within a mapped Atlantic Coastal Plain Flora Buffer (go to Provincial Landscape Viewer> Wildlife> Special Management Practice Zones).		0		
141	Presence of one or more of the amphibian or reptile species (AM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file.		0		
142	Presence of one or more of the waterbird species (WBF, WBN) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file.		0		
143	Presence of one or more of the nestling songbird or raptor species (SBM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file, during their nesting season (May-July for most species).		0		
144	None of the above, or no data.	1			
145	OF30	Important Bird Area (IBA)	In Google Earth, open the KMZ file that accompanies this calculator, called IBAs_Canada. The AA is all or part of an officially designated IBA. Enter 1= yes, 0= no.	0	The source of this layer, which should be checked periodically for updates, is: http://www.ibacanada.com/mapviewer.jsp?lang=EN [SBMv, WBFv, WBNv]
146	OF31	Black Duck Nesting Area	In Google Earth, open the KMZ file that accompanies this calculator, called BlackDuck. Adjust its alignment and opacity. Determine the predicted density (pairs per 25 sq. km) of nesting American Black Duck in the AA's vicinity: <10 (enter 0), 10-20 (enter 1), 20-30 (enter 2), >30 (enter 3). If outside of region shown in map, change to blank.	1	This was provided by Dr. David Leske. [WBNv]
147	OF32	Wintering Deer or Moose Concentration Areas	If AA is on private land with no information, change to blank (not 0). Otherwise: With the Provincial Landscape Viewer, for Wintering Moose, go to Wildlife> Significant Habitat. For Mainland Moose Concentration Areas, go to Wildlife> Special Management Practice Zones. Enter: yes= 1, no= 0.	0	[SBM]
148	OF33	Other Conservation Designation	The AA is all or part of an area designated by government, First Nations, or the Nature Conservancy of Canada (NCC) for its exceptional ecological features or highly intact natural conditions. With Provincial Landscape Viewer, see Protected Areas. Enter: yes= 1, no= 0. If uncertain, consult NCC and agencies for more recent information.	0	See: https://novascotia.ca/parksandprotectedareas/plan/interactive-map/ [PU]
149	OF34	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, or enhance the wetland (excluding mitigation wetlands). Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank (not 0).	0	[PU]
150	OF35	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank.		[PU]
151	OF36	Sustained Scientific Use	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank.		[PU]
152	OF37	Calcareous Region	The AA is NOT in a subregion that has been heavily exposed to acid precipitation. Enter "1" if true (green or yellow in map in Appendix A of the Manual). Enter "0" if false. If no information, change to blank.		[AM, FA, FR, INV, PH]

	A	B	C	D	E
153	OF38	Ownership	Select the ONE ownership that covers the most of the AA. In Google Earth, open KMZ file called NS_CrownlandsUse more recent information if available.		"Private lands" may include those owned or leased by non-governmental organizations, e.g., charitable conservation land trusts, DUC, TNC. [PU, STR]
154			New timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles) are permanently prohibited. Includes many publicly-owned Protected Lands, and private lands under long-term (30+ year) legal agreements to maintain nearly-unaltered conditions.	0	
155			Ownership is public (e.g., municipal, Crown Reservations/Notations) but some or all of the above activities are allowed.	1	
156			Ownership is private but public access is allowed, and/or a shorter-term conservation easement (whether renewable or not) is in place.	0	
157			Ownership is private and owner does not allow access, or access permission unknown, and not a conservation easement.	0	

	A	B	C	D	E	
1	Date: 21 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 57	Investigator: RK MM		
Form F (Field). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia. DIRECTIONS: Walk for no less than 10 minutes from the wetland edge towards its core, in the part of the AA that is proposed for alteration. If no alteration is proposed, walk in a portion that appears to be most representative of the wetland overall. Walk only where it is safe and legal to do so. Conduct the assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgeable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form will require 1-2 hours on a site. For a list of functions to which each question pertains, see the accompanying Interpretations form. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage & Delay, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.						
2						
3	#	Indicators	Condition Choices	Data	Definitions/Explanations	
4	F1	Wetland Type	Follow the key below and mark the ONE row that best describes MOST of the vegetated part of the AA:		Ericaceous shrubs are ones in the heather family (Ericaceae). Most have leathery evergreen leaves. They include rhododendron, azalea, swamp laurel, leatherleaf, Labrador tea, and others. Most require acidic soil. Although not in the family Ericaceae, sweetgale (<i>Myrica gale</i>) should be counted also. [AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]	
5			A. Moss and/or lichen cover more than 25% of the ground. Often dominated by ericaceous shrubs (e.g., Labrador tea) or other acid-tolerant plants (e.g., bog cranberry, pitcher plant, sundew, orchids). Substrate is mostly undecomposed peat. Choose between A1 and A2 and mark the choice with a 1 in their adjoining column. Otherwise go to B below.			
6			A1. Surface water is usually absent or, if present, pH is typically <4.5 and conductivity is usually <100 µS/cm (<64 ppm TDS). Trees are absent or nearly so. Sedge cover usually sparse or absent but cottongrass and/or lichen cover may be extensive, as well as cloudberry, lingonberry, sheep laurel, and a sedge (<i>Carex rariflora</i>). Wetland surface and surrounding landscape are seldom sloping and wetland often is domed (convex). Inlet and outlet channels are usually absent. If known, pH of peat is <4.0.	0		
7			A2. Not A1. Surface water, if present, has pH typically >4.5 and conductivity is usually >100 µS/cm (>64 ppm TDS). Sedge cover is usually extensive, and/or tree and tall shrub cover is extensive. Sometimes at toe of slope or edge of water body. An exit channel is usually present. Wetter than A1 and peat depth may be shallower (<2 m).	1		
8			B. Moss and/or lichen cover less than 25% of the ground. Soil is mineral or decomposed organic (muck). Choose between B1 and B2 and mark the choice with a 1 in their adjoining column:			
9			B1. Trees and shrubs taller than 1 m comprise more than 25% of the vegetated cover. Surface water is mostly absent or inundates the vegetation only seasonally (e.g., vernal pools or floodplain).	0		
10			B2. Not B1. Tree & tall shrubs comprise less than 25% of the vegetated cover. Vegetation is mostly herbaceous, e.g., cattail, bulrush, burreed, pond lily, horsetail. Surface water may be extensive and fluctuates seasonally, being either persistent or drying up partly or entirely.	0		
11	Reminder : For all questions, the AA should include all persistent waters in ponds smaller than 8 hectares (~283 m on a side) that are adjacent to the AA. The AA should also include part of the water area of adjacent ponded water larger than 8 ha and adjacent rivers wider than 20 m. Specifically, the AA should include the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone. Throughout this data form, "adjacent" is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.					
12	F2	Wetland Types - Adjoining or Subordinate	If the AA is smaller than 1 ha, mark all other types that occupy more than 1% of the vegetated AA. If the AA is larger than 1 ha, mark all other types which are within or adjacent to the AA and occupy more than 1 ha, as visible from the AA or as interpreted from aerial imagery. Do not mark again the type marked in F1.			1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, INV, SBM, WBF]
13			A1.	1		
14			A2.	0		
15			B1.	0		
16			B2.	0		

	A	B	C	D	E
17	F3	Woody Height & Form Diversity	Following EACH row below, indicate with a number code the percentage of the living vegetation in the AA which is occupied by that feature (6 if >95%, 5 if 75-95%, 4 if 50-75%, 3 if 25-50%, 2 if 5-25%, 1 if <5%, 0 if none). If the vegetated part of the AA is largely herbaceous (non-woody) vegetation, these percentages should not sum to 100%.		Deciduous shrubs in this region usually include buttonbush, Labrador tea, bayberry (<i>Morella</i>), huckleberry, cranberry, cloudberry, sweetgale, alder, willow, birch, ash, dogwood, and a few others. If you assigned a code of 3 or higher to any of the first four choices and the ground cover beneath the trees/shrubs is <25% moss, then question F1 might be "B1". [CS, INV, NR, PH, POL, SBM, Sens]
18			coniferous trees (may include tamarack) taller than 3 m.	3	
19			deciduous trees taller than 3 m.	2	
20			coniferous or ericaceous shrubs or trees 1-3 m tall not directly below the canopy of trees.	2	
21			deciduous shrubs or trees 1-3 m tall not directly below the canopy of trees.	2	
22			coniferous or ericaceous shrubs <1 m tall not directly below the canopy of taller vegetation.	2	
23			deciduous shrubs or trees <1 m tall (e.g., deciduous seedlings) not directly below the canopy of taller vegetation.	2	
24	<i>Note: If none of top 4 rows in F3 was marked 2 or greater, SKIP to F9 (N fixers).</i>				
25	F4	Dominance of Most Abundant Shrub Species	Determine which two woody plant species comprise the greatest portion of the low (<3 m) woody cover. Then choose one:		[PH, POL, SBM, Sens]
26			those species together comprise > 50% of such cover.	0	
27			those species together do not comprise > 50% of such cover.	1	
28	F5	Woody Diameter Classes	Mark ALL the types that comprise >5% of the woody canopy cover in the AA or >5% of the wooded areas (if any) along its upland edge (perimeter). The edge should include only the trees whose canopies extend into the AA.		Estimate the diameters at chest height. If small-diameter trees are overtopped (shaded) by larger ones, visualise a "subcanopy" at the average height of the smaller-dbh trees, to serve as a basis for the minimum 5% canopy requirement in this question. The trees and shrubs need not be wetland species. [AM, CS, POL, SBM, Sens, WBN]
29			coniferous, 1-9 cm diameter and >1 m tall.	1	
30			broad-leaved deciduous 1-9 cm diameter and >1 m tall.	1	
31			coniferous, 10-19 cm diameter.	1	
32			broad-leaved deciduous 10-19 cm diameter.	1	
33			coniferous, 20-40 cm diameter.	1	
34			broad-leaved deciduous 20-40 cm diameter.	0	
35			coniferous, >40 cm diameter.	0	
36			broad-leaved deciduous >40 cm diameter.	0	
37	F6	Height Class Interspersion	Follow the key below and mark the ONE row that best describes MOST of the AA:		[AM, INV, NR, PH, SBM, Sens]
38			A. Neither the vegetation taller than 1 m nor the vegetation shorter than that comprise >70% of the vegetated part of the AA. They <u>each</u> comprise 30-70%. Choose between A1 and A2 and mark the choice with a 1 in the adjoining column. Otherwise go to B below.		
39			A1. The two height classes are mostly scattered and intermixed throughout the AA.	1	
40			A2. Not A1. The two height classes are mostly in separate zones or bands, or in proportionately large clumps.	0	
41			B. Either the vegetation shorter than 1 m comprises >70% of the vegetated part of the AA, or the vegetation taller than that does. One size class might even be totally absent. Choose between B1 and B2 and mark the choice with a 1 in the adjoining column:		
42			B1. The less prevalent height class is mostly scattered and intermixed within the prevalent one.	0	
43			B2. Not B1. The less prevalent height class is mostly located apart from the prevalent one, in separate zones or clumps, or is completely absent.	0	
44	F7	Large Snags (Dead Standing Trees)	The number of large snags (diameter >20 cm) in the AA plus adjacent upland area within 10 m of the wetland edge is:		Snags are dead standing trees that often (not always) lack bark and foliage. Include only ones that are at least 2 m tall. [POL, SBM, WBN]
45			None, or fewer than 8/ hectare which exceed this diameter.	1	
46			Several (>8/hectare) and a pond, lake, or slow-flowing water wider than 10 m is within 1 km.	0	
47			Several (>8/hectare) but above not true.	0	
48	F8	Downed Wood	The number of downed wood pieces longer than 2 m and with diameter >10 cm, and not persistently submerged, is:		Exclude temporary "burn piles." [AM, INV, POL, SBM]
49			Few or none that meet these criteria.	1	
50			Several (>5 if AA is >5 hectares, less for smaller AAs) meet these criteria.	0	
51	F9	N Fixers	The percentage of the AA's vegetated cover that contains nitrogen-fixing plants (e.g., alder, sweetgale, clover, lupine, alfalfa, other legumes) is:		Do not include N-fixing algae or lichens. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
52			<1% or none.	0	
53			1-25% of the vegetated cover, in the AA or along its water edge (whichever has more).	1	
54			25-50% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
55			50-75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
56			>75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	

	A	B	C	D	E
57	F10	Sphagnum Moss Extent	The cover of Sphagnum moss (or any moss that forms a dense cushion many centimeters thick), including the moss obscured by taller sedges and other plants rooted in it, is:		Exclude moss growing on trees and rocks. [CS, PH]
58			<5% of the vegetated part of the AA.	0	
59			5-25% of the vegetated part of the AA.	0	
60			25-50% of the vegetated part of the AA.	1	
61			50-95% of the vegetated part of the AA.	0	
62			>95% of the vegetated part of the AA.	0	
63	F11	% Bare Ground & Thatch	Consider the parts of the AA that lack surface water at the driest time of the growing season. Viewed from directly above the ground layer, the predominant condition in those areas at that time is:		Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is present under a tree or shrub canopy should be counted. Boulders count as bare ground. Wetlands with mineral soils and that are heavily shaded or are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens]
64			Little or no (<5%) <i>bare ground</i> is visible between erect stems or under canopy anywhere in the vegetated AA. Ground is extensively blanketed by dense thatch, moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	1	
65			Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0	
66			Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the AA.	0	
67			Other conditions.	0	
68			Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0	
69	F12	Ground Irregularity	Imagine the AA without any living vegetation. Excluding the portion of the AA that is always under water, the number of hummocks, small pits, raised mounds, animal burrows, ruts, gullies, natural levees, microdepressions, and other areas of peat or mineral soil that are raised or depressed >10 cm compared to most of the area within a few meters surrounding them is:		The depressions may be of human or natural origin. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
70			Few or none (minimal microtopography; <1% of the land has such features, or entire AA is always water-covered).	0	
71			Intermediate.	1	
72			Several (extensive micro-topography).	0	
73	F13	Upland Inclusions	Within the AA, inclusions of upland are:		[AM, NR, SBM]
74			Few or none.	0	
75			Intermediate (1 - 10% of vegetated part of the AA).	1	
76			Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).		
77	F14	Soil Texture	In parts of the AA that lack persistent water, the texture of soil in the uppermost layer is mostly: <i>[To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key (in Appendix A of the Manual).]</i>		[CS, NR, OE, PH, PR, Sens, SFS, WS]
78			Loamy: soils that may contain a little fine grit and do not make a "ribbon" longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
79			Fines: includes silt, clay, silt, soils that make a ribbon longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
80			Deep Peat, to 40 cm depth or greater.	1	
81			Shallow Peat or organic <40 cm deep.	0	
82			Coarse: includes sand, loamy sand, gravel, cobble, soils that do not make a ribbon when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
83	F15	Shorebird Feeding Habitats	During any 2 consecutive weeks of the growing season, the extent of mudflats, bare unshaded saturated areas not covered by thatch, and unshaded waters shallower than 6 cm is: <i>[Include also any area that is adjacent to the AA.]</i>		This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
84			None, or <100 sq. m.	1	
85			100-1000 sq. m.	0	
86			1000 - 10,000 sq. m.	0	
87			>10,000 sq. m.	0	
88	F16	Herbaceous % of Vegetated Wetland	In aerial ("ducks eye") view, the maximum annual cover of herbaceous vegetation (all non-woody plants except moss) is:		[AM, WBF, WBN]
89			<5% of the vegetated part of the AA or <0.01 hectare (whichever is less). Mark "1" here and SKIP to F20 (Invasive Plant Cover).	0	
90			5-25% of the vegetated part of the AA.	0	
91			25-50% of the vegetated part of the AA.	0	
92			50-95% of the vegetated part of the AA.	1	
93			>95% of the vegetated part of the AA.	0	

	A	B	C	D	E
94	F17	Forb Cover	Within parts of the AA having herbaceous cover (excluding SAV), the areal cover of forbs reaches an annual maximum of:		Forbs are flowering plants. Do not include grasses, sedges, cattail, other graminoids, ferns, horsetails, or others that lack showy flowers. [POL]
95	<5% of the herbaceous part of the AA.		0		
96	5-25% of the herbaceous part of the AA.		1		
97	25-50% of the herbaceous part of the AA.		0		
98	50-95% of the herbaceous part of the AA.		0		
99	>95% of the herbaceous part of the AA.		0		
100	F18	Sedge Cover	Sedges (<i>Carex</i> spp.) and cottongrass (<i>Eriophorum</i> spp.) occupy:		[CS]
101	<5% of the vegetated area, or none.		0		
102	5-50% of the vegetated area.		1		
103	50-95% of the vegetated area.		0		
104	>95% of the vegetated area.		0		
105	F19	Dominance of Most Abundant Herbaceous Species	Determine which two herbaceous species comprise the greatest portion of the herbaceous cover (excluding mosses and floating-leaved aquatic plants). Then choose one of the following:		For this question, include ferns as well as graminoids and forbs. [EC, INV, PH, POL, Sens]
106	those species together comprise > 50% of the areal cover of herbaceous plants at any time during the year.		0		
107	those species together do not comprise > 50% of the areal cover of herbaceous plants at any time during the year.		1		
108	F20	Invasive Plant Cover	How extensive is the cover of invasive plant species in the AA? For species, see Plants_invasive worksheet in the accompanying SupplInfo file.		[EC, PH, POL, Sens]
109	invasive species appear to be absent in the AA, or are present only in trace amount (a few individuals).		1		
110	invasive species are present in more than trace amounts, but comprise <5% of herbaceous cover (or woody cover, if the invasives are woody).		0		
111	invasive species comprise 5-20% of the herb cover (or woody cover, if the invasives are woody).		0		
112	invasive species comprise 20-50% of the herb cover (or woody cover, if the invasives are woody).		0		
113	invasive species comprise >50% of the herb cover (or woody cover, if the invasives are woody).		0		
114	F21	Invasive Cover Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 3 m upslope from the wetland) that is occupied by invasive plant species is:		If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an exotic species, assume the unidentified plant to also be exotic. If vegetation is so senesced that exotic species cannot be identified, answer "none". [PH, STR]
115	none of the upland edge (invasives apparently absent), or AA has no upland edge.		1		
116	some (but <5%) of the upland edge.		0		
117	5-50% of the upland edge.		0		
118	most (>50%) of the upland edge.		0		
119	F22	Fringe Wetland	During most of the year, open water within or adjacent to the vegetated part of the wetland is much wider than the maximum width of the vegetated zone within the wetland. Enter "1" if true, "0" if false.	0	[WBF, WBN, WCv]
120	F23	Lacustrine Wetland	The vegetated part of the AA is within or adjacent to a body of non-tidal standing open water whose size exceeds 8 hectares during most of a normal year.	0	[FR, PR, PU, WBF, WBN]
121	F24	% of AA Without Surface Water	The percentage of the AA that <u>never</u> contains <u>surface</u> water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC]
122	<1% . In other words, all or nearly all of the AA is covered by water permanently or at least seasonally.		0		
123	1-25% of the AA, or <1% but >0.01 ha never contains surface water.		0		
124	25-50% of the AA never contains surface water.		0		
125	50-75% of the AA never contains surface water.		0		
126	75-99% of the AA never contains surface water, OR >99% and there is at least one persistently ponded water body larger than 1 ha in the AA.		0		
127	99-100%. AND there is no persistently ponded water body larger than 1 ha within the AA. Enter "1" and SKIP to F42 (Channel Connection).		1		

	A	B	C	D	E
128	F25	% of AA with Persistent Surface Water	Identify the parts of the AA that still contain surface water (flowing or ponded, open or hidden beneath vegetation) even during the driest times of a normal year, i.e., when the AA's surface water is at its lowest annual level. At that time, the percentage of the AA that still contains surface water is:		If you are unable to determine the condition at the driest time of year, ask the land owner or neighbors about it if possible. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [AM, CS, FA, FR, INV, NR, POL, PR, SBM, WBF, WBN]
129	None. The AA dries up completely (no water in channels either) or never has surface water during most years. SKIP to F27.		0		
130	1-20% of the AA.		0		
131	20-50% of the AA.		0		
132	50-95% of the AA.		0		
133	>95% of the AA. True for many fringe wetlands.	0			
134	F26	% of Summertime Water that Is Shaded	At mid-day during the warmest time of year, the area of surface water <u>within</u> the AA that is shaded by vegetation and other features <u>that are within</u> the AA at that time is:		[FA, WC]
135	<5% of the water is shaded, or no surface water is present then.		0		
136	5-25% of the water is shaded.		0		
137	25-50% of the water is shaded.		0		
138	50-75% of the water is shaded.		0		
139	>75% of the water is shaded.	0			
140	F27	% of AA that is Flooded Only Seasonally	The percentage of the AA's area that is between the annual high water and the annual low water (surface water) is:		Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualising where that would intercept the land along the river. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
141	None, or <0.01 hectare and <1% of the AA. SKIP to F29.		0		
142	1-20% of the AA, or <1% but >0.01 ha.		0		
143	20-50% of the AA.		0		
144	50-95% of the AA.		0		
145	>95% of the AA.	0			
146	F28	Annual Water Fluctuation Range	The annual fluctuation in surface water level within most of the parts of the AA that contain surface water at least temporarily is:		Look for flood marks (see above). Because the annual range of water levels is difficult to estimate without multiple visits, consider asking the land owner or neighbors about it. [AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
147	<10 cm change (stable or nearly so).		0		
148	10 cm - 50 cm change.		0		
149	0.5 - 1 m change.		0		
150	1-2 m change.		0		
151	>2 m change.	0			
152	Is the AA plus adjacent ponded water smaller than 0.01 hectare (about 10m x 10m, or 1m x 100 m)? If so, enter "1" in column D and SKIP TO F42 (Connection).			0	
153	F29	Predominant Depth Class	During most of the time when surface water is present during the growing season, its depth, averaged over the entire inundated part of the AA, is:		If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth of the most persistently inundated part of the wetland. Include surface water in channels and ditches as well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC]
154	<10 cm deep (but >0).		0		
155	10 - 50 cm deep.		0		
156	0.5 - 1 m deep.		0		
157	1 - 2 m deep.		0		
158	>2 m deep. True for many fringe wetlands.	0			
159	F30	Depth Classes - Evenness of Proportions	When present, surface water in most of the AA usually consists of (select one):		Estimate these proportions by considering the gradient and microtopography of the site. [FR, INV, WBF, WBN]
160	One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).		0		
161	One depth class that comprises 50-90% of the AA's inundated area.		0		
162	Neither of above. There are 3 or more depth classes and none occupy >50%.		0		
163	F31	% of Water That Is Ponded (not Flowing)	During most times when surface water is present, the percentage that is (1) ponded (stagnant, or flows so slowly that fine sediment is not held in suspension) AND (2) is likely to be deeper than 0.5 m in some places, is:		Nearly all wetlands with surface water have some ponded water. [AM, CS, INV, NR, OE, PR, Sens, SR, WBF, WBN, WC, WS]
164	<5% of the water, or it occupies <100 sq.m cumulatively. Nearly all the surface water is flowing. SKIP to F34.		0		
165	5-30% of the water.		0		
166	30-70% of the water.		0		
167	70-95% of the water.		0		
168	>95% of the water.	0			

	A	B	C	D	E
169	F32	Ponded Open Water - Minimum Size	During most of the growing season, the largest patch of open water that is ponded and is in or bordering the AA is >0.01 hectare (about 10 m by 10 m) and mostly deeper than 0.5 m. If true enter "1" and continue. If false, enter "0" and SKIP to F41 (Floating Algae & Duckweed).	0	Open water is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it.
170	F33	% of Ponded Water that is Open	In ducks-eye aerial view, the percentage of the ponded water that is open (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:		[AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC]
171			None, or <1% of the AA and largest pool occupies <0.01 hectares. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
172			1-4% of the ponded water. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
173			5-30% of the ponded water.	0	
174			30-70% of the ponded water.	0	
175			70-99% of the ponded water.	0	
176			100% of the ponded water.	0	
177	F34	Width of Vegetated Zone within Wetland	At the time during the growing season when the AA's water level is lowest, the average width of vegetated area <u>in the AA</u> that separates adjoining uplands from open water within the AA is:		"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. [AM, CS, NR, OE, PH, PR, SBM, Sens, SR, WBN]
178			<1 m.	0	
179			1 - 9 m.	0	
180			10 - 29 m.	0	
181			30 - 49 m.	0	
182			50 - 100 m.	0	
183			> 100 m, or open water is absent at that time.	0	
184	F35	Flat Shoreline Extent	During most of the part of the growing season when water is present, the percentage of the AA's water edge length that is nearly flat (a slope less than about 5% measured within 5 m landward of the water) is:		If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
185			<1% of the water edge.	0	
186			1-25% of the water edge.	0	
187			25-50% of the water edge.	0	
188			50-75% of the water edge.	0	
189			>75% of the water edge.	0	
190	F36	Robust Emergents	The percentage of the emergent vegetation cover in the AA that is cattail (<i>Typha</i> spp.), common reed (<i>Phragmites</i>), or tall (>1m) bulrush is:		Emergent vegetation is herbaceous plants whose stems are partly above and partly below the water surface during most of the time water is present. [WBN]
191			<1% of the emergent vegetation, or emergent vegetation is absent. SKIP to F38.	0	
192			1-25% of the emergent vegetation.	0	
193			25-75% of the emergent vegetation.	0	
194			>75% of the emergent vegetation.	0	
195	F37	Interspersion of Emergents & Open Water	During most of the part of the growing season when water is present, the spatial pattern of emergent vegetation within the water is mostly:		[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
196			Scattered. More than 30% of such vegetation forms small islands or corridors surrounded by water.	0	
197			Intermediate.	0	
198			Clumped. More than 70% of such vegetation is in bands along the wetland perimeter or is clumped at one or a few sides of the surface water area.	0	
199	F38	Persistent Deepwater Area	If the deepest patch of surface water (flowing or ponded) in or directly adjacent to the AA is mostly deeper than 0.5 m for >2 weeks during the growing season, enter "1" and continue. If not, enter "0" and SKIP to F42 (Connection).	0	
200	F39	Non-vegetated Aquatic Cover	During most of the growing season and in waters deeper than 0.5 m, the cover for fish, aquatic invertebrates, and/or amphibians that is provided NOT by living vegetation, but by accumulations of dead wood and undercut banks is:		For this question, consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are unreliable so should not be attempted. [AM, FA, FR, INV]
201			Little or none.	0	
202			Intermediate.	0	
203			Extensive.	0	
204	F40	Isolated Island	The AA contains (or is part of) an island or beaver lodge within a lake, pond, or river, and is isolated from the shore by water depths >1 m on all sides during an average June. The island may be solid, or it may be a floating vegetation mat that is sufficiently large and dense to support a waterbird nest.	0	[WBN]

	A	B	C	D	E
205	F41	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed are likely to cover >50% of the AA's otherwise-unshaded water surface, or blanket >50% of the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	[EC, PR, WBF]
206	F42	Channel Connection & Outflow Duration	The most persistent surface water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and a downslope stream network is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of the wetland, or the surface connection between the wetland and the downslope stream network.]		Consider the connection regardless of whether the surface water is frozen. The "downslope stream network" could consist of ditches, rivers, ponds, or lakes which eventually connect to the ocean. If this cannot be determined while visiting the AA, consult topographic maps perhaps by viewing these online with Toporama (http://atlas.nrcan.gc.ca/toporama/en/index.html) [CS, FA, FR, NR, OE, PR, Sens, SFS, SR, WCv, WS]
207	Persistent (surface water flows out for >9 months/year).		0		
208	Seasonal (surface water flows out for 14 days to 9 months/year, not necessarily consecutive).		0		
209	Temporary (surface water flows out for <14 days, not necessarily consecutive).		0		
210	None -- but maps show a stream network downslope from the AA and within a distance that is less than the AA's length. SKIP to F47 (pH Measurement).		0		
211		No surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. SKIP to F47 (pH Measurement).	1		
212	F43	Outflow Confinement	During major runoff events, in the places where surface water exits the AA or connected waters nearby, the water:		"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS, NR, OE, PR, Sens, SR, STR, WS]
213			Mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not appear to drain the wetland artificially during most of the growing season.	0	
214			Leaves through natural exits (channels or diffuse outflow), not mainly through artificial or temporary features.	0	
215			Is exported more quickly than usual due to ditches or pipes within the AA or connected to its outlet, or within 10 m of the AA's edge, which drain the wetland artificially, or water is pumped out of the AA.	0	
216	F44	Tributary Channel	At least once annually, surface water from a tributary channel that is >100 m long moves into the AA. Or, surface water from a larger permanent water body adjacent to the AA spills into the AA. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. If no, SKIP to F47 (pH Measurement).	0	If inlet tributaries cannot be searched for due to inaccessibility of part of the AA, follow suggestions in F42 above. [NRv, PH, PRv, SRv]
217	F45	Input Water Temperature	Based on lack of shade, water source characteristics, or actual temperature measurements, the inflow is likely to be warmer than surface water in the AA during part of most years. Enter 1= yes, 0= no.	0	[WCv]
218	F46	Throughflow Resistance	During its travel through the AA at the time of peak annual flow, water arriving in channels: [select only the ONE encountered by most of the incoming water].		[FA, FR, INV, NR, OE, PR, SR, WS]
219			Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel in unvegetated (often incised) channels that have minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0	
220			Bumps into herbaceous vegetation but mostly remains in fairly straight channels.	0	
221			Bumps into herbaceous vegetation and mostly spreads throughout, or is in widely meandering, multi-branched, or braided channels.	0	
222			Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels.	0	
223		Bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0		
224	F47	pH Measurement	The pH in most of the AA's surface water:		Preferably, measure this in larger areas of ponded surface water within the AA, or in streams that have passed through (not along) most of the AA. Unless surface water is completely absent, do not dig holes or make depressions in peat in order to provide water for this measurement. Avoid measuring near roads or in puddles formed only by recent rain. [AM, FA, FR, NR, WBF, PH, PR, Sens, WBF, WBN]
225			Was measured, and is: [enter the reading in the column to the right.]		
226			Was not measured but surface water is present and is darkly tea-coloured. Or if no surface water, then mosses and plants that indicate peatland (e.g., Labrador tea) are prevalent. Enter "1".	1	
227			Neither of above. Enter "1".	0	
228	F48	TDS and/or Conductivity	The TDS (total dissolved solids) or conductivity of the AA's surface water is: (select the first true row with information):		See above for measurement guidance. [FR, INV, NRv, PH, PRv, Sens]
229			TDS is: [Enter the reading in ppm or mg/L in the column to the right, if measured, or answer next row.]		
230			Conductivity is [Enter the reading in µS/cm in the column to the right.]		
231			Was not measured, but plants that indicate saline conditions cover much of the vegetated AA. Enter "1".	0	
232			Neither of above	0	

	A	B	C	D	E
233	F49	Beaver Probability	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
234	Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		0		
235	Likely based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.		0		
236	Unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed.		1		
237	F50	Groundwater Strength of Evidence	Select first applicable choice:		Adhere to these criteria strictly -- do not use personal judgment based on fen conditions, pH, or other evidence. Consult topographic maps to detect breaks in slope described here. Rust deposits associated with groundwater seeps may be most noticeable as orange discoloration in ice formations along streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS]
238	Springs are known to be present within the AA, or if groundwater levels have been monitored, that has demonstrated that groundwater primarily discharges to the wetland for longer periods during the year than periods when the wetland recharges the groundwater.		0		
239	Most of the AA has a slope of >5%, or is very close to the base of a natural slope longer than 100 and much steeper than the slope of the AA, AND the pH of surface water, if known, is >5.5.		0		
240	Neither of above is true, although some groundwater may discharge to or flow through the AA. Or groundwater influx is unknown.		1		
241	F51	Internal Gradient	The gradient along most of the flow path within the AA is:		This is not the same as the shoreline slope. It is the elevational difference between the AA's inlet and outlet, divided by the flow-distance between them and converted to percent. If available, use a clinometer to measure this. Free clinometer apps can be downloaded to smartphones. If the wetland is large (longer than ~1 km), this may be estimated using Google Earth to determine the minimum and maximum elevation within the AA, then dividing by length and multiplying by 100. [CS, NR, OE, PR, SR, WBF, WBN, WS]
242	<2% or the AA has no surface water outlet (not even seasonally).		0		
243	2-5%.		1		
244	6-10%.		0		
245	>10%.		0		
246	Note for the next three questions: If the AA lacks an upland edge, evaluate based on the AA's entire perimeter, and moving outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.				
247	F52	Vegetated Buffer as % of Perimeter	Within a zone extending 30 m laterally from the AA's edge with upland and/or other wetlands, the percentage that contains perennial vegetation cover (except lawns, row crops, heavily grazed land, conifer plantations) is:		[AM, FA, FR, INV, NRv, PH, POL, PRv, SBM, Sens, SRv, STR, WBN]
248	<5%.		0		
249	5 to 30%.		0		
250	30 to 60%.		1		
251	60 to 90%.		0		
252	>90%, or all the area within 30 m of the AA edge is other wetlands. SKIP to F55.		0		
253	F53	Type of Cover in Buffer	Within 30 m upslope of where the wetland transitions to upland, the upland land cover that is NOT perennial vegetation is mostly (mark ONE):		[AM, FA, INV, NRv, PH, POL, SBM, STR, WBN]
254	Impervious surface, e.g., paved road, parking lot, building, exposed rock.		0		
255	Bare or nearly bare pervious surface or managed vegetation, e.g., lawn, row crops, unpaved road, dike, landslide.		1		
256	F54	Buffer Slope	The steepest and/or most disturbed part of the upland area that is within 30 m of the wetland and occupies >10% of that upland area has a percent slope of:		[NRv, PRv, Sens, SRv]
257	<1% (flat -- almost no noticeable slope) or all the area within 30 m of the AA edge is other wetlands.		0		
258	2-5%.		0		
259	5-30%.		1		
260	>30%.		0		
261	F55	Cliffs or Steep Banks	In the AA or within 100 m, there are elevated terrestrial features such as cliffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 2 m nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	0	Do not include upturned trees as potential den sites. [POL, SBM]

	A	B	C	D	E
262	F56	New or Expanded Wetland	Human actions within or adjacent to the AA have persistently expanded a naturally occurring wetland or created a wetland where there previously was none (e.g., by excavation, impoundment):		Determine this using historical aerial photography, old maps, soil maps, or permit files as available [CS, NR, OE, PH, Sens]
263			No.	0	
264			Yes, and created or expanded 20 - 100 years ago.	0	
265			Yes, and created or expanded 3-20 years ago.	0	
266			Yes, and created or expanded within last 3 years.	0	
267			Yes, but time of origin or expansion unknown.	1	
268			Unknown if new or expanded within 20 years or not.	0	
269	F57	Burn History	More than 1% of the AA's previously vegetated area:		Look for charred soil or stumps (in multiple widely-spaced locations) or ask landowner. [CS, PH, STR]
270			Burned within past 5 years.	0	
271			Burned 6-10 years ago.	0	
272			Burned 11-30 years ago.	0	
273			Burned >30 years ago, or no evidence of a burn and no data.	1	
274	F58	Visibility	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 100 m of the AA (select one) is:		[PU, STR, WBFv]
275			<25%.	0	
276			25-50%.	0	
277			>50%.	1	
278	F59	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select ALL statements that are true of the AA as it currently exists:		[PU, STR]
279			For an average person, walking is physically possible <u>in</u> (not just near) >5% of the AA during most of the growing season, e.g., free of deep water and dense shrub thickets.	0	
280			Maintained roads, parking areas, or foot-trails are within 10 m of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0	
281			Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0	
282	F60	Unvisited Core Area	The percentage of the AA almost never visited by humans during an average growing season probably comprises: <i>[Note: Only include the part actually walked or driven (not simply viewed from) with a vehicle or boat. Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 30 m of the wetland edge. In that case include only the area occupied by the trail.]</i>		[AM, FAv, FRv, PH, PU, SBM, STR, WBF, WBN]
283			<5% and no inhabited building is within 100 m of the AA.	0	
284			<5% and inhabited building is within 100 m of the AA.	0	
285			5-50% and no inhabited building is within 100 m of the AA.	0	
286			5-50% and inhabited building is within 100 m of the AA.	0	
287			50-95%, with or without inhabited building nearby.	1	
288			>95% of the AA with or without inhabited building nearby.	0	
289	F61	Frequently Visited Area	The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: <i>[See note above.]</i>		[AM, PH, PU, SBM, STR, WBF, WBN]
290			<5%. If F60 was answered ">95%" (mostly never visited), SKIP to F64.	1	
291			5-50%.	0	
292			50-95%.	0	
293			>95% of the AA.	0	
294	F62	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on soil within nearly all of the AA when the soil is unfrozen. Enter "1" if true.	0	[PH, PU]
295	F63	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorised boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	0	[AM, PU, WBF, WBN]

	A	B	C	D	E
296	F64	Consumptive Uses (Provisioning Services)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select ALL that apply.		[FAv, FRv, WBFv]
297			Low-impact commercial timber harvest (e.g., selective thinning).	0	
298			Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.	0	
299			Waterfowl hunting.	0	
300			Fishing.	0	
301			Trapping of furbearers.	0	
302			None of the above.	1	
303	F65	Domestic Wells	The closest wells or water bodies that currently provide drinking water are:		[NRv]
304			Within 0-100 m. of the AA.	0	
305			100-500 m. away.	0	
306			>500 m. away, or no information.	1	
307	F66	Calcareous Fen	The AA is, or is part of, a calcareous fen. See the Plants_Calcar worksheet in the accompanying SuppInfo file for list of plant indicators (calciphiles). Enter 1 if more than two Strong or more than five Moderate calciphile species are present; otherwise enter 0, but if not able to identify those and no information, change to blank .		[PH, PR]

Investigator: RK MM	Site Identifier: Goose Harbour Lake Wind Farm, Wetland 57	Date: 21 Sept 2022
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Stressor (S) Data Form for Non-Tidal Wetlands. WESP-AC for Nova Scotia version 2.

				Data	
S1	Aberrant Timing of Water Inputs				
	<i>In the last column, place a check mark next to any item that is likely to have caused the timing of water inputs (but not necessarily their volume) to shift by hours, days, or weeks, becoming either more muted (smaller or less frequent peaks spread over longer times, more temporal homogeneity of flow or water levels) or more flashy (larger or more frequent spikes but over shorter times). [FA, FR, INV, PH, STR]</i>				
	Stormwater from impervious surfaces that drains directly to the wetland.				
	Water subsidies from wastewater effluent, septic system leakage, snow storage areas, or irrigation.				
	Regular removal of surface or groundwater for irrigation or other consumptive use.				
	Flow regulation in tributaries or water level regulation in adjoining water body, or other control structure at water entry points that regulates inflow to the wetland.				
	A dam, dike, levee, weir, berm, or fill -- within or downgradient from the wetland -- that interferes with surface or subsurface flow in/out of the AA (e.g., road fill, wellpads, pipelines).				
	Excavation within the wetland, e.g., dugout, artificial pond, dead-end ditch.				
	Artificial drains or ditches in or near the wetland.				
	Accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level).				
	Logging within the wetland.				
	Subsidence or compaction of the wetland's substrate as a result of machinery, livestock, fire, drainage, or off road vehicles.				
	Straightening, ditching, dredging, and/or lining of tributary channels.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items had no measurable effect on the timing of water conditions in any part of the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of timing shift within the wetland:	>95% of wetland.	5-95% of wetland.	<5% of wetland.	0
	When most of the timing shift began:	<3 yrs ago.	3-9 yrs ago.	10-100 yrs ago.	0
	<i>Score the following 2 rows only if the altered inputs began within past 10 years, and only for the part of the wetland that experiences those.</i>				
	Input timing now vs. previously:	Shift of weeks.	Shift of days.	Shift of hours or minutes.	0
	Flashiness or muting:	Became very flashy or controlled.	Intermediate.	Became mildly flashy or controlled.	0
Sum=				0	
Stressor subscore=				0.00	

S2	Accelerated Inputs of Contaminants and/or Salts				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of contaminants or salts to the AA. [AM, FA, PH, POL, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills, industrial facilities.				
	Metals & chemical wastes from mining, shooting ranges, snow storage areas, oil/ gas extraction, other sources (download many locations from National Pollutant Release Inventory and view KMZ overlay in Google Earth. https://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=B85A1846-1)				
	Road salt.				
	Spraying of pesticides, as applied to lawns, croplands, roadsides, or other areas in the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly higher levels of contaminants and/or salts, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Usual toxicity of most toxic contaminants:	Industrial effluent, mining waste, unmanaged landfill.	Cropland, managed landfill, pipeline or transmission rights-of-way.	Low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	
S3	Accelerated Inputs of Nutrients				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of nutrients to the wetland. [NRv, PRv, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills.				
	Fertilizers applied to lawns, ag lands, or other areas in the CA.				
	Livestock, dogs.				
	Artificial drainage of upslope lands.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly more nutrients, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Type of loading:	High density of unmaintained septic, some types of industrial sources.	Moderate density septic, cropland, secondary wastewater treatment plant.	Livestock, pets, low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	

S4	Excessive Sediment Loading from Contributing Area				
	<i>In the last column, place a check mark next to any item present in the CA that is likely to have elevated the load of waterborne or windborne sediment reaching the wetland from its CA. [FA, FR, INV, PH, SRv, STR]</i>				
	Erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fires.				
	Erosion from construction, in-channel machinery in the CA.				
	Erosion from off-road vehicles in the CA.				
	Erosion from livestock or foot traffic in the CA.				
	Stormwater or wastewater effluent.				
	Sediment from road sanding, gravel mining, other mining, oil/ gas extraction.				
	Accelerated channel downcutting or headcutting of tributaries due to altered land use.				
	Other human-related disturbances within the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not cumulatively add significantly more sediment or suspended solids to the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Erosion in CA:	Extensive evidence, high intensity.*	Potentially (based on high-intensity* land use) or scattered evidence.	Potentially (based on low-intensity* land use) with little or no direct evidence.	0
	Recentness of significant soil disturbance in the CA:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration of sediment inputs to the wetland:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0	
AA proximity to actual or potential sources:	0 - 15 m.	15-100 m.	In more distant part of contributing area.	0	
* high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erosion with or without veg removal; low-intensity= veg removal only with little or no apparent erosion or disturbance of soil or sediment.					
			Sum=	0	
			Stressor subscore=	0.00	

S5	Soil or Sediment Alteration Within the Assessment Area				
	<i>In the last column, place a check mark next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil. Consider only items occurring within past 100 years or since wetland was created or restored (whichever is less). [CS, INV, NR, PH, SR, STR]</i>				
	Compaction from machinery, off-road vehicles, livestock, or mountain bikes, especially during wetter periods.				1
	Leveling or other grading not to the natural contour.				1
	Tillage, plowing (but excluding disking for enhancement of native plants).				
	Fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland.				1
	Excavation.				
	Ditch cleaning or dredging in or adjacent to the wetland.				
	Boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments.				
	Artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of altered soil:	>95% of wetland or >95% of its upland edge (if any).	5-95% of wetland or 5-95% of its upland edge (if any).	<5% of wetland and <5% of its upland edge (if any).	1
	Recentness of significant soil alteration in wetland:	Current & ongoing.	1-12 months ago.	>1 yr ago.	1
Duration:	Long-lasting, minimal veg recovery.	Long-lasting but mostly revegetated.	Short-term, revegetated, not intense.	3	
Timing of soil alteration:	Frequent and year-round.	Frequent but mostly seasonal.	Mainly during one-time or scattered events.	1	
			Sum=	6	
			Stressor subscore=	0.50	

Assessment Area (AA) Results:

Wetland ID: Goose Harbour Lake Wind Farm, Wetland 57

Date: Sept 21, 2022

Observer: Rohan Kariyawansa & Madeline Maher

Latitude & Longitude (decimal degrees):

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	8.05	Higher	4.95	Moderate	7.95	2.20
Stream Flow Support (SFS)	0.00	Lower	0.00	Lower	0.00	0.00
Water Cooling (WC)	0.00	Lower	0.00	Lower	0.00	0.00
Sediment Retention & Stabilisation (SR)	3.59	Moderate	2.08	Moderate	5.00	1.02
Phosphorus Retention (PR)	3.12	Moderate	1.96	Moderate	5.70	1.53
Nitrate Removal & Retention (NR)	10.00	Higher	5.56	Moderate	10.00	5.56
Carbon Sequestration (CS)	3.35	Moderate			6.78	
Organic Nutrient Export (OE)	8.09	Higher			5.29	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	7.32	Higher	0.59	Lower	6.48	1.56
Amphibian & Turtle Habitat (AM)	2.11	Lower	3.99	Moderate	4.23	5.05
Waterbird Feeding Habitat (WBF)	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	5.90	Moderate	10.00	Higher	5.14	10.00
Pollinator Habitat (POL)	6.82	Moderate	3.33	Moderate	5.65	3.33
Native Plant Habitat (PH)	3.03	Lower	4.71	Lower	5.11	4.71
Public Use & Recognition (PU)			1.79	Moderate		1.52
Wetland Sensitivity (Sens)			10.00	Higher		6.21
Wetland Ecological Condition (EC)			8.26	Higher		9.17
Wetland Stressors (STR) (higher score means more stress)			7.60	Higher		3.83
Summary Ratings for Grouped Functions:						
HYDROLOGIC Group (WS)	8.05	Higher	4.95	Moderate	7.95	2.20
WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS)	7.51	Higher	4.38	Moderate	8.43	4.13
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC)	5.97	Higher	0.39	Lower	4.71	1.04
AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN)	1.27	Lower	2.39	Moderate	2.54	3.03
TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL)	6.04	Moderate	8.01	Moderate	5.48	8.01
WETLAND CONDITION (EC)			8.26	Higher		9.17
WETLAND RISK (average of Sensitivity & Stressors)			8.80	Higher		5.02

NOTE: A score of 0 does not mean the function or benefit is absent from the wetland. It means only that this wetland has a capacity that is equal or less than the lowest-scoring one, for that function or benefit, from among all the NS calibration wetlands that were assessed previously.

NOVA SCOTIA - Functional WSS Interpretation Tool

Function-Benefit Product (FBP)	FBP SCORE	FBP SCORE CATEGORY
SUPPORT SUPERGROUP - HYDROLOGIC	39.84338566	Moderate
SUPPORT SUPERGROUP - WATER QUALITY SUPPORT	32.86318505	Low
SUPPORT SUPERGROUP - AQUATIC SUPPORT	2.343565585	Low
HABITAT SUPERGROUP - AQUATIC HABITAT	3.026503395	Low
HABITAT SUPERGROUP - TRANSITION HABITAT	48.32473894	Low

3a. Functional WSS Determination: Automatic Method

Habitat Rule Satisfied? NO
 Support Rule Satisfied? NO
 Habitat/Support Hybrid Rule Satisfied? NO
CONCLUSION: Site is not a WSS

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	Goose Harbour Lake Wind Farm, Wetland 75
Investigator Name:	Rohan Kariyawansa Madeline Maher
Date of Field Assessment:	2022-09-21
Nearest Town:	Monestary
Latitude (decimal degrees):	45.52354361
Longitude (decimal degrees):	61.44808260
Is a map based on a formal on-site wetland delineation available?	yes
Approximate size of the Assessment Area (AA, in hectares):	0.56
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	70
What percent (approx.) of the wetland were you able to visit?	100
What percent (approx.) of the AA were you able to visit?	100
Were you able to ask the site owner/manager about any of the questions?	no
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Maddie & Rohan. Oct 2022
How many wetlands have you assessed previously using WESP-AC? (approx.)	4-5 dozen
Comments about the site or this WESP-AC assessment (attach extra page if desired):	Coordinates are in UTM 20T

	A	B	C	D	E
1	Date: 20 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 75	Investigator: RK MM	
2	<p>Form OF (Office). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia wetlands only. DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answering many of the questions below will require using these online map viewers:</p> <p>Google Earth Pro: https://www.google.com/earth/download/gep/agree.html</p> <p>Provincial Landscape Viewer: https://nsgi.novascotia.ca/plv/</p> <p>For most wetlands, completing this office data form will require 1-2 hours. For a list of functions to which each question pertains, see bracketed abbreviations in the Definitions/Explanations column. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.</p>				
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	OF1	Province	Mark the province in which the AA is located by changing the 0 in the column next to it to a "1". Mark only one.		This determines to which province's calibration wetlands the raw score of any wetland is normalised. In the function and benefits models, it also triggers the automatic exclusion of indicators for which no spatial data exists in a particular province.
5			New Brunswick	0	
6			Nova Scotia	1	
7			Prince Edward Island	0	
8			Newfoundland-Labrador	0	
9	OF2	Ponded Area Within 1 km.	The area of surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		"Adjacent" means not separated from the AA by a wide expanse (>50 m) of upland (including roads >50 m wide). Include ponded areas likely to be hidden by wetland vegetation. If surface water extends beyond 1 km, include only the part within 1 km. Do not include tidal areas. Measure the area from aerial imagery using Google Earth Pro (click on Ruler icon in toolbar, then Polygon in pop-up menu). [PH, SBM, WBN]
10			<0.01 hectare (about 10 m x 10 m).	0	
11			0.01 - 0.1 hectare.	0	
12			0.1 - 1 hectare.	0	
13			1 to 10 hectares.	0	
14			10 to 100 hectares.	1	
15		>100 hectares.	0		
16	OF3	Ponded Water & Wetland Within 1 km.	The area of wetlands and surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		See definition of adjacent in OF2. If the AA's wetland vegetation extends beyond 1 km, include only the part within 1 km. "Ponded" means not flowing in rivers or streams. [Sens, WBF]
17			<0.01 hectare (about 10 m x 10 m).	0	
18			0.01 - 0.1 hectare.	0	
19			0.1 - 1 hectare.	0	
20			1 to 10 hectares.	0	
21			10 to 100 hectares.	1	
22		>100 hectares.	0		
23	OF4	Size of Largest Nearby Vegetated Tract or Corridor	The largest vegetated patch or corridor that includes the AA's vegetation plus all adjacent upland vegetation that is not lawn, row crops, heavily grazed lands, conifer plantation is:		See definition of adjacent in OF2. Use Google Earth Pro's polygon ruler (as described above). Exclude conifer plantations only if it is obvious that trees were planted in rows. [AM, PH, SBM, Sens]
24			<0.01 hectare (about 10 m x 10 m).	0	
25			0.01 - 0.1 hectare.	0	
26			0.1 - 1 hectare.	0	
27			1 to 10 hectares.	0	
28			10 to 100 hectares.	0	
29		100 to 1000 hectares.	0		
30		>1000 hectares. [<i>This is nearly always the answer in relatively undeveloped landscapes.</i>]	1		

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31	OF5	Distance to Large Vegetated Tract	The minimum distance from the edge of the AA to the edge of the closest vegetated land (but excluding row crops, lawn, conifer plantation) larger than 375 hectares (about 2 km on a side), is:		To measure distance, use Google Earth Pro (Ruler > Line tool). The 375-ha criterion is from the Fundy Model Forest Project. [AM, PH, POL, SBM, Sens]
32			<50 m, and not separated from the 375-ha vegetated area by any width of paved roads, stretches of open water, row crops, bare ground, lawn, or impervious surface. Or the AA itself contains >375 ha of vegetation. [This is often the answer in relatively undeveloped landscapes.]	1	
33			<50 m, but completely separated from the 375-ha vegetated area by those features, and AA does not contain >375 ha of vegetation.	0	
34			50-500 m, and not separated.	0	
35			50-500 m, but separated by those features.	0	
36			0.5 - 5 km, and not separated.	0	
37			0.5 - 5 km, but separated by those features.	0	
38			None of the above (the closest patches or corridors which are that large are >5 km away).	0	
39	OF6	Herbaceous Uniqueness	The AA's vegetation cover is >10% herbaceous* but uplands within 5 km have <10% herbaceous cover. If so, enter "3" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 1 km have <10% herbaceous cover. If so enter "2" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 100 m of the wetland edge have <10% herbaceous cover. If so, enter "1". [* NOTE: Exclude lawns, row crops, heavily grazed lands, forest, shrublands. Include moss as well as grasslike plants in this use of "herbaceous vegetation"]	1	
40	OF7	Woody Uniqueness	The AA's vegetation cover is >10% woody* but uplands within 5 km have <10% woody cover. If so, enter "3" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 1 km have <10% woody cover. If so enter "2" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 100 m of the wetland edge have <10% woody cover. If so, enter "1" [* NOTE: woody cover = trees & shrubs taller than 1 m.]	2	See above. Do not consider conifer plantations to be forest if it is obvious that trees were planted in rows. [AMv, PHv, POLv, SBMv]
41	OF8	Local Vegetated Cover Percentage	Draw a 5-km radius circle measured from the center of the AA. Ignoring all permanent water in the circle, the percent of the remaining area that is wooded or unmanaged herbaceous vegetation (NOT lawn, row crops, bare or heavily grazed land, clearcuts, or conifer plantations) is:		In Google Earth, draw the 5 km buffer and then estimate land cover percentages, or do GIS analysis of an appropriate land cover layer. [AM, PH, POL, SBM, Sens]
42			<5% of the land.	0	
43			5 to 20% of the land.	0	
44			20 to 60% of the land.	0	
45			60 to 90% of the land.	1	
46			>90% of the land. SKIP to OF10.	0	
47	OF9	Type of Land Cover Alteration	Within the 5-km radius circle, and ignoring all permanent water, the land area that is bare or non-perennial cover is mostly:		[AM, SBM]
48			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
49			Bare pervious surface, e.g., lawn, recent (<5 yrs ago) clearcut, dirt or gravel road, cropland, landslide, conifer plantation.	1	
50	OF10	Distance by Road to Nearest Population Center	Measured along the maintained road nearest the AA, the distance to the nearest population center is:		"Population center" means a settled area with more than about 5 regularly- inhabited structures per square kilometer. In Google Earth Pro, click on the Ruler icon, then Path, and draw and measure the route. [FAv, FRv, NRv, PH, PU, SBM, WBFv]
51			<100 m.	0	
52			100 - 500 m.	0	
53			0.5- 1 km.	0	
54			1 - 5 km.	0	
55			>5 km.	1	

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56	OF11	Distance to Nearest Maintained Road	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:		Determine this by viewing aerial imagery in Google Earth Pro and measuring with the Ruler-Line tool [AM, FAv, FRv, NRv, PH, PU, SBM, STR, WBN]
57			<10 m.	1	
58			10 - 25 m.	0	
59			25 - 50 m.	0	
60			50 - 100 m.	0	
61			100 - 500 m.	0	
62		>500 m.	0		
63	OF12	Wildlife Access	Draw a circle of radius of 5 km from the center of the AA. If mammals and amphibians can move from the center of the AA to ALL other separate wetlands and ponds located within the circle without being forced to cross pavement (any width), lawns, bare ground, and/or marine waters, mark 1= yes can move to all, 0= no. Change to blank if there are no other wetlands within 5 km.	0	Draw the 5 km circle in Google Earth Pro using the Circle tool and search for roads and wetlands within it, being alert for roads hidden under forest canopy. [AM, SBM, STR]
64	OF13	Distance to Poned Water	The distance from the AA center to the closest (but separate) ponded water body visible in GoogleEarth imagery is:		In Google Earth Pro, zoom in closely to examine the surrounding landscape for ponds, lakes, and wetlands that appear to be permanently flooded. [AM, PH, SBM, Sens, WBF, WBN]
65			<50 m, and not separated by any width of paved roads, stretches of open water, row crops, lawn, bare ground, or impervious surface.	0	
66			<50 m, but completely separated by those features.	0	
67			50-500 m, and not separated.	1	
68			50-500 m, but separated by those features.	0	
69			0.5 - 1 km, and not separated.	0	
70		0.5 - 1 km, but separated by those features.	0		
71		None of the above (the closest patches or corridors that large are >1 km away).	0		
72	OF14	Distance to Large Poned Water	The distance from the AA center to the closest (but separate) non-tidal body of water that is ponded during most of the year and is larger than 8 hectares during most of a normal year is:		Determine this by viewing aerial imagery in Google Earth. [Sens, WBF, WBN]
73			<100 m.	0	
74			100 m - 1 km.	0	
75			1 - 2 km.	1	
76			2-5 km.	0	
77			5-10 km.	0	
78		>10 km.	0		
79	OF15	Tidal Proximity	The distance from the AA edge to the closest tidal water body (regardless of its salinity) is:		In Google Earth, measure the distance to the ocean (including Bay of Fundy) or tidal river, whichever is closer. If you need to see how far upriver a river is tidal, see the KMZ file provided with this calculator for NS (NS Hightide). Points shown in those files are only an approximation, so local information if available may be preferable. [FA, WBF]
80			<100 m.	0	
81			100 m - 1 km.	0	
82			1 - 5 km.	0	
83			5-10 km.	1	
84			10-40 km.	0	
85		>40 km.	0		
86	OF16	Upland Edge Contact	Select one:		[NR, SBM, Sens]
87			The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by (& contiguous with) other wetlands or water.	0	
88			1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
89			25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
90			50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91		More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA. This will be true for most assessments done with WESP-AC.	1		

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92	OF17	Flood Damage from Non-tidal Waters	Within 5 km downstream or downslope of the AA (select first true choice):		Contact local authorities to determine if such maps exist. Where available, LiDAR imagery can provide finer elevational resolution useful for flood modeling. [WSv]
93	Maps show Flood Zone or Flood Risk areas and there appears to be infrastructure vulnerable to river flooding not caused by tidal storm surges.		0		
94	Maps show Flood Zone or Flood Risk areas, but infrastructure is absent or is not vulnerable to floods from a non-tidal river. In some cases levees, upriver dams, or other measures may partly limit damage or risk from smaller events.		0		
95	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there appears to be infrastructure vulnerable to river flooding unrelated to tidal storm surges.		0		
96	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there is no infrastructure vulnerable to river flooding unrelated to tidal storm surges.		1		
97	OF18	Relative Elevation in Watershed	In Google Earth, enable the Terrain layer (lower left menu) and open the NS_Watersheds Secondary KMZ file that accompanies this calculator. Then determine the AA's approximate elevation (bottom right, NOT the "eye alt"). Then move cursor around to determine the watershed's maximum and minimum elevation. Divide the AA's elevation by the (max-min).	0.70	[FA, NR, Sens, SFSv, WCv, WSv]
98	OF19	Water Quality Sensitive Watershed or Area	The AA is in a Protected Water Supply area (Designated Water Supply Area, Natural Watershed Municipal Surface Water Supply Area, or Municipal Water Supply Area) according to the provided KMZ overlay ("NS Protected Water Supply Areas"). Enter 1= yes, 0= no.	0	If an ACCDC report is available for this AA, it also may contain such information. [NRv]
99	OF20	Degraded Water Upstream	Sampling indicates a problem with concentrations of metals, hydrocarbons, nutrients, or other substances (excluding bacteria, acidic water, high temperatures) being present at levels harmful to aquatic life or humans, and:		May use existing data, or sample those waters as part of this wetland assessment. "Harmful" should be evaluated with regard to current federal or provincial water quality standards. [AM, FA, FR, NRv, PRv, SRv, STR, WBF, WBN]
100			The condition is present within the AA.	0	
101			The condition is present in waters within 1 km that flow into the AA, but has not been documented in the AA itself.	0	
102			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
103			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
104	OF21	Degraded Water Downstream	The problem described above is downslope from the AA, and:		May use existing data, or monitor waters as part of this wetland assessment. [NRv, PRv, SRv]
105			The condition is present within 1 km downslope and connected to the AA by a channel.	0	
106			The condition is present within 5 km downslope and connected to the AA by a channel, or within 1 km but not connected to the AA by a channel.	0	
107			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
108			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
109	OF22	Wetland as a % of Its Contributing Area (Catchment)	From a topographic map and field observations, estimate the approximate boundaries of the catchment (CA) of the entire wetland of which the AA may be only a part. Then adjust those boundaries if necessary based on your field observations of the surrounding terrain, and/or by using procedures described in the Manual. Divide the area of the wetland (not just the AA) by the approximate area of its catchment excluding the area of the wetland itself. When doing the calculation, if ponded water is adjacent to the wetland, include that in the wetland area. The result is:		Topographic maps may be viewed online at the National Atlas of Canada (Toporama): http://atlas.gc.ca/toporama/en/index.html [NR, PR, Sens, SR, WS]
110			<0.01, or catchment size unknown due to stormwater pipes that collect water from an indeterminate area.	0	
111			0.01 to 0.1.	0	
112			0.1 to 1.	1	
113			>1 (wetland is larger than its catchment (e.g., wetland with flat surrounding terrain and no inlet, or is entirely isolated by dikes, or is a raised bog).	0	

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114	OF23	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 m upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, landslides, and other mostly-bare surface is about :		[FA, INV, NRv, PRv, SRv, STR, WCv, WSv]
115			<10%.	0	
116			10 to 25%.	1	
117			>25%.	0	
118	OF24	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following: (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow (bedrock near surface) and/or have high runoff coefficients. This statement is:		[NRv, PRv, SRv, WSv]
119			Mostly true.	0	
120			Somewhat true.	0	
121			Mostly untrue.	1	
122	OF25	Aspect	The overland flow direction of most surface water (in streams, rivers, or runoff) that enters the AA is:		[AM, NR, SFS, WC, WS]
123			Northward (N, NE). north-facing contributing area.	0	
124			Southward (S, SW). south-facing contributing area.	0	
125			Other (E, SE, W, NW), or no detectable uphill slope or input channel (flat).	1	
126	OF26	Internal Flow Distance (Path Length)	The horizontal flow distance from the wetland's inlet to outlet is:		Identify inlets and outlets, if any, from topographic maps (use elevations to determine which are inlets and which are outlets) and augment by field inspection. With the Provincial Landscape Viewer, select Nova Scotia Topo as the Basemap. Also enable the layer Forestry-WAM Predicted Flow. Then measure the inlet-outlet distance. [NR, OE, PR, SR, WS]
127			<10 m.	0	
128			10 - 50 m.	0	
129			50 - 100 m.	0	
130			100 - 1000 m.	1	
131			1 - 2 km.	0	
132			>2 km, or wetland lacks an inlet and outlet.	0	
133	OF27	Growing Degree Days	In Google Earth, open the KMZ file that accompanies this calculator, called NS_GrowingDegreeDays. Place your cursor over the AA and left-click. From the pop-up window, enter the GRIDCODE number in the next column.	2067	This layer was provided by Dr. Dan McKenney of the Canadian Forest Service [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WCv, WS]
134	OF28	Fish Access or Use	According to agency biologists and/or your own observations, the AA. <i>[Mark just the first choice that is true.]</i> :		Regarding the last choice, if uncertain if an AA is fishless, consider the possibility its waters have been stocked. [AM, FA, FR, INV, WBF, WBN]
135			Is known to support rearing and/or spawning by Atlantic salmon or other anadromous species or eels. Go to Provincial Landscape Viewer>Wildlife>Significant Habitat>Species at Risk. Contact local fishery biologists, review the ACCDC report, and visit these websites: http://www.salmonatlas.com/atlanticsalmon/canada-east/index.1.html http://atlanticsalmonfederation.org/rivers/introduction.html	0	
136			Has not been documented to support Atlantic salmon rearing and/or spawning, but is connected to nearby waters likely to contain Atlantic salmon or other anadromous species or eels and is probably accessed by those during some conditions.	0	
137			Is probably is not accessed by any anadromous fish species but is known or likely to have other fish at least seasonally.	0	
138			Is known or likely to be fishless (e.g., too small, dry, and/or not accessible even temporarily, and not stocked).	1	

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139	OF29	Species of Conservation Concern	Within the past 10 years, in the AA (or in its adjoining waters or wetland), qualified observers have documented (mark all applicable) :		Request information from ACCDC and/or conduct your own survey at an appropriate season using an approved protocol. For birds, also check eBird.org. NOTE for NS: If your WESP-AC is being completed for a Wetland Alteration Application to NS-ECC, your ACCDC results and any taxon-specific survey results must be submitted along with your WESP-AC results, and application. [AMv, EC, PHv, POLv, SBMv, Sens, WBFv, WBNv]
140			Presence of one or more of the plant species listed in the Plants_Rare worksheet of the accompanying Supplnfo file, or the AA is within a mapped Atlantic Coastal Plain Flora Buffer (go to Provincial Landscape Viewer> Wildlife> Special Management Practice Zones).	0	
141			Presence of one or more of the amphibian or reptile species (AM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file.	0	
142			Presence of one or more of the waterbird species (WBF, WBN) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file.	0	
143			Presence of one or more of the nesting songbird or raptor species (SBM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying Supplnfo file, during their nesting season (May-July for most species).	0	
144			None of the above, or no data.	1	
145	OF30	Important Bird Area (IBA)	In Google Earth, open the KMZ file that accompanies this calculator, called IBAs_Canada . The AA is all or part of an officially designated IBA. Enter 1= yes, 0= no.	0	The source of this layer, which should be checked periodically for updates, is: http://www.ibacanada.com/mapviewer.jsp?lang=EN [SBMv, WBFv, WBNv]
146	OF31	Black Duck Nesting Area	In Google Earth, open the KMZ file that accompanies this calculator, called BlackDuck . Adjust its alignment and opacity. Determine the predicted density (pairs per 25 sq. km) of nesting American Black Duck in the AA's vicinity: <10 (enter 0), 10-20 (enter 1), 20-30 (enter 2), >30 (enter 3). If outside of region shown in map, change to blank .	1	This was provided by Dr. David Leske. [WBNv]
147	OF32	Wintering Deer or Moose Concentration Areas	If AA is on private land with no information, change to blank (not 0). Otherwise: With the Provincial Landscape Viewer, for Wintering Moose, go to Wildlife> Significant Habitat. For Mainland Moose Concentration Areas, go to Wildlife> Special Management Practice Zones. Enter: yes= 1, no= 0.	0	[SBM]
148	OF33	Other Conservation Designation	The AA is all or part of an area designated by government, First Nations, or the Nature Conservancy of Canada (NCC) for its exceptional ecological features or highly intact natural conditions. With Provincial Landscape Viewer, see Protected Areas. Enter: yes= 1, no= 0. If uncertain, consult NCC and agencies for more recent information.	0	See: https://novascotia.ca/parksandprotectedareas/plan/interactive-map/ [PU]
149	OF34	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, or enhance the wetland (excluding mitigation wetlands). Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank (not 0).	0	[PU]
150	OF35	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
151	OF36	Sustained Scientific Use	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
152	OF37	Calcareous Region	The AA is NOT in a subregion that has been heavily exposed to acid precipitation. Enter "1" if true (green or yellow in map in Appendix A of the Manual). Enter "0" if false. If no information, change to blank .	0	[AM, FA, FR, INV, PH]
153	OF38	Ownership	Select the ONE ownership that covers the most of the AA. In Google Earth, open KMZ file called NS_Crownlands Use more recent information if available.		"Private lands" may include those owned or leased by non-governmental organizations, e.g., charitable conservation land trusts, DUC, TNC. [PU, STR]
154			New timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles) are permanently prohibited. Includes many publicly-owned Protected Lands, and private lands under long-term (30+ year) legal agreements to maintain nearly-unaltered conditions.	0	
155			Ownership is public (e.g., municipal, Crown Reservations/Notations) but some or all of the above activities are allowed.	1	
156			Ownership is private but public access is allowed, and/or a shorter-term conservation easement (whether renewable or not) is in place.	0	
157			Ownership is private and owner does not allow access, or access permission unknown, and not a conservation easement.	0	

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1	Date: 21 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 75	Investigator: RK MM		
Form F (Field). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia. DIRECTIONS: Walk for no less than 10 minutes from the wetland edge towards its core, in the part of the AA that is proposed for alteration. If no alteration is proposed, walk in a portion that appears to be most representative of the wetland overall. Walk only where it is safe and legal to do so. Conduct the assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgeable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form will require 1-2 hours on a site. For a list of functions to which each question pertains, see the accompanying Interpretations form. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage & Delay, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.						
2						
3	#	Indicators	Condition Choices	Data	Definitions/Explanations	
4	F1	Wetland Type	Follow the key below and mark the ONE row that best describes MOST of the vegetated part of the AA:		Ericaceous shrubs are ones in the heather family (Ericaceae). Most have leathery evergreen leaves. They include rhododendron, azalea, swamp laurel, leatherleaf, Labrador tea, and others. Most require acidic soil. Although not in the family Ericaceae, sweetgale (<i>Myrica gale</i>) should be counted also. [AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]	
5			A. Moss and/or lichen cover more than 25% of the ground. Often dominated by ericaceous shrubs (e.g., Labrador tea) or other acid-tolerant plants (e.g., bog cranberry, pitcher plant, sundew, orchids). Substrate is mostly undecomposed peat. Choose between A1 and A2 and mark the choice with a 1 in their adjoining column. Otherwise go to B below.			
6			A1. Surface water is usually absent or, if present, pH is typically <4.5 and conductivity is usually <100 µS/cm (<64 ppm TDS). Trees are absent or nearly so. Sedge cover usually sparse or absent but cottongrass and/or lichen cover may be extensive, as well as cloudberry, lingonberry, sheep laurel, and a sedge (<i>Carex rariflora</i>). Wetland surface and surrounding landscape are seldom sloping and wetland often is domed (convex). Inlet and outlet channels are usually absent. If known, pH of peat is <4.0.	0		
7			A2. Not A1. Surface water, if present, has pH typically >4.5 and conductivity is usually >100 µS/cm (>64 ppm TDS). Sedge cover is usually extensive, and/or tree and tall shrub cover is extensive. Sometimes at toe of slope or edge of water body. An exit channel is usually present. Wetter than A1 and peat depth may be shallower (<2 m).	1		
8			B. Moss and/or lichen cover less than 25% of the ground. Soil is mineral or decomposed organic (muck). Choose between B1 and B2 and mark the choice with a 1 in their adjoining column:			
9			B1. Trees and shrubs taller than 1 m comprise more than 25% of the vegetated cover. Surface water is mostly absent or inundates the vegetation only seasonally (e.g., vernal pools or floodplain).	0		
10			B2. Not B1. Tree & tall shrubs comprise less than 25% of the vegetated cover. Vegetation is mostly herbaceous, e.g., cattail, bulrush, burreed, pond lily, horsetail. Surface water may be extensive and fluctuates seasonally, being either persistent or drying up partly or entirely.	0		
11	Reminder: For all questions, the AA should include all persistent waters in ponds smaller than 8 hectares (~283 m on a side) that are adjacent to the AA. The AA should also include part of the water area of adjacent ponded water larger than 8 ha and adjacent rivers wider than 20 m. Specifically, the AA should include the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone. Throughout this data form, "adjacent" is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.					
12	F2	Wetland Types - Adjoining or Subordinate	If the AA is smaller than 1 ha, mark all other types that occupy more than 1% of the vegetated AA. If the AA is larger than 1 ha, mark all other types which are within or adjacent to the AA and occupy more than 1 ha, as visible from the AA or as interpreted from aerial imagery. Do not mark again the type marked in F1.			1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, INV, SBM, WBF]
13			A1.	0		
14			A2.	0		
15			B1.	0		
16			B2.	0		

	A	B	C	D	E
17	F3	Woody Height & Form Diversity	Following EACH row below, indicate with a number code the percentage of the living vegetation in the AA which is occupied by that feature (6 if >95%, 5 if 75-95%, 4 if 50-75%, 3 if 25-50%, 2 if 5-25%, 1 if <5%, 0 if none). If the vegetated part of the AA is largely herbaceous (non-woody) vegetation, these percentages should not sum to 100%.		Deciduous shrubs in this region usually include buttonbush, Labrador tea, bayberry (<i>Morella</i>), huckleberry, cranberry, cloudberry, sweetgale, alder, willow, birch, ash, dogwood, and a few others. If you assigned a code of 3 or higher to any of the first four choices and the ground cover beneath the trees/shrubs is <25% moss, then question F1 might be "B1". [CS, INV, NR, PH, POL, SBM, Sens]
18			coniferous trees (may include tamarack) taller than 3 m.	4	
19			deciduous trees taller than 3 m.	1	
20			coniferous or ericaceous shrubs or trees 1-3 m tall not directly below the canopy of trees.	2	
21			deciduous shrubs or trees 1-3 m tall not directly below the canopy of trees.	2	
22			coniferous or ericaceous shrubs <1 m tall not directly below the canopy of taller vegetation.	2	
23			deciduous shrubs or trees <1 m tall (e.g., deciduous seedlings) not directly below the canopy of taller vegetation.	2	
24	<i>Note: If none of top 4 rows in F3 was marked 2 or greater, SKIP to F9 (N fixers).</i>				
25	F4	Dominance of Most Abundant Shrub Species	Determine which two woody plant species comprise the greatest portion of the low (<3 m) woody cover. Then choose one:		[PH, POL, SBM, Sens]
26			those species together comprise > 50% of such cover.	1	
27			those species together do not comprise > 50% of such cover.	0	
28	F5	Woody Diameter Classes	Mark ALL the types that comprise >5% of the woody canopy cover in the AA or >5% of the wooded areas (if any) along its upland edge (perimeter). The edge should include only the trees whose canopies extend into the AA.		Estimate the diameters at chest height. If small-diameter trees are overtopped (shaded) by larger ones, visualise a "subcanopy" at the average height of the smaller-dbh trees, to serve as a basis for the minimum 5% canopy requirement in this question. The trees and shrubs need not be wetland species. [AM, CS, POL, SBM, Sens, WBN]
29			coniferous, 1-9 cm diameter and >1 m tall.	1	
30			broad-leaved deciduous 1-9 cm diameter and >1 m tall.	1	
31			coniferous, 10-19 cm diameter.	1	
32			broad-leaved deciduous 10-19 cm diameter.	0	
33			coniferous, 20-40 cm diameter.	1	
34			broad-leaved deciduous 20-40 cm diameter.	0	
35			coniferous, >40 cm diameter.	0	
36			broad-leaved deciduous >40 cm diameter.	0	
37	F6	Height Class Interspersion	Follow the key below and mark the ONE row that best describes MOST of the AA:		[AM, INV, NR, PH, SBM, Sens]
38			A. Neither the vegetation taller than 1 m nor the vegetation shorter than that comprise >70% of the vegetated part of the AA. They <u>each</u> comprise 30-70%. Choose between A1 and A2 and mark the choice with a 1 in the adjoining column. Otherwise go to B below.		
39			A1. The two height classes are mostly scattered and intermixed throughout the AA.	1	
40			A2. Not A1. The two height classes are mostly in separate zones or bands, or in proportionately large clumps.	0	
41			B. Either the vegetation shorter than 1 m comprises >70% of the vegetated part of the AA, or the vegetation taller than that does. One size class might even be totally absent. Choose between B1 and B2 and mark the choice with a 1 in the adjoining column:		
42			B1. The less prevalent height class is mostly scattered and intermixed within the prevalent one.	0	
43			B2. Not B1. The less prevalent height class is mostly located apart from the prevalent one, in separate zones or clumps, or is completely absent.	0	
44	F7	Large Snags (Dead Standing Trees)	The number of large snags (diameter >20 cm) in the AA plus adjacent upland area within 10 m of the wetland edge is:		Snags are dead standing trees that often (not always) lack bark and foliage. Include only ones that are at least 2 m tall. [POL, SBM, WBN]
45			None, or fewer than 8/ hectare which exceed this diameter.	0	
46			Several (>8/hectare) and a pond, lake, or slow-flowing water wider than 10 m is within 1 km.	0	
47			Several (>8/hectare) but above not true.	1	
48	F8	Downed Wood	The number of downed wood pieces longer than 2 m and with diameter >10 cm, and not persistently submerged, is:		Exclude temporary "burn piles." [AM, INV, POL, SBM]
49			Few or none that meet these criteria.	1	
50			Several (>5 if AA is >5 hectares, less for smaller AAs) meet these criteria.	0	
51	F9	N Fixers	The percentage of the AA's vegetated cover that contains nitrogen-fixing plants (e.g., alder, sweetgale, clover, lupine, alfalfa, other legumes) is:		Do not include N-fixing algae or lichens. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
52			<1% or none.	0	
53			1-25% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
54			25-50% of the vegetated cover, in the AA or along its water edge (whichever has more).	1	
55			50-75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
56			>75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	

	A	B	C	D	E
57	F10	Sphagnum Moss Extent	The cover of Sphagnum moss (or any moss that forms a dense cushion many centimeters thick), including the moss obscured by taller sedges and other plants rooted in it, is:		Exclude moss growing on trees and rocks. [CS, PH]
58			<5% of the vegetated part of the AA.	0	
59			5-25% of the vegetated part of the AA.	0	
60			25-50% of the vegetated part of the AA.	0	
61			50-95% of the vegetated part of the AA.	1	
62			>95% of the vegetated part of the AA.	0	
63	F11	% Bare Ground & Thatch	Consider the parts of the AA that lack surface water at the driest time of the growing season. Viewed from directly above the ground layer, the predominant condition in those areas at that time is:		Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is present under a tree or shrub canopy should be counted. Boulders count as bare ground. Wetlands with mineral soils and that are heavily shaded or are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens]
64			Little or no (<5%) <i>bare ground</i> is visible between erect stems or under canopy anywhere in the vegetated AA. Ground is extensively blanketed by dense thatch, moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	1	
65			Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0	
66			Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the AA.	0	
67			Other conditions.	0	
68			Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0	
69	F12	Ground Irregularity	Imagine the AA without any living vegetation. Excluding the portion of the AA that is always under water, the number of hummocks, small pits, raised mounds, animal burrows, ruts, gullies, natural levees, microdepressions, and other areas of peat or mineral soil that are raised or depressed >10 cm compared to most of the area within a few meters surrounding them is:		The depressions may be of human or natural origin. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
70			Few or none (minimal microtopography; <1% of the land has such features, or entire AA is always water-covered).	0	
71			Intermediate.	0	
72			Several (extensive micro-topography).	1	
73	F13	Upland Inclusions	Within the AA, inclusions of upland are:		[AM, NR, SBM]
74			Few or none.	0	
75			Intermediate (1 - 10% of vegetated part of the AA).	1	
76			Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).		
77	F14	Soil Texture	In parts of the AA that lack persistent water, the texture of soil in the uppermost layer is mostly: [To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key (in Appendix A of the Manual).]		[CS, NR, OE, PH, PR, Sens, SFS, WS]
78			Loamy : soils that may contain a little fine grit and do not make a "ribbon" longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	1	
79			Fines : includes silt, clay, silt, soils that make a ribbon longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
80			Deep Peat , to 40 cm depth or greater.	0	
81			Shallow Peat or organic <40 cm deep.	0	
82			Coarse : includes sand, loamy sand, gravel, cobble, soils that do not make a ribbon when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
83	F15	Shorebird Feeding Habitats	During any 2 consecutive weeks of the growing season, the extent of mudflats, bare unshaded saturated areas not covered by thatch, and unshaded waters shallower than 6 cm is: [Include also any area that is adjacent to the AA.]		This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
84			None, or <100 sq. m.	1	
85			100-1000 sq. m.	0	
86			1000 - 10,000 sq. m.	0	
87			>10,000 sq. m.	0	
88	F16	Herbaceous % of Vegetated Wetland	In aerial ("ducks eye") view, the maximum annual cover of herbaceous vegetation (all non-woody plants except moss) is:		[AM, WBF, WBN]
89			<5% of the vegetated part of the AA or <0.01 hectare (whichever is less). Mark "1" here and SKIP to F20 (Invasive Plant Cover).	0	
90			5-25% of the vegetated part of the AA.	1	
91			25-50% of the vegetated part of the AA.	0	
92			50-95% of the vegetated part of the AA.	0	
93			>95% of the vegetated part of the AA.	0	

	A	B	C	D	E
94	F17	Forb Cover	Within parts of the AA having herbaceous cover (excluding SAV), the areal cover of forbs reaches an annual maximum of:		Forbs are flowering plants. Do not include grasses, sedges, cattail, other graminoids, ferns, horsetails, or others that lack showy flowers. [POL]
95	<5% of the herbaceous part of the AA.		0		
96	5-25% of the herbaceous part of the AA.		1		
97	25-50% of the herbaceous part of the AA.		0		
98	50-95% of the herbaceous part of the AA.		0		
99	>95% of the herbaceous part of the AA.		0		
100	F18	Sedge Cover	Sedges (<i>Carex</i> spp.) and cottongrass (<i>Eriophorum</i> spp.) occupy:		[CS]
101	<5% of the vegetated area, or none.		0		
102	5-50% of the vegetated area.		1		
103	50-95% of the vegetated area.		0		
104	>95% of the vegetated area.		0		
105	F19	Dominance of Most Abundant Herbaceous Species	Determine which two herbaceous species comprise the greatest portion of the herbaceous cover (excluding mosses and floating-leaved aquatic plants). Then choose one of the following:		For this question, include ferns as well as graminoids and forbs. [EC, INV, PH, POL, Sens]
106	those species together comprise > 50% of the areal cover of herbaceous plants at any time during the year.		0		
107	those species together do not comprise > 50% of the areal cover of herbaceous plants at any time during the year.		1		
108	F20	Invasive Plant Cover	How extensive is the cover of invasive plant species in the AA? For species, see Plants_invasive worksheet in the accompanying SupplInfo file.		[EC, PH, POL, Sens]
109	invasive species appear to be absent in the AA, or are present only in trace amount (a few individuals).		1		
110	invasive species are present in more than trace amounts, but comprise <5% of herbaceous cover (or woody cover, if the invasives are woody).		0		
111	invasive species comprise 5-20% of the herb cover (or woody cover, if the invasives are woody).		0		
112	invasive species comprise 20-50% of the herb cover (or woody cover, if the invasives are woody).		0		
113	invasive species comprise >50% of the herb cover (or woody cover, if the invasives are woody).		0		
114	F21	Invasive Cover Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 3 m upslope from the wetland) that is occupied by invasive plant species is:		If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an exotic species, assume the unidentified plant to also be exotic. If vegetation is so senesced that exotic species cannot be identified, answer "none". [PH, STR]
115	none of the upland edge (invasives apparently absent), or AA has no upland edge.		1		
116	some (but <5%) of the upland edge.		0		
117	5-50% of the upland edge.		0		
118	most (>50%) of the upland edge.		0		
119	F22	Fringe Wetland	During most of the year, open water within or adjacent to the vegetated part of the wetland is much wider than the maximum width of the vegetated zone within the wetland. Enter "1" if true, "0" if false.	0	[WBF, WBN, WCv]
120	F23	Lacustrine Wetland	The vegetated part of the AA is within or adjacent to a body of non-tidal standing open water whose size exceeds 8 hectares during most of a normal year.	0	[FR, PR, PU, WBF, WBN]
121	F24	% of AA Without Surface Water	The percentage of the AA that <u>never</u> contains <u>surface</u> water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC]
122	<1% . In other words, all or nearly all of the AA is covered by water permanently or at least seasonally.		0		
123	1-25% of the AA, or <1% but >0.01 ha never contains surface water.		0		
124	25-50% of the AA never contains surface water.		1		
125	50-75% of the AA never contains surface water.		0		
126	75-99% of the AA never contains surface water, OR >99% and there is at least one persistently ponded water body larger than 1 ha in the AA.		0		
127	99-100%. AND there is no persistently ponded water body larger than 1 ha within the AA. Enter "1" and SKIP to F42 (Channel Connection).		0		

	A	B	C	D	E
128	F25	% of AA with Persistent Surface Water	Identify the parts of the AA that still contain surface water (flowing or ponded, open or hidden beneath vegetation) even during the driest times of a normal year, i.e., when the AA's surface water is at its lowest annual level. At that time, the percentage of the AA that still contains surface water is:		If you are unable to determine the condition at the driest time of year, ask the land owner or neighbors about it if possible. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [AM, CS, FA, FR, INV, NR, POL, PR, SBM, WBF, WBN]
129	None. The AA dries up completely (no water in channels either) or never has surface water during most years. SKIP to F27.		0		
130	1-20% of the AA.		1		
131	20-50% of the AA.		0		
132	50-95% of the AA.		0		
133	>95% of the AA. True for many fringe wetlands.		0		
134	F26	% of Summertime Water that Is Shaded	At mid-day during the warmest time of year, the area of surface water <u>within</u> the AA that is shaded by vegetation and other features that are <u>within</u> the AA at that time is:		[FA, WC]
135	<5% of the water is shaded, or no surface water is present then.		0		
136	5-25% of the water is shaded.		0		
137	25-50% of the water is shaded.		0		
138	50-75% of the water is shaded.		0		
139	>75% of the water is shaded.		1		
140	F27	% of AA that is Flooded Only Seasonally	The percentage of the AA's area that is between the annual high water and the annual low water (surface water) is:		Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualising where that would intercept the land along the river. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
141	None, or <0.01 hectare and <1% of the AA. SKIP to F29.		0		
142	1-20% of the AA, or <1% but >0.01 ha.		1		
143	20-50% of the AA.		0		
144	50-95% of the AA.		0		
145	>95% of the AA.		0		
146	F28	Annual Water Fluctuation Range	The annual fluctuation in surface water level within most of the parts of the AA that contain surface water at least temporarily is:		Look for flood marks (see above). Because the annual range of water levels is difficult to estimate without multiple visits, consider asking the land owner or neighbors about it. [AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
147	<10 cm change (stable or nearly so).		0		
148	10 cm - 50 cm change.		1		
149	0.5 - 1 m change.		0		
150	1-2 m change.		0		
151	>2 m change.		0		
152	Is the AA plus adjacent ponded water smaller than 0.01 hectare (about 10m x 10m, or 1m x 100 m)? If so, enter "1" in column D and SKIP TO F42 (Connection).			0	
153	F29	Predominant Depth Class	During most of the time when surface water is present during the growing season, its depth, averaged over the entire inundated part of the AA, is:		If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth of the most persistently inundated part of the wetland. Include surface water in channels and ditches as well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC]
154	<10 cm deep (but >0).		0		
155	10 - 50 cm deep.		1		
156	0.5 - 1 m deep.		0		
157	1 - 2 m deep.		0		
158	>2 m deep. True for many fringe wetlands.		0		
159	F30	Depth Classes - Evenness of Proportions	When present, surface water in most of the AA usually consists of (select one):		Estimate these proportions by considering the gradient and microtopography of the site. [FR, INV, WBF, WBN]
160	One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).		0		
161	One depth class that comprises 50-90% of the AA's inundated area.		0		
162	Neither of above. There are 3 or more depth classes and none occupy >50%.		1		
163	F31	% of Water That Is Ponded (not Flowing)	During most times when surface water is present, the percentage that is (1) ponded (stagnant, or flows so slowly that fine sediment is not held in suspension) AND (2) is likely to be deeper than 0.5 m in some places, is:		Nearly all wetlands with surface water have some ponded water. [AM, CS, INV, NR, OE, PR, Sens, SR, WBF, WBN, WC, WS]
164	<5% of the water, or it occupies <100 sq.m cumulatively. Nearly all the surface water is flowing. SKIP to F34.		1		
165	5-30% of the water.		0		
166	30-70% of the water.		0		
167	70-95% of the water.		0		
168	>95% of the water.		0		

	A	B	C	D	E
169	F32	Ponded Open Water - Minimum Size	During most of the growing season, the largest patch of open water that is ponded and is in or bordering the AA is >0.01 hectare (about 10 m by 10 m) and mostly deeper than 0.5 m. If true enter "1" and continue. If false, enter "0" and SKIP to F41 (Floating Algae & Duckweed).	0	Open water is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it.
170	F33	% of Ponded Water that is Open	In ducks-eye aerial view, the percentage of the ponded water that is open (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:		[AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC]
171			None, or <1% of the AA and largest pool occupies <0.01 hectares. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
172			1-4% of the ponded water. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
173			5-30% of the ponded water.	0	
174			30-70% of the ponded water.	0	
175			70-99% of the ponded water.	0	
176			100% of the ponded water.	0	
177	F34	Width of Vegetated Zone within Wetland	At the time during the growing season when the AA's water level is lowest, the average width of vegetated area <u>in the AA</u> that separates adjoining uplands from open water within the AA is:		"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. [AM, CS, NR, OE, PH, PR, SBM, Sens, SR, WBN]
178			<1 m.	0	
179			1 - 9 m.	1	
180			10 - 29 m.	0	
181			30 - 49 m.	0	
182			50 - 100 m.	0	
183			> 100 m, or open water is absent at that time.	0	
184	F35	Flat Shoreline Extent	During most of the part of the growing season when water is present, the percentage of the AA's water edge length that is nearly flat (a slope less than about 5% measured within 5 m landward of the water) is:		If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
185			<1% of the water edge.	0	
186			1-25% of the water edge.	1	
187			25-50% of the water edge.	0	
188			50-75% of the water edge.	0	
189			>75% of the water edge.	0	
190	F36	Robust Emergents	The percentage of the emergent vegetation cover in the AA that is cattail (<i>Typha</i> spp.), common reed (<i>Phragmites</i>), or tall (>1m) bulrush is:		Emergent vegetation is herbaceous plants whose stems are partly above and partly below the water surface during most of the time water is present. [WBN]
191			<1% of the emergent vegetation, or emergent vegetation is absent. SKIP to F38.	0	
192			1-25% of the emergent vegetation.	1	
193			25-75% of the emergent vegetation.	0	
194			>75% of the emergent vegetation.	0	
195	F37	Interspersion of Emergents & Open Water	During most of the part of the growing season when water is present, the spatial pattern of emergent vegetation within the water is mostly:		[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
196			Scattered. More than 30% of such vegetation forms small islands or corridors surrounded by water.	0	
197			Intermediate.	0	
198			Clumped. More than 70% of such vegetation is in bands along the wetland perimeter or is clumped at one or a few sides of the surface water area.	1	
199	F38	Persistent Deepwater Area	If the deepest patch of surface water (flowing or ponded) in or directly adjacent to the AA is mostly deeper than 0.5 m for >2 weeks during the growing season, enter "1" and continue. If not, enter "0" and SKIP to F42 (Connection).	0	
200	F39	Non-vegetated Aquatic Cover	During most of the growing season and in waters deeper than 0.5 m, the cover for fish, aquatic invertebrates, and/or amphibians that is provided NOT by living vegetation, but by accumulations of dead wood and undercut banks is:		For this question, consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are unreliable so should not be attempted. [AM, FA, FR, INV]
201			Little or none.	0	
202			Intermediate.	0	
203			Extensive.	0	
204	F40	Isolated Island	The AA contains (or is part of) an island or beaver lodge within a lake, pond, or river, and is isolated from the shore by water depths >1 m on all sides during an average June. The island may be solid, or it may be a floating vegetation mat that is sufficiently large and dense to support a waterbird nest.	0	[WBN]
205	F41	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed are likely to cover >50% of the AA's otherwise-unshaded water surface, or blanket >50% of the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	[EC, PR, WBF]

	A	B	C	D	E
206	F42	Channel Connection & Outflow Duration	The most persistent surface water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and a downslope stream network is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of the wetland, or the surface connection between the wetland and the downslope stream network.]		Consider the connection regardless of whether the surface water is frozen. The "downslope stream network" could consist of ditches, rivers, ponds, or lakes which eventually connect to the ocean. If this cannot be determined while visiting the AA, consult topographic maps perhaps by viewing these online with Toporama (http://atlas.nrcan.gc.ca/toporama/en/index.html) [CS, FA, FR, NR, OE, PR, Sens, SFS, SR, WCv, WS]
207	Persistent (surface water flows out for >9 months/year).		1		
208	Seasonal (surface water flows out for 14 days to 9 months/year, not necessarily consecutive).		0		
209	Temporary (surface water flows out for <14 days, not necessarily consecutive).		0		
210	None -- but maps show a stream network downslope from the AA and within a distance that is less than the AA's length. SKIP to F47 (pH Measurement).		0		
211	No surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. SKIP to F47 (pH Measurement).		0		
212	F43	Outflow Confinement	During major runoff events, in the places where surface water exits the AA or connected waters nearby, the water:		"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS, NR, OE, PR, Sens, SR, STR, WS]
213	Mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not appear to drain the wetland artificially during most of the growing season.		1		
214	Leaves through natural exits (channels or diffuse outflow), not mainly through artificial or temporary features.		0		
215	Is exported more quickly than usual due to ditches or pipes within the AA or connected to its outlet, or within 10 m of the AA's edge, which drain the wetland artificially, or water is pumped out of the AA.		0		
216	F44	Tributary Channel	At least once annually, surface water from a tributary channel that is >100 m long moves into the AA. Or, surface water from a larger permanent water body adjacent to the AA spills into the AA. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. If no, SKIP to F47 (pH Measurement).	0	If inlet tributaries cannot be searched for due to inaccessibility of part of the AA, follow suggestions in F42 above. [NRv, PH, PRv, SRv]
217	F45	Input Water Temperature	Based on lack of shade, water source characteristics, or actual temperature measurements, the inflow is likely to be warmer than surface water in the AA during part of most years. Enter 1= yes, 0= no.	0	[WCv]
218	F46	Throughflow Resistance	During its travel through the AA at the time of peak annual flow, water arriving in channels: [select only the ONE encountered by most of the incoming water].		[FA, FR, INV, NR, OE, PR, SR, WS]
219	Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel in unvegetated (often incised) channels that have minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.		0		
220	Bumps into herbaceous vegetation but mostly remains in fairly straight channels.		0		
221	Bumps into herbaceous vegetation and mostly spreads throughout, or is in widely meandering, multi-branched, or braided channels.		0		
222	Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels.		0		
223	Bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).		0		
224	F47	pH Measurement	The pH in most of the AA's surface water:		Preferably, measure this in larger areas of ponded surface water within the AA, or in streams that have passed through (not along) most of the AA. Unless surface water is completely absent, do not dig holes or make depressions in peat in order to provide water for this measurement. Avoid measuring near roads or in puddles formed only by recent rain. [AM, FA, FR, NR, WBF, PH, PR, Sens, WBF, WBN]
225	Was measured, and is: [enter the reading in the column to the right.]				
226	Was not measured but surface water is present and is darkly tea-coloured. Or if no surface water, then mosses and plants that indicate peatland (e.g., Labrador tea) are prevalent. Enter "1".		1		
227	Neither of above. Enter "1".		0		
228	F48	TDS and/or Conductivity	The TDS (total dissolved solids) or conductivity of the AA's surface water is: (select the first true row with information):		See above for measurement guidance. [FR, INV, NRv, PH, PRv, Sens]
229	TDS is: [Enter the reading in ppm or mg/L in the column to the right, if measured, or answer next row.]				
230	Conductivity is [Enter the reading in µS/cm in the column to the right.]				
231	Was not measured, but plants that indicate saline conditions cover much of the vegetated AA. Enter "1".		0		
232	Neither of above		0		
233	F49	Beaver Probability	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
234	Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		0		
235	Likely based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.		0		
236	Unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed.		1		

	A	B	C	D	E
237	F50	Groundwater Strength of Evidence	Select first applicable choice:		Adhere to these criteria strictly -- do not use personal judgment based on fen conditions, pH, or other evidence. Consult topographic maps to detect breaks in slope described here. Rust deposits associated with groundwater seeps may be most noticeable as orange discoloration in ice formations along streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS]
238			Springs are known to be present within the AA, or if groundwater levels have been monitored, that has demonstrated that groundwater primarily discharges to the wetland for longer periods during the year than periods when the wetland recharges the groundwater.	0	
239			Most of the AA has a slope of >5%, or is very close to the base of a natural slope longer than 100 and much steeper than the slope of the AA, AND the pH of surface water, if known, is >5.5.	1	
240			Neither of above is true, although some groundwater may discharge to or flow through the AA. Or groundwater influx is unknown.	0	
241	F51	Internal Gradient	The gradient along most of the flow path within the AA is:		This is not the same as the shoreline slope. It is the elevational difference between the AA's inlet and outlet, divided by the flow-distance between them and converted to percent. If available, use a clinometer to measure this. Free clinometer apps can be downloaded to smartphones. If the wetland is large (longer than ~1 km), this may be estimated using Google Earth to determine the minimum and maximum elevation within the AA, then dividing by length and multiplying by 100. [CS, NR, OE, PR, SR, WBF, WBN, WS]
242			<2% or the AA has no surface water outlet (not even seasonally).	0	
243			2-5%.	1	
244			6-10%.	0	
245		>10%.	0		
246	Note for the next three questions: If the AA lacks an upland edge, evaluate based on the AA's entire perimeter, and moving outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.				
247	F52	Vegetated Buffer as % of Perimeter	Within a zone extending 30 m laterally from the AA's edge with upland and/or other wetlands, the percentage that contains perennial vegetation cover (except lawns, row crops, heavily grazed land, conifer plantations) is:		[AM, FA, FR, INV, NRv, PH, POL, PRv, SBM, Sens, SRv, STR, WBN]
248			<5%.	0	
249			5 to 30%.	0	
250			30 to 60%.	1	
251			60 to 90%.	0	
252		>90%, or all the area within 30 m of the AA edge is other wetlands. SKIP to F55.	0		
253	F53	Type of Cover in Buffer	Within 30 m upslope of where the wetland transitions to upland, the upland land cover that is NOT perennial vegetation is mostly (mark ONE):		[AM, FA, INV, NRv, PH, POL, SBM, STR, WBN]
254			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
255			Bare or nearly bare pervious surface or managed vegetation, e.g., lawn, row crops, unpaved road, dike, landslide.	1	
256	F54	Buffer Slope	The steepest and/or most disturbed part of the upland area that is within 30 m of the wetland and occupies >10% of that upland area has a percent slope of:		[NRv, PRv, Sens, SRv]
257			<1% (flat -- almost no noticeable slope) or all the area within 30 m of the AA edge is other wetlands.	0	
258			2-5%.	0	
259			5-30%.	1	
260			>30%.	0	
261	F55	Cliffs or Steep Banks	In the AA or within 100 m, there are elevated terrestrial features such as cliffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 2 m nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	0	Do not include upturned trees as potential den sites. [POL, SBM]
262	F56	New or Expanded Wetland	Human actions within or adjacent to the AA have persistently expanded a naturally occurring wetland or created a wetland where there previously was none (e.g., by excavation, impoundment):		Determine this using historical aerial photography, old maps, soil maps, or permit files as available [CS, NR, OE, PH, Sens]
263			No.	0	
264			Yes, and created or expanded 20 - 100 years ago.	1	
265			Yes, and created or expanded 3-20 years ago.	0	
266			Yes, and created or expanded within last 3 years.	0	
267			Yes, but time of origin or expansion unknown.	0	
268		Unknown if new or expanded within 20 years or not.	0		
269	F57	Burn History	More than 1% of the AA's previously vegetated area:		Look for charred soil or stumps (in multiple widely-spaced locations) or ask landowner. [CS, PH, STR]
270			Burned within past 5 years.	0	
271			Burned 6-10 years ago.	0	
272			Burned 11-30 years ago.	0	
273			Burned >30 years ago, or no evidence of a burn and no data.	1	

	A	B	C	D	E
274	F58	Visibility	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 100 m of the AA (select one) is:		[PU, STR, WBFv]
275			<25%.	0	
276			25-50%.	0	
277			>50%.	1	
278	F59	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select ALL statements that are true of the AA as it currently exists:		[PU, STR]
279			For an average person, walking is physically possible <u>in</u> (not just near) >5% of the AA during most of the growing season, e.g., free of deep water and dense shrub thickets.	0	
280			Maintained roads, parking areas, or foot-trails are within 10 m of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	1	
281			Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0	
282	F60	Unvisited Core Area	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [<i>Note: Only include the part actually walked or driven (not simply viewed from) with a vehicle or boat. Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 30 m of the wetland edge. In that case include only the area occupied by the trail.</i>]		[AM, FAv, FRv, PH, PU, SBM, STR, WBF, WBN]
283			<5% and no inhabited building is within 100 m of the AA.	0	
284			<5% and inhabited building is within 100 m of the AA.	0	
285			5-50% and no inhabited building is within 100 m of the AA.	1	
286			5-50% and inhabited building is within 100 m of the AA.	0	
287			50-95%, with or without inhabited building nearby.	0	
288			>95% of the AA with or without inhabited building nearby.	0	
289	F61	Frequently Visited Area	The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [<i>See note above.</i>]		[AM, PH, PU, SBM, STR, WBF, WBN]
290			<5%. If F60 was answered ">95%" (mostly never visited), SKIP to F64.	1	
291			5-50%.	0	
292			50-95%.	0	
293			>95% of the AA.	0	
294	F62	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on soil within nearly all of the AA when the soil is unfrozen. Enter "1" if true.	0	[PH, PU]
295	F63	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorised boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	0	[AM, PU, WBF, WBN]
296	F64	Consumptive Uses (Provisioning Services)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select ALL that apply.		[FAv, FRv, WBFv]
297			Low-impact commercial timber harvest (e.g., selective thinning).	0	
298			Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.	0	
299			Waterfowl hunting.	0	
300			Fishing.	0	
301			Trapping of furbearers.	0	
302			None of the above.	0	
303	F65	Domestic Wells	The closest wells or water bodies that currently provide drinking water are:		[NRv]
304			Within 0-100 m. of the AA.	0	
305			100-500 m. away.	0	
306			>500 m. away, or no information.	1	
307	F66	Calcareous Fen	The AA is, or is part of, a calcareous fen. See the Plants_Calcar worksheet in the accompanying SuppInfo file for list of plant indicators (calciphiles). Enter 1 if more than two Strong or more than five Moderate calciphile species are present; otherwise enter 0, but if not able to identify those and no information, change to blank .		[PH, PR]

Investigator: RK MM	Site Identifier: Goose Harbour Lake Wind Farm, Wetland 75	Date: 21 Sept 2022
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Stressor (S) Data Form for Non-Tidal Wetlands. WESP-AC for Nova Scotia version 2.

				Data	
S1	Aberrant Timing of Water Inputs				
	<i>In the last column, place a check mark next to any item that is likely to have caused the timing of water inputs (but not necessarily their volume) to shift by hours, days, or weeks, becoming either more muted (smaller or less frequent peaks spread over longer times, more temporal homogeneity of flow or water levels) or more flashy (larger or more frequent spikes but over shorter times). [FA, FR, INV, PH, STR]</i>				
	Stormwater from impervious surfaces that drains directly to the wetland.				
	Water subsidies from wastewater effluent, septic system leakage, snow storage areas, or irrigation.				
	Regular removal of surface or groundwater for irrigation or other consumptive use.				
	Flow regulation in tributaries or water level regulation in adjoining water body, or other control structure at water entry points that regulates inflow to the wetland.				
	A dam, dike, levee, weir, berm, or fill -- within or downgradient from the wetland -- that interferes with surface or subsurface flow in/out of the AA (e.g., road fill, wellpads, pipelines).				
	Excavation within the wetland, e.g., dugout, artificial pond, dead-end ditch.				
	Artificial drains or ditches in or near the wetland.				
	Accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level).				
	Logging within the wetland.				
	Subsidence or compaction of the wetland's substrate as a result of machinery, livestock, fire, drainage, or off road vehicles.				
	Straightening, ditching, dredging, and/or lining of tributary channels.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items had no measurable effect on the timing of water conditions in any part of the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of timing shift within the wetland:	>95% of wetland.	5-95% of wetland.	<5% of wetland.	0
	When most of the timing shift began:	<3 yrs ago.	3-9 yrs ago.	10-100 yrs ago.	0
	<i>Score the following 2 rows only if the altered inputs began within past 10 years, and only for the part of the wetland that experiences those.</i>				
	Input timing now vs. previously:	Shift of weeks.	Shift of days.	Shift of hours or minutes.	0
	Flashiness or muting:	Became very flashy or controlled.	Intermediate.	Became mildly flashy or controlled.	0
			Sum=	0	
			Stressor subscore=	0.00	

S2	Accelerated Inputs of Contaminants and/or Salts				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of contaminants or salts to the AA. [AM, FA, PH, POL, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills, industrial facilities.				
	Metals & chemical wastes from mining, shooting ranges, snow storage areas, oil/ gas extraction, other sources (download many locations from National Pollutant Release Inventory and view KMZ overlay in Google Earth. https://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=B85A1846-1)				
	Road salt.				
	Spraying of pesticides, as applied to lawns, croplands, roadsides, or other areas in the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly higher levels of contaminants and/or salts, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Usual toxicity of most toxic contaminants:	Industrial effluent, mining waste, unmanaged landfill.	Cropland, managed landfill, pipeline or transmission rights-of-way.	Low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	
S3	Accelerated Inputs of Nutrients				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of nutrients to the wetland. [NRv, PRv, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills.				
	Fertilizers applied to lawns, ag lands, or other areas in the CA.				
	Livestock, dogs.				
	Artificial drainage of upslope lands.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly more nutrients, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Type of loading:	High density of unmaintained septic, some types of industrial sources.	Moderate density septic, cropland, secondary wastewater treatment plant.	Livestock, pets, low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	

S4	Excessive Sediment Loading from Contributing Area				
	<i>In the last column, place a check mark next to any item present in the CA that is likely to have elevated the load of waterborne or windborne sediment reaching the wetland from its CA. [FA, FR, INV, PH, SRv, STR]</i>				
	Erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fires.				1
	Erosion from construction, in-channel machinery in the CA.				
	Erosion from off-road vehicles in the CA.				
	Erosion from livestock or foot traffic in the CA.				
	Stormwater or wastewater effluent.				
	Sediment from road sanding, gravel mining, other mining, oil/ gas extraction.				
	Accelerated channel downcutting or headcutting of tributaries due to altered land use.				
	Other human-related disturbances within the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not cumulatively add significantly more sediment or suspended solids to the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Erosion in CA:	Extensive evidence, high intensity.*	Potentially (based on high-intensity* land use) or scattered evidence.	Potentially (based on low-intensity* land use) with little or no direct evidence.	2
	Recentness of significant soil disturbance in the CA:	Current & ongoing.	1-12 months ago.	>1 yr ago.	3
Duration of sediment inputs to the wetland:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	2	
AA proximity to actual or potential sources:	0 - 15 m.	15-100 m.	In more distant part of contributing area.	3	
* high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erosion with or without veg removal; low-intensity= veg removal only with little or no apparent erosion or disturbance of soil or sediment.				Sum= 10	
				Stressor subscore= 0.83	
S5	Soil or Sediment Alteration Within the Assessment Area				
	<i>In the last column, place a check mark next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil. Consider only items occurring within past 100 years or since wetland was created or restored (whichever is less). [CS, INV, NR, PH, SR, STR]</i>				
	Compaction from machinery, off-road vehicles, livestock, or mountain bikes, especially during wetter periods.				
	Leveling or other grading not to the natural contour.				
	Tillage, plowing (but excluding disking for enhancement of native plants).				
	Fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland.				
	Excavation.				
	Ditch cleaning or dredging in or adjacent to the wetland.				
	Boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments.				
	Artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of altered soil:	>95% of wetland or >95% of its upland edge (if any).	5-95% of wetland or 5-95% of its upland edge (if any).	<5% of wetland and <5% of its upland edge (if any).	0
	Recentness of significant soil alteration in wetland:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration:	Long-lasting, minimal veg recovery.	Long-lasting but mostly revegetated.	Short-term, revegetated, not intense.	0	
Timing of soil alteration:	Frequent and year-round.	Frequent but mostly seasonal.	Mainly during one-time or scattered events.	0	
				Sum= 0	
				Stressor subscore= 0.00	

Assessment Area (AA) Results:

Wetland ID: Goose Harbour Lake Wind Farm, Wetland 75

Date: Sept 21, 2022

Observer: Rohan Kariyawansa & Madeline Maher

Latitude & Longitude (decimal degrees): 45.52354361 & 61.44808260

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	1.12	Lower	8.18	Higher	2.78	3.63
Stream Flow Support (SFS)	8.76	Higher	7.07	Moderate	7.06	4.71
Water Cooling (WC)	9.70	Higher	4.73	Moderate	6.47	2.56
Sediment Retention & Stabilisation (SR)	3.52	Lower	3.14	Higher	4.94	1.54
Phosphorus Retention (PR)	1.70	Lower	2.68	Higher	4.81	2.08
Nitrate Removal & Retention (NR)	3.40	Moderate	5.00	Moderate	5.23	5.00
Carbon Sequestration (CS)	3.34	Moderate			6.77	
Organic Nutrient Export (OE)	8.84	Higher			5.78	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	9.19	Higher	5.26	Moderate	7.24	4.08
Amphibian & Turtle Habitat (AM)	5.54	Moderate	5.96	Higher	6.03	6.67
Waterbird Feeding Habitat (WBF)	6.97	Higher	3.33	Moderate	5.31	3.33
Waterbird Nesting Habitat (WBN)	7.02	Higher	3.33	Moderate	5.09	3.33
Songbird, Raptor, & Mammal Habitat (SBM)	9.24	Higher	6.67	Moderate	8.04	6.67
Pollinator Habitat (POL)	9.34	Higher	6.67	Moderate	7.74	6.67
Native Plant Habitat (PH)	5.45	Moderate	7.48	Moderate	6.08	7.48
Public Use & Recognition (PU)			2.46	Moderate		1.99
Wetland Sensitivity (Sens)			9.58	Higher		4.90
Wetland Ecological Condition (EC)			10.00	Higher		10.00
Wetland Stressors (STR) (higher score means more stress)			8.90	Higher		4.46
Summary Ratings for Grouped Functions:						
HYDROLOGIC Group (WS)	1.12	Lower	8.18	Higher	2.78	3.63
WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS)	3.25	Moderate	4.30	Moderate	6.11	3.94
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC)	9.41	Higher	6.38	Moderate	6.94	4.25
AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN)	5.46	Moderate	4.24	Moderate	4.66	4.67
TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL)	8.67	Higher	7.21	Moderate	7.66	7.21
WETLAND CONDITION (EC)			10.00	Higher		10.00
WETLAND RISK (average of Sensitivity & Stressors)			9.24	Higher		4.68

NOTE: A score of 0 does not mean the function or benefit is absent from the wetland. It means only that this wetland has a capacity that is equal or less than the lowest-scoring one, for that function or benefit, from among all the NS calibration wetlands that were assessed previously.

NOVA SCOTIA - Functional WSS Interpretation Tool

Function-Benefit Product (FBP)	FBP SCORE	FBP SCORE CATEGORY
SUPPORT SUPERGROUP - HYDROLOGIC	9.174056192	Low
SUPPORT SUPERGROUP - WATER QUALITY SUPPORT	14.003477	Low
SUPPORT SUPERGROUP - AQUATIC SUPPORT	60.05568416	Low
HABITAT SUPERGROUP - AQUATIC HABITAT	23.16431289	Low
HABITAT SUPERGROUP - TRANSITION HABITAT	62.55133262	Low

3a. Functional WSS Determination: Automatic Method

Habitat Rule Satisfied? NO
 Support Rule Satisfied? NO
 Habitat/Support Hybrid Rule Satisfied? NO

CONCLUSION: **Site is not a WSS**

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	Goose Harbour Lake Wind Farm, Wetland 88
Investigator Name:	Rohan Kariyawansa Madeline Maher
Date of Field Assessment:	2022-09-21
Nearest Town:	Antigonish
Latitude (decimal degrees):	45.57029444
Longitude (decimal degrees):	61.43326111
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	0.21
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	100%
What percent (approx.) of the wetland were you able to visit?	100%
What percent (approx.) of the AA were you able to visit?	100%
Were you able to ask the site owner/manager about any of the questions?	No
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	No
How many wetlands have you assessed previously using WESP-AC? (approx.)	2 Dozen
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

	A	B	C	D	E
1	Date: 20 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, Wetland 88	Investigator: RK MM	
2	<p>Form OF (Office). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia wetlands only. DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answering many of the questions below will require using these online map viewers: Google Earth Pro: https://www.google.com/earth/download/gep/agree.html Provincial Landscape Viewer: https://nsgi.novascotia.ca/plv/</p> <p>For most wetlands, completing this office data form will require 1-2 hours. For a list of functions to which each question pertains, see bracketed abbreviations in the Definitions/Explanations column. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.</p>				
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	OF1	Province	Mark the province in which the AA is located by changing the 0 in the column next to it to a "1". Mark only one.		This determines to which province's calibration wetlands the raw score of any wetland is normalised. In the function and benefits models, it also triggers the automatic exclusion of indicators for which no spatial data exists in a particular province.
5			New Brunswick	0	
6			Nova Scotia	1	
7			Prince Edward Island	0	
8			Newfoundland-Labrador	0	
9	OF2	Ponded Area Within 1 km.	The area of surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		"Adjacent" means not separated from the AA by a wide expanse (>50 m) of upland (including roads >50 m wide). Include ponded areas likely to be hidden by wetland vegetation. If surface water extends beyond 1 km, include only the part within 1 km. Do not include tidal areas. Measure the area from aerial imagery using Google Earth Pro (click on Ruler icon in toolbar, then Polygon in pop-up menu). [PH, SBM, WBN]
10			<0.01 hectare (about 10 m x 10 m).	1	
11			0.01 - 0.1 hectare.	0	
12			0.1 - 1 hectare.	0	
13			1 to 10 hectares.	0	
14			10 to 100 hectares.	0	
15		>100 hectares.	0		
16	OF3	Ponded Water & Wetland Within 1 km.	The area of wetlands and surface water ponded during most of the growing season that is both (1) in or adjacent to the AA and (2) within 1 km is:		See definition of adjacent in OF2. If the AA's wetland vegetation extends beyond 1 km, include only the part within 1 km. "Ponded" means not flowing in rivers or streams. [Sens, WBF]
17			<0.01 hectare (about 10 m x 10 m).	0	
18			0.01 - 0.1 hectare.	0	
19			0.1 - 1 hectare.	1	
20			1 to 10 hectares.	0	
21			10 to 100 hectares.	0	
22		>100 hectares.	0		
23	OF4	Size of Largest Nearby Vegetated Tract or Corridor	The largest vegetated patch or corridor that includes the AA's vegetation plus all adjacent upland vegetation that is not lawn, row crops, heavily grazed lands, conifer plantation is:		See definition of adjacent in OF2. Use Google Earth Pro's polygon ruler (as described above). Exclude conifer plantations only if it is obvious that trees were planted in rows. [AM, PH, SBM, Sens]
24			<0.01 hectare (about 10 m x 10 m).	0	
25			0.01 - 0.1 hectare.	0	
26			0.1 - 1 hectare.	1	
27			1 to 10 hectares.	0	
28			10 to 100 hectares.	0	
29		100 to 1000 hectares.	0		
30		>1000 hectares. [This is nearly always the answer in relatively undeveloped landscapes.]	0		

	A	B	C	D	E
31	OF5	Distance to Large Vegetated Tract	The minimum distance from the edge of the AA to the edge of the closest vegetated land (but excluding row crops, lawn, conifer plantation) larger than 375 hectares (about 2 km on a side), is:		To measure distance, use Google Earth Pro (Ruler > Line tool). The 375-ha criterion is from the Fundy Model Forest Project. [AM, PH, POL, SBM, Sens]
32			<50 m, and not separated from the 375-ha vegetated area by any width of paved roads, stretches of open water, row crops, bare ground, lawn, or impervious surface. Or the AA itself contains >375 ha of vegetation. [This is often the answer in relatively undeveloped landscapes.]	0	
33			<50 m, but completely separated from the 375-ha vegetated area by those features, and AA does not contain >375 ha of vegetation.	0	
34			50-500 m, and not separated.	0	
35			50-500 m, but separated by those features.	1	
36			0.5 - 5 km, and not separated.	0	
37			0.5 - 5 km, but separated by those features.	0	
38			None of the above (the closest patches or corridors which are that large are >5 km away).	0	
39	OF6	Herbaceous Uniqueness	The AA's vegetation cover is >10% herbaceous* but uplands within 5 km have <10% herbaceous cover. If so, enter "3" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 1 km have <10% herbaceous cover. If so enter "2" and continue to OF7. If not, consider: The AA's vegetation cover is >10% herbaceous* but uplands within 100 m of the wetland edge have <10% herbaceous cover. If so, enter "1". [* NOTE: Exclude lawns, row crops, heavily grazed lands, forest, shrublands. Include moss as well as grasslike plants in this use of "herbaceous vegetation"]	1	
40	OF7	Woody Uniqueness	The AA's vegetation cover is >10% woody* but uplands within 5 km have <10% woody cover. If so, enter "3" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 1 km have <10% woody cover. If so enter "2" and continue to OF8. If not, consider: The AA's vegetation is >10% woody* but uplands within 100 m of the wetland edge have <10% woody cover. If so, enter "1" [* NOTE: woody cover = trees & shrubs taller than 1 m.]	1	See above. Do not consider conifer plantations to be forest if it is obvious that trees were planted in rows. [AMv, PHv, POLv, SBMv]
41	OF8	Local Vegetated Cover Percentage	Draw a 5-km radius circle measured from the center of the AA. Ignoring all permanent water in the circle, the percent of the remaining area that is wooded or unmanaged herbaceous vegetation (NOT lawn, row crops, bare or heavily grazed land, clearcuts, or conifer plantations) is:		In Google Earth, draw the 5 km buffer and then estimate land cover percentages, or do GIS analysis of an appropriate land cover layer. [AM, PH, POL, SBM, Sens]
42			<5% of the land.	0	
43			5 to 20% of the land.	0	
44			20 to 60% of the land.	1	
45			60 to 90% of the land.	0	
46			>90% of the land. SKIP to OF10.	0	
47	OF9	Type of Land Cover Alteration	Within the 5-km radius circle, and ignoring all permanent water, the land area that is bare or non-perennial cover is mostly:		[AM, SBM]
48			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
49			Bare pervious surface, e.g., lawn, recent (<5 yrs ago) clearcut, dirt or gravel road, cropland, landslide, conifer plantation.	1	
50	OF10	Distance by Road to Nearest Population Center	Measured along the maintained road nearest the AA, the distance to the nearest population center is:		"Population center" means a settled area with more than about 5 regularly- inhabited structures per square kilometer. In Google Earth Pro, click on the Ruler icon, then Path, and draw and measure the route. [FAv, FRv, NRv, PH, PU, SBM, WBFv]
51			<100 m.	0	
52			100 - 500 m.	0	
53			0.5- 1 km.	0	
54			1 - 5 km.	1	
55			>5 km.	0	

	A	B	C	D	E
56	OF11	Distance to Nearest Maintained Road	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:		Determine this by viewing aerial imagery in Google Earth Pro and measuring with the Ruler-Line tool [AM, FAv, FRv, NRv, PH, PU, SBM, STR, WBN]
57			<10 m.	1	
58			10 - 25 m.	0	
59			25 - 50 m.	0	
60			50 - 100 m.	0	
61			100 - 500 m.	0	
62			>500 m.	0	
63	OF12	Wildlife Access	Draw a circle of radius of 5 km from the center of the AA. If mammals and amphibians can move from the center of the AA to ALL other separate wetlands and ponds located within the circle without being forced to cross pavement (any width), lawns, bare ground, and/or marine waters, mark 1= yes can move to all, 0= no. Change to blank if there are no other wetlands within 5 km.	0	Draw the 5 km circle in Google Earth Pro using the Circle tool and search for roads and wetlands within it, being alert for roads hidden under forest canopy. [AM, SBM, STR]
64	OF13	Distance to Poned Water	The distance from the AA center to the closest (but separate) ponded water body visible in GoogleEarth imagery is:		In Google Earth Pro, zoom in closely to examine the surrounding landscape for ponds, lakes, and wetlands that appear to be permanently flooded. [AM, PH, SBM, Sens, WBF, WBN]
65			<50 m, and not separated by any width of paved roads, stretches of open water, row crops, lawn, bare ground, or impervious surface.	0	
66			<50 m, but completely separated by those features.	0	
67			50-500 m, and not separated.	1	
68			50-500 m, but separated by those features.	0	
69			0.5 - 1 km, and not separated.	0	
70			0.5 - 1 km, but separated by those features.	0	
71		None of the above (the closest patches or corridors that large are >1 km away).	0		
72	OF14	Distance to Large Poned Water	The distance from the AA center to the closest (but separate) non-tidal body of water that is ponded during most of the year and is larger than 8 hectares during most of a normal year is:		Determine this by viewing aerial imagery in Google Earth. [Sens, WBF, WBN]
73			<100 m.	0	
74			100 m - 1 km.	1	
75			1 - 2 km.	0	
76			2-5 km.	0	
77			5-10 km.	0	
78			>10 km.	0	
79	OF15	Tidal Proximity	The distance from the AA edge to the closest tidal water body (regardless of its salinity) is:		In Google Earth, measure the distance to the ocean (including Bay of Fundy) or tidal river, whichever is closer. If you need to see how far upriver a river is tidal, see the KMZ file provided with this calculator for NS (NS Hightide). Points shown in those files are only an approximation, so local information if available may be preferable. [FA, WBF]
80			<100 m.	0	
81			100 m - 1 km.	0	
82			1 - 5 km.	1	
83			5-10 km.	0	
84			10-40 km.	0	
85			>40 km.	0	
86	OF16	Upland Edge Contact	Select one:		[NR, SBM, Sens]
87			The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by (& contiguous with) other wetlands or water.	0	
88			1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
89			25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
90			50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91			More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA. This will be true for most assessments done with WESP-AC.	1	

	A	B	C	D	E
92	OF17	Flood Damage from Non-tidal Waters	Within 5 km downstream or downslope of the AA (select first true choice):		Contact local authorities to determine if such maps exist. Where available, LiDAR imagery can provide finer elevational resolution useful for flood modeling. [WSv]
93	Maps show Flood Zone or Flood Risk areas and there appears to be infrastructure vulnerable to river flooding not caused by tidal storm surges.		0		
94	Maps show Flood Zone or Flood Risk areas, but infrastructure is absent or is not vulnerable to floods from a non-tidal river. In some cases levees, upriver dams, or other measures may partly limit damage or risk from smaller events.		0		
95	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there appears to be infrastructure vulnerable to river flooding unrelated to tidal storm surges.		0		
96	Maps do not show Flood Zone or Flood Risk areas (or no such mapping has been done locally) and there is no infrastructure vulnerable to river flooding unrelated to tidal storm surges.		1		
97	OF18	Relative Elevation in Watershed	In Google Earth, enable the Terrain layer (lower left menu) and open the NS_Watersheds Secondary KMZ file that accompanies this calculator. Then determine the AA's approximate elevation (bottom right, NOT the "eye alt"). Then move cursor around to determine the watershed's maximum and minimum elevation. Divide the AA's elevation by the (max-min).	0.94	[FA, NR, Sens, SFSv, WCv, WSv]
98	OF19	Water Quality Sensitive Watershed or Area	The AA is in a Protected Water Supply area (Designated Water Supply Area, Natural Watershed Municipal Surface Water Supply Area, or Municipal Water Supply Area) according to the provided KMZ overlay ("NS Protected Water Supply Areas"). Enter 1= yes, 0= no.	0	If an ACCDC report is available for this AA, it also may contain such information. [NRv]
99	OF20	Degraded Water Upstream	Sampling indicates a problem with concentrations of metals, hydrocarbons, nutrients, or other substances (excluding bacteria, acidic water, high temperatures) being present at levels harmful to aquatic life or humans, and:		May use existing data, or sample those waters as part of this wetland assessment. "Harmful" should be evaluated with regard to current federal or provincial water quality standards. [AM, FA, FR, NRv, PRv, SRv, STR, WBF, WBN]
100			The condition is present within the AA.	0	
101			The condition is present in waters within 1 km that flow into the AA, but has not been documented in the AA itself.	0	
102			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
103			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
104	OF21	Degraded Water Downstream	The problem described above is downslope from the AA, and:		May use existing data, or monitor waters as part of this wetland assessment. [NRv, PRv, SRv]
105			The condition is present within 1 km downslope and connected to the AA by a channel.	0	
106			The condition is present within 5 km downslope and connected to the AA by a channel, or within 1 km but not connected to the AA by a channel.	0	
107			Sampling during both low water periods and times with high runoff (storms, snowmelt) indicates no problems in either the AA or inflowing waters.	0	
108			Data are insufficient (no or inadequate sampling within 1 km, or condition exists only at >1 km upstream). This is the situation for nearly all wetlands in this region.	1	
109	OF22	Wetland as a % of Its Contributing Area (Catchment)	From a topographic map and field observations, estimate the approximate boundaries of the catchment (CA) of the entire wetland of which the AA may be only a part. Then adjust those boundaries if necessary based on your field observations of the surrounding terrain, and/or by using procedures described in the Manual. Divide the area of the wetland (not just the AA) by the approximate area of its catchment excluding the area of the wetland itself. When doing the calculation, if ponded water is adjacent to the wetland, include that in the wetland area. The result is:		Topographic maps may be viewed online at the National Atlas of Canada (Toporama): http://atlas.gc.ca/toporama/en/index.html [NR, PR, Sens, SR, WS]
110			<0.01, or catchment size unknown due to stormwater pipes that collect water from an indeterminate area.	0	
111			0.01 to 0.1.	0	
112			0.1 to 1.	0	
113			>1 (wetland is larger than its catchment (e.g., wetland with flat surrounding terrain and no inlet, or is entirely isolated by dikes, or is a raised bog).	1	
114	OF23	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 m upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, landslides, and other mostly-bare surface is about :		[FA, INV, NRv, PRv, SRv, STR, WCv, WSv]
115			<10%.	1	
116			10 to 25%.	0	
117			>25%.	0	

	A	B	C	D	E
118	OF24	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following: (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow (bedrock near surface) and/or have high runoff coefficients. This statement is:		[NRv, PRv, SRv, WSv]
119			Mostly true.	0	
120			Somewhat true.	0	
121			Mostly untrue.	1	
122	OF25	Aspect	The overland flow direction of most surface water (in streams, rivers, or runoff) that enters the AA is:		[AM, NR, SFS, WC, WS]
123			Northward (N, NE). north-facing contributing area.	0	
124			Southward (S, SW). south-facing contributing area.	0	
125			Other (E, SE, W, NW), or no detectable uphill slope or input channel (flat).	1	
126	OF26	Internal Flow Distance (Path Length)	The horizontal flow distance from the wetland's inlet to outlet is:		Identify inlets and outlets, if any, from topographic maps (use elevations to determine which are inlets and which are outlets) and augment by field inspection. With the Provincial Landscape Viewer, select Nova Scotia Topo as the Basemap. Also enable the layer Forestry-WAM Predicted Flow. Then measure the inlet-outlet distance. [NR, OE, PR, SR, WS]
127			<10 m.	0	
128			10 - 50 m.	0	
129			50 - 100 m.	0	
130			100 - 1000 m.	0	
131			1- 2 km.	0	
132			>2 km, or wetland lacks an inlet and outlet.	1	
133	OF27	Growing Degree Days	In Google Earth, open the KMZ file that accompanies this calculator, called NS_GrowingDegreeDays. Place your cursor over the AA and left-click. From the pop-up window, enter the GRIDCODE number in the next column.	2088	This layer was provided by Dr. Dan McKenney of the Canadian Forest Service [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WCv, WS]
134	OF28	Fish Access or Use	According to agency biologists and/or your own observations, the AA. <i>[Mark just the first choice that is true.]</i>		Regarding the last choice, if uncertain if an AA is fishless, consider the possibility its waters have been stocked. [AM, FA, FR, INV, WBF, WBN]
135			Is known to support rearing and/or spawning by Atlantic salmon or other anadromous species or eels. Go to Provincial Landscape Viewer>Wildlife>Significant Habitat>Species at Risk. Contact local fishery biologists, review the ACCDC report, and visit these websites: http://www.salmonatlas.com/atlanticsalmon/canada-east/index.1.html http://atlanticsalmonfederation.org/rivers/introduction.html	0	
136			Has not been documented to support Atlantic salmon rearing and/or spawning, but is connected to nearby waters likely to contain Atlantic salmon or other anadromous species or eels and is probably accessed by those during some conditions.	0	
137			Is probably is not accessed by any anadromous fish species but is known or likely to have other fish at least seasonally.	0	
138			Is known or likely to be fishless (e.g., too small, dry, and/or not accessible even temporarily, and not stocked).	1	
139	OF29	Species of Conservation Concern	Within the past 10 years, in the AA (or in its adjoining waters or wetland), qualified observers have documented <i>[mark all applicable]</i> :		Request information from ACCDC and/or conduct your own survey at an appropriate season using an approved protocol. For birds, also check eBird.org. NOTE for NS: If your WESP-AC is being completed for a Wetland Alteration Application to NS-ECC, your ACCDC results and any taxon-specific survey results must be submitted along with your WESP-AC results, and application. [AMv, EC, PHv, POLv, SBMv, Sens, WBFv, WBNv]
140			Presence of one or more of the plant species listed in the Plants_Rare worksheet of the accompanying SupplInfo file, or the AA is within a mapped Atlantic Coastal Plain Flora Buffer (go to Provincial Landscape Viewer> Wildlife> Special Management Practice Zones).	0	
141			Presence of one or more of the amphibian or reptile species (AM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
142			Presence of one or more of the waterbird species (WBF, WBN) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file.	0	
143			Presence of one or more of the nesting songbird or raptor species (SBM) of conservation concern as listed in the Wildlife_Rare worksheet of the accompanying SupplInfo file, during their nesting season (May-July for most species).	0	
144			None of the above, or no data.	1	
145	OF30	Important Bird Area (IBA)	In Google Earth, open the KMZ file that accompanies this calculator, called IBAs_Canada. The AA is all or part of an officially designated IBA. Enter 1= yes, 0= no.	0	The source of this layer, which should be checked periodically for updates, is: http://www.ibacanada.com/mapviewer.jsp?lang=EN [SBMv, WBFv, WBNv]

	A	B	C	D	E
146	OF31	Black Duck Nesting Area	In Google Earth, open the KMZ file that accompanies this calculator, called BlackDuck. Adjust its alignment and opacity. Determine the predicted density (pairs per 25 sq. km) of nesting American Black Duck in the AA's vicinity: <10 (enter 0), 10-20 (enter 1), 20-30 (enter 2), >30 (enter 3). If outside of region shown in map, change to blank .	1	This was provided by Dr. David Leske. [WBNv]
147	OF32	Wintering Deer or Moose Concentration Areas	If AA is on private land with no information, change to blank (not 0). Otherwise: With the Provincial Landscape Viewer, for Wintering Moose, go to Wildlife> Significant Habitat. For Mainland Moose Concentration Areas, go to Wildlife> Special Management Practice Zones. Enter: yes= 1, no= 0.	0	[SBM]
148	OF33	Other Conservation Designation	The AA is all or part of an area designated by government, First Nations, or the Nature Conservancy of Canada (NCC) for its exceptional ecological features or highly intact natural conditions. With Provincial Landscape Viewer, see Protected Areas. Enter: yes= 1, no= 0. If uncertain, consult NCC and agencies for more recent information.	0	See: https://novascotia.ca/parksandprotectedareas/plan/interactive-map/ [PU]
149	OF34	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, or enhance the wetland (excluding mitigation wetlands). Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank (not 0).	0	[PU]
150	OF35	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
151	OF36	Sustained Scientific Use	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area. Ask the property owner. Enter: yes= 1, no= 0. If no information, change to blank .		[PU]
152	OF37	Calcareous Region	The AA is NOT in a subregion that has been heavily exposed to acid precipitation. Enter "1" if true (green or yellow in map in Appendix A of the Manual). Enter "0" if false. If no information, change to blank .		[AM, FA, FR, INV, PH]
153	OF38	Ownership	Select the ONE ownership that covers the most of the AA. In Google Earth, open KMZ file called NS_CrownlandsUse more recent information if available.		"Private lands" may include those owned or leased by non-governmental organizations, e.g., charitable conservation land trusts, DUC, TNC. [PU, STR]
154			New timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles) are permanently prohibited. Includes many publicly-owned Protected Lands, and private lands under long-term (30+ year) legal agreements to maintain nearly-unaltered conditions.	0	
155			Ownership is public (e.g., municipal, Crown Reservations/Notations) but some or all of the above activities are allowed.	1	
156			Ownership is private but public access is allowed, and/or a shorter-term conservation easement (whether renewable or not) is in place.	0	
157			Ownership is private and owner does not allow access, or access permission unknown, and not a conservation easement.	0	

	A	B	C	D	E
1	Date: 21 Sept 2022		Site Identifier: Goose Harbour Lake Wind Farm, WL88	Investigator: RK MM	
Form F (Field). Non-tidal Wetland Data Form. WESP-AC version 2 for Nova Scotia. DIRECTIONS: Walk for no less than 10 minutes from the wetland edge towards its core, in the part of the AA that is proposed for alteration. If no alteration is proposed, walk in a portion that appears to be most representative of the wetland overall. Walk only where it is safe and legal to do so. Conduct the assessment only after reading the accompanying Manual and the Explanations column of the data form. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgeable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form will require 1-2 hours on a site. For a list of functions to which each question pertains, see the accompanying Interpretations form. For detailed descriptions of each WESP-AC model, see Appendix B of the accompanying Manual. Codes for functions and values are: WS= Water Storage & Delay, SFS= Stream Flow Support, WC= Water Cooling, SR= Sediment Retention & Stabilisation, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Nutrient Export, INV= Invertebrate Habitat, FA= Anadromous Fish Habitat, FR= Resident Fish Habitat, AM= Amphibian & Reptile Habitat, WBF= Feeding Waterbird Habitat, WBN= Nesting Waterbird Habitat, SBM= Songbird, Raptor, & Mammal Habitat, POL= Pollinator Habitat, PH= Native Plant Habitat, PU= Public Use & Recognition, EC= Ecological Condition, Sen= Wetland Sensitivity, STR= Stressors.					
2					
3	#	Indicators	Condition Choices	Data	Definitions/Explanations
4	F1	Wetland Type	Follow the key below and mark the ONE row that best describes MOST of the vegetated part of the AA:		Ericaceous shrubs are ones in the heather family (Ericaceae). Most have leathery evergreen leaves. They include rhododendron, azalea, swamp laurel, leatherleaf, Labrador tea, and others. Most require acidic soil. Although not in the family Ericaceae, sweetgale (<i>Myrica gale</i>) should be counted also. [AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
5			A. Moss and/or lichen cover more than 25% of the ground. Often dominated by ericaceous shrubs (e.g., Labrador tea) or other acid-tolerant plants (e.g., bog cranberry, pitcher plant, sundew, orchids). Substrate is mostly undecomposed peat. Choose between A1 and A2 and mark the choice with a 1 in their adjoining column. Otherwise go to B below.		
6			A1. Surface water is usually absent or, if present, pH is typically <4.5 and conductivity is usually <100 µS/cm (<64 ppm TDS). Trees are absent or nearly so. Sedge cover usually sparse or absent but cottongrass and/or lichen cover may be extensive, as well as cloudberry, lingonberry, sheep laurel, and a sedge (<i>Carex rariflora</i>). Wetland surface and surrounding landscape are seldom sloping and wetland often is domed (convex). Inlet and outlet channels are usually absent. If known, pH of peat is <4.0.	0	
7			A2. Not A1. Surface water, if present, has pH typically >4.5 and conductivity is usually >100 µS/cm (>64 ppm TDS). Sedge cover is usually extensive, and/or tree and tall shrub cover is extensive. Sometimes at toe of slope or edge of water body. An exit channel is usually present. Wetter than A1 and peat depth may be shallower (<2 m).	0	
8			B. Moss and/or lichen cover less than 25% of the ground. Soil is mineral or decomposed organic (muck). Choose between B1 and B2 and mark the choice with a 1 in their adjoining column:		
9			B1. Trees and shrubs taller than 1 m comprise more than 25% of the vegetated cover. Surface water is mostly absent or inundates the vegetation only seasonally (e.g., vernal pools or floodplain).	1	
10			B2. Not B1. Tree & tall shrubs comprise less than 25% of the vegetated cover. Vegetation is mostly herbaceous, e.g., cattail, bulrush, burreed, pond lily, horsetail. Surface water may be extensive and fluctuates seasonally, being either persistent or drying up partly or entirely.	0	
11	Reminder : For all questions, the AA should include all persistent waters in ponds smaller than 8 hectares (~283 m on a side) that are adjacent to the AA. The AA should also include part of the water area of adjacent ponded water larger than 8 ha and adjacent rivers wider than 20 m. Specifically, the AA should include the open water part adjacent to wetland vegetation and equal in width to the average width of that vegetated zone. Throughout this data form, "adjacent" is used synonymously with abutting, adjoining, bordering, contiguous -- and means no upland (manmade or natural) completely separates the described features along their directly shared edge. Features joined only by a channel are not necessarily considered to be adjacent -- a large portion of their edges must match. The features do not have to be hydrologically connected in order to be considered adjacent.				
12	F2	Wetland Types - Adjoining or Subordinate	If the AA is smaller than 1 ha, mark all other types that occupy more than 1% of the vegetated AA. If the AA is larger than 1 ha, mark all other types which are within or adjacent to the AA and occupy more than 1 ha, as visible from the AA or as interpreted from aerial imagery. Do not mark again the type marked in F1.		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, INV, SBM, WBF]
13			A1.	0	
14			A2.	0	
15			B1.	0	
16			B2.	0	

	A	B	C	D	E
17	F3	Woody Height & Form Diversity	Following EACH row below, indicate with a number code the percentage of the living vegetation in the AA which is occupied by that feature (6 if >95%, 5 if 75-95%, 4 if 50-75%, 3 if 25-50%, 2 if 5-25%, 1 if <5%, 0 if none). If the vegetated part of the AA is largely herbaceous (non-woody) vegetation, these percentages should not sum to 100%.		Deciduous shrubs in this region usually include buttonbush, Labrador tea, bayberry (<i>Morella</i>), huckleberry, cranberry, cloudberry, sweetgale, alder, willow, birch, ash, dogwood, and a few others. If you assigned a code of 3 or higher to any of the first four choices and the ground cover beneath the trees/shrubs is <25% moss, then question F1 might be "B1". [CS, INV, NR, PH, POL, SBM, Sens]
18			coniferous trees (may include tamarack) taller than 3 m.	4	
19			deciduous trees taller than 3 m.	0	
20			coniferous or ericaceous shrubs or trees 1-3 m tall not directly below the canopy of trees.	3	
21			deciduous shrubs or trees 1-3 m tall not directly below the canopy of trees.	0	
22			coniferous or ericaceous shrubs <1 m tall not directly below the canopy of taller vegetation.	2	
23			deciduous shrubs or trees <1 m tall (e.g., deciduous seedlings) not directly below the canopy of taller vegetation.	2	
24	<i>Note: If none of top 4 rows in F3 was marked 2 or greater, SKIP to F9 (N fixers).</i>				
25	F4	Dominance of Most Abundant Shrub Species	Determine which two woody plant species comprise the greatest portion of the low (<3 m) woody cover. Then choose one:		[PH, POL, SBM, Sens]
26			those species together comprise > 50% of such cover.	1	
27			those species together do not comprise > 50% of such cover.	0	
28	F5	Woody Diameter Classes	Mark ALL the types that comprise >5% of the woody canopy cover in the AA or >5% of the wooded areas (if any) along its upland edge (perimeter). The edge should include only the trees whose canopies extend into the AA.		Estimate the diameters at chest height. If small-diameter trees are overtopped (shaded) by larger ones, visualise a "subcanopy" at the average height of the smaller-dbh trees, to serve as a basis for the minimum 5% canopy requirement in this question. The trees and shrubs need not be wetland species. [AM, CS, POL, SBM, Sens, WBN]
29			coniferous, 1-9 cm diameter and >1 m tall.	1	
30			broad-leaved deciduous 1-9 cm diameter and >1 m tall.	1	
31			coniferous, 10-19 cm diameter.	1	
32			broad-leaved deciduous 10-19 cm diameter.	0	
33			coniferous, 20-40 cm diameter.	0	
34			broad-leaved deciduous 20-40 cm diameter.	0	
35			coniferous, >40 cm diameter.	0	
36			broad-leaved deciduous >40 cm diameter.	0	
37	F6	Height Class Interspersion	Follow the key below and mark the ONE row that best describes MOST of the AA:		[AM, INV, NR, PH, SBM, Sens]
38			A. Neither the vegetation taller than 1 m nor the vegetation shorter than that comprise >70% of the vegetated part of the AA. They <u>each</u> comprise 30-70%. Choose between A1 and A2 and mark the choice with a 1 in the adjoining column. Otherwise go to B below.		
39			A1. The two height classes are mostly scattered and intermixed throughout the AA.	1	
40			A2. Not A1. The two height classes are mostly in separate zones or bands, or in proportionately large clumps.	0	
41			B. Either the vegetation shorter than 1 m comprises >70% of the vegetated part of the AA, or the vegetation taller than that does. One size class might even be totally absent. Choose between B1 and B2 and mark the choice with a 1 in the adjoining column:		
42			B1. The less prevalent height class is mostly scattered and intermixed within the prevalent one.	0	
43			B2. Not B1. The less prevalent height class is mostly located apart from the prevalent one, in separate zones or clumps, or is completely absent.	0	
44	F7	Large Snags (Dead Standing Trees)	The number of large snags (diameter >20 cm) in the AA plus adjacent upland area within 10 m of the wetland edge is:		Snags are dead standing trees that often (not always) lack bark and foliage. Include only ones that are at least 2 m tall. [POL, SBM, WBN]
45			None, or fewer than 8/ hectare which exceed this diameter.	1	
46			Several (>8/hectare) and a pond, lake, or slow-flowing water wider than 10 m is within 1 km.	0	
47			Several (>8/hectare) but above not true.	0	
48	F8	Downed Wood	The number of downed wood pieces longer than 2 m and with diameter >10 cm, and not persistently submerged, is:		Exclude temporary "burn piles." [AM, INV, POL, SBM]
49			Few or none that meet these criteria.	1	
50			Several (>5 if AA is >5 hectares, less for smaller AAs) meet these criteria.	0	
51	F9	N Fixers	The percentage of the AA's vegetated cover that contains nitrogen-fixing plants (e.g., alder, sweetgale, clover, lupine, alfalfa, other legumes) is:		Do not include N-fixing algae or lichens. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
52			<1% or none.	0	
53			1-25% of the vegetated cover, in the AA or along its water edge (whichever has more).	1	
54			25-50% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
55			50-75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	
56			>75% of the vegetated cover, in the AA or along its water edge (whichever has more).	0	

	A	B	C	D	E
57	F10	Sphagnum Moss Extent	The cover of Sphagnum moss (or any moss that forms a dense cushion many centimeters thick), including the moss obscured by taller sedges and other plants rooted in it, is:		Exclude moss growing on trees and rocks. [CS, PH]
58			<5% of the vegetated part of the AA.	0	
59			5-25% of the vegetated part of the AA.	0	
60			25-50% of the vegetated part of the AA.	1	
61			50-95% of the vegetated part of the AA.	0	
62			>95% of the vegetated part of the AA.	0	
63	F11	% Bare Ground & Thatch	Consider the parts of the AA that lack surface water at the driest time of the growing season. Viewed from directly above the ground layer, the predominant condition in those areas at that time is:		Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is present under a tree or shrub canopy should be counted. Boulders count as bare ground. Wetlands with mineral soils and that are heavily shaded or are dominated by annual plant species tend to have more extensive areas that are bare during the early growing season. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens]
64			Little or no (<5%) <i>bare ground</i> is visible between erect stems or under canopy anywhere in the vegetated AA. Ground is extensively blanketed by dense thatch, moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	1	
65			Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0	
66			Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the AA.	0	
67			Other conditions.	0	
68			Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0	
69	F12	Ground Irregularity	Imagine the AA without any living vegetation. Excluding the portion of the AA that is always under water, the number of hummocks, small pits, raised mounds, animal burrows, ruts, gullies, natural levees, microdepressions, and other areas of peat or mineral soil that are raised or depressed >10 cm compared to most of the area within a few meters surrounding them is:		The depressions may be of human or natural origin. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
70			Few or none (minimal microtopography; <1% of the land has such features, or entire AA is always water-covered).	0	
71			Intermediate.	1	
72			Several (extensive micro-topography).	0	
73	F13	Upland Inclusions	Within the AA, inclusions of upland are:		[AM, NR, SBM]
74			Few or none.	0	
75			Intermediate (1 - 10% of vegetated part of the AA).	1	
76			Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).	0	
77	F14	Soil Texture	In parts of the AA that lack persistent water, the texture of soil in the uppermost layer is mostly: [<i>To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key (in Appendix A of the Manual).</i>]		[CS, NR, OE, PH, PR, Sens, SFS, WS]
78			Loamy : soils that may contain a little fine grit and do not make a "ribbon" longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	1	
79			Fines : includes silt, clay, silt, soils that make a ribbon longer than 2 cm when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
80			Deep Peat , to 40 cm depth or greater.	0	
81			Shallow Peat or organic <40 cm deep.	0	
82			Coarse : includes sand, loamy sand, gravel, cobble, soils that do not make a ribbon when moistened, rolled, squeezed, and extended between thumb and forefinger.	0	
83	F15	Shorebird Feeding Habitats	During any 2 consecutive weeks of the growing season, the extent of mudflats, bare unshaded saturated areas not covered by thatch, and unshaded waters shallower than 6 cm is: [Include also any area that is adjacent to the AA.]		This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
84			None, or <100 sq. m.	1	
85			100-1000 sq. m.	0	
86			1000 - 10,000 sq. m.	0	
87			>10,000 sq. m.	0	
88	F16	Herbaceous % of Vegetated Wetland	In aerial ("ducks eye") view, the maximum annual cover of herbaceous vegetation (all non-woody plants except moss) is:		[AM, WBF, WBN]
89			<5% of the vegetated part of the AA or <0.01 hectare (whichever is less). Mark "1" here and SKIP to F20 (Invasive Plant Cover).	0	
90			5-25% of the vegetated part of the AA.	0	
91			25-50% of the vegetated part of the AA.	1	
92			50-95% of the vegetated part of the AA.	0	
93			>95% of the vegetated part of the AA.	0	

	A	B	C	D	E
94	F17	Forb Cover	Within parts of the AA having herbaceous cover (excluding SAV), the areal cover of forbs reaches an annual maximum of:		Forbs are flowering plants. Do not include grasses, sedges, cattail, other graminoids, ferns, horsetails, or others that lack showy flowers. [POL]
95	<5% of the herbaceous part of the AA.		0		
96	5-25% of the herbaceous part of the AA.		0		
97	25-50% of the herbaceous part of the AA.		1		
98	50-95% of the herbaceous part of the AA.		0		
99	>95% of the herbaceous part of the AA.		0		
100	F18	Sedge Cover	Sedges (<i>Carex</i> spp.) and cottongrass (<i>Eriophorum</i> spp.) occupy:		[CS]
101	<5% of the vegetated area, or none.		0		
102	5-50% of the vegetated area.		1		
103	50-95% of the vegetated area.		0		
104	>95% of the vegetated area.		0		
105	F19	Dominance of Most Abundant Herbaceous Species	Determine which two herbaceous species comprise the greatest portion of the herbaceous cover (excluding mosses and floating-leaved aquatic plants). Then choose one of the following:		For this question, include ferns as well as graminoids and forbs. [EC, INV, PH, POL, Sens]
106	those species together comprise > 50% of the areal cover of herbaceous plants at any time during the year.		0		
107	those species together do not comprise > 50% of the areal cover of herbaceous plants at any time during the year.		1		
108	F20	Invasive Plant Cover	How extensive is the cover of invasive plant species in the AA? For species, see Plants_invasive worksheet in the accompanying SupplInfo file.		[EC, PH, POL, Sens]
109	invasive species appear to be absent in the AA, or are present only in trace amount (a few individuals).		1		
110	invasive species are present in more than trace amounts, but comprise <5% of herbaceous cover (or woody cover, if the invasives are woody).		0		
111	invasive species comprise 5-20% of the herb cover (or woody cover, if the invasives are woody).		0		
112	invasive species comprise 20-50% of the herb cover (or woody cover, if the invasives are woody).		0		
113	invasive species comprise >50% of the herb cover (or woody cover, if the invasives are woody).		0		
114	F21	Invasive Cover Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 3 m upslope from the wetland) that is occupied by invasive plant species is:		If a plant cannot be identified to species (e.g., winter conditions) but its genus contains an exotic species, assume the unidentified plant to also be exotic. If vegetation is so senesced that exotic species cannot be identified, answer "none". [PH, STR]
115	none of the upland edge (invasives apparently absent), or AA has no upland edge.		1		
116	some (but <5%) of the upland edge.		0		
117	5-50% of the upland edge.		0		
118	most (>50%) of the upland edge.		0		
119	F22	Fringe Wetland	During most of the year, open water within or adjacent to the vegetated part of the wetland is much wider than the maximum width of the vegetated zone within the wetland. Enter "1" if true, "0" if false.	0	[WBF, WBN, WCv]
120	F23	Lacustrine Wetland	The vegetated part of the AA is within or adjacent to a body of non-tidal standing open water whose size exceeds 8 hectares during most of a normal year.	0	[FR, PR, PU, WBF, WBN]
121	F24	% of AA Without Surface Water	The percentage of the AA that <u>never</u> contains <u>surface</u> water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:		1 hectare is 10,000 sq. m or about 2.5 acres. It could have dimensions of 100 m by 100 m, 1000 m by 10 m, or similar. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC]
122	<1% . In other words, all or nearly all of the AA is covered by water permanently or at least seasonally.		0		
123	1-25% of the AA, or <1% but >0.01 ha never contains surface water.		0		
124	25-50% of the AA never contains surface water.		0		
125	50-75% of the AA never contains surface water.		0		
126	75-99% of the AA never contains surface water, OR >99% and there is at least one persistently ponded water body larger than 1 ha in the AA.		1		
127	99-100%. AND there is no persistently ponded water body larger than 1 ha within the AA. Enter "1" and SKIP to F42 (Channel Connection).		0		

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128	F25	% of AA with Persistent Surface Water	Identify the parts of the AA that still contain surface water (flowing or ponded, open or hidden beneath vegetation) even during the driest times of a normal year, i.e., when the AA's surface water is at its lowest annual level. At that time, the percentage of the AA that still contains surface water is:		If you are unable to determine the condition at the driest time of year, ask the land owner or neighbors about it if possible. Indicators of persistence may include fish, some dragonflies, beaver, and muskrat. [AM, CS, FA, FR, INV, NR, POL, PR, SBM, WBF, WBN]
129	None. The AA dries up completely (no water in channels either) or never has surface water during most years. SKIP to F27.		0		
130	1-20% of the AA.		1		
131	20-50% of the AA.		0		
132	50-95% of the AA.		0		
133	>95% of the AA. True for many fringe wetlands.	0			
134	F26	% of Summertime Water that Is Shaded	At mid-day during the warmest time of year, the area of surface water <u>within</u> the AA that is shaded by vegetation and other features that are <u>within</u> the AA at that time is:		[FA, WC]
135	<5% of the water is shaded, or no surface water is present then.		0		
136	5-25% of the water is shaded.		1		
137	25-50% of the water is shaded.		0		
138	50-75% of the water is shaded.		0		
139	>75% of the water is shaded.	0			
140	F27	% of AA that is Flooded Only Seasonally	The percentage of the AA's area that is between the annual high water and the annual low water (surface water) is:		Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of upland and annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by multiplying by 2 the bankful height and visualising where that would intercept the land along the river. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
141	None, or <0.01 hectare and <1% of the AA. SKIP to F29.		0		
142	1-20% of the AA, or <1% but >0.01 ha.		0		
143	20-50% of the AA.		0		
144	50-95% of the AA.		0		
145	>95% of the AA.	1			
146	F28	Annual Water Fluctuation Range	The annual fluctuation in surface water level within most of the parts of the AA that contain surface water at least temporarily is:		Look for flood marks (see above). Because the annual range of water levels is difficult to estimate without multiple visits, consider asking the land owner or neighbors about it. [AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
147	<10 cm change (stable or nearly so).		0		
148	10 cm - 50 cm change.		1		
149	0.5 - 1 m change.		0		
150	1-2 m change.		0		
151	>2 m change.	0			
152	Is the AA plus adjacent ponded water smaller than 0.01 hectare (about 10m x 10m, or 1m x 100 m)? If so, enter "1" in column D and SKIP TO F42 (Connection).			0	
153	F29	Predominant Depth Class	During most of the time when surface water is present during the growing season, its depth, averaged over the entire inundated part of the AA, is:		If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the spatial median depth that occurs during most of that time, even if inundation is only seasonal or temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth of the most persistently inundated part of the wetland. Include surface water in channels and ditches as well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC]
154	<10 cm deep (but >0).		1		
155	10 - 50 cm deep.		0		
156	0.5 - 1 m deep.		0		
157	1 - 2 m deep.		0		
158	>2 m deep. True for many fringe wetlands.	0			
159	F30	Depth Classes - Evenness of Proportions	When present, surface water in most of the AA usually consists of (select one):		Estimate these proportions by considering the gradient and microtopography of the site. [FR, INV, WBF, WBN]
160	One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).		0		
161	One depth class that comprises 50-90% of the AA's inundated area.		0		
162	Neither of above. There are 3 or more depth classes and none occupy >50%.		1		
163	F31	% of Water That Is Ponded (not Flowing)	During most times when surface water is present, the percentage that is (1) ponded (stagnant, or flows so slowly that fine sediment is not held in suspension) AND (2) is likely to be deeper than 0.5 m in some places, is:		Nearly all wetlands with surface water have some ponded water. [AM, CS, INV, NR, OE, PR, Sens, SR, WBF, WBN, WC, WS]
164	<5% of the water, or it occupies <100 sq.m cumulatively. Nearly all the surface water is flowing. SKIP to F34.		1		
165	5-30% of the water.		0		
166	30-70% of the water.		0		
167	70-95% of the water.		0		
168	>95% of the water.	0			

	A	B	C	D	E
169	F32	Ponded Open Water - Minimum Size	During most of the growing season, the largest patch of open water that is ponded and is in or bordering the AA is >0.01 hectare (about 10 m by 10 m) and mostly deeper than 0.5 m. If true enter "1" and continue. If false, enter "0" and SKIP to F41 (Floating Algae & Duckweed).	0	Open water is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it.
170	F33	% of Ponded Water that is Open	In ducks-eye aerial view, the percentage of the ponded water that is open (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:		[AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC]
171			None, or <1% of the AA and largest pool occupies <0.01 hectares. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
172			1-4% of the ponded water. Enter "1" and SKIP to F41 (Floating Algae & Duckweed).	0	
173			5-30% of the ponded water.	0	
174			30-70% of the ponded water.	0	
175			70-99% of the ponded water.	0	
176			100% of the ponded water.	0	
177	F34	Width of Vegetated Zone within Wetland	At the time during the growing season when the AA's water level is lowest, the average width of vegetated area <u>in the AA</u> that separates adjoining uplands from open water within the AA is:		"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. [AM, CS, NR, OE, PH, PR, SBM, Sens, SR, WBN]
178			<1 m.	0	
179			1 - 9 m.	0	
180			10 - 29 m.	0	
181			30 - 49 m.	0	
182			50 - 100 m.	0	
183			> 100 m, or open water is absent at that time.	1	
184	F35	Flat Shoreline Extent	During most of the part of the growing season when water is present, the percentage of the AA's water edge length that is nearly flat (a slope less than about 5% measured within 5 m landward of the water) is:		If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
185			<1% of the water edge.	0	
186			1-25% of the water edge.	0	
187			25-50% of the water edge.	0	
188			50-75% of the water edge.	0	
189			>75% of the water edge.	1	
190	F36	Robust Emergents	The percentage of the emergent vegetation cover in the AA that is cattail (<i>Typha</i> spp.), common reed (<i>Phragmites</i>), or tall (>1m) bulrush is:		Emergent vegetation is herbaceous plants whose stems are partly above and partly below the water surface during most of the time water is present. [WBN]
191			<1% of the emergent vegetation, or emergent vegetation is absent. SKIP to F38.	1	
192			1-25% of the emergent vegetation.	0	
193			25-75% of the emergent vegetation.	0	
194			>75% of the emergent vegetation.	0	
195	F37	Interspersion of Emergents & Open Water	During most of the part of the growing season when water is present, the spatial pattern of emergent vegetation within the water is mostly:		[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
196			Scattered. More than 30% of such vegetation forms small islands or corridors surrounded by water.	0	
197			Intermediate.	0	
198			Clumped. More than 70% of such vegetation is in bands along the wetland perimeter or is clumped at one or a few sides of the surface water area.	0	
199	F38	Persistent Deepwater Area	If the deepest patch of surface water (flowing or ponded) in or directly adjacent to the AA is mostly deeper than 0.5 m for >2 weeks during the growing season, enter "1" and continue. If not, enter "0" and SKIP to F42 (Connection).	0	
200	F39	Non-vegetated Aquatic Cover	During most of the growing season and in waters deeper than 0.5 m, the cover for fish, aquatic invertebrates, and/or amphibians that is provided NOT by living vegetation, but by accumulations of dead wood and undercut banks is:		For this question, consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are unreliable so should not be attempted. [AM, FA, FR, INV]
201			Little or none.	0	
202			Intermediate.	0	
203			Extensive.	0	
204	F40	Isolated Island	The AA contains (or is part of) an island or beaver lodge within a lake, pond, or river, and is isolated from the shore by water depths >1 m on all sides during an average June. The island may be solid, or it may be a floating vegetation mat that is sufficiently large and dense to support a waterbird nest.	0	[WBN]
205	F41	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed are likely to cover >50% of the AA's otherwise-unshaded water surface, or blanket >50% of the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	[EC, PR, WBF]

	A	B	C	D	E
206	F42	Channel Connection & Outflow Duration	The most persistent surface water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and a downslope stream network is: [Note: If the AA represents only part of a wetland, answer this according to whichever is the least permanent surface connection: the one between the AA and the rest of the wetland, or the surface connection between the wetland and the downslope stream network.]		Consider the connection regardless of whether the surface water is frozen. The "downslope stream network" could consist of ditches, rivers, ponds, or lakes which eventually connect to the ocean. If this cannot be determined while visiting the AA, consult topographic maps perhaps by viewing these online with Toporama (http://atlas.nrcan.gc.ca/toporama/en/index.html) [CS, FA, FR, NR, OE, PR, Sens, SFS, SR, WCv, WS]
207	Persistent (surface water flows out for >9 months/year).		0		
208	Seasonal (surface water flows out for 14 days to 9 months/year, not necessarily consecutive).		0		
209	Temporary (surface water flows out for <14 days, not necessarily consecutive).		0		
210	None -- but maps show a stream network downslope from the AA and within a distance that is less than the AA's length. SKIP to F47 (pH Measurement).		0		
211	No surface water flows out of the wetland except possibly during extreme events (<once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. SKIP to F47 (pH Measurement).		1		
212	F43	Outflow Confinement	During major runoff events, in the places where surface water exits the AA or connected waters nearby, the water:		"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS, NR, OE, PR, Sens, SR, STR, WS]
213	Mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not appear to drain the wetland artificially during most of the growing season.		0		
214	Leaves through natural exits (channels or diffuse outflow), not mainly through artificial or temporary features.		0		
215	Is exported more quickly than usual due to ditches or pipes within the AA or connected to its outlet, or within 10 m of the AA's edge, which drain the wetland artificially, or water is pumped out of the AA.		0		
216	F44	Tributary Channel	At least once annually, surface water from a tributary channel that is >100 m long moves into the AA. Or, surface water from a larger permanent water body adjacent to the AA spills into the AA. If it enters only via a pipe, that pipe must be fed by a mapped stream or lake further upslope. If no, SKIP to F47 (pH Measurement).	0	If inlet tributaries cannot be searched for due to inaccessibility of part of the AA, follow suggestions in F42 above. [NRv, PH, PRv, SRv]
217	F45	Input Water Temperature	Based on lack of shade, water source characteristics, or actual temperature measurements, the inflow is likely to be warmer than surface water in the AA during part of most years. Enter 1= yes, 0= no.	0	[WCv]
218	F46	Throughflow Resistance	During its travel through the AA at the time of peak annual flow, water arriving in channels: [select only the ONE encountered by most of the incoming water].		[FA, FR, INV, NR, OE, PR, SR, WS]
219	Does not bump into many plant stems as it travels through the AA. Nearly all the water continues to travel in unvegetated (often incised) channels that have minimal contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.		0		
220	Bumps into herbaceous vegetation but mostly remains in fairly straight channels.		0		
221	Bumps into herbaceous vegetation and mostly spreads throughout, or is in widely meandering, multi-branched, or braided channels.		0		
222	Bumps into tree trunks and/or shrub stems but mostly remains in fairly straight channels.		0		
223	Bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).		0		
224	F47	pH Measurement	The pH in most of the AA's surface water:		Preferably, measure this in larger areas of ponded surface water within the AA, or in streams that have passed through (not along) most of the AA. Unless surface water is completely absent, do not dig holes or make depressions in peat in order to provide water for this measurement. Avoid measuring near roads or in puddles formed only by recent rain. [AM, FA, FR, NR, WBF, PH, PR, Sens, WBF, WBN]
225	Was measured, and is: [enter the reading in the column to the right.]				
226	Was not measured but surface water is present and is darkly tea-coloured. Or if no surface water, then mosses and plants that indicate peatland (e.g., Labrador tea) are prevalent. Enter "1".		0		
227	Neither of above. Enter "1".		1		
228	F48	TDS and/or Conductivity	The TDS (total dissolved solids) or conductivity off the AA's surface water is: (select the first true row with information):		See above for measurement guidance. [FR, INV, NRv, PH, PRv, Sens]
229	TDS is: [Enter the reading in ppm or mg/L in the column to the right, if measured, or answer next row.]				
230	Conductivity is [Enter the reading in µS/cm in the column to the right.]				
231	Was not measured, but plants that indicate saline conditions cover much of the vegetated AA. Enter "1".		0		
232	Neither of above		1		
233	F49	Beaver Probability	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
234	Evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		0		
235	Likely based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.		0		
236	Unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed.		1		

	A	B	C	D	E
237	F50	Groundwater Strength of Evidence	Select first applicable choice:		Adhere to these criteria strictly -- do not use personal judgment based on fen conditions, pH, or other evidence. Consult topographic maps to detect breaks in slope described here. Rust deposits associated with groundwater seeps may be most noticeable as orange discoloration in ice formations along streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS]
238			Springs are known to be present within the AA, or if groundwater levels have been monitored, that has demonstrated that groundwater primarily discharges to the wetland for longer periods during the year than periods when the wetland recharges the groundwater.	0	
239			Most of the AA has a slope of >5%, or is very close to the base of a natural slope longer than 100 and much steeper than the slope of the AA, AND the pH of surface water, if known, is >5.5.	0	
240			Neither of above is true, although some groundwater may discharge to or flow through the AA. Or groundwater influx is unknown.	1	
241	F51	Internal Gradient	The gradient along most of the flow path within the AA is:		This is not the same as the shoreline slope. It is the elevational difference between the AA's inlet and outlet, divided by the flow-distance between them and converted to percent. If available, use a clinometer to measure this. Free clinometer apps can be downloaded to smartphones. If the wetland is large (longer than ~1 km), this may be estimated using Google Earth to determine the minimum and maximum elevation within the AA, then dividing by length and multiplying by 100. [CS, NR, OE, PR, SR, WBF, WBN, WS]
242			<2% or the AA has no surface water outlet (not even seasonally).	0	
243			2-5%.	1	
244			6-10%.	0	
245			>10%.	0	
246	Note for the next three questions: If the AA lacks an upland edge, evaluate based on the AA's entire perimeter, and moving outward into whatever areas are adjacent. In many situations, these questions are best answered by measuring from aerial images.				
247	F52	Vegetated Buffer as % of Perimeter	Within a zone extending 30 m laterally from the AA's edge with upland and/or other wetlands, the percentage that contains perennial vegetation cover (except lawns, row crops, heavily grazed land, conifer plantations) is:		[AM, FA, FR, INV, NRv, PH, POL, PRv, SBM, Sens, SRv, STR, WBN]
248			<5%.	0	
249			5 to 30%.	1	
250			30 to 60%.	0	
251			60 to 90%.	0	
252			>90%, or all the area within 30 m of the AA edge is other wetlands. SKIP to F55.	0	
253	F53	Type of Cover in Buffer	Within 30 m upslope of where the wetland transitions to upland, the upland land cover that is NOT perennial vegetation is mostly (mark ONE):		[AM, FA, INV, NRv, PH, POL, SBM, STR, WBN]
254			Impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
255			Bare or nearly bare pervious surface or managed vegetation, e.g., lawn, row crops, unpaved road, dike, landslide.	1	
256	F54	Buffer Slope	The steepest and/or most disturbed part of the upland area that is within 30 m of the wetland and occupies >10% of that upland area has a percent slope of:		[NRv, PRv, Sens, SRv]
257			<1% (flat -- almost no noticeable slope) or all the area within 30 m of the AA edge is other wetlands.	0	
258			2-5%.	1	
259			5-30%.	0	
260			>30%.	0	
261	F55	Cliffs or Steep Banks	In the AA or within 100 m, there are elevated terrestrial features such as cliffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 2 m nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	0	Do not include upturned trees as potential den sites. [POL, SBM]
262	F56	New or Expanded Wetland	Human actions within or adjacent to the AA have persistently expanded a naturally occurring wetland or created a wetland where there previously was none (e.g., by excavation, impoundment):		Determine this using historical aerial photography, old maps, soil maps, or permit files as available [CS, NR, OE, PH, Sens]
263			No.	0	
264			Yes, and created or expanded 20 - 100 years ago.	1	
265			Yes, and created or expanded 3-20 years ago.	0	
266			Yes, and created or expanded within last 3 years.	0	
267			Yes, but time of origin or expansion unknown.	0	
268			Unknown if new or expanded within 20 years or not.	0	
269	F57	Burn History	More than 1% of the AA's previously vegetated area:		Look for charred soil or stumps (in multiple widely-spaced locations) or ask landowner. [CS, PH, STR]
270			Burned within past 5 years.	0	
271			Burned 6-10 years ago.	0	
272			Burned 11-30 years ago.	0	
273			Burned >30 years ago, or no evidence of a burn and no data.	1	

	A	B	C	D	E
274	F58	Visibility	The maximum percentage of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 100 m of the AA (select one) is:		[PU, STR, WBFv]
275			<25%.	0	
276			25-50%.	0	
277			>50%.	1	
278	F59	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select ALL statements that are true of the AA as it currently exists:		[PU, STR]
279			For an average person, walking is physically possible <u>in</u> (not just near) >5% of the AA during most of the growing season, e.g., free of deep water and dense shrub thickets.	1	
280			Maintained roads, parking areas, or foot-trails are within 10 m of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0	
281			Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0	
282	F60	Unvisited Core Area	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [<i>Note: Only include the part actually walked or driven (not simply viewed from) with a vehicle or boat. Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 30 m of the wetland edge. In that case include only the area occupied by the trail.</i>]		[AM, FAv, FRv, PH, PU, SBM, STR, WBF, WBN]
283			<5% and no inhabited building is within 100 m of the AA.	0	
284			<5% and inhabited building is within 100 m of the AA.	0	
285			5-50% and no inhabited building is within 100 m of the AA.	0	
286			5-50% and inhabited building is within 100 m of the AA.	0	
287			50-95%, with or without inhabited building nearby.	0	
288			>95% of the AA with or without inhabited building nearby.	1	
289	F61	Frequently Visited Area	The part of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [<i>See note above.</i>]		[AM, PH, PU, SBM, STR, WBF, WBN]
290			<5%. If F60 was answered ">95%" (mostly never visited), SKIP to F64.	1	
291			5-50%.	0	
292			50-95%.	0	
293			>95% of the AA.	0	
294	F62	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on soil within nearly all of the AA when the soil is unfrozen. Enter "1" if true.	0	[PH, PU]
295	F63	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorised boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	0	[AM, PU, WBF, WBN]
296	F64	Consumptive Uses (Provisioning Services)	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select ALL that apply.		[FAv, FRv, WBFv]
297			Low-impact commercial timber harvest (e.g., selective thinning).	0	
298			Commercial or traditional-use harvesting of native plants, their fruits, or mushrooms.	0	
299			Waterfowl hunting.	0	
300			Fishing.	0	
301			Trapping of furbearers.	0	
302			None of the above.	1	
303	F65	Domestic Wells	The closest wells or water bodies that currently provide drinking water are:		[NRv]
304			Within 0-100 m. of the AA.	0	
305			100-500 m. away.	0	
306			>500 m. away, or no information.	1	
307	F66	Calcareous Fen	The AA is, or is part of, a calcareous fen. See the Plants_Calcar worksheet in the accompanying SuppInfo file for list of plant indicators (calciphiles). Enter 1 if more than two Strong or more than five Moderate calciphile species are present; otherwise enter 0, but if not able to identify those and no information, change to blank .		[PH, PR]

Investigator: RK MM	Site Identifier: Goose Harbour Lake Wind Farm, Wetland 88	Date: 21 Sept 2022
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Stressor (S) Data Form for Non-Tidal Wetlands. WESP-AC for Nova Scotia version 2.

				Data	
S1	Aberrant Timing of Water Inputs				
	<i>In the last column, place a check mark next to any item that is likely to have caused the timing of water inputs (but not necessarily their volume) to shift by hours, days, or weeks, becoming either more muted (smaller or less frequent peaks spread over longer times, more temporal homogeneity of flow or water levels) or more flashy (larger or more frequent spikes but over shorter times). [FA, FR, INV, PH, STR]</i>				
	Stormwater from impervious surfaces that drains directly to the wetland.				
	Water subsidies from wastewater effluent, septic system leakage, snow storage areas, or irrigation.				
	Regular removal of surface or groundwater for irrigation or other consumptive use.				
	Flow regulation in tributaries or water level regulation in adjoining water body, or other control structure at water entry points that regulates inflow to the wetland.				
	A dam, dike, levee, weir, berm, or fill -- within or downgradient from the wetland -- that interferes with surface or subsurface flow in/out of the AA (e.g., road fill, wellpads, pipelines).				
	Excavation within the wetland, e.g., dugout, artificial pond, dead-end ditch.				
	Artificial drains or ditches in or near the wetland.				
	Accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level).				
	Logging within the wetland.				
	Subsidence or compaction of the wetland's substrate as a result of machinery, livestock, fire, drainage, or off road vehicles.				
	Straightening, ditching, dredging, and/or lining of tributary channels.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items had no measurable effect on the timing of water conditions in any part of the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of timing shift within the wetland:	>95% of wetland.	5-95% of wetland.	<5% of wetland.	0
	When most of the timing shift began:	<3 yrs ago.	3-9 yrs ago.	10-100 yrs ago.	0
	<i>Score the following 2 rows only if the altered inputs began within past 10 years, and only for the part of the wetland that experiences those.</i>				
	Input timing now vs. previously:	Shift of weeks.	Shift of days.	Shift of hours or minutes.	0
	Flashiness or muting:	Became very flashy or controlled.	Intermediate.	Became mildly flashy or controlled.	0
Sum=				0	
Stressor subscore=				0.00	

S2	Accelerated Inputs of Contaminants and/or Salts				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of contaminants or salts to the AA. [AM, FA, PH, POL, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills, industrial facilities.				
	Metals & chemical wastes from mining, shooting ranges, snow storage areas, oil/ gas extraction, other sources (download many locations from National Pollutant Release Inventory and view KMZ overlay in Google Earth. https://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=B85A1846-1)				
	Road salt.				
	Spraying of pesticides, as applied to lawns, croplands, roadsides, or other areas in the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly higher levels of contaminants and/or salts, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Usual toxicity of most toxic contaminants:	Industrial effluent, mining waste, unmanaged landfill.	Cropland, managed landfill, pipeline or transmission rights-of-way.	Low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	
S3	Accelerated Inputs of Nutrients				
	<i>In the last column, place a check mark next to any item -- occurring in either the wetland or its CA -- that is likely to have accelerated the inputs of nutrients to the wetland. [NRv, PRv, STR]</i>				
	Stormwater or wastewater effluent (including failing septic systems), landfills.				
	Fertilizers applied to lawns, ag lands, or other areas in the CA.				
	Livestock, dogs.				
	Artificial drainage of upslope lands.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly more nutrients, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Type of loading:	High density of unmaintained septic, some types of industrial sources.	Moderate density septic, cropland, secondary wastewater treatment plant.	Livestock, pets, low density residential.	0
	Frequency & duration of input:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0
AA proximity to main sources (actual or potential):	0 - 15 m.	15-100 m. or in groundwater.	In more distant part of contributing area.	0	
			Sum=	0	
			Stressor subscore=	0.00	

S4	Excessive Sediment Loading from Contributing Area				
	<i>In the last column, place a check mark next to any item present in the CA that is likely to have elevated the load of waterborne or windborne sediment reaching the wetland from its CA. [FA, FR, INV, PH, SRv, STR]</i>				
	Erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fires.				
	Erosion from construction, in-channel machinery in the CA.				
	Erosion from off-road vehicles in the CA.				
	Erosion from livestock or foot traffic in the CA.				
	Stormwater or wastewater effluent.				
	Sediment from road sanding, gravel mining, other mining, oil/ gas extraction.				
	Accelerated channel downcutting or headcutting of tributaries due to altered land use.				
	Other human-related disturbances within the CA.				
	<i>If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not cumulatively add significantly more sediment or suspended solids to the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Erosion in CA:	Extensive evidence, high intensity.*	Potentially (based on high-intensity* land use) or scattered evidence.	Potentially (based on low-intensity* land use) with little or no direct evidence.	0
	Recentness of significant soil disturbance in the CA:	Current & ongoing.	1-12 months ago.	>1 yr ago.	0
Duration of sediment inputs to the wetland:	Frequent and year-round.	Frequent but mostly seasonal.	Infrequent & during high runoff events mainly.	0	
AA proximity to actual or potential sources:	0 - 15 m.	15-100 m.	In more distant part of contributing area.	0	
* high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erosion with or without veg removal; low-intensity= veg removal only with little or no apparent erosion or disturbance of soil or sediment.					
			Sum=	0	
			Stressor subscore=	0.00	

S5	Soil or Sediment Alteration Within the Assessment Area				
	<i>In the last column, place a check mark next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil. Consider only items occurring within past 100 years or since wetland was created or restored (whichever is less). [CS, INV, NR, PH, SR, STR]</i>				
	Compaction from machinery, off-road vehicles, livestock, or mountain bikes, especially during wetter periods.				
	Leveling or other grading not to the natural contour.				
	Tillage, plowing (but excluding disking for enhancement of native plants).				
	Fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland.				
	Excavation.				
	Ditch cleaning or dredging in or adjacent to the wetland.				
	Boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments.				
	Artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments.				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of altered soil:	>95% of wetland or >95% of its upland edge (if any).	5-95% of wetland or 5-95% of its upland edge (if any).	<5% of wetland and <5% of its upland edge (if any).	
	Recentness of significant soil alteration in wetland:	Current & ongoing.	1-12 months ago.	>1 yr ago.	
Duration:	Long-lasting, minimal veg recovery.	Long-lasting but mostly revegetated.	Short-term, revegetated, not intense.		
Timing of soil alteration:	Frequent and year-round.	Frequent but mostly seasonal.	Mainly during one-time or scattered events.		
			Sum=	0	
			Stressor subscore=	0.00	

Assessment Area (AA) Results:

Wetland ID: Goose Harbour Lake Wind Farm, Wetland 88

Date: Sept 21, 2022

Observer: Rohan Kariyawansa & Madeline Maher

Latitude & Longitude (decimal degrees): 45.57029444 & 61.43326111

Scores will appear below after data are entered in worksheets OF, F, and S.
See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	8.22	Higher	10.00	Higher	8.08	4.70
Stream Flow Support (SFS)	0.00	Lower	0.00	Lower	0.00	0.00
Water Cooling (WC)	6.15	Higher	0.00	Lower	4.10	0.00
Sediment Retention & Stabilisation (SR)	10.00	Higher	1.36	Moderate	10.00	0.67
Phosphorus Retention (PR)	10.00	Higher	0.00	Lower	10.00	0.00
Nitrate Removal & Retention (NR)	10.00	Higher	6.00	Moderate	10.00	6.00
Carbon Sequestration (CS)	2.75	Lower			6.49	
Organic Nutrient Export (OE)	7.66	Higher			5.01	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	9.06	Higher	3.92	Moderate	7.19	3.36
Amphibian & Turtle Habitat (AM)	4.68	Moderate	4.04	Moderate	5.58	5.09
Waterbird Feeding Habitat (WBF)	5.57	Moderate	4.17	Moderate	4.24	4.17
Waterbird Nesting Habitat (WBN)	3.61	Moderate	3.33	Moderate	2.62	3.33
Songbird, Raptor, & Mammal Habitat (SBM)	8.86	Higher	3.33	Moderate	7.71	3.33
Pollinator Habitat (POL)	7.79	Moderate	3.33	Moderate	6.46	3.33
Native Plant Habitat (PH)	3.97	Moderate	5.83	Moderate	5.49	5.83
Public Use & Recognition (PU)			3.52	Moderate		2.71
Wetland Sensitivity (Sens)			10.00	Higher		5.12
Wetland Ecological Condition (EC)			8.26	Higher		9.17
Wetland Stressors (STR) (higher score means more stress)			8.56	Higher		4.29
Summary Ratings for Grouped Functions:						
HYDROLOGIC Group (WS)	8.22	Higher	10.00	Higher	8.08	4.70
WATER QUALITY SUPPORT Group (max+avg/2 of SR, PR, NR, CS)	9.09	Higher	4.23	Moderate	9.56	4.11
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC)	7.39	Higher	2.62	Lower	5.63	2.24
AQUATIC HABITAT Group (max+avg/2 of FA, FR, AM, WBF, WBN)	4.17	Moderate	3.24	Moderate	4.03	3.81
TRANSITION HABITAT Group (max+avg/2 of SBM, PH, POL)	7.87	Higher	5.00	Lower	7.13	5.00
WETLAND CONDITION (EC)			8.26	Higher		9.17
WETLAND RISK (average of Sensitivity & Stressors)			9.28	Higher		4.70

NOTE: A score of 0 does not mean the function or benefit is absent from the wetland. It means only that this wetland has a capacity that is equal or less than the lowest-scoring one, for that function or benefit, from among all the NS calibration wetlands that were assessed previously.

NOVA SCOTIA - Functional WSS Interpretation Tool

Function-Benefit Product (FBP)	FBP SCORE	FBP SCORE CATEGORY
SUPPORT SUPERGROUP - HYDROLOGIC	82.17080351	High
SUPPORT SUPERGROUP - WATER QUALITY SUPPORT	38.43595294	Low
SUPPORT SUPERGROUP - AQUATIC SUPPORT	19.3319666	Low
HABITAT SUPERGROUP - AQUATIC HABITAT	13.49636399	Low
HABITAT SUPERGROUP - TRANSITION HABITAT	39.32506112	Low

3a. Functional WSS Determination: Automatic Method

Habitat Rule Satisfied? NO
 Support Rule Satisfied? NO
 Habitat/Support Hybrid Rule Satisfied? NO

CONCLUSION: **Site is not a WSS**

APPENDIX J: FLORA INVENTORY

Common Name	Scientific Name	COSEWIC ¹	SARA ²	NS ESA ³	S-Rank ⁴
Plants (Vascular)					
Alleghaney Blackberry	<i>Rubus allegheniensis</i>	---	---	---	S5
Alternate-leaved Dogwood	<i>Cornus alternifolia</i>	---	---	---	S5
American Beech	<i>Fagus grandifolia</i>	---	---	---	S3S4
American Burreed	<i>Sparganium americanum</i>	---	---	---	S5
American Holly	<i>Ilex opaca</i>	---	---	---	SNA
American Cow Wheat	<i>Melampyrum lineare</i>	---	---	---	S5
American Golden Saxifrage	<i>Chrysosplenium americanum</i>	---	---	---	S5
American Mountain Ash	<i>Sorbus americana</i>	---	---	---	S5
American Water Horehound	<i>Lycopus americanus</i>	---	---	---	S5
American Witch-Hazel	<i>Hamamelis virginiana</i>	---	---	---	S5
Atlantic Sedge	<i>Carex atlantica</i>	---	---	---	S4
Autumn Hawkbit	<i>Scorzoneroides autumnalis</i>	---	---	---	SNA
Awl-fruited Sedge	<i>Carex stipata</i>	---	---	---	S5
Azure Bluet	<i>Houstonia caerulea</i>	---	---	---	S5
Balsam Fir	<i>Abies balsamea</i>	---	---	---	S5
Balsam Willow	<i>Salix pyrifolia</i>	---	---	---	S5
Beaked Hazel	<i>Corylus cornuta</i>	---	---	---	S5
Black Chokeberry	<i>Aronia melanocarpa</i>	---	---	---	S5
Black Huckleberry	<i>Gaylussacia baccata</i>	---	---	---	S5
Black Knapweed	<i>Centaurea nigra</i>	---	---	---	SNA
Black Sedge	<i>Carex arctata</i>	---	---	---	S5
Black Spruce	<i>Picea mariana</i>	---	---	---	S5
Bladder Sedge	<i>Carex intumescens</i>	---	---	---	S5
Bluejoint Reed Grass	<i>Calamagrostis canadensis</i>	---	---	---	S5
Blunt Spikerush	<i>Eleocharis obtusa</i>	---	---	---	S5
Bog Aster	<i>Oclemena nemoralis</i>	---	---	---	S5
Bog Rosemary	<i>Andromeda polifolia</i>	---	---	---	S5
Bog Willowherb	<i>Epilobium leptophyllum</i>	---	---	---	S5
Boreal Bog Sedge	<i>Carex magellanica</i>	---	---	---	S5
Bracken Fern	<i>Pteridium aquilinum</i>	---	---	---	S5
Bristly Blackberry	<i>Rubus setosus</i>	---	---	---	S4
Bristly Dewberry	<i>Rubus hispidus</i>	---	---	---	S5
Bristly Sarsaparilla	<i>Aralia hispida</i>	---	---	---	S5
Bristly-stalked Sedge	<i>Carex leptalea</i>	---	---	---	S5

Common Name	Scientific Name	COSEWIC ¹	SARA ²	NS ESA ³	S-Rank ⁴
Broad-leaved Cattail	<i>Typha latifolia</i>	---	---	---	S5
Broom Sedge	<i>Carex scoparia</i>	---	---	---	S5
Brown Beakrush	<i>Rhynchospora fusca</i>	---	---	---	S4
Brownish Sedge	<i>Carex brunnescens</i>	---	---	---	S5
Bull Thistle	<i>Cirsium vulgare</i>	---	---	---	SNA
Bunchberry	<i>Cornus canadensis</i>	---	---	---	S5
Calico Aster	<i>Symphotrichum lateriflorum</i>	---	---	---	S5
Canada Fly Honeysuckle	<i>Lonicera canadensis</i>	---	---	---	S5
Canada Goldenrod	<i>Solidago canadensis</i>	---	---	---	S4S5
Canada Lettuce	<i>Lactuca canadensis</i>	---	---	---	S5
Canada Manna Grass	<i>Glyceria canadensis</i>	---	---	---	S5
Canada St John's-wort	<i>Hypericum canadense</i>	---	---	---	S5
Canada Yew	<i>Taxus canadensis</i>	---	---	---	S4S5
Carolina Spring Beauty	<i>Claytonia caroliniana</i>	---	---	---	S4
Chokecherry	<i>Prunus virginiana</i>	---	---	---	S5
Christmas Fern	<i>Polystichum acrostichoides</i>	---	---	---	S5
Cinnamon Fern	<i>Osmundastrum cinnamomeum</i>	---	---	---	S5
Clasping-leaved Twisted-stalk	<i>Streptopus amplexifolius</i>	---	---	---	S4S5
Club Spur Orchid	<i>Platanthera clavellata</i>	---	---	---	S5
Coastal Sedge	<i>Carex exilis</i>	---	---	---	S4
Coltsfoot	<i>Tussilago farfara</i>	---	---	---	SNA
Common Boneset	<i>Eupatorium perfoliatum</i>	---	---	---	S5
Common Dandelion	<i>Taraxacum officinale</i>	---	---	---	SNA
Common Elderberry	<i>Sambucus canadensis</i>	---	---	---	S5
Common Evening Primrose	<i>Oenothera biennis</i>	---	---	---	S5
Common Eyebright	<i>Euphrasia nemorosa</i>	---	---	---	SNA
Common Hawkweed	<i>Hieracium lachenalii</i>	---	---	---	SNA
Common Juniper	<i>Juniperus communis</i>	---	---	---	S5
Common Labrador Tea	<i>Rhododendron groenlandicum</i>	---	---	---	S5
Common Lady Fern	<i>Athyrium filix-femina</i>	---	---	---	S5
Common Marsh Bedstraw	<i>Galium palustre</i>	---	---	---	S5
Common Milkweed	<i>Asclepias syriaca</i>	---	---	---	SU
Common Oak Fern	<i>Gymnocarpium dryopteris</i>	---	---	---	S5
Common Plantain	<i>Plantago major</i>	---	---	---	SNA

Common Name	Scientific Name	COSEWIC ¹	SARA ²	NS ESA ³	S-Rank ⁴
Common Self-heal	<i>Prunella vulgaris</i>	---	---	---	S5
Common Speedwell	<i>Veronica officinalis</i>	---	---	---	SNA
Common St. John's-wort	<i>Hypericum perforatum</i>	---	---	---	SNA
Common Water Parsnip	<i>Sium suave</i>	---	---	---	S5
Common Winterberry	<i>Ilex verticillata</i>	---	---	---	S5
Common Wood Sorrel	<i>Oxalis montana</i>	---	---	---	S5
Common Woodrush	<i>Luzula multiflora</i>	---	---	---	S5
Common Woolly Bulrush	<i>Scirpus cyperinus</i>	---	---	---	S5
Convulsion-Root	<i>Monotropa uniflora</i>	---	---	---	S5
Cottony Willow	<i>Salix eriocephala</i>	---	---	---	S5
Creeping Buttercup	<i>Ranunculus repens</i>	---	---	---	SNA
Creeping Snowberry	<i>Gaultheria hispidula</i>	---	---	---	S5
Crested Wood Fern	<i>Dryopteris cristata</i>	---	---	---	S5
Cucumber Root	<i>Medeola virginiana</i>	---	---	---	S5
Cyperuslike Sedge	<i>Carex pseudocyperus</i>	---	---	---	S5
Downy Goldenrod	<i>Solidago puberula</i>	---	---	---	S5
Dwarf Ginseng	<i>Panax trifolius</i>	---	---	---	S4
Dwarf Huckleberry	<i>Gaylussacia bigeloviana</i>	---	---	---	S5
Dwarf Red Raspberry	<i>Rubus pubescens</i>	---	---	---	S5
Early Coralroot	<i>Corallorhiza trifida</i>	---	---	---	S4
Eastern Hay-Scented Fern	<i>Dennstaedtia punctilobula</i>	---	---	---	S5
Eastern Hemlock	<i>Tsuga canadensis</i>	---	---	---	S4
Eastern Marsh Fern	<i>Thelypteris palustris</i>	---	---	---	S5
Eastern Teaberry	<i>Gaultheria procumbens</i>	---	---	---	S5
Eastern White Pine	<i>Pinus strobus</i>	---	---	---	S5
European Wood Sorrel	<i>Oxalis stricta</i>	---	---	---	S5
Evergreen Wood Fern	<i>Dryopteris intermedia</i>	---	---	---	S5
Few-Flowered Sedge	<i>Carex pauciflora</i>	---	---	---	S4S5
Fibrous-Root Sedge	<i>Carex communis</i>	---	---	---	S5
Field Horsetail	<i>Equisetum arvense</i>	---	---	---	S5
Finely-Nerved Sedge	<i>Carex leptonevia</i>	---	---	---	S5
Fireberry Hawthorn	<i>Crataegus chrysocarpa</i>	---	---	---	S4S5
Fireweed	<i>Chamaenerion angustifolium</i>	---	---	---	S5
Floating-leaved Pondweed	<i>Potamogeton natans</i>	---	---	---	S5
Four-seeded Vetch	<i>Vicia tetrasperma</i>	---	---	---	SNA

Common Name	Scientific Name	COSEWIC ¹	SARA ²	NS ESA ³	S-Rank ⁴
Fowl Manna Grass	<i>Glyceria striata</i>	---	---	---	S5
Fragrant Water-lily	<i>Nymphaea odorata</i>	---	---	---	S5
Fringed Sedge	<i>Carex crinita</i>	---	---	---	S5
Garden Bird's-foot Trefoil	<i>Lotus corniculatus</i>	---	---	---	SNA
Golden Groundsel	<i>Packera aurea</i>	---	---	---	S4
Goldthread	<i>Coptis trifolia</i>	---	---	---	S5
Graceful Sedge	<i>Carex gracillima</i>	---	---	---	S5
Grass-leaved Goldenrod	<i>Euthamia graminifolia</i>	---	---	---	S5
Gray Birch	<i>Betula populifolia</i>	---	---	---	S5
Gray-stemmed Goldenrod	<i>Solidago nemoralis</i>	---	---	---	S4S5
Green Alder	<i>Alnus alnobetula</i>	---	---	---	S5
Hairy Flat-top White Aster	<i>Doellingeria umbellata</i>	---	---	---	S5
Hairy Solomon's Seal	<i>Polygonatum pubescens</i>	---	---	---	S4S5
Harlequin Blue Flag	<i>Iris versicolor</i>	---	---	---	S5
Helleborine	<i>Epipactis helleborine</i>	---	---	---	SNA
Highbush Cranberry	<i>Viburnum opulus</i>	---	---	---	S4
Hobblebush	<i>Viburnum lantanoides</i>	---	---	---	S4
Hooked Buttercup	<i>Ranunculus recurvatus</i>	---	---	---	S4
Horned Bladderwort	<i>Utricularia cornuta</i>	---	---	---	S5
Interrupted Fern	<i>Claytonia claytoniana</i>	---	---	---	S5
Jointed Rush	<i>Juncus articulatus</i>	---	---	---	S5
Lake Sedge	<i>Carex lacustris</i>	---	---	---	S4
Large Cranberry	<i>Vaccinium macrocarpon</i>	---	---	---	S5
Large False Solomon's Seal	<i>Maianthemum racemosum</i>	---	---	---	S4S5
Large Purple Fringed Orchid	<i>Platanthera grandiflora</i>	---	---	---	S3
Large-leaved Goldenrod	<i>Solidago macrophylla</i>	---	---	---	S4S5
Large-toothed Aspen	<i>Populus grandidentata</i>	---	---	---	S5
Late Lowbush Blueberry	<i>Vaccinium angustifolium</i>	---	---	---	S5
Leatherleaf	<i>Chamaedaphne calyculata</i>	---	---	---	S5
Little Yellow Rattle	<i>Rhinanthus minor</i>	---	---	---	SNA
Low Hop Clover	<i>Trifolium campestre</i>	---	---	---	SNA
Low Rough Aster	<i>Eurybia radula</i>	---	---	---	S5
Marginal Wood Fern	<i>Dryopteris marginalis</i>	---	---	---	S5
Marsh Cudweed	<i>Gnaphalium uliginosum</i>	---	---	---	SNA
Marsh Skullcap	<i>Scutellaria galericulata</i>	---	---	---	S5
Meadow Hawkweed	<i>Pilosella caespitosa</i>	---	---	---	SNA

Common Name	Scientific Name	COSEWIC ¹	SARA ²	NS ESA ³	S-Rank ⁴
Mountain Blue-eyed-grass	<i>Sisyrinchium montanum</i>	---	---	---	S5
Mountain Fly Honeysuckle	<i>Lonicera villosa</i>	---	---	---	S4S5
Mountain Holly	<i>Ilex mucronata</i>	---	---	---	S5
Mountain Maple	<i>Acer spicatum</i>	---	---	---	S5
Mouse-ear Hawkweed	<i>Pilosella officinarum</i>	---	---	---	SNA
Naked Bishop's-Cap	<i>Mitella nuda</i>	---	---	---	S4S5
Narrow-leaved Cottongrass	<i>Eriophorum angustifolium</i>	---	---	---	S5
Necklace Sedge	<i>Carex projecta</i>	---	---	---	S5
Needle Spikerush	<i>Eleocharis acicularis</i>	---	---	---	S5
New England Sedge	<i>Carex novae-angliae</i>	---	---	---	S5
New York Aster	<i>Symphotrichum novi-belgii</i>	---	---	---	S5
New York Fern	<i>Parathelypteris noveboracensis</i>	---	---	---	S5
Nodding Sedge	<i>Carex gynandra</i>	---	---	---	S5
Nodding Trillium	<i>Trillium cernuum</i>	---	---	---	S4
Northern Bayberry	<i>Morella pensylvanica</i>	---	---	---	S5
Northern Beaked Sedge	<i>Carex utriculata</i>	---	---	---	S5
Northern Beech Fern	<i>Phegopteris connectilis</i>	---	---	---	S5
Northern Bog Clubmoss	<i>Lycopodiella inundata</i>	---	---	---	S5
Northern Bog Goldenrod	<i>Solidago uliginosa</i>	---	---	---	S5
Northern Bush Honeysuckle	<i>Diervilla lonicera</i>	---	---	---	S5
Northern Long Sedge	<i>Carex folliculata</i>	---	---	---	S4
Northern Manna Grass	<i>Glyceria borealis</i>	---	---	---	S5
Northern Panic Grass	<i>Dichanthelium boreale</i>	---	---	---	S5
Northern Pitcher Plant	<i>Sarracenia purpurea</i>	---	---	---	S5
Northern Shorthusk	<i>Brachyelytrum aristosum</i>	---	---	---	S5
Northern St John's-Wort	<i>Hypericum boreale</i>	---	---	---	S5
Northern Starflower	<i>Lysimachia borealis</i>	---	---	---	S5
Northern Wild Raisin	<i>Viburnum nudum</i>	---	---	---	S5
Northern Willowherb	<i>Epilobium ciliatum</i>	---	---	---	S5
Old Field Cinquefoil	<i>Potentilla simplex</i>	---	---	---	S5
One-flowered Wintergreen	<i>Moneses uniflora</i>	---	---	---	S4S5
One-sided Wintergreen	<i>Orthilia secunda</i>	---	---	---	S5
Ostrich Fern	<i>Matteuccia struthiopteris</i>	---	---	---	S5
Oxeye Daisy	<i>Leucanthemum vulgare</i>	---	---	---	SNA
Painted Trillium	<i>Trillium undulatum</i>	---	---	---	S5

Common Name	Scientific Name	COSEWIC ¹	SARA ²	NS ESA ³	S-Rank ⁴
Pale Bog Laurel	<i>Kalmia polifolia</i>	---	---	---	S5
Pale St John's-Wort	<i>Hypericum ellipticum</i>	---	---	---	S5
Paper Birch	<i>Betula papyrifera</i>	---	---	---	S5
Partridgeberry	<i>Mitchella repens</i>	---	---	---	S5
Pearly Everlasting	<i>Anaphalis margaritacea</i>	---	---	---	S5
Pickernelweed	<i>Pontederia cordata</i>	---	---	---	S5
Pin Cherry	<i>Prunus pensylvanica</i>	---	---	---	S5
Pink Lady's-Slipper	<i>Cypripedium acaule</i>	---	---	---	S5
Poison Ivy	<i>Toxicodendron radicans</i>	---	---	---	S5
Poverty Oat Grass	<i>Danthonia spicata</i>	---	---	---	S5
Purple Loosestrife	<i>Lythrum salicaria</i>	---	---	---	SNA
Purple-stemmed Aster	<i>Symphotrichum puniceum</i>	---	---	---	S5
Pussy Willow	<i>Salix discolor</i>	---	---	---	S5
Queen Anne's Lace	<i>Daucus carota</i>	---	---	---	SNA
Rabbit's-foot Clover	<i>Trifolium arvense</i>	---	---	---	SNA
Ragged Fringed Orchid	<i>Platanthera lacera</i>	---	---	---	S4S5
Red Baneberry	<i>Actaea rubra</i>	---	---	---	S5
Red Clover	<i>Trifolium pratense</i>	---	---	---	SNA
Red Elderberry	<i>Sambucus racemosa</i>	---	---	---	S5
Red Maple	<i>Acer rubrum</i>	---	---	---	S5
Red Raspberry	<i>Rubus idaeus</i>	---	---	---	S5
Rhodora	<i>Rhododendron canadense</i>	---	---	---	S5
Rock Polypody	<i>Polypodium virginianum</i>	---	---	---	S5
Rose Pogonia	<i>Pogonia ophioglossoides</i>	---	---	---	S4S5
Rose Twisted-stalk	<i>Streptopus lanceolatus</i>	---	---	---	S5
Rough Bedstraw	<i>Galium asprellum</i>	---	---	---	S5
Rough Bent Grass	<i>Agrostis scabra</i>	---	---	---	S5
Rough Cinquefoil	<i>Potentilla norvegica</i>	---	---	---	S5
Rough Fleabane	<i>Erigeron strigosus</i>	---	---	---	S5
Rough Hawkweed	<i>Hieracium scabrum</i>	---	---	---	S5
Rough Sedge	<i>Carex scabrata</i>	---	---	---	S5
Rough-stemmed Goldenrod	<i>Solidago rugosa</i>	---	---	---	S5
Round-branched Tree-clubmoss	<i>Dendrolycopodium dendroideum</i>	---	---	---	S5
Round-leaved Sundew	<i>Drosera rotundifolia</i>	---	---	---	S5
Royal Fern	<i>Osmunda regalis</i>	---	---	---	S5
Running Clubmoss	<i>Lycopodium clavatum</i>	---	---	---	S5

Common Name	Scientific Name	COSEWIC ¹	SARA ²	NS ESA ³	S-Rank ⁴
Sallow Sedge	<i>Carex lurida</i>	---	---	---	S5
Schweinitz's Groundsel	<i>Packera schweinitziana</i>	---	---	---	S4
Sensitive Fern	<i>Onoclea sensibilis</i>	---	---	---	S5
Sessile-leaved Bellwort	<i>Uvularia sessilifolia</i>	---	---	---	S4S5
Sheep Laurel	<i>Kalmia angustifolia</i>	---	---	---	S5
Shining Rose	<i>Rosa nitida</i>	---	---	---	S4S5
Shining Willow	<i>Salix lucida</i>	---	---	---	S5
Shinleaf	<i>Pyrola elliptica</i>	---	---	---	S5
Shiny flat-top-goldenrod	<i>Oligoneuron nitidum</i>	---	---	---	SNA
Shrubby Cinquefoil	<i>Dasiphora fruticosa</i>	---	---	---	S4
Skunk Currant	<i>Ribes glandulosum</i>	---	---	---	S5
Slender Ladies'-tresses	<i>Spiranthes lacera</i>	---	---	---	S5
Slender Rush	<i>Juncus tenuis</i>	---	---	---	S5
Slender Sedge	<i>Carex lasiocarpa</i>	---	---	---	S5
Small Cranberry	<i>Vaccinium oxycoccos</i>	---	---	---	S5
Small Enchanter's Nightshade	<i>Circaea alpina</i>	---	---	---	S5
Small Forget-Me-Not	<i>Myosotis laxa</i>	---	---	---	S5
Small Purple Fringed Orchid	<i>Platanthera psycodes</i>	---	---	---	S4
Small Round-leaved Orchid	<i>Platanthera orbiculata</i>	---	---	---	S3S4
Small-flowered Evening Primrose	<i>Oenothera parviflora</i>	---	---	---	S4S5
Smooth Black Sedge	<i>Carex nigra</i>	---	---	---	S5
Smooth Blackberry	<i>Rubus canadensis</i>	---	---	---	S5
Smooth Gooseberry	<i>Ribes hirtellum</i>	---	---	---	S5
Smooth Serviceberry	<i>Amelanchier laevis</i>	---	---	---	S5
Soft Rush	<i>Juncus effusus</i>	---	---	---	S5
Softstem Bulrush	<i>Schoenoplectus tabernaemontani</i>	---	---	---	S5
Speckled Alder	<i>Alnus incana</i>	---	---	---	S5
Spoon-Leaved Sundew	<i>Drosera intermedia</i>	---	---	---	S5
Spotted Jewelweed	<i>Impatiens capensis</i>	---	---	---	S5
Spotted Joe Pye Weed	<i>Eutrochium maculatum</i>	---	---	---	S5
Spotted Lady's-thumb	<i>Persicaria maculosa</i>	---	---	---	SNA
Spotted Water-Hemlock	<i>Cicuta maculata</i>	---	---	---	S5
Square-stemmed Monkeyflower	<i>Mimulus ringens</i>	---	---	---	S4S5

Common Name	Scientific Name	COSEWIC ¹	SARA ²	NS ESA ³	S-Rank ⁴
Star Sedge	<i>Carex echinata</i>	---	---	---	S5
Steeplebush	<i>Spiraea tomentosa</i>	---	---	---	S5
Stiff Clubmoss	<i>Lycopodium annotinum</i>	---	---	---	S5
Striped Maple	<i>Acer pensylvanicum</i>	---	---	---	S5
Sugar Maple	<i>Acer saccharum</i>	---	---	---	S4S5
Swamp Beggarticks	<i>Bidens discoidea</i>	---	---	---	SH
Swamp Thistle	<i>Cirsium muticum</i>	---	---	---	S4
Swamp Yellow Loosestrife	<i>Lysimachia terrestris</i>	---	---	---	S5
Sweet Gale	<i>Myrica gale</i>	---	---	---	S5
Sweet-fern	<i>Comptonia peregrina</i>	---	---	---	S5
Tall Hawkweed	<i>Pilosella piloselloides</i>	---	---	---	SNA
Tall Meadow-Rue	<i>Thalictrum pubescens</i>	---	---	---	S5
Tall Rattlesnakeroot	<i>Nabalus altissimus</i>	---	---	---	S5
Tamarack	<i>Larix laricina</i>	---	---	---	S5
Tawny Cottongrass	<i>Eriophorum virginicum</i>	---	---	---	S5
Three-leaved False Soloman's Seal	<i>Maianthemum trifolium</i>	---	---	---	S5
Three-leaved Rattlesnakeroot	<i>Nabalus trifoliolatus</i>	---	---	---	S5
Three-seeded Sedge	<i>Carex trisperma</i>	---	---	---	S5
Three-Way Sedge	<i>Dulichium arundinaceum</i>	---	---	---	S5
Trailing Arbutus	<i>Epigaea repens</i>	---	---	---	S5
Trembling Aspen	<i>Populus tremuloides</i>	---	---	---	S5
Tuberous Grass Pink	<i>Calopogon tuberosus</i>	---	---	---	S4S5
Tufted Clubrush	<i>Trichophorum cespitosum</i>	---	---	---	S5
Tufted Vetch	<i>Vicia cracca</i>	---	---	---	SNA
Tussock Sedge	<i>Carex stricta</i>	---	---	---	S5
Twinflower	<i>Linnaea borealis</i>	---	---	---	S5
Two-leaved Toothwort	<i>Cardamine diphylla</i>	---	---	---	S4
Two-seeded Sedge	<i>Carex disperma</i>	---	---	---	S5
Variiegated Pond-lily	<i>Nuphar variegata</i>	---	---	---	S5
Velvet-leaved Blueberry	<i>Vaccinium myrtilloides</i>	---	---	---	S5
Virginia Rose	<i>Rosa virginiana</i>	---	---	---	S5
Virginia St. John's-wort	<i>Hypericum virginicum</i>	---	---	---	S5
Water Avens	<i>Geum rivale</i>	---	---	---	S5
Water Horsetail	<i>Equisetum fluviatile</i>	---	---	---	S5
Water Lobelia	<i>Lobelia dortmanna</i>	---	---	---	S5
White Ash	<i>Fraxinus americana</i>	---	---	---	S4

Common Name	Scientific Name	COSEWIC ¹	SARA ²	NS ESA ³	S-Rank ⁴
White Baneberry	<i>Actaea pachypoda</i>	---	---	---	S4
White Beakrush	<i>Rhynchospora alba</i>	---	---	---	S5
White Bog Orchid	<i>Platanthera dilatata</i>	---	---	---	S4S5
White Buttons	<i>Eriocaulon aquaticum</i>	---	---	---	S5
White Clover	<i>Trifolium repens</i>	---	---	---	SNA
White Fringed Orchid	<i>Platanthera blephariglottis</i>	---	---	---	S4S5
White Meadowsweet	<i>Spiraea alba</i>	---	---	---	S5
White Spruce	<i>Picea glauca</i>	---	---	---	S5
White Sweet-clover	<i>Melilotus albus</i>	---	---	---	SNA
White Turtlehead	<i>Chelone glabra</i>	---	---	---	S5
White-edged Sedge	<i>Carex debilis</i>	---	---	---	S5
Whorled Wood Aster	<i>Oclemea acuminata</i>	---	---	---	S5
Wild Lily-of-The-Valley	<i>Maianthemum canadense</i>	---	---	---	S5
Wild Sarsaparilla	<i>Aralia nudicaulis</i>	---	---	---	S5
Wild Strawberry	<i>Fragaria virginiana</i>	---	---	---	S5
Woodland Horsetail	<i>Equisetum sylvaticum</i>	---	---	---	S5
Yellow Birch	<i>Betula alleghaniensis</i>	---	---	---	S5
Yellow Bluebead Lily	<i>Clintonia borealis</i>	---	---	---	S5
Yellow Clover	<i>Trifolium aureum</i>	---	---	---	SNA
Yellow Lady's-slipper	<i>Cypripedium parviflorum</i>	---	---	---	S3
Yellow Sedge	<i>Carex flava</i>	---	---	---	S5
Zigzag Goldenrod	<i>Solidago flexicaulis</i>	---	---	---	S5
Lichens (Non-vascular)					
Blue Felt Lichen	<i>Pectenium plumbeum</i>	Special Concern	Special Concern	Threatened	S3
Frosted Glass-whiskers Lichen	<i>Sclerophora peronella</i>	Special Concern	Special Concern	---	S3S4
Tree Pelt Lichen	<i>Peltigera collina</i>	---	---	---	S3

¹Government of Canada 2021; ²Government of Canada, 2021; ³NS ESA 2021; ⁴ACCDC 2022b

APPENDIX K: TERRESTRIAL FAUNA PHOTO LOG



Photo 1: White-tailed deer (*Odocoileus virginianus*) photographed at 10:05 August 21, 2021 by trail camera located at Stillwater brook



Photo 2: Bobcat (*Lynx rufus*) photographed at 16:36 March 3, 2021 by trail camera located by Five Mile Lake Road



Photo 3: Eastern coyote (*Canis latrans*) photographed at 16:14 on August 12, 2021 by trail camera located at Five Mile Lake Road



Photo 4: American black bear (*Ursus americanus*) photographed at 3:42 April 12, 2022 by trail camera located at Five Mile Lake Road.



Photo 5: North American porcupine (*Erethizon dorsatum*) photographed at 8:35 April 11, 2022 by trail camera located at Five Mile Lake Road



Photo 6: Striped skunk (*Mephitis mephitis*) photographed at 2:33 September 4, 2021 by trail camera located at Five Mile Lake Road



Photo 7: North American beaver (*Castor canadensis*) dam photographed at 10:46 February 11, 2022 by iPhone camera during winter tracking surveys



Photo 8: Fisher (*Pekania pennanti*) tracks photographed at 11:12 February 10, 2022 by iPhone camera during winter tracking surveys



Photo 8: Red squirrel (*Tamiasciurus hudsonicus*) tracks photographed at 11:06 February 10, 2022 by iPhone camera during winter tracking surveys



Photo 8: Snowshoe hare (*Lepus americanus*) tracks photographed at 14:16 April 6, 2022 by iPad camera during pellet surveys

APPENDIX L: BATS



Photo 1: Bat detector 001 along the shoreline of Five Mile Lake. General habitat is a riparian wetland.



Photo 2: Bat detector 002 set up in riparian wetland habitat along Long Lake.



Photo 3: Bat detector 003 near meteorological tower. General habitat is an open area along the edge of a regenerating softwood stand.



Photo 4: Bat detector 004 set up along Stillwater Brook near a beaver dam. General habitat is an open riparian area with surrounding softwood dominant stand.

APPENDIX M: AVIFAUNA

Common Name	Scientific Name	Bird Group	SARA	COSEWIC	NSESA	NS_Srank	Number Observed	Breeding Evidence
American Black Duck	Anas rubripes	1	Not Listed	Not Listed	Not Listed	S5B,S5N	4	
Alder Flycatcher	Empidonax alburnum	6	Not Listed	Not Listed	Not Listed	S5B	25	
American Crow	Corvus brachyrhynchos	6	Not Listed	Not Listed	Not Listed	S5	8	
American Goldfinch	Carduelis tristis	6	Not Listed	Not Listed	Not Listed	S5	5	
American Redstart	Setophaga ruticilla	6	Not Listed	Not Listed	Not Listed	S5B	67	
American Robin	Turdus migratorius	6	Not Listed	Not Listed	Not Listed	S5B,S3N	59	A) Agitated B) Carrying food
Black-and-white Warbler	Mniotilta varia	6	Not Listed	Not Listed	Not Listed	S5B	81	agitated pair
Bay-breasted Warbler	Dendroica castanea	6	Not Listed	Not Listed	Not Listed	S5	29	
Black-capped Chickadee	Poecile atricapilla	6	Not Listed	Not Listed	Not Listed	S5	24	
Blue-headed Vireo	Vireo solitarius	6	Not Listed	Not Listed	Not Listed	S5B	40	
Blackburnian Warbler	Dendroica fusca	6	Not Listed	Not Listed	Not Listed	S5	16	
Blue Jay	Cyanocitta cristata	6	Not Listed	Not Listed	Not Listed	S5	12	
Boreal Chickadee	Poecile hudsonica	6	Not Listed	Not Listed	Not Listed	SU	8	
Black-throated Green Warbler	Dendroica virens	6	Not Listed	Not Listed	Not Listed	S5	113	
Canada Warbler	Wilsonia canadensis	6	Threatened	Threatened	Endangered	SU	38	A) Foraging silently beside road. Male singing at this location June 28 B) Possibly agitated by neighbouring Canada Warbler C) Male agitated at waypoint 690, female at waypoint 691. Same pair?
Cedar Waxwing	Bombicilla cedrorum	6	Not Listed	Not Listed	Not Listed	S5B	18	
Common Grackle	Quiscalus quiscula	6	Not Listed	Not Listed	Not Listed	S5B	9	
Common Loon	Gavia immer	3	Not Listed	Not at Risk	Not Listed	S4B	6	2 adults and 2 flightless young
Common Merganser	Mergus merganser	2	Not Listed	Not Listed	Not Listed	S5B,S5M,S5N	3	A) Pair B) Calling from Long Lake
Common Nighthawk	Chordeiles minor	6	Threatened	Special Concern	Threatened	S3B	4	Foraging over lake
Common Raven	Corvus corax	6	Not Listed	Not Listed	Not Listed	S5	13	
Common Yellowthroat	Geothlypis trichas	6	Not Listed	Not Listed	Not Listed	S5B	79	
Chestnut-sided Warbler	Dendroica pensylvanica	6	Not Listed	Not Listed	Not Listed	S5	2	
Double-crested Cormorant	Phalacrocorax auritus	2	Not Listed	Not at Risk	Not Listed	SU	2	
Dark-eyed Junco	Junco hyemalis	6	Not Listed	Not Listed	Not Listed	S4S5	34	
Eastern Phoebe	Sayornis phoebe	6	Not Listed	Not Listed	Not Listed	S4S5B,S4M	1	
Evening Grosbeak	Coccothraustes vespertinus	6	Special Concern	Special Concern	Vulnerable	S3B,S3N,S3M	1	
Golden-crowned Kinglet	Regulus satrapa	6	Not Listed	Not Listed	Not Listed	S5	50	
Gray Jay	Perisoreus canadensis	6	Not Listed	Not Listed	Not Listed	S3	7	All adults
Hairy Woodpecker	Picoides villosus	7	Not Listed	Not Listed	Not Listed	SU	2	
Hermit Thrush	Catharus guttatus	6	Not Listed	Not Listed	Not Listed	S5B	72	
Least Flycatcher	Empidonax minimus	6	Not Listed	Not Listed	Not Listed	S4S5B,S5M	14	
Lincoln's Sparrow	Melospiza lincolni	6	Not Listed	Not Listed	Not Listed	S4B,S5M	6	
Magnolia Warbler	Dendroica magnolia	6	Not Listed	Not Listed	Not Listed	S5	111	
Mourning Dove	Zenaidura macroura	7	Not Listed	Not Listed	Not Listed	S5	1	
Mourning Warbler	Oporornis philadelphia	6	Not Listed	Not Listed	Not Listed	SU	27	
Nashville Warbler	Vermivora ruficapilla	6	Not Listed	Not Listed	Not Listed	SU	23	
Northern Flicker	Colaptes auratus	7	Not Listed	Not Listed	Not Listed	S5B	5	
Northern Parula	Parula americana	6	Not Listed	Not Listed	Not Listed	SU	19	
Northern Waterthrush	Seiurus noveboracensis	6	Not Listed	Not Listed	Not Listed	S2S3	12	
Olive-sided Flycatcher	Contopus cooperi	6	Threatened	Special Concern	Threatened	S3B	10	
Ovenbird	Seiurus aurocapilla	6	Not Listed	Not Listed	Not Listed	S5B	97	
Palm Warbler	Dendroica palmarum	6	Not Listed	Not Listed	Not Listed	S5	17	
Pine Grosbeak	Pinicola enucleator	6	Not Listed	Not Listed	Not Listed	S3B,S5N,S5M	1	
Pileated Woodpecker	Dryocopus pileatus	7	Not Listed	Not Listed	Not Listed	S5	10	
Purple Finch	Carpodacus purpureus	6	Not Listed	Not Listed	Not Listed	S5	14	
Red-breasted Nuthatch	Sitta canadensis	6	Not Listed	Not Listed	Not Listed	S4S5	3	
Ruby-crowned Kinglet	Regulus calendula	6	Not Listed	Not Listed	Not Listed	S5	67	
Red Crossbill	Loxia curvirostra	6	Not Listed	Not Listed	Not Listed	S3S4	3	
Red-eyed Vireo	Vireo olivaceus	6	Not Listed	Not Listed	Not Listed	S5B	76	
Ring-necked Duck	Aythya collaris	1	Not Listed	Not Listed	Not Listed	S5B	3	
Red-tailed Hawk	Buteo jamaicensis	4	Not Listed	Not at Risk	Not Listed	S5	2	Agitated, possible nest nearby
Ruby-throated Hummingbird	Archilochus colubris	6	Not Listed	Not Listed	Not Listed	S5B	2	
Ruffed Grouse	Bonasa umbellus	7	Not Listed	Not Listed	Not Listed	S5	14	
Spruce Grouse	Falcipecten canadensis	7	Not Listed	Not Listed	Not Listed	SU	4	
Swamp Sparrow	Melospiza georgiana	6	Not Listed	Not Listed	Not Listed	S5B	5	
Swainson's Thrush	Catharus ustulatus	6	Not Listed	Not Listed	Not Listed	S4B,S5M	75	
Tree Swallow	Tachycineta bicolor	6	Not Listed	Not Listed	Not Listed	S4B	12	
Wilson's Snipe	Gallinago delicata	2	Not Listed	Not Listed	Not Listed	S3B,S5M	2	
Winter Wren	Troglodytes troglodytes	6	Not Listed	Not Listed	Not Listed	SU	12	
White-throated Sparrow	Zonotrichia albicollis	6	Not Listed	Not Listed	Not Listed	S4S5B,S5M	99	
Yellow-bellied Flycatcher	Empidonax flaviventris	6	Not Listed	Not Listed	Not Listed	S4B,S5M	36	

Common Name	Scientific Name	Bird Group	SARA	COSEWIC	NSESA	NS_Srank	Number Observed	Breeding Evidence
Yellow-bellied Sapsucker	Sphyrapicus varius	7	Not Listed	Not Listed	Not Listed	S5B	31	
Yellow-rumped Warbler	Dendroica coronata	6	Not Listed	Not Listed	Not Listed	S5	34	Pair
Duck Species		1					2	

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-Jun-21	PC	1	4:41	10	wiwr	Winter Wren	1	Singing	50	Southeast				
5-Jun-21	PC				heth	Hermit Thrush	2	Singing	100	West				
5-Jun-21	PC				amro	American Robin	2	Singing	50	West				
5-Jun-21	PC				swth	Swainson's Thrush	2	Singing	50	West				
5-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	Northeast				
5-Jun-21	PC				oven	Ovenbird	1	Singing	50	East				
5-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northeast				
5-Jun-21	PC				nopa	Northern Parula	1	Singing	50	Northeast				
5-Jun-21	PC				wtsp	White-throated Sparrow	3	Singing	100	Northwest				
5-Jun-21	PC				alfi	Alder Flycatcher	1	Singing	100	Northeast				
5-Jun-21	PC				nowa	Northern Waterthrush	1	Singing	250	East				
5-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	South				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
5-Jun-21	PC	2	4:58	10	swth	Swainson's Thrush	2	Singing	50	North				
5-Jun-21	PC				blja	Blue Jay	1	Singing	50	Northeast				
5-Jun-21	PC				oven	Ovenbird	2	Singing	0	East				
5-Jun-21	PC				mawa	Magnolia Warbler	3	Singing	0	Northeast				
5-Jun-21	PC				amre	American Redstart	1	Singing	0	Northeast				
5-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southeast				
5-Jun-21	PC				amro	American Robin	1	Singing	100	East				
5-Jun-21	PC				btnw	Black-throated Green Warbler	3	Singing	50	North				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	North				
5-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	South				
5-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	50	Southeast				
5-Jun-21	PC				duck sp	Duck Species	2	Passing	100	South				
5-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	West		50	West	
5-Jun-21	PC	31	5:17	10	nowa	Northern Waterthrush	1	Singing	50	East				
5-Jun-21	PC				cawa	Canada Warbler	1	Singing	0	West				
5-Jun-21	PC				cawa	Canada Warbler	1	Singing	50	East				
5-Jun-21	PC				swth	Swainson's Thrush	3	Singing	100	Southeast				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Northwest				
5-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	0	Northeast				
5-Jun-21	PC				oven	Ovenbird	1	Singing	100	West				
5-Jun-21	PC				mawa	Magnolia Warbler	1	Calling	0	East				
5-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	50	East				
5-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	South				
5-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	100	East				
5-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Southeast				
5-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
5-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	1	Singing	50	East				
5-Jun-21	PC				nopa	Northern Parula	1	Singing	50	South				
5-Jun-21	PC	3	5:34	10	swth	Swainson's Thrush	1	Singing	100	Northeast				
5-Jun-21	PC				cawa	Canada Warbler	1	Singing	100	Northeast				
5-Jun-21	PC				mowa	Mourning Warbler	2	Agitated	0	East				
5-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	2	Singing	50	West				
5-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Northwest				
5-Jun-21	PC				amre	American Redstart	2	Singing	0	West				
5-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	West				
5-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	100	West				
5-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	West				
5-Jun-21	PC				coye	Common Yellowthroat	1	Singing	100	East				
5-Jun-21	PC				tres	Tree Swallow	2	Singing	0	East				
5-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	100	East				
5-Jun-21	PC				oven	Ovenbird	1	Singing	100	Southeast				
5-Jun-21	PC				nowa	Northern Waterthrush	1	Singing	250	Northwest				
5-Jun-21	PC				nofi	Northern Flicker	1	Calling	100	West				
5-Jun-21	PC				AMRO	American Robin	1	Singing	100	Southeast				
5-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	100	East				
5-Jun-21	PC				cedw	Cedar Waxwing	2	Calling	50	Southeast				
5-Jun-21	PC				wisn	Wilson's Snipe	1	Calling	250	Northwest				
5-Jun-21	PC	4	5:53	10	wtsp	White-throated Sparrow	2	Singing	100	Northeast				
5-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	1	Singing	0	West				
5-Jun-21	PC				swth	Swainson's Thrush	2	Singing	50	West				
5-Jun-21	PC				heth	Hermit Thrush	2	Singing	50	West				
5-Jun-21	PC				amre	American Redstart	1	Singing	100	North				
5-Jun-21	PC				cogr	Common Grackle	8	Passing	100	South				
5-Jun-21	PC				mawa	Magnolia Warbler	3	Singing	0	Southeast				
5-Jun-21	PC				piwo	Pileated Woodpecker	1	Calling	250	Southeast				
5-Jun-21	PC				coye	Common Yellowthroat	1	Singing	0	Southeast				
5-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	South				
5-Jun-21	PC				nawa	Nashville Warbler	1	Singing	50	East				
5-Jun-21	PC				oven	Ovenbird	1	Singing	100	Northwest				
5-Jun-21	PC				pufi	Purple Finch	1	Singing	100	West				
5-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	South				
5-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	West				
5-Jun-21	PC	32	6:09	10	wisn	Wilson's Snipe	1	Calling	100	Northwest				
5-Jun-21	PC				cawa	Canada Warbler	1	Singing	50	Northwest				
5-Jun-21	PC				nofi	Northern Flicker	1	Calling	100	South				
5-Jun-21	PC				nopa	Northern Parula	1	Singing	50	South				
5-Jun-21	PC				amre	American Redstart	2	Singing	0	North				
5-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	50	Northwest				
5-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	0	East				
5-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Calling	100	Northeast				
5-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	West				
5-Jun-21	PC				alfi	Alder Flycatcher	1	Singing	100	West				
5-Jun-21	PC				rugr	Ruffed Grouse	1	Drumming	50	West				
5-Jun-21	PC				oven	Ovenbird	1	Singing	100	West				
5-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	Southwest				
5-Jun-21	PC				cawa	Canada Warbler	1	Singing	100	Northeast				
5-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	100	North				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-Jun-21	PC				pufi	Purple Finch	1	Singing	100	South				
5-Jun-21	PC				baww	Black-and-white Warbler	2	Singing	50	Northwest				
5-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southwest				
5-Jun-21	PC				rbnu	Red-breasted Nuthatch	1	Singing	50	East				
5-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Calling	50	Northwest				
5-Jun-21	PC				dcco	Double-crested Cormorant	2	Passing	100	South				
5-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest		50+	Southeast	
5-Jun-21	PC				mowa	Mourning Warbler	1	Singing	100	West				
5-Jun-21	PC	33	6:26	10	nawa	Nashville Warbler	2	Singing	50	North				
5-Jun-21	PC				mowa	Mourning Warbler	1	Singing	50	Northeast				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	100	Southeast				
5-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	0	North				
5-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	East				
5-Jun-21	PC				wfsp	White-throated Sparrow	3	Singing	0	West				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
5-Jun-21	PC				alfi	Alder Flycatcher	1	Singing	100	West				
5-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	Southwest				
5-Jun-21	PC				amro	American Robin	1	Singing	100	North				
5-Jun-21	PC				cawa	Canada Warbler	1	Singing	100	East				
5-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	100	North				
5-Jun-21	PC				graj	Gray Jay	2	Calling	50	Northeast				
5-Jun-21	PC				coye	Common Yellowthroat	1	Singing	100	Southeast				
5-Jun-21	PC				piwo	Pileated Woodpecker	1	Calling	100	Southwest				
5-Jun-21	PC				lisp	Lincoln's Sparrow	1	Singing	100	West				
5-Jun-21	PC				bbwa	Bay-breasted Warbler	1	Singing	100	Southeast				
5-Jun-21	PC				amre	American Redstart	1	Singing	50	Southwest				
5-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	100	Southeast				
5-Jun-21	PC	34	6:43	10	btnw	Black-throated Green Warbler	1	Singing	100	Northeast				
5-Jun-21	PC				nowa	Northern Waterthrush	1	Singing	100	Southwest				
5-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	East				
5-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Northwest				
5-Jun-21	PC				oven	Ovenbird	1	Singing	100	North				
5-Jun-21	PC				piwo	Pileated Woodpecker	1	Calling	100	Northwest				
5-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	0	Northwest				
5-Jun-21	PC				coye	Common Yellowthroat	1	Singing	0	West				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Northeast				
5-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	North				
5-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	100	West				
5-Jun-21	PC				bcch	Black-capped Chickadee	2	Singing	100	Northeast				
5-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Calling	100	Northwest				
5-Jun-21	PC				amro	American Robin	1	Calling	100	South				
5-Jun-21	PC				nawa	Nashville Warbler	1	Singing	50	Southwest				
5-Jun-21	PC				cawa	Canada Warbler	1	Singing	250	Northeast	Y			
5-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	East				
5-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	Northeast				
5-Jun-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	100	Northeast				
5-Jun-21	PC	5	6:58	10	wfsp	White-throated Sparrow	1	Singing	100	South				
5-Jun-21	PC				cawa	Canada Warbler	1	Singing	50	Southwest				
5-Jun-21	PC				heth	Hermit Thrush	1	Singing	0	Southeast				
5-Jun-21	PC				pawa	Palm Warbler	2	Singing	0	Northwest				
5-Jun-21	PC				wfsp	White-throated Sparrow	1	Singing	100	Northwest				
5-Jun-21	PC				mowa	Mourning Warbler	1	Singing	100	Northwest				
5-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northeast				
5-Jun-21	PC				coye	Common Yellowthroat	2	Singing	100	Northwest				
5-Jun-21	PC				cora	Common Raven	1	Calling	100	South				
5-Jun-21	PC				bbwa	Bay-breasted Warbler	2	Singing	100	Southwest				
5-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	Southeast				
5-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	West				
5-Jun-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	100	Northwest				
5-Jun-21	PC				cawa	Canada Warbler	1	Singing	250	North				
5-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	Northeast				
5-Jun-21	PC				amgo	American Goldfinch	1	Calling	100	West				
5-Jun-21	PC				graj	Gray Jay	1	Calling	100	East				
5-Jun-21	PC	6	7:13	10	nopa	Northern Parula	1	Singing	50	West				
5-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	0	West				
5-Jun-21	PC				amre	American Redstart	2	Singing	0	East				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	West				
5-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	100	Northwest				
5-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Southeast				
5-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	0	East				
5-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	250	Northeast				
5-Jun-21	PC				bcch	Black-capped Chickadee	1	Calling	100	Northeast				
5-Jun-21	PC				oven	Ovenbird	2	Singing	100	West				
5-Jun-21	PC				amcr	American Crow	2	Calling	500	Southwest				
5-Jun-21	PC				cora	Common Raven	1	Calling	100	Southwest				
5-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	100	Southeast				
5-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southeast				
5-Jun-21	PC				tres	Tree Swallow	1	Calling	100	North				
5-Jun-21	PC	7	7:27	10	ybfl	Yellow-bellied Flycatcher	1	Singing	50	Northwest				
5-Jun-21	PC				nopa	Northern Parula	1	Singing	50	Northwest				
5-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	East				
5-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	South				
5-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	100	East				
5-Jun-21	PC				oven	Ovenbird	2	Singing	100	North				
5-Jun-21	PC				coye	Common Yellowthroat	1	Singing	100	East				
5-Jun-21	PC				amcr	American Crow	1	Calling	250	South				
5-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	East				
5-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Southeast				
5-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	50	Northwest				
5-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	West				

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5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southeast				
5-Jun-21	PC				ruqr	Ruffed Grouse	1	Drumming	50	Northeast				
5-Jun-21	PC	10	7:41	10	cawa	Canada Warbler	1	Singing	50	West				
5-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	West				
5-Jun-21	PC				bbwa	Bay-breasted Warbler	2	Singing	0	Southwest				
5-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	Southwest				
5-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southwest				
5-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Northeast				
5-Jun-21	PC				ybfl	Yellow-bellied Flycatcher	1	Calling	50	Northwest				
5-Jun-21	PC				amre	American Redstart	1	Singing	0	North				
5-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	Southeast				
5-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	North				
5-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	0	Northeast				
5-Jun-21	PC				nawa	Nashville Warbler	1	Singing	50	North				
5-Jun-21	PC				boch	Boreal Chickadee	1	Singing	0	Northeast				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	West				
5-Jun-21	PC	11	7:55	10	bbwa	Bay-breasted Warbler	1	Singing	50	North				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	Northwest				
5-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	100	Northwest				
5-Jun-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	50	Northwest				
5-Jun-21	PC				oven	Ovenbird	1	Singing	50	Northwest				
5-Jun-21	PC				btnw	Black-throated Green Warbler	3	Singing	0	West				
5-Jun-21	PC				lefl	Least Flycatcher	1	Singing	0	East				
5-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	Northeast				
5-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	100	North				
5-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
5-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Northwest				
5-Jun-21	PC				osfi	Olive-sided Flycatcher	1	Singing	250	Southwest				
5-Jun-21	PC	35	8:13	10	mawa	Magnolia Warbler	2	Singing	50	South				
5-Jun-21	PC				lisp	Lincoln's Sparrow	1	Singing	50	North				
5-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	0	East				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	West				
5-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	50	North				
5-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	100	East				
5-Jun-21	PC				nawa	Nashville Warbler	1	Singing	50	Southeast				
5-Jun-21	PC				amro	American Robin	1	Calling	100	East				
5-Jun-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	100	Southeast				
5-Jun-21	PC				blja	Blue Jay	1	Singing	100	Southwest				
5-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Calling	100	West				
5-Jun-21	PC				cawa	Canada Warbler	1	Singing	250	Northwest				
5-Jun-21	PC	36	8:46	10	heth	Hermit Thrush	2	Singing	50	Northeast				
5-Jun-21	PC				bhvi	Blue-headed Vireo	2	Singing	50	South				
5-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Northwest				
5-Jun-21	PC				coye	Common Yellowthroat	2	Singing	0	Northwest				
5-Jun-21	PC				baww	Black-and-white Warbler	2	Singing	0	Northeast				
5-Jun-21	PC				oven	Ovenbird	1	Singing	100	Southwest				
5-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Calling	100	South				
5-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	100	Southeast				
5-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Southwest				
5-Jun-21	PC				mowa	Mourning Warbler	1	Singing	50	Southeast				
5-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southeast				
5-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	100	Southeast				
5-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	East				
5-Jun-21	PC				bchc	Black-capped Chickadee	2	Calling	100	South				
5-Jun-21	PC				nopa	Northern Parula	1	Singing	50	East				
5-Jun-21	PC				pufi	Purple Finch	1	Singing	0	Southwest				
5-Jun-21	PC	37	9:07	10	amre	American Redstart	3	Singing	0	North				
5-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	50	Northwest				
5-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	Northwest				
5-Jun-21	PC				amro	American Robin	1	Singing	0	North				
5-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Calling	100	South				
5-Jun-21	PC				baww	Black-and-white Warbler	2	Singing	0	Southwest				
5-Jun-21	PC				mowa	Mourning Warbler	1	Singing	100	Northeast				
5-Jun-21	PC				coye	Common Yellowthroat	2	Singing	100	North				
5-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	0	Northwest				
5-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northeast				
5-Jun-21	PC				oven	Ovenbird	1	Singing	50	South				
5-Jun-21	PC				cedw	Cedar Waxwing	2	Calling	0	Northwest				
5-Jun-21	PC				bchc	Black-capped Chickadee	2	Calling	100	Northwest				
5-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	50	East				
5-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	South				
5-Jun-21	PC	8	9:19	10	mawa	Magnolia Warbler	2	Singing	0	East				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	East				
5-Jun-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	0	Northwest				
5-Jun-21	PC				oven	Ovenbird	3	Singing	0	East				
5-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	South				
5-Jun-21	PC				amre	American Redstart	2	Singing	0	Northwest				
5-Jun-21	PC				pufi	Purple Finch	2	Singing	0	East				
5-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Southwest				
5-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	West				
5-Jun-21	PC				ruqr	Ruffed Grouse	1	Drumming	50	West				
5-Jun-21	PC				swth	Swainson's Thrush	1	Calling	0	Southeast				
5-Jun-21	PC	9	9:37	10	revi	Red-eyed Vireo	2	Singing	100	South				
5-Jun-21	PC				rndu	Ring-necked Duck	3	On water	200	South				
5-Jun-21	PC				cora	Common Raven	1	Calling	100	South				
5-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Northwest				
5-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	50	North				
5-Jun-21	PC				oven	Ovenbird	2	Singing	100	Northwest				
5-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northeast				
5-Jun-21	PC				amro	American Robin	2	Calling	100	Northeast				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	250	South				
5-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	Northwest				
5-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	250	Southwest				
5-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	100	Northeast				
5-Jun-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	50	Northwest				
5-Jun-21	PC				colo	Common Loon	1	Calling	500	West				
5-Jun-21	PC				come	Common Merganser	1	On water	100	South				
6-Jun-21	PC	14	4:59	10	heth	Hermit Thrush	2	Singing	50	Northwest				
6-Jun-21	PC				swth	Swainson's Thrush	2	Singing	50	West				
6-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	0	Northwest				
6-Jun-21	PC				coye	Common Yellowthroat	2	Singing	50	Northwest				
6-Jun-21	PC				amre	American Redstart	1	Singing	0	Northeast				
6-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	0	Northeast				
6-Jun-21	PC				oven	Ovenbird	2	Singing	50	Northwest				
6-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	50	Northwest				
6-Jun-21	PC				coni	Common Nighthawk	1	Booming	500	North				
6-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	Southeast				
6-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	Southeast				
6-Jun-21	PC				mowa	Mourning Warbler	1	Singing	100	Northwest				
6-Jun-21	PC	12	5:19	10	rcki	Ruby-crowned Kinglet	1	Singing	100	East				
6-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	250	North				
6-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	Southwest				
6-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	100	Northeast				
6-Jun-21	PC				oven	Ovenbird	1	Singing	50	North				
6-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northeast				
6-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	Northeast				
6-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
6-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	North				
6-Jun-21	PC				cawa	Canada Warbler	1	Singing			Y			Waypoint 625
6-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	East				
6-Jun-21	PC	13	5:38	10	coye	Common Yellowthroat	2	Singing	50	North				
6-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	West				
6-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	50	Southeast				
6-Jun-21	PC				mowa	Mourning Warbler	2	Singing	100	Northwest				
6-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	East				
6-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southeast				
6-Jun-21	PC				oven	Ovenbird	1	Singing	100	Southeast				
6-Jun-21	PC				rugr	Ruffed Grouse	1	Drumming	0	Northeast				
6-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	Southeast				
6-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	North				
6-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southeast				
6-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	South				
6-Jun-21	PC				amre	American Redstart	2	Singing	0	Northwest				
6-Jun-21	PC	38	5:50	10	btnw	Black-throated Green Warbler	2	Singing	50	North				
6-Jun-21	PC				swth	Swainson's Thrush	2	Singing	100	North				
6-Jun-21	PC				amre	American Redstart	1	Singing	50	Southeast				
6-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southwest				
6-Jun-21	PC				oven	Ovenbird	1	Singing	0	East				
6-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	East				
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	Northeast				
6-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Calling	100	South				
6-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
6-Jun-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Northwest				
6-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	50	North				
6-Jun-21	PC				amro	American Robin	1	Singing	50	Northwest				
6-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	50	North				
6-Jun-21	PC				cawa	Canada Warbler	1	Singing	100	North				
6-Jun-21	PC				bbwa	Bay-breasted Warbler	1	Singing	50	Northeast				
6-Jun-21	PC	15	6:06	10	nopa	Northern Parula	1	Singing	50	Northeast				
6-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	50	North				
6-Jun-21	PC				amre	American Redstart	3	Singing	0	Northeast				
6-Jun-21	PC				amro	American Robin	1	Singing	50	North				
6-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	East				
6-Jun-21	PC				heth	Hermit Thrush	2	Singing	100	West				
6-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	West				
6-Jun-21	PC				piwo	Pileated Woodpecker	1	Drumming	250	West				
6-Jun-21	PC				oven	Ovenbird	1	Singing	50	Northwest				
6-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	0	Northeast				
6-Jun-21	PC				blja	Blue Jay	1	Calling	50	Northeast				
6-Jun-21	PC				swth	Swainson's Thrush	1	Calling	0	Northeast				
6-Jun-21	PC				pufi	Purple Finch	1	Singing	100	South				
6-Jun-21	PC				lefl	Least Flycatcher	1	Singing	50	Northeast				
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
6-Jun-21	PC	16	6:20	10	wtsp	White-throated Sparrow	2	Singing	100	West				
6-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	0	North				
6-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	Northwest				
6-Jun-21	PC				piwo	Pileated Woodpecker	1	Calling	100	North				
6-Jun-21	PC				amro	American Robin	1	Singing	100	West				
6-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	0	West				
6-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	East				
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	West				
6-Jun-21	PC				bbwa	Bay-breasted Warbler	1	Singing	50	West				
6-Jun-21	PC				amre	American Redstart	1	Singing	50	Southeast				
6-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	West				
6-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	Northwest				
6-Jun-21	PC				nowa	Northern Waterthrush	1	Singing	100	South				
6-Jun-21	PC				oven	Ovenbird	1	Singing	100	Northwest				
6-Jun-21	PC				cawa	Canada Warbler	1	Singing	100	Southwest				
6-Jun-21	PC	19	6:34	10	nowa	Northern Waterthrush	1	Singing	0	West				
6-Jun-21	PC				cawa	Canada Warbler	1	Singing	50	West				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
6-Jun-21	PC				amre	American Redstart	1	Singing	0	Northwest				
6-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	100	Southwest				
6-Jun-21	PC				heth	Hermit Thrush	1	Singing	0	West				
6-Jun-21	PC				yblf	Yellow-bellied Flycatcher	1	Singing	50	East				
6-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	50	Southeast				
6-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	Southeast				
6-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	Southeast				
6-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	0	West				
6-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	50	West				
6-Jun-21	PC				rufr	Ruffed Grouse	1	Drumming	50	West				
6-Jun-21	PC				wtsp	White-throated Sparrow	1	Calling	0	West				
6-Jun-21	PC				mowa	Mourning Warbler	1	Singing	100	Northwest				
6-Jun-21	PC				rbnu	Red-breasted Nuthatch	1	Calling	50	West				
6-Jun-21	PC	39	6:47	10	blbw	Blackburnian Warbler	2	Singing	0	West				
6-Jun-21	PC				swth	Swainson's Thrush	2	Singing	100	North				
6-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	Northeast				
6-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	50	North				
6-Jun-21	PC				bbwa	Bay-breasted Warbler	1	Singing	50	Northeast				
6-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	North				
6-Jun-21	PC				oven	Ovenbird	2	Singing	50	East				
6-Jun-21	PC				amre	American Redstart	1	Singing	0	Northwest				
6-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	Northwest				
6-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	Northwest				
6-Jun-21	PC				nowa	Northern Waterthrush	1	Singing	250	North				
6-Jun-21	PC				amro	American Robin	1	Singing	100	North				
6-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	100	Southwest				
6-Jun-21	PC	40	6:59	10	bbwa	Bay-breasted Warbler	3	Singing	0					
6-Jun-21	PC				swth	Swainson's Thrush	2	Singing	50					
6-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northwest				
6-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	Northwest				
6-Jun-21	PC				oven	Ovenbird	2	Singing	100	Northeast				
6-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Northwest				
6-Jun-21	PC				yblf	Yellow-bellied Flycatcher	1	Singing	100	Southwest				
6-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southwest				
6-Jun-21	PC				coye	Common Yellowthroat	1	Singing	100	West				
6-Jun-21	PC				cawa	Canada Warbler	1	Singing	100	Southwest				
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southwest				
6-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Southwest				
6-Jun-21	PC				piwo	Pileated Woodpecker	1	Calling	100	West				
6-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	100	West				
6-Jun-21	PC	20	7:13	10	mawa	Magnolia Warbler	2	Singing	50	South				
6-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	Northwest				
6-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Southeast				
6-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	Southeast				
6-Jun-21	PC				amro	American Robin	1	Calling	100	West				
6-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southwest				
6-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	South				
6-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	South				
6-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Southwest				
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	West				
6-Jun-21	PC				amcr	American Crow	1	Calling	500	North				
6-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southeast				
6-Jun-21	PC				amre	American Redstart	1	Singing	50	South				
6-Jun-21	PC	41	7:26	10	bbwa	Bay-breasted Warbler	1	Singing	0	East				
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	East				
6-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	West				
6-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Southwest				
6-Jun-21	PC				coye	Common Yellowthroat	2	Singing	50	Northwest				
6-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	South				
6-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	Northwest				
6-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northwest				
6-Jun-21	PC				oven	Ovenbird	1	Singing	50	Northeast				
6-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	Northwest				
6-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	West				
6-Jun-21	PC	21	7:40	10	revi	Red-eyed Vireo	2	Singing	100	North				
6-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	100	North				
6-Jun-21	PC				oven	Ovenbird	1	Singing	100	West				
6-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	100	Southwest				
6-Jun-21	PC				nawa	Nashville Warbler	1	Singing	50	West				
6-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Southwest				
6-Jun-21	PC				colo	Common Loon	1	passing	100	East				
6-Jun-21	PC				alfl	Alder Flycatcher	1	Calling	100	Northwest		50+	West	
6-Jun-21	PC				blja	Blue Jay	1	Calling	100	Northeast				
6-Jun-21	PC				amre	American Redstart	1	Singing	100	North				
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
6-Jun-21	PC	42	8:01	10	bbwa	Bay-breasted Warbler	1	Singing	0	North				
6-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	Northwest				
6-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	Northwest				
6-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	100	North				
6-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	100	West				
6-Jun-21	PC				coye	Common Yellowthroat	1	Singing	100	East				
6-Jun-21	PC	17	8:14	10	yblf	Yellow-bellied Flycatcher	1	Singing	50	West				
6-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	North				
6-Jun-21	PC				coye	Common Yellowthroat	2	Singing	100	West				
6-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	100	North				
6-Jun-21	PC				piwo	Pileated Woodpecker	1	Singing	250	Northwest				
6-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	North				
6-Jun-21	PC				oven	Ovenbird	1	Singing	100	North				
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
6-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	West				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
6-Jun-21	PC				amro	American Robin	1	Singing	100	East				
6-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	East				
6-Jun-21	PC	43	8:32	10	cawa	Canada Warbler	1	Singing	100	Northwest				
6-Jun-21	PC				baww	Black-and-white Warbler	2	Singing	50	Northwest				
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
6-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	2	Singing	50	Northeast				
6-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	Northwest				
6-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	North				
6-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	West				
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	West				
6-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	100	Northwest				
6-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	West				
6-Jun-21	PC				btwn	Black-throated Green Warbler	1	Singing	100	Northeast				
6-Jun-21	PC				nawa	Nashville Warbler	1	Singing	100	North				
6-Jun-21	PC	18	8:48	10	bbwa	Bay-breasted Warbler	2	Singing	0	East				
6-Jun-21	PC				btwn	Black-throated Green Warbler	2	Singing	50	Southwest				
6-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	South				
6-Jun-21	PC				amro	American Robin	1	Singing	50	South				
6-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Southwest				
6-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	Southwest				
6-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southwest				
6-Jun-21	PC				cora	Common Raven	1	Calling	500	Southwest				
6-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	100	Southeast				
6-Jun-21	PC				amgo	American Goldfinch	1	Calling	50	South				
6-Jun-21	PC				oven	Ovenbird	1	Singing	100	Southwest				
6-Jun-21	PC				gcki	Golden-crowned Kinglet	2	Calling	50	West				
6-Jun-21	PC				boch	Boreal Chickadee	1	Calling	0	East				
6-Jun-21	PC				nofl	Northern Flicker	1	Calling	100	West				
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Northeast				
6-Jun-21	PC				tres	Tree Swallow	2	Calling	0	West				
6-Jun-21	PC	44	9:18	10	rcki	Ruby-crowned Kinglet	1	Singing	50	North				
6-Jun-21	PC				nawa	Nashville Warbler	1	Singing	50	East				
6-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	North				
6-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	1	Singing	50	North				
6-Jun-21	PC				blja	Blue Jay	1	Calling	100	West				
6-Jun-21	PC				osfl	Olive-sided Flycatcher	1	Calling	50	West				
6-Jun-21	PC				cawa	Canada Warbler	1	Singing	100	West				
6-Jun-21	PC				coye	Common Yellowthroat	2	Singing	50	Northeast				
6-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	North				
6-Jun-21	PC				pawa	Palm Warbler	2	Singing	100	North				
6-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100					
6-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100					
6-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southwest				
6-Jun-21	PC				oven	Ovenbird	1	Singing	100					
6-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0					
6-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	100					
6-Jun-21	PC				rthu	Ruby-throated Hummingbird	1	Calling	0					
6-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50					
7-Jun-21	PC	22	5:06	10	cawa	Canada Warbler	1	Singing	100	Northeast				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	East				
7-Jun-21	PC				coye	Common Yellowthroat	2	Singing	50	North				
7-Jun-21	PC				swth	Swainson's Thrush	3	Singing	0	East				
7-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	East				
7-Jun-21	PC				oven	Ovenbird	1	Singing	100	West				
7-Jun-21	PC				nopa	Northern Parula	1	Singing	50	Northwest				
7-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Northeast				
7-Jun-21	PC				bcch	Black-capped Chickadee	1	Calling	50	North				
7-Jun-21	PC				btwn	Black-throated Green Warbler	1	Singing	50	Northwest				
7-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	West				
7-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	1	Singing	0	West				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
7-Jun-21	PC				tres	Tree Swallow	1	Calling	50	West				
7-Jun-21	PC				bbwa	Bay-breasted Warbler	1	Singing	50	South				
7-Jun-21	PC	23	5:20	10	baww	Black-and-white Warbler	1	Singing	50	West				
7-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	South				
7-Jun-21	PC				btwn	Black-throated Green Warbler	2	Singing	0	West				
7-Jun-21	PC				swth	Swainson's Thrush	1	Singing	0	East				
7-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	100	South				
7-Jun-21	PC				oven	Ovenbird	2	Singing	100	South				
7-Jun-21	PC				amro	American Robin	1	Singing	100	Southeast				
7-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southeast				
7-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southwest				
7-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	Northeast				
7-Jun-21	PC	45	5:39	10	yrwa	Yellow-rumped Warbler	2	Singing	0	Southwest				
7-Jun-21	PC				oven	Ovenbird	2	Singing	0	Southwest				
7-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	North				
7-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	100	Northwest				
7-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	100	Northeast				
7-Jun-21	PC				btwn	Black-throated Green Warbler	1	Singing	100	North				
7-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	Southeast				
7-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	Southwest				
7-Jun-21	PC	24	5:54	10	yrwa	Yellow-rumped Warbler	2	Singing	0	West				
7-Jun-21	PC				bbwa	Bay-breasted Warbler	2	Singing	0	West				
7-Jun-21	PC				swth	Swainson's Thrush	2	Singing	50	East				
7-Jun-21	PC				oven	Ovenbird	2	Singing	50	Northwest				
7-Jun-21	PC				btwn	Black-throated Green Warbler	1	Singing	0	Southeast				
7-Jun-21	PC				amro	American Robin	1	Singing	100	South				
7-Jun-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0	Northwest				
7-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	East				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	West				

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7-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	North				
7-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	100	South				
7-Jun-21	PC	25	6:11	10	heth	Hermit Thrush	2	Singing	100	North				
7-Jun-21	PC				bcch	Black-capped Chickadee	1	Singing	100	North				
7-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	0	Northeast				
7-Jun-21	PC				mowa	Mourning Warbler	2	Singing	0	East				
7-Jun-21	PC				baww	Black-and-white Warbler	2	Singing	0	East				
7-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	East				
7-Jun-21	PC				lefl	Least Flycatcher	1	Singing	50	East				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	South				
7-Jun-21	PC				coye	Common Yellowthroat	1	Singing	100	Northeast				
7-Jun-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Northeast				
7-Jun-21	PC				oven	Ovenbird	1	Singing	100	West				
7-Jun-21	PC				osfl	Olive-sided Flycatcher	1	Singing	250	Southeast				
7-Jun-21	PC				cawa	Canada Warbler	1	Singing	100	East				
7-Jun-21	PC				nopa	Northern Parula	1	Singing	50	West				
7-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	Northwest				
7-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	Southeast				
7-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	50	West				
7-Jun-21	PC	26	6:33	10	amre	American Redstart	1				Y			
7-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	0	Northeast				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Northeast				
7-Jun-21	PC				nowa	Northern Waterthrush	1	Singing	100	East				
7-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	100	Northwest				
7-Jun-21	PC				oven	Ovenbird	1	Singing	50	Southwest				
7-Jun-21	PC				abdu	American Black Duck	4	Flightless young	0	East				
7-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	West				
7-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	West				
7-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	100	Northwest				
7-Jun-21	PC				bcch	Black-capped Chickadee	2	Calling	50	Southwest				
7-Jun-21	PC				amre	American Redstart	2	Singing	0	Southwest				
7-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	Southwest				
7-Jun-21	PC				mowa	Mourning Warbler	1	Singing	100	Northwest				
7-Jun-21	PC				amro	American Robin	1	Singing	100	North				
7-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northwest				
7-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Northwest				
7-Jun-21	PC				cogr	Common Grackle	1	Calling	0	East				
7-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	Northwest				
7-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	50	West				
7-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	North				
7-Jun-21	PC				come	Common Merganser	1	passing	500	South				
7-Jun-21	PC	46	6:47	10	amre	American Redstart	2	Singing	0	Southeast		50	West	
7-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	0	South				
7-Jun-21	PC				oven	Ovenbird	2	Singing	50	Southwest				
7-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	Southwest				
7-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	50	Southwest				
7-Jun-21	PC				coye	Common Yellowthroat	2	Singing	100	Southwest				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
7-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	Southeast				
7-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	0	South				
7-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	South				
7-Jun-21	PC				amro	American Robin	1	Calling	100	Southwest				
7-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	Northwest				
7-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	0	West				
7-Jun-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	50	West				
7-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	North				
7-Jun-21	PC	47	6:58	10	come	Common Merganser	1	Calling	100	East				
7-Jun-21	PC				nowa	Northern Waterthrush	1	Singing	50	Northeast				
7-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	100	Northeast				
7-Jun-21	PC				amre	American Redstart	1	Singing	50	East				
7-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	East				
7-Jun-21	PC				wiwr	Winter Wren	1	Singing	100	Southwest				
7-Jun-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	50	Northeast				
7-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	East				
7-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	East				
7-Jun-21	PC				cawa	Canada Warbler	1	Singing	0	Southeast				
7-Jun-21	PC	27	7:13	10	alfl	Alder Flycatcher	1	Singing	50	Northwest				
7-Jun-21	PC				amre	American Redstart	2	Singing	0	Northwest				
7-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Northwest				
7-Jun-21	PC				cawa	Canada Warbler	1	Singing	100	East				
7-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Northwest				
7-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Southwest				
7-Jun-21	PC				cora	Common Raven	1	Calling	100	South				
7-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	West				
7-Jun-21	PC				coye	Common Yellowthroat	2	Singing	100	Northwest				
7-Jun-21	PC				pawa	Palm Warbler	1	Singing	100	Northeast				
7-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	100	Northwest				
7-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Northeast				
7-Jun-21	PC				nawa	Nashville Warbler	1	Singing	100	Northwest				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northeast				
7-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	100	North				
7-Jun-21	PC				amro	American Robin	1	Singing	100	North				
7-Jun-21	PC				nopa	Northern Parula	1	Singing	100	Southwest				
7-Jun-21	PC				oven	Ovenbird	1	Singing	100	Southeast				
7-Jun-21	PC				pufi	Purple Finch	1	Calling	100	Southeast				
7-Jun-21	PC	48	7:32	10	lefl	Least Flycatcher	3	Singing	0	Southeast				
7-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	50	West				
7-Jun-21	PC				oven	Ovenbird	3	Singing	100	Southwest				
7-Jun-21	PC				rugr	Ruffed Grouse	1	Drumming	0	Northeast				
7-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Northwest				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
7-Jun-21	PC				blja	Blue Jay	1	Calling	100	West				
7-Jun-21	PC	49	7:48	10	mowa	Mourning Warbler	2	Singing	100	West				
7-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	West				
7-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	West				
7-Jun-21	PC				eaph	Eastern Phoebe	1	Singing	50	Southeast				
7-Jun-21	PC				coye	Common Yellowthroat	2	Singing	50	South				
7-Jun-21	PC				amro	American Robin	1	Singing	100	Northwest				
7-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	100	Southwest				
7-Jun-21	PC				swsp	Swamp Sparrow	1	Singing	50	South				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	South				
7-Jun-21	PC				amre	American Redstart	2	Singing	50	East				
7-Jun-21	PC				amgo	American Goldfinch	1	Calling	50	East				
7-Jun-21	PC				cawa	Canada Warbler	1	Singing	0	Southwest				
7-Jun-21	PC				wtsj	White-throated Sparrow	2	Singing	100	South				
7-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	North				
7-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	100	East				
7-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southwest				
7-Jun-21	PC				cedw	Cedar Waxwing	2	Calling	50	Southwest				
7-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	50	Southwest				
7-Jun-21	PC				nopa	Northern Parula	1	Singing	50	Southwest				
7-Jun-21	PC				cora	Common Raven	2	Calling	100	Southeast				
7-Jun-21	PC				oven	Ovenbird	1	Singing	100	Southeast				
7-Jun-21	PC	28	8:02	10	nowa	Northern Waterthrush	1	Singing	0	West				
7-Jun-21	PC				cawa	Canada Warbler	1	Singing	0	North				
7-Jun-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0	North				
7-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	West				
7-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southwest				
7-Jun-21	PC				oven	Ovenbird	1	Singing	100	Southwest				
7-Jun-21	PC				evgr	Evening Grosbeak	1	Calling	100	Northwest				
7-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	West				
7-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	1	Calling	50	Southwest				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	100	Southeast				
7-Jun-21	PC				wtsj	White-throated Sparrow	1	Singing	100	South				
7-Jun-21	PC	29	8:20	10	osfl	Olive-sided Flycatcher	1	Singing	250	West				
7-Jun-21	PC				lisp	Lincoln's Sparrow	1	Singing	0	East				
7-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	50	East				
7-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	0	East				
7-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	South				
7-Jun-21	PC				rtha	Red-tailed Hawk	1	Calling	0	North				
7-Jun-21	PC				coye	Common Yellowthroat	2	Singing	0	Northeast				
7-Jun-21	PC				pufi	Purple Finch	1	Singing	50	Southeast				
7-Jun-21	PC				swth	Swainson's Thrush	1	Singing	50	West				
7-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Southwest				
7-Jun-21	PC				amgo	American Goldfinch	1	Calling	0	North				
7-Jun-21	PC				wtsj	White-throated Sparrow	1	Singing	100	Southeast				
7-Jun-21	PC	50	8:34	10	osfl	Olive-sided Flycatcher	1	Singing	50	Southeast				
7-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	0	Northwest				
7-Jun-21	PC				lefl	Least Flycatcher	2	Singing	0	Northwest				
7-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southeast				
7-Jun-21	PC				wiwr	Winter Wren	1	Singing	100	Southeast				
7-Jun-21	PC				oven	Ovenbird	1	Singing	100	West				
7-Jun-21	PC				amre	American Redstart	2	Singing	0	West				
7-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	West				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southeast				
7-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	0	Southwest				
7-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	Southeast				
7-Jun-21	PC				amre	American Redstart	2	Singing	50	Northwest				
7-Jun-21	PC				wtsj	White-throated Sparrow	2	Singing	50	Southeast				
7-Jun-21	PC				swsp	Swamp Sparrow	1	Singing	0	Southeast				
7-Jun-21	PC				cawa	Canada Warbler	1	Singing	100	Southeast				
7-Jun-21	PC	51	8:48	10	bbwa	Bay-breasted Warbler	2	Singing	0	North				
7-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	100	West				
7-Jun-21	PC				oven	Ovenbird	1	Singing	100	West				
7-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	Northwest				
7-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	Northwest				
7-Jun-21	PC				swth	Swainson's Thrush	1	Singing	50	West				
7-Jun-21	PC				wtsj	White-throated Sparrow	1	Singing	100	West				
7-Jun-21	PC				amro	American Robin	1	Singing	0	West				
7-Jun-21	PC				hawo	Hairy Woodpecker	1	Calling	100	Northwest				
7-Jun-21	PC				mowa	Mourning Warbler	1	Singing	0	Northwest				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
7-Jun-21	PC				rbnu	Red-breasted Nuthatch	1	Calling	100	North				
7-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	Northeast				
7-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	Southwest				
7-Jun-21	PC	52	9:10	10	btnw	Black-throated Green Warbler	2	Singing	50	West				
7-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	West				
7-Jun-21	PC				oven	Ovenbird	3	Singing	0	West				
7-Jun-21	PC				lefl	Least Flycatcher	1	Singing	50	Northwest				
7-Jun-21	PC				wtsj	White-throated Sparrow	1	Singing	100	Southwest				
7-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	0	West				
7-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	North				
7-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	1	Singing	100	West				
7-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	100	West				
7-Jun-21	PC	30	9:25	10	pawa	Palm Warbler	2	Singing	0	West				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	Southwest				
7-Jun-21	PC				nawa	Nashville Warbler	2	Singing	0	West				
7-Jun-21	PC				coye	Common Yellowthroat	1	Singing	100	North				
7-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
7-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	0	East				
7-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	Southwest				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
7-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	Northwest				
7-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	50	West				
7-Jun-21	PC				mawa	Magnolia Warbler	1	Singing		South				
7-Jun-21	PC				caea	#N/A	1	Singing	100	South				
7-Jun-21	PC	53	9:39	10	lefl	Least Flycatcher	1	Singing	50	Northeast				
7-Jun-21	PC				alfl	Alder Flycatcher	2	Singing	50	West				
7-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	100	West				
7-Jun-21	PC				coye	Common Yellowthroat	2	Singing	0	Southwest				
7-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	100	Northwest				
7-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	East				
7-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	North				
7-Jun-21	PC				pawa	Palm Warbler	1	Singing	100	Northeast				
7-Jun-21	PC				cora	Common Raven	1	Calling	500	Northwest				
7-Jun-21	PC				nawa	Nashville Warbler	1	Singing	100	West				
29-Jun-21	PC	14	4:55	10	amre	American Redstart	1	Singing	0	Northeast				
29-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	0	Northwest				
29-Jun-21	PC				swth	Swainson's Thrush	3	Calling	0	North				
29-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	50	Southeast				
29-Jun-21	PC				nawa	Nashville Warbler	1	Singing	50	Southeast				
29-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Southeast				
29-Jun-21	PC				amro	American Robin	2	Singing	100	East				
29-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	South				
29-Jun-21	PC				heth	Hermit Thrush	2	Singing	100	North				
29-Jun-21	PC				boch	Boreal Chickadee	1	Calling	100	Southeast				
29-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Southwest				
29-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	South				
29-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	East				
29-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	Northwest				
29-Jun-21	PC	38	5:10	10	osfl	Olive-sided Flycatcher	1	Singing	250	South				
29-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	0	Southeast				
29-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Northeast				
29-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	0	Northwest				
29-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southwest				
29-Jun-21	PC				amro	American Robin	2	Calling	0	Southwest				
29-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	50	Southeast				
29-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	East				
29-Jun-21	PC				bbwa	Bay-breasted Warbler	1	Singing	0	East				
29-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	0	South				
29-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	South				
29-Jun-21	PC	12	5:25	10	revi	Red-eyed Vireo	1	Singing	0	East				
29-Jun-21	PC				amro	American Robin	1	Singing	50	Northwest				
29-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Northeast				
29-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	100	Northeast				
29-Jun-21	PC				cora	Common Raven	1	Calling	100	South				
29-Jun-21	PC	13	5:39	10	revi	Red-eyed Vireo	2	Singing	100	West				
29-Jun-21	PC				coye	Common Yellowthroat	3	Singing	50	North				
29-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	Southeast				
29-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Northeast				
29-Jun-21	PC				pawa	Palm Warbler	1	Singing	50	Northeast				
29-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	0	West				
29-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	East				
29-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	East				
29-Jun-21	PC				amre	American Redstart	1	Singing	50	Northwest				
29-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	West				
29-Jun-21	PC				amro	American Robin	1	Calling	50	Southwest				
29-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	100	Northeast				
29-Jun-21	PC				cswa	Chestnut-sided Warbler	1	Singing	50	Southeast				
29-Jun-21	PC				oven	Ovenbird	1	Singing	50	Northeast				
29-Jun-21	PC				mowa	Mourning Warbler	1	Singing	100	East				
29-Jun-21	PC	15	5:57	10	amro	American Robin	2	Singing	100	Northeast				
29-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	Southeast				
29-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	0	Northeast				
29-Jun-21	PC				mowa	Mourning Warbler	1	Singing	0	Northeast				
29-Jun-21	PC				nopa	Northern Parula	1	Singing	0	East				
29-Jun-21	PC				amgo	American Goldfinch	1	Singing	0	Southeast				
29-Jun-21	PC				amre	American Redstart	2	Singing	0	Northeast				
29-Jun-21	PC				oven	Ovenbird	2	Singing	0	Southwest				
29-Jun-21	PC				cswa	Chestnut-sided Warbler	1	Singing	0	Northwest				
29-Jun-21	PC	16	6:10	10	rcki	Ruby-crowned Kinglet	1	Singing	100	Northeast				
29-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northeast				
29-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	100	North				
29-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	Northeast				
29-Jun-21	PC				amro	American Robin	1	Singing	100	Southeast				
29-Jun-21	PC				heth	Hermit Thrush	1	Calling	0	North				
29-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	0	Northeast				
29-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Northwest				
29-Jun-21	PC				oven	Ovenbird	1	Singing	100	North				
29-Jun-21	PC				bbwa	Bay-breasted Warbler	1	Singing	0	East				
29-Jun-21	PC	42	6:22	10	btnw	Black-throated Green Warbler	1	Singing	0	West				
29-Jun-21	PC				heth	Hermit Thrush	1	Calling	50	East				
29-Jun-21	PC				oven	Ovenbird	2	Singing	50	East				
29-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	0	East				
29-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southwest				
29-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	Southeast				
29-Jun-21	PC				amro	American Robin	1	Calling	0	East				Agitated
29-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	Northeast				
29-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	South				
29-Jun-21	PC	43	6:42	10	cawa	Canada Warbler	1	Calling	0	East				Agitated
29-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	Northeast				
29-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	Northeast				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
29-Jun-21	PC				heth	Hermit Thrush	2	Singing	50	Northeast				
29-Jun-21	PC				cawa	Canada Warbler	1	Singing	100	Northwest				
29-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	100	North				
29-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	North				
29-Jun-21	PC				lisp	Lincoln's Sparrow	1	Singing	100	North				
29-Jun-21	PC	18	7:02	10	mawa	Magnolia Warbler	1	Singing	100	North				
29-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southwest				
29-Jun-21	PC				oven	Ovenbird	1	Singing	0	West				
29-Jun-21	PC				coye	Common Yellowthroat	1	Singing	0	Southwest				
29-Jun-21	PC				bhvi	Blue-headed Vireo	2	Singing	50	West				
29-Jun-21	PC				amro	American Robin	1	Singing	0	Southeast				
29-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	East				
29-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northeast				
29-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	50	Southwest				
29-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	50	Southwest				
29-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Southwest				
29-Jun-21	PC				bbwa	Bay-breasted Warbler	1	Singing	0	East				
29-Jun-21	PC	17	7:20	10	btnw	Black-throated Green Warbler	1	Singing	50	South				
29-Jun-21	PC				swth	Swainson's Thrush	2	Singing	100	South				
29-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southwest				
29-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	Southwest				
29-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southwest				
29-Jun-21	PC				amro	American Robin	1	Calling	100	North				
29-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southeast				
29-Jun-21	PC	19	7:35	10	btnw	Black-throated Green Warbler	1	Singing	0	West				
29-Jun-21	PC				oven	Ovenbird	2	Singing	100	West				
29-Jun-21	PC				wiwr	Winter Wren	1	Singing	100	Southeast				
29-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	50	Southwest				
29-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	Southwest				
29-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southwest				
29-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	East				
29-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	West				
29-Jun-21	PC				nopa	Northern Parula	1	Singing	0	Southeast				
29-Jun-21	PC				mowa	Mourning Warbler	1	Singing	50	Northwest				
29-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Northeast				
29-Jun-21	PC	39	7:48	10	ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Northeast				
29-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Northwest				
29-Jun-21	PC				bbwa	Bay-breasted Warbler	1	Singing	0	West				
29-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northeast				
29-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	0	West				
29-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	0	West				
29-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southwest				
29-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	East				
29-Jun-21	PC	40	8:02	10	btnw	Black-throated Green Warbler	1	Singing	0	Northwest				
29-Jun-21	PC				amre	American Redstart	2	Singing	0	West				
29-Jun-21	PC				gcki	Golden-crowned Kinglet	2	Singing	0	Southeast				
29-Jun-21	PC				oven	Ovenbird	2	Singing	0	Northwest				
29-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	0	Northwest				
29-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	100	West				
29-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	South				
29-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	South				
29-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	Southwest				
29-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southwest				
29-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	South				
29-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	North				
29-Jun-21	PC				pufi	Purple Finch	1	passing	0	South				
29-Jun-21	PC	21	8:14	10	swth	Swainson's Thrush	2	Singing	0	West		50	North	
29-Jun-21	PC				bbwa	Bay-breasted Warbler	1	Singing	0	Southeast				
29-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	0	Southwest				
29-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	South				
29-Jun-21	PC				heth	Hermit Thrush	1	Singing	0	North				
29-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Northwest				
29-Jun-21	PC				cedw	Cedar Waxwing	2	Calling	0	Southwest				
29-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	100	South				
29-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	East				
29-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Northeast				
29-Jun-21	PC				amre	American Redstart	1	Singing	50	South				
29-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	West				
29-Jun-21	PC	41	8:26	10	bbwa	Bay-breasted Warbler	1	Singing	50	East				
29-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	South				
29-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	South				
29-Jun-21	PC				btnw	Black-throated Green Warbler	2	Singing	0	Northeast				
29-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	0	North				
29-Jun-21	PC				amre	American Redstart	1	Singing	50	North				
29-Jun-21	PC				oven	Ovenbird	1	Singing	100	Northeast				
29-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southwest				
29-Jun-21	PC				pufi	Purple Finch	1	Calling	50	Northeast				
29-Jun-21	PC	21	8:39	10	amre	American Redstart	1	Singing	50	South				
29-Jun-21	PC				cedw	Cedar Waxwing	1	Calling	0	Southeast				
29-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	South				
29-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	100	South				
29-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	North				
29-Jun-21	PC				amro	American Robin	1	Calling	50	South				
29-Jun-21	PC	22	9:05	10	revi	Red-eyed Vireo	1	Singing	50	Northeast				
29-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Northeast				
29-Jun-21	PC				swth	Swainson's Thrush	1	Calling	0	Northeast				
29-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Southwest				
29-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	West				
29-Jun-21	PC				yrwa	Yellow-rumped Warbler	2	Calling	0	West				Pair
29-Jun-21	PC				amro	American Robin	2	Agitated	0	North				Agitated

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
29-Jun-21	PC				blja	Blue Jay	1	Calling	50	North				
29-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	0	Southwest				
29-Jun-21	PC				pufi	Purple Finch	1	Singing	50	Northeast				
29-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	North				
29-Jun-21	PC				coye	Common Yellowthroat	1	Singing	0	Northwest				
29-Jun-21	PC				nopa	Northern Parula	1	Singing	0	Northeast				
29-Jun-21	PC				blbw	Blackburnian Warbler	1	Singing	0	East				
29-Jun-21	PC	44	9:29	10	nawa	Nashville Warbler	1	Singing	50	West				
29-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	West				
29-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	100	Northwest				
29-Jun-21	PC				coye	Common Yellowthroat	1	Singing	100	Northwest				
29-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southwest				
29-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	South				
29-Jun-21	PC				pawa	Palm Warbler	1	Singing	100	West				
29-Jun-21	PC				oven	Ovenbird	1	Singing	100	Southwest				
29-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	West				
29-Jun-21	PC				cedw	Cedar Waxwing	1	Calling	0	Northeast				
30-Jun-21	PC	23	5:13	10	btnw	Black-throated Green Warbler	2	Singing	0	East				
30-Jun-21	PC				baww	Black-and-white Warbler	2	Singing	0	Southeast				
30-Jun-21	PC				revi	Red-eyed Vireo	2	Singing	50	Northeast				
30-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0	Northeast				
30-Jun-21	PC				heth	Hermit Thrush	1	Singing	100	South				
30-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	South				
30-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	0	Southwest				
30-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	Northwest				
30-Jun-21	PC	45	5:25	10	rcki	Ruby-crowned Kinglet	1	Singing	50	North				
30-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	Northwest				
30-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northeast				
30-Jun-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	0	Northwest				
30-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Southwest				
30-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Northwest				
30-Jun-21	PC				piwo	Pileated Woodpecker	1	Drumming	250	West				
30-Jun-21	PC	24	5:38	10	revi	Red-eyed Vireo	1	Singing	100	South				
30-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	Southeast				
30-Jun-21	PC				swth	Swainson's Thrush	1	Singing	50	Southeast				
30-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	100	West				
30-Jun-21	PC				oven	Ovenbird	2	Singing	0	East				
30-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	East				
30-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Southeast				
30-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Calling	50	Southeast				
30-Jun-21	PC				boch	Boreal Chickadee	1	Calling	50	Southwest				
30-Jun-21	PC	25	5:53	10	coye	Common Yellowthroat	1	Singing	0	Southeast				
30-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	Southwest				
30-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	Southeast				
30-Jun-21	PC				baww	Black-and-white Warbler	2	Singing	50	Southwest				
30-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	0	Northeast				
30-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	0	East				
30-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	0	Southeast				
30-Jun-21	PC				oven	Ovenbird	1	Singing	50	Northeast				
30-Jun-21	PC				piwo	Pileated Woodpecker	1	Calling	0	Northeast				
30-Jun-21	PC				amro	American Robin	1	Calling	0	North				
30-Jun-21	PC				cedw	Cedar Waxwing	1	Calling	0	Northwest				
30-Jun-21	PC	26	6:09	10	boch	Boreal Chickadee	1	Calling	0	Northeast				
30-Jun-21	PC				bchc	Black-capped Chickadee	1	Calling	0	West				
30-Jun-21	PC				nowa	Northern Waterthrush	1	Singing	50	Southeast				
30-Jun-21	PC				tres	Tree Swallow	3	foraging	0	South				
30-Jun-21	PC				nopa	Northern Parula	1	Singing	100	West				
30-Jun-21	PC				amre	American Redstart	1	Singing	0	Northeast				
30-Jun-21	PC				lefl	Least Flycatcher	1	Singing	0	East				
30-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	Southeast				
30-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	Northeast				
30-Jun-21	PC				amro	American Robin	1	Singing	0	Northeast				Carrying food
30-Jun-21	PC				wiwr	Winter Wren	1	Singing	100	South				
30-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	100	South				
30-Jun-21	PC				mowa	Mourning Warbler	1	Singing	0	Southwest				
30-Jun-21	PC				heth	Hermit Thrush	1	Singing	0	Northwest				
30-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	50	North				
30-Jun-21	PC				swth	Swainson's Thrush	1	Singing	0	Northwest				
30-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	50	Northeast				
30-Jun-21	PC	46	6:22	10	amro	American Robin	3	Singing	0	Northwest				
30-Jun-21	PC				nopa	Northern Parula	1	Singing	50	Southwest				
30-Jun-21	PC				coye	Common Yellowthroat	2	Singing	100	Northwest				
30-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Northeast				
30-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	0	East				
30-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	0	Southeast				
30-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	Northeast				
30-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	0	Northeast				
30-Jun-21	PC				swth	Swainson's Thrush	1	Singing	0	Northeast				
30-Jun-21	PC				oven	Ovenbird	1	Singing	0	East				
30-Jun-21	PC				heth	Hermit Thrush	1	Singing	0	Southeast				
30-Jun-21	PC				amre	American Redstart	1	Singing	50	Northeast				
30-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	Northeast				
30-Jun-21	PC	47	6:37	10	rcki	Ruby-crowned Kinglet	1	Singing	50	Northeast				
30-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	South				
30-Jun-21	PC				lefl	Least Flycatcher	1	Singing	50	East				
30-Jun-21	PC				amre	American Redstart	2	Singing	50	South				
30-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	East				
30-Jun-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	50	Southeast				
30-Jun-21	PC				pufi	Purple Finch	1	Singing	50	Southwest				
30-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	South				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
30-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	East				
30-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	1	Singing	50	South				
30-Jun-21	PC				bhvi	Blue-headed Vireo	2	Singing	50	East				
30-Jun-21	PC				cawa	Canada Warbler	1	Singing	50	Southeast				
30-Jun-21	PC	27	6:55	10	wtsp	White-throated Sparrow	1	Singing	0	Northeast				
30-Jun-21	PC				bhvi	Blue-headed Vireo	2	Singing	0	East				
30-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southeast				
30-Jun-21	PC				cora	Common Raven	1	Calling	50	Northeast				
30-Jun-21	PC				alfl	Alder Flycatcher	1	Singing	0	Northeast				
30-Jun-21	PC				heth	Hermit Thrush	1	Singing	50	South				
30-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	South				
30-Jun-21	PC				swsp	Swamp Sparrow	1	Singing	50	East				
30-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	1	Singing	50	West				
30-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	South				
30-Jun-21	PC				oven	Ovenbird	1	Singing	50	East				
30-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	South				
30-Jun-21	PC				amre	American Redstart	1	Agitated	50	East				
30-Jun-21	PC				wiwr	Winter Wren	1	Singing	0	Northeast				
30-Jun-21	PC				cedw	Cedar Waxwing	2	Calling	0	East				
30-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Southeast				
30-Jun-21	PC	48	7:22	10	revi	Red-eyed Vireo	2	Singing	50	Northeast				
30-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	0	Northeast				
30-Jun-21	PC				lefl	Least Flycatcher	1	Singing	0	Northeast				
30-Jun-21	PC				bcch	Black-capped Chickadee	2	Calling	0	East				
30-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	0	Southeast				
30-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northeast				
30-Jun-21	PC				oven	Ovenbird	2	Singing	0	Northeast				
30-Jun-21	PC	49	7:40	10	swsp	Swamp Sparrow	1	Singing	0	Northeast				
30-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	0	East				
30-Jun-21	PC				alfl	Alder Flycatcher	2	Calling	0	Southeast				
30-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	50	Northeast				
30-Jun-21	PC				amre	American Redstart	1	Singing	0	Northeast				
30-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	Northeast				
30-Jun-21	PC				nofl	Northern Flicker	1	Calling	0	East				
30-Jun-21	PC				baww	Black-and-white Warbler	2	Singing	0	Southeast				
30-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	Northeast				
30-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Calling	0	Northeast				
30-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	50	West				
30-Jun-21	PC				swth	Swainson's Thrush	1	Singing	100	North				
30-Jun-21	PC	28	7:54	10	rcki	Ruby-crowned Kinglet	1	Singing	50	North				
30-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	South				
30-Jun-21	PC				baww	Black-and-white Warbler	2	Singing	50	East				
30-Jun-21	PC				swth	Swainson's Thrush	2	Singing	50	South				
30-Jun-21	PC				coye	Common Yellowthroat	1	Singing	50	East				
30-Jun-21	PC				cawa	Canada Warbler	1	foraging	0	Northwest				Foraging silently beside road. Male Singing at this location June 28.
30-Jun-21	PC				nawa	Nashville Warbler	1	Singing	50	West				
30-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northeast				
30-Jun-21	PC				pawa	Palm Warbler	1	Singing	50	Southwest				
30-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	1	Calling	0	Southwest				
30-Jun-21	PC				osfl	Olive-sided Flycatcher	1	Singing	250	Southeast				
30-Jun-21	PC	29	8:14	10	coye	Common Yellowthroat	2	Singing	0	West				
30-Jun-21	PC				boch	Boreal Chickadee	2	Calling	0	West				
30-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	North				
30-Jun-21	PC				graj	Gray Jay	2	Calling	0	Northwest				
30-Jun-21	PC				wtsp	White-throated Sparrow	1	Singing	0	Northeast				
30-Jun-21	PC				wiwr	Winter Wren	1	Singing	0	East				
30-Jun-21	PC				amro	American Robin	1	Calling	0	Southeast				
30-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Northeast				
30-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	0	Northeast				
30-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	South				
30-Jun-21	PC				hawo	Hairy Woodpecker	1	Calling	50	East				
30-Jun-21	PC				amre	American Redstart	1	Singing	0	North				
30-Jun-21	PC				revi	Red-eyed Vireo	1	Singing	100	Southeast				
30-Jun-21	PC				osfl	Olive-sided Flycatcher	1	Singing	250	Northeast				
30-Jun-21	PC				nopa	Northern Parula	1	Singing	0	Northeast				
30-Jun-21	PC				heth	Hermit Thrush	1	Calling	0	East				
30-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southeast				
30-Jun-21	PC				blja	Blue Jay	1	Calling	50	Northeast				
30-Jun-21	PC	50	8:29	10	revi	Red-eyed Vireo	1	Singing	0	Northeast				
30-Jun-21	PC				heth	Hermit Thrush	1	Singing	0	Northeast				
30-Jun-21	PC				wiwr	Winter Wren	1	Singing	0	East				
30-Jun-21	PC				coye	Common Yellowthroat	2	Singing	0	Southeast				
30-Jun-21	PC				mawa	Magnolia Warbler	1	Singing	50	Northeast				
30-Jun-21	PC				lefl	Least Flycatcher	1	Singing	0	Northeast				
30-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Northeast				
30-Jun-21	PC				swsp	Swamp Sparrow	1	Singing	0	East				
30-Jun-21	PC				oven	Ovenbird	1	Singing	0	Southeast				
30-Jun-21	PC				nawa	Nashville Warbler	1	Singing	50	Northeast				
30-Jun-21	PC				amre	American Redstart	1	Singing	0	Northeast				
30-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	South				
30-Jun-21	PC				wtsp	White-throated Sparrow	2	Singing	50	South				
30-Jun-21	PC				bcch	Black-capped Chickadee	1	Calling	50	East				
30-Jun-21	PC				ybfj	Yellow-bellied Flycatcher	1	Singing	100	Southeast				
30-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southeast				
30-Jun-21	PC				swth	Swainson's Thrush	1	Calling	0	Northeast				
30-Jun-21	PC	51	8:45	10	mawa	Magnolia Warbler	3	Singing	0	East				
30-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Southeast				
30-Jun-21	PC				amre	American Redstart	1	Singing	50	Northeast				
30-Jun-21	PC				oven	Ovenbird	1	Singing	0	Northeast				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
30-Jun-21	PC				amro	American Robin	3	Calling	0	Northeast				
30-Jun-21	PC				coye	Common Yellowthroat	1	Singing	0	East				
30-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	0	Southeast				
30-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	Northeast				
30-Jun-21	PC	52	9:13	10	nawa	Nashville Warbler	1	Singing	0	Northeast				
30-Jun-21	PC				rtha	Red-tailed Hawk	1	flushed			Y			Agitated , possible nest nearby
30-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Northwest				
30-Jun-21	PC				coye	Common Yellowthroat	1	Singing	0	Northeast				
30-Jun-21	PC				oven	Ovenbird	1	Singing	0	East				
30-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Southeast				
30-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	50	Northeast				
30-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	0	Northeast				
30-Jun-21	PC				deju	Dark-eyed Junco	1	Singing	0	Northeast				
30-Jun-21	PC				nofl	Northern Flicker	1	Calling	0	East				
30-Jun-21	PC				amro	American Robin	2	Agitated	0	Southeast				
30-Jun-21	PC				heth	Hermit Thrush	1	Calling	50	Northeast				
30-Jun-21	PC				swth	Swainson's Thrush	1	Calling	0	Northeast				
30-Jun-21	PC	30	9:30	10	pawa	Palm Warbler	2	Singing	0	Northeast				
30-Jun-21	PC				nawa	Nashville Warbler	2	Singing	0	East				
30-Jun-21	PC				wtsj	White-throated Sparrow	1	Singing	0	Southeast				
30-Jun-21	PC				osfl	Olive-sided Flycatcher	1	Singing	250	Northeast				
30-Jun-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southwest				
30-Jun-21	PC				amro	American Robin	1	Calling	0	Northeast				
30-Jun-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	0	East				
30-Jun-21	PC				mawa	Magnolia Warbler	2	Singing	0	Southeast				
30-Jun-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	West				
30-Jun-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	East				
30-Jun-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	West				
30-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
30-Jun-21	PC				yblf	Yellow-bellied Flycatcher	1	Singing	100	Southeast				
30-Jun-21	PC				oven	Ovenbird	1	Singing	0	Northwest				
30-Jun-21	PC				coye	Common Yellowthroat	2	Singing	0	Northeast				
30-Jun-21	PC				cedw	Cedar Waxwing	2	Calling	100	West				
30-Jun-21	PC	53	9:46	10	ybsa	Yellow-bellied Sapsucker	1	Drumming	0	East				
30-Jun-21	PC				alfl	Alder Flycatcher	2	Calling	50	East				
30-Jun-21	PC				coye	Common Yellowthroat	3	Calling	50	South				
30-Jun-21	PC				amro	American Robin	4	Agitated	0	Southeast				
30-Jun-21	PC				lisp	Lincoln's Sparrow	1	Agitated	0	Northwest				
30-Jun-21	PC				wtsj	White-throated Sparrow	3	Agitated	0	Northwest				
30-Jun-21	PC				gcki	Golden-crowned Kinglet	1	Calling	50	East				
30-Jun-21	PC				heth	Hermit Thrush	1	Singing	0	West				
30-Jun-21	PC				cora	Common Raven	1	Calling	50	East				
30-Jun-21	PC				amre	American Redstart	2	Singing	0	West				
30-Jun-21	PC				osfl	Olive-sided Flycatcher	1	Singing	250	Southwest				
30-Jun-21	PC				mowa	Mourning Warbler	1	Singing						
30-Jun-21	PC				recr	Red Crossbill	3	Calling	100	South				
30-Jun-21	PC				tres	Tree Swallow	3	foraging	100	South				
30-Jun-21	PC				deju	Dark-eyed Junco	1	Calling	100	West				
30-Jun-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
30-Jun-21	PC				cawa	Canada Warbler	2	Singing	0	West				Waypoint 689
30-Jun-21	PC				spgr	Spruce Grouse	4	Flightless young	50	East	Y			
30-Jun-21	PC				rugr	Ruffed Grouse	6	Flightless young	100	Southeast				
1-Jul-21	PC	1	4:56	10	gcki	Golden-crowned Kinglet	1	Calling	0	Northwest				
1-Jul-21	PC				mawa	Magnolia Warbler	2	Singing	0	Northeast				
1-Jul-21	PC				swth	Swainson's Thrush	2	Singing	100	West				
1-Jul-21	PC				revi	Red-eyed Vireo	2	Singing	0	East				
1-Jul-21	PC				amcr	American Crow	1	Calling	100	West				
1-Jul-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	East				
1-Jul-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	West				
1-Jul-21	PC	2	5:12	10	mawa	Magnolia Warbler	2	Singing	50	East				
1-Jul-21	PC				nopa	Northern Parula	2	Singing	100	Southeast				
1-Jul-21	PC				swth	Swainson's Thrush	1	Singing	0	Northwest				
1-Jul-21	PC				wiwr	Winter Wren	1	Singing	0	Northeast				
1-Jul-21	PC				btnw	Black-throated Green Warbler	1	Calling	100	West				
1-Jul-21	PC				oven	Ovenbird	1	Singing	0	East				
1-Jul-21	PC				amre	American Redstart	1	Singing	50	East				
1-Jul-21	PC				bcch	Black-capped Chickadee	2	Calling	50	South				
1-Jul-21	PC				pufi	Purple Finch	1	Singing	50	East				
1-Jul-21	PC				heth	Hermit Thrush	1	Singing	50	South				
1-Jul-21	PC				amro	American Robin	1	Calling	50	East				
1-Jul-21	PC	31	5:29	10	cawa	Canada Warbler	1	Singing	0	South				
1-Jul-21	PC				cawa	Canada Warbler	1	Calling	0	North				Possibly Agitated by neighbouring Canada Warbler
1-Jul-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Northwest				
1-Jul-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	South				
1-Jul-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Northeast				
1-Jul-21	PC				amro	American Robin	1	Calling	0	East				
1-Jul-21	PC				swth	Swainson's Thrush	1	Calling	50	South				
1-Jul-21	PC				mawa	Magnolia Warbler	2	Singing	50	East				
1-Jul-21	PC				yblf	Yellow-bellied Flycatcher	1	Calling	50	South				
1-Jul-21	PC				deju	Dark-eyed Junco	1	Singing	0	Northeast				
1-Jul-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	East				
1-Jul-21	PC				heth	Hermit Thrush	1	Singing	0	Southeast				
1-Jul-21	PC				graj	Gray Jay	2	Calling	0	Northwest				
1-Jul-21	PC				wtsj	White-throated Sparrow	1	Singing	100	West				
1-Jul-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
1-Jul-21	PC				nowa	Northern Waterthrush	1	Singing	0	West				
1-Jul-21	PC				coye	Common Yellowthroat	1	Singing	50	East				
1-Jul-21	PC				amre	American Redstart	1	Calling	100	Southeast				
1-Jul-21	PC	3	5:51	10	heth	Hermit Thrush	1	Calling	0	Northwest				
1-Jul-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Northeast				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
1-Jul-21	PC				mowa	Mourning Warbler	1	Singing	100	West				
1-Jul-21	PC				oven	Ovenbird	2	Singing	0	East				
1-Jul-21	PC				wtsp	White-throated Sparrow	2	Singing	50	East				
1-Jul-21	PC				amre	American Redstart	1	Singing	50	South				
1-Jul-21	PC				swth	Swainson's Thrush	1	Singing	0	Northeast				
1-Jul-21	PC				wiwr	Winter Wren	1	Singing	0	Northeast				
1-Jul-21	PC				baww	Black-and-white Warbler	1	Singing	0	East				
1-Jul-21	PC				bhvi	Blue-headed Vireo	1	Singing	0	Southeast				
1-Jul-21	PC				cawa	Canada Warbler	1	Singing	100	Southeast				
1-Jul-21	PC	4	6:12	10	baww	Black-and-white Warbler	1	Singing	100	West				
1-Jul-21	PC				amre	American Redstart	2	Singing	50	East				
1-Jul-21	PC				wtsp	White-throated Sparrow	1	Singing	0	West				
1-Jul-21	PC				revi	Red-eyed Vireo	1	Singing	50	East				
1-Jul-21	PC				heth	Hermit Thrush	1	Singing	100	Southeast				
1-Jul-21	PC				wtsp	White-throated Sparrow	1	Singing	0	Northwest				
1-Jul-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Northeast				
1-Jul-21	PC				mawa	Magnolia Warbler	1	Singing	100	West				
1-Jul-21	PC				baww	Black-and-white Warbler	2	Singing	0	East				
1-Jul-21	PC				revi	Red-eyed Vireo	1	Singing	50	East				
1-Jul-21	PC	32	6:29	10	heth	Hermit Thrush	1	Singing	100	West				
1-Jul-21	PC				revi	Red-eyed Vireo	1	Singing	50	East				
1-Jul-21	PC				mawa	Magnolia Warbler	2	Singing	0	West				
1-Jul-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	East				
1-Jul-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southeast				
1-Jul-21	PC				bcch	Black-capped Chickadee	1	Calling	0	Northwest				
1-Jul-21	PC				amre	American Redstart	1	Singing	0	Northeast				
1-Jul-21	PC				oven	Ovenbird	1	Singing	100	West				
1-Jul-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	East				
1-Jul-21	PC				swth	Swainson's Thrush	1	Singing	50	East				
1-Jul-21	PC				deju	Dark-eyed Junco	1	Calling	50	South				
1-Jul-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	0	Southwest				
1-Jul-21	PC	33	6:46	10	rcki	Ruby-crowned Kinglet	1	Singing	50	East				
1-Jul-21	PC				pawa	Palm Warbler	2	Singing	50	East				
1-Jul-21	PC				heth	Hermit Thrush	1	Singing	0	West				
1-Jul-21	PC				wtsp	White-throated Sparrow	3	Singing	50	East				Agitated
1-Jul-21	PC				coye	Common Yellowthroat	2	Singing	0	West				
1-Jul-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
1-Jul-21	PC				oven	Ovenbird	1	Singing	0	West				
1-Jul-21	PC				cawa	Canada Warbler	1	Singing	100	East				
1-Jul-21	PC				mawa	Magnolia Warbler	2	Singing	50	East				
1-Jul-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	West				
1-Jul-21	PC	34	7:03	10	rcki	Ruby-crowned Kinglet	1	Singing	50	Northeast				
1-Jul-21	PC				oven	Ovenbird	2	Singing	100	West				
1-Jul-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	East				
1-Jul-21	PC				piwo	Pileated Woodpecker	1	Drumming	0	West				
1-Jul-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
1-Jul-21	PC				mawa	Magnolia Warbler	1	Singing	100	Southeast				
1-Jul-21	PC				wtsp	White-throated Sparrow	1	Singing	0	Northwest				
1-Jul-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	0	Northeast				
1-Jul-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	West				
1-Jul-21	PC				heth	Hermit Thrush	1	Singing	0	East				
1-Jul-21	PC				cedw	Cedar Waxwing	1	Calling	50	East				
1-Jul-21	PC				bcch	Black-capped Chickadee	2	Calling	50	South				
1-Jul-21	PC				modo	Mourning Dove	1	Singing	0	South				
1-Jul-21	PC	5	7:20	10	nawa	Nashville Warbler	1	Singing	100	West				
1-Jul-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	East				
1-Jul-21	PC				wtsp	White-throated Sparrow	1	Singing	0	West				
1-Jul-21	PC				bbwa	Bay-breasted Warbler	1	Singing	0	South				
1-Jul-21	PC				mawa	Magnolia Warbler	2	Singing	100	West				
1-Jul-21	PC				cora	Common Raven	1	Calling	50	East				
1-Jul-21	PC				swth	Swainson's Thrush	2	Singing	0	West				
1-Jul-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	East				
1-Jul-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Southeast				
1-Jul-21	PC				pawa	Palm Warbler	1	Calling	0	Northwest				
1-Jul-21	PC				heth	Hermit Thrush	1	Singing	0	Northeast				
1-Jul-21	PC				gcki	Golden-crowned Kinglet	2	Calling	100	West				
1-Jul-21	PC				alfl	Alder Flycatcher	1	Calling	0	East				
1-Jul-21	PC				ybfl	Yellow-bellied Flycatcher	1	Calling	50	East				
1-Jul-21	PC	6	7:33	10	baww	Black-and-white Warbler	1	Singing	50	South				
1-Jul-21	PC				oven	Ovenbird	2	Singing	100	West				
1-Jul-21	PC				wiwr	Winter Wren	1	Singing	50	East				
1-Jul-21	PC				rthu	Ruby-throated Hummingbird	1	Calling	0	West				
1-Jul-21	PC				mawa	Magnolia Warbler	1	Singing	50	East				
1-Jul-21	PC				btnw	Black-throated Green Warbler	2	Singing	100	Southeast				
1-Jul-21	PC				wtsp	White-throated Sparrow	1	Singing	0	Northwest				
1-Jul-21	PC				deju	Dark-eyed Junco	1	Calling	0	Northeast				
1-Jul-21	PC				swth	Swainson's Thrush	1	Singing	100	West				
1-Jul-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0	East				
1-Jul-21	PC	36	7:57	10	bhvi	Blue-headed Vireo	1	Singing	50	East				
1-Jul-21	PC				mowa	Mourning Warbler	2	Singing	100	West				
1-Jul-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	East				
1-Jul-21	PC				oven	Ovenbird	2	Singing	0	West				
1-Jul-21	PC				heth	Hermit Thrush	1	Singing	50	East				
1-Jul-21	PC				blja	Blue Jay	2	Calling	100	Southeast				
1-Jul-21	PC				deju	Dark-eyed Junco	1	Singing	0	Northwest				
1-Jul-21	PC				baww	Black-and-white Warbler	1	Singing	0	Northeast				
1-Jul-21	PC				mawa	Magnolia Warbler	2	Singing	100	West				
1-Jul-21	PC				bcch	Black-capped Chickadee	2	Calling	0	East				
1-Jul-21	PC				wtsp	White-throated Sparrow	1	Singing	50	East				
1-Jul-21	PC				coye	Common Yellowthroat	1	Singing	50	South				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
1-Jul-21	PC				ybfj	Yellow-bellied Flycatcher	1	Calling	50	Northeast				
1-Jul-21	PC	35	8:30	10	cawa	Canada Warbler	2	Agitated			Y			Male agitated, at waypoint 690, female at 691. Same pair?
1-Jul-21	PC				wtsp	White-throated Sparrow	2	Calling	100	West				
1-Jul-21	PC				blja	Blue Jay	2	Calling	50	East				
1-Jul-21	PC				amro	American Robin	1	Singing	0	West				
1-Jul-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
1-Jul-21	PC				btnw	Black-throated Green Warbler	1	Singing	100	Southeast				
1-Jul-21	PC				deju	Dark-eyed Junco	1	Calling	0	Northwest				
1-Jul-21	PC				lisp	Lincoln's Sparrow	1	Singing	0	Northeast				
1-Jul-21	PC				nawa	Nashville Warbler	1	Singing	100	West				
1-Jul-21	PC				mawa	Magnolia Warbler	1	Calling	0	East				
1-Jul-21	PC				ybfj	Yellow-bellied Flycatcher	1	Calling	50	East				
1-Jul-21	PC	11	8:51	10	swth	Swainson's Thrush	2	Singing	50	South				
1-Jul-21	PC				cawa	Canada Warbler	1	Calling	0	Northeast				Agitated, followed from waypoint 691
1-Jul-21	PC				baww	Black-and-white Warbler	1	Singing	100	West				
1-Jul-21	PC				ybfj	Yellow-bellied Flycatcher	1	Calling	50	East				
1-Jul-21	PC				revi	Red-eyed Vireo	1	Singing	0	West				
1-Jul-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	East				
1-Jul-21	PC				cedw	Cedar Waxwing	2	Calling	100	Southeast				
1-Jul-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	0	Northwest				
1-Jul-21	PC				heth	Hermit Thrush	1	Singing	0	Northeast				
1-Jul-21	PC				pawa	Palm Warbler	1	Singing	100	West				
1-Jul-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	0	East				
1-Jul-21	PC				mowa	Mourning Warbler	1	Singing	50	East				
1-Jul-21	PC	10	9:04	10	pufi	Purple Finch	1	Calling	50	South				
1-Jul-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	West				
1-Jul-21	PC				piqr	Pine Grosbeak	1	Calling	0	East				
1-Jul-21	PC				nawa	Nashville Warbler	1	Singing	0	East				
1-Jul-21	PC				boch	Boreal Chickadee	1	Calling	0	Southwest				
1-Jul-21	PC				wiwr	Winter Wren	1	Singing	0	East				
1-Jul-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
1-Jul-21	PC				deju	Dark-eyed Junco	1	Singing	0	East				
1-Jul-21	PC				mawa	Magnolia Warbler	1	Singing	50	East				
1-Jul-21	PC				swth	Swainson's Thrush	1	Singing	50	South				
1-Jul-21	PC				ybfj	Yellow-bellied Flycatcher	1	Calling	50	Northwest				
1-Jul-21	PC				bbwa	Bay-breasted Warbler	1	Singing	0	Northwest				
1-Jul-21	PC				heth	Hermit Thrush	1	Singing	0	East				
1-Jul-21	PC	7	9:22	10	ybfj	Yellow-bellied Flycatcher	1	Singing	50	East				
1-Jul-21	PC				swth	Swainson's Thrush	1	Singing	50	South				
1-Jul-21	PC				heth	Hermit Thrush	1	Singing	0	East				
1-Jul-21	PC				mawa	Magnolia Warbler	2	Singing	50	East				
1-Jul-21	PC				btnw	Black-throated Green Warbler	3	Singing	50	South				
1-Jul-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southeast				
1-Jul-21	PC				coye	Common Yellowthroat	1	Singing	0	East				
1-Jul-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	East				
1-Jul-21	PC				oven	Ovenbird	1	Singing	50	South				
1-Jul-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
1-Jul-21	PC				amcr	American Crow	3	Calling	100	West				
1-Jul-21	PC				amro	American Robin	1	Calling	50	East				
1-Jul-21	PC	37	9:34	10	oven	Ovenbird	1	Singing	0	West				
1-Jul-21	PC				coye	Common Yellowthroat	1	Singing	50	East				
1-Jul-21	PC				swth	Swainson's Thrush	1	Singing	100	Southeast				
1-Jul-21	PC				revi	Red-eyed Vireo	1	Singing	0	Northwest				
1-Jul-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	Northeast				
1-Jul-21	PC				wtsp	White-throated Sparrow	1	Singing	100	West				
1-Jul-21	PC				mowa	Mourning Warbler	1	Singing	0	East				
1-Jul-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	East				
1-Jul-21	PC				bcch	Black-capped Chickadee	2	Calling	50	South				
1-Jul-21	PC	8	9:46	10	btnw	Black-throated Green Warbler	1	Singing	0	East				
1-Jul-21	PC				revi	Red-eyed Vireo	2	Singing	50	East				
1-Jul-21	PC				oven	Ovenbird	1	Singing	50	South				
1-Jul-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	West				
1-Jul-21	PC				swth	Swainson's Thrush	1	Calling	100	West				
1-Jul-21	PC				deju	Dark-eyed Junco	1	Singing	50	East				
1-Jul-21	PC	9	10:11	10	colo	Common Loon	4	2 flightless young	0	West				2 adults and 2 flightless young
1-Jul-21	PC				blbw	Blackburnian Warbler	1	Singing	50	East				
1-Jul-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Southeast				
1-Jul-21	PC				baww	Black-and-white Warbler	1	Singing	0	Northwest				
1-Jul-21	PC				swth	Swainson's Thrush	2	Singing	0	Northeast				
1-Jul-21	PC				mawa	Magnolia Warbler	1	Singing	100	West				
1-Jul-21	PC				cora	Common Raven	1	Calling	0	East				
1-Jul-21	PC				heth	Hermit Thrush	1	Singing	50	East				
1-Jul-21	PC				revi	Red-eyed Vireo	1	Singing	50	South				
1-Jul-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southeast				
1-Jul-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	East				
1-Jul-21	PC				coye	Common Yellowthroat	1	Singing	50	East				
1-Jul-21	PC				oven	Ovenbird	1	Singing	50	South				
1-Jul-21	PC				coni	Common Nighthawk	3	Calling	0	Circling				Foraging over lake

Common name	Scientific Name	Bird Group	SARA	COSEWIC	NSESA	NS_Srank	Number Observed
American Black Duck	Anas rubripes	1	Not Listed	Not Listed	Not Listed	S5B,S5N	2
Alder Flycatcher	Empidonax alnorum	6	Not Listed	Not Listed	Not Listed	S5B	1
American Crow	Corvus brachyrhynchos	6	Not Listed	Not Listed	Not Listed	S5	59
American Goldfinch	Carduelis tristis	6	Not Listed	Not Listed	Not Listed	S5	9
American Redstart	Setophaga ruticilla	6	Not Listed	Not Listed	Not Listed	S5B	1
American Robin	Turdus migratorius	6	Not Listed	Not Listed	Not Listed	S5B,S3N	94
Bald Eagle	Haliaeetus leucocephalus	4	Not Listed	Not at Risk	Not Listed	S5	8
Black-and-white Warbler	Mniotilta varia	6	Not Listed	Not Listed	Not Listed	S5B	17
Bay-breasted Warbler	Dendroica castanea	6	Not Listed	Not Listed	Not Listed	S5	1
Black-capped Chickadee	Poecile atricapilla	6	Not Listed	Not Listed	Not Listed	S5	42
Blue-headed Vireo	Vireo solitarius	6	Not Listed	Not Listed	Not Listed	S5B	4
Blue Jay	Cyanocitta cristata	6	Not Listed	Not Listed	Not Listed	S5	34
Blackpoll Warbler	Dendroica striata	6	Not Listed	Not Listed	Not Listed	S5	7
Boreal Chickadee	Poecile hudsonica	6	Not Listed	Not Listed	Not Listed	SU	33
Brown Creeper	Certhia americana	6	Not Listed	Not Listed	Not Listed	S5	2
Black-throated Green Warbler	Dendroica virens	6	Not Listed	Not Listed	Not Listed	S5	7
Cedar Waxwing	Bombicilla cedrorum	6	Not Listed	Not Listed	Not Listed	S5B	12
Chimney Swift	Chaetura pelagica	6	Threatened	Threatened	Endangered	S2S3B,S1M	1
Common Loon	Gavia immer	3	Not Listed	Not at Risk	Not Listed	S4B	5
Common Raven	Corvus corax	6	Not Listed	Not Listed	Not Listed	S5	41
Common Yellowthroat	Geothlypis trichas	6	Not Listed	Not Listed	Not Listed	S5B	13
Double-crested Cormorant	Phalacrocorax auritus	2	Not Listed	Not at Risk	Not Listed	SU	1
Dark-eyed Junco	Junco hyemalis	6	Not Listed	Not Listed	Not Listed	S4S5	92
Downy Woodpecker	Picoides pubescens	7	Not Listed	Not Listed	Not Listed	SU	1
Fox Sparrow	Passerella iliaca	6	Not Listed	Not Listed	Not Listed	S3S4B,S5M	1
Golden-crowned Kinglet	Regulus satrapa	6	Not Listed	Not Listed	Not Listed	S5	83
Gray Jay	Perisoreus canadensis	6	Not Listed	Not Listed	Not Listed	S3	15
Greater Yellowlegs	Tringa melanoleuca	2	Not Listed	Not Listed	Not Listed	S3B,S4M	1
Hairy Woodpecker	Picoides villosus	7	Not Listed	Not Listed	Not Listed	SU	4
Hermit Thrush	Catharus guttatus	6	Not Listed	Not Listed	Not Listed	S5B	21
Lincoln's Sparrow	Melospiza lincolnii	6	Not Listed	Not Listed	Not Listed	S4B,S5M	1
Magnolia Warbler	Dendroica magnolia	6	Not Listed	Not Listed	Not Listed	S5	9
Merlin	Falco columbarius	4	Not Listed	Not at Risk	Not Listed	S5B	2
Northern Flicker	Colaptes auratus	7	Not Listed	Not Listed	Not Listed	S5B	21
Northern Parula	Parula americana	6	Not Listed	Not Listed	Not Listed	SU	2
Ovenbird	Seiurus aurocapilla	6	Not Listed	Not Listed	Not Listed	S5B	3
Palm Warbler	Dendroica palmarum	6	Not Listed	Not Listed	Not Listed	S5	21
Pied-billed Grebe	Podilymbus podiceps	3	Not Listed	Not Listed	Not Listed	S4B	2
Pine Siskin	Carduelis pinus	6	Not Listed	Not Listed	Not Listed	S5	55
Pileated Woodpecker	Dryocopus pileatus	7	Not Listed	Not Listed	Not Listed	S5	10
Purple Finch	Carpodacus purpureus	6	Not Listed	Not Listed	Not Listed	S5	82
Red-breasted Nuthatch	Sitta canadensis	6	Not Listed	Not Listed	Not Listed	S4S5	1
Ruby-crowned Kinglet	Regulus calendula	6	Not Listed	Not Listed	Not Listed	S5	13
Red-eyed Vireo	Vireo olivaceus	6	Not Listed	Not Listed	Not Listed	S5B	12
Ring-necked Duck	Aythya collaris	1	Not Listed	Not Listed	Not Listed	S5B	12
Red-tailed Hawk	Buteo jamaicensis	4	Not Listed	Not at Risk	Not Listed	S5	2

Common name	Scientific Name	Bird Group	SARA	COSEWIC	NSESA	NS_Srank	Number Observed
Ruffed Grouse	Bonasa umbellus	7	Not Listed	Not Listed	Not Listed	S5	3
Savannah Sparrow	Passerculus sandwichensis	6	Not Listed	Not Listed	Not Listed	S4S5B,S5M	1
Solitary Sandpiper	Tringa solitaria	2	Not Listed	Not Listed	Not Listed	SUB,S3S4M	1
Song Sparrow	Melospiza melodia	6	Not Listed	Not Listed	Not Listed	S5B	1
Spruce Grouse	Falcapennis canadensis	7	Not Listed	Not Listed	Not Listed	SU	2
Sharp-shinned Hawk	Accipiter striatus	4	Not Listed	Not at Risk	Not Listed	S5	2
Swamp Sparrow	Melospiza georgiana	6	Not Listed	Not Listed	Not Listed	S5B	5
Winter Wren	Troglodytes troglodytes	6	Not Listed	Not Listed	Not Listed	SU	4
Whimbrel	Numenius phaeopus	2				S2S3M	1
White-throated Sparrow	Zonotrichia albicollis	6	Not Listed	Not Listed	Not Listed	S4S5B,S5M	18
White-winged Crossbill	Loxia leucoptera	6	Not Listed	Not Listed	Not Listed	S4S5	66
Yellow-rumped Warbler	Dendroica coronata	6	Not Listed	Not Listed	Not Listed	S5	23
Yellow Warbler	Dendroica petechia	6	Not Listed	Not Listed	Not Listed	S5	4
passerine species		6	N/A	N/A	N/A		1
warbler species		6	N/A	N/A	N/A		36
blackbird species		6	N/A	N/A	N/A		2

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
9-2-21	PC	1	6:28	10	cora	Common Raven	1	Calling	250					some traffic, hard to hear birds
9-2-21	PC				heth	Hermit Thrush	1	Calling	0					
9-2-21	PC				bcch	Black-capped Chickadee	2	Calling	100					
9-2-21	PC	2	6:45	10	heth	Hermit Thrush	1	Singing	100					
9-2-21	PC				warb sp	warbler species	1				Y			
9-2-21	PC				wtsp	White-throated Sparrow	1				Y			
9-2-21	PC				sosp	Song Sparrow	1				Y			
9-2-21	PC				piwo	Pileated Woodpecker	1	Calling	50					
9-2-21	PC				btnw	Black-throated Green Warbler	2	Calling	0					
9-2-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	100					
9-2-21	PC				amcr	American Crow	2	Calling	50					
9-2-21	PC				blja	Blue Jay	1	Calling	2000					
9-2-21	PC				cora	Common Raven	1	Calling	100					
9-2-21	PC				baww	Black-and-white Warbler	1	Singing	0					
9-2-21	PC				revi	Red-eyed Vireo	1	Singing	50					
9-2-21	PC				yewa	Yellow Warbler	1	Calling	0					
9-2-21	PC				wtsp	White-throated Sparrow	1	Singing	0					
9-2-21	PC				warb sp	warbler species	3		50		Y	50	South	
9-2-21	PC				mawa	Magnolia Warbler	2	Calling	0					
9-2-21	PC	3	7:15	10	amro	American Robin	2	Calling			Y			
9-2-21	PC				nofl	Northern Flicker	1	Singing			Y			
9-2-21	PC				baww	Black-and-white Warbler	1	Singing			Y			
9-2-21	PC				btnw	Black-throated Green Warbler	1	Singing			Y			
9-2-21	PC				rtha	Red-tailed Hawk	1	Singing			Y			
9-2-21	PC				yrwa	Yellow-rumped Warbler	1	Calling			Y			
9-2-21	PC				baww	Black-and-white Warbler	2	Singing	0					
9-2-21	PC				revi	Red-eyed Vireo	1	Singing	50					
9-2-21	PC				mawa	Magnolia Warbler	1	Calling	0					
9-2-21	PC				cora	Common Raven	1	Calling	250					
9-2-21	PC				blja	Blue Jay	2	Calling	250					
9-2-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0					
9-2-21	PC				wtsp	White-throated Sparrow	1	Calling	0					
9-2-21	PC				nofl	Northern Flicker	1	Calling	100					
9-2-21	PC				cedw	Cedar Waxwing	2	Calling	0					
9-2-21	PC				wwcr	White-winged Crossbill	2		0		Y			
9-2-21	PC				heth	Hermit Thrush	1		0		Y			
9-2-21	PC				deju	Dark-eyed Junco	1		0		Y			
9-2-21	PC				piwo	Pileated Woodpecker	1	Calling	0					
9-2-21	PC				warb sp	warbler species	2	Singing	0					
9-2-21	PC	4	7:39	10	baww	Black-and-white Warbler	1	Singing	0					
9-2-21	PC				bcch	Black-capped Chickadee	3	Calling	0					
9-2-21	PC				piwo	Pileated Woodpecker	2	Calling	0					
9-2-21	PC				blja	Blue Jay	3	Calling	0					
9-2-21	PC				wwcr	White-winged Crossbill	2	Calling	0					
9-2-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
9-2-21	PC				yewa	Yellow Warbler	1	Calling	0					
9-2-21	PC				dcco	Double-crested Cormorant	1		100		Y	100+	West	
9-2-21	PC				amcr	American Crow	3		250		Y	50+	West	
9-2-21	PC				mawa	Magnolia Warbler	1	Calling	0					
9-2-21	PC	5	7:56	10	baww	Black-and-white Warbler	2	Calling	0					
9-2-21	PC				graj	Gray Jay	3	Calling	0	East				
9-2-21	PC				blja	Blue Jay	2	Calling	50					
9-2-21	PC				rcki	Ruby-crowned Kinglet	2	Calling	0	South				
9-2-21	PC				deju	Dark-eyed Junco	1	Calling	0			100+	North	
9-2-21	PC				nofl	Northern Flicker	1	Calling	50					
9-2-21	PC				heth	Hermit Thrush	2	Calling	0					
9-2-21	PC				piwo	Pileated Woodpecker	1	Calling	250					
9-2-21	PC				amcr	American Crow	1	Calling	50					
9-2-21	PC	6	8:14	10	gcki	Golden-crowned Kinglet	3				Y			
9-2-21	PC				mawa	Magnolia Warbler	1	Calling	0					
9-2-21	PC				heth	Hermit Thrush	2	Calling	0					
9-2-21	PC				revi	Red-eyed Vireo	1	Singing	0					
9-2-21	PC				blja	Blue Jay	1	Calling	100					
9-2-21	PC				baww	Black-and-white Warbler	1	Calling	0					
9-2-21	PC	7	8:28	10	baww	Black-and-white Warbler	1	Singing	0					
9-2-21	PC				yrwa	Yellow-rumped Warbler	i	Calling	0					
9-2-21	PC				nofl	Northern Flicker	2	Calling	50					
9-2-21	PC				heth	Hermit Thrush	0	Calling	0					
9-2-21	PC				blja	Blue Jay	2	Calling	250					
9-2-21	PC	9	9:01	10	warb sp	warbler species	2				Y	50+	South	
9-2-21	PC				cora	Common Raven	3	Calling	50					
9-2-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0					

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9-2-21	PC				baea	Bald Eagle	1		100		Y	50	East	
9-2-21	PC				wiwr	Winter Wren	1	Singing	50					
9-2-21	PC				colo	Common Loon	1		250					
9-2-21	PC				rdu	Ring-necked Duck	5		100					
9-2-21	PC				warb sp	warbler species	3	Calling	50					
9-2-21	PC				revi	Red-eyed Vireo	1				Y			
9-2-21	PC				cedw	Cedar Waxwing	1				Y			
9-2-21	PC	8	9:24	10	revi	Red-eyed Vireo	1	Calling	0					
9-2-21	PC				baww	Black-and-white Warbler	1	Calling						
9-2-21	PC				colo	Common Loon	1	Calling	1000					
9-2-21	PC				amro	American Robin	1		100		Y	50	East	
9-2-21	PC				amgo	American Goldfinch	1	Calling	0			50	East	
9-2-21	PC				blja	Blue Jay	1	Calling	50					
9-2-21	PC	10	9:40	10	piwo	Pileated Woodpecker	1	Calling	100					
9-2-21	PC				boch	Boreal Chickadee	3	Calling	0					
9-2-21	PC				baww	Black-and-white Warbler	2	Singing	0					
9-2-21	PC				hawo	Hairy Woodpecker	1	Calling	0					
9-2-21	PC				colo	Common Loon	1	Calling	1000					
9-2-21	PC				yrwa	Yellow-rumped Warbler	3	Calling	0					
9-2-21	PC				pawa	Palm Warbler	1	Calling	0					
9-2-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
9-2-21	PC				nofi	Northern Flicker	3	Calling	50					
9-2-21	PC				heth	Hermit Thrush	1	Calling	0					
9-2-21	PC				oven	Ovenbird	2	Calling	0					
9-2-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	0	Southeast				
9-2-21	PC				mawa	Magnolia Warbler	1	Calling	0					
9-2-21	PC				bcch	Black-capped Chickadee	2	Calling	0					
9-2-21	PC				merl	Merlin	1				Y	50	Southwest	
9-2-21	PC	11	10:01	10	cedw	Cedar Waxwing	2	Calling	0					
9-2-21	PC				baww	Black-and-white Warbler	1	Singing	150					
9-2-21	PC				btnw	Black-throated Green Warbler	2	Singing	0					
9-2-21	PC				nopa	Northern Parula	1	Singing	50					
9-2-21	PC				nofi	Northern Flicker	1	Calling	0					
9-2-21	PC				pawa	Palm Warbler	4	Singing	0					
9-2-21	PC				mawa	Magnolia Warbler	1	Calling	50			50	North	
9-2-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	0	North		50+	South	
9-2-21	PC				blpw	Blackpoll Warbler	1	Calling	0			50	Northeast	
9-2-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
9-2-21	PC				btnw	Black-throated Green Warbler	1	Calling	0					
9-2-21	PC				revi	Red-eyed Vireo	1	Calling	0					
9-2-21	PC				oven	Ovenbird	1	Singing	0					
9-4-21	PC	14	6:49	10	revi	Red-eyed Vireo	1	Singing	0					
9-4-21	PC				bcch	Black-capped Chickadee	2	Calling	0					
9-4-21	PC				cedw	Cedar Waxwing	1	Calling	0					
9-4-21	PC				warb sp	warbler species	3	Passing	0			50	South	
9-4-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0					
9-4-21	PC				nofi	Northern Flicker	1	Calling						
9-4-21	PC				wtsr	White-throated Sparrow	2	Calling	50					
9-4-21	PC	13	7:15	10	warb sp	warbler species	4		0		Y	50	East	
9-4-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	0	Northwest				
9-4-21	PC				pufi	Purple Finch	1		50		Y	50+	East	
9-4-21	PC				heth	Hermit Thrush	1	Calling	0					
9-4-21	PC				deju	Dark-eyed Junco	3	Calling	0					
9-4-21	PC				coye	Common Yellowthroat	1	Calling	0					
9-4-21	PC	12	7:38	10	cedw	Cedar Waxwing	3	Calling	0					
9-4-21	PC				amro	American Robin	3	Calling	0			50	South	
9-4-21	PC				coye	Common Yellowthroat	1	Calling	0					
9-4-21	PC				pawa	Palm Warbler	1		0	North	Y	-50	South	
9-4-21	PC				bcch	Black-capped Chickadee	1	Calling	50	West				
9-4-21	PC				boch	Boreal Chickadee	1				Y			
9-4-21	PC	15	7:58	10	revi	Red-eyed Vireo	1	Singing	100	South				
9-4-21	PC				nofi	Northern Flicker	1	Calling	50					
9-4-21	PC				warb sp	warbler species	1	Singing						
9-4-21	PC				boch	Boreal Chickadee	1				Y			
9-4-21	PC				gcki	Golden-crowned Kinglet	1				Y			
9-4-21	PC	16	8:17	10	rcki	Ruby-crowned Kinglet	1	Calling	0	South				
9-4-21	PC				nofi	Northern Flicker	1	Calling	100					
9-4-21	PC				deju	Dark-eyed Junco	1	Calling	0					
9-4-21	PC				gcki	Golden-crowned Kinglet	3	Calling	0					
9-4-21	PC				boch	Boreal Chickadee	2	Calling	0	South				
9-4-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0					
9-4-21	PC				baww	Black-and-white Warbler	1	Calling	0					

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
9-4-21	PC				wvcr	White-winged Crossbill	2	Calling	100					
9-4-21	PC	17	8:30	10	pawa	Palm Warbler	1	Calling	0					
9-4-21	PC				deju	Dark-eyed Junco	4	Calling	0					
9-4-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
9-4-21	PC				cora	Common Raven	1	Calling	250					
9-4-21	PC				warb sp	warbler species	1	Calling	0					
9-4-21	PC	18	8:48	10	gcki	Golden-crowned Kinglet	3	Calling	0					
9-4-21	PC				bcch	Black-capped Chickadee	1	Calling	0					
9-4-21	PC				nofl	Northern Flicker	1	Singing	100					
9-4-21	PC	19	9:13	10	blja	Blue Jay	1	Calling	100					
9-4-21	PC				cora	Common Raven	2	Calling	250					
9-4-21	PC				deju	Dark-eyed Junco	1	Calling	0					
9-4-21	PC	20	9:29	10	deju	Dark-eyed Junco	1	Calling	0					
9-4-21	PC				ssha	Sharp-shinned Hawk	1				Y			
9-4-21	PC				piwo	Pileated Woodpecker	1	Calling	100					
9-4-21	PC				bcch	Black-capped Chickadee	1	Calling	0					
9-4-21	PC	21	9:45	10	cora	Common Raven	1	Calling	100					
9-4-21	PC				wtsp	White-throated Sparrow	1	Calling	0					
9-4-21	PC				heth	Hermit Thrush	1	Calling	0					
9-4-21	PC				blja	Blue Jay	1	Calling	100					
9-4-21	PC				boch	Boreal Chickadee	2				Y			
9-4-21	PC				deju	Dark-eyed Junco	14				Y			
9-4-21	PC				bcch	Black-capped Chickadee	2				Y			
9-4-21	PC				pawa	Palm Warbler	1				Y			
9-4-21	PC				coye	Common Yellowthroat	1				Y			
9-4-21	PC				mawa	Magnolia Warbler	1				Y			
9-4-21	PC				rcki	Ruby-crowned Kinglet	1				Y			
9-4-21	PC	22	10:11	10	swsp	Swamp Sparrow	1	Calling	0	East				
9-4-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	0	Northwest				
9-4-21	PC				yewa	Yellow Warbler	2	Calling	0	Northwest				
9-4-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0	Northwest				
9-4-21	PC				boch	Boreal Chickadee	1	Calling	0	Northeast				
9-4-21	PC				coye	Common Yellowthroat	1	Calling	0	Northwest				
9-4-21	PC				wtsp	White-throated Sparrow	1	Calling	0	Northwest				
9-4-21	PC				cora	Common Raven	1	Calling	500	West				
9-4-21	PC	23	10:27	10	chsw	Chimney Swift	1		0	North	Y	50	South	
9-4-21	PC				nofl	Northern Flicker	1	Calling	100	West				
9-4-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0	West				
9-4-21	PC				amro	American Robin	1	Calling	0	West		50	West	
9-4-21	PC				coye	Common Yellowthroat	1	Calling	0	West				
9-4-21	PC				gcki	Golden-crowned Kinglet	4	Calling	0	West				
9-4-21	PC				revi	Red-eyed Vireo	3	Calling	0	West				
9-4-21	PC				bhvi	Blue-headed Vireo	1	Singing	0	West				
9-4-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	0	West				
9-4-21	PC				bcch	Black-capped Chickadee	2	Singing	0	East				
9-4-21	PC				boch	Boreal Chickadee	2	Calling	0	West				
9-4-21	PC				cora	Common Raven	1	Calling	0	Northeast				
9-4-21	PC				amro	American Robin	4	Calling	0	Northeast				
9-4-21	PC				coye	Common Yellowthroat	2	Calling	0	West				
9-4-21	PC				mawa	Magnolia Warbler	1	Calling	0	West				
9-4-21	PC				baww	Black-and-white Warbler	1	Calling	0	West				
9-4-21	PC				brcr	Brown Creeper	1	Calling	0	West				
9-4-21	PC	24	10:41	10	boch	Boreal Chickadee	1	Calling	0	Northwest				
9-4-21	PC				amcr	American Crow	1	Calling	500	South				
9-4-21	PC				pawa	Palm Warbler	1	Calling	0	Northwest				
9-4-21	PC				rcki	Ruby-crowned Kinglet	2	Calling	0	Northwest				
9-4-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0	Northwest				
9-4-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0	Northwest				
9-4-21	PC				amre	American Redstart	1	Calling	0	West				
9-4-21	PC	25	10:54	10	coye	Common Yellowthroat	2	Calling	0	North				
9-4-21	PC				baww	Black-and-white Warbler	1	Singing	0	North				
9-4-21	PC				alfi	Alder Flycatcher	1	Singing	50	South				
9-4-21	PC				blja	Blue Jay	1	Calling	100	East				
9-4-21	PC				nofl	Northern Flicker	1	Calling	100	Northwest				
9-4-21	PC				swsp	Swamp Sparrow	1	Calling	50	Northwest				
9-4-21	PC				heth	Hermit Thrush	1	Calling	50	West		50	East	
9-4-21	PC				lisp	Lincoln's Sparrow	1	Calling	0	Northwest				
9-4-21	PC	26	11:11	10	deju	Dark-eyed Junco	3	Calling	0	East				
9-4-21	PC				sosa	Solitary Sandpiper	1		0	Southeast	Y			
9-4-21	PC				pawa	Palm Warbler	1	Calling	0	Southeast				
9-4-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southeast				
9-4-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0	East				

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9-4-21	PC	27	11:27	10	deju	Dark-eyed Junco	2				Y			
9-4-21	PC				wiwr	Winter Wren	1	Calling	0	North				
9-4-21	PC	28	11:53	10	baea	Bald Eagle	2		1000	Northeast	Y	100+		
9-4-21	PC				piwo	Pileated Woodpecker	1	Calling	100	West				
9-4-21	PC				bcch	Black-capped Chickadee	3	Calling	0	Southeast				
9-4-21	PC				revi	Red-eyed Vireo	1	Calling	0	East				
9-4-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0	East				Flightless young
9-4-21	PC				deju	Dark-eyed Junco	5		0	East	Y			
9-4-21	PC				coye	Common Yellowthroat	1	Calling						
9-4-21	PC	29	12:07	10	coye	Common Yellowthroat	1	Calling	0	West				
9-4-21	PC				rtha	Red-tailed Hawk	1		1000	North	Y			
9-4-21	PC				passerine sp	passerine species	1		500	Northeast	Y	50	Northwest	
9-4-21	PC				nofl	Northern Flicker	1	Calling	50	South				
9-4-21	PC				baea	Bald Eagle	2		250	North	Y	50+		possibly same birds from 28
9-4-21	PC	30	12:23	10	deju	Dark-eyed Junco	6		0	Northeast	Y			
9-4-21	PC				nofl	Northern Flicker	1	Calling	0	Northeast				
9-4-21	PC				cora	Common Raven	2	Calling	500	Southeast				
9-4-21	PC				hawo	Hairy Woodpecker	1	Calling	100	South				
9-4-21	PC				coye	Common Yellowthroat	1	Calling	0	Southeast				
9-4-21	PC				heth	Hermit Thrush	2	Calling		Southeast				
Sept 26	PC	1	6:55	10	blpw	Blackpoll Warbler	1	Passing	0					
Sept 26	PC				gcki	Golden-crowned Kinglet	4	Calling	0					
Sept 26	PC				amcr	American Crow	2	Passing	50					
Sept 26	PC				bcch	Black-capped Chickadee	2	Calling	0					
Sept 26	PC				bhvi	Blue-headed Vireo	1	Passing	0					
Sept 26	PC				btnw	Black-throated Green Warbler	1	Calling	0					
Sept 26	PC				warb sp	warbler species	1	Calling	0					
Sept 26	PC				deju	Dark-eyed Junco	1	Passing	0					
Sept 26	PC				wtsp	White-throated Sparrow	2	Calling	0					
Sept 26	PC	2	7:16	10	blpw	Blackpoll Warbler	2	Passing	0					
Sept 26	PC	3	7:29	10	heth	Hermit Thrush	1	Passing	0		Y			
Sept 26	PC				gcki	Golden-crowned Kinglet	2	Calling	0		Y			
Sept 26	PC				warb sp	warbler species	1	Calling	0		Y			
Sept 26	PC				blja	Blue Jay	1	Calling	100		Y			
Sept 26	PC				wtsp	White-throated Sparrow	1	Calling	0					
Sept 26	PC				amro	American Robin	1	Calling	0					
Sept 26	PC	4	7:57	10	graj	Gray Jay	2	Calling	0	Northwest				
Sept 26	PC				pawa	Palm Warbler	2	Passing	0					
Sept 26	PC				nopa	Northern Parula	1	Passing	0					
Sept 26	PC				deju	Dark-eyed Junco	2	Calling	0					
Sept 26	PC	5	8:12	10	bcch	Black-capped Chickadee	3	Calling	0					
Sept 26	PC				blja	Blue Jay	1	Calling	50					
Sept 26	PC				pawa	Palm Warbler	1	Passing	0					
Sept 26	PC				boch	Boreal Chickadee	2	Calling	0	Northeast				
Sept 26	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
Sept 26	PC	6	8:34	10	bbwa	Bay-breasted Warbler	1	Passing	0					
Sept 26	PC				bcch	Black-capped Chickadee	1	Calling	0					
Sept 26	PC				rcki	Ruby-crowned Kinglet	1	Calling	0					
Sept 26	PC				wtsp	White-throated Sparrow	2	Calling	0					
Sept 26	PC				abdu	American Black Duck	2	Passing	100	East		50	South	
Sept 26	PC				warb sp	warbler species	2	Calling	0					
Sept 26	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
Sept 26	PC	7	8:53	10	blja	Blue Jay	2	Calling	100					
Sept 26	PC				warb sp	warbler species	2	Calling	0					
Sept 26	PC	9	9:17	10	pbgr	Pied-billed Grebe	2	on water	250					
Sept 26	PC				rndu	Ring-necked Duck	7	on water	250					
Sept 26	PC				warb sp	warbler species	1	Calling	0					
Sept 26	PC				baea	Bald Eagle	1	Passing	500	South		50	West	
Sept 26	PC				cora	Common Raven	3	Passing	200	Southeast		50	Southwest	
Sept 26	PC	8	9:39	10	bcch	Black-capped Chickadee	4	Calling	0					
Sept 26	PC				cora	Common Raven	1	Calling	0					
Sept 26	PC				deju	Dark-eyed Junco	3				Y			
Sept 26	PC				warb sp	warbler species	1				Y			
Sept 26	PC	10	9:54	10	boch	Boreal Chickadee	3	Passing	0					
Sept 26	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
Sept 26	PC				deju	Dark-eyed Junco	2	Calling	0					
Sept 26	PC	11	10:08	10	deju	Dark-eyed Junco	1	Calling	0					
Sept 26	PC				blja	Blue Jay	1	Calling	50					
Sept 26	PC				gcki	Golden-crowned Kinglet	1	Calling	50					
Sept 26	PC				cedw	Cedar Waxwing	3	Calling	0					
Sept 26	PC				warb sp	warbler species	1	Passing	0					
Sept 26	PC	12	10:56	10	boch	Boreal Chickadee	2				Y			wind picking up

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
Sept 26	PC				bchc	Black-capped Chickadee	3	Calling	0					
Sept 26	PC				warb sp	warbler species	2	Calling	0					
Sept 26	PC				amro	American Robin	1	Calling	50					
Sept 26	PC				rbnu	Red-breasted Nuthatch	1	Calling	0					
Sept 26	PC	13	11:12	10	gcki	Golden-crowned Kinglet	1	Calling	50					
Sept 26	PC				hawo	Hairy Woodpecker	1	Calling	0					
Sept 26	PC				wiwr	Winter Wren	1	Calling	0					
10-1-21	PC	25	6:59	10	amro	American Robin	2	Calling	50					
10-1-21	PC				heth	Hermit Thrush	1	Calling	0					
10-1-21	PC				wtsp	White-throated Sparrow	1	Calling	0					
10-1-21	PC				swsp	Swamp Sparrow	1	Calling	0					
10-1-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0					
10-1-21	PC				whim	Whimbrel	1				Y			
10-1-21	PC				grye	Greater Yellowlegs	1				Y			
10-1-21	PC				cora	Common Raven	1	Calling	500					
10-1-21	PC	26	7:18	10	blpw	Blackpoll Warbler	1	Calling	0					
10-1-21	PC				rugr	Ruffed Grouse	1	Drumming	0					
10-1-21	PC				yrwa	Yellow-rumped Warbler	2	Calling	0					
10-1-21	PC				cora	Common Raven	1	Calling	250					
10-1-21	PC	27	7:37	10	savs	Savannah Sparrow	1	Passing	0					
10-1-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0					
10-1-21	PC				warb sp	warbler species	1	Calling	0					
10-1-21	PC				wiwr	Winter Wren	1	Calling	0					
10-1-21	PC				cora	Common Raven	1	Calling	0					
10-1-21	PC				dowo	Downy Woodpecker	1	Calling	0					
10-1-21	PC				bhvi	Blue-headed Vireo	1	Calling	0					
10-1-21	PC				heth	Hermit Thrush	1	Calling	0					
10-1-21	PC	28	8:02	10	rugr	Ruffed Grouse	1				Y			
10-1-21	PC				pawa	Palm Warbler	1	Calling	0					
10-1-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	0					
10-1-21	PC				cora	Common Raven	1	Calling	500					
10-1-21	PC				blja	Blue Jay	1	Calling	100					
10-1-21	PC				swsp	Swamp Sparrow	2	Calling	50					
10-1-21	PC	29	8:16	10	gcki	Golden-crowned Kinglet	3	Calling	0					
10-1-21	PC				wtsp	White-throated Sparrow	1	Calling	50					
10-1-21	PC	30	8:31	10	deju	Dark-eyed Junco	3	Flushed	50					
10-1-21	PC				wtsp	White-throated Sparrow	1	Calling	0					
10-1-21	PC				coye	Common Yellowthroat	1	Calling	0					
10-1-21	PC	24	9:39	10	nofl	Northern Flicker	1	Calling	100					
10-1-21	PC				blja	Blue Jay	2	Passing	100					
10-1-21	PC				gcki	Golden-crowned Kinglet	3	Calling	0					
10-1-21	PC				rugr	Ruffed Grouse	1	Drumming	0					
10-1-21	PC				pufi	Purple Finch	1	Calling	50					
10-1-21	PC				cora	Common Raven	1	Calling	500					
10-1-21	PC				warb sp	warbler species	1	Calling	0					
10-1-21	PC				yrwa	Yellow-rumped Warbler	2	Calling	0					
10-1-21	PC				deju	Dark-eyed Junco	2	Calling	0					
10-1-21	PC				brcr	Brown Creeper	1	Calling	0					
10-1-21	PC	23	9:52	10	cora	Common Raven	1	Calling	0					
10-1-21	PC				deju	Dark-eyed Junco	2	Calling	0					
10-1-21	PC				boch	Boreal Chickadee	1	Calling	0					
10-1-21	PC				pufi	Purple Finch	1	Calling	100					
10-1-21	PC	22	10:05	10	spgr	Spruce Grouse	2				Y			
10-1-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
10-1-21	PC				nofl	Northern Flicker	1	Calling	100					
10-1-21	PC				hawo	Hairy Woodpecker	1	Calling	50					
10-1-21	PC				pawa	Palm Warbler	1	Calling	0					
10-1-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0					
10-1-21	PC	15	10:19	10	gcki	Golden-crowned Kinglet	3	Calling	0					
10-1-21	PC				cora	Common Raven	1	Calling	0					
10-1-21	PC	16	10:33	10	heth	Hermit Thrush	1	Calling	0					
10-1-21	PC				gcki	Golden-crowned Kinglet	3	Calling	0					
10-1-21	PC				bchc	Black-capped Chickadee	1	Calling	0					
10-1-21	PC				blpw	Blackpoll Warbler	1	Calling	0					
10-1-21	PC				deju	Dark-eyed Junco	1	Calling	0					
10-1-21	PC				boch	Boreal Chickadee	2	Calling	0					
10-1-21	PC	17	10:35	10	heth	Hermit Thrush	1	Calling	0					
10-1-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
10-1-21	PC				cora	Common Raven	1	Calling	0					
10-1-21	PC				deju	Dark-eyed Junco	3	Calling	0					
10-1-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0					
10-1-21	PC	18	10:49	10	graj	Gray Jay	2	Calling	100					

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
10-1-21	PC				pawa	Palm Warbler	1	Calling	0					
10-1-21	PC				amro	American Robin	5	Passing	0					
10-1-21	PC				warb sp	warbler species	1	Calling	0					
10-1-21	PC	21	11:09	10	deju	Dark-eyed Junco	3	Calling	0					
10-1-21	PC				blpw	Blackpoll Warbler	1	Passing	0					
10-1-21	PC				pawa	Palm Warbler	1	Passing	0					
10-1-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0					
10-1-21	PC				graj	Gray Jay	1	Calling	0					
10-1-21	PC				nofl	Northern Flicker	1	Calling	100					
10-1-21	PC	20	11:31	10	deju	Dark-eyed Junco	2	Calling	0					
10-1-21	PC				amcr	American Crow	1	Calling	250					
10-1-21	PC				pawa	Palm Warbler	1	Calling	0					
10-1-21	PC	19	11:43	10	bhvi	Blue-headed Vireo	1	Singing	0					
10-1-21	PC				deju	Dark-eyed Junco	3	Calling	0					
10-1-21	PC				nofl	Northern Flicker	1	Calling	0					
10-1-21	PC				warb sp	warbler species	1	Calling	0					
10-1-21	PC				pawa	Palm Warbler	3	Calling	0					
10-1-21	PC				blja	Blue Jay	1	Calling	0					
10-1-21	PC				wtsj	White-throated Sparrow	1	Calling	50					
10-1-21	PC				cora	Common Raven	1	Calling	500					
10-16-21	PC	14	7:14	10	boch	Boreal Chickadee	2	Calling	0	West				
10-16-21	PC				wtsj	White-throated Sparrow	1	Calling	0					
10-16-21	PC				heth	Hermit Thrush	1	Calling	0					
10-16-21	PC				pufi	Purple Finch	3	Calling	0					
10-16-21	PC				gcki	Golden-crowned Kinglet	3	Calling	0					
10-16-21	PC				amcr	American Crow	1	Calling	500					
10-16-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0					
10-16-21	PC				deju	Dark-eyed Junco	2	Calling	0					
10-16-21	PC				cora	Common Raven	1	Calling	500					
10-16-21	PC				pufi	Purple Finch	8	Passing	0	Southeast		50	Northwest	
10-16-21	PC				amro	American Robin	4	Passing	100	Northeast		50+	West	
10-16-21	PC	15	7:28	10	pufi	Purple Finch	2	Passing	50	Southeast		50	Northwest	
10-16-21	PC				pisi	Pine Siskin	2	Calling	100	South				
10-16-21	PC				blja	Blue Jay	1	Calling	0					
10-16-21	PC	16	7:43	10	graj	Gray Jay	2	Calling	0	Northwest				
10-16-21	PC				wwcr	White-winged Crossbill	5	Calling	100	Southwest				
10-16-21	PC				pufi	Purple Finch	6	Passing	50	West		50+	Northeast	
10-16-21	PC				deju	Dark-eyed Junco	1	Calling	100					
10-16-21	PC				amro	American Robin	2	Calling	100					
10-16-21	PC				pisi	Pine Siskin	1	Calling	50					
10-16-21	PC				amcr	American Crow	1	Calling	500					
10-16-21	PC				amgo	American Goldfinch	1	Calling	0					
10-16-21	PC	17	7:57	10	gcki	Golden-crowned Kinglet	1	Calling	0					
10-16-21	PC				pufi	Purple Finch	3	Calling	100					
10-16-21	PC				deju	Dark-eyed Junco	1	Calling	0					
10-16-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0					
10-16-21	PC				cora	Common Raven	1	Calling	500					
10-16-21	PC				amcr	American Crow	2	Calling	500					
10-16-21	PC				pisi	Pine Siskin	25	Passing	0			50+	South	
10-16-21	PC	18	8:11	10	gcki	Golden-crowned Kinglet	2	Calling	0					
10-16-21	PC				cora	Common Raven	2	Calling	0					
10-16-21	PC				pufi	Purple Finch	3	Calling	0					
10-16-21	PC				wwcr	White-winged Crossbill	3	Calling	100					
10-16-21	PC				amro	American Robin	26	Passing	0	Northeast		50+	Southwest	
10-16-21	PC				graj	Gray Jay	2	Calling	100	Southeast				
10-16-21	PC				pufi	Purple Finch	2	Calling	100	Northeast				
10-16-21	PC				ssha	Sharp-shinned Hawk	1	Passing	50	Northeast		50	South	
10-16-21	PC	19	8:26	10	pufi	Purple Finch	1	Calling	50					
10-16-21	PC				amro	American Robin	1	Calling	100					
10-16-21	PC				cora	Common Raven	1	Calling	100					
10-16-21	PC				gcki	Golden-crowned Kinglet	1	Calling	100					
10-16-21	PC	20	8:41	10	pufi	Purple Finch	2	Calling	50					
10-16-21	PC				cora	Common Raven	1	Calling	250					
10-16-21	PC				blackbird sp	blackbird species	1	Calling	100					
10-16-21	PC	21	8:55	10	pufi	Purple Finch	1	Calling	50					
10-16-21	PC				deju	Dark-eyed Junco	1	Calling	50					
10-16-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
10-16-21	PC				blackbird sp	blackbird species	1	Calling	100					
10-16-21	PC	22	9:16	10	graj	Gray Jay	1	Calling	0	West				
10-16-21	PC				deju	Dark-eyed Junco	2	Calling	0					
10-16-21	PC				bcch	Black-capped Chickadee	3	Calling	0					
10-16-21	PC	23	9:30	10	pufi	Purple Finch	1	Passing	0					

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10-16-21	PC				deju	Dark-eyed Junco	1	Calling	0					
10-16-21	PC				pisi	Pine Siskin	1	Calling	0					
10-16-21	PC				piwo	Pileated Woodpecker	1	Calling	100					
10-16-21	PC				pisi	Pine Siskin	20	Passing	0	Northeast		50+	Southwest	
10-16-21	PC	24	9:46	10	amgo	American Goldfinch	1	Calling	50					
10-16-21	PC				pufi	Purple Finch	1	Passing	0	South		50	North	
10-16-21	PC				amcr	American Crow	2	Calling	250					
10-16-21	PC				pisi	Pine Siskin	1	Calling	50					
10-16-21	PC				amro	American Robin	1	Passing	50	South		50	North	
10-16-21	PC				baea	Bald Eagle	1	Passing	0	Southwest		50	Northeast	
10-16-21	PC	25	10:04	10	cora	Common Raven	1	Calling	100					
10-16-21	PC				pufi	Purple Finch	3	Passing	50	Northwest		50+	Southeast	
10-16-21	PC				amgo	American Goldfinch	1	Calling	100	Northeast				
10-16-21	PC	26	10:19	10	pufi	Purple Finch	1	Calling	100					
10-16-21	PC				amro	American Robin	1	Calling	100					
10-16-21	PC				pufi	Purple Finch	6	Passing	50	South		50+	North	
10-16-21	PC	27	10:37	10	wwcr	White-winged Crossbill	3	Calling	100					
10-16-21	PC				blja	Blue Jay	1	Calling	100					
10-16-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0					
10-16-21	PC				pufi	Purple Finch	4	Passing	0	Northeast		50+	South	
10-16-21	PC				amro	American Robin	1	Calling	100					
10-16-21	PC	28	10:57	10	amro	American Robin	2	Calling	100					
10-16-21	PC				cora	Common Raven	1	Calling	250					
10-16-21	PC				boch	Boreal Chickadee	2	Calling	50	North				
10-16-21	PC				deju	Dark-eyed Junco	1	Calling	0					
10-16-21	PC	29	11:14	10	amgo	American Goldfinch	3	Calling	0					
10-16-21	PC				blja	Blue Jay	2	Calling	1000					
10-16-21	PC				graj	Gray Jay	2	Calling	0	Northwest				
10-16-21	PC	30	11:30	10	cora	Common Raven	2	Calling	500					
10-16-21	PC				deju	Dark-eyed Junco	1	Calling	0					
10-16-21	PC				wwcr	White-winged Crossbill	5	Calling	50					
10-16-21	PC				gcki	Golden-crowned Kinglet	3	Calling	0					
10-21-21	PC	1	7:35	10	wwcr	White-winged Crossbill	3	Calling	100					
10-21-21	PC				amro	American Robin	3	Calling	50					
10-21-21	PC				deju	Dark-eyed Junco	1	Calling	0					
10-21-21	PC				pufi	Purple Finch	1	Calling	100					
10-21-21	PC				blja	Blue Jay	1	Calling	100					
10-21-21	PC	2	7:55	10	deju	Dark-eyed Junco	1	Calling	0					
10-21-21	PC				bcch	Black-capped Chickadee	5	Calling	0					
10-21-21	PC				amcr	American Crow	2	Calling	100					
10-21-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
10-21-21	PC				pufi	Purple Finch	3	Passing	0	East		50	West	
10-21-21	PC				amro	American Robin	5	Passing	100	Southwest		50+	Northeast	
10-21-21	PC				pufi	Purple Finch	2	Calling	50					
10-21-21	PC				blja	Blue Jay	1	Calling	50					
10-21-21	PC				wwcr	White-winged Crossbill	2	Calling	100					
10-21-21	PC	3	8:14	10	pufi	Purple Finch	2	Calling	50					
10-21-21	PC				deju	Dark-eyed Junco	1	Calling	0					
10-21-21	PC				amcr	American Crow	40	Passing	250	West		50	North	
10-21-21	PC				amro	American Robin	1	Calling	50					
10-21-21	PC				pufi	Purple Finch	1	Passing	100	West		50	North	
10-21-21	PC	4	8:35	10	cora	Common Raven	1	Calling	1000					
10-21-21	PC				wwcr	White-winged Crossbill	2	Calling	100					
10-21-21	PC				deju	Dark-eyed Junco	2	Calling	0					
10-21-21	PC				pufi	Purple Finch	3	Calling	100					
10-21-21	PC				blja	Blue Jay	1	Calling	100					
10-21-21	PC				fosp	Fox Sparrow	1	Calling	0					
10-21-21	PC				wfsp	White-throated Sparrow	1	Calling	0					
10-21-21	PC	5	8:51	10	gcki	Golden-crowned Kinglet	1	Calling	0					
10-21-21	PC				blja	Blue Jay	1	Calling	50					
10-21-21	PC				pufi	Purple Finch	7	Passing	0	Southeast		50	Northwest	
10-21-21	PC				wwcr	White-winged Crossbill	3	Calling	100					
10-21-21	PC				bcch	Black-capped Chickadee	1	Calling	100					
10-21-21	PC				pisi	Pine Siskin	3	Passing	50	Northwest		50+	Southeast	
10-21-21	PC				amro	American Robin	17	Passing	0	North		50	South	
10-21-21	PC				pufi	Purple Finch	3	Passing	50	Northwest		50	South	
10-21-21	PC	6	9:06	10	heth	Hermit Thrush	1	Calling	0					
10-21-21	PC				pufi	Purple Finch	2	Calling	0					
10-21-21	PC				gcki	Golden-crowned Kinglet	1	Calling	50					
10-21-21	PC				boch	Boreal Chickadee	2	Calling	0	North				
10-21-21	PC	7	9:22	10	gcki	Golden-crowned Kinglet	2	Calling	0					
10-21-21	PC				deju	Dark-eyed Junco	1	Calling	0					

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
10-21-21	PC				wwcr	White-winged Crossbill	1	Calling	100					
10-21-21	PC				heth	Hermit Thrush	1	Calling	50					
10-21-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0					
10-21-21	PC				amro	American Robin	9	Passing	100	East		50+	South	
10-21-21	PC				amgo	American Goldfinch	1	Calling	100					
10-21-21	PC				piis	Pine Siskin	2	Calling	50					
10-21-21	PC	10	9:36	10	boch	Boreal Chickadee	4	Calling	0	Northeast				
10-21-21	PC				amro	American Robin	1	Calling	50					
10-21-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0					
10-21-21	PC				pufi	Purple Finch	1	Calling	100					
10-21-21	PC				deju	Dark-eyed Junco	1	Calling	0					
10-21-21	PC				warb sp	warbler species	1	Calling	0					
10-21-21	PC	11	9:52	10	pufi	Purple Finch	3	Passing	100	Southwest		50	Northeast	
10-21-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0					
10-21-21	PC				cora	Common Raven	1	Calling	250					
10-21-21	PC				deju	Dark-eyed Junco	2	Calling	0					
10-21-21	PC				wwcr	White-winged Crossbill	30	Passing	0	Northeast		50	Southwest	
10-21-21	PC	9	10:23	10	piwo	Pileated Woodpecker	1	Drumming	100					
10-21-21	PC				colo	Common Loon	2	on water	250					
10-21-21	PC				baea	Bald Eagle	1	soaring	500					
10-21-21	PC				blja	Blue Jay	1	Calling	100					
10-21-21	PC				pufi	Purple Finch	1	Calling	100					
10-21-21	PC	8	10:44	10	cora	Common Raven	2	Calling	100					
10-21-21	PC				pufi	Purple Finch	1	Calling	100					
10-21-21	PC				pufi	Purple Finch	1	Passing	0	Southeast		50	Northwest	
10-21-21	PC				amcr	American Crow	1	Calling	100					
10-21-21	PC				wwcr	White-winged Crossbill	3	Calling	100					
10-21-21	PC				merl	Merlin	1				Y			
10-21-21	PC	12	11:37	10	gcki	Golden-crowned Kinglet	2	Calling	0					
10-21-21	PC				deju	Dark-eyed Junco	1	Calling	0					
10-21-21	PC				amgo	American Goldfinch	1	Calling	0					
10-21-21	PC				blja	Blue Jay	1	Calling	100					
10-21-21	PC	13	11:50	10	gcki	Golden-crowned Kinglet	1	Calling	0					
10-21-21	PC				deju	Dark-eyed Junco	2	Calling	0					
10-21-21	PC				pufi	Purple Finch	1	Calling	50					

Common Name	Scientific Name	Bird Group	SARA	COSEWIC	NSESA	NS_Srank	Number Observed
American Black Duck	Anas rubripes	1	Not Listed	Not Listed	Not Listed	S5B,S5N	3
American Crow	Corvus brachyrhynchos	6	Not Listed	Not Listed	Not Listed	S5	6
American Goldfinch	Carduelis tristis	6	Not Listed	Not Listed	Not Listed	S5	2
American Kestrel	Falco sparverius	4	Not Listed	Not Listed	Not Listed	S3B,S4S5M	2
American Robin	Turdus migratorius	6	Not Listed	Not Listed	Not Listed	S5B,S3N	11
Bald Eagle	Haliaeetus leucocephalus	4	Not Listed	Not at Risk	Not Listed	S5	74
Belted Kingfisher	Megaceryle alcyon	3	Not Listed	Not Listed	Not Listed	S4S5B	1
Blue Jay	Cyanocitta cristata	6	Not Listed	Not Listed	Not Listed	S5	14
Black-legged Kittiwake	Rissa tridactyla	2	Not Listed	Not Listed	Not Listed	S2S3B	334
Black Scoter	Melanitta nigra	1	Not Listed	Not Listed	Not Listed	SU	4
Bonaparte's Gull	Chroicocephalus philadelphia	2	Not Listed	Not Listed	Not Listed	S5M	13
Bohemian Waxwing	Bombycilla garrulus	6	Not Listed	Not Listed	Not Listed	S4N	25
Broad-winged Hawk	Buteo platypterus	4	Not Listed	Not Listed	Not Listed	S5B	4
Canada Goose	Branta canadensis	1	Not Listed	Not Listed	Not Listed	SUB,S4N,S5M	14
Common Eider	Somateria mollissima	1	Not Listed	Not Listed	Not Listed	S3B,S3M,S3N	436
Common Grackle	Quiscalus quiscula	6	Not Listed	Not Listed	Not Listed	S5B	16
Common Loon	Gavia immer	3	Not Listed	Not at Risk	Not Listed	S4B	3
Common Raven	Corvus corax	6	Not Listed	Not Listed	Not Listed	S5	37
Dickcissel	Spiza americana	6	Not Listed	Not Listed	Not Listed	SNA	2
Double-crested Cormorant	Phalacrocorax auritus	2	Not Listed	Not at Risk	Not Listed	SU	267
Dickcissel	Spiza americana	6	Not Listed	Not Listed	Not Listed	SNA	2
Great Black-backed Gull	Larus marinus	2	Not Listed	Not Listed	Not Listed	S4S5	10
Gray Jay	Perisoreus canadensis	6	Not Listed	Not Listed	Not Listed	S3	2
Hairy Woodpecker	Picoides villosus	7	Not Listed	Not Listed	Not Listed	SU	1
Herring Gull	Larus argentatus	2	Not Listed	Not Listed	Not Listed	S5	693
Hermit Thrush	Catharus guttatus	6	Not Listed	Not Listed	Not Listed	S5B	1
Iceland Gull	Larus glaucoides	2					3
Long-tailed Duck	Clangula hyemalis	1					21
Merlin	Falco columbarius	4	Not Listed	Not at Risk	Not Listed	S5B	1
Northern Gannet	Morus bassanus	3	Not Listed	Not Listed	Not Listed	SHB	675
Northern Harrier	Circus cyaneus	4	Not Listed	Not at Risk	Not Listed	SU	1
Northern Parula	Parula americana	6	Not Listed	Not Listed	Not Listed	SU	1
Osprey	Pandion haliaetus	4	Not Listed	Not Listed	Not Listed	S4S5B,S5M	2
Peregrine Falcon	Falco peregrinus	4				S1B,SUM	1
Pileated Woodpecker	Dryocopus pileatus	7	Not Listed	Not Listed	Not Listed	S5	1
Purple Finch	Carpodacus purpureus	6	Not Listed	Not Listed	Not Listed	S5	2
Ring-billed Gull	Larus delawarensis	2	Not Listed	Not Listed	Not Listed	SUB,S5N	8
Ruby-crowned Kinglet	Regulus calendula	6	Not Listed	Not Listed	Not Listed	S5	1
Red Crossbill	Loxia curvirostra	6	Not Listed	Not Listed	Not Listed	S3, S4	5
Red-Throated Loon	Gavia stellata	3				S4N,S5M	1
Rock Pigeon	Columba livia	7	Not Listed	Not Listed	Not Listed	SNA	10
Red-tailed Hawk	Buteo jamaicensis	4	Not Listed	Not at Risk	Not Listed	S5	4
Semipalmated Plover	Charadrius semipalmatus	2	Not Listed	Not Listed	Not Listed	S1B,S4M	2
Sharp-shinned Hawk	Accipiter striatus	4	Not Listed	Not at Risk	Not Listed	S5	6
Turkey Vulture	Cathartes aura	4	Not Listed	Not Listed	Not Listed	S2S3B,S4S5M	1
White-winged Scoter	Melanitta deglandi	1					2
Yellow-rumped Warbler	Dendroica coronata	6	Not Listed	Not Listed	Not Listed	S5	1
passerine species	N/A	6	N/A	N/A	N/A	N/A	1
warbler species	N/A	6	N/A	N/A	N/A	N/A	1
raptor species	N/A	4	N/A	N/A	N/A	N/A	3

Common Name	Scientific Name	Bird Group	SARA	COSEWIC	NSESA	NS_Srank	Number Observed
large bird	N/A	1	N/A	N/A	N/A	N/A	1
small raptor	N/A	4	N/A	N/A	N/A	N/A	1
accipiter species	N/A	4	N/A	N/A	N/A	N/A	1
gull species	N/A	2	N/A	N/A	N/A	N/A	125
finch species	N/A	6	N/A	N/A	N/A	N/A	17

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour/Breeding Code	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
9-6-21	Diurnal Watch	cb hawk	6:52	10	gbbg	Great Black-backed Gull	1	Calling	1000	South		250+	North	Several heard, Great Black-backed Gull and Double-crested Cormorant in area
9-6-21	Diurnal Watch				noga	Northern Gannet	1	Calling	250	West		50+	South	Fishing
9-6-21	Diurnal Watch				noga	Northern Gannet	1	Calling	250	West		50	North	Likely same bird
9-6-21	Diurnal Watch				dcco	Double-crested Cormorant	5	Calling	2000	Southwest		100+	North	
9-6-21	Diurnal Watch	cb hawk	7:22	10	dick	Dickcissel	2		50	Southeast	Y	50	North	
9-6-21	Diurnal Watch				noga	Northern Gannet	2		500	Southwest	Y			
9-6-21	Diurnal Watch				rbgu	Ring-billed Gull	6	Calling	2000	Southwest		50	East	
9-6-21	Diurnal Watch				amcr	American Crow	1	Calling	1000	Southwest		100+	East	
9-6-21	Diurnal Watch				noga	Northern Gannet	1		250	West	Y	50+	South	
9-6-21	Diurnal Watch				nopa	Northern Parula	1				Y			
9-6-21	Diurnal Watch				hawo	Hairy Woodpecker	1				Y			
9-6-21	Diurnal Watch				colo	Common Loon	1	Calling	1000	Northwest		50	South	
9-6-21	Diurnal Watch				yrwa	Yellow-rumped Warbler	1				Y			
9-6-21	Diurnal Watch				dcco	Double-crested Cormorant	1	Calling	2000	Northwest		100+	South	
9-6-21	Diurnal Watch				gbbg	Great Black-backed Gull	2		2000	West		50	North	Flying just over tree line on mainland, partially obstructed by trees
9-6-21	Diurnal Watch				herg	Herring Gull	1		2000	West		50+	North	Over land
9-6-21	Diurnal Watch				gbbg	Great Black-backed Gull	3		1000	Southwest		100+	North	Over water
9-6-21	Diurnal Watch	cb hawk	7:52	30	baea	Bald Eagle	1		1000	Northwest		50+	South	Over water
9-6-21	Diurnal Watch				gbbg	Great Black-backed Gull	1		1000	Southwest		250+	North	Over water
9-6-21	Diurnal Watch				herg	Herring Gull	14		1000	Southwest		100+	North	Over water
9-6-21	Diurnal Watch	cb hawk	8:22	30	herg	Herring Gull	1		2000	Southwest		100+	North	Over land
9-6-21	Diurnal Watch				herg	Herring Gull	1		1000	Southwest		250+	North	Over water
9-6-21	Diurnal Watch				dcco	Double-crested Cormorant	21		2000	Southwest		250+	North	Over land
9-6-21	Diurnal Watch				cora	Common Raven	4		3000	Southwest		250+	East	Crossing channel
9-6-21	Diurnal Watch				dcco	Double-crested Cormorant	11		3000	Southwest		250+	North	Over land
9-6-21	Diurnal Watch				noga	Northern Gannet	2		100	West		50	South	Over water
9-6-21	Diurnal Watch				dcco	Double-crested Cormorant	1		250	Northeast		50	South	
9-6-21	Diurnal Watch	cb hawk	8:52	30	ssha	Sharp-shinned Hawk	1		2000	Southwest		100+	North	Over land
9-6-21	Diurnal Watch				herg	Herring Gull	1		1000	Southwest		100+	North	
9-6-21	Diurnal Watch				herg	Herring Gull	3		2000	Northwest		50+		Circling over quarry
9-6-21	Diurnal Watch				bwha	Broad-winged Hawk	1		2000	West		100+	South	Over land
9-6-21	Diurnal Watch				ssha	Sharp-shinned Hawk	1		3000	Southwest		100+	South	Slowly making way south over lanc
9-6-21	Diurnal Watch				bwha	Broad-winged Hawk	2		3000	Southwest		100+	South	Over land
9-6-21	Diurnal Watch	cb hawk	9:22	30	herg	Herring Gull	40		2000	Southwest		250+		Circling near pirate harbour
9-6-21	Diurnal Watch				herg	Herring Gull	25		2000	Northwest		100+		Circling over quarry
9-6-21	Diurnal Watch				herg	Herring Gull	1		1000	West		100+	North	
9-6-21	Diurnal Watch				noga	Northern Gannet	1		1000	West		50+	South	
9-6-21	Diurnal Watch				raptor sp	raptor species	1		3000	Southwest		100+		Circling over land, lost bird when it stooped into trees
9-6-21	Diurnal Watch	cb hawk	9:52	30	noga	Northern Gannet	1		1000	Southwest		50+	North	Over water
9-6-21	Diurnal Watch				herg	Herring Gull	6		1000	Southwest		100+	North	Over water
9-6-21	Diurnal Watch				baea	Bald Eagle	1		3000	Southwest		250+		Over land
9-6-21	Diurnal Watch				baea	Bald Eagle	1		2000	Northwest		100+		Circling over quarry
9-6-21	Diurnal Watch	cb hawk	10:22	30	ssha	Sharp-shinned Hawk	1		2000	Northwest		100+	South	Fighting wind, trying to move south, over lanc
9-6-21	Diurnal Watch				cora	Common Raven	1		3000	Northwest		100+	South	Over land
9-6-21	Diurnal Watch				baea	Bald Eagle	1		1000	West		100+		
9-6-21	Diurnal Watch				noga	Northern Gannet	1		1000	Northwest		50+	South	Several gannets Fishing south of watch point throughout survey
9-6-21	Diurnal Watch	mulgrave hawk	11:30	30	amke	American Kestrel	1		2000	East		50+		Over land
9-6-21	Diurnal Watch				baea	Bald Eagle	2		1000	West		50+	North	Several eagles on Cape Breton shoreline throughout survey
9-6-21	Diurnal Watch				noga	Northern Gannet	3		1000	North				
9-6-21	Diurnal Watch				bogu	Bonaparte's Gull	10		1000	Southeast				
9-6-21	Diurnal Watch	mulgrave hawk	12:00	30	ssha	Sharp-shinned Hawk	1		2000	East		100+	South	Was flying high, stooped into trees on Cape Breton side
9-6-21	Diurnal Watch				noga	Northern Gannet	1		1000	East		50	North	Dove for fish after Passing
9-6-21	Diurnal Watch				ospr	Osprey	1		3000	South		100+		Over water
9-6-21	Diurnal Watch	mulgrave hawk	12:30	30	baea	Bald Eagle	1		1000	East		50+	South	Over water
9-6-21	Diurnal Watch				beki	Belted Kingfisher	1		100	Southeast		50	North	Over water
9-6-21	Diurnal Watch	mulgrave hawk	1:00	30	herg	Herring Gull	20		2000	West		50+		
10-1-21	Diurnal Watch	hawk radar	11:55	3.5 Hours	warb sp	warbler species	1	Passing	50	Northeast	Y	50	West	619-937, 504-6647, 11:42 start
10-1-21	Diurnal Watch		11:57		amro	American Robin	5	Passing	100	Northwest	Y	50	East	
10-1-21	Diurnal Watch		12:30		amgo	American Goldfinch	2	Passing	100	Northeast	Y	50	West	
10-1-21	Diurnal Watch		12:41		pass sp	passerine species	1	Passing	250	Northwest	Y	50+	East	
10-1-21	Diurnal Watch		12:57-1:05		bwha	Broad-winged Hawk	1	Passing	2000	Northeast	Y	100+	Southwest	Seen first at 12:57 to ne, circled, slowly made way west at varying height. moved closer as it made way sw
10-1-21	Diurnal Watch		1:08-1:11		pefa	Peregrine Falcon	1	Passing	2000	Northeast	Y	250+?	Southwest	Seen first at 1:08 to ne, moved closer and lower as it moved sw. within a few hundred meters as it passed at 1:11
10-1-21	Diurnal Watch		1:17		cora	Common Raven	1	Circling	2000	Northeast				Might not have flown in front of radar
10-1-21	Diurnal Watch		1:17		baea	Bald Eagle	1	Circling	2000	Northeast				Might not have flown in front of radar
10-1-21	Diurnal Watch		1:18		cora	Common Raven	1	Passing	0	South	Y	250	North	
10-1-21	Diurnal Watch		1:21		baea	Bald Eagle	1	Circling	2000	Northeast				Might not have flown in front of radar, juvenile, different bird than one sighted at 1:17
10-1-21	Diurnal Watch		1:37 - 1:42		rtha	Red-tailed Hawk	1	Circling	1000	Northeast		100	South	Might not have flown in front of radar
10-1-21	Diurnal Watch		1:51-1:54		baea	Bald Eagle	1	Circling	2000	Northeast		100+	West	Circling, moved steadily west at 1:54
10-1-21	Diurnal Watch		1:58		rtha	Red-tailed Hawk	2	Circling	1000	Northeast		100	South	Might not have flown in front of radar

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour/Breeding Code	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
10-1-21	Diurnal Watch		2:05		cora	Common Raven	1	Circling	2000	North		50+	West?	
10-1-21	Diurnal Watch		2:06		graj	Gray Jay	2							
10-1-21	Diurnal Watch		2:09		baea	Bald Eagle	1	Passing	0	Northeast		50+	Southwest	Flew directly over radar
10-1-21	Diurnal Watch		2:14		baea	Bald Eagle	1	Circling	2000	North	Y	100+	Circling	Was Circling, lost bird when picking up raptor species at 2:18
10-1-21	Diurnal Watch		2:14-2:18		raptor sp	raptor species	1	Passing	2000	North	Y	250	West	
10-1-21	Diurnal Watch		2:24		baea	Bald Eagle	1	Circling	1000	Northeast		100	?	Lost bird before getting direction, might not have flown in front of radar
10-1-21	Diurnal Watch		2:29		baea	Bald Eagle	1	Passing	1000	North	Y	50+	West	Possibly bird from 2:24
10-1-21	Diurnal Watch		2:30		baea	Bald Eagle	1	Circling	2000	North	Y	100+	?	Circling with osprey
10-1-21	Diurnal Watch		2:30		ospr	Osprey	1	Circling	2000	North	Y	250	West	Circling with eagle, eventually broke off and flew West at 2:34
10-1-21	Diurnal Watch		2:48		raptor sp	raptor species	1	Passing	1000+	North	Y	250	West	Direct flight west
10-1-21	Diurnal Watch		2:51		ssha	Sharp-shinned Hawk	1	Passing	500	North	Y	50+	West	Direct flight west, flying parallel with merlin
10-1-21	Diurnal Watch		2:51		merl	Merlin	1	Passing	500	North	Y	50+	West	Direct flight west, flying parallel with ssha
10-1-21	Diurnal Watch		2:55		large bird sp	large bird	1	Passing	2000	North	Y	250	West	Lost while switching to scope.
10-1-21	Diurnal Watch		3:11		blja	Blue Jay	1	Passing	-50	Northeast	Y	50	West	Possibly too close to radar
10-1-21	Diurnal Watch		3:13		cora	Common Raven	1	Passing	250	Northeast	Y	50+	Southwest	
10-1-21	Diurnal Watch		3:24		cora	Common Raven	1	Passing	500	Northeast		50	West	Passed just above trees, possibly too low for radar
10-2-21	Diurnal Watch	cb hawk	8:50	30	cora	Common Raven	1	Passing	1000	Northwest		50	South	Over land
10-2-21	Diurnal Watch				amcr	American Crow	2	Passing	100	West		50+	East	
10-2-21	Diurnal Watch				abdu	American Black Duck	3				Y			
10-2-21	Diurnal Watch				noga	Northern Gannet	1	Fishing			Y			Fishing Over water
10-2-21	Diurnal Watch		9:20	30	amcr	American Crow	1	Passing	2000	Southwest		100+	West	
10-2-21	Diurnal Watch				cogr	Common Grackle	16	Passing	100	Southwest		50	North	Over land
10-2-21	Diurnal Watch				gbbg	Great Black-backed Gull	1	Passing	500	Northwest		50+	South	Over water
10-2-21	Diurnal Watch				herg	Herring Gull	1	Passing	100	Northwest		100+	South	Over water
10-2-21	Diurnal Watch				noha	Northern Harrier	1	Passing	1000	Southwest		50+	Southwest	Flying high across water towards mainland, stooped until just above water, lost it as it flew south low Over water.
10-2-21	Diurnal Watch		9:50	30	noga	Northern Gannet	1	Fishing	250	Northwest		50+		Fishing Over water
10-2-21	Diurnal Watch				dcco	Double-crested Cormorant	2	Passing	1000	Southwest		100+	North	
10-2-21	Diurnal Watch		10:20	30	colo	Common Loon	1	Passing	1000	Northwest		50	North	Flying Over water, crossed causeway
10-2-21	Diurnal Watch				herg	Herring Gull	1	Passing	100	West		100+	East	Flying high above water towards Cape Breton
10-2-21	Diurnal Watch				colo	Common Loon	1	Passing	100	West		50	South	Circled around harbour, eventually flew south
10-2-21	Diurnal Watch		10:50	30	herg	Herring Gull	6	Passing	500	Northwest		100+	South	Flying high above water
10-2-21	Diurnal Watch				baea	Bald Eagle	1	Passing	250	Southwest		50+	North	Flying above water
10-2-21	Diurnal Watch				amcr	American Crow	1	Passing	50	West		100+	East	Flying high above water towards ct
10-2-21	Diurnal Watch				herg	Herring Gull	1	Passing	500	West		100+	South	Flying above water
10-2-21	Diurnal Watch				baea	Bald Eagle	1	Circling	2000	Southwest		250+	Circling	Circling high above water
10-2-21	Diurnal Watch				bogu	Bonaparte's Gull	1	Passing	500	Southwest		50	North	Flying low above water
10-2-21	Diurnal Watch		11:20	30	cora	Common Raven	1	Circling	2000	Northwest		250+		Circling high above land
10-2-21	Diurnal Watch				baea	Bald Eagle	1	Passing	1000	North		100+	North	Flying high along edge of water
10-2-21	Diurnal Watch				tuvu	Turkey Vulture	1	Passing	2000	North		50+	South	Flying over land
10-2-21	Diurnal Watch				sepl	Semipalmated Plover	1	Passing	0	Southwest		50	North	Passing low along beach
10-2-21	Diurnal Watch		11:50	30	baea	Bald Eagle	2	Circling	1000	Northwest		109+	Circling	Circling high above water
10-2-21	Diurnal Watch				herg	Herring Gull	1	Passing	1000	South		100+	South	Flying high along edge of water
10-2-21	Diurnal Watch		12:20	30	small raptor sp	small raptor	1	Passing	2000	Northwest		100+	North	Flying high along edge of water
10-2-21	Diurnal Watch				rbgu	Ring-billed Gull	1	Passing	0	North		50+	South	Flying along edge of water
10-2-21	Diurnal Watch				sepl	Semipalmated Plover	1	Passing	0	West		50	North	Flying low along Waters edge
10-2-21	Diurnal Watch	mulgrave hawk	1:13	30	baea	Bald Eagle	1	Passing	1000	East		50+	North	Flying above water
10-2-21	Diurnal Watch				herg	Herring Gull	1	Passing	2000	Southeast		50+	West	Flying above water
10-2-21	Diurnal Watch				dcco	Double-crested Cormorant	1	Passing	1000	Southwest		50+	North	Flying along edge of water
10-2-21	Diurnal Watch				amro	American Robin	6	Passing	0	South		50	North	
10-2-21	Diurnal Watch		1:43	30	rcki	Ruby-crowned Kinglet	1	Calling	0		Y			
10-2-21	Diurnal Watch				amcr	American Crow	1	Passing	1000	Southeast		50	North	
10-2-21	Diurnal Watch				dcco	Double-crested Cormorant	7	Passing	1000	Southeast		100+	South	Flying above water
10-2-21	Diurnal Watch		2:13	30	accipiter sp	accipiter species	1	Passing	1000	East		0	East	Bad angle, looked to big for Sharp shinned hawk
10-2-21	Diurnal Watch				herg	Herring Gull	5	Circling	1000	Southeast		100+	Circling	Circling above water
10-2-21	Diurnal Watch				baea	Bald Eagle	1	Passing	3000	Southeast		100+	North	Appeared to be flying over turbines
10-2-21	Diurnal Watch		2:43	30	ropi	Rock Pigeon	8	Passing	1000	Northeast		50+	South	
10-2-21	Diurnal Watch				herg	Herring Gull	3	Circling	2000	Northeast		100+	Circling	Circling high above water
10-2-21	Diurnal Watch		3:13	30	herg	Herring Gull	1	Passing	1000	Northeast		100+	South	Flying high Over water
10-2-21	Diurnal Watch				ropi	Rock Pigeon	2	Passing	500	Northeast		50+	South	Flying above water
10-2-21	Diurnal Watch		3:43	30	herg	Herring Gull	1	Passing	500	Southeast		100+	North	
10-2-21	Diurnal Watch				gbbg	Great Black-backed Gull	2	Passing	500	Southeast		100+	North	
10-2-21	Diurnal Watch				herg	Herring Gull	2	Passing	1000	Northeast		100+	South	
10-2-21	Diurnal Watch				gull sp	gull species	125	Circling	2000	Northeast		100+	Circling	Circling over harbour
10-2-21	Diurnal Watch		4:13	30	baea	Bald Eagle	1	Circling	2000	Northeast		100+	Circling	
10-2-21	Diurnal Watch				heth	Hermit Thrush	1				Y			
10-2-21	Diurnal Watch				baea	Bald Eagle	2	Passing	3000	Northeast		50+	South	Chasing each other over industrial park
10-2-21	Diurnal Watch		4:43	30	piwo	Pileated Woodpecker	1				Y			
10-2-21	Diurnal Watch				herg	Herring Gull	2	Passing	2000	Southeast		50+	North	
10-2-21	Diurnal Watch				blja	Blue Jay	11	Passing	1000	Northeast		50+	West	Flew across water towards mainland
10-16-21	Diurnal Watch	radar hawk	12:04	2 Hours	pufi	Purple Finch	2	Passing	100	Northwest		50		
10-16-21	Diurnal Watch		12:20?		amke	American Kestrel	1	Passing	250	Northeast		50	West	Passed low over trees, likely not picked up by radar, accidentally erased timestamp, passed roughly at 12:20
10-16-21	Diurnal Watch		12:36		rtha	Red-tailed Hawk	1	Passing	1000	Northeast	Y	50+	West	

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour/Breeding Code	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
10-16-21	Diurnal Watch		12:58		ssha	Sharp-shinned Hawk	1	Passing	250	Northwest	Y	50	West	Didn't see until bird passed radar. Presumably did by flight path
10-16-21	Diurnal Watch		1:13		blja	Blue Jay	1	Passing	250	Northwest		50	East	
10-16-21	Diurnal Watch		1:21		finch sp	finch species	7	Passing	250	Northeast		50	West	
10-16-21	Diurnal Watch		1:26		herg	Herring Gull	5	Passing	1000	North		100+	Northeast	In fairly tight group, should have been picked up by radar
10-16-21	Diurnal Watch		1:30		finch sp	finch species	2	Passing	0	South		50	Northeast	
10-16-21	Diurnal Watch		1:36		baea	Bald Eagle	1	Passing	1000	North		100+	Northeast	Slowly making way north
10-16-21	Diurnal Watch		1:37		finch sp	finch species	3	Passing	100	Northeast		50	West	
10-16-21	Diurnal Watch		1:43		finch sp	finch species	1	Passing	100	Northeast		50	West	
10-16-21	Diurnal Watch		1:53		baea	Bald Eagle	2	Soaring	1000	North		50+	Circling	
10-16-21	Diurnal Watch		1:53		blja	Blue Jay	1	Passing	100	Northeast		50	West	
10-16-21	Diurnal Watch		1:57		bowa	Bohemian Waxwing	25	Passing	0	Southwest		50	Northeast	Flying directly away. didn't see until well past radar. possibly Bohemian Waxwing
10-29-21	Diurnal Watch	causeway hawk	8:29	7 Hours	dcco	Double-crested Cormorant	58	Passing	3000	West		100+	Northwest	Over land
10-29-21	Diurnal Watch				recr	Red Crossbill	5				Y			
10-29-21	Diurnal Watch				blki	Black-legged Kittiwake	6	Passing	250	West		50	North	Over water
10-29-21	Diurnal Watch				noga	Northern Gannet	94	Fishing	500					
10-29-21	Diurnal Watch				bogu	Bonaparte's Gull	2	Passing	500					
10-29-21	Diurnal Watch				coei	Common Eider	40	On water	500					
10-29-21	Diurnal Watch				blsc	Black Scoter	4	On water	500					
10-29-21	Diurnal Watch				rtlo	Red-throated Loon	1	On water	1000					
10-29-21	Diurnal Watch				baea	Bald Eagle	15	Fishing	500					
10-29-21	Diurnal Watch				blki	Black-legged Kittiwake	6	Passing	250	Northwest		50+	South	Passed just over wires
10-29-21	Diurnal Watch				herg	Herring Gull	150							
10-29-21	Diurnal Watch				gbbg	Great Black-backed Gull								
10-29-21	Diurnal Watch				cang	Canada Goose								
10-29-21	Diurnal Watch				icgu	Iceland Gull								
10-29-21	Diurnal Watch		8:59		baea	Bald Eagle	27	Soaring	500	Northwest		50+	Circling	Circling Over water
10-29-21	Diurnal Watch				noga	Northern Gannet	130	Fishing						
10-29-21	Diurnal Watch		9:29		baea	Bald Eagle	1	Passing	3000	West		100+	North	
10-29-21	Diurnal Watch		9:59		blki	Black-legged Kittiwake	30	Passing	500	Northwest		50	Northwest	
10-29-21	Diurnal Watch		10:29		blki	Black-legged Kittiwake	12	Passing	2000	Northwest		50	North	
10-29-21	Diurnal Watch				ltdu	Long-tailed Duck	6	On water	1000	North				
10-29-21	Diurnal Watch				coei	Common Eider	90	On water	1000	North				
10-29-21	Diurnal Watch				dcco	Double-crested Cormorant	75	Roosting	500	North				
10-29-21	Diurnal Watch		10:59		wWSC	White-winged Scoter	2	Passing	250	West		50		
10-29-21	Diurnal Watch		11:29		blki	Black-legged Kittiwake	30	Passing	2000	Northwest		50+		
10-29-21	Diurnal Watch				blki	Black-legged Kittiwake	16	Passing	2000	Northwest		50		
10-29-21	Diurnal Watch		11:59		herg	Herring Gull	200				Y			
10-29-21	Diurnal Watch				icgu	Iceland Gull	3							
10-29-21	Diurnal Watch		12:29		blki	Black-legged Kittiwake	30	Over water						Likely same group
10-29-21	Diurnal Watch				cora	Common Raven	25	Passing	2000	West		50+	South	Over land
10-29-21	Diurnal Watch		12:59		no change	#N/A								
10-29-21	Diurnal Watch		1:29		leatherback turtle	#N/A					Y			
10-29-21	Diurnal Watch				blki	Black-legged Kittiwake	30	Over water	1000	North		50+		Still present
10-29-21	Diurnal Watch				rbgu	Ring-billed Gull	1				Y			
10-29-21	Diurnal Watch		1:59		blki	Black-legged Kittiwake	65	Over water	1000	Northwest		50		
10-29-21	Diurnal Watch				noga	Northern Gannet	120	Fishing	2000	North		50+		
10-29-21	Diurnal Watch		2:29		coei	Common Eider	110	Passing	2000	Northwest		100+	East	Disappeared overland on Cape Breton side
10-29-21	Diurnal Watch				blki	Black-legged Kittiwake	100	Over water	2000	North		50+		
10-29-21	Diurnal Watch		2:59		noga	Northern Gannet	125	On water	1000	Northwest				Almost all juveniles, most birds sitting On water
10-29-21	Diurnal Watch				ltdu	Long-tailed Duck	15	Passing	2000	Northwest		50	East	
10-29-21	Diurnal Watch		3:29		finch sp	finch species	4	Passing	0	West		100+	East	
10-29-21	Diurnal Watch				blki	Black-legged Kittiwake	3	Passing	250	Northwest		100+	South	Over water
10-29-21	Diurnal Watch				coei	Common Eider	125	Passing	500	Northwest		100+	South	Over water
10-29-21	Diurnal Watch				baea	Bald Eagle	3	Soaring	3000	West		100+	Circling	Over land
10-29-21	Diurnal Watch		3:59		coei	Common Eider	11	Passing	100	North		100+	South	Gull, Gannet, Double-crested Cormorant numbers high throughout survey. Most birds using water, few fly bys over land
10-29-21	Diurnal Watch				leatherback turtle	#N/A	1		500	Northwest	Y			
10-29-21	Diurnal Watch				noga	Northern Gannet	190	Fishing	2000	North		50+		Mostly in air
10-29-21	Diurnal Watch				herg	Herring Gull	200	On water	500	Northwest				Mostly On water
10-29-21	Diurnal Watch				blki	Black-legged Kittiwake	6	Over water	1000	Northwest		50+		
10-29-21	Diurnal Watch				coei	Common Eider	60	Passing	2000	North		50	West	
10-29-21	Diurnal Watch				cang	Canada Goose	14				Y			
10-29-21	Diurnal Watch				dcco	Double-crested Cormorant	85	Roosting	500	North				

Common Name	Scientific Name	Bird Group	SARA	COSEWIC	NSESA	NS_Srank	Number Observed
American Crow	Corvus brachyrhynchos	6	Not Listed	Not Listed	Not Listed	S5	15
American Goldfinch	Carduelis tristis	6	Not Listed	Not Listed	Not Listed	S5	5
American Robin	Turdus migratorius	6	Not Listed	Not Listed	Not Listed	S5B,S3N	14
Bald Eagle	Haliaeetus leucocephalus	4	Not Listed	Not at Risk	Not Listed	S5	3
Black-capped Chickadee	Poecile atricapilla	6	Not Listed	Not Listed	Not Listed	S5	65
Blue Jay	Cyanocitta cristata	6	Not Listed	Not Listed	Not Listed	S5	5
Boreal Chickadee	Poecile hudsonica	6	Not Listed	Not Listed	Not Listed	SU	21
Brown Creeper	Certhia americana	6	Not Listed	Not Listed	Not Listed	S5	2
Canada Goose	Branta canadensis	1	Not Listed	Not Listed	Not Listed	SUB,S4N,S5M	1
Common Raven	Corvus corax	6	Not Listed	Not Listed	Not Listed	S5	30
Common Redpoll	Acanthis flammea	6	Not Listed	Not Listed	Not Listed	S5N	80
Downy Woodpecker	Picoides pubescens	7	Not Listed	Not Listed	Not Listed	SU	1
European Starling	Sturnus vulgaris	6	Not Listed	Not Listed	Not Listed	SNA	4
Evening Grosbeak	Coccothraustes vespertinus	6	Special Concern	Special Concern	Vulnerable	S3B,S3N,S3M	2
Golden-crowned Kinglet	Regulus satrapa	6	Not Listed	Not Listed	Not Listed	S5	47
Gray Jay	Perisoreus canadensis	6	Not Listed	Not Listed	Not Listed	S3	3
Hairy Woodpecker	Picoides villosus	7	Not Listed	Not Listed	Not Listed	SU	7
Herring Gull	Larus argentatus	2	Not Listed	Not Listed	Not Listed	S5	6
Northern Goshawk	Accipiter gentilis	4	Not Listed	Not Listed	Not Listed	S5	1
Pine Grosbeak	Pinicola enucleator	6	Not Listed	Not Listed	Not Listed	S3B,S5N,S5M	36
Pine Siskin	Carduelis pinus	6	Not Listed	Not Listed	Not Listed	S5	13
Pileated Woodpecker	Dryocopus pileatus	7	Not Listed	Not Listed	Not Listed	S5	10
Purple Finch	Carpodacus purpureus	6	Not Listed	Not Listed	Not Listed	S5	14
Red-breasted Nuthatch	Sitta canadensis	6	Not Listed	Not Listed	Not Listed	S4S5	6
Red Crossbill	Loxia curvirostra	6	Not Listed	Not Listed	Not Listed	S3, S4	3
Ruffed Grouse	Bonasa umbellus	7	Not Listed	Not Listed	Not Listed	S5	5
White-winged Crossbill	Loxia leucoptera	6	Not Listed	Not Listed	Not Listed	S4S5	323
Woodpecker Species	N/A	7	N/A	N/A	N/A	N/A	3

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
12-17-21	PC	ph 1	7:57	10	amro	American Robin	1	Calling	50					Some traffic, hard to hear birds
12-17-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
12-17-21	PC	ph 2	8:16	10	bcch	Black-capped Chickadee	4	Calling	0					
12-17-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
12-17-21	PC				pufi	Purple Finch	1	Calling	50					
12-17-21	PC				cora	Common Raven	1	Calling	250					
12-17-21	PC	ph 3	8:35	10	rbnu	Red-breasted Nuthatch	2	Calling	0	South				
12-17-21	PC				boch	Boreal Chickadee	2	Calling	0					
12-17-21	PC				bcch	Black-capped Chickadee	3	Calling	0					
12-17-21	PC				gcki	Golden-crowned Kinglet	3	Calling	0					
12-17-21	PC				rugr	Ruffed Grouse	4	Flushed	50					
12-17-21	PC				wocr	White-winged Crossbill	3	Calling	100					
12-17-21	PC				dowo	Downy Woodpecker	1	Calling	100					
12-17-21	PC	ph 4	8:56	10	hawo	Hairy Woodpecker	1	Flushed	0					
12-17-21	PC				blja	Blue Jay	1	Calling	100					
12-17-21	PC				cora	Common Raven	1	Calling	250					
12-17-21	PC				bcch	Black-capped Chickadee	6	Calling	0					
12-17-21	PC				pufi	Purple Finch	1	Calling	50					
12-17-21	PC	ph 5	9:09	10	pigr	Pine Grosbeak	2	Flushed	50	Southwest				Flushed from road just before waypoint
12-17-21	PC				pufi	Purple Finch	2	Passing	50	Northeast		50+	West	
12-17-21	PC				blja	Blue Jay	1	Calling	100					
12-17-21	PC				amgo	American Goldfinch	1	Calling	50					
12-17-21	PC				bcch	Black-capped Chickadee	1	Calling	50					
12-17-21	PC	ph 6	9:23	10	pufi	Purple Finch	1	Calling	100					
12-17-21	PC				boch	Boreal Chickadee	3	Calling	0	Northwest				
12-17-21	PC				bcch	Black-capped Chickadee	3	Calling	0					
12-17-21	PC	ph 7	9:38	10	wocr	White-winged Crossbill	5	Calling	100					
12-17-21	PC				boch	Boreal Chickadee	2	Calling	100	Southeast				
12-17-21	PC	ph 10	9:56	10	gcki	Golden-crowned Kinglet	2	Calling	0					
12-17-21	PC				wocr	White-winged Crossbill	28	Passing	0			50	West	
12-17-21	PC	ph 11	10:11	10	wocr	White-winged Crossbill	1	Calling	0					
12-17-21	PC				rbnu	Red-breasted Nuthatch	1	Calling	50	North				
12-17-21	PC				blja	Blue Jay	1	Calling	100					
12-17-21	PC				pigr	Pine Grosbeak	2	Calling	50	North				
12-17-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
12-17-21	PC	ph 8	10:30	10	bcch	Black-capped Chickadee	3	Calling	0					
12-17-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0					
12-17-21	PC	ph 9	10:49	10	piwo	Pileated Woodpecker	2	Foraging	50					
12-17-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
12-17-21	PC	ph 13	11:43	10	bcch	Black-capped Chickadee	2	Calling	0					
12-28-21	PC	ph 14	7:43	10	amro	American Robin	11				Y			
12-28-21	PC				pufi	Purple Finch	3	Calling	50					
12-28-21	PC				cora	Common Raven	4	Passing	0	Northeast		50	Southwest	
12-28-21	PC				wocr	White-winged Crossbill	14	Passing	0	East		50+	West	
12-28-21	PC				blja	Blue Jay	1	Calling	100					
12-28-21	PC	ph 12	8:04	10	amcr	American Crow	3	Calling	100					
12-28-21	PC				cora	Common Raven	1	Calling	100			100+	West	
12-28-21	PC				piwo	Pileated Woodpecker	1	Calling	100			50+	West	
12-28-21	PC				hawo	Hairy Woodpecker	1	Calling	100					
12-28-21	PC				pufi	Purple Finch	2	Passing	50	South		50	North	
12-28-21	PC				wocr	White-winged Crossbill	3	Calling	0					
12-28-21	PC				baea	Bald Eagle	1	Passing	100					
12-28-21	PC	ph 18	8:30	10	hawo	Hairy Woodpecker	1	Calling	50					
12-28-21	PC				boch	Boreal Chickadee	2	Calling	0	East		100+	North	
12-28-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
12-28-21	PC				piwo	Pileated Woodpecker	1	Calling	100					
12-28-21	PC				wocr	White-winged Crossbill	2	Calling	100					
12-28-21	PC	ph 17	8:45	10	cora	Common Raven	1	Calling	250					
12-28-21	PC				wocr	White-winged Crossbill	3	Calling	50					
12-28-21	PC				pufi	Purple Finch	1	Calling	100					
12-28-21	PC	ph 16	9:01	10	wocr	White-winged Crossbill	35	Passing	50	Northeast		50	Southwest	
12-28-21	PC				pigr	Pine Grosbeak	1	Calling	100	Southeast				
12-28-21	PC				pufi	Purple Finch	1	Passing	100	Northeast		50	Southwest	
12-28-21	PC	ph 20	9:18	10	gcki	Golden-crowned Kinglet	2	Calling	0					
12-28-21	PC				brcr	Brown Creeper	1	Calling	0					
12-28-21	PC				woodpecker sp	Woodpecker Species	1	Drumming	100					
12-28-21	PC				wocr	White-winged Crossbill	2	Passing	0	Southeast		50	West	
12-28-21	PC	ph 21	9:32	10	wocr	White-winged Crossbill	13	Passing	0	Northeast		50	Southwest	
12-28-21	PC				amgo	American Goldfinch	2	Calling	250					
12-28-21	PC				piwo	Pileated Woodpecker	2	Drumming	250	Northwest				
12-28-21	PC				recr	Red Crossbill	1	Passing	0	Northeast		50	Southwest	
12-28-21	PC				gcki	Golden-crowned Kinglet	2	Calling	50					
12-28-21	PC	ph 19	9:51	10	pufi	Purple Finch	1	Passing	50	West		50	East	

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
12-28-21	PC				wocr	White-winged Crossbill	2	Calling	50					
12-28-21	PC				amro	American Robin	1	Calling	250					
12-28-21	PC				pigr	Pine Grosbeak	1	Calling	100	Northeast				
12-28-21	PC				rbnu	Red-breasted Nuthatch	1	Calling	100	Northeast				
12-28-21	PC				bcch	Black-capped Chickadee	1	Calling	100					
12-28-21	PC	ph 15	10:07	10	cora	Common Raven	1	Calling	100					
12-28-21	PC				wocr	White-winged Crossbill	5	Calling	100					
12-28-21	PC	ph 22	10:22	10	wocr	White-winged Crossbill	6	Passing	0	North		50+	Southeast	
12-28-21	PC				cora	Common Raven	1	Calling	1000					
12-28-21	PC	ph 23	10:34	10	gcki	Golden-crowned Kinglet	1	Calling	0					
12-28-21	PC				wocr	White-winged Crossbill	8	Passing	0	Northeast		50	Southwest	
12-28-21	PC				cora	Common Raven	1	Calling	100					
12-28-21	PC				piwo	Pileated Woodpecker	1	Calling	100					
12-28-21	PC	ph 25	10:50	10	pigr	Pine Grosbeak	1	Passing	0	West		50+	East	
12-28-21	PC	ph 24	11:03	10	wocr	White-winged Crossbill	20	Passing	0	East		50	West	
12-28-21	PC				bjja	Blue Jay	1	Calling	0					
12-28-21	PC	ph 26	11:16	10	gcki	Golden-crowned Kinglet	2	Calling	0					
12-28-21	PC				wocr	White-winged Crossbill	14	Passing	50	Northeast		50	West	
12-28-21	PC	ph 27	11:32	10	pigr	Pine Grosbeak	9	Passing	0	North		50	South	
12-28-21	PC				wocr	White-winged Crossbill	15	Calling	100					
12-28-21	PC				piwo	Pileated Woodpecker	1	Drumming	250					
12-28-21	PC	ph 28	11:52	10	core	Common Redpoll	5	Calling	100					
12-28-21	PC	ph 29	12:05	10	piwo	Pileated Woodpecker	1	Calling	100					
12-28-21	PC				wocr	White-winged Crossbill	25	Passing	100	Southeast		50	Northwest	
12-28-21	PC				cora	Common Raven	1	Calling	500					
12-28-21	PC	ph 30	12:20	10	baea	Bald Eagle	1	Passing	250	Southeast		50	West	
12-28-21	PC				wocr	White-winged Crossbill	3	Calling	100					
12-28-21	PC				amgo	American Goldfinch	2	Calling	50					
12-28-21	PC				core	Common Redpoll	75	Passing	0	Southeast		50	Northwest	
12-28-21	PC				cora	Common Raven	2	Calling	1000					
12-28-21	PC				graj	Gray Jay	1	Calling	100	South				
1-21-22	PC	1	7:52	10	pigr	Pine Grosbeak	1	Calling	100	Northwest				
1-21-22	PC				evgr	Evening Grosbeak	2	Calling	100	East				
1-21-22	PC				bcch	Black-capped Chickadee	1	Calling	100	South				
1-21-22	PC				cora	Common Raven	1	Calling	250	West				
1-21-22	PC	2	8:13	10	bcch	Black-capped Chickadee	1	Calling	100					
1-21-22	PC	3	8:37	10	herg	Herring Gull	2	Passing	2000					
1-21-22	PC				baea	Bald Eagle	1	Passing	500					
1-21-22	PC	4	8:54	10	wocr	White-winged Crossbill	25	Passing	0	Northeast		50	Southwest	
1-21-22	PC				wocr	White-winged Crossbill	6	Passing	0	Southwest		50	Northeast	Possibly part of previous flock
1-21-22	PC	5	9:08	10	pigr	Pine Grosbeak	7	Flushed	0	Southeast				Flushed from roadside
1-21-22	PC				wocr	White-winged Crossbill	2	Calling	0					
1-21-22	PC	6	9:22	10	wocr	White-winged Crossbill	3	Calling	100					
1-21-22	PC	7	9:39	10	rugr	Ruffed Grouse	1	Flushed	0					
1-21-22	PC				gcki	Golden-crowned Kinglet	1	Calling	0					
1-21-22	PC	10	9:56	10	boch	Boreal Chickadee	3	Calling	0	Northwest				
1-21-22	PC				bcch	Black-capped Chickadee	5	Calling	0					
1-21-22	PC	11	10:13	10	wocr	White-winged Crossbill	30	Passing	50	Northeast		50	West	
1-21-22	PC				pigr	Pine Grosbeak	1	Calling	100	Southwest				
1-21-22	PC	8	10:33	10	bcch	Black-capped Chickadee	3	Calling	0					
1-21-22	PC				gcki	Golden-crowned Kinglet	2	Calling	0				South	
1-21-22	PC	9	10:52	10	wocr	White-winged Crossbill	2	Calling						
1-21-22	PC				gcki	Golden-crowned Kinglet	1	Calling	1					
1-21-22	PC				pigr	Pine Grosbeak	4				Y			Near point 3
1-21-22	PC	12	11:47	10	cora	Common Raven	1	Calling	100					
1-21-22	PC	13	12:02	10	wocr	White-winged Crossbill	21	Foraging	0					
1-21-22	PC				gcki	Golden-crowned Kinglet	3	Calling						
1-22-22	PC	14	7:51	10	woodpecker specie	Woodpecker Species	1	Drumming	100					
1-22-22	PC				wocr	White-winged Crossbill	2	Calling	100					
1-22-22	PC				cora	Common Raven	1	Calling	500					
1-22-22	PC	15	8:08	10	no birds	#N/A								
1-22-22	PC	16	8:22	10	boch	Boreal Chickadee	2	Calling	0	North				
1-22-22	PC	18	8:41	10	wocr	White-winged Crossbill	5	Calling	50					
1-22-22	PC				woodpecker species	Woodpecker Species	1	Calling	100					
1-22-22	PC	17	8:57	10	bcch	Black-capped Chickadee	3	Calling	0					
1-22-22	PC				boch	Boreal Chickadee	2	Calling	0	Northeast				
1-22-22	PC	19	9:14	10	wocr	White-winged Crossbill	2	Calling	100					
1-22-22	PC				cora	Common Raven	1	Calling	100					
1-22-22	PC				hawo	Hairy Woodpecker	1	Calling	100					
1-22-22	PC	21	9:30	10	cora	Common Raven	1	Calling	100					
1-22-22	PC				gcki	Golden-crowned Kinglet	1	Calling	0					
1-22-22	PC	20	9:43	10	bcch	Black-capped Chickadee	5	Calling	0					
1-22-22	PC				boch	Boreal Chickadee	3	Calling	0	West				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
1-22-22	PC				gcki	Golden-crowned Kinglet	1	Calling	0					
1-22-22	PC	22	10:05	10	gcki	Golden-crowned Kinglet	2	Calling	0					
1-22-22	PC	23	10:18	10	no birds	#N/A								
1-22-22	PC	25	10:35	10	cora	Common Raven	1	Passing	100	Northeast		50	Southwest	
1-22-22	PC				recr	Red Crossbill	2	Calling	0	East				
1-22-22	PC				piwo	Pileated Woodpecker	1	Calling	100	Southwest				
1-22-22	PC	24	10:49	10	amro	American Robin	1	Calling	100	Southeast				
1-22-22	PC				nogo	Northern Goshawk	1	Passing	0	Northwest		50	East	Adult
1-22-22	PC				pigr	Pine Grosbeak	1	Calling	100	East				
1-22-22	PC	26	11:07	10	cora	Common Raven	1	Calling	500					
1-22-22	PC	27	11:22	10	no birds	#N/A								
1-22-22	PC	28	11:43	10	amcr	American Crow	1	Calling	500					
1-22-22	PC	29	11:58	10	cora	Common Raven	1	Calling	1000					
1-22-22	PC				cang	Canada Goose	1	Calling	1000					
1-22-22	PC	30	12:14	10	gcki	Golden-crowned Kinglet	1	Calling	50					
1-22-22	PC				wwcr	White-winged Crossbill	2	Passing	0	Northeast		50	Southwest	
1-22-22	PC				hawo	Hairy Woodpecker	1	Calling	100					
1-22-22	PC				amcr	American Crow	1	Calling	500					
2-16-22	PC	1	7:12	10	gcki	Golden-crowned Kinglet	2	Calling	0					
2-16-22	PC				pufi	Purple Finch	1	Calling	50					
2-16-22	PC				pisi	Pine Siskin	1	Passing	0	Southeast		50+	North	
2-16-22	PC				bcch	Black-capped Chickadee	3	Calling	0					
2-16-22	PC	2	7:42	10	graj	Gray Jay	2				Y			
2-16-22	PC				gcki	Golden-crowned Kinglet	1	Calling						
2-16-22	PC				herg	Herring Gull	4	Passing	250	North		50+	South	
2-16-22	PC				rbnu	Red-breasted Nuthatch	1	Calling	50	Southwest				
2-16-22	PC				amcr	American Crow	2	Passing	0	North		50+	South	
2-16-22	PC	3	8:02	10	pisi	Pine Siskin	2	Passing	50	South		50+	North	
2-16-22	PC				cora	Common Raven	1	Calling	250					
2-16-22	PC	4	8:29	10	bcch	Black-capped Chickadee	2	Calling	0					
2-16-22	PC				pigr	Pine Grosbeak	1	Calling	100	West				
2-16-22	PC				cora	Common Raven	1	Calling	500					
2-16-22	PC	5	8:43	10	cora	Common Raven	1	Calling	250					
2-16-22	PC	6	8:58	10	pisi	Pine Siskin	2	Passing	0	Southeast		50+	Northwest	
2-16-22	PC	7	9:12	10	gcki	Golden-crowned Kinglet	2	Calling	0					
2-16-22	PC	10	9:26	10	pisi	Pine Siskin	1	Passing	0	North		50	South	
2-16-22	PC				cora	Common Raven	2	Calling	100					
2-16-22	PC				gcki	Golden-crowned Kinglet	1	Calling	0					
2-16-22	PC	11	9:39	10	pigr	Pine Grosbeak	5	Calling	0	North				
2-16-22	PC				pisi	Pine Siskin	2	Calling	0					
2-16-22	PC				wwcr	White-winged Crossbill	7	Calling	0					
2-16-22	PC				boch	Boreal Chickadee	2	Calling	0	North				
2-16-22	PC	8	9:58	10	bcch	Black-capped Chickadee	2	Singing	100					
2-16-22	PC	9	10:19	10	pisi	Pine Siskin	1	Passing	50	East		50	South	
2-16-22	PC				amcr	American Crow	1	Calling	250					
2-16-22	PC	14	11:21	10	bcch	Black-capped Chickadee	3	Calling	0					
2-16-22	PC				pisi	Pine Siskin	2	Calling	50					
2-16-22	PC				cora	Common Raven	1	Calling	0					
3-1-22	PC	12	7:07	10	no birds	#N/A		Calling	0					
3-1-22	PC	13	7:26	10	gcki	Golden-crowned Kinglet	2	Calling	0					
3-1-22	PC				wwcr	White-winged Crossbill	1	Passing	50	Northeast		50	Southwest	
3-1-22	PC				cora	Common Raven	1	Calling	250					
3-1-22	PC	15	7:45	10	bcch	Black-capped Chickadee	4	Calling	0					
3-1-22	PC				eust	European Starling	4	Passing	0	Northeast		50	Southwest	Definitely European Starling, not Bohemian Waxwing
3-1-22	PC	17	8:02	10	hawo	Hairy Woodpecker	2	Passing	100	East		50	South	
3-1-22	PC				wwcr	White-winged Crossbill	3	Passing	0	Southwest		50	Northeast	
3-1-22	PC				pisi	Pine Siskin	2	Passing	0	Southwest		50	Northeast	
3-1-22	PC				bcch	Black-capped Chickadee	2	Calling	100					
3-1-22	PC				gcki	Golden-crowned Kinglet	2	Calling	0					
3-1-22	PC				wwcr	White-winged Crossbill	3	Calling	100					
3-1-22	PC				amcr	American Crow	1	Calling	100					
3-1-22	PC	18	8:20	10	wwcr	White-winged Crossbill	2	Calling	0					
3-1-22	PC	16	8:37	10	bcch	Black-capped Chickadee	3	Calling	0			50	West	
3-1-22	PC	19	8:50	10	no birds	#N/A						50	Southwest	
3-1-22	PC	21	9:09	10	cora	Common Raven	1	Calling	500					
3-1-22	PC	20	9:24	10	no birds	#N/A								
3-1-22	PC	22	9:43	10	bcch	Black-capped Chickadee	3	Calling	0					
3-1-22	PC				gcki	Golden-crowned Kinglet	1	Calling	0					
3-1-22	PC				rbnu	Red-breasted Nuthatch	1	Calling	0					
3-1-22	PC	23	9:56	10	amcr	American Crow	2	Calling	500					
3-1-22	PC	24	10:09	10	bcch	Black-capped Chickadee	2	Calling	0					
3-1-22	PC	25	10:21	10	no birds	#N/A								

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
3-1-22	PC	26	10:35	10	brcr	Brown Creeper	1	Calling	0					
3-1-22	PC	27	10:50	10	no birds	#N/A								
3-1-22	PC	28	11:06	10	gcki	Golden-crowned Kinglet	1	Calling	0					
3-1-22	PC				amcr	American Crow	4	Passing	100	South		50+	North	
3-1-22	PC	29	11:23	10	no birds	#N/A								Wind picking up
3-1-22	PC	30	11:39	10	no birds	#N/A		Calling	0					

Common Name	Scientific Name	Bird Group	SARA	COSEWIC	NSESA	NS_Srank	Number Observed
American Black Duck	Anas rubripes	1	Not Listed	Not Listed	Not Listed	S5B,S5N	2
American Crow	Corvus brachyrhynchos	6	Not Listed	Not Listed	Not Listed	S5	20
American Goldfinch	Carduelis tristis	6	Not Listed	Not Listed	Not Listed	S5	20
American Kestrel	Falco sparverius	4	Not Listed	Not Listed	Not Listed	S3B,S4S5M	2
American Redstart	Setophaga ruticilla	6	Not Listed	Not Listed	Not Listed	S5B	15
American Robin	Turdus migratorius	6	Not Listed	Not Listed	Not Listed	S5B,S3N	70
American Woodcock	Scolopax minor	2	Not Listed	Not Listed	Not Listed	S5B	1
Bald Eagle	Haliaeetus leucocephalus	4	Not Listed	Not at Risk	Not Listed	S5	8
Barn Swallow	Hirundo rustica	6	Threatened	Special Concern	Endangered	S3B	1
Bay-breasted Warbler	Dendroica castanea	6	Not Listed	Not Listed	Not Listed	S5	12
Belted Kingfisher	Megaceryle alcyon	3	Not Listed	Not Listed	Not Listed	S4S5B	1
Black-and-white Warbler	Mniotilta varia	6	Not Listed	Not Listed	Not Listed	S5B	36
Blackburnian Warbler	Dendroica fusca	6	Not Listed	Not Listed	Not Listed	S5	11
Black-capped Chickadee	Poecile atricapilla	6	Not Listed	Not Listed	Not Listed	S5	42
Blackpoll Warbler	Dendroica striata	6	Not Listed	Not Listed	Not Listed	S5	4
Black-throated Green Warbler	Dendroica virens	6	Not Listed	Not Listed	Not Listed	S5	34
Blue Jay	Cyanocitta cristata	6	Not Listed	Not Listed	Not Listed	S5	8
Blue-headed Vireo	Vireo solitarius	6	Not Listed	Not Listed	Not Listed	S5B	34
Boreal Chickadee	Poecile hudsonica	6	Not Listed	Not Listed	Not Listed	SU	21
Brown Creeper	Certhia americana	6	Not Listed	Not Listed	Not Listed	S5	5
Canada Goose	Branta canadensis	1	Not Listed	Not Listed	Not Listed	SUB,S4N,S5M	3
Canada Warbler	Wilsonia canadensis	6	Threatened	Threatened	Endangered	SU	9
Chestnut-sided Warbler	Dendroica pensylvanica	6	Not Listed	Not Listed	Not Listed	S5	1
Common Grackle	Quiscalus quiscula	6	Not Listed	Not Listed	Not Listed	S5B	22
Common Loon	Gavia immer	3	Not Listed	Not at Risk	Not Listed	S4B	4
Common Merganser	Mergus merganser	2	Not Listed	Not Listed	Not Listed	S5B,S5M,S5N	4
Common Raven	Corvus corax	6	Not Listed	Not Listed	Not Listed	S5	65
Common Yellowthroat	Geothlypis trichas	6	Not Listed	Not Listed	Not Listed	S5B	22
Dark-eyed Junco	Junco hyemalis	6	Not Listed	Not Listed	Not Listed	S4S5	35
Evening Grosbeak	Coccothraustes vespertinus	6	Special Concern	Special Concern	Vulnerable	S3B,S3N,S3M	3
Fox Sparrow	Passerella iliaca	6	Not Listed	Not Listed	Not Listed	S3S4B,S5M	2
Golden-crowned Kinglet	Regulus satrapa	6	Not Listed	Not Listed	Not Listed	S5	48
Gray Jay	Perisoreus canadensis	6	Not Listed	Not Listed	Not Listed	S3	12
Green-winged Teal	Anas crecca	1	Not Listed	Not Listed	Not Listed	S4S5B,S5M	3
Hairy Woodpecker	Picoides villosus	7	Not Listed	Not Listed	Not Listed	SU	9
Hermit Thrush	Catharus guttatus	6	Not Listed	Not Listed	Not Listed	S5B	62
Herring Gull	Larus argentatus	2	Not Listed	Not Listed	Not Listed	S5	8
Least Flycatcher	Empidonax minimus	6	Not Listed	Not Listed	Not Listed	S4S5B,S5M	4
Magnolia Warbler	Dendroica magnolia	6	Not Listed	Not Listed	Not Listed	S5	51
Mourning Warbler	Oporornis philadelphia	6	Not Listed	Not Listed	Not Listed	SU	2
Nashville Warbler	Vermivora ruficapilla	6	Not Listed	Not Listed	Not Listed	SU	4
Northern Flicker	Colaptes auratus	7	Not Listed	Not Listed	Not Listed	S5B	29
Northern Parula	Parula americana	6	Not Listed	Not Listed	Not Listed	SU	8
Northern Waterthrush	Seiurus noveboracensis	6	Not Listed	Not Listed	Not Listed	S2S3	9
Ovenbird	Seiurus aurocapilla	6	Not Listed	Not Listed	Not Listed	S5B	49
Palm Warbler	Dendroica palmarum	6	Not Listed	Not Listed	Not Listed	S5	27
Pileated Woodpecker	Dryocopus pileatus	7	Not Listed	Not Listed	Not Listed	S5	20
Pine Grosbeak	Pinicola enucleator	6	Not Listed	Not Listed	Not Listed	S3B,S5N,S5M	1

Common Name	Scientific Name	Bird Group	SARA	COSEWIC	NSESA	NS_Srank	Number Observed
Pine Siskin	Carduelis pinus	6	Not Listed	Not Listed	Not Listed	S5	2
Purple Finch	Carpodacus purpureus	6	Not Listed	Not Listed	Not Listed	S5	38
Red-breasted Nuthatch	Sitta canadensis	6	Not Listed	Not Listed	Not Listed	S4S5	3
Red Crossbill	Loxia curvirostra	6	Not Listed	Not Listed	Not Listed	S3, S4	3
Red-eyed Vireo	Vireo olivaceus	6	Not Listed	Not Listed	Not Listed	S5B	5
Ruby-crowned Kinglet	Regulus calendula	6	Not Listed	Not Listed	Not Listed	S5	104
Ruffed Grouse	Bonasa umbellus	7	Not Listed	Not Listed	Not Listed	S5	30
Rusty Blackbird	Euphagus carolinus	6	Special Concern	Special Concern	Endangered	S2B	3
Savannah Sparrow	Passerculus sandwichensis	6	Not Listed	Not Listed	Not Listed	S4S5B,S5M	1
Spruce Grouse	Falciennis canadensis	7	Not Listed	Not Listed	Not Listed	SU	2
Swainson's Thrush	Catharus ustulatus	6	Not Listed	Not Listed	Not Listed	S4B,S5M	18
Swamp Sparrow	Melospiza georgiana	6	Not Listed	Not Listed	Not Listed	S5B	13
Tree Swallow	Tachycineta bicolor	6	Not Listed	Not Listed	Not Listed	S4B	7
White-throated Sparrow	Zonotrichia albicollis	6	Not Listed	Not Listed	Not Listed	S4S5B,S5M	88
Winter Wren	Troglodytes troglodytes	6	Not Listed	Not Listed	Not Listed	SU	12
Wilson's Snipe	Gallinago delicata	2	Not Listed	Not Listed	Not Listed	S3B,S5M	1
Yellow-bellied Flycatcher	Empidonax flaviventris	6	Not Listed	Not Listed	Not Listed	S4B,S5M	11
Yellow-bellied Sapsucker	Sphyrapicus varius	7	Not Listed	Not Listed	Not Listed	S5B	65
Yellow-rumped Warbler	Dendroica coronata	6	Not Listed	Not Listed	Not Listed	S5	66
warbler species	N/A	6	N/A	N/A	N/A	N/A	4
blackbird species	N/A	6	N/A	N/A	N/A	N/A	3
Woodpecker Species	N/A	7	N/A	N/A	N/A	N/A	21

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
4-24-21	PC	#1	5:53	10	bcch	Black-capped Chickadee	2	Calling	0	Southwest				
4-24-21	PC				gcki	Golden-crowned Kinglet	2	Singing	0	Southwest				
4-24-21	PC				amro	American Robin	5	Calling	50	East				
4-24-21	PC				nofl	Northern Flicker	1	Calling	100	Northwest				
4-24-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
4-24-21	PC				pigr	Pine Grosbeak	1	Calling	100	East				
4-24-21	PC				wiwr	Winter Wren	1	Singing	100	West				
4-24-21	PC				cogr	Common Grackle	1	Calling	0	Northeast				
4-24-21	PC	2	6:07	10	cogr	Common Grackle	4	Calling	0	East				
4-24-21	PC				wfsp	White-throated Sparrow	1	Calling	0	North				
4-24-21	PC				bcch	Black-capped Chickadee	1	Calling	0	North				
4-24-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	North		50	South	
4-24-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Northwest				
4-24-21	PC				heth	Hermit Thrush	1	Singing	100	North				
4-24-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	Southeast				
4-24-21	PC				nofl	Northern Flicker	1	Calling	250	Southeast				
4-24-21	PC	3	6:31	10	rcki	Ruby-crowned Kinglet	1	Singing	50	West				
4-24-21	PC				heth	Hermit Thrush	2	Singing	100	East				
4-24-21	PC				nofl	Northern Flicker	1	Calling	250	North				
4-24-21	PC				wfsp	White-throated Sparrow	1	Singing	100	Northwest				
4-24-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	250	North				
4-24-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Northeast				
4-24-21	PC				pawa	Palm Warbler	1	Calling	50	Northeast				
4-24-21	PC				swsp	Swamp Sparrow	1	Calling	100	Northeast				
4-24-21	PC				wiwr	Winter Wren	1	Singing	250	Northwest				
4-24-21	PC				amcr	American Crow	1	Calling	500	Southwest				
4-24-21	PC				gbbg	Great Black-backed Gull	3	Passing	100	Northwest		50+	North	
4-24-21	PC				herg	Herring Gull	5	Passing	100	Northwest				
4-24-21	PC				yrwa	Yellow-rumped Warbler	1	Calling			Y			
4-24-21	PC	4	6:53	10	amro	American Robin	2	Calling	500	South				
4-24-21	PC				pawa	Palm Warbler	1	Calling	50	Northeast				
4-24-21	PC				rcki	Ruby-crowned Kinglet	2	Singing	0	North				
4-24-21	PC				heth	Hermit Thrush	2	Calling	0	North				
4-24-21	PC				swsp	Swamp Sparrow	1	Calling	0	East				
4-24-21	PC				cogr	Common Grackle	2	Calling	250	Northwest				
4-24-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Southwest				
4-24-21	PC				herg	Herring Gull	1	Passing	250	North		50+	West	
4-24-21	PC				boch	Boreal Chickadee	2	Calling	0	West				
4-24-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0	West				
4-24-21	PC	5	7:06	10	gcki	Golden-crowned Kinglet	1	Singing	50	North				
4-24-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	50	Northwest				
4-24-21	PC				heth	Hermit Thrush	2	Singing	0	Northeast				
4-24-21	PC				amro	American Robin	3	Singing	0	Northwest				
4-24-21	PC				rcki	Ruby-crowned Kinglet	2	Singing	50	Northeast				
4-24-21	PC				graj	Gray Jay	3	Calling	50	Southeast				All adults
4-24-21	PC				cora	Common Raven	1	Calling	500	East				
4-24-21	PC				boch	Boreal Chickadee	2	Calling	50	Southwest				
4-24-21	PC				deju	Dark-eyed Junco	1	Calling	0	Southwest				
4-24-21	PC				pawa	Palm Warbler	1	Calling	100	Northeast				
4-24-21	PC	6	7:21	10	deju	Dark-eyed Junco	1	Singing	100	West		50	Southwest	
4-24-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	50	Southeast				
4-24-21	PC				piwo	Pileated Woodpecker	1	Calling	100	Southwest				
4-24-21	PC				bcch	Black-capped Chickadee	1	Calling	50	North				
4-24-21	PC				beki	Belted Kingfisher	1	Calling	100	North				
4-24-21	PC				rugr	Ruffed Grouse	1	Flushed	0	South				
4-24-21	PC				blackbird sp	Blackbird Species	2	Passing	100	Southeast		50+	North	
4-24-21	PC	7	7:35	10	amro	American Robin	2	Calling	50	North		50	North	
4-24-21	PC				ybsa	Yellow-bellied Sapsucker	1	Calling	50	North		50+	South	
4-24-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	Southwest		50	Northeast	
4-24-21	PC				bcch	Black-capped Chickadee	2	Calling	0	Southeast				
4-24-21	PC				piwo	Pileated Woodpecker	1	Calling	250	West				
4-24-21	PC				cora	Common Raven	1	Calling	100	West				
4-24-21	PC	8	7:48	10	cora	Common Raven	1	Calling	50	West				
4-24-21	PC				rugr	Ruffed Grouse	1	Drumming	0	East				
4-24-21	PC				nofl	Northern Flicker	1	Calling	50	East				
4-24-21	PC				amro	American Robin	1	Calling	50	Northeast				
4-24-21	PC				brcr	Brown Creeper	1	Singing	50	Southeast				
4-24-21	PC				rubi	Rusty Blackbird	1	Passing	0	Northeast		50	Southwest	
4-24-21	PC	9	8:06	10	yrwa	Yellow-rumped Warbler	1	Calling	0	Northwest				
4-24-21	PC				come	Common Merganser	2	On water	50	North				Pair
4-24-21	PC				gcki	Golden-crowned Kinglet	1	Calling	100	Southeast				
4-24-21	PC				baea	Bald Eagle	2	Passing	500	West		50	Southwest	

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
4-24-21	PC	10	8:38	10	gcki	Golden-crowned Kinglet	1	Calling	0	Northeast				
4-24-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	West				
4-24-21	PC				deju	Dark-eyed Junco	1	Singing	0	Northeast				
4-24-21	PC	11	8:51	10	ybsa	Yellow-bellied Sapsucker	1	Drumming	50	North				
4-24-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	100	Southwest				
4-24-21	PC				nofl	Northern Flicker	1	Calling	100	Southwest				
4-24-21	PC	12	9:49	10	gcki	Golden-crowned Kinglet	1	Calling	0	Northeast				
4-24-21	PC				brcr	Brown Creeper	1	Calling	0	West				
4-24-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
4-24-21	PC	13	10:04	10	cora	Common Raven	1	Calling	500	North				
4-24-21	PC				bcch	Black-capped Chickadee	2	Calling	50	West				
4-24-21	PC				amro	American Robin	1	Calling	100	Northwest				
4-24-21	PC				nofl	Northern Flicker	1	Calling	100	Northeast				
4-24-21	PC				gcki	Golden-crowned Kinglet	2	Calling	50	Northeast				
4-25-21	PC	14	5:50	10	ybsa	Yellow-bellied Sapsucker	2	Drumming	100	South				
4-25-21	PC				piwo	Pileated Woodpecker	1	Calling	100	South				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Southeast				
4-25-21	PC				heth	Hermit Thrush	2	Singing	100	Northeast				
4-25-21	PC				nofl	Northern Flicker	1	Calling	50	North				
4-25-21	PC				deju	Dark-eyed Junco	1	Calling	0	North				
4-25-21	PC				amro	American Robin	2	Calling	50	Northwest				
4-25-21	PC				wtsp	White-throated Sparrow	1	Calling	100	North				
4-25-21	PC				brcr	Brown Creeper	1	Singing	0	Northeast				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
4-25-21	PC	15	6:08	10	woodpecker species	woodpecker species	2	Drumming	100	South				
4-25-21	PC				nofl	Northern Flicker	2	Calling	50	North				
4-25-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0	Northwest				
4-25-21	PC				amro	American Robin	2	Calling	50	East				
4-25-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	0	South				
4-25-21	PC				wtsp	White-throated Sparrow	2	Singing	100	North				
4-25-21	PC				rgr	Ruffed Grouse	1	Drumming	50	Southeast				
4-25-21	PC				heth	Hermit Thrush	3	Singing	100	South				
4-25-21	PC				deju	Dark-eyed Junco	1	Calling	0	Northwest				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	0	North				
4-25-21	PC				bcch	Black-capped Chickadee	2	Calling	50	South				
4-25-21	PC				wiwr	Winter Wren	1	Singing	250	Southeast				
4-25-21	PC	16	6:21	10	rcki	Ruby-crowned Kinglet	1	Singing	250	North				
4-25-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0	North				
4-25-21	PC				gcki	Golden-crowned Kinglet	4	Calling	0	North				
4-25-21	PC				amro	American Robin	1	Passing	0	Southeast		50+	North	
4-25-21	PC				heth	Hermit Thrush	3	Singing	100	Southeast				
4-25-21	PC				graj	Gray Jay	2	Calling	100	South				
4-25-21	PC				ybsa	Yellow-bellied Sapsucker	1	Calling	100	North				
4-25-21	PC				deju	Dark-eyed Junco	1	Calling	50	Southwest				
4-25-21	PC	17	6:35	10	wtsp	White-throated Sparrow	1	Singing	100	Southeast				
4-25-21	PC				rubl	Rusty Blackbird	1	Singing	50	Northeast				
4-25-21	PC				heth	Hermit Thrush	3	Singing	100	East				
4-25-21	PC				wtsp	White-throated Sparrow	1	Calling	0	Northeast				
4-25-21	PC				amro	American Robin	2	Singing	50	South				
4-25-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	Northeast				
4-25-21	PC				pawa	Palm Warbler	1	Singing	100	East				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	West				
4-25-21	PC	18	6:54	10	rcki	Ruby-crowned Kinglet	1	Singing	50	East				
4-25-21	PC				nofl	Northern Flicker	1	Singing	100	South				
4-25-21	PC				gcki	Golden-crowned Kinglet	1	Calling	50	Northwest				
4-25-21	PC				hawo	Hairy Woodpecker	1	Calling	100	Southwest				
4-25-21	PC	19	7:17	10	blja	Blue Jay	2	Calling	50	West				
4-25-21	PC				rgr	Ruffed Grouse	1	Drumming	50	Southwest				
4-25-21	PC				deju	Dark-eyed Junco	1	Calling	0	Northwest				
4-25-21	PC				heth	Hermit Thrush	1	Singing	100	East				
4-25-21	PC				woodpecker species	woodpecker species	1	Drumming	100	East				
4-25-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Southwest				
4-25-21	PC				bcch	Black-capped Chickadee	2	Calling	50	Northwest				
4-25-21	PC				amro	American Robin	1	Calling	50	Northwest				
4-25-21	PC				recr	Red Crossbill	3	Passing	50	South		50+	Northwest	
4-25-21	PC				pufi	Purple Finch	1	Calling	100	Southeast				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	250	East				
4-25-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	West				
4-25-21	PC				brcr	Brown Creeper	1	Singing	0	Northwest				
4-25-21	PC	20	7:32	10	deju	Dark-eyed Junco	1	Singing	0	Southeast				
4-25-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	Southeast				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	250	Southeast				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
4-25-21	PC				woodpecker species	woodpecker species	1	Singing	250	East				
4-25-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southeast				
4-25-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	East				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	West				
4-25-21	PC				amro	American Robin	1	Calling	100	Southeast				
4-25-21	PC				pufi	Purple Finch	1	Singing	100	West				
4-25-21	PC				cora	Common Raven	2	Passing	0	Southwest		50	Northeast	
4-25-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Northeast				
4-25-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	100	East				
4-25-21	PC				heth	Hermit Thrush	1	Calling	50	East				
4-25-21	PC				pufi	Purple Finch	1	Passing	50	Southwest		50+	Northeast	
4-25-21	PC	21	7:46	10	deju	Dark-eyed Junco	1	Singing	0	Northwest				
4-25-21	PC				woodpecker species	woodpecker species	2	Drumming	100	Southwest				
4-25-21	PC				amro	American Robin	2	Calling	0	Northwest				
4-25-21	PC				nofl	Northern Flicker	2	Calling	100	West				
4-25-21	PC				graj	Gray Jay	1	Calling	100	East				
4-25-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0	Southeast				
4-25-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	South				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	50	Southeast				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
4-25-21	PC				tres	Tree Swallow	2	Passing	0	Northeast		50	West	
4-25-21	PC				bcch	Black-capped Chickadee	1	Calling	0	West				
4-25-21	PC				abdu	American Black Duck	2	Passing	100	East	Y	50+	West	
4-25-21	PC	22	8:09	10	gcki	Golden-crowned Kinglet	1	Calling	0	Southeast				Some brook noise, hard to hear distant birds
4-25-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0	Southeast				
4-25-21	PC				deju	Dark-eyed Junco	1	Calling	0	Northwest				
4-25-21	PC				cora	Common Raven	1	Calling	100	North				
4-25-21	PC	23	8:25	10	rcki	Ruby-crowned Kinglet	1	Singing	0	Northeast				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southwest				
4-25-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	North				
4-25-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	50	Northwest				
4-25-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	Northwest				
4-25-21	PC				woodpecker species	woodpecker species	1	Drumming	100	East				
4-25-21	PC				piwo	Pileated Woodpecker	1	Drumming	250	West				
4-25-21	PC	24	8:38	10	rcki	Ruby-crowned Kinglet	1	Singing	100	Southeast				
4-25-21	PC				cora	Common Raven	1	Calling	1000	Northwest				
4-25-21	PC				woodpecker species	woodpecker species	1	Drumming	100	Southwest				
4-25-21	PC				pawa	Palm Warbler	1	Singing	50	Northwest				
4-25-21	PC				piwo	Pileated Woodpecker	1	Calling	250	South				
4-25-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	250	Southwest				
4-25-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	West				
4-25-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Southwest				
4-25-21	PC				amgo	American Goldfinch	1	Passing	50	North		50	Southeast	
4-25-21	PC				bcch	Black-capped Chickadee	2	Calling	50	North				
4-25-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southwest				
4-25-21	PC	25	8:54	10	amro	American Robin	1	Calling	0	Southeast				
4-25-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	100	Southeast				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	South				
4-25-21	PC				nofl	Northern Flicker	2	Calling	100	Southeast				
4-25-21	PC				deju	Dark-eyed Junco	1	Singing	100	Southwest				
4-25-21	PC				heth	Hermit Thrush	1	Calling	100	East				
4-25-21	PC	26	9:10	10	wiwr	Winter Wren	1	Singing	100	East				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northeast				
4-25-21	PC				gwte	Green-winged Teal	1	Calling	0	Northeast				
4-25-21	PC				amcr	American Crow	1	Calling	100	Northwest				
4-25-21	PC				nofl	Northern Flicker	1	Calling	50	East				
4-25-21	PC				rugr	Ruffed Grouse	1	Drumming	0	West				
4-25-21	PC				home	Hooded Merganser	2	in water	0	Northeast				Pair in suitable habitat
4-25-21	PC				ybsa	Yellow-bellied Sapsucker	2	Calling	0	Southwest				
4-25-21	PC	27	9:29	10	cora	Common Raven	2	Calling	100	Northwest				
4-25-21	PC				boch	Boreal Chickadee	2	Calling	0	Northeast				
4-25-21	PC				wtsp	White-throated Sparrow	2	Singing	0	Southwest				
4-25-21	PC				pawa	Palm Warbler	1	Calling	0	Northeast				
4-25-21	PC				nofl	Northern Flicker	2	Calling	100	West				
4-25-21	PC	28	9:50	10	rbnu	Red-breasted Nuthatch	1	Calling	0	Northeast				
4-25-21	PC				nofl	Northern Flicker	1	Calling	100	Northwest				Brook noisy hard to hear distant birds
4-25-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Northwest				
4-25-21	PC				bcch	Black-capped Chickadee	2	Calling	50	North				
4-25-21	PC				herg	Herring Gull	1	Passing	0	West		50+	East	
4-25-21	PC	29	10:06	10	baea	Bald Eagle	2	circling	2000	North	Y	50+		
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	South				
4-25-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	West				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
4-25-21	PC				pawa	Palm Warbler	1	Singing	100	Southwest				
4-25-21	PC				deju	Dark-eyed Junco	1	Calling	0	West				
4-25-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Southwest				
4-25-21	PC				woodpecker species	woodpecker species	1	Drumming	250	South				
4-25-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	West				
4-25-21	PC				herg	Herring Gull	1	Passing	1000	East		50+	South	
4-25-21	PC				nofl	Northern Flicker	1	Calling	250	North				
4-25-21	PC	30	10:24	10	pawa	Palm Warbler	2	Singing	0	East				
4-25-21	PC				wtsp	White-throated Sparrow	1	Calling	0	Southwest				
4-25-21	PC				nofl	Northern Flicker	1	Calling	50	North				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Southeast				
4-25-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northeast				
4-25-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Southwest				
4-25-21	PC				savs	Savannah Sparrow	1				Y			
4-25-21	PC				amke	American Kestrel	1				Y			
5-13-21	PC	1	5:11	10	rcki	Ruby-crowned Kinglet	1	Singing	0	North				
5-13-21	PC				amro	American Robin	2	Singing	50	North				
5-13-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	0	North				
5-13-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Southwest				
5-13-21	PC				wiwr	Winter Wren	1	Singing	100	East				
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
5-13-21	PC				wtsp	White-throated Sparrow	3	Singing	0	Southwest				
5-13-21	PC				nowa	Northern Waterthrush	1	Singing	100	Northeast				
5-13-21	PC				baww	Black-and-white Warbler	1	Singing	0	North				
5-13-21	PC				cora	Common Raven	1	Calling	500	East				
5-13-21	PC				heth	Hermit Thrush	2	Singing	100	North				
5-13-21	PC				fosp	Fox Sparrow	1	Singing	250	North				
5-13-21	PC				deju	Dark-eyed Junco	1	Singing	0	West				
5-13-21	PC				swsp	Swamp Sparrow	1	Singing	100	Northwest				
5-13-21	PC	2	5:26	10	wiwr	Winter Wren	1	Singing	100	West				
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Southeast				
5-13-21	PC				wtsp	White-throated Sparrow	2	Singing	100	East				
5-13-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	50	Northwest				
5-13-21	PC				boch	Boreal Chickadee	1	Calling	50	East				
5-13-21	PC				amro	American Robin	2	Calling	100	North				
5-13-21	PC				rugr	Ruffed Grouse	1	Drumming	50	North				
5-13-21	PC				heth	Hermit Thrush	1	Calling	0	Northwest				
5-13-21	PC				amcr	American Crow	1	Calling	500	Northwest				
5-13-21	PC	3	5:43	10	swsp	Swamp Sparrow	1	Singing	50	Northeast				
5-13-21	PC				rcki	Ruby-crowned Kinglet	2	Singing	50	Southwest				
5-13-21	PC				wtsp	White-throated Sparrow	3	Singing	100	North				
5-13-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	250	North				
5-13-21	PC				rugr	Ruffed Grouse	1	Drumming	0	Southwest				
5-13-21	PC				baww	Black-and-white Warbler	1	Singing	0	Northeast				
5-13-21	PC				bcch	Black-capped Chickadee	2	Calling	50	South				
5-13-21	PC				nofl	Northern Flicker	1	Calling	100	Northeast				
5-13-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0	Northeast				
5-13-21	PC				wiwr	Winter Wren	1	Singing	250	West				
5-13-21	PC				amro	American Robin	1	Singing	100	West				
5-13-21	PC				heth	Hermit Thrush	1	Calling	50	West				
5-13-21	PC				pufi	Purple Finch	1	Singing	100	West				
5-13-21	PC				amcr	American Crow	1	Calling	100	Southwest				
5-13-21	PC				piwo	Pileated Woodpecker	1	Drumming	250	Northwest				
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
5-13-21	PC	4	5:58	10	pawa	Palm Warbler	2	Singing	50	West				
5-13-21	PC				heth	Hermit Thrush	1	Calling	0	West				
5-13-21	PC				wtsp	White-throated Sparrow	2	Singing	50	Southeast				
5-13-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northwest				
5-13-21	PC				amcr	American Crow	2	Calling	250	Southwest				
5-13-21	PC				baww	Black-and-white Warbler	1	Singing	0	South				
5-13-21	PC				amro	American Robin	1	Calling	0	Southeast				
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	South				
5-13-21	PC				rugr	Ruffed Grouse	1	Drumming	0	South				
5-13-21	PC				boch	Boreal Chickadee	1	Calling	0	Northwest				
5-13-21	PC				pufi	Purple Finch	2	Singing	0	Southeast				
5-13-21	PC				graj	Gray Jay	1	Calling	50	Northeast				
5-13-21	PC				cora	Common Raven	1	Calling	500	Northeast				
5-13-21	PC	5	6:11	10	piwo	Pileated Woodpecker	2	Drumming	250	North				
5-13-21	PC				pawa	Palm Warbler	1	Singing	0	Southeast				
5-13-21	PC				wtsp	White-throated Sparrow	3	Singing	0	East				
5-13-21	PC				rbnu	Red-breasted Nuthatch	1	Calling	50	Northwest				
5-13-21	PC				deju	Dark-eyed Junco	1	Calling	0	Northwest				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	Southeast				
5-13-21	PC				amro	American Robin	1	Calling	100	Northwest				
5-13-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	North				
5-13-21	PC				heth	Hermit Thrush	1	Singing	0	Northwest				
5-13-21	PC				graj	Gray Jay	1	Calling	100	Northwest				
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
5-13-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	50	Northeast				
5-13-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	West				
5-13-21	PC				pufi	Purple Finch	1	Singing	100	Northeast				
5-13-21	PC				yrwa	Yellow-rumped Warbler	1	Passing	0	Northwest				
5-13-21	PC				pufi	Purple Finch	1	Passing	0	Northeast		50	South	
5-13-21	PC				rubl	Rusty Blackbird	1	Passing + Singing	50	Northwest		50	East	
5-13-21	PC				tres	Tree Swallow	1	Calling	100	Northeast				
5-13-21	PC				swsp	Swamp Sparrow	1	Singing	100	Northeast				
5-13-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	North				
5-13-21	PC	6	6:25	10	wiwr	Winter Wren	1	Singing	50	Southeast				
5-13-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	50	Northwest				
5-13-21	PC				bcch	Black-capped Chickadee	3	Calling	0	Southeast				
5-13-21	PC				cora	Common Raven	1	Calling	500	West				
5-13-21	PC				wfsp	White-throated Sparrow	1	Singing	0	Southeast				
5-13-21	PC				amcr	American Crow	1	Calling	500	Southeast				
5-13-21	PC				oven	Ovenbird	1	Singing	0	North				
5-13-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0	Northwest				
5-13-21	PC				amro	American Robin	1	Singing	50	Northwest				
5-13-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	West				
5-13-21	PC				amgo	American Goldfinch	1	Calling	100	West				
5-13-21	PC				heth	Hermit Thrush	1	Calling	0	East				
5-13-21	PC				pufi	Purple Finch	1	Singing	50	Northwest				
5-13-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	Northwest				
5-13-21	PC	7	6:39	10	rcki	Ruby-crowned Kinglet	1	Singing	50	East				
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
5-13-21	PC				rugr	Ruffed Grouse	1	Drumming	0	Northwest				
5-13-21	PC				pufi	Purple Finch	1	Singing	100	Northwest				
5-13-21	PC				gcki	Golden-crowned Kinglet	1	Calling	50	Northwest				
5-13-21	PC				heth	Hermit Thrush	1	Calling	0	Northeast				
5-13-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	0	Northeast				
5-13-21	PC				deju	Dark-eyed Junco	1	Singing	0	Northwest				
5-13-21	PC				evgr	Evening Grosbeak	2	Passing + Calling	50	South		50+	Northwest	
5-13-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	West				
5-13-21	PC				wfsp	White-throated Sparrow	2	Singing	0	East				
5-13-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	West				
5-13-21	PC				oven	Ovenbird	1	Singing	50	West				
5-13-21	PC				bcch	Black-capped Chickadee	1	Singing	0	North				
5-13-21	PC				hawo	Hairy Woodpecker	1	Calling	100	Northeast				
5-13-21	PC				blja	Blue Jay	1	Calling	100	Southwest				
5-13-21	PC				pawa	Palm Warbler	1	Singing	50	East				
5-13-21	PC				amcr	American Crow	1	Calling	500	South				
5-13-21	PC	8	6:53	10	piwo	Pileated Woodpecker	1	Drumming	250	East				
5-13-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	West				
5-13-21	PC				rugr	Ruffed Grouse	1	Drumming	0	Southwest				
5-13-21	PC				pufi	Purple Finch	1	Calling	50	Southwest				
5-13-21	PC				nofl	Northern Flicker	1	Calling	50	West				
5-13-21	PC				bcch	Black-capped Chickadee	1	Singing	0	Southeast				
5-13-21	PC				blckbird sp	Blackbird Species	1	Passing	100	Northwest		50	East	
5-13-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	Southwest				
5-13-21	PC				cora	Common Raven	1	Calling	500	North				
5-13-21	PC				oven	Ovenbird	1	Singing	50	East				
5-13-21	PC				baww	Black-and-white Warbler	1	Singing	0	West				
5-13-21	PC	9	7:16	10	cora	Common Raven	20	Passing	0	South		50	North	
5-13-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	South				
5-13-21	PC				baww	Black-and-white Warbler	1	Singing	50	North				
5-13-21	PC				nofl	Northern Flicker	1	Calling	100	Northeast				
5-13-21	PC				swsp	Swamp Sparrow	1	Singing	100	South				
5-13-21	PC				wiwr	Winter Wren	1	Singing	100	Southeast				
5-13-21	PC				wfsp	White-throated Sparrow	1	Singing	100	Northwest				
5-13-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	50	Northwest				
5-13-21	PC				brcr	Brown Creeper	1	Singing	50	Northwest				
5-13-21	PC				amro	American Robin	1	Calling	100	Northeast				
5-13-21	PC				piwo	Pileated Woodpecker	1	Drumming	100	South				
5-13-21	PC				wodu	Wood Duck	2	Passing	0	West		50	East	
5-13-21	PC	10	7:44	10	rcki	Ruby-crowned Kinglet	1	Singing	50	Northeast				
5-13-21	PC				pufi	Purple Finch	1	Singing	50	Northwest				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-13-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	North				
5-13-21	PC				graj	Gray Jay	1	Calling	0	East				
5-13-21	PC				baww	Black-and-white Warbler	1	Singing	0	Southwest				
5-13-21	PC				heth	Hermit Thrush	1	Calling	0	Northwest				
5-13-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	North				
5-13-21	PC				amgo	American Goldfinch	1	Calling	100	North				
5-13-21	PC	11	7:57	10	yrwa	Yellow-rumped Warbler	2	Singing	0	West				
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	North				
5-13-21	PC				wtsp	White-throated Sparrow	1	Singing	50	Northwest				
5-13-21	PC				spgr	Spruce Grouse	1				Y			
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
5-13-21	PC				pufi	Purple Finch	1	Singing	100	Northeast				
5-13-21	PC				lefl	Least Flycatcher	1	Singing	50	North				
5-13-21	PC				pufi	Purple Finch	1	Passing	50	Northwest		50	East	
5-13-21	PC				boch	Boreal Chickadee	2	Calling	0	Northeast				
5-13-21	PC				bcch	Black-capped Chickadee	2	Calling	0	Southwest				
5-13-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	100	Northwest				
5-13-21	PC				baww	Black-and-white Warbler	1	Drumming	100	Northwest				
5-13-21	PC				amgo	American Goldfinch	1	Passing	0	South		50	North	
5-13-21	PC				gcki	Golden-crowned Kinglet	2	Calling	0	Northwest				
5-13-21	PC	14	8:47	10	rcki	Ruby-crowned Kinglet	1	Singing	50	Southeast				
5-13-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	Northwest				
5-13-21	PC				baww	Black-and-white Warbler	1	Singing	50	Northwest				
5-13-21	PC				heth	Hermit Thrush	1	Calling	0	North				
5-13-21	PC				amro	American Robin	1	Calling	0	Northwest				
5-13-21	PC				wtsp	White-throated Sparrow	1	Singing	50	North				
5-13-21	PC				pufi	Purple Finch	1	Calling	100	West				
5-13-21	PC				cogr	Common Grackle	1	Passing	100	Northwest		50	East	
5-13-21	PC				yrwa	Yellow-rumped Warbler	1	Calling	0	North				
5-13-21	PC				deju	Dark-eyed Junco	1	Singing	50	Northeast				
5-13-21	PC				bcch	Black-capped Chickadee	1	Calling	50	Northeast				
5-13-21	PC				amgo	American Goldfinch	1	Calling	0	North				
5-13-21	PC	12	9:07	10	amcr	American Crow	1	Calling	500	North				
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	East				
5-13-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	0	Northwest				
5-13-21	PC				cora	Common Raven	3	Calling	250	Northwest				
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
5-13-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	West				
5-13-21	PC				nofl	Northern Flicker	1	Calling	250	North				
5-13-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Northwest				
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	South				
5-13-21	PC				pufi	Purple Finch	1	Singing	50	North				
5-13-21	PC	13	9:22	10	yrwa	Yellow-rumped Warbler	2	Calling	0	West				
5-13-21	PC				cora	Common Raven	2	Calling	250	East				
5-13-21	PC				wtsp	White-throated Sparrow	1	Singing	50	West				
5-13-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
5-13-21	PC				amgo	American Goldfinch	1	Calling	0	North				
5-13-21	PC				wiwr	Winter Wren	1	Singing	100	West				
5-13-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	West				
5-13-21	PC				deju	Dark-eyed Junco	1	Calling	0	North				
5-13-21	PC				amro	American Robin	1	Calling	0	West				
5-13-21	PC				pufi	Purple Finch	1	Singing	100	North				
5-13-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	East				
5-13-21	PC				amgo	American Goldfinch	1	Calling	50	South				
5-14-21	PC	15	5:13	10	swsp	Swamp Sparrow	1	Singing	0	North				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Northeast				
5-14-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	Northeast				
5-14-21	PC				amro	American Robin	2	Singing	100	North				
5-14-21	PC				wtsp	White-throated Sparrow	3	Singing	100	Northeast				
5-14-21	PC				amwo	American Woodcock	1	Calling	50	Northeast				
5-14-21	PC				ybsa	Yellow-bellied Sapsucker	2	Singing	50	Northwest				
5-14-21	PC				heth	Hermit Thrush	1	Calling	0	Northeast				
5-14-21	PC				bcch	Black-capped Chickadee	1	Singing	0	Northwest				
5-14-21	PC				graj	Gray Jay	1	Calling	100	Southeast				
5-14-21	PC				oven	Ovenbird	1	Singing	100	Southeast				
5-14-21	PC	16	5:25	10	gcki	Golden-crowned Kinglet	2	Singing	0	East				
5-14-21	PC				wtsp	White-throated Sparrow	3	Singing	0	Southwest				
5-14-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	Southwest				
5-14-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	50	West				
5-14-21	PC				amro	American Robin	2	Singing	0	Northeast				
5-14-21	PC				cora	Common Raven	1	Calling	500	West				
5-14-21	PC				woodpecker sp	Woodpecker Species	1	Drumming	250	West				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-14-21	PC				heth	Hermit Thrush	1	Calling	0	South				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Northeast				
5-14-21	PC				pawa	Palm Warbler	1	Singing	100	East				
5-14-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Southwest				
5-14-21	PC	17	5:39	10	pufi	Purple Finch	2	Singing	50	West				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	Northeast				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Southeast				
5-14-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	North				
5-14-21	PC				cora	Common Raven	1	Calling	500	Northwest				
5-14-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	0	East				
5-14-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	South				
5-14-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	South				
5-14-21	PC				boch	Boreal Chickadee	1	Calling	0	Northwest				
5-14-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	250	North				
5-14-21	PC				amgo	American Goldfinch	1	Calling	50	East				
5-14-21	PC				cago	Canada Goose	1	Calling	500	Northeast				
5-14-21	PC				pawa	Palm Warbler	1	Singing	0	Southwest				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southeast				
5-14-21	PC				wtsp	White-throated Sparrow	2	Singing	100	East				
5-14-21	PC	18	5:56	10	rcki	Ruby-crowned Kinglet	1	Singing	0	East				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	South				
5-14-21	PC				pufi	Purple Finch	2	Singing	0	East				
5-14-21	PC				pawa	Palm Warbler	1	Singing	50	Northwest				
5-14-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	West				
5-14-21	PC				cago	Canada Goose	2	Calling	250	East				
5-14-21	PC				amro	American Robin	1	Singing	0	East				
5-14-21	PC				woodpecker sp	Woodpecker Species	2	Drumming	50	East				
5-14-21	PC				boch	Boreal Chickadee	1	Calling	0	North				
5-14-21	PC				heth	Hermit Thrush	1	Calling	0	West				
5-14-21	PC				amcr	American Crow	1	Calling	250	Southeast				
5-14-21	PC				deju	Dark-eyed Junco	1	Calling	0	Northwest				
5-14-21	PC				nofl	Northern Flicker	1	Calling	50	South				
5-14-21	PC	19	6:20	10	heth	Hermit Thrush	2	Singing	0	Southeast				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	Northeast				
5-14-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	0	Northeast				
5-14-21	PC				cora	Common Raven	1	Calling	250	West				
5-14-21	PC				wtsp	White-throated Sparrow	2	Singing	0	Northeast				
5-14-21	PC				hawo	Hairy Woodpecker	2	Calling	0	South				
5-14-21	PC				rugr	Ruffed Grouse	1	Drumming	0	Northwest				
5-14-21	PC				pufi	Purple Finch	1	Singing	50	North				
5-14-21	PC				amro	American Robin	1	Calling	50	Northeast				
5-14-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	North				
5-14-21	PC				warb sp	Warbler Species	3	Passing	100	Southeast		50	South	
5-14-21	PC				bcch	Black-capped Chickadee	2	Calling	0	East				
5-14-21	PC				woodpecker sp	Woodpecker Species	1	Drumming	50	North				
5-14-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	West				
5-14-21	PC	20	6:36	10	bcch	Black-capped Chickadee	1	Calling	0	Northwest				
5-14-21	PC				cora	Common Raven	2	Calling	250	Northwest				
5-14-21	PC				heth	Hermit Thrush	1	Singing	100	South				
5-14-21	PC				amro	American Robin	1	Singing	100	South				
5-14-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Northeast				
5-14-21	PC				tres	Tree Swallow	1	Calling	50	Southeast				
5-14-21	PC				wtsp	White-throated Sparrow	1	Singing	50	South				
5-14-21	PC				blja	Blue Jay	1	Calling	50	Northeast				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Calling	100	East				
5-14-21	PC				ybsa	Yellow-bellied Sapsucker	1	Calling	100	East				
5-14-21	PC				pufi	Purple Finch	1	Singing	50	Northwest				
5-14-21	PC				nofl	Northern Flicker	1	Calling	100	Southwest				
5-14-21	PC				pisi	Pine Siskin	1	Calling	50	Northwest				
5-14-21	PC				pawa	Palm Warbler	1	Passing	100	Northwest		50+	East	
5-14-21	PC				boch	Boreal Chickadee	1	Calling	50	Northeast				
5-14-21	PC	21	6:50	10	heth	Hermit Thrush	1	Singing	50	Northeast				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southwest				
5-14-21	PC				cora	Common Raven	1	Calling	250	West				
5-14-21	PC				amro	American Robin	2	Singing	100	Northeast				
5-14-21	PC				bcch	Black-capped Chickadee	1	Calling	50	East				
5-14-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	East				
5-14-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	West				
5-14-21	PC				wtsp	White-throated Sparrow	2	Singing	100	Northwest				
5-14-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	100	Southwest				
5-14-21	PC				pufi	Purple Finch	1	Singing	100	Northwest				
5-14-21	PC				rugr	Ruffed Grouse	1	Drumming	50	West				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-14-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northeast				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	West				
5-14-21	PC	22	7:14	10	baww	Black-and-white Warbler	1	Singing	0	East				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	East				
5-14-21	PC				swsp	Swamp Sparrow	1	Calling	0	East				
5-14-21	PC				oven	Ovenbird	1	Singing	0	Southwest				
5-14-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	0	Southwest				
5-14-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	Southwest				
5-14-21	PC				amgo	American Goldfinch	1	Calling	0	South				
5-14-21	PC				cora	Common Raven	1	Calling	500	North				
5-14-21	PC				pawa	Palm Warbler	1	Singing	0	Northeast				
5-14-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	East				
5-14-21	PC				pufi	Purple Finch	1	Calling	50	Northeast				
5-14-21	PC				wtsp	White-throated Sparrow	2	Singing	50	Northeast				
5-14-21	PC				amro	American Robin	1	Calling	50	Northeast				
5-14-21	PC				nofl	Northern Flicker	1	Calling	50	West				
5-14-21	PC				amcr	American Crow	1	Calling	100	Northwest				
5-14-21	PC				cogr	Common Grackle	1	Singing	100	Northeast				
5-14-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	East				
5-14-21	PC	23	7:27	10	ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Northwest				
5-14-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	Northwest				
5-14-21	PC				hawo	Hairy Woodpecker	1	Calling	100	West				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	West				
5-14-21	PC				cora	Common Raven	1	Calling	500	North				
5-14-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	50	North				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southwest				
5-14-21	PC				woodpecker sp	woodpecker species	2	Drumming	250	Northwest				
5-14-21	PC				baww	Black-and-white Warbler	1	Singing	100	Southeast				
5-14-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Southeast				
5-14-21	PC				wtsp	White-throated Sparrow	2	Singing	0	Southwest				
5-14-21	PC				amro	American Robin	1	Singing	50	North				
5-14-21	PC				bcch	Black-capped Chickadee	1	Calling	50	North				
5-14-21	PC	24	7:41	10	amro	American Robin	2	Calling	50	North				
5-14-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	50	Northeast				
5-14-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	East				
5-14-21	PC				cora	Common Raven	1	Calling	50	Northwest				
5-14-21	PC				warb sp	warbler species	1	Passing	50	South		50	North	
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	North				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	Southwest				
5-14-21	PC				piwo	Pileated Woodpecker	1	Calling						
5-14-21	PC				nofl	Northern Flicker	1	Calling						
5-14-21	PC				amcr	American Crow	1	Calling						
5-14-21	PC				boch	Boreal Chickadee	2	Calling						
5-14-21	PC				bhvi	Blue-headed Vireo	1	Singing						
5-14-21	PC	25	7:55	10	deju	Dark-eyed Junco	1	Calling	0	Northeast				
5-14-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Southeast				
5-14-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	Northwest				
5-14-21	PC				bcch	Black-capped Chickadee	1	Calling	0	Northeast				
5-14-21	PC				yrwa	Yellow-rumped Warbler	3	Singing	0	East				
5-14-21	PC				piwo	Pileated Woodpecker	1	Drumming	250	North				
5-14-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	0	Northwest				
5-14-21	PC				cora	Common Raven	2	Calling	250	South				
5-14-21	PC				woodpecker sp	woodpecker species	1	Drumming	100	Northwest				
5-14-21	PC				amro	American Robin	1	Calling	50	Northwest				
5-14-21	PC				rugr	Ruffed Grouse	1	Drumming	50	West				
5-14-21	PC				wtsp	White-throated Sparrow	2	Singing	0	West				
5-14-21	PC				pufi	Purple Finch	1	Singing	50	West				
5-14-21	PC				baww	Black-and-white Warbler	1	Singing	50	West				
5-14-21	PC				come	Common Merganser	2	Calling	250	East				Calling from long lake
5-14-21	PC				baea	Bald Eagle	1	Calling	250	East				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	East				
5-14-21	PC	26	8:10	10	nowa	Northern Waterthrush	1	Singing	100	Southeast				
5-14-21	PC				gwte	Green-winged Teal	2	in water	0	East				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	East				
5-14-21	PC				cogr	Common Grackle	6	Calling	0	East				
5-14-21	PC				hawo	Hairy Woodpecker	1	Calling	100	Southeast				
5-14-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Southwest				
5-14-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	Northeast				
5-14-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	Northeast				
5-14-21	PC				nofl	Northern Flicker	1	Calling	100	Southeast				
5-14-21	PC				pufi	Purple Finch	1	Calling	0	North				
5-14-21	PC				wtsp	White-throated Sparrow	1	Singing	50	Southeast				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-14-21	PC				baww	Black-and-white Warbler	1	Singing	50	East				
5-14-21	PC	27	8:27	10	amke	American Kestrel	1	perched	50	Southwest				
5-14-21	PC				swsp	Swamp Sparrow	1	Singing	0	East				
5-14-21	PC				wtsp	White-throated Sparrow	2	Singing	0	Northeast				
5-14-21	PC				cora	Common Raven	1	Calling	500	South				
5-14-21	PC				pawa	Palm Warbler	1	Singing	0	Southeast				
5-14-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	0	Northeast				
5-14-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Northwest				
5-14-21	PC				amro	American Robin	1	Calling	50	North				
5-14-21	PC				woodpecker sp	woodpecker species	1	Drumming	100	Northwest				
5-14-21	PC				amgo	American Goldfinch	1	Calling	0	West				
5-14-21	PC				amcr	American Crow	1	Calling	500	West				
5-14-21	PC				hawo	Hairy Woodpecker	1	Calling	100	Southwest				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Southwest				
5-14-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	East				
5-14-21	PC				baww	Black-and-white Warbler	1	Singing	0	West				
5-14-21	PC				oven	Ovenbird	1	Singing	100	West				
5-14-21	PC	28	8:50	10	rcki	Ruby-crowned Kinglet	1	Singing	50	North				
5-14-21	PC				baww	Black-and-white Warbler	1	Singing	0	Northeast				
5-14-21	PC				wtsp	White-throated Sparrow	2	Calling	0	Southeast				
5-14-21	PC				deju	Dark-eyed Junco	1	Calling	0	East				
5-14-21	PC				pawa	Palm Warbler	2	Singing	0	North				
5-14-21	PC				amro	American Robin	1	Calling	100	South				
5-14-21	PC				pufi	Purple Finch	2	Calling	100	East				
5-14-21	PC				bars	Barn Swallow	1	Passing	0	Northwest		50+	East	
5-14-21	PC	29	9:05	10	cogr	Common Grackle	3	Calling	100	West				
5-14-21	PC				nawa	Nashville Warbler	1	Singing	100	North				
5-14-21	PC				deju	Dark-eyed Junco	1	Singing	100	Northwest				
5-14-21	PC				wiwr	Winter Wren	1	Singing	100	Northeast				
5-14-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	100	Northeast				
5-14-21	PC				rbnu	Red-breasted Nuthatch	1	Calling	50	West				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
5-14-21	PC				wtsp	White-throated Sparrow	1	Calling	0	East				
5-14-21	PC				woodpecker sp	woodpecker species	1	Drumming	0	West				
5-14-21	PC				baww	Black-and-white Warbler	1	Singing	0	Northwest				
5-14-21	PC				ybsa	Yellow-bellied Sapsucker	1	Calling	100	East				
5-14-21	PC	30	9:24	10	pawa	Palm Warbler	3	Singing	0	West				
5-14-21	PC				deju	Dark-eyed Junco	2	Calling	0	West				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	Southwest				
5-14-21	PC				wtsp	White-throated Sparrow	2	Singing	100	East				
5-14-21	PC				cora	Common Raven	2	Calling	500	Southeast				
5-14-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
5-14-21	PC				hawo	Hairy Woodpecker	1	Calling	100	North				
5-28-21	PC	1	4:51	10	wiwr	Winter Wren	1	Singing	100	Northeast				
5-28-21	PC				nowa	Northern Waterthrush	1	Singing	100	Northeast				
5-28-21	PC				amro	American Robin	2	Singing	0	East				
5-28-21	PC				baww	Black-and-white Warbler	1	Singing	50	West				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	North				
5-28-21	PC				heth	Hermit Thrush	1	Singing	100	North				
5-28-21	PC				swth	Swainson's Thrush	2	Singing	100	Southeast				
5-28-21	PC				oven	Ovenbird	1	Singing	50	West				
5-28-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	Southwest				
5-28-21	PC				wtsp	White-throated Sparrow	2	Singing	0	West				
5-28-21	PC				amcr	American Crow	1	Calling	0	Southwest				
5-28-21	PC				fosp	Fox Sparrow	1	Singing	250	North				
5-28-21	PC				bcch	Black-capped Chickadee	2	Calling	0	Southeast				
5-28-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	East				
5-28-21	PC	2	5:08	10	bcch	Black-capped Chickadee	1	Calling	0	North				
5-28-21	PC				heth	Hermit Thrush	2	Singing	50	Northwest				
5-28-21	PC				deju	Dark-eyed Junco	1	Singing	50	Northwest				
5-28-21	PC				wtsp	White-throated Sparrow	1	Singing	50	Northwest				
5-28-21	PC				mawa	Magnolia Warbler	1	Singing	0	East				
5-28-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	East				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	East				
5-28-21	PC				oven	Ovenbird	3	Singing	0	East				
5-28-21	PC				swth	Swainson's Thrush	2	Calling	50	East				
5-28-21	PC				coye	Common Yellowthroat	1	Singing	100	North				
5-28-21	PC				amro	American Robin	1	Calling	50	Northeast				
5-28-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Northwest				
5-28-21	PC				nowa	Northern Waterthrush	1	Singing	100	North				
5-28-21	PC				pufi	Purple Finch	1	Singing	100	East				
5-28-21	PC				blpw	Blackpoll Warbler	1				Y			

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-28-21	PC				baww	Black-and-white Warbler	1				Y			
5-28-21	PC	3	5:31	10	cawa	Canada Warbler	1	Singing	100	East				
5-28-21	PC				coye	Common Yellowthroat	2	Singing	100	Northeast				
5-28-21	PC				nowa	Northern Waterthrush	1	Singing	100	Northeast				
5-28-21	PC				heth	Hermit Thrush	1	Singing	100	West				
5-28-21	PC				swth	Swainson's Thrush	1	Singing	50	East				
5-28-21	PC				wtsp	White-throated Sparrow	3	Singing	50	East				
5-28-21	PC				rcki	Ruby-crowned Kinglet	2	Singing	100	East				
5-28-21	PC				mawa	Magnolia Warbler	3	Singing	50	Southwest				
5-28-21	PC				deju	Dark-eyed Junco	1	Singing	0	Southwest				
5-28-21	PC				amre	American Redstart	1	Singing	50	South				
5-28-21	PC				amgo	American Goldfinch	1	Calling	0	South				
5-28-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Southeast				
5-28-21	PC				wisn	Wilson's Snipe	1	Calling	100	Northwest				
5-28-21	PC				swsp	Swamp Sparrow	1	Singing	0	North				
5-28-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	100	North				
5-28-21	PC				baww	Black-and-white Warbler	1	Singing	100	Southeast				
5-28-21	PC				ybfl	Yellow-bellied Flycatcher	2	Singing	100	Northeast				
5-28-21	PC				cawa	Canada Warbler	1	Singing	100	North				
5-28-21	PC				amcr	American Crow	1	Calling	100	South				
5-28-21	PC				bhvi	Blue-headed Vireo	1	Singing	250	Northwest				
5-28-21	PC				oven	Ovenbird	1	Singing	250	North				
5-28-21	PC				revi	Red-eyed Vireo	1	Singing	0	West				
5-28-21	PC	4	5:56	10	amre	American Redstart	1	Singing	0	East				
5-28-21	PC				swth	Swainson's Thrush	2	Singing	0	Northeast				
5-28-21	PC				boch	Boreal Chickadee	1	Calling	0	North				
5-28-21	PC				oven	Ovenbird	2	Singing	50	North				
5-28-21	PC				heth	Hermit Thrush	1	Calling	100	South				
5-28-21	PC				btnw	Black-throated Green Warbler	3	Singing	50	East				
5-28-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Northeast				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	250	East				
5-28-21	PC				mawa	Magnolia Warbler	3	Singing	0	Southeast				
5-28-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Northeast				
5-28-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	North				
5-28-21	PC				bcch	Black-capped Chickadee	1	Calling	100	North				
5-28-21	PC				piwo	Pileated Woodpecker	1	Calling	250	Northwest				
5-28-21	PC				nopa	Northern Parula	1	Singing	50	North				
5-28-21	PC				deju	Dark-eyed Junco	1	Singing	50	Northwest				
5-28-21	PC				ybfl	Yellow-bellied Flycatcher	2	Singing	100	West				
5-28-21	PC				coye	Common Yellowthroat	2	Singing	100	Southwest				
5-28-21	PC				pufl	Purple Finch	1	Singing	100	West				
5-28-21	PC				amgo	American Goldfinch	1	Passing	50	Northwest		50	South	
5-28-21	PC				baww	Black-and-white Warbler	1	Singing	0	West				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	West				
5-28-21	PC				blpw	Blackpoll Warbler	1	Singing	50	Northwest				
5-28-21	PC	5	6:11	10	pisi	Pine Siskin	1	Passing	50	Northwest		50+	South	
5-28-21	PC				nawa	Nashville Warbler	1	Singing	0	North				
5-28-21	PC				mawa	Magnolia Warbler	3	Singing	0	East				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	West				
5-28-21	PC				bhvi	Blue-headed Vireo	2	Singing	50	North				
5-28-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	0	South				
5-28-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	North				
5-28-21	PC				coye	Common Yellowthroat	1	Singing	100	Northwest				
5-28-21	PC				heth	Hermit Thrush	1	Singing	100	Northwest				
5-28-21	PC				piwo	Pileated Woodpecker	1	Drumming	250	North				
5-28-21	PC				wtsp	White-throated Sparrow	2	Singing	0	Northwest				
5-28-21	PC				blbw	Blackburnian Warbler	1	Singing	100	West				
5-28-21	PC				gcki	Golden-crowned Kinglet	1	Calling	0	West				
5-28-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	West				
5-28-21	PC				tres	Tree Swallow	1	Calling	0	Northwest				
5-28-21	PC				spgr	Spruce Grouse	1	displaying	50	Northwest				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	250	Northwest				
5-28-21	PC	6	6:28	10	mawa	Magnolia Warbler	3	Singing	0	Southeast				
5-28-21	PC				heth	Hermit Thrush	1	Singing	50	North				
5-28-21	PC				bhvi	Blue-headed Vireo	2	Singing	50	Southwest				
5-28-21	PC				bcch	Black-capped Chickadee	2	Calling	50	West				
5-28-21	PC				rugr	Ruffed Grouse	1	Drumming	0	Northwest				
5-28-21	PC				nopa	Northern Parula	1	Singing	100	North				
5-28-21	PC				deju	Dark-eyed Junco	1	Singing	50	Southwest				
5-28-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	North				
5-28-21	PC				revi	Red-eyed Vireo	1	Singing	0	South				
5-28-21	PC				oven	Ovenbird	2	Singing	100	North				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-28-21	PC				baww	Black-and-white Warbler	2			Northeast	Y			Pair
5-28-21	PC				blbw	Blackburnian Warbler	1	Singing	50	Northwest				
5-28-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	West				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	East				
5-28-21	PC	7	6:45	10	bhvi	Blue-headed Vireo	2	Singing	50	North				
5-28-21	PC				blja	Blue Jay	1	Calling	50	Southwest				
5-28-21	PC				oven	Ovenbird	2	Singing	50	Northwest				
5-28-21	PC				deju	Dark-eyed Junco	1	Singing	0	West				
5-28-21	PC				revi	Red-eyed Vireo	1	Singing	100	West				
5-28-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Southwest				
5-28-21	PC				piwo	Pileated Woodpecker	1	Calling	250	Northwest				
5-28-21	PC				nopa	Northern Parula	1	Singing	100	West				
5-28-21	PC				mawa	Magnolia Warbler	1	Singing	0	Northwest				
5-28-21	PC				ybsa	Yellow-bellied Sapsucker	1	Calling	100	North				
5-28-21	PC				hawo	Hairy Woodpecker	1	Calling	100	Northwest				
5-28-21	PC				heth	Hermit Thrush	1	Calling	100	Northwest				
5-28-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Southwest				
5-28-21	PC				rugr	Ruffed Grouse	1	Drumming	50	North				
5-28-21	PC				baww	Black-and-white Warbler	1	Singing	50	Southeast				
5-28-21	PC				amcr	American Crow	1	Calling	100	South				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	North				
5-28-21	PC				coye	Common Yellowthroat	1	Singing	100	Northwest				
5-28-21	PC	8	7:00	10	oven	Ovenbird	3	Singing	0	Northwest				
5-28-21	PC				heth	Hermit Thrush	2	Singing	50	North				
5-28-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Northwest				
5-28-21	PC				btnw	Black-throated Green Warbler	1	Singing	0	North				
5-28-21	PC				mawa	Magnolia Warbler	3	Singing	0	Northwest				
5-28-21	PC				amgo	American Goldfinch	1	Calling	0	Northwest				
5-28-21	PC				tres	Tree Swallow	1	Calling	0	South				
5-28-21	PC				swth	Swainson's Thrush	1	Calling	0	West				
5-28-21	PC				gcki	Golden-crowned Kinglet	1	Calling	50	West				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
5-28-21	PC				blbw	Blackburnian Warbler	1	Singing	50	West				
5-28-21	PC				bcch	Black-capped Chickadee	1	Calling	50	North				
5-28-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	Southwest				
5-28-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Southwest				
5-28-21	PC				amcr	American Crow	1	Calling	250	West				
5-28-21	PC	9	7:23	10	blbw	Blackburnian Warbler	2	Singing	0	North				
5-28-21	PC				mawa	Magnolia Warbler	1	Singing	0	Northeast				
5-28-21	PC				nopa	Northern Parula	1	Singing	50	North				
5-28-21	PC				baea	Bald Eagle	3	Flushed	100	South				All juveniles
5-28-21	PC				oven	Ovenbird	1	Singing	50	Northwest				
5-28-21	PC				coye	Common Yellowthroat	2	Singing	50	Northwest				
5-28-21	PC				blja	Blue Jay	1	Calling	100	West				
5-28-21	PC				cora	Common Raven	1	Calling	250	West				
5-28-21	PC				amcr	American Crow	2	Passing	0	South		50	North	
5-28-21	PC				wtsp	White-throated Sparrow	1	Calling	0	Northwest				
5-28-21	PC				heth	Hermit Thrush	1	Singing	100	North				
5-28-21	PC				amgo	American Goldfinch	1	Calling	50	Northwest				
5-28-21	PC				colo	Common Loon	1	Calling	100	Southwest				
5-28-21	PC	10	7:54	10	cawa	Canada Warbler	1	Singing	50	East				
5-28-21	PC				bbwa	Bay-breasted Warbler	1	Singing	0	West				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Northwest				
5-28-21	PC				bhvi	Blue-headed Vireo	1	Singing	50	Northeast				
5-28-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	0	Northeast				
5-28-21	PC				mawa	Magnolia Warbler	2	Singing	0	Northeast				
5-28-21	PC				wtsp	White-throated Sparrow	1	Singing	50	North				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Southeast				
5-28-21	PC				baww	Black-and-white Warbler	1	Calling	0	West				
5-28-21	PC	11	8:15	10	bbwa	Bay-breasted Warbler	1	Singing	0	Northwest				
5-28-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	0	Southwest				
5-28-21	PC				oven	Ovenbird	1	Singing	50	Northwest				
5-28-21	PC				amre	American Redstart	1	Singing	0	Northeast				
5-28-21	PC				mawa	Magnolia Warbler	3	Singing	0	Northeast				
5-28-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Northwest				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
5-28-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	North				
5-28-21	PC				pufi	Purple Finch	1	Singing	100	North				
5-28-21	PC				cawa	Canada Warbler	1	Singing	100	Northeast				
5-28-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	50	Northeast				
5-28-21	PC				coye	Common Yellowthroat	1	Singing	100	North				
5-28-21	PC	12	9:10	10	mawa	Magnolia Warbler	2	Singing	0	West				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-28-21	PC				coye	Common Yellowthroat	1	Singing	100	South				
5-28-21	PC				oven	Ovenbird	1	Singing	0	Northwest				
5-28-21	PC				baww	Black-and-white Warbler	1	Singing	100	Northeast				
5-28-21	PC				cora	Common Raven	1	Calling	250	Northeast				
5-28-21	PC	13	9:29	10	gcki	Golden-crowned Kinglet	1	Singing	0	West				
5-28-21	PC				heth	Hermit Thrush	1	Singing	50	Southwest				
5-28-21	PC				boch	Boreal Chickadee	1	Calling	50	Southeast				
5-28-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	Northeast				
5-28-21	PC				amre	American Redstart	2	Singing	0	Northwest				
5-28-21	PC				oven	Ovenbird	1	Singing	50	West				
5-28-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	North				
5-28-21	PC				revi	Red-eyed Vireo	2	Singing	50	Northeast				
5-28-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northeast				
5-28-21	PC				baww	Black-and-white Warbler	1	Singing	0	East				
5-28-21	PC				amro	American Robin	1	Calling	100	South				
5-28-21	PC				deju	Dark-eyed Junco	1	Singing	50	Northeast				
5-28-21	PC				pufi	Purple Finch	1	Singing	100	North				
5-28-21	PC				mawa	Magnolia Warbler	1	Calling	0	Northwest				
5-29-21	PC	14	4:54	10	oven	Ovenbird	1	Singing	0	Northwest				
5-29-21	PC				heth	Hermit Thrush	2	Singing	50	North				
5-29-21	PC				bcch	Black-capped Chickadee	1	Calling	50	North				
5-29-21	PC				amro	American Robin	2	Singing	0	East				
5-29-21	PC				wfsp	White-throated Sparrow	2	Singing	100	Northeast				
5-29-21	PC				swth	Swainson's Thrush	2	Singing	0	Southwest				
5-29-21	PC				boch	Boreal Chickadee	1	Calling	0	West				
5-29-21	PC				mawa	Magnolia Warbler	2	Singing	0	Southeast				
5-29-21	PC				deju	Dark-eyed Junco	1	Singing	0	Southeast				
5-29-21	PC				baww	Black-and-white Warbler	1	Singing	50	Southeast				
5-29-21	PC				blpw	Blackpoll Warbler	1	Singing	0	West				
5-29-21	PC				gcki	Golden-crowned Kinglet	1	Singing	50	Southeast				
5-29-21	PC				coye	Common Yellowthroat	1	Singing	100	Southeast				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	East				
5-29-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	250	Southeast				
5-29-21	PC	15	5:16	10	amre	American Redstart	2	Singing	0	Northeast				
5-29-21	PC				heth	Hermit Thrush	2	Singing	100	Northeast				
5-29-21	PC				oven	Ovenbird	3	Singing	100	Northwest				
5-29-21	PC				baww	Black-and-white Warbler	1	Singing	50	Southwest				
5-29-21	PC				mawa	Magnolia Warbler	3	Singing	50	Northwest				
5-29-21	PC				amro	American Robin	1	Singing	100	West				
5-29-21	PC				nopa	Northern Parula	1	Singing	100	Northwest				
5-29-21	PC				woodpecker sp	woodpecker species	1	Drumming	100	Northwest				
5-29-21	PC				cawa	Canada Warbler	1	Singing	100	North				
5-29-21	PC				boch	Boreal Chickadee	1	Calling	50	Northwest				
5-29-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Northwest				
5-29-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	Southwest				
5-29-21	PC				mowa	Mourning Warbler	1	Singing	100	East				
5-29-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	West				
5-29-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Southwest				
5-29-21	PC				colo	Common Loon	1	Calling	1000	Southeast				
5-29-21	PC	16	5:32	10	bbwa	Bay-breasted Warbler	1	Singing	0	Northwest				
5-29-21	PC				oven	Ovenbird	2	Singing	100	Northwest				
5-29-21	PC				heth	Hermit Thrush	1	Singing	100	West				
5-29-21	PC				btnw	Black-throated Green Warbler	2	Singing	0	Southwest				
5-29-21	PC				amro	American Robin	1	Singing	100	East				
5-29-21	PC				amgo	American Goldfinch	1	Calling	50	East				
5-29-21	PC				coye	Common Yellowthroat	1	Singing	100	South				
5-29-21	PC				mawa	Magnolia Warbler	2	Singing	50	South				
5-29-21	PC				gcki	Golden-crowned Kinglet	2	Singing	0	South				
5-29-21	PC				swth	Swainson's Thrush	1	Singing	100	Southwest				
5-29-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Southwest				
5-29-21	PC				wfsp	White-throated Sparrow	1	Singing	100	East				
5-29-21	PC				woodpecker sp	woodpecker species	1	Drumming	100	Southeast				
5-29-21	PC				piwo	Pileated Woodpecker	1	Calling	100	Northwest				
5-29-21	PC				blbw	Blackburnian Warbler	1	Singing	100	Southwest				
5-29-21	PC				nowa	Northern Waterthrush	1	Singing	250	North				
5-29-21	PC				baww	Black-and-white Warbler	1	Singing	50	Southeast				
5-29-21	PC	17	5:49	10	rcki	Ruby-crowned Kinglet	1	Singing	50	Northeast				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	West				
5-29-21	PC				bhvi	Blue-headed Vireo	2	Singing	100	North				
5-29-21	PC				baww	Black-and-white Warbler	2	Singing	50	Northwest				
5-29-21	PC				bbwa	Bay-breasted Warbler	1	Singing	0	South				
5-29-21	PC				cora	Common Raven	1	Calling	500	Northwest				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-29-21	PC				oven	Ovenbird	3	Singing	50	Northwest				
5-29-21	PC				mawa	Magnolia Warbler	1	Singing	50	West				
5-29-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	West				
5-29-21	PC				gcki	Golden-crowned Kinglet	1	Calling	50	Northeast				
5-29-21	PC				wtsp	White-throated Sparrow	1	Singing	250	Northwest				
5-29-21	PC				btnw	Black-throated Green Warbler	1	Singing	100	West				
5-29-21	PC				swth	Swainson's Thrush	1	Calling	50	South				
5-29-21	PC				deju	Dark-eyed Junco	1	Singing	100	West				
5-29-21	PC	18	6:06	10	ybfl	Yellow-bellied Flycatcher	1	Calling	100	West				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	East				
5-29-21	PC				mawa	Magnolia Warbler	2	Singing	1	North				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
5-29-21	PC				bbwa	Bay-breasted Warbler	1	Singing	50	Northeast				
5-29-21	PC				heth	Hermit Thrush	1	Singing	100	Northwest				
5-29-21	PC				oven	Ovenbird	1	Singing	50	East				
5-29-21	PC				swth	Swainson's Thrush	1	Calling	50	North				
5-29-21	PC				amro	American Robin	1	Singing	100	South				
5-29-21	PC				baww	Black-and-white Warbler	2	Pair	0	South				Agitated pair
5-29-21	PC				btnw	Black-throated Green Warbler	2	Pair	0	South				Agitated pair
5-29-21	PC	19	6:32	10	cawa	Canada Warbler	1	Singing	250	Northeast				
5-29-21	PC				bbwa	Bay-breasted Warbler	1	Singing	50	Northeast				
5-29-21	PC				swth	Swainson's Thrush	2	Singing	100	Northwest				
5-29-21	PC				nowa	Northern Waterthrush	1	Singing	250	North				
5-29-21	PC				amre	American Redstart	1	Singing	100	North				
5-29-21	PC				heth	Hermit Thrush	1	Singing	100	North				
5-29-21	PC				blbw	Blackburnian Warbler	2	Singing	50	Southeast				
5-29-21	PC				oven	Ovenbird	2	Singing	100	Northeast				
5-29-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	East				
5-29-21	PC				nopa	Northern Parula	1	Singing	50	Northeast				
5-29-21	PC				rugr	Ruffed Grouse	1	Drumming	50	West				
5-29-21	PC				baww	Black-and-white Warbler	1	Singing	50	Northwest				
5-29-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Southwest				
5-29-21	PC				mawa	Magnolia Warbler	2	Singing	100	Southwest				
5-29-21	PC				amro	American Robin	1	Calling	100	South				
5-29-21	PC				wtsp	White-throated Sparrow	1	Singing	100	South				
5-29-21	PC				amcr	American Crow	1	Calling	250	Southeast				
5-29-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Southwest				
5-29-21	PC	20	6:49	10	bbwa	Bay-breasted Warbler	2	Singing	0	East				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Southwest				
5-29-21	PC				mawa	Magnolia Warbler	2	Singing	0	South				
5-29-21	PC				oven	Ovenbird	2	Singing	50	Northwest				
5-29-21	PC				baww	Black-and-white Warbler	1	Singing	50	Southwest				
5-29-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Southwest				
5-29-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Southeast				
5-29-21	PC				deju	Dark-eyed Junco	1	Singing	50	South				
5-29-21	PC				swth	Swainson's Thrush	2	Calling	50	Southwest				
5-29-21	PC				amgo	American Goldfinch	1	Calling	50	South				
5-29-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	South				
5-29-21	PC	21	7:08	10	ybsa	Yellow-bellied Sapsucker	3	Drumming	100	Southwest				
5-29-21	PC				oven	Ovenbird	4	Singing	0	Southeast				
5-29-21	PC				amro	American Robin	3	Calling	0	Northwest				
5-29-21	PC				wtsp	White-throated Sparrow	1	Singing	100	West				
5-29-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Northwest				
5-29-21	PC				btnw	Black-throated Green Warbler	2	Singing	50	Southwest				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
5-29-21	PC				coye	Common Yellowthroat	2	Singing	100	West				
5-29-21	PC				cora	Common Raven	1	Calling	500	South				
5-29-21	PC				piwo	Pileated Woodpecker	1	Drumming	250	South				
5-29-21	PC				rugr	Ruffed Grouse	1	Drumming	100	West				
5-29-21	PC	22	7:33	10	nowa	Northern Waterthrush	1	Singing	50	West				
5-29-21	PC				mawa	Magnolia Warbler	2	Singing	50	Southwest				
5-29-21	PC				coye	Common Yellowthroat	2	Singing	100	Southwest				
5-29-21	PC				btnw	Black-throated Green Warbler	1	Singing	100	Southwest				
5-29-21	PC				amro	American Robin	1	Singing	100	North				
5-29-21	PC				piwo	Pileated Woodpecker	2	Singing	250	North				
5-29-21	PC				nopa	Northern Parula	1	Singing	50	Northwest				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	East				
5-29-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Northeast				
5-29-21	PC				bbwa	Bay-breasted Warbler	1	Singing	50	Southwest				
5-29-21	PC				blbw	Blackburnian Warbler	2	Singing	50	Southwest				
5-29-21	PC				oven	Ovenbird	1	Singing	100	Northeast				
5-29-21	PC				swth	Swainson's Thrush	1	Calling	0	North				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-29-21	PC				heth	Hermit Thrush	1	Singing	100	North				
5-29-21	PC				amgo	American Goldfinch	1	Calling	0	West				
5-29-21	PC				amre	American Redstart	1	Singing	0	Northwest				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	North				
5-29-21	PC				pufi	Purple Finch	1	Singing	100	Northeast				
5-29-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Northeast				
5-29-21	PC	23	7:51	10	rcki	Ruby-crowned Kinglet	1	Singing	50	North				
5-29-21	PC				heth	Hermit Thrush	1	Singing	100	Northwest				
5-29-21	PC				wtsp	White-throated Sparrow	1	Singing	100	Northwest				
5-29-21	PC				oven	Ovenbird	1	Singing	100	West				
5-29-21	PC				yrwa	Yellow-rumped Warbler	2	Singing	0	West				
5-29-21	PC				rugr	Ruffed Grouse	1	Drumming	0	West				
5-29-21	PC				deju	Dark-eyed Junco	1	Singing	0	West				
5-29-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	250	Northwest				
5-29-21	PC				evgr	Evening Grosbeak	1	Passing	0	North		50+	South	
5-29-21	PC				baww	Black-and-white Warbler	1	Singing	50	North				
5-29-21	PC				mawa	Magnolia Warbler	2	Singing	100	North				
5-29-21	PC				coye	Common Yellowthroat	1	Singing	250	Southwest				
5-29-21	PC				ybfli	Yellow-bellied Flycatcher	1	Singing	100	Southwest				
5-29-21	PC	24	8:08	10	rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
5-29-21	PC				bbwa	Bay-breasted Warbler	2	Singing	0	West				
5-29-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	Southwest				
5-29-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	100	Southwest				
5-29-21	PC				amro	American Robin	1	Calling	50	North				
5-29-21	PC				oven	Ovenbird	2	Singing	100	Northwest				
5-29-21	PC				gcki	Golden-crowned Kinglet	1	Singing	0	East				
5-29-21	PC				cora	Common Raven	1	Calling	500	South				
5-29-21	PC	25	8:21	10	lefl	Least Flycatcher	2	Singing	0	East				
5-29-21	PC				cawa	Canada Warbler	1	Singing	50	East				
5-29-21	PC				amre	American Redstart	1	Singing	0	South				
5-29-21	PC				ybsa	Yellow-bellied Sapsucker	3	NY + Calling	50	East				
5-29-21	PC				tres	Tree Swallow	1	Calling	0	South				
5-29-21	PC				coye	Common Yellowthroat	2	Singing	50	Southwest				
5-29-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	Southeast				
5-29-21	PC				pufi	Purple Finch	1	Calling	50	South				
5-29-21	PC				blpw	Blackpoll Warbler	1	Calling	50	Southwest				
5-29-21	PC				wtsp	White-throated Sparrow	3	agitated	0	Southwest				
5-29-21	PC				mowa	Mourning Warbler	1	Singing	50	South				
5-29-21	PC				cora	Common Raven	1	Calling	100	South				
5-29-21	PC				mawa	Magnolia Warbler	1	Singing	50	South				
5-29-21	PC				baww	Black-and-white Warbler	1	NM + Singing	100	Southwest				
5-29-21	PC				amro	American Robin	1	Calling	100	Southwest				
5-29-21	PC				colo	Common Loon	1	Calling	500	Northwest				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	0	Southwest				
5-29-21	PC				deju	Dark-eyed Junco	1	Singing	0	Northwest				
5-29-21	PC	26	8:39	10	blbw	Blackburnian Warbler	1	Singing	50	West				
5-29-21	PC				ybsa	Yellow-bellied Sapsucker	1	Drumming	100	Northwest				
5-29-21	PC				rugr	Ruffed Grouse	1	Drumming	50	Northeast				
5-29-21	PC				amre	American Redstart	2	Singing	0	West				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	50	Southeast				
5-29-21	PC				yrwa	Yellow-rumped Warbler	3	Singing	0	East				
5-29-21	PC				wtsp	White-throated Sparrow	1	Singing	0	Southwest				
5-29-21	PC				cogr	Common Grackle	2	Calling	0	East				
5-29-21	PC				nowa	Northern Waterthrush	1	Singing	50					
5-29-21	PC				oven	Ovenbird	1	Singing	50					
5-29-21	PC				swsp	Swamp Sparrow	1	Calling	0					
5-29-21	PC				coye	Common Yellowthroat	1	Calling	0					
5-29-21	PC				lefl	Least Flycatcher	1	Foraging	0					
5-29-21	PC				bhvi	Blue-headed Vireo	1	Singing	100					
5-29-21	PC				btnw	Black-throated Green Warbler	1	Singing	50					
5-29-21	PC				nopa	Northern Parula	1	Singing	0					
5-29-21	PC				heth	Hermit Thrush	1	Calling	50					
5-29-21	PC				colo	Common Loon	1	Passing	100	Northeast		50+	West	
5-29-21	PC				amgo	American Goldfinch	1	Passing	50	Northwest		50+	Southwest	
5-29-21	PC	27	8:58	10	ybfli	Yellow-bellied Flycatcher	1	Singing		Northeast				
5-29-21	PC				cora	Common Raven	4			Southeast				Family
5-29-21	PC				btnw	Black-throated Green Warbler		Singing		Northwest				
5-29-21	PC				amre	American Redstart	3	Pair agitated	0	Northwest				
5-29-21	PC				amgo	American Goldfinch		Calling	0	South				
5-29-21	PC				piwo	Pileated Woodpecker	1	Calling	100	Northeast				
5-29-21	PC				bhvi	Blue-headed Vireo	1	Singing	0	East				
5-29-21	PC				pufi	Purple Finch	1	Singing	100	North				

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-29-21	PC				mawa	Magnolia Warbler	1	Singing	50	Northwest				
5-29-21	PC				amro	American Robin	1	Calling	50	Northwest				
5-29-21	PC				coye	Common Yellowthroat	1	Singing	0	Northwest				
5-29-21	PC				cawa	Canada Warbler	1	Singing			Y			Waypoint 581
5-29-21	PC				wtsp	White-throated Sparrow	2	Singing	0	West				
5-29-21	PC				swsp	Swamp Sparrow	1	Singing	0	Southwest				
5-29-21	PC				bbwo	Black-backed Woodpecker	1	Calling	50	East				
5-29-21	PC	28	9:15	10	woodpecker sp	woodpecker species	1	Drumming	100	North				
5-29-21	PC				bbwa	Bay-breasted Warbler	1	Singing	50	Southwest				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
5-29-21	PC				cora	Common Raven	1	Calling	500	Northeast				
5-29-21	PC				graj	Gray Jay	1	Calling	100	Northeast				
5-29-21	PC				oven	Ovenbird	1	Singing	100	West				
5-29-21	PC				amgo	American Goldfinch	1	Calling	0	West				
5-29-21	PC				bhvi	Blue-headed Vireo	1	Singing	100	Southwest				
5-29-21	PC				mawa	Magnolia Warbler	2	Singing	50	Northeast				
5-29-21	PC				nawa	Nashville Warbler	1	Singing	50	Northwest				
5-29-21	PC				pufi	Purple Finch	1	Singing	100	West				
5-29-21	PC				blja	Blue Jay	1	Calling	100	Southwest				
5-29-21	PC				cogr	Common Grackle	2	Passing	0	Northwest		50	Southeast	
5-29-21	PC	29	9:31	10	pufi	Purple Finch	1	Singing	100	East				
5-29-21	PC				gcki	Golden-crowned Kinglet	1	Calling	50	Northeast				
5-29-21	PC				wtsp	White-throated Sparrow	1	Singing	100	North				
5-29-21	PC				cora	Common Raven	1	Calling	1000	West				
5-29-21	PC				mawa	Magnolia Warbler	1	Singing	50	Northwest				
5-29-21	PC				btnw	Black-throated Green Warbler	1	Singing	50	East				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	100	Northwest				
5-29-21	PC				cawa	Canada Warbler	1	Singing			Y			Waypoint 584
5-29-21	PC				heth	Hermit Thrush	1	Calling	100	North				
5-29-21	PC				deju	Dark-eyed Junco	1	Singing	0	North				
5-29-21	PC				oven	Ovenbird	1	Singing	100	Northeast				
5-29-21	PC				amgo	American Goldfinch	1	Calling	0	South				
5-29-21	PC				blja	Blue Jay	1	Calling	0	East				
5-29-21	PC				ybsa	Yellow-bellied Sapsucker	2	Drumming	100	West				
5-29-21	PC	30	9:52	10	cswa	Chestnut-sided Warbler	1	Singing			Y			
5-29-21	PC				yrwa	Yellow-rumped Warbler	1	Singing	50	East				
5-29-21	PC				pawa	Palm Warbler	3	Singing	50	South				
5-29-21	PC				mawa	Magnolia Warbler	2	Singing	50	South				
5-29-21	PC				heth	Hermit Thrush	1	Singing	250	Southeast				
5-29-21	PC				wtsp	White-throated Sparrow	1	Singing	100	East				
5-29-21	PC				graj	Gray Jay	1	Calling	250	East				
5-29-21	PC				ybfl	Yellow-bellied Flycatcher	1	Singing	50	Northwest				
5-29-21	PC				rcki	Ruby-crowned Kinglet	1	Singing	250	Northwest				
5-29-21	PC				boch	Boreal Chickadee	2	Calling	50	Southeast				
5-29-21	PC				nawa	Nashville Warbler	1	Singing	50	Southeast				
5-29-21	PC				swsp	Swamp Sparrow	1	Singing	100					

Common Name	Scientific Name	Bird Group	SARA	COSEWIC	NSESA	NS_Srank	Number Observed
American Black Duck	Anas rubripes	1	Not Listed	Not Listed	Not Listed	S5B,S5N	3
American Crow	Corvus brachyrhynchos	6	Not Listed	Not Listed	Not Listed	S5	12
American Goldfinch	Carduelis tristis	6	Not Listed	Not Listed	Not Listed	S5	9
American Kestrel	Falco sparverius	4	Not Listed	Not Listed	Not Listed	S3B,S4S5M	1
American Robin	Turdus migratorius	6	Not Listed	Not Listed	Not Listed	S5B,S3N	18
Bald Eagle	Haliaeetus leucocephalus	4	Not Listed	Not at Risk	Not Listed	S5	18
Black Guillemot	Cepphus grylle	2	Not Listed	Not Listed	Not Listed	S4B	1
Canada Goose	Branta canadensis	1	Not Listed	Not Listed	Not Listed	SUB,S4N,S5M	2
Common Grackle	Quiscalus quiscula	6	Not Listed	Not Listed	Not Listed	S5B	9
Common Loon	Gavia immer	3	Not Listed	Not at Risk	Not Listed	S4B	3
Common Merganser	Mergus merganser	2	Not Listed	Not Listed	Not Listed	S5B,S5M,S5N	2
Common Raven	Corvus corax	6	Not Listed	Not Listed	Not Listed	S5	11
Double-crested Cormorant	Phalacrocorax auritus	2	Not Listed	Not at Risk	Not Listed	SU	30
Herring Gull	Larus argentatus	2	Not Listed	Not Listed	Not Listed	S5	13
Merlin	Falco columbarius	4	Not Listed	Not at Risk	Not Listed	S5B	1
Northern Harrier	Circus cyaneus	4	Not Listed	Not at Risk	Not Listed	SU	1
Osprey	Pandion haliaetus	4	Not Listed	Not Listed	Not Listed	S4S5B,S5M	2
Peregrine Falcon	Falco peregrinus	4				S1B,SUM	1
Red-breasted merganser	Mergus serrator	2	Not Listed	Not Listed	Not Listed	S3S4B,S5M,S5N	11
Ring-billed Gull	Larus delawarensis	2	Not Listed	Not Listed	Not Listed	SUB,S5N	1
Rock Pigeon	Columba livia	7	Not Listed	Not Listed	Not Listed	SNA	10
Red-tailed Hawk	Buteo jamaicensis	4	Not Listed	Not at Risk	Not Listed	S5	1
Surf Scoter	Melanitta perspicillata	2				S4N,SUM	2
Raptor Species	N/A	4	N/A	N/A	N/A	N/A	2
Swallow species	N/A	6	N/A	N/A	N/A	N/A	1
buteo species	N/A	4	N/A	N/A	N/A	N/A	1
blackbird species	N/A	6	N/A	N/A	N/A	N/A	2

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
4-23-21	Diurnal Watch	Mulgrave watch	6:01	60	colo	Common Loon	1	Passing	1000	East		50	North	
4-23-21	Diurnal Watch				herg	Herring Gull	1	Passing	250	East		50	North	
4-23-21	Diurnal Watch				colo	Common Loon	1	Passing	500	East		50+	Southeast	
4-23-21	Diurnal Watch				herg	Herring Gull	1	Passing	0	Northwest				
4-23-21	Diurnal Watch				dcco	Double-crested Cormorant	14	Passing	3000	North		100+	Southeast	Birds moving over land
4-23-21	Diurnal Watch				colo	Common Loon	1	Passing	3000	North		100+	Northwest	Birds moving over land
4-23-21	Diurnal Watch				amro	American Robin	3	Passing	2000	East		50	Southeast	Birds moving over land
4-23-21	Diurnal Watch				herg	Herring Gull	abundant	Passing	1000	Northeast		50+		Moving back and forth up channel
4-23-21	Diurnal Watch				baea	Bald Eagle	1	Passing	100	Northwest		50	Southeast	
4-23-21	Diurnal Watch				blgu	Black Guillemot	1	Passing	1000	Northeast		50	North	
4-23-21	Diurnal Watch				blckbird sp	Blackbird Species	2	Passing	100	West		50+	South	Birds moving over land
4-23-21	Diurnal Watch				amcr	American Crow	1	Passing	0	North		50	South	Birds moving over land
4-23-21	Diurnal Watch				dcco	Double-crested Cormorant	2	Passing	2000	Northeast		100+	Northwest	Birds moving over land
4-23-21	Diurnal Watch				baea	Bald Eagle	1	Passing	2000	South		50	Northeast	
4-23-21	Diurnal Watch				abdu	American Black Duck	1	Passing	1000	East		50	North	
4-23-21	Diurnal Watch				cora	Common Raven	1	Passing	2000	Northeast		50+	North	Birds moving over land
4-23-21	Diurnal Watch				dcco	Double-crested Cormorant	several	Passing	1000	East		0		Local birds moving fairly frequently over water
4-23-21	Diurnal Watch				cogr	Common Grackle	2	Passing	0	West		50+	South	
4-23-21	Diurnal Watch				rbme	Red-breasted Merganser	6	Passing	500	Southeast		50	North	
4-23-21	Diurnal Watch				susc	Surf Scoter	2	Passing	500	Southeast		50	North	
4-23-21	Diurnal Watch	Mulgrave watch	7:01	60	baea	Bald Eagle	1	Passing	500	North		50	South	
4-23-21	Diurnal Watch				cora	Common Raven	3	Passing	3000	Northeast		50	North	
4-23-21	Diurnal Watch				amro	American Robin	15	Passing	0	North		50+	North	
4-23-21	Diurnal Watch				dcco	Double-crested Cormorant	1	Passing	500	North		50+	Southeast	
4-23-21	Diurnal Watch				ropi	Rock Pigeon	3	Passing	2000	North		50+		Circling near industrial park
4-23-21	Diurnal Watch				baea	Bald Eagle	1	Circling	3000	Southeast		50+	Southeast	
4-23-21	Diurnal Watch				dcco	Double-crested Cormorant	9	Passing	5000	North		100+	South	
4-23-21	Diurnal Watch				amke	American Kestrel	1	Passing	1000	East		100+	West	
4-23-21	Diurnal Watch				come	Common Merganser	2	Passing	100	North		50+	South	
4-23-21	Diurnal Watch	Port Hastings watch	8:51	60	baea	Bald Eagle	1	Passing	3000	West		100+	West	Flew towards turbine area
4-23-21	Diurnal Watch				baea	Bald Eagle	1	Circling	1000	Southwest		50+		Circling over harbour
4-23-21	Diurnal Watch				raptor species	Raptor Species	1	Passing	5000	Northwest		100+	East	Flew over water, came from hill near power corridor
4-23-21	Diurnal Watch				cora	Common Raven	5	Passing	500	Northwest		50		
4-23-21	Diurnal Watch				baea	Bald Eagle	1	Passing	500	North		50	South	Flying over water
4-23-21	Diurnal Watch				dcco	Double-crested Cormorant	1	Passing	250	Southeast		50	North	
4-23-21	Diurnal Watch				cang	Canada Goose	1	Passing	0	North		50	South	
4-23-21	Diurnal Watch				amcr	American Crow	2	Passing	3000	West		50+	North	
4-23-21	Diurnal Watch				dcco	Double-crested Cormorant	1	Passing	500	Northwest		50+	South	
4-23-21	Diurnal Watch	Port Hastings watch	9:51	60	herg	Herring Gull	1	Passing	3000	Northwest		100+	South	
4-23-21	Diurnal Watch				herg	Herring Gull	1	Passing	50	Southwest		100+	South	
4-23-21	Diurnal Watch				rbme	Red-breasted Merganser	4	Passing	100	Southwest		50	North	
4-23-21	Diurnal Watch				cang	Canada Goose	1	Passing	0	West		50	South	
4-23-21	Diurnal Watch				pefa	Peregrine Falcon	1	Passing	100	South		50+	North	
4-23-21	Diurnal Watch				baea	Bald Eagle	1	Passing	4000	West		100+	Southwest	Disappeared over hill
4-23-21	Diurnal Watch				herg	Herring Gull	3	Passing	100	North				
4-23-21	Diurnal Watch				herg	Herring Gull	3	Passing	100	North		50	South	
4-23-21	Diurnal Watch				rbgu	Ring-billed Gull	1	Passing	0	North		50	North	
4-23-21	Diurnal Watch				herg	Herring Gull	1	Passing	4000	Southwest		100+	Southwest	
4-23-21	Diurnal Watch				cora	Common Raven	1	Passing	0	Southwest		50	North	
4-23-21	Diurnal Watch				amcr	American Crow	3	Passing	4000	Southwest		100+	North	Birds flying over land
5-13-21	Diurnal Watch	hawk mulgrave	10:25	60	dcco	Double-crested Cormorant	1	Passing	1000	Northeast		50+	North	
5-13-21	Diurnal Watch				ropi	Rock Pigeon	4	Passing	500	East		50+	South	
5-13-21	Diurnal Watch				amcr	American Crow	1	Passing	1000	Southeast		50+	South	
5-13-21	Diurnal Watch				cogr	Common Grackle	7	Passing	500	East		50+	North	
5-13-21	Diurnal Watch				ospr	Osprey	1	Passing	1000	East		100+	North	Over water
5-13-21	Diurnal Watch				merl	Merlin	1	Passing	500	Northeast		50	West	
5-13-21	Diurnal Watch		11:25	60	baea	Bald Eagle	3	Circling	3000	North		100+	Stationary	
5-13-21	Diurnal Watch				raptor sp	Raptor Species	1	Circling	3000	North		100+	Stationary	
5-13-21	Diurnal Watch				baea	Bald Eagle	1	Passing	2000	Northeast		50+	North	
5-13-21	Diurnal Watch				ospr	Osprey	1	Passing	2000	Northeast		100+	North	
5-13-21	Diurnal Watch				amcr	American Crow	3	Passing	2000	East		50+	North	
5-13-21	Diurnal Watch				baea	Bald Eagle	1	Passing	2000	Northeast		50	North	
5-13-21	Diurnal Watch				amgo	American Goldfinch	9	Passing	0	South		50	North	
5-13-21	Diurnal Watch				rtha	Red-tailed Hawk	1	Passing	2000	East		50+	South	Over land

Date	Survey Type	Point Count #	Survey Start Time	Total Survey Time (mins)	Species Code	Common Name	#	Behaviour	Distance	Bearing	Incidental	Pass. Height	Pass. Direction	Comments
5-13-21	Diurnal Watch				baea	Bald Eagle	1	Passing	1000	Southeast		50+	West	
5-13-21	Diurnal Watch				amcr	American Crow	1	Passing	500	Southeast		50+	West	
5-13-21	Diurnal Watch		12:25	60	rbme	Red-breasted Merganser	1	Passing	1000	East		50+	South	
5-13-21	Diurnal Watch				abdu	American Black Duck	2	Passing	2000	Northeast		50+	North	
5-13-21	Diurnal Watch				swallow sp	Swallow Species	1	Passing	1000	North		50	West	
5-13-21	Diurnal Watch				baea	Bald Eagle	1	Circling	2000	East		100+	Stationary	
5-13-21	Diurnal Watch				baea	Bald Eagle	1	Passing	100	Northeast		50	Southwest	
5-13-21	Diurnal Watch				amcr	American Crow	1	Passing	500	Southeast		50	Southwest	
5-13-21	Diurnal Watch				dcco	Double-crested Cormorant	1	Passing	3000	Northeast		50	South	Over land
5-13-21	Diurnal Watch		1:25	60	buteo sp	Buteo Species	1	Circling	3000	South		50+	Stationary	
5-13-21	Diurnal Watch				baea	Bald Eagle	1	Passing	5000	Northeast		100+	Northwest	
5-13-21	Diurnal Watch				ropi	Rock Pigeon	3	Passing	1000	Northeast		50+	Southwest	
5-13-21	Diurnal Watch				noha	Northern Harrier	1	Passing	2000	East		100+	South	
5-13-21	Diurnal Watch				cora	Common Raven	1	Circling	2000	Southeast				
5-13-21	Diurnal Watch				herg	Herring Gull	1	Passing	2000	Southeast		50+	South	
5-13-21	Diurnal Watch				baea	Bald Eagle	1	Circling	3000	Southeast		50+	Stationary	Over land
5-13-21	Diurnal Watch				herg	Herring Gull	1	Passing	1000	Southeast		50+		

Date	Point count #	Common name	Breeding Evidence	Distance	Bearing	Comments
Jan 22nd, 2021	1	Evening Grosbeak		100	East	
May 28th, 2021	3	Canada Warbler	MS	100	East	
May 28th, 2021	3	Canada Warbler	MS	100	North	
June 5th, 2021	3	Canada Warbler	MS	100	Northeast	
July 1st, 2021	3	Canada Warbler	MS	100	Southeast	
June 5th, 2021	5	Canada Warbler	MS	50	Southwest	
June 5th, 2021	5	Canada Warbler	MS	250	North	
July 1st, 2021	9	Common Nighthawk		0		Three birds Circling, Calling
May 28th, 2021	10	Canada Warbler	MS	50	East	
June 5th, 2021	10	Canada Warbler	MS	50	West	
May 28th, 2021	11	Canada Warbler	MS	100	Northeast	
June 5th, 2021	11	Olive-sided Flycatcher	MS	250	Southwest	
July 1st, 2021	11	Canada Warbler	Agitated Male	0	Northeast	Calling
June 6th, 2021	12	Canada Warbler	MS			Passing
June 6th, 2021	14	Common Nighthawk		500	North	Booming
May 29th, 2021	15	Canada Warbler	MS	100	North	
June 6th, 2021	16	Canada Warbler	MS	100	Southwest	
May 29th, 2021	19	Canada Warbler	MS	250	Northeast	
June 6th, 2021	19	Canada Warbler	MS	50	West	
June 6th, 2021	22	Canada Warbler	MS	100	Northeast	
September 4th, 2021	23	Chimney Swift		0	North	
May 29th, 2021	25	Canada Warbler	MS	50	East	
June 7th, 2021	25	Olive-sided Flycatcher	MS	250	Southeast	
June 7th, 2021	25	Canada Warbler	MS	100	East	
May 29th, 2021	27	Canada Warbler	MS			
June 7th, 2021	27	Canada Warbler	MS	100	East	
May 14th, 2021	28	Barn Swallow			Northwest	Passing
June 7th, 2021	28	Canada Warbler	MS	100	North	
June 7th, 2021	28	Canada Warbler		0	Northwest	Foraging
June 7th, 2021	28	Evening Grosbeak		100	Northwest	Calling
June 30th, 2021	28	Olive-sided Flycatcher	MS	250	Southeast	
May 29th, 2021	29	Canada Warbler	MS			
June 7th, 2021	29	Olive-sided Flycatcher	MS	250	West	
June 30th, 2021	29	Olive-sided Flycatcher	MS	250	Northeast	
June 30th, 2021	30	Olive-sided Flycatcher	MS	250	Northeast	
June 5th, 2021	31	Canada Warbler	MS	50	East	
June 5th, 2021	31	Canada Warbler	MS	0	West	
July 1st, 2021	31	Canada Warbler	MS	0	Southeast	
July 1st, 2021	31	Canada Warbler	Agitated Male	0	North	Calling
June 5th, 2021	32	Canada Warbler	MS	50	Northwest	
June 5th, 2021	32	Canada Warbler	MS	100	Northeast	
June 5th, 2021	33	Canada Warbler	MS	100	East	
July 1st, 2021	33	Canada Warbler	MS	100	East	
June 5th, 2021	34	Canada Warbler	MS	250	Northeast	
June 6th, 2021	35	Canada Warbler	MS	250	Northwest	
July 1st, 2021	35	Canada Warbler	Agitated Pair			
June 6th, 2021	38	Canada Warbler	MS	100	North	
June 29th, 2021	38	Olive-sided Flycatcher	MS	250	South	
June 6th, 2021	40	Canada Warbler	MS	100	Southwest	
June 6th, 2021	43	Canada Warbler	MS	100	Northwest	
June 29th, 2021	43	Canada Warbler	Agitated Male	0	East	
June 29th, 2021	43	Canada Warbler	MS	100	Northwest	
June 6th, 2021	44	Canada Warbler	MS	100	West	
June 6th, 2021	44	Olive-sided Flycatcher		50	West	Calling
June 7th, 2021	47	Canada Warbler	MS	0	Southeast	
June 30th, 2021	47	Canada Warbler	MS	50	Southeast	

Date	Point count #	Common name	Breeding Evidence	Distance	Bearing	Comments
June 7th, 2021	49	Canada Warbler	MS	0	Southwest	
June 7th, 2021	50	Canada Warbler	MS	100	Southeast	
June 7th, 2021	50	Olive-sided Flycatcher	MS	50	Southeast	
June 30th, 2021	53	Canada Warbler	2 singing (Pair?)	0	West	
June 30th, 2021	53	Olive-sided Flycatcher	MS	250	Southeast	
October 1st, 2021	Radar Hawk	Peregrine Falcon		20000	Northeast	Moving southwest, within a few hundred metres when lost sight
April 23rd, 2021	CB Hawk	Peregrine Falcon		100	South	Passing over shoreline

Date	Nominal Bird Target Range (m) (bin)														Total by Date
	0-250	250-500	500-750	750-1000	1000-1250	1250-1500	1500-1750	1750-2000	2000-2500	2500-3000	3000-3500	3500-5000	5000-10000		
12-Apr-22	0	6	55	2	94	13	3	0	0	0	0	0	0	173	
13-Apr-22	0	1	345	3	219	2	3	0	12	5	0	0	0	590	
14-Apr-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15-Apr-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16-Apr-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17-Apr-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18-Apr-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19-Apr-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20-Apr-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21-Apr-22	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
22-Apr-22	0	0	0	0	2	5	0	0	0	0	0	0	0	7	
23-Apr-22	0	0	0	1	0	8	3	0	0	0	0	0	0	12	
24-Apr-22	0	0	0	0	0	15	39	15	0	0	0	0	0	69	
25-Apr-22	0	0	0	0	0	7	13	9	1	0	0	0	0	30	
26-Apr-22	0	0	0	0	0	3	4	7	0	0	0	0	0	14	
27-Apr-22	0	0	16	0	5	3	1	7	0	0	0	0	0	32	
28-Apr-22	0	0	4	0	0	0	0	0	0	0	0	0	0	4	
29-Apr-22	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
30-Apr-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
01-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04-May-22	0	0	20	0	0	0	0	0	0	1	0	0	0	21	
05-May-22	0	0	9	0	0	0	113	4892	32130	5538	0	0	0	42682	
06-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
08-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
09-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
24-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
26-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
27-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
28-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
29-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
30-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
31-May-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
01-Jun-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02-Jun-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03-Jun-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04-Jun-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
05-Jun-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
06-Jun-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Date	Nominal Bird Target Range (m) (bin)													Total by Date
	0-250	250-500	500-750	750-1000	1000-1250	1250-1500	1500-1750	1750-2000	2000-2500	2500-3000	3000-3500	3500-5000	5000-10000	
07-Jun-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-Jun-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-Jun-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-Jun-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bin Total	0	7	450	6	320	56	179	4931	32143	5544	0	0	0	43636

Date	Nominal Bird Target Height Range (m) (bin)										Total by Date	
	0-25	25-50	50-100	100-150	150-200	200-250	250-500	500-1000	1000-1500	1500-2000		2000-3000
27-Jul-22	0	0	0	0	0	0	974	253	0	0	0	1227
28-Jul-22	0	0	0	0	0	0	2898	815	0	0	0	3713
29-Jul-22	0	0	0	0	0	0	1627	1141	0	0	0	2768
30-Jul-22	0	0	0	0	0	0	2039	1914	0	0	0	3953
31-Jul-22	0	0	0	0	0	0	1637	1642	0	0	0	3279
01-Aug-22	0	0	0	0	0	0	2735	1397	0	0	0	4132
02-Aug-22	0	0	0	0	0	0	1688	1393	0	0	0	3081
03-Aug-22	0	0	0	0	0	0	1330	1427	10	0	0	2767
04-Aug-22	0	0	0	0	0	0	2579	625	16	0	0	3220
05-Aug-22	0	0	0	0	0	0	2840	562	0	0	0	3402
06-Aug-22	0	0	0	0	0	0	2969	664	0	0	0	3633
07-Aug-22	0	0	0	0	0	0	1798	1123	16	0	0	2937
08-Aug-22	0	0	0	0	0	0	701	2060	336	0	0	3097
09-Aug-22	0	0	0	0	0	0	314	496	76	0	0	886
10-Aug-22	0	0	0	0	0	0	2	0	0	0	0	2
11-Aug-22	0	0	0	0	0	0	2	0	0	0	0	4
12-Aug-22	0	0	0	0	0	0	4	6	0	0	0	10
13-Aug-22	0	0	0	0	0	0	0	23	0	0	0	23
14-Aug-22	0	0	0	0	0	0	32	38	0	0	0	70
15-Aug-22	0	0	0	0	0	0	28	110	0	0	0	138
16-Aug-22	0	0	0	0	0	0	22	140	0	0	0	162
17-Aug-22	0	0	0	0	0	0	16	76	0	0	0	92
18-Aug-22	0	0	0	0	0	0	26	252	2	0	0	280
19-Aug-22	0	0	0	0	0	0	52	298	2	0	0	352
20-Aug-22	0	0	0	0	0	0	86	446	12	0	0	544
21-Aug-22	0	0	0	0	0	0	58	371	0	0	0	429
22-Aug-22	0	0	0	0	0	0	46	196	2	0	0	244
23-Aug-22	0	0	0	0	0	0	20	96	2	0	0	118
24-Aug-22	0	0	0	0	0	0	16	28	6	0	0	50
25-Aug-22	0	0	0	0	0	0	4	13	0	0	0	17
26-Aug-22	0	0	0	0	0	0	9	13	0	0	0	22
27-Aug-22	0	0	0	0	0	0	34	21	0	0	0	55
28-Aug-22	0	0	0	0	0	0	27	6	0	0	0	33
29-Aug-22	0	0	0	0	0	0	36	37	2	0	0	75
30-Aug-22	0	0	0	0	0	0	183	88	0	0	0	271
31-Aug-22	0	0	0	0	0	0	336	441	19	0	0	796
01-Sep-22	0	0	0	0	0	0	959	2930	108	5	0	4002
02-Sep-22	0	0	0	0	0	0	226	4360	0	0	0	4586
03-Sep-22	0	0	0	0	0	0	346	4414	0	0	0	4760
04-Sep-22	0	0	0	0	0	0	153	5556	187	0	0	5896
05-Sep-22	0	0	0	0	0	0	277	5282	2	0	0	5561
06-Sep-22	0	0	0	0	0	0	221	5589	16	0	0	5826
07-Sep-22	0	0	0	0	0	0	198	4023	26	0	0	4247
08-Sep-22	0	0	0	0	1	0	1936	8095	2460	204	0	12696
09-Sep-22	0	0	0	0	40	0	1697	8529	1958	263	0	12487
10-Sep-22	0	0	0	180	8	6	564	4381	790	177	0	6106
11-Sep-22	0	0	0	179	12	13	481	4234	540	229	0	5688
12-Sep-22	0	0	0	54	1	3	337	3434	506	218	0	4553
13-Sep-22	0	0	0	0	0	0	10	93	35	0	0	138
14-Sep-22	0	0	0	0	0	0	28	46	0	0	0	74
15-Sep-22	0	0	0	0	0	0	73	135	26	0	0	234
16-Sep-22	0	0	0	0	0	0	115	162	10	0	0	287
17-Sep-22	0	0	0	0	0	0	127	107	8	0	0	242
18-Sep-22	0	0	0	0	0	0	173	211	47	0	0	431
19-Sep-22	0	0	0	0	0	0	210	278	88	0	0	576
20-Sep-22	0	0	0	0	0	4	177	440	185	0	0	806
21-Sep-22	0	0	0	0	0	0	114	230	138	0	0	482

Date	Nominal Bird Target Height Range (m) (bin)											Total by Date
	0-25	25-50	50-100	100-150	150-200	200-250	250-500	500-1000	1000-1500	1500-2000	2000-3000	
22-Sep-22	0	0	0	0	0	0	203	281	119	5	0	608
23-Sep-22	0	0	0	0	0	0	54	133	70	0	0	257
24-Sep-22	0	0	0	0	0	0	40	80	38	0	0	158
25-Sep-22	0	0	0	0	0	0	41	130	67	1	0	239
26-Sep-22	0	0	0	0	0	0	15	18	5	0	0	38
27-Sep-22	0	0	0	0	0	0	9	61	48	0	0	118
28-Sep-22	0	0	1	0	0	0	1518	29	31	0	0	1579
29-Sep-22	0	0	0	0	0	0	2841	22	11	0	0	2874
30-Sep-22	0	0	0	0	0	0	1858	15	1	0	0	1874
01-Oct-22	0	0	0	0	0	0	2203	9	4	0	0	2216
02-Oct-22	0	0	1	0	0	2	3359	2	0	0	0	3364
03-Oct-22	0	0	1	0	0	8	2133	1	0	0	0	2143
04-Oct-22	0	0	0	0	0	0	1626	0	0	0	0	1626
05-Oct-22	0	0	0	0	0	0	2497	0	0	0	0	2497
06-Oct-22	0	0	0	0	0	0	1239	1450	1767	872	0	5328
07-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
08-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
09-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
10-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
11-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
12-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
13-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
14-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
15-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
16-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
17-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
18-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
19-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
20-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
21-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
22-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
23-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
24-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
25-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
26-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
27-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
28-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
29-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
30-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
31-Oct-22	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	3	413	62	36	55226	82973	9792	1974	0	150479

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-01 0:00	3.1	-2.4	67	0	10	5	16.1	NA
2022-04-01 1:00	3.2	-0.7	76	0	10	5	16.1	NA
2022-04-01 2:00	2.9	0	81	0	20	9	16.1	Rain
2022-04-01 3:00	2.3	0.6	89	0	15	9	16.1	Rain
2022-04-01 4:00	1.4	1	97	0.2	12	11	16.1	NA
2022-04-01 5:00	1.1	1	99	0.2	11	18	4.8	Rain,Fog
2022-04-01 6:00	1.3	1.2	99	0.2	13	18	6.4	Rain,Fog
2022-04-01 7:00	1.5	1.4	99	0.2	11	13	1.2	Rain,Fog
2022-04-01 8:00	1.4	1.4	100	1.2	13	15	4.8	Fog
2022-04-01 9:00	1.5	1.5	100	1.5	8	9	3.2	Rain,Fog
2022-04-01 10:00	1.1	1.1	100	5.1	7	13	6.4	Fog
2022-04-01 11:00	1.2	1.2	100	0	7	15	0.4	Rain,Fog
2022-04-01 12:00	1.7	1.7	100	0	7	8	0.2	Rain,Fog
2022-04-01 13:00	2	2	100	0	6	17	0.4	Rain,Fog
2022-04-01 14:00	3	3	100	0.2	9	8	4.8	Fog
2022-04-01 15:00	5.7	5.7	100	0	15	8	1.2	Fog
2022-04-01 16:00	7	7	100	0	11	5	0.4	Fog
2022-04-01 17:00	9.1	9.1	100	0	7	9	12.9	NA
2022-04-01 18:00	12.1	12.1	100	0	19	18	16.1	NA
2022-04-01 19:00	12.5	11.7	95	0	21	13	16.1	NA
2022-04-01 20:00	13	11.8	92	0	21	15	16.1	NA
2022-04-01 21:00	11.8	11.3	97	0	17	15	16.1	NA
2022-04-01 22:00	11.7	10.9	95	0	18	13	16.1	NA
2022-04-01 23:00	8.6	8.3	98	0	14	11	4.8	Fog
2022-04-02 0:00	8.6	8.5	99	0	16	17	12.9	NA
2022-04-02 1:00	8.2	8.1	99	0	19	15	4	Fog
2022-04-02 2:00	8.5	8.2	98	0	21	17	16.1	NA
2022-04-02 3:00	7.8	7.5	98	0	20	13	16.1	NA
2022-04-02 4:00	6.8	6.5	98	0	24	15	16.1	NA
2022-04-02 5:00	7	6.4	96	0	29	17	16.1	NA
2022-04-02 6:00	1.9	1.8	99	0	30	15	2.4	Fog
2022-04-02 7:00	1.9	1.8	99	0	32	9	1.6	Fog
2022-04-02 8:00	2.2	2.2	100	0	26	8	4.8	Fog
2022-04-02 9:00	0.9	0.9	100	0.5	29	18	4	Rain,Fog
2022-04-02 10:00	0.2	0.2	100	1.2	30	15	4.8	Snow
2022-04-02 11:00	0	0	100	0	28	17	0.8	Moderate Snow
2022-04-02 12:00	0.4	0.4	100	1	28	21	3.2	Rain,Fog
2022-04-02 13:00	0.6	0.6	100	1.2	27	24	6.4	Rain,Snow
2022-04-02 14:00	1	0.9	99	0.8	28	30	16.1	NA
2022-04-02 15:00	1.8	1.2	96	0	27	35	16.1	NA
2022-04-02 16:00	1.6	0.9	95	0	29	39	16.1	Rain
2022-04-02 17:00	1.1	-0.1	92	0	28	32	9.7	Rain,Snow
2022-04-02 18:00	0.6	0	96	0	27	32	4.8	Snow
2022-04-02 19:00	-0.1	-0.7	96	0.2	27	41	2.4	Snow
2022-04-02 20:00	-0.2	-1.1	94	0	28	34	4	Snow
2022-04-02 21:00	-0.4	-1	96	0	28	30	8.1	Snow
2022-04-02 22:00	-0.5	-1.1	96	0	28	30	4.8	Snow
2022-04-02 23:00	-0.2	-0.9	95	0	29	24	16.1	Snow
2022-04-03 0:00	0.2	-1.3	90	0	29	26	16.1	NA
2022-04-03 1:00	0.4	-1.7	86	0	29	26	16.1	NA
2022-04-03 2:00	0.9	-1.8	82	0	28	30	16.1	NA
2022-04-03 3:00	0.7	-2	82	0	29	26	16.1	NA
2022-04-03 4:00	0.6	-2.3	81	0	29	26	16.1	NA
2022-04-03 5:00	0.4	-2.5	81	0	29	28	16.1	NA
2022-04-03 6:00	0.2	-2.8	80	0	28	35	16.1	NA
2022-04-03 7:00	-0.3	-3	82	0	29	26	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-03 8:00	-0.5	-3.4	81	0	28	32	16.1	NA
2022-04-03 9:00	-0.6	-3.3	82	0	29	21	16.1	NA
2022-04-03 10:00	-0.7	-3.6	81	0	29	22	16.1	NA
2022-04-03 11:00	-0.2	-3.4	79	0	30	18	16.1	NA
2022-04-03 12:00	0.2	-3.2	78	0	29	15	16.1	NA
2022-04-03 13:00	1.3	-2.7	75	0	31	28	16.1	NA
2022-04-03 14:00	1.5	-3	72	0	29	30	16.1	NA
2022-04-03 15:00	2.1	-2.8	70	0	29	26	16.1	NA
2022-04-03 16:00	2.7	-2.7	68	0	29	28	16.1	NA
2022-04-03 17:00	3	-2.8	66	0	30	18	16.1	NA
2022-04-03 18:00	3.2	-3.3	62	0	29	22	16.1	NA
2022-04-03 19:00	3.4	-3.2	62	0	30	17	16.1	NA
2022-04-03 20:00	3.7	-3.1	61	0	29	9	16.1	NA
2022-04-03 21:00	4	-2.5	63	0	29	11	16.1	NA
2022-04-03 22:00	1.4	-2.6	75	0	25	8	16.1	NA
2022-04-03 23:00	0.3	-2.8	80	0	31	5	16.1	NA
2022-04-04 0:00	-1.7	-3.3	89	0		5	16.1	NA
2022-04-04 1:00	-2.3	-3.6	91	0	9	8	16.1	NA
2022-04-04 2:00	-3.4	-4.1	95	0	4	5	16.1	NA
2022-04-04 3:00	-1.8	-2.8	93	0	4	11	16.1	NA
2022-04-04 4:00	-2.4	-3.5	92	0	10	5	16.1	NA
2022-04-04 5:00	-2.8	-3.8	93	0	4	11	16.1	NA
2022-04-04 6:00	-1.9	-3.4	89	0	4	13	16.1	NA
2022-04-04 7:00	-2.5	-3.8	91	0	5	11	16.1	NA
2022-04-04 8:00	-1.8	-2.6	94	0	5	9	16.1	NA
2022-04-04 9:00	-1.6	-2.7	92	0	6	11	16.1	NA
2022-04-04 10:00	-1.4	-2.5	92	0	5	13	16.1	Snow
2022-04-04 11:00	-1.2	-2.2	93	0	3	9	16.1	NA
2022-04-04 12:00	-1.2	-2.2	93	0	5	13	16.1	NA
2022-04-04 13:00	-0.7	-1.1	97	0	4	18	2.4	Snow
2022-04-04 14:00	-0.5	-0.9	97	0	5	18	1.6	Snow
2022-04-04 15:00	0.3	-0.7	93	0	5	22	6.4	Rain,Snow
2022-04-04 16:00	0	-0.6	96	0.8	6	21	4	Freezing Rain,Fog
2022-04-04 17:00	0.1	-0.5	96	2.5	4	30	4.8	Rain,Fog
2022-04-04 18:00	0.3	-0.3	96	6.8	4	37	6.4	Rain,Fog
2022-04-04 19:00	0.5	-0.1	96	1.8	5	35	8.1	Rain,Fog
2022-04-04 20:00	0.2	-0.4	96	0.8	4	26	4	Rain,Fog
2022-04-04 21:00	0	-0.6	96	0	3	21	1.6	Snow
2022-04-04 22:00	-0.2	-0.9	95	0	3	26	1.2	Snow
2022-04-04 23:00	-0.2	-0.6	97	0	33	11	1.6	Snow
2022-04-05 0:00	-0.6	-1.5	94	0.2	34	26	2.4	Snow
2022-04-05 1:00	-1.1	-1.9	94	0	33	21	1.2	Snow
2022-04-05 2:00	-1.6	-2.4	94	0	32	21	1.6	Snow
2022-04-05 3:00	-1.9	-2.9	93	0	33	30	1.2	Snow
2022-04-05 4:00	-2	-3	93	0	31	22	2	Snow
2022-04-05 5:00	-1.5	-2.8	91	0	31	24	3.2	Snow
2022-04-05 6:00	-1	-3.1	86	0	31	24	14.5	Snow
2022-04-05 7:00	-1	-2.9	87	0	31	37	16.1	NA
2022-04-05 8:00	-1.1	-2.5	90	0	30	32	14.5	Snow
2022-04-05 9:00	-1.3	-2.6	91	0	30	32	16.1	NA
2022-04-05 10:00	-1.3	-2.7	90	0	30	26	16.1	NA
2022-04-05 11:00	-0.9	-2.6	88	0	30	32	16.1	NA
2022-04-05 12:00	-0.7	-2.4	88	0	30	28	16.1	NA
2022-04-05 13:00	-0.3	-2.5	85	0.2	30	30	16.1	NA
2022-04-05 14:00	0	-2.9	81	0.2	30	37	16.1	NA
2022-04-05 15:00	0.3	-3.1	78	0.8	30	34	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-05 16:00	0.5	-2.9	78	2.2	31	26	16.1	NA
2022-04-05 17:00	0.6	-2.8	78	1	30	30	16.1	NA
2022-04-05 18:00	0.5	-3.5	75	0.5	30	32	16.1	NA
2022-04-05 19:00	0.9	-2.7	77	0.5	30	17	16.1	NA
2022-04-05 20:00	0.7	-4.9	66	0	31	17	16.1	NA
2022-04-05 21:00	0.3	-6.1	63	0	31	17	16.1	NA
2022-04-05 22:00	-0.5	-6.3	65	0	30	11	16.1	NA
2022-04-05 23:00	-2.1	-5.6	77	0	29	9	16.1	NA
2022-04-06 0:00	-3	-5	86	0	28	5	16.1	NA
2022-04-06 1:00	-3.1	-5.3	85	0	28	8	16.1	NA
2022-04-06 2:00	-2.9	-5	86	0	28	11	16.1	NA
2022-04-06 3:00	-3	-4.3	91	0	29	9	16.1	NA
2022-04-06 4:00	-3.6	-4.4	94	0	31	8	16.1	NA
2022-04-06 5:00	-3.6	-5.3	88	0	31	11	16.1	NA
2022-04-06 6:00	-3.9	-5.2	91	0	32	9	16.1	NA
2022-04-06 7:00	-3.9	-4.9	93	0	29	8	16.1	NA
2022-04-06 8:00	-3.9	-5	92	0	28	9	16.1	NA
2022-04-06 9:00	-3.5	-4.2	95	0	28	13	16.1	NA
2022-04-06 10:00	-2.8	-6.1	78	0	28	13	16.1	NA
2022-04-06 11:00	-2.1	-5.1	80	0	30	13	16.1	NA
2022-04-06 12:00	-0.6	-3.6	80	0	28	21	16.1	NA
2022-04-06 13:00	0.8	-3.7	72	0	30	22	16.1	NA
2022-04-06 14:00	1.8	-4.4	64	0.2	30	17	16.1	NA
2022-04-06 15:00	1.8	-3.9	66	0	31	18	16.1	NA
2022-04-06 16:00	2.3	-3.5	66	0.2	30	22	16.1	NA
2022-04-06 17:00	2.7	-4.5	59	0	30	22	16.1	NA
2022-04-06 18:00	3.2	-5.5	53	0	32	24	16.1	NA
2022-04-06 19:00	3.2	-5.4	53	0	30	17	16.1	NA
2022-04-06 20:00	3.2	-6.5	49	0	30	18	16.1	NA
2022-04-06 21:00	2.2	-6.9	51	0	31	18	16.1	NA
2022-04-06 22:00	0.9	-5.3	63	0	28	11	16.1	NA
2022-04-06 23:00	-1.4	-5	77	0	29	8	16.1	NA
2022-04-07 0:00	-1.6	-5.1	77	0	31	9	16.1	NA
2022-04-07 1:00	-1.7	-7.1	67	0	32	8	16.1	NA
2022-04-07 2:00	-1.9	-5.9	74	0	30	5	16.1	NA
2022-04-07 3:00	-2.5	-5.2	82	0	31	15	16.1	NA
2022-04-07 4:00	-2.5	-4.2	88	0	30	17	16.1	NA
2022-04-07 5:00	-2.4	-4.1	88	0	31	13	16.1	NA
2022-04-07 6:00	-2.4	-4.4	86	0	31	13	16.1	NA
2022-04-07 7:00	-2.5	-4.2	88	0	34	8	16.1	NA
2022-04-07 8:00	-3.1	-4.4	91	0	32	8	16.1	NA
2022-04-07 9:00	-3	-3.9	93	0	30	9	16.1	NA
2022-04-07 10:00	-2	-3.7	88	0	34	9	16.1	NA
2022-04-07 11:00	0.1	-3	80	0	36	8	16.1	NA
2022-04-07 12:00	0.1	-1.8	87	0	28	13	16.1	NA
2022-04-07 13:00	0.7	-1.1	88	0	27	15	16.1	NA
2022-04-07 14:00	2.1	-0.5	83	0	29	18	16.1	NA
2022-04-07 15:00	3.3	0.2	80	0	30	18	16.1	NA
2022-04-07 16:00	3	1.1	87	0	29	24	16.1	Rain
2022-04-07 17:00	2.9	0.5	84	0	28	28	16.1	NA
2022-04-07 18:00	3.7	0.9	82	0	28	30	16.1	NA
2022-04-07 19:00	5.5	1	73	0	28	21	16.1	NA
2022-04-07 20:00	5.6	1.1	73	0	26	18	16.1	NA
2022-04-07 21:00	2.6	0	83	0	27	21	16.1	NA
2022-04-07 22:00	0.4	-0.9	91	0	28	17	16.1	NA
2022-04-07 23:00	-0.5	-0.9	97	0	28	8	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-08 0:00	-1	-1.3	98	0	36	5	16.1	NA
2022-04-08 1:00	-1.9	-2.2	98	0		0	16.1	NA
2022-04-08 2:00	-2.4	-2.7	98	0	4	8	16.1	NA
2022-04-08 3:00	-2.2	-2.6	97	0	5	8	16.1	NA
2022-04-08 4:00	-0.9	-1.6	95	0	5	8	16.1	NA
2022-04-08 5:00	-0.7	-1.6	94	0	4	11	16.1	NA
2022-04-08 6:00	-0.6	-1.5	94	0	4	13	16.1	NA
2022-04-08 7:00	-0.9	-1.5	96	0	5	15	16.1	NA
2022-04-08 8:00	-1.2	-1.8	96	0	6	11	16.1	NA
2022-04-08 9:00	-1.4	-1.7	98	0	6	13	16.1	NA
2022-04-08 10:00	-1.2	-1.5	98	0	5	15	16.1	NA
2022-04-08 11:00	0.6	-0.1	95	0	8	13	16.1	NA
2022-04-08 12:00	3.1	0.8	85	0	10	24	16.1	NA
2022-04-08 13:00	4.9	0.9	75	0	12	28	16.1	NA
2022-04-08 14:00	4.7	0.8	76	0	13	32	16.1	NA
2022-04-08 15:00	5.4	0.9	73	0	11	35	16.1	NA
2022-04-08 16:00	5.1	1.1	75	0	14	35	16.1	NA
2022-04-08 17:00	5.7	1.2	73	0	14	37	16.1	NA
2022-04-08 18:00	3.4	1.2	85	0	12	39	16.1	NA
2022-04-08 19:00	2.6	1.7	94	0	12	22	16.1	NA
2022-04-08 20:00	3.7	2.5	92	0	11	26	16.1	NA
2022-04-08 21:00	2.9	2	94	0	11	30	16.1	NA
2022-04-08 22:00	2.1	1.7	97	0	11	34	4.8	Fog
2022-04-08 23:00	2	1.9	99	0	11	41	9.7	Fog
2022-04-09 0:00	2.1	1.8	98	0	11	35	16.1	NA
2022-04-09 1:00	2.1	1.7	97	0	12	32	16.1	NA
2022-04-09 2:00	1.9	1.6	98	0.2	11	35	9.7	Rain,Fog
2022-04-09 3:00	2	1.7	98	2.5	12	30	6.4	Rain,Fog
2022-04-09 4:00	2.7	2.6	99	2.5	11	35	16.1	Rain
2022-04-09 5:00	3	2.9	99	1	11	30	9.7	Rain,Fog
2022-04-09 6:00	3	2.9	99	1	12	26	6.4	Rain,Fog
2022-04-09 7:00	3.4	3.3	99	2.2	12	28	3.6	Rain,Fog
2022-04-09 8:00	3.9	3.6	98	1.2	12	26	12.9	Rain
2022-04-09 9:00	3.8	3.7	99	0.2	11	24	9.7	Fog
2022-04-09 10:00	3.6	3.5	99	0.2	8	13	1	Fog
2022-04-09 11:00	4.1	4.1	100	0	7	18	0.8	Rain,Fog
2022-04-09 12:00	5.3	5.3	100	0	7	9	1.2	Fog
2022-04-09 13:00	5.7	5.7	100	0	35	5	0.4	Fog
2022-04-09 14:00	7.1	7	99	0	27	5	16.1	NA
2022-04-09 15:00	9.9	8.4	90	0	29	13	16.1	NA
2022-04-09 16:00	12	7.3	73	0	28	15	16.1	NA
2022-04-09 17:00	13	7.2	68	0	32	13	16.1	NA
2022-04-09 18:00	12.5	7.1	69	0	31	17	16.1	NA
2022-04-09 19:00	10.3	6.3	76	0	28	21	16.1	NA
2022-04-09 20:00	9.2	5.9	80	0	30	11	16.1	NA
2022-04-09 21:00	7.8	5.8	87	0	28	13	16.1	NA
2022-04-09 22:00	6.8	5.9	94	0	35	5	16.1	Rain
2022-04-09 23:00	6.4	6.1	98	0.8	17	5	8.1	Rain,Fog
2022-04-10 0:00	6.3	6.2	99	1	36	9	16.1	Rain
2022-04-10 1:00	5.9	5.8	99	0	27	8	4	Fog
2022-04-10 2:00	5.5	5.5	100	0	25	9	1.2	Fog
2022-04-10 3:00	4.4	4.4	100	0	28	9	0.4	Fog
2022-04-10 4:00	3.2	3.2	100	0		4	0.2	Fog
2022-04-10 5:00	2.7	2.7	100	0		4	1.2	Fog
2022-04-10 6:00	4	4	100	0	16	8	0.6	Fog
2022-04-10 7:00	4.1	4.1	100	0	5	5	0.4	Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-10 8:00	3.4	3.4	100	0		4	0.4	Fog
2022-04-10 9:00	2.9	2.9	100	0	9	5	0.8	Fog
2022-04-10 10:00	2.6	2.6	100	0	4	9	0.8	Fog
2022-04-10 11:00	3.1	3.1	100	0.2	6	11	0.2	Rain,Fog
2022-04-10 12:00	3.8	3.8	100	0.2	7	9	0.6	Rain,Fog
2022-04-10 13:00	4.1	4.1	100	0.2	8	9	0.4	Rain,Fog
2022-04-10 14:00	4.2	4.2	100	1.2	7	13	9.7	Rain,Fog
2022-04-10 15:00	3.8	3.8	100	0.8	9	15	16.1	Rain
2022-04-10 16:00	4	4	100	1.5	8	9	9.7	Rain,Fog
2022-04-10 17:00	4.8	4.8	100	3.8	6	8	8.1	Rain,Fog
2022-04-10 18:00	4.8	4.8	100	3.8	5	9	8.1	Rain,Fog
2022-04-10 19:00	5.2	5.2	100	3.2	4	11	9.7	Rain,Fog
2022-04-10 20:00	4.3	4.2	99	2.5	4	11	9.7	Rain,Fog
2022-04-10 21:00	3.2	2.9	98	2.2	3	15	11.3	Rain
2022-04-10 22:00	2.8	2.5	98	1.8	36	5	14.5	Rain
2022-04-10 23:00	3	2.8	99	2		4	11.3	Rain
2022-04-11 0:00	3.3	3.2	99	1.8	30	11	14.5	Rain
2022-04-11 1:00	2.1	2	99	2	29	11	16.1	Rain
2022-04-11 2:00	1.2	1.1	99	2	29	17	8.1	Rain,Fog
2022-04-11 3:00	0	-0.1	99	0.2	29	24	1.2	Snow
2022-04-11 4:00	-0.1	-0.1	100	0	30	24	2.8	Snow
2022-04-11 5:00	-0.2	-0.2	100	0	30	24	4	Snow
2022-04-11 6:00	-0.2	-0.3	99	0	30	24	3.2	Snow
2022-04-11 7:00	0	-0.1	99	0	30	21	4.8	Snow
2022-04-11 8:00	0.2	0.1	99	0	31	21	12.9	NA
2022-04-11 9:00	0.1	-0.2	98	0	31	26	16.1	NA
2022-04-11 10:00	0.3	-0.4	95	0	32	21	16.1	NA
2022-04-11 11:00	0.5	-0.6	93	0	32	18	16.1	Rain
2022-04-11 12:00	0.5	-0.5	93	0.2	31	21	16.1	NA
2022-04-11 13:00	0.6	-0.3	94	0.8	31	28	16.1	NA
2022-04-11 14:00	0.6	0.2	97	0.2	32	24	12.9	NA
2022-04-11 15:00	1.6	0.9	95	0.2	32	17	16.1	NA
2022-04-11 16:00	2.1	0.9	92	0	31	26	16.1	NA
2022-04-11 17:00	3.8	1.5	85	0	32	28	16.1	NA
2022-04-11 18:00	4.7	1	77	0	31	28	16.1	NA
2022-04-11 19:00	5.4	0.5	70	0	31	30	16.1	NA
2022-04-11 20:00	5	0.6	73	0	30	22	16.1	NA
2022-04-11 21:00	5.5	-0.3	66	0	33	22	16.1	NA
2022-04-11 22:00	2.1	-0.1	85	0	29	15	16.1	NA
2022-04-11 23:00	0.6	-0.7	91	0	30	15	16.1	NA
2022-04-12 0:00	1.3	-1.1	84	0	30	18	16.1	NA
2022-04-12 1:00	1.4	-1.3	82	0	30	18	16.1	NA
2022-04-12 2:00	1.3	-1.8	80	0	30	18	16.1	NA
2022-04-12 3:00	1	-1.9	81	0	30	15	16.1	NA
2022-04-12 4:00	0.8	-2.3	80	0	28	11	16.1	NA
2022-04-12 5:00	-1.5	-2.3	94	0		0	16.1	NA
2022-04-12 6:00	0.2	-1.4	89	0	28	17	16.1	NA
2022-04-12 7:00	0.4	-1.5	87	0	29	17	16.1	NA
2022-04-12 8:00	0.4	-1.7	86	0	29	15	16.1	NA
2022-04-12 9:00	0.4	-2	84	0	30	15	16.1	NA
2022-04-12 10:00	0.8	-1.6	84	0	29	17	16.1	NA
2022-04-12 11:00	2.3	-1.3	77	0	29	15	16.1	NA
2022-04-12 12:00	3.6	-1.7	68	0	29	15	16.1	NA
2022-04-12 13:00	4.7	-1.1	66	0	29	18	16.1	NA
2022-04-12 14:00	6.7	-1.2	57	0	28	18	16.1	NA
2022-04-12 15:00	8.5	-2.1	47	0	29	18	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-12 16:00	9.5	-3.6	40	0	31	18	16.1	NA
2022-04-12 17:00	10.2	-4.3	36	0	30	13	16.1	NA
2022-04-12 18:00	10.5	-3.9	36	0	34	11	16.1	NA
2022-04-12 19:00	10.2	-4.5	35	0	29	9	16.1	NA
2022-04-12 20:00	10	-3.2	39	0	19	11	16.1	NA
2022-04-12 21:00	9.5	-2.8	42	0		4	16.1	NA
2022-04-12 22:00	8.3	-0.4	54	0	11	5	16.1	NA
2022-04-12 23:00	7.1	0.7	64	0	4	5	16.1	NA
2022-04-13 0:00	6.6	0.5	65	0	1	8	16.1	Rain
2022-04-13 1:00	6	0.4	67	0	3	8	16.1	NA
2022-04-13 2:00	5.3	-0.2	67	0	4	9	16.1	NA
2022-04-13 3:00	3.8	1.2	83	0	6	8	16.1	Rain
2022-04-13 4:00	3.2	2	92	0	2	5	16.1	Rain
2022-04-13 5:00	2.8	2.1	95	0.2		0	16.1	NA
2022-04-13 6:00	2.7	2.3	97	0	21	4	16.1	NA
2022-04-13 7:00	2.5	1.9	96	0	27	11	16.1	Rain
2022-04-13 8:00	1.5	1.4	99	0.5	30	13	9.7	Rain,Fog
2022-04-13 9:00	1.4	1.1	98	0	32	9	16.1	NA
2022-04-13 10:00	1.2	0.9	98	0	30	13	16.1	NA
2022-04-13 11:00	1	0.9	99	0	31	11	2.8	Fog
2022-04-13 12:00	1.4	1.3	99	0	30	15	3.6	Fog
2022-04-13 13:00	1.4	1.4	100	0	29	18	0.8	Fog
2022-04-13 14:00	1.4	1.3	99	0	31	22	4.8	Fog
2022-04-13 15:00	2.5	1.5	93	0	31	17	16.1	NA
2022-04-13 16:00	2.7	1.5	92	0	32	15	16.1	NA
2022-04-13 17:00	3.2	1.3	87	0	30	26	16.1	NA
2022-04-13 18:00	3	1.2	88	0	31	22	16.1	NA
2022-04-13 19:00	4.8	0.6	74	0	32	21	16.1	NA
2022-04-13 20:00	3.7	0.9	82	0	30	17	16.1	NA
2022-04-13 21:00	4.1	0.8	79	0	30	17	16.1	NA
2022-04-13 22:00	2.2	0.4	88	0	30	11	16.1	NA
2022-04-13 23:00	1.2	-0.1	91	0	28	8	16.1	NA
2022-04-14 0:00	0	-0.1	99	0	34	5	16.1	NA
2022-04-14 1:00	-0.5	-1.1	96	0	28	5	16.1	NA
2022-04-14 2:00	-0.3	-0.4	99	0	29	9	0.4	Freezing Fog
2022-04-14 3:00	-0.9	-0.9	100	0	31	5	0.4	Freezing Fog
2022-04-14 4:00	-1.1	-1.1	100	0		4	0.4	Freezing Fog
2022-04-14 5:00	-1.1	-1.1	100	0		0	0.4	Freezing Fog
2022-04-14 6:00	-0.5	-0.5	100	0	31	9	16.1	NA
2022-04-14 7:00	0.1	0	99	0	30	5	16.1	NA
2022-04-14 8:00	-0.2	-0.5	98	0	31	5	16.1	NA
2022-04-14 9:00	-1.1	-1.6	96	0	8	4	16.1	NA
2022-04-14 10:00	-1.3	-1.6	98	0		0	16.1	NA
2022-04-14 11:00	2.8	2.4	97	0		4	16.1	NA
2022-04-14 12:00	4.9	2.1	82	0		4	16.1	NA
2022-04-14 13:00	7.2	3.3	76	0	23	8	16.1	NA
2022-04-14 14:00	8.3	1.5	62	0	21	17	16.1	NA
2022-04-14 15:00	9.3	-0.4	51	0	16	11	16.1	NA
2022-04-14 16:00	10.5	0.2	49	0	20	11	16.1	NA
2022-04-14 17:00	10.8	0.2	48	0	14	17	16.1	NA
2022-04-14 18:00	9.2	-1.2	48	0	13	24	16.1	NA
2022-04-14 19:00	9.3	1.7	59	0	15	13	16.1	NA
2022-04-14 20:00	8.4	1.1	60	0	14	18	16.1	NA
2022-04-14 21:00	7.5	0.5	61	0	13	21	16.1	NA
2022-04-14 22:00	5.5	0.5	70	0	15	13	16.1	NA
2022-04-14 23:00	2.7	-0.1	82	0	13	11	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-15 0:00	0.9	-0.1	93	0	13	9	16.1	NA
2022-04-15 1:00	0.1	-0.3	97	0	11	9	16.1	NA
2022-04-15 2:00	-0.4	-0.5	99	0	11	9	11.3	NA
2022-04-15 3:00	-0.5	-0.6	99	0	11	13	3.6	Fog
2022-04-15 4:00	-0.4	-0.5	99	0	11	9	6.4	Fog
2022-04-15 5:00	-0.5	-0.6	99	0	11	9	2	Fog
2022-04-15 6:00	-0.4	-0.4	100	0	12	11	2	Fog
2022-04-15 7:00	-0.2	-0.2	100	0	9	13	1.6	Fog
2022-04-15 8:00	-0.2	-0.2	100	0	8	13	0.8	Freezing Fog
2022-04-15 9:00	-0.2	-0.2	100	0	8	13	0.8	Freezing Fog
2022-04-15 10:00	0	0	100	0	8	15	0.6	Fog
2022-04-15 11:00	0.7	0.7	100	0	10	17	0.6	Fog
2022-04-15 12:00	1.3	1.3	100	0	9	17	1.6	Fog
2022-04-15 13:00	1.7	1.7	100	0	11	21	6.4	Fog
2022-04-15 14:00	2.4	2.4	100	0	11	22	16.1	NA
2022-04-15 15:00	4.6	2.3	85	0	11	28	16.1	NA
2022-04-15 16:00	4	1.9	86	0	13	26	16.1	NA
2022-04-15 17:00	4.2	2.8	91	0	12	26	16.1	NA
2022-04-15 18:00	3.6	3.3	98	0	11	26	14.5	NA
2022-04-15 19:00	3.5	3.4	99	0.5	10	34	8.1	Rain,Fog
2022-04-15 20:00	3.6	3.5	99	1	9	22	3.2	Rain,Fog
2022-04-15 21:00	3.7	3.6	99	0.5	10	28	6.4	Rain,Fog
2022-04-15 22:00	3.5	3.4	99	0.5	10	21	4.8	Fog
2022-04-15 23:00	3.2	3.1	99	0.2	8	13	4.8	Rain,Fog
2022-04-16 0:00	3.2	3.1	99	2.8	4	8	6.4	Rain,Fog
2022-04-16 1:00	3	2.9	99	0	31	9	2	Fog
2022-04-16 2:00	3.4	3.3	99	0	29	18	2.4	Fog
2022-04-16 3:00	3.2	3.2	100	0	29	30	0.8	Fog
2022-04-16 4:00	3.3	3.3	100	0	29	24	2.8	Fog
2022-04-16 5:00	3.3	3.3	100	0	28	17	16.1	NA
2022-04-16 6:00	3.7	3.7	100	0	29	21	16.1	NA
2022-04-16 7:00	3.9	3.6	98	0	30	11	16.1	NA
2022-04-16 8:00	3.8	2.9	94	0	29	8	16.1	NA
2022-04-16 9:00	3.9	1.9	87	0	30	9	16.1	NA
2022-04-16 10:00	1.9	0.9	93	0	22	4	16.1	NA
2022-04-16 11:00	7.5	2.3	70	0	17	5	16.1	NA
2022-04-16 12:00	9.8	2.9	62	0	23	13	16.1	NA
2022-04-16 13:00	11.9	3	54	0	23	18	16.1	NA
2022-04-16 14:00	14	2.3	45	0	22	24	16.1	NA
2022-04-16 15:00	15.6	1.4	38	0	19	28	16.1	NA
2022-04-16 16:00	16.8	-0.5	31	0	22	35	16.1	NA
2022-04-16 17:00	18	-0.6	28	0	22	35	16.1	NA
2022-04-16 18:00	17.7	-4	22	0	24	45	16.1	NA
2022-04-16 19:00	17	-5.1	22	0	21	34	16.1	NA
2022-04-16 20:00	14.7	-6.7	22	0	22	35	16.1	NA
2022-04-16 21:00	13.3	-5.8	26	0	22	34	16.1	NA
2022-04-16 22:00	12.4	-5.4	29	0	22	30	16.1	NA
2022-04-16 23:00	11.3	-3.2	36	0	22	32	16.1	NA
2022-04-17 0:00	10.6	2	55	0	22	24	16.1	NA
2022-04-17 1:00	9.3	2.2	61	0	21	24	16.1	NA
2022-04-17 2:00	8.1	3.5	73	0	17	15	16.1	NA
2022-04-17 3:00	8.2	4.6	78	0	13	11	16.1	NA
2022-04-17 4:00	7.4	4.4	81	0	16	15	16.1	NA
2022-04-17 5:00	5.3	3.6	89	0	10	11	16.1	NA
2022-04-17 6:00	5.5	3.4	86	0	9	11	16.1	NA
2022-04-17 7:00	4.8	3.3	90	0	9	17	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-17 8:00	4.1	3.2	94	0	10	15	16.1	NA
2022-04-17 9:00	4.5	3.8	95	0	7	9	16.1	NA
2022-04-17 10:00	4.5	4.1	97	0	8	11	16.1	NA
2022-04-17 11:00	5.9	5	94	0	10	18	16.1	NA
2022-04-17 12:00	6.1	5.5	96	0	12	17	4	Fog
2022-04-17 13:00	6.4	6.3	99	0	11	22	0.8	Rain,Fog
2022-04-17 14:00	6.8	6.8	100	1	14	13	1.6	Rain,Fog
2022-04-17 15:00	9.2	8.7	97	0.2	23	15	16.1	NA
2022-04-17 16:00	13.9	10.2	78	0	19	18	16.1	NA
2022-04-17 17:00	15.1	7.4	60	0	24	37	16.1	NA
2022-04-17 18:00	13.2	6.6	64	0	29	17	16.1	NA
2022-04-17 19:00	4.8	2.1	83	0	30	37	16.1	NA
2022-04-17 20:00	5.1	1	75	0	31	35	16.1	NA
2022-04-17 21:00	4.4	0.7	77	0	29	30	16.1	NA
2022-04-17 22:00	3.3	-0.5	76	0	29	24	16.1	NA
2022-04-17 23:00	2.2	0.1	86	0	29	18	16.1	NA
2022-04-18 0:00	1.6	0	89	0	29	18	16.1	NA
2022-04-18 1:00	1.5	-0.1	89	0	28	8	16.1	NA
2022-04-18 2:00	1.1	-0.1	92	0	26	9	16.1	NA
2022-04-18 3:00	1.1	-0.2	91	0	31	8	16.1	NA
2022-04-18 4:00	1.2	-0.6	88	0	24	9	16.1	NA
2022-04-18 5:00	1.6	-1	83	0	24	15	16.1	NA
2022-04-18 6:00	1.1	-1	86	0	24	17	16.1	NA
2022-04-18 7:00	1.1	-1.3	84	0	25	21	16.1	NA
2022-04-18 8:00	1	-1.7	82	0	26	17	16.1	NA
2022-04-18 9:00	1.3	-1.3	83	0	26	21	16.1	NA
2022-04-18 10:00	1.9	-0.2	86	0	27	24	16.1	NA
2022-04-18 11:00	2.7	0.4	85	0	28	35	16.1	NA
2022-04-18 12:00	3.3	0.4	81	0	29	28	16.1	NA
2022-04-18 13:00	3.1	-0.4	78	0	30	22	16.1	NA
2022-04-18 14:00	3.3	-1.3	72	0	30	24	16.1	NA
2022-04-18 15:00	3.3	-2	68	0	32	28	16.1	NA
2022-04-18 16:00	3	-2.3	68	0	31	34	16.1	NA
2022-04-18 17:00	2.9	-3.4	63	0	31	34	16.1	NA
2022-04-18 18:00	3.4	-2.8	64	0	31	35	16.1	NA
2022-04-18 19:00	3.7	-3.8	58	0	32	24	16.1	NA
2022-04-18 20:00	2.4	-4.5	60	0	33	26	16.1	NA
2022-04-18 21:00	2.7	-4.9	57	0	30	26	16.1	NA
2022-04-18 22:00	1.9	-4.8	61	0	29	11	16.1	NA
2022-04-18 23:00	0.1	-5.8	65	0		4	16.1	NA
2022-04-19 0:00	-2.2	-4.5	85	0		4	16.1	NA
2022-04-19 1:00	-2.2	-3.8	89	0	29	5	16.1	NA
2022-04-19 2:00	-1.4	-3.2	87	0		0	16.1	NA
2022-04-19 3:00	-2.8	-3.8	93	0	2	5	16.1	NA
2022-04-19 4:00	-3	-4.6	89	0		4	16.1	NA
2022-04-19 5:00	-2.9	-4.6	88	0	4	13	16.1	NA
2022-04-19 6:00	-4.3	-5.7	90	0	9	8	16.1	NA
2022-04-19 7:00	-4.1	-5	94	0	8	9	16.1	NA
2022-04-19 8:00	-4.1	-4.8	95	0	9	9	16.1	NA
2022-04-19 9:00	-4.4	-4.8	97	0	9	13	16.1	NA
2022-04-19 10:00	-2.8	-3.1	98	0	8	15	16.1	NA
2022-04-19 11:00	-0.7	-1.3	96	0	10	21	16.1	NA
2022-04-19 12:00	2.2	-1.6	76	0	10	21	16.1	NA
2022-04-19 13:00	3.8	-2.9	62	0	11	34	16.1	NA
2022-04-19 14:00	4.4	-3.1	58	0	14	30	16.1	NA
2022-04-19 15:00	3.8	-2	66	0	14	37	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-19 16:00	2.6	-1.2	76	0	13	37	16.1	NA
2022-04-19 17:00	2.3	0	85	0	13	37	16.1	NA
2022-04-19 18:00	3.3	0.9	84	0	13	37	16.1	NA
2022-04-19 19:00	3.5	1.2	85	0	12	34	16.1	NA
2022-04-19 20:00	3.1	1.3	88	0	12	34	16.1	NA
2022-04-19 21:00	3.2	1.9	91	0	12	45	16.1	NA
2022-04-19 22:00	3.7	2.7	93	0	11	41	16.1	Rain
2022-04-19 23:00	3.4	2.8	96	0.8	11	45	16.1	Rain
2022-04-20 0:00	3.4	3	97	2.8	11	32	6.4	Rain,Fog
2022-04-20 1:00	3.8	3.5	98	4	12	37	4.8	Rain,Fog
2022-04-20 2:00	4.3	4	98	4.3	12	34	4.8	Rain,Fog
2022-04-20 3:00	4.6	4.4	99	0.5	12	32	6.4	Rain,Fog
2022-04-20 4:00	4.9	4.8	99	0.2	12	30	2	Rain,Fog
2022-04-20 5:00	5.5	5.5	100	0.8	13	39	1	Rain,Fog
2022-04-20 6:00	6.8	6.8	100	0.5	14	37	0.6	Rain,Fog
2022-04-20 7:00	7.6	7.6	100	0.8	14	35	0.6	Rain,Fog
2022-04-20 8:00	8	8	100	6	16	28	8.1	Rain,Fog
2022-04-20 9:00	7.6	7	96	2.2	24	26	16.1	Rain
2022-04-20 10:00	6.4	5.4	93	0.2	19	9	16.1	NA
2022-04-20 11:00	5.3	4.4	94	0.2	18	8	16.1	Rain
2022-04-20 12:00	4.9	4.2	95	0	21	13	16.1	NA
2022-04-20 13:00	5.1	4.2	94	0.2	20	17	16.1	NA
2022-04-20 14:00	5.8	4.4	91	0	21	11	16.1	NA
2022-04-20 15:00	7.7	3.7	76	0	22	22	16.1	NA
2022-04-20 16:00	10.6	3.3	61	0	21	21	16.1	NA
2022-04-20 17:00	10.9	2.2	55	0	20	24	16.1	NA
2022-04-20 18:00	11.5	2.5	54	0	23	18	16.1	NA
2022-04-20 19:00	10.9	3.6	61	0	20	21	16.1	NA
2022-04-20 20:00	11.1	2.5	55	0	22	18	16.1	NA
2022-04-20 21:00	9.4	4	69	0.2	22	15	16.1	NA
2022-04-20 22:00	8.7	3.4	69	0	24	13	16.1	NA
2022-04-20 23:00	8.3	-0.8	53	0	27	18	16.1	NA
2022-04-21 0:00	7.2	-1.7	53	0	25	26	16.1	NA
2022-04-21 1:00	5.6	-0.7	64	0	30	15	16.1	NA
2022-04-21 2:00	5.3	-0.5	66	0	27	32	16.1	NA
2022-04-21 3:00	3.6	0.1	78	0	29	13	16.1	NA
2022-04-21 4:00	3.4	0.3	80	0	27	9	16.1	NA
2022-04-21 5:00	3.6	-1.4	70	0	28	24	16.1	NA
2022-04-21 6:00	3	-1.9	70	0	29	17	16.1	NA
2022-04-21 7:00	2.5	-1.9	73	0	30	17	16.1	NA
2022-04-21 8:00	1.9	-1.7	77	0	30	15	16.1	NA
2022-04-21 9:00	1.3	-1.9	79	0	28	9	16.1	NA
2022-04-21 10:00	1.9	-1.7	77	0	30	15	16.1	NA
2022-04-21 11:00	2.8	-1.6	73	0	29	21	16.1	NA
2022-04-21 12:00	4.1	-1.4	67	0	30	15	16.1	NA
2022-04-21 13:00	4.6	-1.1	66	0	29	18	16.1	NA
2022-04-21 14:00	5.8	-1.4	60	0	29	15	16.1	NA
2022-04-21 15:00	6.2	-2	56	0	27	21	16.1	NA
2022-04-21 16:00	6.4	-6.1	41	0	32	18	16.1	NA
2022-04-21 17:00	7.1	-5.2	41	0	28	15	16.1	NA
2022-04-21 18:00	7.8	-5.8	38	0	28	15	16.1	NA
2022-04-21 19:00	8.3	-5.8	36	0	30	15	16.1	NA
2022-04-21 20:00	8.7	-6.6	33	0	25	8	16.1	NA
2022-04-21 21:00	7.9	-2	50	0	17	18	16.1	NA
2022-04-21 22:00	5.9	-2.7	54	0	18	17	16.1	NA
2022-04-21 23:00	4.5	-3.2	58	0	19	18	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-22 0:00	3.2	-2.1	68	0	18	13	16.1	NA
2022-04-22 1:00	2.9	-1.3	74	0	19	17	16.1	NA
2022-04-22 2:00	2.8	-1	76	0	19	15	16.1	NA
2022-04-22 3:00	2.6	-0.9	78	0	18	11	16.1	NA
2022-04-22 4:00	2.7	-0.8	78	0		4	16.1	NA
2022-04-22 5:00	2.9	-0.9	76	0	18	11	16.1	NA
2022-04-22 6:00	3	0.1	81	0	16	13	16.1	NA
2022-04-22 7:00	3.2	0.9	85	0	16	15	16.1	NA
2022-04-22 8:00	3.3	1.7	89	0	16	15	16.1	NA
2022-04-22 9:00	3.6	2.1	90	0	18	15	16.1	NA
2022-04-22 10:00	4.2	2.7	90	0	18	11	16.1	NA
2022-04-22 11:00	4.7	3.4	91	0	17	18	16.1	NA
2022-04-22 12:00	4.9	3.6	91	0	17	17	16.1	NA
2022-04-22 13:00	5.4	3.7	89	0	16	18	16.1	NA
2022-04-22 14:00	5.8	4.8	93	0	17	21	16.1	NA
2022-04-22 15:00	6	5.4	96	0	17	21	9.7	Fog
2022-04-22 16:00	6.7	6	95	0	17	11	16.1	NA
2022-04-22 17:00	7.2	6.4	95	0	17	15	16.1	NA
2022-04-22 18:00	9.4	6.6	83	0	18	11	16.1	NA
2022-04-22 19:00	9.6	7	84	0	17	11	16.1	NA
2022-04-22 20:00	10.4	7	79	0	16	15	16.1	NA
2022-04-22 21:00	9.7	6.9	83	0	18	9	16.1	NA
2022-04-22 22:00	8.3	6.6	89	0	17	9	16.1	NA
2022-04-22 23:00	5.7	4.8	94	3.5	30	18	6.4	Rain,Fog
2022-04-23 0:00	5.7	5.1	96	3	36	9	11.3	Rain
2022-04-23 1:00	4.8	4.1	95	2.2	35	11	9.7	Rain,Fog
2022-04-23 2:00	4.6	3.4	92	1.2	34	9	16.1	Rain
2022-04-23 3:00	4.9	3.2	89	0	31	8	16.1	NA
2022-04-23 4:00	3.4	2.3	92	0	30	15	16.1	NA
2022-04-23 5:00	2.4	1.4	93	0	28	11	16.1	NA
2022-04-23 6:00	2.3	0.4	87	0	31	17	16.1	NA
2022-04-23 7:00	1.7	0.5	92	0	30	15	16.1	NA
2022-04-23 8:00	1.8	0.3	90	0	31	21	16.1	NA
2022-04-23 9:00	1.8	0.8	93	0	31	21	16.1	NA
2022-04-23 10:00	2.5	0.4	86	0	32	13	16.1	NA
2022-04-23 11:00	2.2	0.7	90	0	29	18	16.1	NA
2022-04-23 12:00	2.7	-0.9	77	0	32	26	16.1	NA
2022-04-23 13:00	2.3	-2.2	72	0	30	26	16.1	NA
2022-04-23 14:00	2.7	-2.5	69	0	31	30	16.1	NA
2022-04-23 15:00	2.3	-2.4	71	0	31	24	16.1	NA
2022-04-23 16:00	2	-2.5	72	0	31	28	16.1	NA
2022-04-23 17:00	2.4	-2.6	70	0	32	17	16.1	NA
2022-04-23 18:00	1.8	-4.9	61	0	33	24	16.1	NA
2022-04-23 19:00	2.3	-5	59	0	35	28	16.1	NA
2022-04-23 20:00	1.8	-6	56	0	31	22	16.1	NA
2022-04-23 21:00	0.4	-7.8	54	0	31	32	16.1	NA
2022-04-23 22:00	-0.9	-6.5	66	0	32	21	16.1	NA
2022-04-23 23:00	-2	-6.6	71	0	32	18	16.1	NA
2022-04-24 0:00	-2.2	-6.1	75	0	31	22	16.1	NA
2022-04-24 1:00	-1.8	-7	68	0	31	30	16.1	NA
2022-04-24 2:00	-1.4	-6.6	68	0	32	17	16.1	NA
2022-04-24 3:00	-1.5	-6.1	71	0	31	21	16.1	Snow
2022-04-24 4:00	-1.1	-4.6	77	0	33	18	16.1	Snow
2022-04-24 5:00	-1	-3.2	85	0	31	21	16.1	Snow
2022-04-24 6:00	-1	-2.4	90	0	33	22	16.1	NA
2022-04-24 7:00	-1.1	-2.5	90	0	31	24	6.4	Snow

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-24 8:00	-0.8	-1.7	94	0	31	22	4.8	Snow
2022-04-24 9:00	-0.1	-0.7	96	0	31	17	4	Snow
2022-04-24 10:00	0.3	-0.7	93	0	33	21	8.1	Rain,Fog
2022-04-24 11:00	0.9	-0.7	89	0	33	26	16.1	Rain
2022-04-24 12:00	1	-0.3	91	0.2	32	28	11.3	Rain
2022-04-24 13:00	1	-0.5	90	0	33	21	14.5	Rain
2022-04-24 14:00	1.5	-0.8	85	0	33	26	16.1	NA
2022-04-24 15:00	1.6	0	89	0	31	24	8.1	Rain,Fog
2022-04-24 16:00	1.9	0.3	89	0	31	24	16.1	Rain
2022-04-24 17:00	2	0.7	91	0	34	26	8.1	Fog
2022-04-24 18:00	2.7	0	82	0	32	28	16.1	NA
2022-04-24 19:00	1.7	-0.4	86	0	33	26	16.1	NA
2022-04-24 20:00	1.5	-0.3	88	0	32	17	14.5	Rain
2022-04-24 21:00	1.4	-0.1	90	0	31	21	16.1	NA
2022-04-24 22:00	0.9	-0.3	92	0	33	13	3.2	Snow
2022-04-24 23:00	1.2	-0.3	90	0.2	34	18	16.1	Rain
2022-04-25 0:00	1.4	-0.2	89	0	35	17	16.1	Rain
2022-04-25 1:00	1.2	-0.3	90	0	34	17	16.1	NA
2022-04-25 2:00	1.5	0.2	91	0	34	9	16.1	NA
2022-04-25 3:00	2.5	0.9	89	0	1	17	16.1	NA
2022-04-25 4:00	2.3	1.6	95	0	2	15	12.9	NA
2022-04-25 5:00	2.7	1.1	89	0	4	22	16.1	NA
2022-04-25 6:00	2.3	1.1	92	0	5	18	16.1	NA
2022-04-25 7:00	2.6	1	89	0	4	17	16.1	NA
2022-04-25 8:00	2.3	1.3	93	0	4	9	9.7	Fog
2022-04-25 9:00	2.2	1.5	95	0	4	11	16.1	NA
2022-04-25 10:00	2.8	1.9	94	0	4	15	16.1	NA
2022-04-25 11:00	3.7	2.2	90	0	36	9	16.1	NA
2022-04-25 12:00	5.1	2.6	84	0	2	11	16.1	NA
2022-04-25 13:00	6.5	3.5	81	0	35	11	16.1	NA
2022-04-25 14:00	7.6	4	78	0		13	16.1	NA
2022-04-25 15:00	10.5	5.4	71	0		5	16.1	NA
2022-04-25 16:00	14.3	5.6	56	0		15	16.1	NA
2022-04-25 17:00	8.3	4.1	75	0	24	17	16.1	NA
2022-04-25 18:00	5.6	2.5	80	0	27	15	16.1	NA
2022-04-25 19:00	4.9	2.9	87	0	28	13	16.1	NA
2022-04-25 20:00	4.8	2.7	86	0	26	9	16.1	NA
2022-04-25 21:00	5.8	3.2	83	0	27	9	16.1	NA
2022-04-25 22:00	5.1	2.6	84	0	31	4	16.1	NA
2022-04-25 23:00	7	4.7	85	0	8	15	16.1	NA
2022-04-26 0:00	6.7	4.9	88	0	5	11	16.1	NA
2022-04-26 1:00	4.4	3.4	93	0		5	16.1	NA
2022-04-26 2:00	2.4	2	97	0	4	5	16.1	NA
2022-04-26 3:00	4.3	3.7	96	0	2	9	16.1	NA
2022-04-26 4:00	4.1	3.5	96	0	4	9	16.1	NA
2022-04-26 5:00	1.4	1.2	98	0	4	5	12.9	NA
2022-04-26 6:00	0.7	0.6	99	0		0	14.5	NA
2022-04-26 7:00	0.1	0	99	0	36	5	12.9	NA
2022-04-26 8:00	-0.1	-0.2	99	0	32	4	12.9	NA
2022-04-26 9:00	-0.1	-0.2	99	0		4	1.2	Fog
2022-04-26 10:00	2.5	2.5	100	0	8	5	6.4	Fog
2022-04-26 11:00	5.9	5.2	95	0	10	9	16.1	NA
2022-04-26 12:00	7.3	3.6	77	0	16	13	16.1	NA
2022-04-26 13:00	8.2	2.8	69	0	15	15	16.1	NA
2022-04-26 14:00	9.5	3.2	65	0	15	15	16.1	NA
2022-04-26 15:00	10.1	3.6	64	0	12	8	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-26 16:00	10.8	3.1	59	0	17	11	16.1	NA
2022-04-26 17:00	11.1	3.3	58	0	15	18	16.1	NA
2022-04-26 18:00	10.5	3.6	62	0	12	22	16.1	NA
2022-04-26 19:00	9.4	2.5	62	0	14	22	16.1	NA
2022-04-26 20:00	8.8	2.5	65	0	13	24	16.1	NA
2022-04-26 21:00	7.4	2.1	69	0	14	21	16.1	NA
2022-04-26 22:00	7.2	2.5	72	0	16	15	16.1	NA
2022-04-26 23:00	6.5	2.4	75	0	19	13	16.1	NA
2022-04-27 0:00	5.9	2.2	77	0	19	11	16.1	NA
2022-04-27 1:00	5.7	2.5	80	0	16	5	16.1	NA
2022-04-27 2:00	5.6	2.4	80	0	16	9	16.1	NA
2022-04-27 3:00	5.1	3.1	87	0	17	5	16.1	NA
2022-04-27 4:00	5.2	3.1	86	0	17	4	16.1	NA
2022-04-27 5:00	5	3	87	0	15	5	16.1	NA
2022-04-27 6:00	4.9	2.9	87	0	14	8	16.1	NA
2022-04-27 7:00	5.1	3.4	89	0	18	5	16.1	NA
2022-04-27 8:00	5.3	3.5	88	0	21	8	16.1	NA
2022-04-27 9:00	5.2	3.4	88	0	16	9	16.1	NA
2022-04-27 10:00	5.2	3.2	87	0	17	11	16.1	NA
2022-04-27 11:00	5.4	3.5	87	0	15	9	16.1	NA
2022-04-27 12:00	6	3.8	86	0	20	9	16.1	NA
2022-04-27 13:00	6.7	4.2	84	0	16	9	16.1	NA
2022-04-27 14:00	7	3.8	80	0	17	13	16.1	NA
2022-04-27 15:00	6.7	3.7	81	0	17	17	16.1	NA
2022-04-27 16:00	7.1	4	81	0	18	11	16.1	NA
2022-04-27 17:00	7.7	3.6	75	0	16	11	16.1	NA
2022-04-27 18:00	7.9	3.8	75	0	12	13	16.1	NA
2022-04-27 19:00	7.3	3.4	76	0	12	18	16.1	NA
2022-04-27 20:00	6.9	3.5	79	0	15	15	16.1	NA
2022-04-27 21:00	5.6	2.8	82	0	12	17	16.1	NA
2022-04-27 22:00	4.4	2.6	88	0	13	15	16.1	NA
2022-04-27 23:00	3.5	2.8	95	0	12	17	16.1	Rain
2022-04-28 0:00	3.6	3	96	0	11	17	16.1	Rain
2022-04-28 1:00	3.5	2.9	96	0.5	10	18	16.1	Rain
2022-04-28 2:00	3.6	3	96	0	12	24	16.1	NA
2022-04-28 3:00	3.8	3.4	97	0	12	30	16.1	NA
2022-04-28 4:00	3.7	3.4	98	0.2	11	22	16.1	Rain
2022-04-28 5:00	4	3.7	98	0.8	12	32	16.1	Rain
2022-04-28 6:00	3.6	3.2	97	0.8	12	28	14.5	Rain
2022-04-28 7:00	3.3	3	98	3	10	13	6.4	Rain,Fog
2022-04-28 8:00	3.7	3.6	99	1.8	9	24	4.8	Rain,Fog
2022-04-28 9:00	3.7	3.6	99	3	10	24	6.4	Rain,Fog
2022-04-28 10:00	3.6	3.5	99	2.8	10	26	8.1	Rain,Fog
2022-04-28 11:00	3.5	3.4	99	0.5	9	24	6.4	Fog
2022-04-28 12:00	3.7	3.6	99	0.8	11	17	6.4	Rain,Fog
2022-04-28 13:00	4.1	4	99	0.2	9	15	6.4	Fog
2022-04-28 14:00	4.8	4.7	99	0	10	15	0.6	Fog
2022-04-28 15:00	6.2	6.2	100	0	14	13	12.9	NA
2022-04-28 16:00	7.5	4.6	82	0	17	21	16.1	NA
2022-04-28 17:00	7.2	3.9	80	0	19	18	16.1	NA
2022-04-28 18:00	7.5	2.7	72	0	18	22	16.1	NA
2022-04-28 19:00	7.2	2.4	71	0	16	21	16.1	NA
2022-04-28 20:00	6.8	2.1	72	0	15	24	16.1	NA
2022-04-28 21:00	5.8	3.3	84	0	13	21	16.1	NA
2022-04-28 22:00	4.9	4.3	96	0	12	18	16.1	NA
2022-04-28 23:00	4.5	4.1	97	0	11	15	14.5	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-04-29 0:00	4.3	4	98	0.2	13	21	16.1	NA
2022-04-29 1:00	4.2	3.9	98	0	13	18	16.1	Rain
2022-04-29 2:00	4.1	4	99	0.2	10	18	16.1	Rain
2022-04-29 3:00	3.9	3.8	99	0	11	15	16.1	NA
2022-04-29 4:00	4.1	4	99	0	11	15	16.1	NA
2022-04-29 5:00	3.9	3.8	99	0	10	15	8.1	Fog
2022-04-29 6:00	3.8	3.7	99	0	9	18	4.8	Fog
2022-04-29 7:00	3.6	3.6	100	0.2	8	17	12.9	Rain
2022-04-29 8:00	3.5	3.5	100	0	10	18	16.1	NA
2022-04-29 9:00	3.4	3.4	100	0	10	11	2	Fog
2022-04-29 10:00	3.3	3.3	100	0	9	13	16.1	NA
2022-04-29 11:00	3.6	3.5	99	0.2	10	15	16.1	NA
2022-04-29 12:00	4.6	4.2	97	0	9	17	16.1	NA
2022-04-29 13:00	5.3	4.2	93	0	11	13	16.1	NA
2022-04-29 14:00	5.2	4.8	97	0.2	8	17	2.8	Rain,Fog
2022-04-29 15:00	5.4	4.8	96	0.5	7	15	16.1	NA
2022-04-29 16:00	5.7	4.4	91	0.2	11	18	16.1	NA
2022-04-29 17:00	5.4	3.8	89	0	12	18	16.1	NA
2022-04-29 18:00	6.1	3.8	85	0	9	18	16.1	NA
2022-04-29 19:00	5.2	4.2	93	0	6	13	16.1	NA
2022-04-29 20:00	5.3	4.4	94	0.2	7	17	16.1	NA
2022-04-29 21:00	5	4.1	94	0	6	17	16.1	NA
2022-04-29 22:00	4.2	3.9	98	0	7	13	4.8	Rain,Fog
2022-04-29 23:00	3.9	3.6	98	0.8	7	13	4.8	Rain,Fog
2022-04-30 0:00	3.7	3.6	99	0.2	5	13	9.7	Fog
2022-04-30 1:00	3.3	3.2	99	0.2	6	13	4	Rain,Fog
2022-04-30 2:00	3.1	3	99	0	6	13	8.1	Rain,Fog
2022-04-30 3:00	2.9	2.8	99	0.2	4	11	12.9	Rain
2022-04-30 4:00	2.8	2.7	99	0.2	4	11	6.4	Rain,Fog
2022-04-30 5:00	2.7	2.6	99	0	3	9	3.2	Fog
2022-04-30 6:00	2.8	2.8	100	0	3	8	1.6	Fog
2022-04-30 7:00	2.9	2.9	100	0	3	13	1.6	Fog
2022-04-30 8:00	3.2	3.2	100	0	3	9	12.9	NA
2022-04-30 9:00	3.4	3.4	100	0	2	5	9.7	Fog
2022-04-30 10:00	3.9	3.8	99	0	31	5	16.1	NA
2022-04-30 11:00	3.9	3.8	99	0	30	8	16.1	NA
2022-04-30 12:00	4.7	4.3	97	0	28	9	16.1	NA
2022-04-30 13:00	3.9	3.6	98	0	28	15	1.6	Rain,Fog
2022-04-30 14:00	3.2	3.1	99	0.2	27	22	0.6	Fog
2022-04-30 15:00	3.1	3	100	0	27	17	0.6	Rain,Fog
2022-04-30 16:00	2.8	2.8	100	0.2	28	22	0.4	Rain,Fog
2022-04-30 17:00	2.7	2.7	100	0.2	28	26	0.6	Fog
2022-04-30 18:00	2.6	2.6	100	0.2	29	32	0.4	Fog
2022-04-30 19:00	2.3	2.3	100	0	29	28	0.4	Fog
2022-04-30 20:00	2.1	2.1	100	0.2	29	24	0.6	Rain,Fog
2022-04-30 21:00	2	2	100	0.5	30	24	0.6	Rain,Fog
2022-04-30 22:00	1.8	1.8	100	0.2	31	13	0.6	Rain,Fog
2022-04-30 23:00	1.4	1.4	100	0	30	21	0.6	Rain,Fog
2022-05-01 0:00	1.3	1.3	100	0	30	15	1.6	Fog
2022-05-01 1:00	1	1	100	0	31	21	8.1	Fog
2022-05-01 2:00	0.8	0.8	100	0	31	17	2	Fog
2022-05-01 3:00	0.6	0.5	99	0	31	15	2.4	Fog
2022-05-01 4:00	0.4	0.3	99	0	31	15	4	Fog
2022-05-01 5:00	0.4	0.3	99	0	31	17	2	Rain,Fog
2022-05-01 6:00	0.9	0.6	98	0	31	15	8.1	Fog
2022-05-01 7:00	0.8	0.5	98	0	31	18	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-01 8:00	0.9	0.6	98	0	31	15	8.1	Fog
2022-05-01 9:00	1.1	1	99	0.2	32	11	4.8	Fog
2022-05-01 10:00	1.5	1.4	99	0	32	15	2	Fog
2022-05-01 11:00	1.9	1.8	99	0	31	18	3.2	Fog
2022-05-01 12:00	2.1	1.8	98	0	31	21	9.7	Fog
2022-05-01 13:00	2.3	2	98	0	31	21	9.7	Rain,Fog
2022-05-01 14:00	2.2	1.9	98	0.2	30	21	16.1	Rain
2022-05-01 15:00	2.1	1.7	97	0.2	31	21	16.1	Rain
2022-05-01 16:00	2.4	2	97	0	31	28	8.1	Fog
2022-05-01 17:00	2.4	1.8	96	0	31	28	4.8	Fog
2022-05-01 18:00	2	1.6	97	0	31	30	4	Fog
2022-05-01 19:00	1.9	1.6	98	0	31	22	3.2	Fog
2022-05-01 20:00	2	1.4	96	0	32	17	9.7	Fog
2022-05-01 21:00	2	1.3	95	0	32	13	16.1	NA
2022-05-01 22:00	1.5	0.8	95	0	32	17	16.1	NA
2022-05-01 23:00	1.2	0.6	95	0	33	15	16.1	NA
2022-05-02 0:00	1.1	0.5	96	0.2	32	17	12.9	NA
2022-05-02 1:00	1.2	0.6	96	0	33	13	8.1	Fog
2022-05-02 2:00	1.1	0.4	95	0	32	13	12.9	NA
2022-05-02 3:00	1	0.4	96	0	32	9	9.7	Fog
2022-05-02 4:00	1	0.3	95	0	33	11	14.5	NA
2022-05-02 5:00	0.9	0.2	95	0	32	15	11.3	Rain
2022-05-02 6:00	0.8	0.1	95	0	34	9	16.1	NA
2022-05-02 7:00	0.8	-0.1	94	0	33	11	16.1	NA
2022-05-02 8:00	0.8	-0.2	93	0	33	11	16.1	NA
2022-05-02 9:00	0.8	-0.1	94	0	32	17	16.1	Rain
2022-05-02 10:00	0.8	-0.4	92	0	33	15	16.1	NA
2022-05-02 11:00	1.4	-0.4	88	0	31	9	16.1	NA
2022-05-02 12:00	2	-0.5	84	0	33	13	16.1	NA
2022-05-02 13:00	2.4	-0.2	83	0	30	17	16.1	NA
2022-05-02 14:00	2.7	-0.5	79	0	31	21	16.1	NA
2022-05-02 15:00	3.2	-0.3	78	0	31	24	16.1	NA
2022-05-02 16:00	4	-0.2	74	0	32	21	16.1	NA
2022-05-02 17:00	4.2	0.1	75	0	30	22	16.1	NA
2022-05-02 18:00	4.9	-0.1	70	0	30	21	16.1	NA
2022-05-02 19:00	4	-0.9	70	0	30	24	16.1	NA
2022-05-02 20:00	4	-0.4	73	0	30	28	16.1	NA
2022-05-02 21:00	2.6	-0.7	79	0	29	22	16.1	NA
2022-05-02 22:00	1.8	-0.6	84	0	30	24	16.1	NA
2022-05-02 23:00	1.5	-0.3	88	0	31	11	16.1	NA
2022-05-03 0:00	1.2	-0.6	88	0	33	9	16.1	NA
2022-05-03 1:00	1.1	-0.4	90	0	31	13	16.1	NA
2022-05-03 2:00	1.1	-0.4	90	0	31	15	16.1	NA
2022-05-03 3:00	1.2	-0.3	90	0	32	13	16.1	NA
2022-05-03 4:00	1.1	-0.2	91	0	31	11	16.1	NA
2022-05-03 5:00	0.6	-0.4	93	0	31	9	16.1	NA
2022-05-03 6:00	0.4	-0.3	95	0	30	13	16.1	NA
2022-05-03 7:00	0.7	-0.2	94	0	29	13	16.1	NA
2022-05-03 8:00	0.4	-0.5	94	0		0	16.1	NA
2022-05-03 9:00	0.7	-0.2	94	0	3	9	16.1	NA
2022-05-03 10:00	1.2	0.2	93	0		4	16.1	NA
2022-05-03 11:00	4.1	-0.4	72	0	35	9	16.1	NA
2022-05-03 12:00	4.3	0.3	75	0	29	21	16.1	NA
2022-05-03 13:00	5.3	0.5	71	0	29	22	16.1	NA
2022-05-03 14:00	5.8	1	71	0	29	24	16.1	NA
2022-05-03 15:00	5.2	1.1	75	0	28	22	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-03 16:00	6.3	1.6	72	0	28	24	16.1	NA
2022-05-03 17:00	6	1.6	73	0	29	28	16.1	NA
2022-05-03 18:00	5.4	1.9	78	0	28	21	16.1	NA
2022-05-03 19:00	5.7	2.1	77	0	28	22	16.1	NA
2022-05-03 20:00	5.8	2.3	78	0	28	21	16.1	NA
2022-05-03 21:00	5.2	2.2	81	0	30	18	16.1	NA
2022-05-03 22:00	4.5	2	84	0	28	18	16.1	NA
2022-05-03 23:00	3.3	1.6	89	0	27	5	16.1	NA
2022-05-04 0:00	1.5	0.9	96	0	33	5	16.1	NA
2022-05-04 1:00	-0.1	-0.4	98	0		4	16.1	NA
2022-05-04 2:00	-0.9	-1	99	0	2	4	16.1	NA
2022-05-04 3:00	-1.7	-2	98	0		0	16.1	NA
2022-05-04 4:00	-1.6	-1.7	99	0	30	5	16.1	NA
2022-05-04 5:00	0.4	0.3	99	0	31	8	0.6	Fog
2022-05-04 6:00	1.4	1.4	100	0	28	5	0.8	Fog
2022-05-04 7:00	1.1	1.1	100	0	29	8	0.4	Fog
2022-05-04 8:00	0.1	0.1	100	0		0	0.4	Fog
2022-05-04 9:00	-1	-1	100	0	36	4	16.1	NA
2022-05-04 10:00	0.4	0.4	100	0	9	5	16.1	NA
2022-05-04 11:00	3.5	2.9	96	0	13	8	16.1	NA
2022-05-04 12:00	6.4	2	73	0	22	8	16.1	NA
2022-05-04 13:00	9	3	66	0	24	9	16.1	NA
2022-05-04 14:00	10.8	3	58	0	28	11	16.1	NA
2022-05-04 15:00	12.2	2.9	53	0		9	16.1	NA
2022-05-04 16:00	13.8	3	48	0	27	11	16.1	NA
2022-05-04 17:00	14.3	3.2	47	0		4	16.1	NA
2022-05-04 18:00	15.3	5.4	51	0	19	13	16.1	NA
2022-05-04 19:00	13.8	4.7	54	0	16	17	16.1	NA
2022-05-04 20:00	13.6	4.9	55	0	15	18	16.1	NA
2022-05-04 21:00	12.8	5	59	0	16	11	16.1	NA
2022-05-04 22:00	10.9	4.4	64	0	20	11	16.1	NA
2022-05-04 23:00	9.4	5.1	74	0	22	11	16.1	Rain
2022-05-05 0:00	8.2	4.7	78	0	23	13	16.1	Rain
2022-05-05 1:00	7	5.5	90	0.5	25	5	14.5	Rain
2022-05-05 2:00	6.8	6.2	96	0.2	24	11	16.1	Rain
2022-05-05 3:00	6.4	6	97	0.2	22	15	16.1	Rain
2022-05-05 4:00	6	5.4	96	0.8	23	9	16.1	Rain
2022-05-05 5:00	5.7	5.3	97	0.8	23	13	16.1	Rain
2022-05-05 6:00	5.3	4.7	96	0.5	20	8	16.1	Rain
2022-05-05 7:00	4.9	4.3	96	0.2	16	5	16.1	NA
2022-05-05 8:00	4.6	4.2	97	0	15	5	16.1	NA
2022-05-05 9:00	4.4	4.1	98	0	18	5	16.1	NA
2022-05-05 10:00	4.5	4.4	99	0.2	15	5	16.1	Rain
2022-05-05 11:00	4.7	4.4	98	0.2	16	9	16.1	Rain
2022-05-05 12:00	4.9	4.6	98	2.5	16	8	12.9	Rain
2022-05-05 13:00	5.2	4.9	98	2.5		4	9.7	Rain,Fog
2022-05-05 14:00	5.7	5.3	97	1.5	9	5	16.1	Rain
2022-05-05 15:00	6.3	5.1	92	0.5		4	16.1	Rain
2022-05-05 16:00	5.6	5.5	99	0.2	20	8	16.1	NA
2022-05-05 17:00	6.6	6	96	0.2	28	13	16.1	Rain
2022-05-05 18:00	6.3	5.9	97	0.2	30	17	11.3	NA
2022-05-05 19:00	6.1	5.9	99	0	31	17	16.1	NA
2022-05-05 20:00	6.3	3.9	85	0	31	15	16.1	NA
2022-05-05 21:00	6.4	1.7	72	0	32	17	16.1	NA
2022-05-05 22:00	5.2	0	69	0	33	17	16.1	NA
2022-05-05 23:00	3.7	-1	71	0	32	11	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-06 0:00	1.9	-1.4	79	0	31	8	16.1	NA
2022-05-06 1:00	0.4	-2	84	0	31	9	16.1	NA
2022-05-06 2:00	0.5	-1.1	89	0	31	9	16.1	NA
2022-05-06 3:00	0.1	-0.9	93	0	30	8	16.1	NA
2022-05-06 4:00	0.4	-0.5	94	0	30	13	16.1	NA
2022-05-06 5:00	0.4	-0.8	92	0	29	9	16.1	NA
2022-05-06 6:00	0.4	-0.6	93	0	27	13	16.1	NA
2022-05-06 7:00	0	-0.9	94	0	29	8	16.1	NA
2022-05-06 8:00	0.7	-0.8	90	0		4	16.1	NA
2022-05-06 9:00	0.2	-1.1	91	0	27	8	16.1	NA
2022-05-06 10:00	2.3	-0.3	83	0	22	9	16.1	NA
2022-05-06 11:00	4	-0.1	75	0	29	18	16.1	NA
2022-05-06 12:00	4.4	0.1	73	0	29	24	16.1	NA
2022-05-06 13:00	4.8	-0.5	68	0	29	26	16.1	NA
2022-05-06 14:00	5.6	-1.1	62	0	30	30	16.1	NA
2022-05-06 15:00	6.4	-1.2	58	0	28	24	16.1	NA
2022-05-06 16:00	6.4	-1.4	58	0	29	21	16.1	NA
2022-05-06 17:00	6.5	-1.4	57	0	28	24	16.1	NA
2022-05-06 18:00	6.4	-1.5	57	0	29	26	16.1	NA
2022-05-06 19:00	6.9	-1.6	55	0	32	22	16.1	NA
2022-05-06 20:00	5.4	-2.2	58	0	31	22	16.1	NA
2022-05-06 21:00	4.1	-2.3	63	0	31	21	16.1	NA
2022-05-06 22:00	3.4	-0.8	74	0	30	17	16.1	NA
2022-05-06 23:00	3	-0.4	78	0	30	11	16.1	NA
2022-05-07 0:00	2.5	-1.3	76	0	30	5	16.1	NA
2022-05-07 1:00	1.7	-1.7	78	0		4	16.1	NA
2022-05-07 2:00	1.3	-1.8	80	0		0	16.1	NA
2022-05-07 3:00	0	-1.6	89	0	32	4	16.1	NA
2022-05-07 4:00	-0.2	-1.2	93	0	30	4	16.1	NA
2022-05-07 5:00	0.6	-0.6	92	0		4	16.1	NA
2022-05-07 6:00	1.3	-0.9	85	0	31	8	16.1	NA
2022-05-07 7:00	1	-0.5	90	0	32	5	16.1	NA
2022-05-07 8:00	0.3	-1.5	88	0	30	5	16.1	NA
2022-05-07 9:00	-0.5	-1.2	95	0	30	8	16.1	NA
2022-05-07 10:00	1.1	-0.5	89	0	30	9	16.1	NA
2022-05-07 11:00	3.1	0.5	83	0	28	11	16.1	NA
2022-05-07 12:00	4.3	-0.9	69	0	31	13	16.1	NA
2022-05-07 13:00	5.2	-4.2	51	0	33	17	16.1	NA
2022-05-07 14:00	5.7	-4.6	47	0	32	21	16.1	NA
2022-05-07 15:00	5.8	-5.2	45	0	30	22	16.1	NA
2022-05-07 16:00	6.1	-3.9	49	0	30	21	16.1	NA
2022-05-07 17:00	6.6	-7.3	37	0	32	17	16.1	NA
2022-05-07 18:00	6.3	-6.6	39	0	30	28	16.1	NA
2022-05-07 19:00	5	-5.7	46	0	29	22	16.1	NA
2022-05-07 20:00	4.4	-6	47	0	31	18	16.1	NA
2022-05-07 21:00	3.4	-6.6	48	0	30	21	16.1	NA
2022-05-07 22:00	2.9	-6.7	50	0	31	17	16.1	NA
2022-05-07 23:00	1.3	-6.3	57	0	34	11	16.1	NA
2022-05-08 0:00	-0.7	-6.5	65	0		0	16.1	NA
2022-05-08 1:00	-0.9	-5.6	71	0		4	16.1	NA
2022-05-08 2:00	-1.5	-5.2	76	0	33	5	16.1	NA
2022-05-08 3:00	-2.9	-5.2	84	0		0	16.1	NA
2022-05-08 4:00	-3.4	-5.4	86	0	32	5	16.1	NA
2022-05-08 5:00	-3.7	-6.1	84	0		0	16.1	NA
2022-05-08 6:00	-3.4	-5.1	88	0	33	8	16.1	NA
2022-05-08 7:00	-4.7	-5.8	92	0		0	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-08 8:00	-5.2	-6.2	93	0	29	4	16.1	NA
2022-05-08 9:00	-3.2	-5	87	0	35	5	16.1	NA
2022-05-08 10:00	-1.1	-3.9	82	0		0	16.1	NA
2022-05-08 11:00	1.6	-4.3	65	0		4	16.1	NA
2022-05-08 12:00	4.1	-4	56	0	29	8	16.1	NA
2022-05-08 13:00	6.2	-7.5	37	0	1	13	16.1	NA
2022-05-08 14:00	6.4	-1.1	59	0		17	16.1	NA
2022-05-08 15:00	7.6	-2	51	0	28	26	16.1	NA
2022-05-08 16:00	8.4	-3.8	42	0	29	26	16.1	NA
2022-05-08 17:00	8.3	-4.1	41	0	29	22	16.1	NA
2022-05-08 18:00	7.4	-1.7	53	0	28	28	16.1	NA
2022-05-08 19:00	7.9	-3.9	43	0	28	28	16.1	NA
2022-05-08 20:00	8.3	-1.6	50	0	28	21	16.1	NA
2022-05-08 21:00	9.3	-4.1	39	0	30	15	16.1	NA
2022-05-08 22:00	6.6	-1.8	55	0	29	13	16.1	NA
2022-05-08 23:00	4.3	-0.5	71	0	31	8	16.1	NA
2022-05-09 0:00	2.5	-4.9	58	0	9	8	16.1	NA
2022-05-09 1:00	1	-5.9	60	0	9	5	16.1	NA
2022-05-09 2:00	0.1	-5.1	68	0	9	9	16.1	NA
2022-05-09 3:00	-1.5	-4.6	80	0	7	8	16.1	NA
2022-05-09 4:00	-1.6	-5.5	75	0	6	5	16.1	NA
2022-05-09 5:00	-2.2	-5.8	77	0		4	16.1	NA
2022-05-09 6:00	-2.6	-5.4	81	0		0	16.1	NA
2022-05-09 7:00	-3.4	-5.7	84	0	1	8	16.1	NA
2022-05-09 8:00	-3.6	-5.8	85	0	34	8	16.1	NA
2022-05-09 9:00	-2.9	-6	79	0		0	16.1	NA
2022-05-09 10:00	0.3	-4.9	68	0	33	8	16.1	NA
2022-05-09 11:00	4.8	-3.4	55	0		4	16.1	NA
2022-05-09 12:00	8.5	-10.6	25	0	5	9	16.1	NA
2022-05-09 13:00	10.4	-8.8	25	0	10	17	16.1	NA
2022-05-09 14:00	12.3	-9.3	21	0	9	13	16.1	NA
2022-05-09 15:00	13.5	-8.5	21	0	9	15	16.1	NA
2022-05-09 16:00	11.6	-2.9	36	0	29	18	16.1	NA
2022-05-09 17:00	12.1	-4.7	31	0	30	18	16.1	NA
2022-05-09 18:00	11.5	-2.7	37	0	21	11	16.1	NA
2022-05-09 19:00	12.1	-3.4	34	0	21	13	16.1	NA
2022-05-09 20:00	12.6	-4.1	31	0	21	15	16.1	NA
2022-05-09 21:00	11.9	-6.2	28	0	15	13	16.1	NA
2022-05-09 22:00	9.8	-6.1	32	0	15	13	16.1	NA
2022-05-09 23:00	7.4	-5.5	40	0	13	9	16.1	NA
2022-05-10 0:00	3.8	-3.8	58	0	10	5	16.1	NA
2022-05-10 1:00	1.4	-3.3	71	0	9	5	16.1	NA
2022-05-10 2:00	1.9	-4.4	63	0	12	5	16.1	NA
2022-05-10 3:00	1.1	-4.7	65	0	8	11	16.1	NA
2022-05-10 4:00	0.5	-5.6	64	0	7	9	16.1	NA
2022-05-10 5:00	1.5	-2.8	73	0	5	13	16.1	NA
2022-05-10 6:00	1	-0.9	87	0	4	11	16.1	NA
2022-05-10 7:00	-0.5	-2.1	89	0	7	11	16.1	NA
2022-05-10 8:00	0.6	-2	83	0	3	11	16.1	NA
2022-05-10 9:00	0	-1.5	90	0	6	17	16.1	NA
2022-05-10 10:00	2.1	-0.7	82	0	6	18	16.1	NA
2022-05-10 11:00	4.9	-0.3	69	0	7	18	16.1	NA
2022-05-10 12:00	7.1	-1.4	55	0	7	18	16.1	NA
2022-05-10 13:00	9.6	-1.9	45	0	7	22	16.1	NA
2022-05-10 14:00	10.9	-3.6	36	0	12	13	16.1	NA
2022-05-10 15:00	12.8	-4.7	29	0	11	22	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-10 16:00	13.7	-5.4	26	0	11	22	16.1	NA
2022-05-10 17:00	13	-9.3	20	0	13	26	16.1	NA
2022-05-10 18:00	12.8	-10.2	19	0	11	26	16.1	NA
2022-05-10 19:00	12.3	-10.6	19	0	11	28	16.1	NA
2022-05-10 20:00	11.4	-9.7	22	0	12	22	16.1	NA
2022-05-10 21:00	10.7	-10	22	0	11	22	16.1	NA
2022-05-10 22:00	9.4	-9.7	25	0	10	21	16.1	NA
2022-05-10 23:00	6.9	-10.4	28	0	11	18	16.1	NA
2022-05-11 0:00	4	-8.8	39	0	10	15	16.1	NA
2022-05-11 1:00	3.3	-7.5	45	0	10	21	16.1	NA
2022-05-11 2:00	2.3	-6.1	54	0	8	21	16.1	NA
2022-05-11 3:00	2	-3.1	69	0	7	17	16.1	NA
2022-05-11 4:00	1.4	-2	78	0	7	13	16.1	NA
2022-05-11 5:00	0.8	-1.3	86	0	6	13	16.1	NA
2022-05-11 6:00	0.5	-1.3	88	0	5	13	16.1	NA
2022-05-11 7:00	0.5	-1.9	84	0	5	15	16.1	NA
2022-05-11 8:00	1.3	-0.6	87	0	4	15	16.1	NA
2022-05-11 9:00	2	0.1	87	0	5	15	16.1	NA
2022-05-11 10:00	2.7	1.2	90	0	6	21	16.1	NA
2022-05-11 11:00	4.1	2	86	0	7	17	16.1	NA
2022-05-11 12:00	7	4.5	84	0	9	17	16.1	NA
2022-05-11 13:00	9.6	5.4	75	0	7	17	16.1	NA
2022-05-11 14:00	11.4	6.4	71	0	9	21	16.1	NA
2022-05-11 15:00	12.7	8.3	75	0	11	24	16.1	NA
2022-05-11 16:00	12.3	8.8	79	0	13	21	16.1	NA
2022-05-11 17:00	11.2	9.6	90	0	9	18	16.1	NA
2022-05-11 18:00	11	9.5	91	0	13	21	16.1	NA
2022-05-11 19:00	9.4	8.3	93	0	10	17	14.5	NA
2022-05-11 20:00	9.1	8	93	0	11	13	16.1	NA
2022-05-11 21:00	10	8.5	90	0	10	13	16.1	NA
2022-05-11 22:00	9.2	8.4	95	0	8	11	16.1	NA
2022-05-11 23:00	8.6	8.5	99	0	12	13	4.8	Fog
2022-05-12 0:00	8.2	8.1	99	0	10	9	2.4	Fog
2022-05-12 1:00	8.1	8.1	100	0		4	1.6	Fog
2022-05-12 2:00	8.4	8.4	100	0	9	8	1	Fog
2022-05-12 3:00	8.6	8.6	100	0	12	5	1.2	Fog
2022-05-12 4:00	7.5	7.5	100	0	12	8	0.8	Fog
2022-05-12 5:00	7.3	7.3	100	0	4	5	0.4	Fog
2022-05-12 6:00	7	7	100	0		4	0.6	Rain,Fog
2022-05-12 7:00	7.2	7.2	100	0		0	1.6	Fog
2022-05-12 8:00	6.9	6.9	100	0		0	0.6	Fog
2022-05-12 9:00	7.3	7.3	100	0	26	5	0.4	Fog
2022-05-12 10:00	8.8	8.8	100	0	22	5	16.1	NA
2022-05-12 11:00	13.3	13.3	100	0	29	13	16.1	NA
2022-05-12 12:00	17.1	13.7	80	0	29	17	16.1	NA
2022-05-12 13:00	17.3	11.8	70	0	30	22	16.1	NA
2022-05-12 14:00	16.6	10.7	68	0	30	26	16.1	NA
2022-05-12 15:00	17.1	9.5	61	0	29	18	16.1	NA
2022-05-12 16:00	16.7	7.7	55	0	28	21	16.1	NA
2022-05-12 17:00	16	7.4	56	0	28	21	16.1	NA
2022-05-12 18:00	16.3	6.3	51	0	27	22	16.1	NA
2022-05-12 19:00	17.9	5.7	44	0	29	21	16.1	NA
2022-05-12 20:00	18.6	4.9	40	0	30	18	16.1	NA
2022-05-12 21:00	18.2	5.7	44	0	29	11	16.1	NA
2022-05-12 22:00	15.1	5.1	51	0	29	11	16.1	NA
2022-05-12 23:00	14.4	4.5	51	0	32	5	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-13 0:00	10.5	4.5	66	0	30	8	16.1	NA
2022-05-13 1:00	8.8	4.6	75	0	32	9	16.1	NA
2022-05-13 2:00	7.8	4.6	80	0	31	9	16.1	NA
2022-05-13 3:00	5.9	4.4	90	0		5	16.1	NA
2022-05-13 4:00	6.5	4.3	86	0		4	16.1	NA
2022-05-13 5:00	5.3	3.4	88	0		0	16.1	NA
2022-05-13 6:00	5.6	3.2	84	0	32	5	16.1	NA
2022-05-13 7:00	4.2	2.9	91	0	36	8	16.1	NA
2022-05-13 8:00	3.6	2.1	90	0	3	4	16.1	NA
2022-05-13 9:00	6.5	3.6	82	0		0	16.1	NA
2022-05-13 10:00	7.9	4.4	78	0	35	8	16.1	NA
2022-05-13 11:00	11.9	5.8	66	0	11	8	16.1	NA
2022-05-13 12:00	12.1	5.3	63	0		0	16.1	NA
2022-05-13 13:00	14.2	7.2	63	0	12	5	16.1	NA
2022-05-13 14:00	14.7	6.1	56	0	13	11	16.1	NA
2022-05-13 15:00	14.7	5.1	52	0	10	13	16.1	NA
2022-05-13 16:00	15	5	51	0	14	15	16.1	NA
2022-05-13 17:00	17.5	5.3	44	0	12	18	16.1	NA
2022-05-13 18:00	17.2	5.9	47	0	13	15	16.1	NA
2022-05-13 19:00	18	8.7	54	0	13	17	16.1	NA
2022-05-13 20:00	16.8	10.8	67	0	13	15	16.1	NA
2022-05-13 21:00	17.1	9.4	60	0	16	21	16.1	NA
2022-05-13 22:00	15.1	9.7	70	0	17	15	16.1	NA
2022-05-13 23:00	12.2	9.2	82	0	16	13	16.1	NA
2022-05-14 0:00	11.4	10.3	93	0	18	13	16.1	NA
2022-05-14 1:00	11.6	10.8	95	0	13	5	16.1	NA
2022-05-14 2:00	10.9	10	94	0	18	15	16.1	NA
2022-05-14 3:00	10	8.9	93	0	20	11	16.1	NA
2022-05-14 4:00	10.5	9.1	91	0	32	8	16.1	NA
2022-05-14 5:00	12.2	10.6	90	0	25	17	16.1	NA
2022-05-14 6:00	14.2	11.9	86	0	26	22	16.1	NA
2022-05-14 7:00	15.2	12.8	86	0	27	26	16.1	NA
2022-05-14 8:00	15	13.6	91	0	28	24	16.1	NA
2022-05-14 9:00	14.8	13.2	90	0	29	24	16.1	NA
2022-05-14 10:00	13.4	11.8	90	0	31	24	16.1	NA
2022-05-14 11:00	12.2	10.6	90	0	29	18	16.1	NA
2022-05-14 12:00	11.6	8.5	81	0	31	21	16.1	NA
2022-05-14 13:00	11.5	6.7	72	0	31	24	16.1	NA
2022-05-14 14:00	11	6.8	75	0	31	21	16.1	NA
2022-05-14 15:00	10	6.3	78	0	29	22	16.1	NA
2022-05-14 16:00	9.6	6.3	80	0	29	24	16.1	NA
2022-05-14 17:00	7.5	5.5	87	0	31	22	16.1	NA
2022-05-14 18:00	7.2	5.5	89	0	30	26	16.1	NA
2022-05-14 19:00	8.5	6	84	0	30	24	16.1	NA
2022-05-14 20:00	7.2	5.7	90	0	30	24	16.1	NA
2022-05-14 21:00	6.9	5.9	93	0	29	26	11.3	NA
2022-05-14 22:00	5.8	5.2	96	0	29	18	6.4	Fog
2022-05-14 23:00	5.1	5	99	0	28	13	0.2	Rain,Fog
2022-05-15 0:00	4.9	4.8	99	0	31	15	0.2	Rain,Fog
2022-05-15 1:00	4.9	4.9	100	0	29	9	0.4	Rain,Fog
2022-05-15 2:00	4.6	4.6	100	0	28	8	0.4	Rain,Fog
2022-05-15 3:00	4.2	4.2	100	0	28	11	0.4	Rain,Fog
2022-05-15 4:00	4	4	100	0	26	9	0.4	Rain,Fog
2022-05-15 5:00	3.5	3.5	100	0	28	5	0.2	Fog
2022-05-15 6:00	3	3	100	0	26	4	0.2	Rain,Fog
2022-05-15 7:00	1.2	1.2	100	0		4	2	Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-15 8:00	0.2	0.2	100	0		4	16.1	NA
2022-05-15 9:00	0.9	0.9	100	0	8	5	1.2	Fog
2022-05-15 10:00	5	5	100	0		0	16.1	NA
2022-05-15 11:00	6.4	6.4	100	0	15	8	16.1	NA
2022-05-15 12:00	6.6	6.5	99	0	15	5	8.1	Fog
2022-05-15 13:00	10.3	6.9	79	0	17	8	16.1	NA
2022-05-15 14:00	12.3	6.9	70	0	18	13	16.1	NA
2022-05-15 15:00	13.8	6.5	61	0	17	15	16.1	NA
2022-05-15 16:00	12.8	6	63	0	15	18	16.1	NA
2022-05-15 17:00	12.7	5.9	63	0	16	17	16.1	NA
2022-05-15 18:00	13.1	6	62	0	15	15	16.1	NA
2022-05-15 19:00	13.6	6.1	60	0	13	18	16.1	NA
2022-05-15 20:00	12.6	6	64	0	15	15	16.1	NA
2022-05-15 21:00	10.4	5	69	0	15	13	16.1	NA
2022-05-15 22:00	9.7	4.3	69	0	15	13	16.1	NA
2022-05-15 23:00	7.8	4.1	77	0	13	11	16.1	NA
2022-05-16 0:00	6.4	4.2	86	0	11	11	16.1	NA
2022-05-16 1:00	5.6	4.4	92	0	11	13	16.1	NA
2022-05-16 2:00	5.2	4.5	95	0	11	13	16.1	NA
2022-05-16 3:00	5	4.6	97	0	12	15	16.1	NA
2022-05-16 4:00	4.8	4.5	98	0	10	15	16.1	NA
2022-05-16 5:00	4.9	4.6	98	0	9	15	16.1	NA
2022-05-16 6:00	5	4.7	98	0	10	18	16.1	NA
2022-05-16 7:00	4.9	4.5	97	0	9	18	16.1	NA
2022-05-16 8:00	5.1	4.7	97	0	10	17	16.1	NA
2022-05-16 9:00	5.4	5	97	0	10	17	16.1	NA
2022-05-16 10:00	5.7	5.3	97	0	10	22	16.1	NA
2022-05-16 11:00	6	5.6	97	0	11	22	16.1	NA
2022-05-16 12:00	6.7	6	95	0	11	18	16.1	NA
2022-05-16 13:00	7.3	6	92	0	12	18	16.1	NA
2022-05-16 14:00	7.4	6.4	93	0	11	21	16.1	NA
2022-05-16 15:00	7.8	7.2	96	0	11	24	14.5	NA
2022-05-16 16:00	8.3	7.6	95	0	11	22	9.7	Fog
2022-05-16 17:00	9.1	8.7	97	0	11	18	11.3	NA
2022-05-16 18:00	9.4	9.1	98	0	11	18	8.1	Fog
2022-05-16 19:00	8.9	8.8	99	0	12	18	2.4	Fog
2022-05-16 20:00	8.6	8.5	99	0	10	21	2	Fog
2022-05-16 21:00	8.4	8.3	99	0	11	22	2.4	Fog
2022-05-16 22:00	8	7.9	99	0	11	17	1.6	Fog
2022-05-16 23:00	7.4	7.3	99	0	10	15	1	Fog
2022-05-17 0:00	6.6	6.6	100	0	9	18	1.6	Fog
2022-05-17 1:00	6.6	6.6	100	0	9	18	1.6	Fog
2022-05-17 2:00	6.7	6.7	100	0	9	13	1.6	Fog
2022-05-17 3:00	6.6	6.6	100	0	8	15	2	Fog
2022-05-17 4:00	6.4	6.4	100	0	7	13	2	Fog
2022-05-17 5:00	6.3	6.3	100	0.2	7	11	2	Fog
2022-05-17 6:00	6.4	6.4	100	0	7	15	0.8	Fog
2022-05-17 7:00	6.4	6.4	100	0	7	11	0.6	Rain,Fog
2022-05-17 8:00	6.4	6.4	100	0	9	11	1	Fog
2022-05-17 9:00	6.5	6.5	100	0	9	15	1	Rain,Fog
2022-05-17 10:00	6.8	6.8	100	0.2	9	9	2.8	Fog
2022-05-17 11:00	7.2	7.2	100	0	11	15	2	Fog
2022-05-17 12:00	8.2	8.2	100	0	8	15	0.4	Fog
2022-05-17 13:00	9.6	9.6	100	0	9	15	0.4	Fog
2022-05-17 14:00	10.4	10.4	100	0	9	17	0.8	Rain,Fog
2022-05-17 15:00	10.8	10.8	100	0	11	17	2	Rain,Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-17 16:00	11.2	11.2	100	0	10	24	1.6	Fog
2022-05-17 17:00	11.7	11.7	100	0	12	21	0.8	Fog
2022-05-17 18:00	10.9	10.9	100	2.3	12	11	16.1	Rain
2022-05-17 19:00	11.8	11.8	100	2.5	11	15	4.8	Rain,Fog
2022-05-17 20:00	12.4	12.4	100	0	13	13	0.8	Fog
2022-05-17 21:00	12.6	12.6	100	0	12	13	0.4	Fog
2022-05-17 22:00	12.1	12.1	100	0	14	11	0.4	Fog
2022-05-17 23:00	11.2	11.2	100	0	14	15	0.4	Fog
2022-05-18 0:00	9.1	9	99	0		8	4.8	Fog
2022-05-18 1:00	8.6	8.5	99	0		4	16.1	NA
2022-05-18 2:00	6.8	6.7	99	0	8	5	0.4	Fog
2022-05-18 3:00	5.8	5.8	100	0	7	8	1.2	Fog
2022-05-18 4:00	5.6	5.6	100	0	7	8	11.3	NA
2022-05-18 5:00	5	5	100	0		4	16.1	NA
2022-05-18 6:00	7.5	7.5	100	0.2		4	16.1	NA
2022-05-18 7:00	8.3	6.8	90	0	15	9	16.1	NA
2022-05-18 8:00	4	3.7	98	0	5	9	16.1	NA
2022-05-18 9:00	6.9	6.3	96	0	22	9	16.1	NA
2022-05-18 10:00	7.9	7	94	0		0	16.1	NA
2022-05-18 11:00	10	7.7	85	0	20	5	16.1	NA
2022-05-18 12:00	10.8	8.7	87	0	21	8	16.1	NA
2022-05-18 13:00	14.4	8.6	68	0	23	9	16.1	NA
2022-05-18 14:00	15.4	7.3	58	0	25	15	16.1	NA
2022-05-18 15:00	16.5	6.7	52	0	23	21	16.1	NA
2022-05-18 16:00	14.9	7	59	0	31	21	16.1	NA
2022-05-18 17:00	12.1	4.4	59	0	30	30	16.1	NA
2022-05-18 18:00	10.9	4.2	63	0	31	21	16.1	NA
2022-05-18 19:00	12.5	3.6	54	0	29	28	16.1	NA
2022-05-18 20:00	11.8	3.7	57	0	30	18	16.1	NA
2022-05-18 21:00	10.5	4	64	0	30	28	16.1	NA
2022-05-18 22:00	9.3	4.3	71	0	30	22	16.1	NA
2022-05-18 23:00	8.9	4.4	73	0	30	9	16.1	NA
2022-05-19 0:00	8.4	5.4	81	0	32	11	12.9	NA
2022-05-19 1:00	7.6	4.7	82	0	31	15	16.1	NA
2022-05-19 2:00	6.6	4.9	89	0	30	9	16.1	NA
2022-05-19 3:00	6	3.8	86	0	31	9	16.1	NA
2022-05-19 4:00	6.2	3.5	83	0	30	11	16.1	NA
2022-05-19 5:00	5.5	3.4	86	0	27	11	16.1	NA
2022-05-19 6:00	4.6	2.6	87	0	31	8	16.1	NA
2022-05-19 7:00	5.4	2.4	81	0	30	13	16.1	NA
2022-05-19 8:00	5.6	3.3	85	0	30	15	16.1	NA
2022-05-19 9:00	5.4	1.9	78	0	31	15	16.1	NA
2022-05-19 10:00	6.3	2	74	0	30	15	16.1	NA
2022-05-19 11:00	7	1	66	0	31	22	16.1	NA
2022-05-19 12:00	7.7	2	67	0	30	21	16.1	NA
2022-05-19 13:00	8.2	2.9	69	0	30	28	16.1	NA
2022-05-19 14:00	7.6	0.6	61	0	30	30	16.1	NA
2022-05-19 15:00	8.6	-1.3	50	0	30	26	16.1	NA
2022-05-19 16:00	9.3	-2	45	0	29	24	16.1	NA
2022-05-19 17:00	10.5	-2.7	40	0	29	28	16.1	NA
2022-05-19 18:00	10.9	-1.9	41	0	31	22	16.1	NA
2022-05-19 19:00	11.9	-3.4	34	0	29	21	16.1	NA
2022-05-19 20:00	12.2	-3	35	0	36	15	16.1	NA
2022-05-19 21:00	12.9	-5	28	0	33	11	16.1	NA
2022-05-19 22:00	12.7	-4.2	30	0	30	9	16.1	NA
2022-05-19 23:00	11	-2.3	39	0		4	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-20 0:00	5.9	-1.2	60	0		0	16.1	NA
2022-05-20 1:00	4.2	-1.1	69	0	16	9	16.1	NA
2022-05-20 2:00	4.9	-0.3	69	0		0	16.1	NA
2022-05-20 3:00	3.4	0.1	79	0	12	5	16.1	NA
2022-05-20 4:00	3.3	-0.4	77	0	10	8	16.1	NA
2022-05-20 5:00	5.1	0.3	71	0	11	9	16.1	NA
2022-05-20 6:00	5.4	1.2	75	0	13	8	16.1	NA
2022-05-20 7:00	4	1.4	83	0	8	9	16.1	NA
2022-05-20 8:00	4	1.3	82	0	9	11	16.1	NA
2022-05-20 9:00	5.1	1.8	79	0	6	11	16.1	NA
2022-05-20 10:00	5.6	1.9	77	0	6	9	16.1	NA
2022-05-20 11:00	7.7	2.4	69	0	6	15	16.1	NA
2022-05-20 12:00	11.1	1.7	52	0	10	11	16.1	NA
2022-05-20 13:00	11.4	1.9	52	0	19	11	16.1	NA
2022-05-20 14:00	13.3	2.2	47	0	18	9	16.1	NA
2022-05-20 15:00	14.7	-0.1	36	0		13	16.1	NA
2022-05-20 16:00	15.2	0.1	35	0		8	16.1	NA
2022-05-20 17:00	14.8	-0.3	36	0	19	15	16.1	NA
2022-05-20 18:00	15	-0.1	36	0	23	17	16.1	NA
2022-05-20 19:00	15.1	-0.9	33	0	19	15	16.1	NA
2022-05-20 20:00	14.7	-0.5	35	0	19	15	16.1	NA
2022-05-20 21:00	14.3	-0.7	36	0	20	11	16.1	NA
2022-05-20 22:00	13.5	-1	37	0	18	11	16.1	NA
2022-05-20 23:00	12.1	-1.4	39	0	17	11	16.1	NA
2022-05-21 0:00	10.2	-1.5	44	0	18	8	16.1	NA
2022-05-21 1:00	8	-0.7	54	0		0	16.1	NA
2022-05-21 2:00	6	-0.5	63	0		4	16.1	NA
2022-05-21 3:00	8.9	-1.9	47	0	21	9	16.1	NA
2022-05-21 4:00	6.6	-1.6	56	0	25	5	16.1	NA
2022-05-21 5:00	7.1	-1.6	54	0	25	5	16.1	NA
2022-05-21 6:00	7.8	-1.2	53	0	24	5	16.1	NA
2022-05-21 7:00	4.7	-0.9	67	0	27	9	16.1	NA
2022-05-21 8:00	6	-1.1	60	0		4	16.1	NA
2022-05-21 9:00	8	-0.4	55	0	24	11	16.1	NA
2022-05-21 10:00	10.4	0.9	52	0	23	8	16.1	NA
2022-05-21 11:00	12.5	0.4	43	0	23	9	16.1	NA
2022-05-21 12:00	15	0.8	38	0	17	9	16.1	NA
2022-05-21 13:00	16.6	2.5	39	0	16	18	16.1	NA
2022-05-21 14:00	17.5	2.8	37	0	19	22	16.1	NA
2022-05-21 15:00	18.6	2.6	34	0	17	26	16.1	NA
2022-05-21 16:00	18.9	3.3	35	0	19	22	16.1	NA
2022-05-21 17:00	18.8	3.1	35	0	19	22	16.1	NA
2022-05-21 18:00	18.2	2.5	35	0	18	26	16.1	NA
2022-05-21 19:00	18	2	34	0	18	24	16.1	NA
2022-05-21 20:00	16.9	1.1	34	0	17	24	16.1	NA
2022-05-21 21:00	15.4	-1.1	32	0	17	18	16.1	NA
2022-05-21 22:00	14.5	-1.4	33	0	21	22	16.1	NA
2022-05-21 23:00	12.4	-1.1	39	0	19	18	16.1	NA
2022-05-22 0:00	11.4	-0.8	43	0	18	13	16.1	NA
2022-05-22 1:00	10.8	0.8	50	0	19	11	16.1	NA
2022-05-22 2:00	10.4	2.8	59	0	16	13	16.1	NA
2022-05-22 3:00	10.1	4.9	70	0	18	11	16.1	NA
2022-05-22 4:00	9.9	5.7	75	0	18	15	16.1	NA
2022-05-22 5:00	10.5	6.1	74	0	15	13	16.1	NA
2022-05-22 6:00	10.6	6.8	77	0	17	11	16.1	NA
2022-05-22 7:00	9.7	6.6	81	0	14	13	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-22 8:00	9.6	7.2	85	0	18	9	16.1	NA
2022-05-22 9:00	10.4	8.2	86	0	16	11	16.1	NA
2022-05-22 10:00	11.9	9.2	84	0	19	8	16.1	NA
2022-05-22 11:00	13.5	11	85	0	18	9	16.1	NA
2022-05-22 12:00	13.8	11.4	85	0	18	8	16.1	NA
2022-05-22 13:00	14.4	11.4	82	0	16	9	16.1	NA
2022-05-22 14:00	15.3	12.2	82	0	13	9	16.1	NA
2022-05-22 15:00	16.9	13.9	82	0	17	15	16.1	NA
2022-05-22 16:00	18.3	14.3	77	0	13	11	16.1	NA
2022-05-22 17:00	19.1	14.7	75	0	16	13	16.1	NA
2022-05-22 18:00	18.5	14.5	77	0	14	15	16.1	NA
2022-05-22 19:00	18.6	15	79	0	17	13	16.1	NA
2022-05-22 20:00	17.4	14.1	81	0	15	13	16.1	NA
2022-05-22 21:00	15.1	12.9	86	0	14	11	16.1	NA
2022-05-22 22:00	14.4	12.6	89	0	13	9	16.1	NA
2022-05-22 23:00	12.1	10.9	92	0	9	13	16.1	NA
2022-05-23 0:00	11.4	11	98	0	10	17	16.1	NA
2022-05-23 1:00	11.7	11.6	99	0	12	18	1.6	Rain,Fog
2022-05-23 2:00	12.9	12.8	99	0	15	11	2.4	Fog
2022-05-23 3:00	13.7	13.6	99	0	18	22	6.4	Fog
2022-05-23 4:00	14.2	14.1	100	0	18	22	1.2	Rain,Fog
2022-05-23 5:00	14	13.9	99	0	19	13	8.1	Fog
2022-05-23 6:00	14.5	14.4	99	0	17	18	3.2	Fog
2022-05-23 7:00	14.4	14.3	99	0	18	11	1.6	Fog
2022-05-23 8:00	14	14	100	0	16	11	1.6	Fog
2022-05-23 9:00	13.6	13.6	100	0	19	9	2.4	Fog
2022-05-23 10:00	13.3	13.3	100	0	13	11	1	Fog
2022-05-23 11:00	13.2	13.2	100	0		4	0.6	Fog
2022-05-23 12:00	14.4	14	98	0	25	8	16.1	NA
2022-05-23 13:00	14.6	14.3	98	0	29	17	3.2	Fog
2022-05-23 14:00	10.9	10.3	96	0	29	17	16.1	NA
2022-05-23 15:00	12.4	11.1	91	0	33	17	16.1	NA
2022-05-23 16:00	11.4	8.1	80	0	34	17	16.1	NA
2022-05-23 17:00	11.2	7.7	79	0	33	13	16.1	NA
2022-05-23 18:00	11.6	6.4	70	0	34	17	16.1	NA
2022-05-23 19:00	10.6	6.2	74	0	28	22	16.1	NA
2022-05-23 20:00	9.1	5.2	76	0	30	21	16.1	NA
2022-05-23 21:00	8.3	5.3	81	0	30	21	16.1	NA
2022-05-23 22:00	8.1	5.1	81	0	30	18	16.1	NA
2022-05-23 23:00	7.4	4.5	82	0	33	9	16.1	NA
2022-05-24 0:00	6.4	4.1	85	0	33	9	16.1	NA
2022-05-24 1:00	5.2	3.4	88	0	33	5	16.1	NA
2022-05-24 2:00	5	2.7	85	0	33	9	16.1	NA
2022-05-24 3:00	4.4	2.4	87	0	32	11	16.1	NA
2022-05-24 4:00	4.1	2	86	0	2	5	16.1	NA
2022-05-24 5:00	3	1.8	92	0	31	8	16.1	NA
2022-05-24 6:00	3.2	2	92	0	31	9	16.1	NA
2022-05-24 7:00	3.1	1.8	91	0	33	5	16.1	NA
2022-05-24 8:00	3.7	2.1	89	0	32	9	16.1	NA
2022-05-24 9:00	4.3	2.8	90	0		4	16.1	NA
2022-05-24 10:00	6.9	2.7	75	0	4	5	16.1	NA
2022-05-24 11:00	8	3	71	0	33	9	16.1	NA
2022-05-24 12:00	9.8	3.7	66	0	35	8	16.1	NA
2022-05-24 13:00	10.5	5.5	71	0	28	22	16.1	NA
2022-05-24 14:00	13.6	4	52	0		15	16.1	NA
2022-05-24 15:00	14.3	3.2	47	0		9	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-24 16:00	11.4	5.1	65	0	26	24	16.1	NA
2022-05-24 17:00	9.4	5.2	75	0	28	24	16.1	NA
2022-05-24 18:00	10.2	5.8	74	0	26	21	16.1	NA
2022-05-24 19:00	11	6	71	0	24	15	16.1	NA
2022-05-24 20:00	10.6	6.2	74	0	25	17	16.1	NA
2022-05-24 21:00	11.1	6	71	0	22	9	16.1	NA
2022-05-24 22:00	10.2	1.8	56	0	16	11	16.1	NA
2022-05-24 23:00	8.7	1.6	61	0	17	8	16.1	NA
2022-05-25 0:00	6.7	1.2	68	0	17	8	16.1	NA
2022-05-25 1:00	4.4	2.3	86	0	22	4	16.1	NA
2022-05-25 2:00	4.6	4.2	97	0	27	4	16.1	NA
2022-05-25 3:00	3.5	3.2	98	0	30	5	16.1	NA
2022-05-25 4:00	4.6	4.2	97	0	30	8	16.1	NA
2022-05-25 5:00	5.2	4.6	96	0	30	8	16.1	NA
2022-05-25 6:00	5	4.6	97	0	30	8	16.1	NA
2022-05-25 7:00	4.4	4	97	0	30	8	16.1	NA
2022-05-25 8:00	4.5	4.2	98	0	31	8	16.1	NA
2022-05-25 9:00	4.4	4.3	99	0	32	5	16.1	NA
2022-05-25 10:00	5.6	5.3	98	0	27	8	8.1	Fog
2022-05-25 11:00	7	6.1	94	0	25	8	16.1	NA
2022-05-25 12:00	9.6	5.3	74	0	28	9	16.1	NA
2022-05-25 13:00	11.2	4.2	62	0	27	11	16.1	NA
2022-05-25 14:00	12.5	3.8	55	0	28	13	16.1	NA
2022-05-25 15:00	14	-0.3	37	0	30	17	16.1	NA
2022-05-25 16:00	13.9	-0.8	36	0	29	18	16.1	NA
2022-05-25 17:00	15.1	-0.1	35	0	26	15	16.1	NA
2022-05-25 18:00	15.3	-1.8	31	0	17	17	16.1	NA
2022-05-25 19:00	14.7	1	39	0	14	15	16.1	NA
2022-05-25 20:00	15	2.8	44	0	14	18	16.1	NA
2022-05-25 21:00	13.8	2.5	46	0	13	18	16.1	NA
2022-05-25 22:00	13.2	1.3	44	0	15	11	16.1	NA
2022-05-25 23:00	10.8	2.2	55	0	14	13	16.1	NA
2022-05-26 0:00	8.7	1.9	62	0	15	9	16.1	NA
2022-05-26 1:00	8.5	0.5	57	0	18	11	16.1	NA
2022-05-26 2:00	8	0.2	58	0	17	8	16.1	NA
2022-05-26 3:00	8.8	1.3	59	0	23	17	16.1	NA
2022-05-26 4:00	9.5	0.3	53	0	21	15	16.1	NA
2022-05-26 5:00	5.3	1.1	74	0		4	16.1	NA
2022-05-26 6:00	7.7	2.8	71	0	23	11	16.1	NA
2022-05-26 7:00	7.2	2.7	73	0	23	15	16.1	NA
2022-05-26 8:00	7.8	2.5	69	0	27	15	16.1	NA
2022-05-26 9:00	7.9	2.6	69	0	29	8	16.1	NA
2022-05-26 10:00	10.6	3.5	62	0	29	9	16.1	NA
2022-05-26 11:00	12.4	3.2	53	0	30	17	16.1	NA
2022-05-26 12:00	13.9	4.1	51	0	30	17	16.1	NA
2022-05-26 13:00	15.4	5.1	50	0	30	18	16.1	NA
2022-05-26 14:00	16.2	5.5	49	0	32	9	16.1	NA
2022-05-26 15:00	17.5	4.5	42	0	29	21	16.1	NA
2022-05-26 16:00	19.3	4.8	38	0	29	15	16.1	NA
2022-05-26 17:00	20.5	2.4	30	0	30	13	16.1	NA
2022-05-26 18:00	21.3	3.7	31	0	27	18	16.1	NA
2022-05-26 19:00	20.9	4.1	33	0	27	17	16.1	NA
2022-05-26 20:00	19.9	2.7	32	0	29	9	16.1	NA
2022-05-26 21:00	19.3	3.7	35	0	32	8	16.1	NA
2022-05-26 22:00	19.5	3.8	35	0		4	16.1	NA
2022-05-26 23:00	17.9	3.9	39	0	21	8	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-27 0:00	15.2	5.8	53	0		0	16.1	NA
2022-05-27 1:00	13.8	8	68	0	29	5	16.1	NA
2022-05-27 2:00	11.9	10.4	90	0		4	16.1	Rain
2022-05-27 3:00	12.4	10.1	86	0	5	8	16.1	NA
2022-05-27 4:00	12.2	10.3	88	0	13	9	16.1	NA
2022-05-27 5:00	10.9	9.5	91	0	4	9	16.1	NA
2022-05-27 6:00	10.2	9.1	93	0	4	5	16.1	NA
2022-05-27 7:00	11.4	4.3	61	0	25	13	16.1	NA
2022-05-27 8:00	11	5.1	67	0	25	13	16.1	NA
2022-05-27 9:00	10.4	6.9	79	0	24	17	16.1	NA
2022-05-27 10:00	9.7	6.7	82	0.2	18	9	16.1	NA
2022-05-27 11:00	9.1	7.7	91	0	15	11	16.1	Rain
2022-05-27 12:00	8.6	8.2	97	1.8	14	13	6.4	Rain,Fog
2022-05-27 13:00	8	7.9	99	2.2	13	18	16.1	Rain
2022-05-27 14:00	8.9	8.8	99	2	14	13	11.3	Rain
2022-05-27 15:00	9.9	9.8	99	1	16	11	16.1	Rain
2022-05-27 16:00	10.6	10.3	98	2.5	15	8	8.1	Rain,Fog
2022-05-27 17:00	11	10.7	98	2.2	14	11	6.4	Rain,Fog
2022-05-27 18:00	11.5	11.2	98	3.8	10	5	4.8	Rain,Fog
2022-05-27 19:00	11.1	11	99	3	9	9	9.7	Rain,Fog
2022-05-27 20:00	11	10.9	99	0.2	8	8	4	Fog
2022-05-27 21:00	11.1	11.1	100	0	7	11	0.8	Fog
2022-05-27 22:00	11.1	11.1	100	0	7	8	0.4	Fog
2022-05-27 23:00	10.8	10.8	100	0.8	7	11	2.4	Fog
2022-05-28 0:00	10.7	10.7	100	0.5	7	8	4.8	Rain,Fog
2022-05-28 1:00	10.6	10.6	100	0.2	7	9	4	Fog
2022-05-28 2:00	10.3	10.3	100	0.5	7	9	2.4	Rain,Fog
2022-05-28 3:00	9.6	9.6	100	0.5	7	11	4	Fog
2022-05-28 4:00	8.9	8.9	100	0.2	6	13	3.6	Fog
2022-05-28 5:00	8.4	8.4	100	0	7	13	1.6	Fog
2022-05-28 6:00	7.8	7.8	100	0	7	13	1	Fog
2022-05-28 7:00	7.7	7.7	100	0	6	9	1	Fog
2022-05-28 8:00	7.7	7.7	100	0	7	13	1	Fog
2022-05-28 9:00	7.9	7.9	100	0.2	5	13	0.2	Rain,Fog
2022-05-28 10:00	8.2	8.2	100	0	8	11	0.2	Fog
2022-05-28 11:00	8.7	8.7	100	0	8	9	0.2	Fog
2022-05-28 12:00	10	10	100	0	7	8	0.6	Fog
2022-05-28 13:00	10.8	10.8	100	0	9	9	0.6	Rain,Fog
2022-05-28 14:00	12.2	12.2	100	0	10	11	1.2	Fog
2022-05-28 15:00	16.2	16.2	100	0.5	17	9	16.1	NA
2022-05-28 16:00	18	17.5	97	0	19	11	16.1	NA
2022-05-28 17:00	17.3	16.7	96	1	18	9	16.1	Rain
2022-05-28 18:00	17.4	16.4	94	0.2	19	17	16.1	Rain
2022-05-28 19:00	17.7	16.7	94	0	13	8	16.1	NA
2022-05-28 20:00	18.6	17	90	0	21	21	16.1	NA
2022-05-28 21:00	17.5	16.9	96	1.8	21	17	16.1	Rain
2022-05-28 22:00	17.1	16.5	96	0	20	18	16.1	NA
2022-05-28 23:00	16.5	15.9	96	0	21	17	16.1	NA
2022-05-29 0:00	15.8	15	95	0	21	24	16.1	NA
2022-05-29 1:00	16.6	15.8	95	0	22	24	16.1	NA
2022-05-29 2:00	16.1	15	93	0	21	22	16.1	NA
2022-05-29 3:00	15.6	14.7	94	0	22	17	16.1	NA
2022-05-29 4:00	15.8	14.7	93	0	21	15	16.1	NA
2022-05-29 5:00	15.2	14.4	95	0	22	11	16.1	NA
2022-05-29 6:00	14.6	14.3	98	0	25	13	14.5	NA
2022-05-29 7:00	14.5	14.2	98	0	24	11	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-29 8:00	15	14.5	97	0	28	13	16.1	NA
2022-05-29 9:00	12.5	12.4	99	0.5	30	18	1.6	Rain,Fog
2022-05-29 10:00	12.2	12.2	100	0	30	17	16.1	NA
2022-05-29 11:00	12.4	12.3	99	0	30	15	16.1	NA
2022-05-29 12:00	13.1	12.5	96	0	29	17	16.1	NA
2022-05-29 13:00	13.8	12	89	0	30	18	16.1	NA
2022-05-29 14:00	15.1	11.7	80	0	30	22	16.1	NA
2022-05-29 15:00	16	11.3	73	0	31	24	16.1	NA
2022-05-29 16:00	15.4	11.5	77	0	29	18	16.1	NA
2022-05-29 17:00	16.2	11.2	72	0	29	21	16.1	NA
2022-05-29 18:00	16.6	11.3	71	0	29	18	16.1	NA
2022-05-29 19:00	18.4	8.5	52	0	28	17	16.1	NA
2022-05-29 20:00	19.9	6.8	42	0	30	9	16.1	NA
2022-05-29 21:00	20.6	5.6	37	0		11	16.1	NA
2022-05-29 22:00	20.9	5.6	36	0		4	16.1	NA
2022-05-29 23:00	19.7	6.7	42	0	19	13	16.1	NA
2022-05-30 0:00	17.4	6.4	48	0	18	13	16.1	NA
2022-05-30 1:00	14.8	7	59	0		0	16.1	NA
2022-05-30 2:00	15.4	7.3	58	0	29	9	16.1	NA
2022-05-30 3:00	15.4	8.1	62	0	28	8	16.1	NA
2022-05-30 4:00	15.5	8.3	62	0	27	11	16.1	NA
2022-05-30 5:00	15.3	7.7	60	0	29	13	16.1	NA
2022-05-30 6:00	14.1	7.7	65	0	28	13	16.1	NA
2022-05-30 7:00	11.7	7.8	77	0	27	4	16.1	NA
2022-05-30 8:00	10.1	7.2	82	0		0	16.1	NA
2022-05-30 9:00	9	7	87	0	17	5	16.1	NA
2022-05-30 10:00	13.8	8.9	72	0		4	16.1	NA
2022-05-30 11:00	13.8	9	73	0		0	16.1	NA
2022-05-30 12:00	15.5	10.2	70	0		4	16.1	NA
2022-05-30 13:00	16.2	10.3	68	0	28	8	16.1	NA
2022-05-30 14:00	18.8	10.2	57	0	30	11	16.1	NA
2022-05-30 15:00	15.6	9.3	66	0	29	21	16.1	NA
2022-05-30 16:00	15.1	9.9	71	0	31	8	16.1	NA
2022-05-30 17:00	14	10.3	78	0	9	13	16.1	Rain
2022-05-30 18:00	12.3	10.6	89	1	14	9	16.1	Rain
2022-05-30 19:00	14.2	11.1	82	0	17	15	16.1	NA
2022-05-30 20:00	12.8	10.9	88	0	18	15	16.1	NA
2022-05-30 21:00	12.8	11.6	92	0.2	18	13	16.1	Rain
2022-05-30 22:00	13.3	11.5	89	0	18	18	16.1	NA
2022-05-30 23:00	11.1	8.3	83	0	15	17	16.1	NA
2022-05-31 0:00	11.1	9	87	0		0	16.1	NA
2022-05-31 1:00	10.6	10.2	97	0	29	5	16.1	NA
2022-05-31 2:00	9.2	8.8	97	0	22	8	16.1	NA
2022-05-31 3:00	7.4	5.9	90	0	28	11	16.1	NA
2022-05-31 4:00	6.8	4.6	86	0	32	9	16.1	NA
2022-05-31 5:00	5.8	5	94	0	30	11	16.1	NA
2022-05-31 6:00	6.2	5.3	94	0	31	8	16.1	NA
2022-05-31 7:00	6.6	5.4	92	0	31	9	16.1	NA
2022-05-31 8:00	7.2	5.5	89	0	32	11	16.1	NA
2022-05-31 9:00	7.1	5.4	89	0	32	11	16.1	NA
2022-05-31 10:00	8.4	5.5	82	0	33	13	16.1	NA
2022-05-31 11:00	9.1	5.3	77	0	31	17	16.1	NA
2022-05-31 12:00								
2022-05-31 13:00								
2022-05-31 14:00								
2022-05-31 15:00								

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-05-31 16:00								
2022-05-31 17:00								
2022-05-31 18:00								
2022-05-31 19:00								
2022-05-31 20:00								
2022-05-31 21:00	7.1	0.8	64	0	31	34	16.1	NA
2022-05-31 22:00	6.4	1.7	72	0	32	18	16.1	NA
2022-05-31 23:00	6.4	1.3	70	0	32	24	16.1	NA
2022-06-01 0:00	6.3	1.8	73	0	32	22	16.1	Rain
2022-06-01 1:00	6.3	2.8	78	0	32	30	16.1	NA
2022-06-01 2:00	5.8	3.8	87	0	33	17	16.1	NA
2022-06-01 3:00	5.7	4.2	90	0	33	21	16.1	NA
2022-06-01 4:00	6.2	4.5	89	0	32	17	16.1	NA
2022-06-01 5:00	6.3	4.6	89	0	32	17	16.1	NA
2022-06-01 6:00	6.9	4.4	84	0	32	24	16.1	NA
2022-06-01 7:00	6.7	4.5	86	0	31	22	16.1	NA
2022-06-01 8:00	6.8	4.1	83	0	32	24	16.1	NA
2022-06-01 9:00	6.3	3.5	82	0	32	21	16.1	NA
2022-06-01 10:00	7	3.5	78	0	32	21	16.1	NA
2022-06-01 11:00	6.1	3.2	82	0	32	32	11.3	NA
2022-06-01 12:00	5.7	3.2	84	0	32	21	16.1	NA
2022-06-01 13:00	6.8	3.1	77	0	31	24	16.1	NA
2022-06-01 14:00	7.1	3.9	80	0	31	22	16.1	NA
2022-06-01 15:00	5.5	3.4	86	0	31	24	11.3	NA
2022-06-01 16:00	6.3	2.7	78	0	31	30	16.1	NA
2022-06-01 17:00	5.9	2	76	0	31	35	16.1	NA
2022-06-01 18:00	7	2.9	75	0	30	28	16.1	NA
2022-06-01 19:00	6	3.7	85	0	32	34	6.4	Fog
2022-06-01 20:00	6.2	3.2	81	0	31	28	16.1	NA
2022-06-01 21:00	5.4	3.9	90	0	33	15	6.4	Rain,Fog
2022-06-01 22:00	5.4	3.6	88	0	31	26	16.1	NA
2022-06-01 23:00	5.8	3.7	86	0	31	26	16.1	Rain
2022-06-02 0:00	5.8	3.3	84	0	31	22	16.1	NA
2022-06-02 1:00	5.3	3	85	0	31	15	16.1	NA
2022-06-02 2:00	5.3	3.8	90	0	31	17	16.1	Rain
2022-06-02 3:00	6	4	87	0	32	22	16.1	NA
2022-06-02 4:00	5.4	2.8	83	0	32	15	16.1	NA
2022-06-02 5:00	5.5	3.2	85	0	31	18	16.1	NA
2022-06-02 6:00	5.5	3.2	85	0	32	17	16.1	NA
2022-06-02 7:00	5.3	2.5	82	0	32	18	16.1	NA
2022-06-02 8:00	5.6	3.2	84	0	32	21	16.1	NA
2022-06-02 9:00	5.5	3.5	87	0	31	26	16.1	NA
2022-06-02 10:00	5.9	3.2	83	0	32	21	16.1	NA
2022-06-02 11:00	6.2	3.8	84	0	31	30	16.1	NA
2022-06-02 12:00	6.4	3.9	84	0	31	26	16.1	NA
2022-06-02 13:00	7.1	3.5	78	0	31	37	16.1	NA
2022-06-02 14:00	7.4	3.7	77	0	30	34	16.1	NA
2022-06-02 15:00	7.5	3.8	77	0	32	26	16.1	NA
2022-06-02 16:00	8.4	3.4	71	0	32	32	16.1	NA
2022-06-02 17:00	8.5	4.3	75	0	30	34	16.1	NA
2022-06-02 18:00	8.5	4.7	77	0	31	26	16.1	NA
2022-06-02 19:00	9	4.7	74	0	31	39	16.1	NA
2022-06-02 20:00	9.1	4.1	71	0	31	34	16.1	NA
2022-06-02 21:00	9.2	5	75	0	31	22	16.1	NA
2022-06-02 22:00	8.3	5.1	80	0	31	24	16.1	NA
2022-06-02 23:00	8	5.3	83	0	31	17	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-03 0:00	7.9	5.9	87	0	30	21	16.1	NA
2022-06-03 1:00	8	6.1	88	0	30	17	16.1	NA
2022-06-03 2:00	8.1	5.9	86	0	30	18	16.1	NA
2022-06-03 3:00	8.4	5.9	84	0	31	15	16.1	NA
2022-06-03 4:00	8	6.3	89	0	30	15	16.1	NA
2022-06-03 5:00	8.1	6.4	89	0	31	9	16.1	NA
2022-06-03 6:00	7.9	6.2	89	0	29	9	16.1	NA
2022-06-03 7:00	7.5	6	90	0	32	11	16.1	NA
2022-06-03 8:00	8	5.3	83	0	35	9	16.1	NA
2022-06-03 9:00	7.8	4.9	82	0	34	5	16.1	NA
2022-06-03 10:00	8.6	4.5	75	0	35	9	16.1	NA
2022-06-03 11:00	10	4.6	69	0	36	11	16.1	NA
2022-06-03 12:00	11.1	4.7	64	0	4	15	16.1	NA
2022-06-03 13:00	12	5.5	64	0	35	11	16.1	NA
2022-06-03 14:00	13.1	5.3	59	0		11	16.1	NA
2022-06-03 15:00	11.7	5.1	64	0	29	28	16.1	NA
2022-06-03 16:00	11.9	6.5	69	0	28	30	16.1	NA
2022-06-03 17:00	11.9	5.5	65	0	28	30	16.1	NA
2022-06-03 18:00	11.8	6.6	70	0	28	26	16.1	NA
2022-06-03 19:00	10.4	5.6	72	0	28	24	16.1	NA
2022-06-03 20:00	10.4	5.5	72	0	27	21	16.1	NA
2022-06-03 21:00	7.9	4.9	81	0	27	24	16.1	NA
2022-06-03 22:00	7.3	4.9	85	0	27	13	16.1	NA
2022-06-03 23:00	6.8	4.8	87	0	25	15	16.1	NA
2022-06-04 0:00	6.1	4.6	90	0	17	8	16.1	NA
2022-06-04 1:00	5.7	4.4	91	0	17	8	16.1	NA
2022-06-04 2:00	5.4	4.7	95	0	14	5	16.1	NA
2022-06-04 3:00	5.6	5	96	0	24	8	16.1	NA
2022-06-04 4:00	5.3	4.7	96	0	27	5	16.1	NA
2022-06-04 5:00	5.7	5.1	96	0	25	11	16.1	NA
2022-06-04 6:00	6.1	5.4	95	0	27	13	16.1	NA
2022-06-04 7:00	6.2	5	92	0	29	9	16.1	NA
2022-06-04 8:00	5.9	4.6	91	0	31	11	16.1	NA
2022-06-04 9:00	5.8	4.5	91	0	31	11	16.1	NA
2022-06-04 10:00	5.8	4.1	89	0	33	9	16.1	NA
2022-06-04 11:00	6	3.8	86	0	31	18	16.1	NA
2022-06-04 12:00	6.5	4.2	85	0	29	17	16.1	NA
2022-06-04 13:00	8.1	4.7	79	0	32	13	16.1	NA
2022-06-04 14:00	8.5	4.4	75	0	28	22	16.1	NA
2022-06-04 15:00	8.4	4.8	78	0	28	30	16.1	NA
2022-06-04 16:00	8.7	5	77	0	28	24	16.1	NA
2022-06-04 17:00	9.2	4.8	74	0	28	26	16.1	NA
2022-06-04 18:00	10.1	5.8	74	0	28	22	16.1	NA
2022-06-04 19:00	10.1	6.2	76	0	27	22	16.1	NA
2022-06-04 20:00	9.6	6	78	0	28	24	16.1	NA
2022-06-04 21:00	9.5	6.1	79	0	28	17	16.1	NA
2022-06-04 22:00	9	6.5	84	0	28	15	16.1	NA
2022-06-04 23:00	8.2	6.5	89	0	27	13	16.1	NA
2022-06-05 0:00	6.8	6.2	96	0	26	9	16.1	NA
2022-06-05 1:00	5.9	5.6	98	0	29	5	16.1	NA
2022-06-05 2:00	3.4	3.1	98	0		4	14.5	NA
2022-06-05 3:00	3.2	3.1	99	0	6	8	16.1	NA
2022-06-05 4:00	3.1	2.8	98	0	7	8	16.1	NA
2022-06-05 5:00	4	3.9	99	0	5	9	16.1	NA
2022-06-05 6:00	4.3	4.2	99	0	6	8	16.1	NA
2022-06-05 7:00	3.5	3.4	99	0	5	8	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-05 8:00	3	2.9	99	0	4	4	16.1	NA
2022-06-05 9:00	4.8	4.7	99	0	10	8	16.1	NA
2022-06-05 10:00	6.9	6.5	97	0	8	8	16.1	NA
2022-06-05 11:00	8.2	6.2	87	0	11	9	16.1	NA
2022-06-05 12:00	10.2	5.6	73	0	15	9	16.1	NA
2022-06-05 13:00	9.3	4.6	72	0	15	11	16.1	Rain
2022-06-05 14:00	9	5.7	80	0.2	14	8	16.1	Rain
2022-06-05 15:00	11.5	7.9	79	0	10	9	16.1	NA
2022-06-05 16:00	13	8.9	76	0		4	16.1	NA
2022-06-05 17:00	14.6	9.5	71	0	17	17	16.1	NA
2022-06-05 18:00	14.1	9.9	76	0	13	17	16.1	NA
2022-06-05 19:00	13.1	10.1	82	0	17	11	16.1	NA
2022-06-05 20:00	12.6	9.3	80	0	18	11	16.1	NA
2022-06-05 21:00	13.4	9.9	79	0	13	9	16.1	NA
2022-06-05 22:00	12.6	8.7	77	0	15	9	16.1	NA
2022-06-05 23:00	12.3	7.7	73	0	16	8	16.1	NA
2022-06-06 0:00	11.3	7.1	75	0	17	9	16.1	NA
2022-06-06 1:00	10.6	6.2	74	0	19	5	16.1	NA
2022-06-06 2:00	9.1	6.5	84	0	11	8	16.1	NA
2022-06-06 3:00	8.6	7.1	90	0		4	16.1	Rain
2022-06-06 4:00	7.8	7.2	96	0.2	15	5	16.1	NA
2022-06-06 5:00	6.5	6.4	99	0		0	16.1	NA
2022-06-06 6:00	5.5	5.4	99	0	9	5	16.1	NA
2022-06-06 7:00	6.5	6.4	99	0		4	1.2	Fog
2022-06-06 8:00	7.5	7.5	100	0		0	0.2	Fog
2022-06-06 9:00	7.9	7.9	100	0	18	5	0.2	Fog
2022-06-06 10:00	8.7	8.7	100	0		0	0.2	Fog
2022-06-06 11:00	9.3	9.3	100	0	4	4	9.7	Fog
2022-06-06 12:00	10	9.9	99	0		0	16.1	NA
2022-06-06 13:00	10.6	10	96	0	29	13	16.1	NA
2022-06-06 14:00	11.3	10.3	94	0	27	5	16.1	NA
2022-06-06 15:00	11.8	10.4	91	0	28	17	16.1	NA
2022-06-06 16:00	13.9	11	82	0	29	22	16.1	NA
2022-06-06 17:00	13.3	8.4	72	0	29	17	16.1	NA
2022-06-06 18:00	12.5	7.9	73	0	28	21	16.1	NA
2022-06-06 19:00	13.2	7	66	0	29	13	16.1	NA
2022-06-06 20:00	13.5	5.7	59	0	31	13	16.1	NA
2022-06-06 21:00	13.1	6.1	62	0	30	18	16.1	NA
2022-06-06 22:00	12.8	5.8	62	0	31	17	16.1	NA
2022-06-06 23:00	10.3	5.3	71	0	32	11	16.1	NA
2022-06-07 0:00	9.2	5.2	76	0	33	8	16.1	NA
2022-06-07 1:00	8.4	6.1	85	0	27	8	16.1	NA
2022-06-07 2:00	8.1	5.7	85	0	34	5	16.1	Rain
2022-06-07 3:00	7.7	5.5	86	0		4	16.1	NA
2022-06-07 4:00	7.8	5.3	84	0	33	5	16.1	NA
2022-06-07 5:00	7.4	5.3	86	0	30	9	16.1	NA
2022-06-07 6:00	7.3	6	92	0	28	8	16.1	NA
2022-06-07 7:00	6.7	6	95	0	26	9	16.1	NA
2022-06-07 8:00	6	5.1	94	0	32	9	16.1	NA
2022-06-07 9:00	7.2	6.8	97	0	30	11	16.1	NA
2022-06-07 10:00	7.8	6.6	92	0		0	16.1	NA
2022-06-07 11:00	10.1	8.5	90	0	28	15	16.1	NA
2022-06-07 12:00	10.1	8.2	88	0	29	22	16.1	NA
2022-06-07 13:00	11.9	7.9	76	0	28	26	16.1	NA
2022-06-07 14:00	12.7	7.7	72	0	28	24	16.1	NA
2022-06-07 15:00	15.4	6.4	55	0	29	21	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-07 16:00	15.6	6.3	54	0	28	22	16.1	NA
2022-06-07 17:00	16.7	7.2	53	0	29	18	16.1	NA
2022-06-07 18:00	17.5	7.8	53	0	31	13	16.1	NA
2022-06-07 19:00	18	7.8	51	0	31	18	16.1	NA
2022-06-07 20:00	17.4	8	54	0	29	17	16.1	NA
2022-06-07 21:00	16.5	8	57	0	29	18	16.1	NA
2022-06-07 22:00	15.2	8.2	63	0	28	17	16.1	NA
2022-06-07 23:00	12.5	9	79	0	29	11	16.1	NA
2022-06-08 0:00	10.1	8.2	88	0	29	8	16.1	NA
2022-06-08 1:00	7	6.4	96	0		4	16.1	NA
2022-06-08 2:00	5.5	4.7	94	0		0	16.1	NA
2022-06-08 3:00	4.6	4.1	97	0	1	8	16.1	NA
2022-06-08 4:00	3.8	3.1	95	0		0	16.1	NA
2022-06-08 5:00	3.7	3.6	99	0	3	9	16.1	NA
2022-06-08 6:00	2.5	2.4	99	0	3	9	16.1	NA
2022-06-08 7:00	2	1.9	99	0	4	5	16.1	NA
2022-06-08 8:00	2.8	2.7	99	0	2	9	16.1	NA
2022-06-08 9:00	4.2	4.1	99	0	2	8	16.1	NA
2022-06-08 10:00	9	7.6	91	0	5	9	16.1	NA
2022-06-08 11:00	11.3	8.2	81	0	10	11	16.1	NA
2022-06-08 12:00	14.1	7.3	63	0	13	9	16.1	NA
2022-06-08 13:00	14.5	5.8	56	0	11	15	16.1	NA
2022-06-08 14:00	16	4.9	48	0	15	9	16.1	NA
2022-06-08 15:00	17.1	6.5	49	0	14	9	16.1	NA
2022-06-08 16:00	18.7	9.4	54	0	15	13	16.1	NA
2022-06-08 17:00	17.5	7.4	51	0	13	15	16.1	NA
2022-06-08 18:00	18	9.9	59	0	14	15	16.1	NA
2022-06-08 19:00	18	10.6	61	0	15	13	16.1	NA
2022-06-08 20:00	17.5	11.6	68	0	12	15	16.1	NA
2022-06-08 21:00	17.2	12.1	72	0	12	8	16.1	NA
2022-06-08 22:00	17.2	11.8	70	0	16	8	16.1	NA
2022-06-08 23:00	16.2	10.8	70	0	20	9	16.1	NA
2022-06-09 0:00	15.3	9.7	69	0	16	8	16.1	NA
2022-06-09 1:00	14.3	11.7	84	0	16	11	16.1	NA
2022-06-09 2:00	13.4	11.2	86	0	15	11	16.1	NA
2022-06-09 3:00	12.4	11.2	92	0	13	9	16.1	Rain
2022-06-09 4:00	11.8	11	95	0.8	13	8	9.7	Rain,Fog
2022-06-09 5:00	11.6	11	96	0.5	13	17	16.1	NA
2022-06-09 6:00	12.1	10.9	92	1	16	28	9.7	Rain,Fog
2022-06-09 7:00	12.4	11.2	92	0	14	22	16.1	NA
2022-06-09 8:00	12	11.2	95	0	15	22	16.1	NA
2022-06-09 9:00	11.4	11	97	0.2	14	15	14.5	Rain
2022-06-09 10:00	11.2	11.1	99	4	13	17	4	Rain,Fog
2022-06-09 11:00	12.3	12.2	99	1	13	15	9.7	Rain,Fog
2022-06-09 12:00	12.7	12.6	99	0.2	13	15	16.1	NA
2022-06-09 13:00	13.3	13.2	99	0	15	17	11.3	NA
2022-06-09 14:00	13.8	13.7	99	0	14	18	8.1	Fog
2022-06-09 15:00	13.9	13.8	99	0	15	11	8.1	Fog
2022-06-09 16:00	15.3	15	98	0	12	15	16.1	NA
2022-06-09 17:00	17	15.9	93	0	11	13	16.1	NA
2022-06-09 18:00	16.7	15.4	92	0	10	13	16.1	NA
2022-06-09 19:00	15.1	14.3	95	0	10	13	16.1	NA
2022-06-09 20:00	16.2	15.1	93	0	16	13	16.1	NA
2022-06-09 21:00	15.1	14.5	96	0	14	9	16.1	NA
2022-06-09 22:00	13.5	13.2	98	0	12	11	2.4	Fog
2022-06-09 23:00	12.6	12.5	99	1.2	12	13	4.8	Rain,Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-10 0:00	12.9	12.8	99	1.2	13	13	16.1	Rain
2022-06-10 1:00	13.8	13.7	99	2	13	9	4.8	Rain,Fog
2022-06-10 2:00	14.7	14.6	99	4.5	14	15	4.8	Rain,Fog
2022-06-10 3:00	14.7	14.6	99	13.6	15	18	2.8	Moderate Rain,Fog
2022-06-10 4:00	14.9	14.8	99	15.9	17	15	3.2	Rain,Fog
2022-06-10 5:00	15.1	14.8	98	12.1	17	18	8.1	Rain,Fog
2022-06-10 6:00	15	14.7	98	0.5	18	21	9.7	Fog
2022-06-10 7:00	15.1	14.8	98	0	18	21	12.9	NA
2022-06-10 8:00	14.8	14.5	98	0.2	18	18	8.1	Fog
2022-06-10 9:00	14.3	14	98	0	17	17	16.1	NA
2022-06-10 10:00	14.1	14	99	0	16	18	16.1	NA
2022-06-10 11:00	14.3	14.2	99	0	18	21	16.1	NA
2022-06-10 12:00	15.5	15.2	98	0	19	13	16.1	NA
2022-06-10 13:00	17.4	16.2	93	0	17	17	16.1	NA
2022-06-10 14:00	18.8	15.7	82	0	16	18	16.1	NA
2022-06-10 15:00	20.5	15.7	73	0	18	17	16.1	NA
2022-06-10 16:00	22.8	13.9	57	0	22	22	16.1	NA
2022-06-10 17:00	23	14.7	59	0	19	18	16.1	NA
2022-06-10 18:00	22.6	14.4	59	0	19	18	16.1	NA
2022-06-10 19:00	23.8	12.7	49	0	22	21	16.1	NA
2022-06-10 20:00	22	13.3	57	0	17	24	16.1	NA
2022-06-10 21:00	20.5	12.8	61	0	17	21	16.1	NA
2022-06-10 22:00	19.8	12.4	62	0	20	18	16.1	NA
2022-06-10 23:00	18.8	12.5	67	0	15	5	16.1	NA
2022-06-11 0:00	17	12.2	73	0	22	5	16.1	NA
2022-06-11 1:00	15.5	11.9	79	0	26	9	16.1	NA
2022-06-11 2:00	14.9	11.7	81	0	26	13	16.1	NA
2022-06-11 3:00	15.3	10.7	74	0	28	15	16.1	NA
2022-06-11 4:00	14.7	10.2	74	0	27	13	16.1	NA
2022-06-11 5:00	14.8	10.1	73	0	28	9	16.1	NA
2022-06-11 6:00	14.1	9.8	75	0	29	11	16.1	NA
2022-06-11 7:00	14.1	9.5	74	0	29	13	16.1	NA
2022-06-11 8:00	14.2	9.9	75	0	27	18	16.1	NA
2022-06-11 9:00	13.7	10	78	0	27	15	16.1	NA
2022-06-11 10:00	15.4	11	75	0	29	9	16.1	NA
2022-06-11 11:00	17.3	11.2	67	0	24	17	16.1	NA
2022-06-11 12:00	18.5	12.1	66	0	24	15	16.1	NA
2022-06-11 13:00	20.8	12	57	0	25	18	16.1	NA
2022-06-11 14:00	21.4	12.6	57	0	27	17	16.1	NA
2022-06-11 15:00	22.4	12.3	52	0	27	21	16.1	NA
2022-06-11 16:00	23	11.2	47	0	28	26	16.1	NA
2022-06-11 17:00	23.4	11.1	46	0	27	30	16.1	NA
2022-06-11 18:00	23.8	10.7	43	0	26	21	16.1	NA
2022-06-11 19:00	24.2	11.2	44	0	27	22	16.1	NA
2022-06-11 20:00	23.5	11.2	46	0	27	17	16.1	NA
2022-06-11 21:00	23.4	12.1	49	0	30	13	16.1	NA
2022-06-11 22:00	21.8	12.6	55	0	19	11	16.1	NA
2022-06-11 23:00	20.8	12.9	60	0	21	9	16.1	NA
2022-06-12 0:00	17.3	13	76	0		0	16.1	NA
2022-06-12 1:00	18.2	12.5	69	0	22	13	16.1	NA
2022-06-12 2:00	17.3	12.1	71	0	23	9	16.1	NA
2022-06-12 3:00	16.7	11.9	73	0		4	16.1	NA
2022-06-12 4:00	16.2	11.6	74	0	23	9	16.1	NA
2022-06-12 5:00	14.6	11.4	81	0	20	8	16.1	NA
2022-06-12 6:00	13	11	88	0	23	8	16.1	NA
2022-06-12 7:00	14	10.6	80	0	25	11	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-12 8:00	14.6	10.7	77	0	28	9	16.1	NA
2022-06-12 9:00	11.9	9.9	87	0	20	5	16.1	NA
2022-06-12 10:00	12.1	10.9	92	0		4	16.1	NA
2022-06-12 11:00	16.7	11.1	69	0	24	11	16.1	NA
2022-06-12 12:00	19.3	11.7	61	0	24	13	16.1	NA
2022-06-12 13:00	20.6	12.3	59	0	24	8	16.1	NA
2022-06-12 14:00	21.9	13.7	59	0	29	13	16.1	NA
2022-06-12 15:00	21.8	13.6	59	0	29	15	16.1	NA
2022-06-12 16:00	23.1	13.5	54	0	29	13	16.1	NA
2022-06-12 17:00	23.6	15.1	58	0	29	17	16.1	NA
2022-06-12 18:00	23.7	14.2	55	0	31	15	16.1	NA
2022-06-12 19:00	24.1	12.6	48	0	28	17	16.1	NA
2022-06-12 20:00	23.9	12.5	48	0	28	17	16.1	NA
2022-06-12 21:00	22.2	12.8	55	0	30	11	16.1	NA
2022-06-12 22:00	22.3	13.8	58	0	29	8	16.1	NA
2022-06-12 23:00	20.7	13	61	0	25	9	16.1	NA
2022-06-13 0:00	17.4	12.6	73	0	23	4	16.1	NA
2022-06-13 1:00	14.9	12.6	86	0	36	5	16.1	NA
2022-06-13 2:00	14.6	12.6	87	0	5	5	14.5	NA
2022-06-13 3:00	16	13	82	0	2	8	16.1	NA
2022-06-13 4:00	14.8	13	89	0	14	9	16.1	NA
2022-06-13 5:00	13.4	12.5	94	0	11	8	16.1	NA
2022-06-13 6:00	12	11.5	97	0	7	5	16.1	NA
2022-06-13 7:00	12.6	12.1	97	0	7	8	16.1	NA
2022-06-13 8:00	12.2	11.7	97	0	5	11	16.1	NA
2022-06-13 9:00	12.5	12	97	0	5	9	16.1	NA
2022-06-13 10:00	13.6	12.7	94	0	5	11	16.1	NA
2022-06-13 11:00	15.4	12	80	0	10	8	16.1	NA
2022-06-13 12:00	17.5	13.5	77	0	6	9	16.1	NA
2022-06-13 13:00	15.7	12.5	81	0	19	13	16.1	NA
2022-06-13 14:00	17.1	13.7	80	0	18	5	16.1	NA
2022-06-13 15:00	17.3	13.8	80	0		4	16.1	NA
2022-06-13 16:00	19.3	14.5	73	0	19	5	16.1	NA
2022-06-13 17:00	21.3	12.6	57	0	33	9	16.1	NA
2022-06-13 18:00	20	15.1	73	0	23	13	16.1	NA
2022-06-13 19:00	19.4	14.3	72	0	22	11	16.1	NA
2022-06-13 20:00	17.5	14.3	81	0	34	5	16.1	NA
2022-06-13 21:00	19.1	14.2	73	0	7	8	16.1	NA
2022-06-13 22:00	17.4	14.4	82	0	9	8	16.1	NA
2022-06-13 23:00	16.4	14.4	88	0	7	8	16.1	NA
2022-06-14 0:00	16.1	14.7	91	0	6	9	16.1	NA
2022-06-14 1:00	15.3	13.5	89	0	6	18	16.1	NA
2022-06-14 2:00	14.4	13	91	0	8	15	16.1	NA
2022-06-14 3:00	13.5	12.9	96	0	9	11	14.5	Rain
2022-06-14 4:00	12.1	12	99	0.5	14	13	14.5	Rain
2022-06-14 5:00	11.6	11.5	99	0.5	7	13	8.1	Rain,Fog
2022-06-14 6:00	11.7	11.6	99	1.8	6	15	3.2	Rain,Fog
2022-06-14 7:00	12.1	12	99	3	6	18	4	Rain,Fog
2022-06-14 8:00	11.9	11.8	99	3.2	6	18	4	Rain,Fog
2022-06-14 9:00	11.8	11.7	99	3.8	5	18	6.4	Rain,Fog
2022-06-14 10:00	11.6	11.5	99	4.8	5	21	4.8	Rain,Fog
2022-06-14 11:00	11.6	11.5	99	4.8	6	21	8.1	Rain,Fog
2022-06-14 12:00	11.7	11.4	98	1.2	5	13	9.7	Rain,Fog
2022-06-14 13:00	11.3	11.1	99	1.8	5	13	8.1	Rain,Fog
2022-06-14 14:00	11.4	11.1	98	1	3	17	16.1	Rain
2022-06-14 15:00	11.5	11.2	98	2	3	13	6.4	Rain,Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-14 16:00	12.1	11.6	97	0.8	4	24	11.3	Rain
2022-06-14 17:00	12.1	11.6	97	0.8	4	13	4.8	Rain,Fog
2022-06-14 18:00	11.9	11.4	97	2	4	21	6.4	Rain,Fog
2022-06-14 19:00	11.7	11.2	97	6.2	3	17	4	Moderate Rain,Fog
2022-06-14 20:00	11.4	11.1	98	7	4	15	4	Rain,Fog
2022-06-14 21:00	10.9	10.6	98	6	3	15	3.6	Rain,Fog
2022-06-14 22:00	10.5	10.2	98	6.8	3	18	2.8	Rain,Fog
2022-06-14 23:00	9.9	9.6	98	4.8	3	13	2	Rain,Fog
2022-06-15 0:00	9.6	9.3	98	4.8	3	15	2	Rain,Fog
2022-06-15 1:00	10	9.7	98	2	5	17	4.8	Rain,Fog
2022-06-15 2:00	10.4	10.1	98	0.8	6	17	4	Rain,Fog
2022-06-15 3:00	10.3	10	98	0.2	4	21	6.4	Fog
2022-06-15 4:00	10.3	9.9	97	0	4	18	6.4	Fog
2022-06-15 5:00	9.9	9.6	98	0.2	5	24	6.4	Fog
2022-06-15 6:00	9.6	9.3	98	0.2	4	22	8.1	Fog
2022-06-15 7:00	9.5	9.1	97	0	5	21	16.1	NA
2022-06-15 8:00	9.1	8.7	97	0	4	22	16.1	NA
2022-06-15 9:00	8.9	8.5	97	0	4	18	16.1	NA
2022-06-15 10:00	9.1	8.4	95	0	4	21	16.1	NA
2022-06-15 11:00	9.7	8.9	95	0	5	15	16.1	NA
2022-06-15 12:00	11.4	9.2	86	0	5	22	16.1	NA
2022-06-15 13:00	13.8	9.5	75	0	5	21	16.1	NA
2022-06-15 14:00	15.5	9.7	68	0	5	15	16.1	NA
2022-06-15 15:00	16.9	8.4	57	0	7	18	16.1	NA
2022-06-15 16:00	17	6.8	51	0	8	22	16.1	NA
2022-06-15 17:00	18	7.5	50	0	6	18	16.1	NA
2022-06-15 18:00	19.1	6.3	43	0	9	22	16.1	NA
2022-06-15 19:00	19.6	6.5	42	0	6	15	16.1	NA
2022-06-15 20:00	19.9	6	40	0	36	9	16.1	NA
2022-06-15 21:00	18.8	9.1	53	0	29	15	16.1	NA
2022-06-15 22:00	15.5	10.7	73	0	26	9	16.1	NA
2022-06-15 23:00	12.9	9.9	82	0	25	9	16.1	NA
2022-06-16 0:00	11.3	9.2	87	0	26	9	16.1	NA
2022-06-16 1:00	10.2	9	92	0	29	5	16.1	NA
2022-06-16 2:00	10.3	8.9	91	0	31	15	16.1	NA
2022-06-16 3:00	9.8	8.9	94	0	32	9	16.1	NA
2022-06-16 4:00	10.3	9.4	94	0	32	9	16.1	NA
2022-06-16 5:00	10.5	9.6	94	0	33	9	16.1	NA
2022-06-16 6:00	9.3	9	98	0	31	8	16.1	NA
2022-06-16 7:00	8	7.9	99	0		4	3.2	Fog
2022-06-16 8:00	9	8.8	99	0		0	16.1	NA
2022-06-16 9:00	8.6	8.5	99	0		0	16.1	NA
2022-06-16 10:00	11.9	10.5	91	0		0	16.1	NA
2022-06-16 11:00	14.4	10.8	79	0	24	8	16.1	NA
2022-06-16 12:00	17.2	10.5	64	0	30	11	16.1	NA
2022-06-16 13:00	19.1	9.8	55	0	29	13	16.1	NA
2022-06-16 14:00	20.4	10	51	0	31	15	16.1	NA
2022-06-16 15:00	22	10.3	47	0	29	11	16.1	NA
2022-06-16 16:00	22.7	9.8	44	0	28	17	16.1	NA
2022-06-16 17:00	24.6	10.5	41	0	28	15	16.1	NA
2022-06-16 18:00	24.4	10.2	40	0	30	15	16.1	NA
2022-06-16 19:00	24.6	8.4	35	0	30	18	16.1	NA
2022-06-16 20:00	24.8	9	36	0	30	13	16.1	NA
2022-06-16 21:00	24	11.1	44	0	19	15	16.1	NA
2022-06-16 22:00	23.1	10.1	43	0	18	13	16.1	NA
2022-06-16 23:00	21.7	10	47	0	16	9	12.9	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-17 0:00	18.5	9.8	57	0	13	8	16.1	NA
2022-06-17 1:00	18.9	8.1	49	0		11	16.1	NA
2022-06-17 2:00	18	8.9	55	0	28	13	16.1	NA
2022-06-17 3:00	16.6	9.4	62	0	29	9	16.1	NA
2022-06-17 4:00	16	8.9	63	0	27	13	16.1	NA
2022-06-17 5:00	14.7	8.1	64	0	29	8	16.1	NA
2022-06-17 6:00	14.4	8.2	66	0	25	13	16.1	NA
2022-06-17 7:00	14.4	6.9	60	0	25	11	16.1	NA
2022-06-17 8:00	14.2	5.4	55	0	21	13	16.1	NA
2022-06-17 9:00	14.1	5.3	55	0	18	8	16.1	NA
2022-06-17 10:00	13.3	6.5	63	0	17	9	16.1	NA
2022-06-17 11:00	15	5.6	53	0	22	15	16.1	NA
2022-06-17 12:00	14.8	6.1	56	0	23	18	16.1	NA
2022-06-17 13:00	13.3	8.6	73	0	20	13	16.1	Rain
2022-06-17 14:00	13.1	9.2	77	0	18	15	16.1	Rain
2022-06-17 15:00	13.9	8.6	70	0	17	17	16.1	NA
2022-06-17 16:00	16.1	10.7	70	0	20	17	16.1	NA
2022-06-17 17:00	15.7	10.2	69	0	16	17	16.1	NA
2022-06-17 18:00	16.6	10.6	67	0	17	17	16.1	NA
2022-06-17 19:00	16.9	12.9	77	0	19	28	16.1	NA
2022-06-17 20:00	16.9	13.1	78	0	20	24	16.1	NA
2022-06-17 21:00	16.5	13.1	80	0	18	18	16.1	NA
2022-06-17 22:00	16.1	13.2	83	0	19	15	16.1	NA
2022-06-17 23:00	15.3	13.5	89	0	20	26	16.1	NA
2022-06-18 0:00	14.7	13.4	92	0	18	22	16.1	NA
2022-06-18 1:00	14.6	13.3	92	0	17	26	16.1	NA
2022-06-18 2:00	14	13.3	95	0	17	22	16.1	NA
2022-06-18 3:00	13.2	12.9	98	0	15	17	16.1	NA
2022-06-18 4:00	13.4	13.1	98	0	16	17	8.1	Fog
2022-06-18 5:00	14.1	13.9	99	0	16	5	8.1	Fog
2022-06-18 6:00	14.1	13.8	98	0	18	17	4	Fog
2022-06-18 7:00	14.2	13.9	98	1.5	16	8	9.7	Rain,Fog
2022-06-18 8:00	14.1	13.8	98	2.2	15	18	16.1	NA
2022-06-18 9:00	13.7	13.6	99	0	16	17	11.3	NA
2022-06-18 10:00	13.9	13.8	99	0	18	13	2	Fog
2022-06-18 11:00	14.9	14.8	99	0	14	9	16.1	NA
2022-06-18 12:00	16.7	15.7	94	0	20	8	16.1	NA
2022-06-18 13:00	19.1	16.5	85	0	17	11	16.1	NA
2022-06-18 14:00	20.4	17.7	84	0	14	13	16.1	NA
2022-06-18 15:00	20.4	16.4	78	0	15	18	16.1	NA
2022-06-18 16:00	21.3	16.2	72	0	17	11	12.9	NA
2022-06-18 17:00	22.2	15.2	64	0	18	15	16.1	NA
2022-06-18 18:00	20.5	15.8	74	0	13	18	16.1	NA
2022-06-18 19:00	19.8	15.6	76	0	16	21	16.1	NA
2022-06-18 20:00	19.4	15.3	77	0	15	21	16.1	NA
2022-06-18 21:00	19.4	14.5	73	0	15	24	16.1	NA
2022-06-18 22:00	18.7	14.2	75	0	15	13	16.1	NA
2022-06-18 23:00	16.9	13.5	80	0	18	17	16.1	NA
2022-06-19 0:00	14.4	13	91	0	15	9	16.1	NA
2022-06-19 1:00	14.3	13.8	97	0	16	11	16.1	NA
2022-06-19 2:00	14.7	14.4	98	0	16	15	16.1	NA
2022-06-19 3:00	14.7	14.6	99	0.5	13	13	12.9	Rain
2022-06-19 4:00	14.1	14	99	1	9	15	1.6	Fog
2022-06-19 5:00	13.8	13.7	99	3.5	12	15	6.4	Rain,Fog
2022-06-19 6:00	13.9	13.8	99	0.5	15	15	11.3	NA
2022-06-19 7:00	14.1	14	99	0.5	13	17	2	Rain,Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-19 8:00	13.6	13.6	100	0.5	14	17	1.2	Fog
2022-06-19 9:00	14	14	100	0.2	15	18	1.2	Fog
2022-06-19 10:00	14.1	14.1	100	0	13	9	12.9	NA
2022-06-19 11:00	13.4	13.4	100	0	10	9	0.4	Rain,Fog
2022-06-19 12:00	14.1	14.1	100	0	9	9	4.8	Rain,Fog
2022-06-19 13:00	13.6	13.6	100	0.2	12	11	0.2	Fog
2022-06-19 14:00	14.6	14.5	99	0	11	17	16.1	NA
2022-06-19 15:00	16	14.7	92	0	13	17	16.1	NA
2022-06-19 16:00	16.3	15.1	93	0	14	13	16.1	NA
2022-06-19 17:00	16.8	14.8	88	0	14	17	16.1	NA
2022-06-19 18:00	17.4	14.9	85	0	13	17	16.1	NA
2022-06-19 19:00	17.2	14.1	82	0	14	11	16.1	NA
2022-06-19 20:00	17.2	11.9	71	0	15	15	16.1	NA
2022-06-19 21:00	17	9.4	60	0	18	15	16.1	NA
2022-06-19 22:00	15.7	9.5	66	0	18	11	16.1	NA
2022-06-19 23:00	14.7	9.8	72	0	16	5	16.1	NA
2022-06-20 0:00	13.1	10.5	84	0	14	5	16.1	NA
2022-06-20 1:00	11.3	10.4	94	0	6	4	16.1	NA
2022-06-20 2:00	11.7	10.3	91	0	13	8	16.1	NA
2022-06-20 3:00	9.8	9.5	98	0	9	8	16.1	NA
2022-06-20 4:00	10.1	10	99	0		4	16.1	NA
2022-06-20 5:00	8.6	8.5	99	0	6	8	16.1	NA
2022-06-20 6:00	8	7.9	99	0		0	16.1	NA
2022-06-20 7:00	8.5	8.4	99	0	19	8	16.1	NA
2022-06-20 8:00	6.8	6.7	99	0	35	4	16.1	NA
2022-06-20 9:00	8	7.9	99	0	8	4	16.1	NA
2022-06-20 10:00	10.7	10.5	98	0	15	9	8.1	Fog
2022-06-20 11:00	13.2	10.9	86	0		4	16.1	NA
2022-06-20 12:00	14.6	11.6	82	0	14	8	16.1	NA
2022-06-20 13:00	16.4	10.3	67	0	14	9	16.1	NA
2022-06-20 14:00	17	9.3	60	0	15	17	16.1	NA
2022-06-20 15:00	17.6	10.5	63	0	14	18	16.1	NA
2022-06-20 16:00	17.3	10.2	63	0	15	18	16.1	NA
2022-06-20 17:00	18.6	12	65	0	16	17	12.9	NA
2022-06-20 18:00								
2022-06-20 19:00	17.3	12.9	75	0	15	15	16.1	NA
2022-06-20 20:00	17.3	12.5	73	0	12	18	16.1	NA
2022-06-20 21:00	16.9	10.2	64	0	17	17	16.1	NA
2022-06-20 22:00	15.8	8.6	62	0	17	17	16.1	NA
2022-06-20 23:00	13.2	8.1	71	0	19	13	16.1	NA
2022-06-21 0:00	12.4	8.3	76	0	21	11	16.1	NA
2022-06-21 1:00	10.9	8.3	84	0	21	11	16.1	NA
2022-06-21 2:00	11.1	8.6	85	0	22	13	16.1	NA
2022-06-21 3:00	10.8	8.9	88	0	16	13	16.1	NA
2022-06-21 4:00	10.9	9.2	89	0	23	9	16.1	NA
2022-06-21 5:00	10.7	9.3	91	0	20	11	16.1	NA
2022-06-21 6:00	10.3	9.1	92	0		0	16.1	NA
2022-06-21 7:00	10.8	9.4	91	0	19	5	16.1	NA
2022-06-21 8:00	11	9.6	91	0	27	5	16.1	NA
2022-06-21 9:00	10.9	9.5	91	0	21	5	16.1	NA
2022-06-21 10:00	11.1	9.7	91	0	21	8	16.1	NA
2022-06-21 11:00	12.4	10.4	88	0	29	5	16.1	NA
2022-06-21 12:00	13.2	10.5	84	0		9	16.1	NA
2022-06-21 13:00	14	10.3	78	0	24	9	16.1	NA
2022-06-21 14:00	14	11.2	83	0	30	11	16.1	NA
2022-06-21 15:00	14.5	11.5	82	0	28	9	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-21 16:00	15	11	77	0		5	16.1	NA
2022-06-21 17:00	15.3	11.2	76	0	26	9	16.1	NA
2022-06-21 18:00	14.7	11.1	79	0	28	8	16.1	NA
2022-06-21 19:00	14.4	12	85	0	25	11	16.1	NA
2022-06-21 20:00	14.9	12	83	0	28	8	16.1	NA
2022-06-21 21:00	14.5	12	85	0	27	8	16.1	NA
2022-06-21 22:00	13.9	12	88	0	27	9	16.1	NA
2022-06-21 23:00	13.2	11.8	91	0	24	8	16.1	NA
2022-06-22 0:00	12.9	11.8	93	0	19	4	16.1	NA
2022-06-22 1:00	12.4	11.3	93	0		4	16.1	NA
2022-06-22 2:00	12	11.2	95	0	23	5	16.1	NA
2022-06-22 3:00	12.1	11.2	94	0	23	8	16.1	NA
2022-06-22 4:00	11.4	11	97	0	28	9	16.1	NA
2022-06-22 5:00	10.6	10.3	98	0	24	4	16.1	NA
2022-06-22 6:00	8.4	8	97	0		0	16.1	NA
2022-06-22 7:00	7.1	6.8	98	0	12	5	0.6	Fog
2022-06-22 8:00	6.6	6.5	99	0	1	8	1.6	Fog
2022-06-22 9:00	8.1	8	99	0	9	8	0.2	Fog
2022-06-22 10:00	10.5	10.4	99	0	10	8	0.2	Fog
2022-06-22 11:00	10.8	10.7	99	0	10	9	0.4	Fog
2022-06-22 12:00	11.8	11.3	97	0	16	13	16.1	NA
2022-06-22 13:00	13.5	10.5	82	0	15	13	16.1	NA
2022-06-22 14:00	15.9	10.7	71	0	17	17	16.1	NA
2022-06-22 15:00	16.5	11.3	71	0	14	15	16.1	NA
2022-06-22 16:00	17.3	11.7	69	0	13	15	16.1	NA
2022-06-22 17:00	17.8	10.6	62	0	13	21	16.1	NA
2022-06-22 18:00	17.3	10.4	64	0	16	21	16.1	NA
2022-06-22 19:00	17.4	11.4	67	0	15	24	16.1	NA
2022-06-22 20:00	17.1	11	67	0	14	22	16.1	NA
2022-06-22 21:00	16.6	11.6	72	0	14	15	16.1	NA
2022-06-22 22:00	14.8	11.2	79	0	14	18	16.1	NA
2022-06-22 23:00	13.3	11	86	0	13	13	16.1	NA
2022-06-23 0:00	11.4	10.6	95	0	13	17	16.1	NA
2022-06-23 1:00	11.2	10.8	97	0	11	9	16.1	NA
2022-06-23 2:00	11.5	11	97	0	12	8	11.3	NA
2022-06-23 3:00	11.4	11.3	99	0	9	9	0.8	Fog
2022-06-23 4:00	11.4	11.3	99	0	9	8	0.8	Fog
2022-06-23 5:00	11.5	11.4	99	0	8	5	0.4	Fog
2022-06-23 6:00	11.6	11.5	99	0	9	8	0.4	Fog
2022-06-23 7:00	11.6	11.5	99	0	7	8	0.4	Fog
2022-06-23 8:00	11.6	11.5	99	0	7	8	0.2	Fog
2022-06-23 9:00	11.8	11.7	99	0	5	5	2	Fog
2022-06-23 10:00	12.6	12.5	99	0	11	5	3.6	Fog
2022-06-23 11:00	13.5	13.5	100	0	9	5	0.8	Fog
2022-06-23 12:00	14.5	14.5	100	0	11	5	8.1	Fog
2022-06-23 13:00	16.8	15.6	93	0		5	16.1	NA
2022-06-23 14:00	18.9	16	83	0		8	16.1	NA
2022-06-23 15:00	20.8	16.4	76	0	7	9	16.1	NA
2022-06-23 16:00	21.1	16.9	77	0	24	11	16.1	NA
2022-06-23 17:00	22	15.9	68	0	13	8	16.1	NA
2022-06-23 18:00	20.7	16.2	75	0	14	15	16.1	NA
2022-06-23 19:00	21	16.7	76	0	13	13	16.1	NA
2022-06-23 20:00	20.3	16.7	80	0	14	13	16.1	NA
2022-06-23 21:00	19.4	16.7	84	0	17	5	16.1	NA
2022-06-23 22:00	19	16.6	86	0	11	15	16.1	NA
2022-06-23 23:00	16.5	14.9	90	0	13	9	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-24 0:00	15.6	14.8	95	0	11	9	16.1	NA
2022-06-24 1:00	15.4	14.9	97	0	11	11	14.5	NA
2022-06-24 2:00	15.8	15.7	99	0	8	9	1.2	Fog
2022-06-24 3:00	15.2	15.1	99	0	8	9	1.2	Fog
2022-06-24 4:00	15.4	15.3	99	0.5	7	9	2.4	Rain,Fog
2022-06-24 5:00	15.4	15.3	99	0.2	9	9	1.2	Rain,Fog
2022-06-24 6:00	16.5	16.3	99	2	14	13	6.4	Rain,Fog
2022-06-24 7:00	17.4	17.2	99	5.2	15	13	8.1	Rain,Fog
2022-06-24 8:00	17.2	17	99	0.5	15	18	16.1	NA
2022-06-24 9:00	17.2	17	99	0	14	15	3.6	Fog
2022-06-24 10:00	16.9	16.7	99	0	14	15	0.2	Rain,Fog
2022-06-24 11:00	17.1	16.9	99	0	14	18	1.2	Fog
2022-06-24 12:00	16.7	16.5	99	0	14	15	1.2	Fog
2022-06-24 13:00	17.6	17.4	99	0	14	17	11.3	NA
2022-06-24 14:00	18.5	17.9	96	0.2	16	15	11.3	NA
2022-06-24 15:00	20.1	18.8	92	0	16	18	16.1	NA
2022-06-24 16:00	20.2	18.5	90	0	16	18	16.1	NA
2022-06-24 17:00	19.1	17.5	90	0	15	22	16.1	NA
2022-06-24 18:00	18.2	17.7	97	1.5	16	21	4	Moderate Rain,Fog
2022-06-24 19:00	18.2	17.7	97	3	17	32	4.8	Rain,Fog
2022-06-24 20:00	17.8	17.5	98	12.8	16	21	3.6	Rain,Fog
2022-06-24 21:00	17.9	17.6	98	3.5	17	18	4	Moderate Rain,Fog
2022-06-24 22:00	17.8	17.3	97	2	18	28	9.7	Fog
2022-06-24 23:00	17.5	17.2	98	0.8	17	22	6.4	Rain,Fog
2022-06-25 0:00	17.7	17.5	99	0.5	18	21	4.8	Fog
2022-06-25 1:00	17.6	17.4	99	0.2	17	18	9.7	Fog
2022-06-25 2:00	17.5	17.3	99	1.2	17	17	4	Rain,Fog
2022-06-25 3:00	17.5	17.2	98	6.8	17	15	4.8	Rain,Fog
2022-06-25 4:00	17.9	17.7	99	0.2	17	13	6.4	Rain,Fog
2022-06-25 5:00	17.8	17.6	99	0.2	17	11	2.8	Fog
2022-06-25 6:00	17.4	17.2	99	0	16	13	0.8	Fog
2022-06-25 7:00	17	16.8	99	0	17	15	1	Fog
2022-06-25 8:00	17	17	100	0	15	17	1	Fog
2022-06-25 9:00	16.7	16.5	99	1	17	11	4.8	Fog
2022-06-25 10:00	16.5	16.3	99	0	13	5	6.4	Fog
2022-06-25 11:00	16.9	16.7	99	0	14	11	16.1	NA
2022-06-25 12:00	17	16.8	99	0	12	13	6.4	Fog
2022-06-25 13:00	16.7	16.4	98	0	13	11	4	Fog
2022-06-25 14:00	18.1	16.9	93	0	12	11	16.1	NA
2022-06-25 15:00	19.9	17.8	88	0	13	15	16.1	NA
2022-06-25 16:00	20.3	18.1	87	0	14	13	16.1	NA
2022-06-25 17:00	20.1	17	82	0	14	13	16.1	NA
2022-06-25 18:00	19.7	17.4	86	0	12	17	16.1	NA
2022-06-25 19:00	19.1	16.5	85	0	15	17	16.1	NA
2022-06-25 20:00	18.8	16.5	86	0	14	5	16.1	NA
2022-06-25 21:00	18	15.8	87	0	11	17	16.1	NA
2022-06-25 22:00	17.3	15.5	89	0	14	15	16.1	NA
2022-06-25 23:00	15.8	15	95	0	13	11	16.1	NA
2022-06-26 0:00	15.3	15	98	0	14	9	16.1	NA
2022-06-26 1:00	14.7	14.6	99	0	7	5	0.8	Fog
2022-06-26 2:00	14.5	14.4	99	0	6	5	0.6	Fog
2022-06-26 3:00	14.4	14.4	100	0	11	8	0.6	Fog
2022-06-26 4:00	14.5	14.5	100	0		4	0.6	Fog
2022-06-26 5:00	14.1	14.1	100	0	8	8	0.6	Fog
2022-06-26 6:00	14.1	14.1	100	0	4	5	0.6	Fog
2022-06-26 7:00	14.1	14.1	100	0	11	8	4.8	Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-26 8:00	14.1	14.1	100	0		0	12.9	NA
2022-06-26 9:00	14.3	14.3	100	0	7	4	16.1	NA
2022-06-26 10:00	14.6	14.6	100	0	12	4	16.1	NA
2022-06-26 11:00	15.6	15.6	100	0	12	8	11.3	NA
2022-06-26 12:00	16.7	15.9	95	0	13	8	16.1	NA
2022-06-26 13:00	18.6	16.4	87	0	19	5	16.1	NA
2022-06-26 14:00	19.4	16.9	85	0		4	16.1	NA
2022-06-26 15:00	20.1	17	82	0	16	9	16.1	NA
2022-06-26 16:00	20.6	17	80	0	18	11	16.1	NA
2022-06-26 17:00	19.9	17	83	0	14	11	16.1	NA
2022-06-26 18:00	20.8	17.1	79	0	15	13	16.1	NA
2022-06-26 19:00	20.3	16.6	79	0	13	15	16.1	NA
2022-06-26 20:00	19.6	16.4	81	0	15	17	16.1	NA
2022-06-26 21:00	18.8	16.2	85	0	12	11	16.1	NA
2022-06-26 22:00	18.1	15.9	87	0	12	13	16.1	NA
2022-06-26 23:00	17	15.4	90	0	13	9	16.1	NA
2022-06-27 0:00	16.7	15.1	90	0	14	8	16.1	NA
2022-06-27 1:00	15.8	14.2	90	0	16	8	16.1	NA
2022-06-27 2:00	14.7	13.1	90	0	11	9	16.1	NA
2022-06-27 3:00	14.4	13.5	94	0	15	9	16.1	NA
2022-06-27 4:00	14.4	13.6	95	0	17	9	16.1	NA
2022-06-27 5:00	15	14.2	95	0	19	15	16.1	NA
2022-06-27 6:00	16	15.1	94	0	20	17	16.1	NA
2022-06-27 7:00	15.8	15	95	0	17	11	16.1	NA
2022-06-27 8:00	15.9	15.4	97	0	18	11	16.1	NA
2022-06-27 9:00	15.7	15.2	97	0	18	9	16.1	NA
2022-06-27 10:00	16	15.4	96	0	13	9	16.1	NA
2022-06-27 11:00	17.1	15.4	90	0	17	9	16.1	NA
2022-06-27 12:00	17.1	15.1	88	0	20	13	16.1	NA
2022-06-27 13:00	16.8	14.7	87	0	19	17	16.1	NA
2022-06-27 14:00	19	15.8	81	0	15	15	16.1	NA
2022-06-27 15:00	20.3	16.4	78	0	15	21	16.1	NA
2022-06-27 16:00	21.1	16.2	73	0	17	21	16.1	NA
2022-06-27 17:00	22.6	16	66	0	19	18	16.1	NA
2022-06-27 18:00	22.9	16.3	66	0	17	22	16.1	NA
2022-06-27 19:00	21.6	16.4	72	0	20	15	16.1	NA
2022-06-27 20:00	22.3	16.9	71	0	21	22	16.1	NA
2022-06-27 21:00	20.7	17	79	0	20	18	16.1	NA
2022-06-27 22:00	19.3	15.9	80	0	19	17	16.1	NA
2022-06-27 23:00	18.5	16.2	86	0	20	18	16.1	NA
2022-06-28 0:00	17.3	16	92	0	18	17	16.1	NA
2022-06-28 1:00	18.1	16.6	91	0	21	18	16.1	NA
2022-06-28 2:00	18.9	17.1	89	0	23	22	16.1	NA
2022-06-28 3:00	18.1	17.1	94	0.2	18	13	16.1	Rain
2022-06-28 4:00	18.1	17.1	94	0	20	17	16.1	NA
2022-06-28 5:00	18.2	17.3	94	1.2	22	24	16.1	Rain
2022-06-28 6:00	18	17.2	95	2	22	18	11.3	Rain
2022-06-28 7:00	18.1	17.1	94	0.5	22	17	16.1	NA
2022-06-28 8:00	17.9	16.9	94	0	23	17	16.1	Rain
2022-06-28 9:00	17.9	16.6	92	0	22	24	16.1	NA
2022-06-28 10:00	18.2	16.7	91	0	21	15	16.1	NA
2022-06-28 11:00	18.5	17.2	92	0	20	13	16.1	NA
2022-06-28 12:00	20.7	18	84	0	21	13	16.1	NA
2022-06-28 13:00	22.2	18.7	80	0	22	17	16.1	NA
2022-06-28 14:00	22.3	18.2	77	0	24	18	16.1	NA
2022-06-28 15:00	22	18.3	79	0	21	24	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-06-28 16:00	23.4	18.4	73	0	23	28	16.1	NA
2022-06-28 17:00	23.6	18.4	72	0	20	28	16.1	NA
2022-06-28 18:00	22.9	18.2	74	0	21	35	16.1	NA
2022-06-28 19:00	22.6	18.5	77	0	21	15	16.1	NA
2022-06-28 20:00	21.1	18.2	83	0	21	17	16.1	NA
2022-06-28 21:00	19.7	17.3	86	0	25	21	16.1	NA
2022-06-28 22:00	19.3	17	87	0	21	9	16.1	NA
2022-06-28 23:00	18.5	16.7	89	0	21	9	16.1	NA
2022-06-29 0:00	18	16.5	91	0	19	13	16.1	NA
2022-06-29 1:00	17.3	16.3	94	0	12	8	16.1	NA
2022-06-29 2:00	16.7	15.9	95	0	17	8	16.1	NA
2022-06-29 3:00	16	15.2	95	0	22	9	16.1	NA
2022-06-29 4:00	15.2	14.7	97	0	24	13	16.1	NA
2022-06-29 5:00	14.5	14.2	98	0	27	11	16.1	NA
2022-06-29 6:00	13.6	13.5	99	0	29	5	0.8	Fog
2022-06-29 7:00	14.7	14.6	99	0		0	16.1	NA
2022-06-29 8:00	13.9	13.6	98	0	26	8	16.1	NA
2022-06-29 9:00	15.3	14.9	97	0	26	13	16.1	NA
2022-06-29 10:00	16.5	15.5	94	0		4	16.1	NA
2022-06-29 11:00	17.9	15.3	85	0	28	9	16.1	NA
2022-06-29 12:00	19.3	14.6	74	0	28	11	16.1	NA
2022-06-29 13:00	20.8	15	69	0	27	13	16.1	NA
2022-06-29 14:00	22	13.9	60	0	29	13	16.1	NA
2022-06-29 15:00	22.4	11.9	51	0	30	15	16.1	NA
2022-06-29 16:00	23.3	9.9	42	0	28	17	16.1	NA
2022-06-29 17:00	23.2	5.9	32	0	30	18	16.1	NA
2022-06-29 18:00	23	8	38	0	30	11	16.1	NA
2022-06-29 19:00	22.8	7.8	38	0	28	15	16.1	NA
2022-06-29 20:00	22.8	6.6	35	0	31	8	16.1	NA
2022-06-29 21:00	22.9	7.3	36	0	26	5	16.1	NA
2022-06-29 22:00	22.6	9.8	44	0	17	5	16.1	NA
2022-06-29 23:00	21.5	13	58	0	15	8	16.1	NA
2022-06-30 0:00	19.4	12.5	64	0	17	8	16.1	NA
2022-06-30 1:00	17.4	12.4	72	0		4	16.1	NA
2022-06-30 2:00	16	11.7	76	0	14	5	16.1	NA
2022-06-30 3:00	13	10.9	87	0		0	16.1	NA
2022-06-30 4:00	11.6	10.9	96	0	29	5	16.1	NA
2022-06-30 5:00	11.2	10.1	93	0	36	5	16.1	NA
2022-06-30 6:00	9.7	9.3	97	0	2	5	16.1	NA
2022-06-30 7:00	11.5	11.3	99	0	5	9	16.1	NA
2022-06-30 8:00	9.3	9	98	0	4	8	16.1	NA
2022-06-30 9:00	10.4	10.3	99	0		4	16.1	NA
2022-06-30 10:00	12.7	12.6	99	0	6	5	16.1	NA
2022-06-30 11:00	13.9	13.3	96	0	6	5	16.1	NA
2022-06-30 12:00	15.4	13.9	91	0	8	5	16.1	NA
2022-06-30 13:00	16.4	14.4	88	0	11	5	16.1	NA
2022-06-30 14:00	18.1	14.8	81	0	9	8	16.1	NA
2022-06-30 15:00	18.5	14.7	78	0	11	8	16.1	NA
2022-06-30 16:00	19.3	14.5	74	0	9	5	16.1	NA
2022-06-30 17:00	20.5	13.7	65	0		5	16.1	NA
2022-06-30 18:00	21.4	14.7	65	0	15	8	16.1	NA
2022-06-30 19:00	23.2	13.7	55	0		4	16.1	NA
2022-06-30 20:00	22.7	13.6	56	0	22	15	16.1	NA
2022-06-30 21:00	22.4	14.4	60	0	20	13	16.1	NA
2022-06-30 22:00	21.1	13.6	62	0	13	15	16.1	NA
2022-06-30 23:00	19.1	12	63	0	13	11	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-07-15 0:00	14.5	12.6	88	0		4	16.1	NA
2022-07-15 1:00	14.6	12	84	0	7	8	16.1	NA
2022-07-15 2:00	13.5	11.2	86	0	8	8	16.1	NA
2022-07-15 3:00	13.6	11.3	86	0	10	8	16.1	NA
2022-07-15 4:00	13.7	10.9	83	0	8	8	16.1	NA
2022-07-15 5:00	13	10.9	87	0	9	11	16.1	NA
2022-07-15 6:00	13.5	10	79	0	8	11	16.1	NA
2022-07-15 7:00	12.6	10.2	85	0	8	11	16.1	NA
2022-07-15 8:00	12.8	10.4	85	0	5	5	16.1	NA
2022-07-15 9:00	11.5	10.3	92	0	9	5	16.1	NA
2022-07-15 10:00	14.2	11.3	82	0	6	8	16.1	NA
2022-07-15 11:00	15.1	12.3	83	0	15	5	16.1	NA
2022-07-15 12:00	15.5	13.6	88	0	13	5	16.1	NA
2022-07-15 13:00	16.6	14	85	0	8	8	16.1	NA
2022-07-15 14:00	18.3	15.5	83	0	17	5	16.1	NA
2022-07-15 15:00	20.3	15.8	75	0		9	16.1	NA
2022-07-15 16:00	20.3	15.9	76	0		4	16.1	NA
2022-07-15 17:00	21	16.4	75	0	29	17	16.1	NA
2022-07-15 18:00	20.6	16.1	75	0	30	21	16.1	NA
2022-07-15 19:00	20.9	15.1	69	0	30	15	16.1	NA
2022-07-15 20:00	19.9	15.7	77	0	29	15	16.1	NA
2022-07-15 21:00	18.8	15	78	0	32	17	16.1	NA
2022-07-15 22:00	18.7	15.4	81	0	31	13	16.1	NA
2022-07-15 23:00	17.4	14.7	84	0	31	9	16.1	NA
2022-07-16 0:00	15.7	14.6	93	0	30	9	16.1	NA
2022-07-16 1:00	15.2	14.1	93	0	31	11	16.1	NA
2022-07-16 2:00	14.3	13.4	94	0		4	16.1	NA
2022-07-16 3:00	13.8	13	95	0	30	8	16.1	NA
2022-07-16 4:00	15	14.2	95	0	29	17	16.1	NA
2022-07-16 5:00	15	14.4	96	0	28	15	16.1	NA
2022-07-16 6:00	14.7	13.1	90	0	28	11	16.1	NA
2022-07-16 7:00	15.9	12.8	82	0	28	13	16.1	NA
2022-07-16 8:00	15.8	12.8	82	0	28	15	16.1	NA
2022-07-16 9:00	15.3	12.8	85	0	28	13	16.1	NA
2022-07-16 10:00	16.6	12.7	78	0	29	15	16.1	NA
2022-07-16 11:00	18.1	13.1	73	0	29	13	16.1	NA
2022-07-16 12:00	19.6	13.7	69	0	29	11	16.1	NA
2022-07-16 13:00	20.6	14.1	66	0	28	18	16.1	NA
2022-07-16 14:00	21.8	13.4	58	0	28	21	16.1	NA
2022-07-16 15:00	23.3	14.3	57	0	27	17	16.1	NA
2022-07-16 16:00	24	13.6	52	0	28	18	16.1	NA
2022-07-16 17:00	24.9	14.6	52	0	29	15	16.1	NA
2022-07-16 18:00	25.2	13.4	47	0	28	17	16.1	NA
2022-07-16 19:00	25.1	13.6	48	0	31	11	16.1	NA
2022-07-16 20:00	25.4	11.8	42	0	30	13	16.1	NA
2022-07-16 21:00	25.2	11.6	42	0	27	8	16.1	NA
2022-07-16 22:00	24.7	11.9	44	0	23	5	16.1	NA
2022-07-16 23:00	23.1	13.9	56	0		0	16.1	NA
2022-07-17 0:00	18.9	13.7	72	0		0	16.1	NA
2022-07-17 1:00	16.9	12.5	75	0		0	16.1	NA
2022-07-17 2:00	15.8	12.9	83	0	30	5	16.1	NA
2022-07-17 3:00	19	13.2	69	0	27	8	16.1	NA
2022-07-17 4:00	19	10.9	59	0	28	13	16.1	NA
2022-07-17 5:00	18.6	10.4	59	0	28	9	16.1	NA
2022-07-17 6:00	17.7	10.3	62	0	27	11	16.1	NA
2022-07-17 7:00	17.1	11	67	0	26	9	16.1	NA
2022-07-17 8:00	18.6	11.5	63	0	24	21	16.1	NA
2022-07-17 9:00	17.4	12.4	72	0	25	17	16.1	NA
2022-07-17 10:00	17.9	12.9	72	0	25	8	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-07-17 11:00	19.7	13	65	0	24	8	16.1	NA
2022-07-17 12:00	20.7	13.5	63	0	22	11	16.1	NA
2022-07-17 13:00	22.4	14	59	0	23	9	16.1	NA
2022-07-17 14:00	24.4	12	45	0	22	18	16.1	NA
2022-07-17 15:00	25.2	11.3	41	0	22	28	16.1	NA
2022-07-17 16:00	26.1	12	41	0	22	21	16.1	NA
2022-07-17 17:00	26.6	11.5	39	0	22	28	16.1	NA
2022-07-17 18:00	26.5	10.6	36	0	21	30	16.1	NA
2022-07-17 19:00	26.1	10.9	38	0	21	17	16.1	NA
2022-07-17 20:00	24.8	10.6	40	0	22	18	16.1	NA
2022-07-17 21:00	24.1	10.8	43	0	22	17	16.1	NA
2022-07-17 22:00	24.1	10.4	42	0	21	17	16.1	NA
2022-07-17 23:00	22.5	11.1	48	0	21	8	16.1	NA
2022-07-18 0:00	20.5	11.3	55	0	17	11	16.1	NA
2022-07-18 1:00	20	12.6	62	0	21	8	16.1	NA
2022-07-18 2:00	20.7	12.5	59	0	24	21	16.1	NA
2022-07-18 3:00	18.7	12.7	68	0	27	15	16.1	NA
2022-07-18 4:00	17.9	13.1	73	0	26	13	16.1	NA
2022-07-18 5:00	18.5	14.5	77	0	29	11	16.1	NA
2022-07-18 6:00	18.5	15	80	0	27	17	16.1	NA
2022-07-18 7:00	18.6	15.3	81	0	27	17	16.1	NA
2022-07-18 8:00	17.2	15.1	87	0	27	5	16.1	NA
2022-07-18 9:00	18.2	15.3	83	0	28	9	16.1	NA
2022-07-18 10:00	18.5	15.7	83	0	25	8	16.1	NA
2022-07-18 11:00	20.3	16.3	77	0	27	8	16.1	NA
2022-07-18 12:00	23.1	16.6	67	0	24	9	16.1	NA
2022-07-18 13:00	24.8	17.4	63	0	25	11	16.1	NA
2022-07-18 14:00	26.5	18	59	0	27	15	16.1	NA
2022-07-18 15:00	27.8	18.2	55	0	27	22	16.1	NA
2022-07-18 16:00	28.5	17.3	50	0	27	17	16.1	NA
2022-07-18 17:00	29.5	16.4	44	0	27	18	16.1	NA
2022-07-18 18:00	29.2	16.9	47	0	28	21	16.1	NA
2022-07-18 19:00	30.1	15.7	41	0	24	22	16.1	NA
2022-07-18 20:00	28.3	15.8	46	0	22	24	16.1	NA
2022-07-18 21:00	28.2	15.5	46	0	21	22	16.1	NA
2022-07-18 22:00	27.1	16.7	53	0	22	18	16.1	NA
2022-07-18 23:00	25.6	17.7	61	0	22	13	16.1	NA
2022-07-19 0:00	23.9	18	69	0	23	11	16.1	NA
2022-07-19 1:00	22	17.4	75	0		4	16.1	NA
2022-07-19 2:00	21.4	16.9	75	0	22	18	16.1	NA
2022-07-19 3:00	20.3	16.2	77	0	23	13	16.1	NA
2022-07-19 4:00	19.6	15.7	78	0	26	8	16.1	NA
2022-07-19 5:00	18.4	16.4	88	0	21	11	16.1	NA
2022-07-19 6:00	19.4	18.4	94	0		4	16.1	NA
2022-07-19 7:00	19.8	18.6	93	0	21	9	16.1	NA
2022-07-19 8:00	19.6	18.5	93	0	20	13	16.1	NA
2022-07-19 9:00	19.1	18.3	95	0.2	18	5	16.1	Rain
2022-07-19 10:00	18.9	18.6	98	0.5	15	8	16.1	Rain
2022-07-19 11:00	18.2	17.9	98	3.5	14	15	6.4	Rain,Fog
2022-07-19 12:00	17.7	17.5	99	4	14	15	11.3	Rain
2022-07-19 13:00	18.5	18.3	99	0.5	14	15	11.3	Rain
2022-07-19 14:00	19	18.7	98	1.8	15	18	16.1	Rain
2022-07-19 15:00	19.2	19	99	4	14	18	14.5	NA
2022-07-19 16:00	20.1	19.9	99	2.5	16	11	4.8	Rain,Fog
2022-07-19 17:00	20.9	20.6	98	0.2	18	18	9.7	Fog
2022-07-19 18:00	21.3	20.7	96	0	17	17	16.1	NA
2022-07-19 19:00	21.3	20.5	95	0	20	17	16.1	NA
2022-07-19 20:00	20.9	20	95	0	19	17	16.1	NA
2022-07-19 21:00	21.9	19.9	88	0	20	26	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-07-19 22:00	21.2	19.4	90	0	19	21	16.1	NA
2022-07-19 23:00	19.8	18.7	93	0	19	9	16.1	NA
2022-07-20 0:00	19.2	18.2	94	0	23	13	16.1	NA
2022-07-20 1:00	19.8	18.3	91	0	27	28	16.1	NA
2022-07-20 2:00	18.7	17.4	92	0	28	24	16.1	NA
2022-07-20 3:00	18.8	17.2	90	0	26	13	16.1	NA
2022-07-20 4:00	19.5	18.4	93	0	26	24	16.1	NA
2022-07-20 5:00	19.7	18	90	0	27	22	16.1	NA
2022-07-20 6:00	19	17	88	0	28	22	16.1	NA
2022-07-20 7:00	18.2	16.2	88	0	27	21	16.1	NA
2022-07-20 8:00	18.2	16.2	88	0	27	22	16.1	NA
2022-07-20 9:00	17.6	16	90	0	26	22	16.1	NA
2022-07-20 10:00	17.6	15.8	89	0	25	24	16.1	NA
2022-07-20 11:00	19.5	16.3	81	0	27	26	16.1	NA
2022-07-20 12:00	19.1	15.5	79	0	27	26	16.1	NA
2022-07-20 13:00	20.3	14.7	70	0	28	34	16.1	NA
2022-07-20 14:00	22	15.8	67	0	27	22	16.1	NA
2022-07-20 15:00	22	15.4	66	0	29	28	16.1	NA
2022-07-20 16:00	21.1	15.1	68	0	30	32	16.1	NA
2022-07-20 17:00	21.7	15.7	69	0	30	26	16.1	NA
2022-07-20 18:00	22	15.2	65	0	28	28	16.1	NA
2022-07-20 19:00	22.6	16	66	0	29	21	16.1	NA
2022-07-20 20:00	22.9	15.4	62	0	29	28	16.1	NA
2022-07-20 21:00	22.5	15.2	63	0	28	21	16.1	NA
2022-07-20 22:00	22.7	14.7	60	0	28	18	16.1	NA
2022-07-20 23:00	20.7	14.9	69	0	30	13	16.1	NA
2022-07-21 0:00	18.2	16	87	0	29	8	16.1	NA
2022-07-21 1:00	17.7	15.2	85	0	27	15	16.1	NA
2022-07-21 2:00	18.5	14.3	76	0	29	17	16.1	NA
2022-07-21 3:00	17.9	13.9	77	0	28	13	16.1	NA
2022-07-21 4:00	18	13.2	73	0	29	13	16.1	NA
2022-07-21 5:00	17.5	12.7	73	0	29	9	16.1	NA
2022-07-21 6:00	17.4	12.4	72	0	31	5	16.1	NA
2022-07-21 7:00	17.3	12.5	73	0	31	8	16.1	NA
2022-07-21 8:00	16.7	12.5	76	0	29	9	16.1	NA
2022-07-21 9:00	15	12.7	86	0	23	5	16.1	NA
2022-07-21 10:00	17.8	13.7	77	0	24	8	16.1	NA
2022-07-21 11:00	20.5	14.2	67	0	26	5	16.1	NA
2022-07-21 12:00	22.2	14.9	63	0	27	8	16.1	NA
2022-07-21 13:00	23.8	14.6	56	0	27	9	16.1	NA
2022-07-21 14:00	24.5	14.4	53	0	31	8	16.1	NA
2022-07-21 15:00	25.4	14.9	52	0		9	16.1	NA
2022-07-21 16:00	26.8	15.3	49	0	28	11	16.1	NA
2022-07-21 17:00	27.5	15.3	47	0	31	8	16.1	NA
2022-07-21 18:00	28.3	15.8	46	0	13	11	16.1	NA
2022-07-21 19:00	28.2	15.3	45	0	14	21	16.1	NA
2022-07-21 20:00	28	15.6	46	0	17	17	16.1	NA
2022-07-21 21:00	27.1	17.9	57	0	14	11	16.1	NA
2022-07-21 22:00	25.2	19	68	0	13	13	16.1	NA
2022-07-21 23:00	22.7	18.9	79	0	11	8	16.1	NA
2022-07-22 0:00	20.4	18.6	89	0	9	5	16.1	NA
2022-07-22 1:00	19.4	17.9	91	0	11	8	16.1	NA
2022-07-22 2:00	17.2	16.7	97	0	8	8	12.9	NA
2022-07-22 3:00	18.4	17.6	95	0	14	9	16.1	NA
2022-07-22 4:00	18.1	17.6	97	0	12	9	4	Fog
2022-07-22 5:00	18.1	17.8	98	0	12	9	3.6	Fog
2022-07-22 6:00	18.2	17.9	98	0	9	8	4.8	Fog
2022-07-22 7:00	18	17.8	99	0	12	9	1	Fog
2022-07-22 8:00	17.8	17.6	99	0	11	9	1.2	Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-07-22 9:00	17.9	17.7	99	0	10	11	0.6	Fog
2022-07-22 10:00	17.9	17.7	99	0	7	15	0.4	Fog
2022-07-22 11:00	18.6	18.6	100	0	13	13	0.4	Rain,Fog
2022-07-22 12:00	19.6	19.6	100	0	12	8	1.2	Fog
2022-07-22 13:00	20.5	20.3	99	0	10	9	8.1	Fog
2022-07-22 14:00	21.1	20.5	96	0	10	11	16.1	NA
2022-07-22 15:00	25	22.3	85	0	16	17	16.1	NA
2022-07-22 16:00	25.4	22.2	82	0	18	15	16.1	NA
2022-07-22 17:00	24.8	22.2	85	0	18	17	16.1	NA
2022-07-22 18:00	24.8	21.9	84	0	16	18	16.1	NA
2022-07-22 19:00	25	22	83	0	17	13	16.1	NA
2022-07-22 20:00	23.8	21.4	86	0	10	13	16.1	NA
2022-07-22 21:00	25.1	22	83	0	17	13	16.1	NA
2022-07-22 22:00	24.1	21.7	86	0	18	15	16.1	NA
2022-07-22 23:00	22.7	20.8	89	0	15	11	16.1	NA
2022-07-23 0:00	21	20.2	95	0		4	16.1	NA
2022-07-23 1:00	19.5	19.2	98	0		0	16.1	NA
2022-07-23 2:00	18.8	18.6	99	0		0	16.1	NA
2022-07-23 3:00	18.5	18.2	98	0	23	4	16.1	NA
2022-07-23 4:00	18.9	17.3	90	0		4	16.1	NA
2022-07-23 5:00	19.2	17.3	89	0	29	8	16.1	NA
2022-07-23 6:00	17.9	16.1	89	0		0	16.1	NA
2022-07-23 7:00	18.1	17.1	94	0		0	16.1	NA
2022-07-23 8:00	18.3	16.8	91	0	28	5	16.1	NA
2022-07-23 9:00	17.1	15.8	92	0		0	16.1	NA
2022-07-23 10:00	21.2	18.1	82	0	27	8	16.1	NA
2022-07-23 11:00	23	18.6	76	0	26	15	16.1	NA
2022-07-23 12:00	24.6	18.6	69	0	28	11	16.1	NA
2022-07-23 13:00	26.1	19.1	65	0	28	11	16.1	NA
2022-07-23 14:00	28.4	18.9	56	0	26	9	16.1	NA
2022-07-23 15:00	30.1	17.5	46	0	26	17	16.1	NA
2022-07-23 16:00	28.7	18.9	55	0	29	9	16.1	NA
2022-07-23 17:00	31.2	18.3	45	0	28	11	16.1	NA
2022-07-23 18:00	30.1	18.2	48	0	28	9	16.1	NA
2022-07-23 19:00	31.4	17.3	42	0	28	15	16.1	NA
2022-07-23 20:00	30.5	17.9	46	0	28	11	16.1	NA
2022-07-23 21:00	30.1	18.4	49	0	26	5	16.1	NA
2022-07-23 22:00	29.3	19.3	54	0	20	8	16.1	NA
2022-07-23 23:00	27.2	18.7	59	0		4	16.1	NA
2022-07-24 0:00	24.7	19	70	0		5	16.1	NA
2022-07-24 1:00	23.7	18.2	71	0	12	8	16.1	NA
2022-07-24 2:00	24.8	18.1	66	0	23	9	16.1	NA
2022-07-24 3:00	22.8	18.4	76	0	24	15	16.1	NA
2022-07-24 4:00	20.6	18.1	85	0	23	5	16.1	NA
2022-07-24 5:00	20.8	17.8	83	0	27	9	16.1	NA
2022-07-24 6:00	18.5	17.2	92	0	24	4	16.1	NA
2022-07-24 7:00	17.2	16.7	97	0		4	16.1	NA
2022-07-24 8:00	16.9	16.4	97	0		0	16.1	NA
2022-07-24 9:00	16.2	15.8	97	0	23	5	16.1	NA
2022-07-24 10:00	20.1	17.9	87	0	25	9	16.1	NA
2022-07-24 11:00	23.3	18.7	75	0	24	8	16.1	NA
2022-07-24 12:00	25.5	18.1	63	0	25	13	16.1	NA
2022-07-24 13:00	27.1	18.9	60	0	27	9	16.1	NA
2022-07-24 14:00	29.4	19.3	54	0	24	8	16.1	NA
2022-07-24 15:00	31.1	18.9	48	0	21	11	16.1	NA
2022-07-24 16:00	32.7	17.9	41	0	27	21	16.1	NA
2022-07-24 17:00	32.2	19.1	45	0	25	17	16.1	NA
2022-07-24 18:00	32.8	17.9	41	0	26	26	16.1	NA
2022-07-24 19:00	32	18.2	43	0	23	18	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-07-24 20:00	31.5	19.6	49	0	23	13	16.1	NA
2022-07-24 21:00	30.2	18.2	48	0	23	15	16.1	NA
2022-07-24 22:00	29	17.5	49	0	21	15	16.1	NA
2022-07-24 23:00	27.1	17.4	55	0	22	13	16.1	NA
2022-07-25 0:00	26.1	14.5	48	0	22	11	16.1	NA
2022-07-25 1:00	25.7	14.4	49	0	22	9	16.1	NA
2022-07-25 2:00	25.1	15.8	56	0	26	11	16.1	NA
2022-07-25 3:00	22.7	16.3	67	0	21	11	16.1	NA
2022-07-25 4:00	19.7	16.4	81	0	15	9	16.1	NA
2022-07-25 5:00	18.4	16.2	87	0	14	9	16.1	NA
2022-07-25 6:00	19.6	15.9	79	0	21	8	16.1	NA
2022-07-25 7:00	19.4	16.1	81	0	19	11	16.1	NA
2022-07-25 8:00	18.1	17.3	95	0	18	11	16.1	NA
2022-07-25 9:00	19.2	18.4	95	0	16	8	16.1	NA
2022-07-25 10:00	19.5	18.4	93	0	17	15	16.1	NA
2022-07-25 11:00	20.1	18.4	90	0	16	17	16.1	NA
2022-07-25 12:00	22	19.2	84	0	17	21	16.1	NA
2022-07-25 13:00	23.8	19.8	78	0	17	18	16.1	NA
2022-07-25 14:00	26.5	20.7	70	0	14	13	16.1	NA
2022-07-25 15:00	28.9	20.6	60	0	21	21	16.1	NA
2022-07-25 16:00	30.9	21.2	56	0	18	18	16.1	NA
2022-07-25 17:00	31.6	19.7	49	0	22	24	16.1	NA
2022-07-25 18:00	31.8	19.8	48	0	25	32	16.1	NA
2022-07-25 19:00	31.3	19	47	0	23	28	16.1	NA
2022-07-25 20:00	29.4	19.5	55	0	21	22	16.1	NA
2022-07-25 21:00	28.1	21	65	0	23	30	16.1	NA
2022-07-25 22:00	27.1	21	69	0	22	22	16.1	NA
2022-07-25 23:00	24.1	20.5	80	0	22	11	16.1	NA
2022-07-26 0:00	23	20.9	88	0	22	17	16.1	NA
2022-07-26 1:00	22.6	20.6	88	0	24	22	16.1	NA
2022-07-26 2:00	21.5	20.2	92	0	19	18	16.1	NA
2022-07-26 3:00	21.3	20	92	0		4	16.1	NA
2022-07-26 4:00	21.4	20.1	92	0	22	17	16.1	NA
2022-07-26 5:00	21.7	20.4	92	0	22	21	16.1	NA
2022-07-26 6:00	21.3	20.1	93	0	19	13	16.1	NA
2022-07-26 7:00	20.9	19.7	93	0	21	13	16.1	NA
2022-07-26 8:00	20.6	19.5	93	0	13	5	16.1	NA
2022-07-26 9:00	20	19.4	96	0		4	16.1	Thunderstorms,Rain
2022-07-26 10:00	20.2	19.4	95	0.2	20	11	16.1	NA
2022-07-26 11:00	20.5	19.2	92	0	21	15	16.1	NA
2022-07-26 12:00	20	19.1	94	0	24	18	16.1	NA
2022-07-26 13:00	22.2	19.8	86	0	28	17	16.1	NA
2022-07-26 14:00	23.9	18.6	72	0	27	15	16.1	NA
2022-07-26 15:00	24.5	18.9	71	0	32	13	16.1	NA
2022-07-26 16:00	25.9	19.7	68	0	29	9	16.1	NA
2022-07-26 17:00	27.2	20.2	65	0		11	16.1	NA
2022-07-26 18:00	26.2	18.6	63	0	28	11	16.1	NA
2022-07-26 19:00	26.4	16.9	55	0	28	15	16.1	NA
2022-07-26 20:00	26.5	17.2	56	0	27	9	16.1	NA
2022-07-26 21:00	25.6	15.9	54	0	26	9	16.1	NA
2022-07-26 22:00	24	16.3	62	0	25	5	16.1	NA
2022-07-26 23:00	22.1	17.3	74	0	12	8	16.1	NA
2022-07-27 0:00	19.6	17.3	87	0	10	5	16.1	NA
2022-07-27 1:00	18.4	17.4	94	0	4	4	16.1	NA
2022-07-27 2:00	17.1	16.3	95	0	1	4	16.1	NA
2022-07-27 3:00	16.8	16.5	98	0		4	16.1	NA
2022-07-27 4:00	17.5	16.9	96	0	24	4	16.1	NA
2022-07-27 5:00	17.3	16.3	94	0	26	5	16.1	NA
2022-07-27 6:00	15.9	15	94	0	26	5	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-07-27 7:00	17	13.9	82	0	28	8	16.1	NA
2022-07-27 8:00	14.8	13	89	0	30	4	16.1	NA
2022-07-27 9:00	14	12.4	90	0		4	16.1	NA
2022-07-27 10:00	17.4	13.7	79	0	29	9	16.1	NA
2022-07-27 11:00	19.6	14.2	71	0	28	9	16.1	NA
2022-07-27 12:00	20.9	14.8	68	0	28	11	16.1	NA
2022-07-27 13:00	22.3	14.9	63	0	26	15	16.1	NA
2022-07-27 14:00	23.3	14.7	58	0	30	18	16.1	NA
2022-07-27 15:00	24.6	15.3	56	0	29	15	16.1	NA
2022-07-27 16:00	24.6	14.2	52	0	29	18	16.1	NA
2022-07-27 17:00	25.3	13.9	49	0	30	17	16.1	NA
2022-07-27 18:00	25.6	13.1	45	0	31	17	16.1	NA
2022-07-27 19:00	26.4	12.6	42	0	29	15	16.1	NA
2022-07-27 20:00	27	12.3	39	0		13	16.1	NA
2022-07-27 21:00	25.7	12.5	43	0	30	8	16.1	NA
2022-07-27 22:00	24.8	14.4	52	0	30	8	16.1	NA
2022-07-27 23:00	22	14.7	63	0	31	8	16.1	NA
2022-07-28 0:00	20.7	14.9	69	0	30	5	16.1	NA
2022-07-28 1:00	17.1	14.6	85	0	35	5	16.1	NA
2022-07-28 2:00	15.5	13.5	88	0		4	16.1	NA
2022-07-28 3:00	14.5	13.3	92	0		0	16.1	NA
2022-07-28 4:00	15.5	14.2	92	0		5	16.1	NA
2022-07-28 5:00	17.6	16.1	91	0	30	8	16.1	NA
2022-07-28 6:00	17.1	16.1	94	0	32	8	16.1	NA
2022-07-28 7:00	16.7	15.7	94	0	32	8	16.1	NA
2022-07-28 8:00	14.8	14.6	98	0	33	4	16.1	NA
2022-07-28 9:00	15.6	15.5	99	0	33	8	16.1	NA
2022-07-28 10:00	18	17.7	98	0	32	4	16.1	NA
2022-07-28 11:00	20.3	18.1	87	0	28	5	16.1	NA
2022-07-28 12:00	22.4	17.7	74	0	28	11	16.1	NA
2022-07-28 13:00	23.1	18.2	74	0	26	11	16.1	NA
2022-07-28 14:00	24.2	17.1	64	0	28	11	16.1	NA
2022-07-28 15:00	23.5	16.6	65	0	29	17	16.1	NA
2022-07-28 16:00	25.1	15.9	56	0	29	13	16.1	NA
2022-07-28 17:00	25.6	14.6	50	0	27	9	16.1	NA
2022-07-28 18:00	26.1	15.7	52	0	29	8	16.1	NA
2022-07-28 19:00	25.7	14.9	51	0	19	13	16.1	NA
2022-07-28 20:00	24.7	16.9	61	0	15	17	16.1	NA
2022-07-28 21:00	23.6	16.3	63	0	14	17	16.1	NA
2022-07-28 22:00	22.5	16.2	67	0	14	17	16.1	NA
2022-07-28 23:00	20.7	15.8	73	0	15	15	16.1	NA
2022-07-29 0:00	18.6	15.7	83	0	12	9	16.1	NA
2022-07-29 1:00	16.9	15.9	94	0	11	8	16.1	NA
2022-07-29 2:00	16.4	16.1	98	0	9	8	12.9	NA
2022-07-29 3:00	16.9	16.4	97	0	12	11	16.1	NA
2022-07-29 4:00	16.2	15.9	98	0	7	8	14.5	NA
2022-07-29 5:00	15.3	15.2	99	0	8	5	8.1	Fog
2022-07-29 6:00	15.5	15.4	99	0	8	5	0.6	Fog
2022-07-29 7:00	15	14.9	99	0	7	8	16.1	NA
2022-07-29 8:00	14.5	14.4	99	0	9	5	9.7	Fog
2022-07-29 9:00	14.2	13.9	98	0		0	16.1	NA
2022-07-29 10:00	16.6	15	90	0	11	8	16.1	NA
2022-07-29 11:00	17.7	15.2	85	0	17	13	16.1	NA
2022-07-29 12:00	19.6	16.9	84	0	13	9	16.1	NA
2022-07-29 13:00	20.1	16.4	79	0	18	15	16.1	NA
2022-07-29 14:00	20.9	16.2	74	0	18	13	16.1	NA
2022-07-29 15:00	20.2	17.6	85	0	19	21	16.1	Rain
2022-07-29 16:00	21.2	18.6	85	0	17	17	16.1	NA
2022-07-29 17:00	20.9	17.5	81	0	18	15	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-07-29 18:00	19.8	17.3	85	0.8	19	21	16.1	NA
2022-07-29 19:00	18.4	17.8	96	1.2	16	11	16.1	NA
2022-07-29 20:00	17.9	17.4	97	2.2	16	17	16.1	Rain
2022-07-29 21:00	18.5	18	97	0.2	16	22	16.1	NA
2022-07-29 22:00	18.5	18.2	98	0	16	17	6.4	Fog
2022-07-29 23:00	19.1	18.8	98	0	17	15	16.1	NA
2022-07-30 0:00	19.4	19.1	98	0	20	11	16.1	NA
2022-07-30 1:00	19.5	19.2	98	0	23	8	16.1	NA
2022-07-30 2:00	19.6	19.3	98	0	25	5	16.1	NA
2022-07-30 3:00	19.1	18.8	98	0	23	8	16.1	NA
2022-07-30 4:00	18.2	18	99	0	22	8	2	Fog
2022-07-30 5:00	18.2	18	99	0	22	9	2.8	Fog
2022-07-30 6:00	17.9	17.7	99	0	26	11	16.1	NA
2022-07-30 7:00	18.5	17.3	93	0	28	15	16.1	NA
2022-07-30 8:00	18.9	17.4	91	0	27	15	16.1	NA
2022-07-30 9:00	18.6	17.4	92	0	29	9	16.1	NA
2022-07-30 10:00	19.4	17.2	87	0	27	13	16.1	NA
2022-07-30 11:00	20	17.7	86	0	26	8	16.1	NA
2022-07-30 12:00	20.3	17.6	85	0	28	8	16.1	NA
2022-07-30 13:00	20.5	17.5	83	0	26	11	16.1	NA
2022-07-30 14:00	21.1	16.6	75	0	26	9	16.1	NA
2022-07-30 15:00	22	17.1	74	0	21	9	16.1	NA
2022-07-30 16:00	22.4	17.1	72	0	22	13	16.1	NA
2022-07-30 17:00	21.3	17.9	81	0	23	17	16.1	NA
2022-07-30 18:00	19.7	18.7	94	1.2	24	15	9.7	Rain,Fog
2022-07-30 19:00	19.6	18.1	91	0.2	23	13	16.1	Rain
2022-07-30 20:00	19.3	18.3	94	0.2	22	13	12.9	Rain
2022-07-30 21:00	18.8	17.9	94	0.2	20	13	16.1	NA
2022-07-30 22:00	18.7	17.7	94	0	18	9	16.1	NA
2022-07-30 23:00	18.5	17.7	95	0	22	8	16.1	NA
2022-07-31 0:00	17.5	17	97	0	22	9	16.1	NA
2022-07-31 1:00	17.3	16.7	96	0		4	16.1	NA
2022-07-31 2:00	18.3	16.8	91	0	25	18	16.1	NA
2022-07-31 3:00	17.8	16	89	0	26	17	16.1	NA
2022-07-31 4:00	17.3	16	92	0	28	8	16.1	NA
2022-07-31 5:00	17.9	15.9	88	0	30	11	16.1	NA
2022-07-31 6:00	16.8	16	95	0	30	11	16.1	NA
2022-07-31 7:00	17.2	16.4	95	0	28	11	16.1	NA
2022-07-31 8:00	17.6	16.1	91	0	28	13	16.1	NA
2022-07-31 9:00	17.2	15.8	91	0	27	13	16.1	NA
2022-07-31 10:00	17.6	16	90	0	27	11	16.1	NA
2022-07-31 11:00	19.1	16.8	86	0	28	15	16.1	NA
2022-07-31 12:00	20.2	17.5	84	0	28	17	16.1	NA
2022-07-31 13:00	21.1	16.7	76	0	27	22	16.1	NA
2022-07-31 14:00	21.9	17.1	74	0	28	24	16.1	NA
2022-07-31 15:00	21.8	16.8	73	0	29	21	16.1	NA
2022-07-31 16:00	22.7	16.6	68	0	30	22	16.1	NA
2022-07-31 17:00	22.7	16.2	66	0	28	22	16.1	NA
2022-07-31 18:00	23.4	15.3	60	0	30	18	16.1	NA
2022-07-31 19:00	23.6	14.6	57	0	29	21	16.1	NA
2022-07-31 20:00	23.9	14.9	57	0	28	13	16.1	NA
2022-07-31 21:00	23.3	14.4	57	0	30	21	16.1	NA
2022-07-31 22:00	22.9	15.4	62	0	29	8	16.1	NA
2022-07-31 23:00	21.5	14.7	65	0	32	8	16.1	NA
2022-08-01 0:00	18.2	14.7	80	0	27	4	16.1	NA
2022-08-01 1:00	16.8	14.5	86	0		4	16.1	NA
2022-08-01 2:00	16.7	14.3	86	0	28	4	16.1	NA
2022-08-01 3:00	18.5	14.3	76	0	24	9	16.1	NA
2022-08-01 4:00	19.4	14.5	73	0	27	11	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-01 5:00	18.8	14.3	75	0	27	15	16.1	NA
2022-08-01 6:00	17.6	14.3	81	0	27	11	16.1	NA
2022-08-01 7:00	17.9	14.1	78	0	25	5	16.1	NA
2022-08-01 8:00	16.7	14.2	85	0	28	5	16.1	NA
2022-08-01 9:00	18	14.7	81	0	27	11	16.1	NA
2022-08-01 10:00	19.5	15.2	76	0	28	8	16.1	NA
2022-08-01 11:00	20	16	77	0		0	16.1	NA
2022-08-01 12:00	22.5	16.5	69	0	24	5	16.1	NA
2022-08-01 13:00	23.5	17.2	67	0		0	16.1	NA
2022-08-01 14:00	24.2	19	72	0	18	9	16.1	NA
2022-08-01 15:00	25.9	18.8	64	0	18	11	16.1	NA
2022-08-01 16:00	27.6	17	52	0	24	13	16.1	NA
2022-08-01 17:00	27.5	16.1	49	0	19	21	16.1	NA
2022-08-01 18:00	27.1	16	50	0	19	15	16.1	NA
2022-08-01 19:00	25.1	15.3	54	0	20	17	16.1	NA
2022-08-01 20:00	24.5	15.4	57	0	22	9	16.1	NA
2022-08-01 21:00	23.3	14	55	0	17	9	16.1	NA
2022-08-01 22:00	22.4	14.8	62	0	20	11	16.1	NA
2022-08-01 23:00	21	15.2	69	0	17	9	16.1	NA
2022-08-02 0:00	20.2	14.9	71	0	22	9	16.1	NA
2022-08-02 1:00	19.7	15.2	75	0	20	11	16.1	NA
2022-08-02 2:00	18.7	16	84	0	15	11	16.1	NA
2022-08-02 3:00	18.5	16.5	88	0	21	9	16.1	NA
2022-08-02 4:00	18.2	16.9	92	0	20	11	16.1	NA
2022-08-02 5:00	18.2	17.1	93	0	17	9	16.1	NA
2022-08-02 6:00	16.9	16.4	97	0		0	16.1	NA
2022-08-02 7:00	17.3	16.8	97	0	18	9	16.1	NA
2022-08-02 8:00	17.2	16.5	96	0		0	16.1	NA
2022-08-02 9:00	15.8	15.3	97	0		4	16.1	NA
2022-08-02 10:00	17.3	16.7	96	0	18	8	16.1	NA
2022-08-02 11:00	18.7	17.3	92	0	15	5	16.1	NA
2022-08-02 12:00	19.4	17.5	89	0	19	13	16.1	NA
2022-08-02 13:00	20.5	18.3	87	0	13	11	16.1	NA
2022-08-02 14:00	21	18.6	86	0	15	13	16.1	NA
2022-08-02 15:00	21.7	19.3	86	0	14	15	16.1	NA
2022-08-02 16:00	22.9	19.6	82	0	14	21	16.1	NA
2022-08-02 17:00	22.2	19.3	83	0	15	18	16.1	NA
2022-08-02 18:00	23.8	19.1	74	0	13	22	16.1	NA
2022-08-02 19:00	20.7	19.9	95	0	13	21	16.1	NA
2022-08-02 20:00	20.8	20	95	0	13	17	16.1	NA
2022-08-02 21:00	20.5	19.9	96	0	13	21	16.1	NA
2022-08-02 22:00	19.9	19.6	98	0	13	21	9.7	Fog
2022-08-02 23:00	19.4	19.2	99	0	12	15	9.7	Fog
2022-08-03 0:00	19.2	19	99	0	11	9	1.2	Fog
2022-08-03 1:00	19.1	18.9	99	0		0	0.8	Fog
2022-08-03 2:00	19.4	19.2	99	0		0	4	Fog
2022-08-03 3:00	19.8	19.8	100	0	25	8	1.6	Fog
2022-08-03 4:00	19.9	19.9	100	0.2	20	5	16.1	NA
2022-08-03 5:00	20	19.8	99	0	26	5	16.1	NA
2022-08-03 6:00	20.4	20.1	98	0	25	9	16.1	NA
2022-08-03 7:00	20.6	20	96	0	25	9	16.1	NA
2022-08-03 8:00	20.4	19.6	95	0	27	8	16.1	NA
2022-08-03 9:00	19.3	18.7	96	0	24	9	16.1	NA
2022-08-03 10:00	18.9	17.8	93	0	25	9	16.1	NA
2022-08-03 11:00	20.5	18.1	86	0	30	9	16.1	NA
2022-08-03 12:00	21.1	18.5	85	0	27	13	16.1	NA
2022-08-03 13:00	21.4	18.7	84	0	28	17	16.1	NA
2022-08-03 14:00	22.7	19	80	0	27	22	16.1	NA
2022-08-03 15:00	22.5	19.4	82	0	27	17	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-03 16:00	21.2	19.4	89	0	30	15	16.1	NA
2022-08-03 17:00	22	19.4	85	0	29	15	16.1	NA
2022-08-03 18:00	24.2	19.4	74	0	30	18	16.1	NA
2022-08-03 19:00	24.9	19.2	70	0	30	17	16.1	NA
2022-08-03 20:00	24.5	18.5	69	0	31	18	16.1	NA
2022-08-03 21:00	24.4	18.4	69	0	33	11	16.1	NA
2022-08-03 22:00	23.6	18.3	72	0	32	8	16.1	NA
2022-08-03 23:00	21.8	19.5	87	0		4	16.1	NA
2022-08-04 0:00	20.5	19.2	92	0		4	16.1	NA
2022-08-04 1:00	18.5	18	97	0	1	4	16.1	NA
2022-08-04 2:00	17.2	16.7	97	0		4	16.1	NA
2022-08-04 3:00	16.9	16.6	98	0	5	5	16.1	NA
2022-08-04 4:00	16.6	16.3	98	0	6	5	16.1	NA
2022-08-04 5:00	16	15.9	99	0	4	4	6.4	Fog
2022-08-04 6:00	16	15.9	99	0	6	5	4.8	Fog
2022-08-04 7:00	16.2	16.1	99	0	7	8	0.4	Fog
2022-08-04 8:00	16.1	16.1	100	0	12	5	0.8	Fog
2022-08-04 9:00	16.3	16.3	100	0	23	5	4.8	Fog
2022-08-04 10:00	16.6	16.6	100	0	18	4	16.1	NA
2022-08-04 11:00	18.5	17.1	91	0		4	16.1	NA
2022-08-04 12:00	21.1	17	77	0		4	16.1	NA
2022-08-04 13:00	24.1	16.9	64	0		8	16.1	NA
2022-08-04 14:00	26.5	13.9	45	0	24	17	16.1	NA
2022-08-04 15:00	27.2	13.2	41	0	21	13	16.1	NA
2022-08-04 16:00	28.1	13.6	40	0	23	15	16.1	NA
2022-08-04 17:00	29	14	39	0	27	17	16.1	NA
2022-08-04 18:00	29.8	14.5	39	0	20	15	16.1	NA
2022-08-04 19:00	29.8	15.1	40	0	31	9	16.1	NA
2022-08-04 20:00	29.9	16.6	44	0	23	8	16.1	NA
2022-08-04 21:00	29	17.5	49	0	21	13	16.1	NA
2022-08-04 22:00	26.4	17.9	59	0	18	17	16.1	NA
2022-08-04 23:00	24.4	17.6	65	0	21	9	16.1	NA
2022-08-05 0:00	22.4	17.2	72	0	15	5	16.1	NA
2022-08-05 1:00	22.6	17.2	71	0	22	13	16.1	NA
2022-08-05 2:00	21.7	16.4	72	0	20	11	16.1	NA
2022-08-05 3:00	22.8	15.5	63	0	20	11	16.1	NA
2022-08-05 4:00	20.6	15.9	74	0	22	9	16.1	NA
2022-08-05 5:00	19.4	16	80	0		0	16.1	NA
2022-08-05 6:00	18.7	16.5	87	0	22	9	16.1	NA
2022-08-05 7:00	17.4	16.2	92	0		4	16.1	NA
2022-08-05 8:00	18.4	16.9	91	0	30	5	16.1	NA
2022-08-05 9:00	18.4	16.8	90	0	20	5	16.1	NA
2022-08-05 10:00	19.2	16.8	86	0	21	8	16.1	NA
2022-08-05 11:00	20.6	17.4	81	0		4	16.1	NA
2022-08-05 12:00	22.9	18.4	75	0		5	16.1	NA
2022-08-05 13:00	25.3	19.4	69	0	18	9	16.1	NA
2022-08-05 14:00	27.6	19.6	61	0	22	18	16.1	NA
2022-08-05 15:00	29.1	19.3	55	0	22	21	16.1	NA
2022-08-05 16:00	30.5	19.5	51	0	26	30	16.1	NA
2022-08-05 17:00	31.5	19.1	47	0	25	30	16.1	NA
2022-08-05 18:00	30.8	19.9	52	0	22	26	16.1	NA
2022-08-05 19:00	31.3	19.2	48	0	26	21	16.1	NA
2022-08-05 20:00	30.1	20.4	55	0	31	17	16.1	NA
2022-08-05 21:00	28	20.6	63	0	30	13	16.1	NA
2022-08-05 22:00	26.1	21.2	74	0	24	11	16.1	NA
2022-08-05 23:00	24.2	21	82	0	29	4	16.1	NA
2022-08-06 0:00	23.8	21	84	0	30	11	16.1	NA
2022-08-06 1:00	22.1	20.9	93	0		0	16.1	NA
2022-08-06 2:00	21.4	20.6	95	0		0	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-06 3:00	21.5	21.1	97	0	31	11	11.3	NA
2022-08-06 4:00	21.1	20.8	98	0	30	8	2.8	Fog
2022-08-06 5:00	21.1	20.9	99	0	28	8	1	Fog
2022-08-06 6:00	21	20.8	99	0	28	9	4	Fog
2022-08-06 7:00	20.1	19.9	99	0	32	8	4.8	Fog
2022-08-06 8:00	19.5	19.2	98	0		4	14.5	NA
2022-08-06 9:00	18.3	18.1	99	0		0	6.4	Fog
2022-08-06 10:00	19.5	19.2	98	0		4	14.5	NA
2022-08-06 11:00	21.1	17.8	81	0	1	5	16.1	NA
2022-08-06 12:00	22.2	16.4	69	0	3	5	16.1	NA
2022-08-06 13:00	23.8	17.5	68	0		8	16.1	NA
2022-08-06 14:00	24.9	17.1	61	0		0	16.1	NA
2022-08-06 15:00	26.1	18.1	61	0	21	8	16.1	NA
2022-08-06 16:00	26.4	18.2	60	0	17	11	16.1	NA
2022-08-06 17:00	27.1	18.7	60	0	14	17	14.5	NA
2022-08-06 18:00	27	18.8	60	0	16	15	16.1	NA
2022-08-06 19:00	27.1	19.1	61	0	15	17	16.1	NA
2022-08-06 20:00	27	19.5	63	0	15	15	16.1	NA
2022-08-06 21:00	26	19.6	67	0	17	18	16.1	NA
2022-08-06 22:00	25	19.7	72	0	15	15	16.1	NA
2022-08-06 23:00	22.7	19.5	82	0	13	9	16.1	NA
2022-08-07 0:00	21	19.3	90	0	14	9	16.1	NA
2022-08-07 1:00	20.4	19.3	93	0	15	5	16.1	NA
2022-08-07 2:00	19.8	19.2	96	0	14	9	16.1	NA
2022-08-07 3:00	18.6	18.1	97	0	2	5	4.8	Fog
2022-08-07 4:00	17.6	17.4	99	0	8	5	0.6	Fog
2022-08-07 5:00	16.9	16.7	99	0	9	8	1.6	Fog
2022-08-07 6:00	18	17.8	99	0		4	8.1	Fog
2022-08-07 7:00	16.9	16.7	99	0	11	8	16.1	NA
2022-08-07 8:00	17.7	17.5	99	0	13	5	12.9	NA
2022-08-07 9:00	16.8	16.5	98	0		0	4.8	Fog
2022-08-07 10:00	18.3	18.1	99	0		4	9.7	Fog
2022-08-07 11:00	22.4	20.1	87	0	21	11	16.1	NA
2022-08-07 12:00	25.5	21	76	0	24	11	16.1	NA
2022-08-07 13:00	27.4	21.8	71	0	25	11	16.1	NA
2022-08-07 14:00	29.2	20.8	60	0	23	18	16.1	NA
2022-08-07 15:00	30.9	20.8	54	0	23	18	16.1	NA
2022-08-07 16:00	31.8	21.4	54	0	23	17	16.1	NA
2022-08-07 17:00	32.1	21.5	53	0	25	24	16.1	NA
2022-08-07 18:00	33.3	21.4	49	0	24	26	16.1	NA
2022-08-07 19:00	32.7	22.1	53	0	29	17	16.1	NA
2022-08-07 20:00	32.1	21	51	0	27	22	16.1	NA
2022-08-07 21:00	31	22.4	60	0	29	13	16.1	NA
2022-08-07 22:00	29.9	22.8	65	0	24	13	16.1	NA
2022-08-07 23:00	28.2	22.3	70	0	23	15	16.1	NA
2022-08-08 0:00	26.2	22.1	78	0	24	13	16.1	NA
2022-08-08 1:00	25.7	22.3	81	0	27	5	16.1	NA
2022-08-08 2:00	25.5	21.9	80	0	27	13	16.1	NA
2022-08-08 3:00	23.6	20.8	84	0	29	9	16.1	NA
2022-08-08 4:00	21.8	19.4	86	0		0	16.1	NA
2022-08-08 5:00	22.9	19.1	79	0	27	13	16.1	NA
2022-08-08 6:00	23.3	19.8	80	0	30	17	16.1	NA
2022-08-08 7:00	21.3	18.3	83	0	31	13	16.1	NA
2022-08-08 8:00	20.4	17.7	84	0	33	8	16.1	NA
2022-08-08 9:00	20	18	88	0	33	9	16.1	NA
2022-08-08 10:00	18.8	15.7	82	0	36	11	16.1	NA
2022-08-08 11:00	18.7	15.9	84	0		4	16.1	NA
2022-08-08 12:00	18.9	13.5	71	0	34	11	16.1	NA
2022-08-08 13:00	20.3	14.1	67	0	31	13	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-08 14:00	20	13	64	0	35	9	16.1	NA
2022-08-08 15:00	20.4	13.3	63	0	31	15	16.1	NA
2022-08-08 16:00	20.7	13.4	63	0	31	13	16.1	NA
2022-08-08 17:00	19.9	13.2	65	0	30	11	16.1	NA
2022-08-08 18:00	20.4	12.9	62	0	30	17	16.1	NA
2022-08-08 19:00	19.5	12.4	63	0	31	9	16.1	NA
2022-08-08 20:00	19.9	12.6	62	0	35	5	16.1	NA
2022-08-08 21:00	19.1	13.3	69	0	30	8	16.1	NA
2022-08-08 22:00	18.5	13.9	75	0	26	8	16.1	Rain
2022-08-08 23:00	17.4	14.6	84	0		4	16.1	Rain
2022-08-09 0:00	16.3	14.5	89	0.5	5	8	6.4	Moderate Rain,Fog
2022-08-09 1:00	15.7	14.9	95	0.8	4	8	16.1	Rain
2022-08-09 2:00	15	14.5	97	2.2	4	11	16.1	Rain
2022-08-09 3:00	14.8	14.3	97	1.8	5	13	4.8	Moderate Rain,Fog
2022-08-09 4:00	14.6	14.3	98	3	5	11	11.3	Rain
2022-08-09 5:00	14.8	14.7	99	1.5	5	11	4.8	Moderate Rain,Fog
2022-08-09 6:00	15.1	15	99	0.8	6	9	4.8	Fog
2022-08-09 7:00	15.3	15.2	99	0.2	7	11	3.6	Fog
2022-08-09 8:00	15.9	15.8	99	0.2	6	13	2.4	Rain,Fog
2022-08-09 9:00	16.1	16	99	0.2	7	15	4	Fog
2022-08-09 10:00	16	15.9	99	0.5	6	17	2.4	Rain,Fog
2022-08-09 11:00	15.8	15.5	98	0.5	6	21	4	Rain,Fog
2022-08-09 12:00	15.6	15.3	98	0.2	7	24	4	Rain,Fog
2022-08-09 13:00	16	15.8	99	0.2	7	18	3.6	Rain,Fog
2022-08-09 14:00	16.4	16.2	99	1	6	13	4.8	Rain,Fog
2022-08-09 15:00	16.7	16.5	99	10.6	4	9	2.4	Moderate Rain,Fog
2022-08-09 16:00	17.2	17	99	9.5	5	8	3.6	Rain,Fog
2022-08-09 17:00	17.8	17.5	98	1.2	5	8	16.1	NA
2022-08-09 18:00	17.9	17.6	98	0	5	8	16.1	NA
2022-08-09 19:00	17.9	17.6	98	0.2	2	5	1.6	Rain,Fog
2022-08-09 20:00	18	17.8	99	0.2	6	8	4.8	Fog
2022-08-09 21:00	17.9	17.7	99	0	2	5	11.3	NA
2022-08-09 22:00	17.9	17.7	99	0.5	4	9	4	Rain,Fog
2022-08-09 23:00	17.6	17.3	98	0	5	5	4.8	Fog
2022-08-10 0:00	16.9	16.6	98	0.5	4	11	3.2	Fog
2022-08-10 1:00	16.6	16.4	99	0	6	5	2	Fog
2022-08-10 2:00	16.6	16.4	99	0.2		0	8.1	Fog
2022-08-10 3:00	16.6	16.4	99	0		0	6.4	Fog
2022-08-10 4:00	16.5	16.3	99	0		0	16.1	NA
2022-08-10 5:00	16.2	15.9	98	0	4	9	16.1	NA
2022-08-10 6:00	16.1	15.8	98	0	3	8	16.1	NA
2022-08-10 7:00	15.7	15.4	98	0	4	13	16.1	NA
2022-08-10 8:00	15.4	15.1	98	0	4	9	16.1	NA
2022-08-10 9:00	14.9	14.6	98	0	5	13	16.1	NA
2022-08-10 10:00	15	14.7	98	0	5	13	16.1	NA
2022-08-10 11:00	15.7	15.1	96	0	5	8	16.1	NA
2022-08-10 12:00	16.5	15.4	93	0	4	11	16.1	NA
2022-08-10 13:00	17	15.5	91	0	7	15	9.7	Fog
2022-08-10 14:00	17.9	16	88	0	6	9	16.1	NA
2022-08-10 15:00	20.1	15.6	75	0	8	15	16.1	NA
2022-08-10 16:00	18.7	14.8	78	0	9	15	16.1	NA
2022-08-10 17:00	16.9	16	95	0.2	8	11	4	Rain,Fog
2022-08-10 18:00	17.6	16.5	93	0.2	12	11	9.7	Fog
2022-08-10 19:00	17.3	16.5	95	0.5	15	11	11.3	NA
2022-08-10 20:00	16.8	16.2	96	0.8	12	11	8.1	Fog
2022-08-10 21:00	16.8	16.3	97	0.2	11	9	4.8	Rain,Fog
2022-08-10 22:00	16.4	15.8	96	0	12	17	4	Rain,Fog
2022-08-10 23:00	15.9	15.5	98	0.2	11	13	14.5	NA
2022-08-11 0:00	15.7	15.2	97	0	9	8	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-11 1:00	14.9	14.9	98	0	10	11	16.1	NA
2022-08-11 2:00	14.5	14.3	99	0	8	8	16.1	NA
2022-08-11 3:00	14.4	14.3	99	0	8	8	16.1	NA
2022-08-11 4:00	14.4	14.3	99	0	7	9	16.1	NA
2022-08-11 5:00	14.8	14.5	98	0	7	8	16.1	NA
2022-08-11 6:00	14.9	14.6	98	0	9	9	16.1	NA
2022-08-11 7:00	14.9	14.6	98	0	10	11	16.1	NA
2022-08-11 8:00	15	14.9	99	0	10	9	14.5	NA
2022-08-11 9:00	15.3	15.2	99	0	12	9	16.1	NA
2022-08-11 10:00	15.8	15.7	99	0	10	5	16.1	NA
2022-08-11 11:00	16.3	16	98	0	10	9	16.1	NA
2022-08-11 12:00	17.3	16.3	94	0	12	9	16.1	NA
2022-08-11 13:00	18.3	16.9	92	0	14	9	16.1	NA
2022-08-11 14:00	19.4	15.2	76	0	15	15	16.1	NA
2022-08-11 15:00	21	14.8	68	0	15	17	16.1	NA
2022-08-11 16:00	21.7	15.3	66	0	15	17	16.1	NA
2022-08-11 17:00	21.8	15.6	68	0	13	13	16.1	NA
2022-08-11 18:00	22	16.1	69	0	13	18	16.1	NA
2022-08-11 19:00	21.9	16.4	71	0	13	17	16.1	NA
2022-08-11 20:00	21.6	16.1	70	0	14	21	16.1	NA
2022-08-11 21:00	19.8	15.5	76	0	14	11	16.1	NA
2022-08-11 22:00	18.8	15.5	81	0	14	13	16.1	NA
2022-08-11 23:00	17.8	15.6	87	0	12	13	16.1	NA
2022-08-12 0:00	17.2	15.9	92	0	11	11	16.1	NA
2022-08-12 1:00	16.9	15.8	93	0	10	9	16.1	NA
2022-08-12 2:00	16.7	15.7	94	0	6	9	16.1	NA
2022-08-12 3:00	16.5	15.7	95	0	5	8	16.1	NA
2022-08-12 4:00	16.7	15.7	94	0	8	9	16.1	NA
2022-08-12 5:00	16.6	15.5	93	0	9	9	16.1	NA
2022-08-12 6:00	16.4	15.6	95	0	6	9	16.1	NA
2022-08-12 7:00	16.8	16	95	0	9	11	16.1	NA
2022-08-12 8:00	17.1	16.3	95	0	8	11	16.1	NA
2022-08-12 9:00	16.8	16.3	97	0	8	13	16.1	Rain
2022-08-12 10:00	17.1	16.6	97	0	6	9	16.1	NA
2022-08-12 11:00	17.9	17.4	97	0.2	6	11	16.1	NA
2022-08-12 12:00	18.5	17.9	96	0	5	9	16.1	NA
2022-08-12 13:00	19.4	17.8	90	0	6	13	16.1	NA
2022-08-12 14:00	20.6	18	85	0	6	13	16.1	NA
2022-08-12 15:00	21.2	17.4	79	0	9	13	16.1	NA
2022-08-12 16:00	21.6	17.9	79	0	10	13	16.1	NA
2022-08-12 17:00	22.6	18	75	0	9	8	16.1	NA
2022-08-12 18:00	22.3	18.3	78	0	2	9	16.1	NA
2022-08-12 19:00	22.5	18.3	77	0	4	8	16.1	NA
2022-08-12 20:00	21.7	18.9	84	0	31	8	16.1	NA
2022-08-12 21:00	21.7	18.5	82	0		4	16.1	NA
2022-08-12 22:00	21	19	88	0		0	16.1	NA
2022-08-12 23:00	20.2	18.7	91	0		0	16.1	NA
2022-08-13 0:00	19.9	18.2	90	0	10	8	16.1	NA
2022-08-13 1:00	19.7	18	90	0		4	16.1	NA
2022-08-13 2:00	19.3	18	92	0	4	4	16.1	NA
2022-08-13 3:00	19.1	17.8	92	0	6	4	16.1	NA
2022-08-13 4:00	18.9	17.9	94	0	4	5	16.1	NA
2022-08-13 5:00	18.7	17.7	94	0		4	16.1	NA
2022-08-13 6:00	18.4	17.4	94	0		4	16.1	NA
2022-08-13 7:00	18.2	17.4	95	0		0	16.1	NA
2022-08-13 8:00	18.1	17.3	95	0		0	16.1	NA
2022-08-13 9:00	18	17.4	96	0	36	5	16.1	NA
2022-08-13 10:00	18.5	17.5	94	0	34	5	16.1	NA
2022-08-13 11:00	19.6	17.8	89	0	35	5	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-13 12:00	20.3	18.4	89	0	33	5	16.1	NA
2022-08-13 13:00	20.7	18.8	89	0	29	9	16.1	NA
2022-08-13 14:00	20.9	18.9	88	0		9	16.1	NA
2022-08-13 15:00	22.2	18.5	79	0		4	16.1	NA
2022-08-13 16:00	22	19.2	84	0		8	16.1	NA
2022-08-13 17:00	22.8	19.4	81	0	30	15	16.1	NA
2022-08-13 18:00	23	19.2	79	0	28	15	16.1	NA
2022-08-13 19:00	22.4	18.7	79	0	29	13	16.1	NA
2022-08-13 20:00	22.3	18.8	80	0	29	11	16.1	NA
2022-08-13 21:00	21.9	18.3	80	0	31	9	16.1	NA
2022-08-13 22:00	21.9	18.9	83	0	6	5	16.1	NA
2022-08-13 23:00	20.9	18.7	87	0	7	5	16.1	NA
2022-08-14 0:00	18.7	18.2	97	0	14	11	16.1	NA
2022-08-14 1:00	17.7	17.4	98	0	5	8	16.1	NA
2022-08-14 2:00	18.8	17.8	94	0	6	9	16.1	NA
2022-08-14 3:00	18.5	17.5	94	0	5	5	16.1	NA
2022-08-14 4:00	18.1	17.1	94	0	6	9	16.1	NA
2022-08-14 5:00	18	17	94	0	4	5	16.1	NA
2022-08-14 6:00	17.7	16.7	94	0	4	5	16.1	NA
2022-08-14 7:00	17.1	16.6	97	0	2	5	16.1	Rain
2022-08-14 8:00	17	16.7	98	0		0	16.1	NA
2022-08-14 9:00	17	16.7	98	0	3	4	16.1	NA
2022-08-14 10:00	17.6	17.1	97	0	6	9	16.1	NA
2022-08-14 11:00	18.2	17.7	97	0	9	9	16.1	NA
2022-08-14 12:00	18.8	18.5	98	3.2	9	8	4.8	Rain,Fog
2022-08-14 13:00	19.4	18.8	96	0	13	13	16.1	NA
2022-08-14 14:00	19.7	18.9	95	0	10	15	16.1	NA
2022-08-14 15:00	20.3	19.8	97	1	10	15	3.6	Moderate Rain,Fog
2022-08-14 16:00	20.4	19.9	97	0.2	9	17	4.8	Fog
2022-08-14 17:00	20.6	20.3	98	2.2	8	11	2	Rain,Fog
2022-08-14 18:00	21.7	21.5	99	0.2	11	5	14.5	NA
2022-08-14 19:00	21.7	21.1	96	0	28	15	6.4	Fog
2022-08-14 20:00	21.2	20.6	96	0	30	15	16.1	NA
2022-08-14 21:00	19.9	19.6	98	0	30	15	2	Fog
2022-08-14 22:00	19.4	19.1	98	0	28	22	16.1	NA
2022-08-14 23:00	19.1	18.6	97	0	27	17	16.1	NA
2022-08-15 0:00	19.3	18.8	97	0	28	18	16.1	NA
2022-08-15 1:00	18.9	18.3	96	0	27	22	12.9	NA
2022-08-15 2:00	17.8	17.4	97	0	27	18	2.8	Rain,Fog
2022-08-15 3:00	17.9	17.3	96	0.5	29	24	4.8	Rain,Fog
2022-08-15 4:00	17.8	16.7	93	0.2	30	21	16.1	Rain
2022-08-15 5:00	17.4	16.8	96	0	31	17	9.7	Fog
2022-08-15 6:00	17.2	16.4	95	0.2	30	15	16.1	Rain
2022-08-15 7:00	17.1	16.4	96	0.2	30	15	16.1	Rain
2022-08-15 8:00	17.3	16.5	95	0	30	15	16.1	NA
2022-08-15 9:00	17	15.9	93	0	28	11	16.1	NA
2022-08-15 10:00	17.2	15.9	92	0	27	18	16.1	NA
2022-08-15 11:00	17.4	15.8	90	0	27	18	16.1	NA
2022-08-15 12:00	17.6	16.1	91	0	28	15	16.1	NA
2022-08-15 13:00	18.6	16.1	85	0	28	21	16.1	NA
2022-08-15 14:00	20	16.4	80	0	28	17	16.1	NA
2022-08-15 15:00	20.6	16.7	78	0	32	15	16.1	NA
2022-08-15 16:00	20.6	15.4	72	0	29	18	16.1	NA
2022-08-15 17:00	21.3	15.7	70	0	30	18	16.1	NA
2022-08-15 18:00	22.2	14.7	62	0	30	13	16.1	NA
2022-08-15 19:00	22.2	14.4	61	0	33	15	16.1	NA
2022-08-15 20:00	22.2	14.1	60	0	31	11	16.1	NA
2022-08-15 21:00	22.1	14.5	62	0	29	9	16.1	NA
2022-08-15 22:00	21.4	14.4	64	0	32	5	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-15 23:00	18	15.2	83	0		0	16.1	NA
2022-08-16 0:00	15.4	14	91	0	3	8	16.1	NA
2022-08-16 1:00	14.1	13.2	94	0	4	8	16.1	NA
2022-08-16 2:00	13.2	12.9	98	0		0	16.1	NA
2022-08-16 3:00	12.6	12.3	98	0		0	16.1	NA
2022-08-16 4:00	12.1	11.6	97	0	9	5	16.1	NA
2022-08-16 5:00	11.4	11.2	99	0	3	8	16.1	NA
2022-08-16 6:00	11.8	11.5	98	0	2	8	16.1	NA
2022-08-16 7:00	11.3	11.1	98	0	4	4	16.1	NA
2022-08-16 8:00	11.4	11.1	98	0	4	4	16.1	NA
2022-08-16 9:00	12	11.9	99	0	2	9	16.1	NA
2022-08-16 10:00	12.8	12.7	99	0	3	5	16.1	NA
2022-08-16 11:00	15.2	14.9	98	0	2	8	16.1	NA
2022-08-16 12:00	17.1	16.6	97	0	5	9	16.1	NA
2022-08-16 13:00	18.4	17.1	92	0	5	9	16.1	NA
2022-08-16 14:00	20.1	16.8	81	0	8	9	16.1	NA
2022-08-16 15:00	21.3	15.7	70	0	9	11	16.1	NA
2022-08-16 16:00	21.4	15	67	0	7	9	16.1	NA
2022-08-16 17:00	21	14.7	67	0	7	9	16.1	NA
2022-08-16 18:00	21.1	14.5	66	0	6	9	16.1	NA
2022-08-16 19:00	21.6	14.8	65	0	7	13	16.1	NA
2022-08-16 20:00	21.8	15.5	67	0	7	13	16.1	NA
2022-08-16 21:00	20.6	15.2	71	0	8	15	16.1	NA
2022-08-16 22:00	19.7	15.8	78	0	7	11	16.1	NA
2022-08-16 23:00	18.8	15.5	81	0	6	11	16.1	NA
2022-08-17 0:00	18	15.7	86	0	7	11	16.1	NA
2022-08-17 1:00	18.2	16.2	88	0	8	17	16.1	NA
2022-08-17 2:00	18	16	88	0	8	17	16.1	NA
2022-08-17 3:00	17.5	16.7	95	0	7	18	16.1	Rain
2022-08-17 4:00	17.5	16.2	92	0	7	17	16.1	NA
2022-08-17 5:00	17.5	16	91	0	7	18	16.1	NA
2022-08-17 6:00	17.2	16.4	95	0.2	7	21	11.3	Rain
2022-08-17 7:00	16.7	16.2	97	1.5	7	15	16.1	Rain
2022-08-17 8:00	16.4	15.9	97	1	7	18	11.3	Rain
2022-08-17 9:00	17	16.7	98	2	8	21	4	Rain,Fog
2022-08-17 10:00	17	16.7	98	3.2	7	18	4	Rain,Fog
2022-08-17 11:00	16.4	15.9	97	1	6	24	6.4	Rain,Fog
2022-08-17 12:00	16.8	16.3	97	1.5	7	28	14.5	Rain
2022-08-17 13:00	16.7	16.1	96	1.2	6	30	8.1	Rain,Fog
2022-08-17 14:00	17.3	16.8	97	0.2	6	24	4.8	Rain,Fog
2022-08-17 15:00	17.6	17.1	97	0.2	6	26	6.4	Fog
2022-08-17 16:00	17.6	17.3	98	0.8	6	24	3.6	Rain,Fog
2022-08-17 17:00	17.9	17.4	97	1.5	7	26	4.8	Rain,Fog
2022-08-17 18:00	18.2	17.7	97	1.8	8	26	14.5	Rain
2022-08-17 19:00	18	17.5	97	2.3	8	22	16.1	Rain
2022-08-17 20:00	17.8	17.5	98	4.5	7	22	6.4	Thunderstorms,Rain,Fog
2022-08-17 21:00	17.8	17.5	98	0	7	28	6.4	Fog
2022-08-17 22:00	18	17.7	98	0.2	8	30	4.8	Rain,Fog
2022-08-17 23:00	18.1	17.8	98	0.2	7	17	6.4	Rain,Fog
2022-08-18 0:00	18.1	17.9	99	0.5	7	21	4.8	Rain,Fog
2022-08-18 1:00	18.1	17.9	99	3	8	17	2.8	Thunderstorms,Rain,Fog
2022-08-18 2:00	18.2	18	99	13.7	7	13	1.6	Rain,Fog
2022-08-18 3:00	18.3	18.1	99	6	5	18	4	Rain,Fog
2022-08-18 4:00	18.4	18.2	99	4.5	7	5	2	Thunderstorms,Rain,Fog
2022-08-18 5:00	18.5	18.3	99	5.3	6	15	4.8	Rain,Fog
2022-08-18 6:00	18.5	18.3	99	0	6	18	2	Fog
2022-08-18 7:00	18.7	18.5	99	0.5	7	15	2.8	Thunderstorms,Rain,Fog
2022-08-18 8:00	18.9	18.7	99	2.8	7	13	9.7	Fog
2022-08-18 9:00	19	18.8	99	0	9	5	0.4	Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-18 10:00	19.2	19.2	100	0	7	8	0.6	Fog
2022-08-18 11:00	19.9	19.9	100	0.8	8	13	0.4	Rain,Fog
2022-08-18 12:00	20.3	20.3	100	0.5	10	17	4	Fog
2022-08-18 13:00	20.7	20.7	100	0	14	13	0.6	Fog
2022-08-18 14:00	20.8	20.8	100	0	17	9	16.1	NA
2022-08-18 15:00	21.7	19.4	86	0	18	15	16.1	NA
2022-08-18 16:00	21.9	18.4	80	0	17	15	16.1	NA
2022-08-18 17:00	22.1	18.6	80	0	15	11	16.1	NA
2022-08-18 18:00	23.4	18.3	73	0	18	21	16.1	NA
2022-08-18 19:00	23.2	18	72	0	20	15	16.1	NA
2022-08-18 20:00	22.1	17.2	73	0	19	21	16.1	NA
2022-08-18 21:00	22.2	17	72	0	18	15	16.1	NA
2022-08-18 22:00	21	16.5	75	0	21	15	16.1	NA
2022-08-18 23:00	19.4	16.1	81	0	20	13	16.1	NA
2022-08-19 0:00	18.5	15.8	84	0	21	11	16.1	NA
2022-08-19 1:00	17.1	15.3	89	0	22	9	16.1	NA
2022-08-19 2:00	16.7	14.6	87	0	22	8	16.1	NA
2022-08-19 3:00	16.2	14.8	91	0	19	9	16.1	NA
2022-08-19 4:00	16.3	15.4	94	0	17	15	16.1	NA
2022-08-19 5:00	16.4	15.6	95	0	18	11	16.1	NA
2022-08-19 6:00	16.9	15.6	92	0	20	11	16.1	NA
2022-08-19 7:00	16.8	15.7	93	0	19	11	16.1	NA
2022-08-19 8:00	16.9	15.6	92	0	19	13	16.1	NA
2022-08-19 9:00	17.3	15.9	91	0	20	18	16.1	NA
2022-08-19 10:00	17.3	16	92	0	20	11	16.1	NA
2022-08-19 11:00	18.7	16.2	85	0	22	15	16.1	NA
2022-08-19 12:00	20	15.9	77	0	24	22	16.1	NA
2022-08-19 13:00	20.5	16.2	76	0	25	15	16.1	NA
2022-08-19 14:00	20.2	16.3	78	0	23	21	16.1	NA
2022-08-19 15:00	21	16.3	74	0	25	26	16.1	NA
2022-08-19 16:00	21.2	16.7	75	0	26	17	16.1	NA
2022-08-19 17:00	20.9	17.1	79	0	28	18	16.1	NA
2022-08-19 18:00	22.3	16	67	0	27	24	16.1	NA
2022-08-19 19:00	22.5	16.3	68	0	30	18	16.1	NA
2022-08-19 20:00	22.7	17	70	0	28	17	16.1	NA
2022-08-19 21:00	22.1	16.8	72	0	28	17	16.1	NA
2022-08-19 22:00	20.4	17	81	0	28	9	16.1	NA
2022-08-19 23:00	18.3	16.9	91	0		0	16.1	NA
2022-08-20 0:00	19.3	17.1	87	0	23	9	16.1	NA
2022-08-20 1:00	19.1	16.3	84	0	26	15	16.1	NA
2022-08-20 2:00	18.6	16.4	87	0	27	13	16.1	NA
2022-08-20 3:00	18.4	16.4	88	0	25	8	16.1	NA
2022-08-20 4:00	18.2	16.2	88	0		4	16.1	NA
2022-08-20 5:00	17.7	16	90	0	29	8	16.1	NA
2022-08-20 6:00	17.9	16.1	89	0	27	13	16.1	NA
2022-08-20 7:00	17.7	16.1	90	0	29	15	16.1	NA
2022-08-20 8:00	17.4	15.9	91	0	29	11	16.1	NA
2022-08-20 9:00	15.4	14.5	94	0		0	16.1	NA
2022-08-20 10:00	17.6	16.1	91	0	25	8	16.1	NA
2022-08-20 11:00	19	16.6	86	0	29	9	16.1	NA
2022-08-20 12:00	20.2	17.3	83	0	30	15	16.1	NA
2022-08-20 13:00	20.3	17.6	84	0	30	21	16.1	NA
2022-08-20 14:00	21	17.9	82	0	29	24	16.1	NA
2022-08-20 15:00	22.1	18.3	79	0	28	17	16.1	NA
2022-08-20 16:00	22.5	18.1	76	0	30	18	16.1	NA
2022-08-20 17:00	23	17.6	71	0	29	15	16.1	NA
2022-08-20 18:00	23.4	17.3	68	0	29	18	16.1	NA
2022-08-20 19:00	24	17.4	66	0	32	11	16.1	NA
2022-08-20 20:00	24.2	17.5	66	0	29	15	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-20 21:00	23.7	18	70	0	28	11	16.1	NA
2022-08-20 22:00	22.4	18.1	76	0	31	9	16.1	NA
2022-08-20 23:00	20.7	17.4	81	0	32	9	16.1	NA
2022-08-21 0:00	19.5	16.1	81	0	33	8	16.1	NA
2022-08-21 1:00	16.6	15.3	92	0	35	5	16.1	NA
2022-08-21 2:00	14.9	13.8	93	0	33	5	16.1	NA
2022-08-21 3:00	14.8	13.8	94	0	31	8	16.1	NA
2022-08-21 4:00	18.3	16.7	90	0	32	11	16.1	NA
2022-08-21 5:00	18.3	17.8	97	0	31	9	16.1	NA
2022-08-21 6:00	16.8	15.5	92	0	32	8	16.1	NA
2022-08-21 7:00	13.8	13	95	0	6	5	16.1	NA
2022-08-21 8:00	12.7	11.9	95	0	13	5	16.1	NA
2022-08-21 9:00	12.1	11.4	95	0	4	4	16.1	NA
2022-08-21 10:00	13.8	12.9	94	0		4	16.1	NA
2022-08-21 11:00	18.4	14.6	78	0	7	9	16.1	NA
2022-08-21 12:00	20.6	14.4	67	0	9	11	16.1	NA
2022-08-21 13:00	22.4	15.1	63	0	11	11	16.1	NA
2022-08-21 14:00	23.7	15.7	60	0	13	9	16.1	NA
2022-08-21 15:00	24.7	16.5	60	0	13	11	16.1	NA
2022-08-21 16:00	25.2	16.8	59	0	12	11	14.5	NA
2022-08-21 17:00	26.2	17.7	59	0	16	15	14.5	NA
2022-08-21 18:00	25.4	18	63	0	16	17	16.1	NA
2022-08-21 19:00	24.4	16.6	61	0	14	18	16.1	NA
2022-08-21 20:00	23.5	17.3	68	0	15	17	16.1	NA
2022-08-21 21:00	20.5	17.8	84	0	14	18	16.1	NA
2022-08-21 22:00	19.4	17.6	89	0	13	18	16.1	NA
2022-08-21 23:00	18.3	17.5	95	0	13	11	16.1	NA
2022-08-22 0:00	17.7	16.9	95	0	13	11	16.1	NA
2022-08-22 1:00	17.1	16.3	95	0	13	8	16.1	NA
2022-08-22 2:00	17	16.2	95	0	15	11	16.1	NA
2022-08-22 3:00	17	16	94	0	12	9	16.1	NA
2022-08-22 4:00	16.9	15.9	94	0	15	13	16.1	NA
2022-08-22 5:00	16.7	15.9	95	0	14	9	16.1	NA
2022-08-22 6:00	16.5	15.9	96	0	13	9	16.1	NA
2022-08-22 7:00	16.5	15.9	96	0	15	11	16.1	NA
2022-08-22 8:00	16.5	15.7	95	0	14	11	16.1	NA
2022-08-22 9:00	16.6	15.8	95	0	15	9	16.1	NA
2022-08-22 10:00	16.6	15.6	94	0	16	9	16.1	NA
2022-08-22 11:00	17.2	16.1	93	0	15	9	16.1	NA
2022-08-22 12:00	18.4	16.4	88	0	13	15	16.1	NA
2022-08-22 13:00	19.4	16.7	84	0	16	13	16.1	NA
2022-08-22 14:00	20.7	17.6	82	0	11	15	16.1	NA
2022-08-22 15:00	21.9	17.5	76	0	15	15	16.1	NA
2022-08-22 16:00	22.5	17.3	72	0	14	15	16.1	NA
2022-08-22 17:00	23.2	18	72	0	13	15	16.1	NA
2022-08-22 18:00	23.6	18	71	0	15	17	16.1	NA
2022-08-22 19:00	23.7	17.9	70	0	16	18	16.1	NA
2022-08-22 20:00	23.1	17.8	72	0	15	17	16.1	NA
2022-08-22 21:00	22.4	18	76	0	15	15	16.1	NA
2022-08-22 22:00	20.7	17.7	83	0	15	13	16.1	NA
2022-08-22 23:00	19.2	17.5	90	0	15	13	16.1	NA
2022-08-23 0:00	18.5	17.7	95	0	15	11	16.1	NA
2022-08-23 1:00	18.4	17.9	97	0	15	11	16.1	NA
2022-08-23 2:00	17.9	17.6	98	0	12	9	16.1	NA
2022-08-23 3:00	18.1	17.8	98	0	12	8	16.1	NA
2022-08-23 4:00	18	17.7	98	0	11	9	16.1	NA
2022-08-23 5:00	18.4	18.1	98	0	13	5	16.1	NA
2022-08-23 6:00	18.1	17.8	98	0	12	9	16.1	NA
2022-08-23 7:00	18	17.8	99	0	8	5	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-23 8:00	18.1	17.9	99	0	8	9	16.1	NA
2022-08-23 9:00	18.4	18.2	99	0	9	9	16.1	NA
2022-08-23 10:00	18.7	18.5	99	0	10	13	16.1	NA
2022-08-23 11:00	19	18.7	98	0	10	11	16.1	NA
2022-08-23 12:00	19.2	18.9	98	0	9	13	16.1	Rain
2022-08-23 13:00	19.2	18.9	98	2	9	18	8.1	Rain,Fog
2022-08-23 14:00	19.2	17.6	90	1.2	12	24	16.1	Rain
2022-08-23 15:00	17.3	16.4	95	3.2	9	24	14.5	Rain
2022-08-23 16:00	17.9	17.1	95	0.2	7	18	16.1	NA
2022-08-23 17:00	18.5	17.3	93	0	6	21	16.1	NA
2022-08-23 18:00	19.6	18	90	0	7	15	16.1	NA
2022-08-23 19:00	19.3	18	92	0	5	11	16.1	NA
2022-08-23 20:00	19.8	18.4	92	0	6	15	16.1	NA
2022-08-23 21:00	19.7	18.6	93	0	7	9	16.1	NA
2022-08-23 22:00	19.3	18.7	96	0	9	8	16.1	NA
2022-08-23 23:00	18.9	18.4	97	0	9	8	16.1	NA
2022-08-24 0:00	18.8	18.5	98	0.2	5	5	12.9	Rain
2022-08-24 1:00	18.7	18.5	99	0.5	4	5	8.1	Rain,Fog
2022-08-24 2:00	20.4	20.2	99	0.8	17	11	16.1	Rain
2022-08-24 3:00	20.5	20.3	99	0.5	17	11	16.1	NA
2022-08-24 4:00	20.5	20.3	99	0	17	9	16.1	NA
2022-08-24 5:00	20.7	20.4	98	0	18	8	16.1	NA
2022-08-24 6:00	20.6	20.3	98	0	15	5	16.1	NA
2022-08-24 7:00	20.6	20.1	97	0	21	8	16.1	NA
2022-08-24 8:00	20.5	20	97	0	23	15	16.1	NA
2022-08-24 9:00	20.5	20	97	0	25	15	16.1	NA
2022-08-24 10:00	20.6	19.8	95	0	24	11	16.1	NA
2022-08-24 11:00	20.9	19.6	92	0	24	9	16.1	NA
2022-08-24 12:00	21.4	20.1	92	0	25	15	16.1	NA
2022-08-24 13:00	21.6	19.1	86	0	29	15	16.1	NA
2022-08-24 14:00	22.3	18.8	80	0	27	17	16.1	NA
2022-08-24 15:00	24.4	19.5	74	0	27	15	16.1	NA
2022-08-24 16:00	23.8	18.6	72	0	26	15	16.1	NA
2022-08-24 17:00	23.8	19.6	77	0	25	17	16.1	NA
2022-08-24 18:00	23.1	19.1	78	0	25	13	16.1	NA
2022-08-24 19:00	23.4	19.6	79	0	24	13	16.1	NA
2022-08-24 20:00	25.1	20.3	74	0	24	9	16.1	NA
2022-08-24 21:00	23.4	20.1	82	0		0	16.1	NA
2022-08-24 22:00	21.6	21	96	6.3	22	8	14.5	NA
2022-08-24 23:00	21.4	20.4	94	0	20	8	16.1	NA
2022-08-25 0:00	20.8	20.3	97	0	25	5	16.1	NA
2022-08-25 1:00	20.9	20.3	96	0	21	9	16.1	NA
2022-08-25 2:00	20.7	20.1	96	0	18	9	16.1	NA
2022-08-25 3:00	20.6	20	96	0	22	11	16.1	NA
2022-08-25 4:00	20.4	19.6	95	0	22	15	16.1	NA
2022-08-25 5:00	20.3	19.7	96	0	23	11	16.1	NA
2022-08-25 6:00	20.1	19.6	97	0	24	8	16.1	NA
2022-08-25 7:00	20.1	19.6	97	0	24	4	16.1	NA
2022-08-25 8:00	19.9	19.6	98	0	21	4	16.1	NA
2022-08-25 9:00	19.8	19.5	98	0	24	8	16.1	NA
2022-08-25 10:00	20	19.4	96	0	18	4	16.1	NA
2022-08-25 11:00	20.4	19.5	95	0	17	4	16.1	NA
2022-08-25 12:00	21.6	19.9	90	0		4	16.1	NA
2022-08-25 13:00	22	20.4	91	0	21	9	16.1	NA
2022-08-25 14:00	22.4	20.4	88	0	29	5	16.1	NA
2022-08-25 15:00	23.1	20.1	83	0	26	5	16.1	NA
2022-08-25 16:00	23	20.1	84	0	31	8	16.1	NA
2022-08-25 17:00	23.5	20	81	0	28	5	16.1	NA
2022-08-25 18:00	21.4	20.8	96	0	20	8	16.1	Rain

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-25 19:00	23.5	19.1	76	0.2	28	13	16.1	NA
2022-08-25 20:00	24.8	18.6	68	0	29	13	16.1	NA
2022-08-25 21:00	24.1	18.6	71	0	28	9	16.1	NA
2022-08-25 22:00	22.7	18.7	78	0	31	8	16.1	NA
2022-08-25 23:00	20.3	18.5	89	0	27	8	16.1	NA
2022-08-26 0:00	19.4	18.1	92	0	32	8	16.1	NA
2022-08-26 1:00	19.1	18.5	96	0		4	16.1	NA
2022-08-26 2:00	17.5	16.7	95	0	32	4	16.1	NA
2022-08-26 3:00	17	16.8	99	0	32	5	16.1	NA
2022-08-26 4:00	16.4	16.2	99	0	34	5	11.3	NA
2022-08-26 5:00	15.8	15.7	99	0	32	5	16.1	NA
2022-08-26 6:00	14.5	14.4	99	0	33	4	2.4	Fog
2022-08-26 7:00	14.7	14.6	99	0	33	5	6.4	Fog
2022-08-26 8:00	13.2	13.1	99	0		0	14.5	NA
2022-08-26 9:00	12.5	12.4	99	0		4	6.4	Fog
2022-08-26 10:00	12.8	12.7	99	0		4	16.1	NA
2022-08-26 11:00	17.7	16.4	92	0		0	16.1	NA
2022-08-26 12:00	19.5	17.4	87	0	21	5	16.1	NA
2022-08-26 13:00	20.9	15.8	72	0		4	16.1	NA
2022-08-26 14:00	22.5	15	62	0	18	5	16.1	NA
2022-08-26 15:00	22.4	14.2	59	0		4	16.1	NA
2022-08-26 16:00	22.8	16.6	68	0	18	8	16.1	NA
2022-08-26 17:00	23.3	16.5	65	0	16	8	16.1	NA
2022-08-26 18:00	23.1	15.5	62	0	11	15	16.1	NA
2022-08-26 19:00	23.4	15.4	60	0	15	13	16.1	NA
2022-08-26 20:00	22.2	16.1	68	0	15	15	16.1	NA
2022-08-26 21:00	22.4	17.4	73	0	14	11	16.1	NA
2022-08-26 22:00	21	18.2	84	0	14	17	16.1	NA
2022-08-26 23:00	19.5	17.8	90	0	16	15	16.1	NA
2022-08-27 0:00	19.1	18	93	0	16	11	16.1	NA
2022-08-27 1:00	18.9	17.6	92	0	16	13	16.1	NA
2022-08-27 2:00	19	17.7	92	0	17	17	16.1	NA
2022-08-27 3:00	19.1	17.8	92	0	16	13	16.1	NA
2022-08-27 4:00	18.9	17.4	91	0	18	15	16.1	NA
2022-08-27 5:00	18.5	16.9	90	0	17	11	16.1	NA
2022-08-27 6:00	18.4	16.8	90	0		4	16.1	NA
2022-08-27 7:00	18.4	16.9	91	0		4	16.1	NA
2022-08-27 8:00	17.6	16.5	93	0		0	16.1	NA
2022-08-27 9:00	18.4	17.3	93	0	22	5	16.1	NA
2022-08-27 10:00	18.7	17.7	94	0	25	8	16.1	NA
2022-08-27 11:00	19.6	17.8	89	0	25	11	16.1	NA
2022-08-27 12:00	20.1	17.9	87	0	25	15	16.1	NA
2022-08-27 13:00	20.8	17.9	83	0	26	17	16.1	NA
2022-08-27 14:00	22.1	18.6	80	0	29	17	16.1	NA
2022-08-27 15:00	20.2	18.2	88	0	30	17	16.1	NA
2022-08-27 16:00	20.1	17.6	86	0	30	13	16.1	NA
2022-08-27 17:00	21.6	17.7	78	0	31	11	16.1	NA
2022-08-27 18:00	20.2	16.3	78	0	36	11	16.1	NA
2022-08-27 19:00	20.1	16	77	0	34	9	16.1	NA
2022-08-27 20:00	19.3	14.5	73	0	35	9	16.1	NA
2022-08-27 21:00	18.8	13.9	73	0	36	13	16.1	NA
2022-08-27 22:00	18	12.9	72	0	35	11	16.1	NA
2022-08-27 23:00	15.5	12.7	83	0	31	8	16.1	NA
2022-08-28 0:00	14.9	13	88	0		4	16.1	NA
2022-08-28 1:00	12.9	12	94	0		4	16.1	NA
2022-08-28 2:00	13	11.6	91	0		4	16.1	NA
2022-08-28 3:00	11.5	10.7	95	0	2	8	16.1	NA
2022-08-28 4:00	9.3	9	98	0	36	8	16.1	NA
2022-08-28 5:00	8.9	8.8	99	0	36	5	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-28 6:00	8.7	8.6	99	0	1	8	16.1	NA
2022-08-28 7:00	9	8.9	99	0	1	5	16.1	NA
2022-08-28 8:00	9.8	9.7	99	0	1	8	16.1	NA
2022-08-28 9:00	10.1	9.9	98	0	35	8	16.1	NA
2022-08-28 10:00	9.6	9.5	99	0	35	8	16.1	NA
2022-08-28 11:00	14.9	13.6	92	0		0	16.1	NA
2022-08-28 12:00	17.5	14.9	85	0	26	8	16.1	NA
2022-08-28 13:00	18.4	14.1	76	0	27	8	16.1	NA
2022-08-28 14:00	19	11.7	62	0	28	8	16.1	NA
2022-08-28 15:00	20.3	11.6	57	0	28	11	16.1	NA
2022-08-28 16:00	20.9	11.7	55	0	27	15	16.1	NA
2022-08-28 17:00	20.8	11.1	54	0	27	13	16.1	NA
2022-08-28 18:00	21.5	8.1	42	0	31	15	16.1	NA
2022-08-28 19:00	21.2	9.4	46	0	31	9	16.1	NA
2022-08-28 20:00	21.2	10.7	51	0	27	8	16.1	NA
2022-08-28 21:00	21.1	11.9	55	0	34	8	16.1	NA
2022-08-28 22:00	20.1	11.7	58	0	22	5	16.1	NA
2022-08-28 23:00	17.4	13.7	79	0	17	8	16.1	NA
2022-08-29 0:00	16.5	13.6	83	0	16	9	16.1	NA
2022-08-29 1:00	16.1	13.3	83	0	15	9	16.1	NA
2022-08-29 2:00	16.7	13.5	81	0	17	9	16.1	NA
2022-08-29 3:00	17.3	13.1	76	0	22	11	16.1	NA
2022-08-29 4:00	16.2	13.8	86	0	20	13	16.1	NA
2022-08-29 5:00	16.3	14.9	91	0	21	11	16.1	NA
2022-08-29 6:00	13.7	13.3	97	0		4	16.1	NA
2022-08-29 7:00	17	15.7	92	0	26	11	16.1	NA
2022-08-29 8:00	16.2	15.4	95	0		0	16.1	NA
2022-08-29 9:00	16.5	15.7	95	0	22	5	16.1	NA
2022-08-29 10:00	16.4	15.9	97	0		4	16.1	NA
2022-08-29 11:00	17.8	16.7	93	0	23	5	16.1	NA
2022-08-29 12:00	19.3	17.1	87	0	25	8	16.1	NA
2022-08-29 13:00	21.3	17.1	77	0	24	9	16.1	NA
2022-08-29 14:00	22.4	17.1	72	0	26	9	16.1	NA
2022-08-29 15:00	22.7	18.2	76	0	27	8	16.1	NA
2022-08-29 16:00	23.3	17.2	68	0	23	8	16.1	NA
2022-08-29 17:00	24.6	17.3	63	0		13	16.1	NA
2022-08-29 18:00	24.5	17.1	63	0	26	5	16.1	NA
2022-08-29 19:00	24.4	16.4	61	0	24	15	16.1	NA
2022-08-29 20:00	24.2	16.5	62	0	24	13	16.1	NA
2022-08-29 21:00	22.8	18.7	77	0	18	15	16.1	NA
2022-08-29 22:00	21.6	18.1	80	0	19	9	16.1	NA
2022-08-29 23:00	19.9	17.3	85	0	17	8	16.1	NA
2022-08-30 0:00	19.2	16.5	84	0	19	11	16.1	NA
2022-08-30 1:00	18.5	15.8	84	0	19	9	16.1	NA
2022-08-30 2:00	19	15.3	79	0	21	17	16.1	NA
2022-08-30 3:00	17.6	14.9	84	0	20	5	16.1	NA
2022-08-30 4:00	15.9	14.3	90	0		4	16.1	NA
2022-08-30 5:00	17.5	15.3	87	0	21	11	16.1	NA
2022-08-30 6:00	17.9	16.3	90	0	20	13	16.1	NA
2022-08-30 7:00	15.4	14.9	97	0	36	5	16.1	NA
2022-08-30 8:00	16.8	15.9	95	0		4	16.1	NA
2022-08-30 9:00	17.8	16.3	91	0	24	9	16.1	NA
2022-08-30 10:00	16.6	16	96	0	25	5	16.1	NA
2022-08-30 11:00	18.5	16.7	89	0		0	16.1	NA
2022-08-30 12:00	20.1	17.1	83	0	23	5	16.1	NA
2022-08-30 13:00	22.3	18.4	78	0	17	8	16.1	NA
2022-08-30 14:00	24.4	18.9	71	0	17	9	16.1	NA
2022-08-30 15:00	27	18.8	60	0	24	9	16.1	NA
2022-08-30 16:00	27.7	18	55	0	24	13	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-08-30 17:00	28.6	17.7	51	0	22	11	16.1	NA
2022-08-30 18:00	28.5	18.6	54	0	18	18	16.1	NA
2022-08-30 19:00	26.8	20.4	68	0	18	13	16.1	NA
2022-08-30 20:00	25.3	19.8	71	0	17	17	16.1	NA
2022-08-30 21:00	24.5	19.7	74	0	18	15	16.1	NA
2022-08-30 22:00	22.5	19.3	82	0	17	11	16.1	NA
2022-08-30 23:00	20.1	18.4	90	0	17	15	16.1	NA
2022-08-31 0:00	19.7	18.4	92	0	18	9	16.1	NA
2022-08-31 1:00	19.9	18.4	91	0	19	5	16.1	NA
2022-08-31 2:00	20	18.5	91	0	22	11	16.1	NA
2022-08-31 3:00	20.2	18.7	91	0	21	9	16.1	NA
2022-08-31 4:00	20.2	18.7	91	0	19	13	16.1	NA
2022-08-31 5:00	20.3	18.6	90	0	20	11	16.1	NA
2022-08-31 6:00	20.4	18.7	90	0	19	13	16.1	NA
2022-08-31 7:00	20.4	18.6	89	0	21	11	16.1	NA
2022-08-31 8:00	20.4	18	86	0	20	11	16.1	NA
2022-08-31 9:00	20.3	18.1	87	0	17	8	16.1	NA
2022-08-31 10:00	20.1	18.6	91	0	18	5	16.1	NA
2022-08-31 11:00	20.6	18.9	90	0	15	9	16.1	NA
2022-08-31 12:00	21.5	19.1	86	0	18	17	16.1	NA
2022-08-31 13:00	23.3	19.3	78	0	18	18	16.1	NA
2022-08-31 14:00	23.7	19.4	77	0	15	22	16.1	NA
2022-08-31 15:00	24.3	18.5	70	0	16	26	16.1	NA
2022-08-31 16:00	24.8	17.2	62	0	16	26	16.1	NA
2022-08-31 17:00	23.9	17.7	68	0	15	22	16.1	NA
2022-08-31 18:00	23.9	17.3	66	0	14	26	16.1	NA
2022-08-31 19:00	23.8	17.1	66	0	13	26	16.1	NA
2022-08-31 20:00	23.1	19	78	0	14	15	16.1	NA
2022-08-31 21:00	21.8	19.4	86	0	13	18	16.1	NA
2022-08-31 22:00	21.6	20.6	94	0	13	21	16.1	NA
2022-08-31 23:00	21.7	20.9	95	0	14	18	16.1	NA
2022-09-01 0:00	21.6	21	96	0	14	22	16.1	NA
2022-09-01 1:00	21.8	21.2	96	0	15	21	16.1	NA
2022-09-01 2:00	22	21.2	95	0	15	22	16.1	NA
2022-09-01 3:00	22.1	21.1	94	0	15	18	16.1	NA
2022-09-01 4:00	21.8	21.5	98	2.8	16	13	14.5	Rain
2022-09-01 5:00	21.8	21.5	98	3.5	18	17	12.9	Rain
2022-09-01 6:00	21.6	21.3	98	0.5	17	11	4	Rain,Fog
2022-09-01 7:00	21.6	21.3	98	0.2	17	15	16.1	NA
2022-09-01 8:00	21.3	21.1	99	0	18	8	16.1	NA
2022-09-01 9:00	21.1	20.8	98	0	20	8	16.1	NA
2022-09-01 10:00	21	20.7	98	0	17	8	16.1	NA
2022-09-01 11:00	20.9	20.6	98	0	20	9	16.1	NA
2022-09-01 12:00	21.4	20.5	95	0	22	8	16.1	NA
2022-09-01 13:00	22.4	20.2	87	0	24	11	16.1	NA
2022-09-01 14:00	23.8	19.4	76	0	25	13	16.1	NA
2022-09-01 15:00	23	18.8	77	0	31	15	16.1	NA
2022-09-01 16:00	24.4	19.3	73	0	30	13	16.1	NA
2022-09-01 17:00	24.6	19.7	74	0	30	18	16.1	NA
2022-09-01 18:00	24.2	16	60	0	32	9	16.1	NA
2022-09-01 19:00	24.1	15.3	57	0	30	15	16.1	NA
2022-09-01 20:00	24.1	10	40	0	30	13	16.1	NA
2022-09-01 21:00	23.2	10.3	44	0	31	11	16.1	NA
2022-09-01 22:00	21.6	14.7	65	0		4	16.1	NA
2022-09-01 23:00	16.9	14.1	84	0	9	5	16.1	NA
2022-09-02 0:00	15.7	13.3	85	0	14	5	16.1	NA
2022-09-02 1:00	14	12.7	92	0		0	16.1	NA
2022-09-02 2:00	15.1	12.8	86	0		0	16.1	NA
2022-09-02 3:00	16.3	13	81	0	26	8	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-02 4:00	17.1	12.5	74	0	27	9	16.1	NA
2022-09-02 5:00	16.3	12.5	78	0	24	5	16.1	NA
2022-09-02 6:00	16.1	13.7	86	0	30	5	16.1	NA
2022-09-02 7:00	16.2	14.4	89	0	21	5	16.1	NA
2022-09-02 8:00	15	14.2	95	0	24	8	16.1	NA
2022-09-02 9:00	13.1	12.8	98	0		4	16.1	NA
2022-09-02 10:00	12.5	12.4	99	0	33	5	16.1	NA
2022-09-02 11:00	17.1	15.5	90	0	30	5	16.1	NA
2022-09-02 12:00	18.9	16.9	88	0	28	13	16.1	NA
2022-09-02 13:00	18.6	16	85	0	30	21	16.1	NA
2022-09-02 14:00	19.4	16	80	0	29	15	16.1	NA
2022-09-02 15:00	19.8	14.6	72	0	32	21	16.1	NA
2022-09-02 16:00	18.7	12.8	68	0	31	21	16.1	NA
2022-09-02 17:00	20.6	12.5	60	0	31	22	16.1	NA
2022-09-02 18:00	20	12.5	62	0	31	18	16.1	NA
2022-09-02 19:00	18.6	12.5	67	0	33	13	16.1	NA
2022-09-02 20:00	18.1	11.9	67	0	34	13	16.1	NA
2022-09-02 21:00	18.2	11.2	63	0	34	9	16.1	NA
2022-09-02 22:00	15.9	11.3	74	0	35	5	16.1	NA
2022-09-02 23:00	14.2	11.1	81	0	36	5	16.1	NA
2022-09-03 0:00	12.2	10.2	88	0		4	16.1	NA
2022-09-03 1:00	11.7	8.9	83	0	35	5	16.1	NA
2022-09-03 2:00	12	9.4	84	0	34	5	16.1	NA
2022-09-03 3:00	11	9.3	89	0	35	8	16.1	NA
2022-09-03 4:00	9.9	8.3	90	0	9	9	16.1	NA
2022-09-03 5:00	9	8.2	95	0	5	4	16.1	NA
2022-09-03 6:00	7.8	6.9	94	0	4	4	16.1	NA
2022-09-03 7:00	7.3	6.7	96	0		0	16.1	NA
2022-09-03 8:00	7.9	6.9	93	0	1	8	16.1	NA
2022-09-03 9:00	8.1	7.2	94	0	2	5	16.1	NA
2022-09-03 10:00	9.5	8	90	0	3	5	16.1	NA
2022-09-03 11:00	12.8	10.3	85	0	6	4	16.1	NA
2022-09-03 12:00	15.6	10.8	73	0	8	9	16.1	NA
2022-09-03 13:00	17.3	10.7	65	0		4	16.1	NA
2022-09-03 14:00	18.6	8.4	51	0	3	11	16.1	NA
2022-09-03 15:00	19.6	7.1	44	0	7	8	16.1	NA
2022-09-03 16:00	19.9	12.2	61	0	30	11	16.1	NA
2022-09-03 17:00	20.1	11.9	59	0	27	13	16.1	NA
2022-09-03 18:00	20.4	13.2	63	0	29	11	16.1	NA
2022-09-03 19:00	20.8	12.7	59	0	28	9	16.1	NA
2022-09-03 20:00	20	12	60	0	27	11	16.1	NA
2022-09-03 21:00	19.5	12.5	64	0	28	11	16.1	NA
2022-09-03 22:00	18	12.5	70	0	30	5	16.1	NA
2022-09-03 23:00	14	11.8	87	0		4	16.1	NA
2022-09-04 0:00	13.9	10.7	81	0		4	16.1	NA
2022-09-04 1:00	14	10.8	81	0	21	8	16.1	NA
2022-09-04 2:00	13.2	10.1	81	0		0	16.1	NA
2022-09-04 3:00	11	9.8	92	0		4	16.1	NA
2022-09-04 4:00	13.5	10.9	84	0	26	9	16.1	NA
2022-09-04 5:00	11.5	10.4	93	0	27	5	16.1	NA
2022-09-04 6:00	10.8	10.2	96	0		4	16.1	NA
2022-09-04 7:00	11.6	10.2	91	0		4	16.1	NA
2022-09-04 8:00	11.9	9.9	87	0	27	8	16.1	NA
2022-09-04 9:00	11.3	9.6	89	0	27	8	16.1	NA
2022-09-04 10:00	10.4	10.1	98	0	30	4	16.1	NA
2022-09-04 11:00	15.3	13.3	88	0		0	16.1	NA
2022-09-04 12:00	17	13.3	78	0	20	4	16.1	NA
2022-09-04 13:00	19.2	12.4	64	0	28	8	16.1	NA
2022-09-04 14:00	20.1	12.6	62	0	28	11	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-04 15:00	21.3	13.2	59	0	25	11	16.1	NA
2022-09-04 16:00	22.3	13.9	59	0	19	5	16.1	NA
2022-09-04 17:00	22.5	14.4	60	0	29	9	16.1	NA
2022-09-04 18:00	23.4	14.8	58	0		11	16.1	NA
2022-09-04 19:00	23.6	14.8	57	0	31	5	16.1	NA
2022-09-04 20:00	23.7	14.9	57	0	30	9	16.1	NA
2022-09-04 21:00	22.6	15.1	62	0	29	9	16.1	NA
2022-09-04 22:00	20.6	14.5	68	0	30	5	16.1	NA
2022-09-04 23:00	16.3	14.4	88	0		0	16.1	NA
2022-09-05 0:00	13.9	13.3	96	0		0	16.1	NA
2022-09-05 1:00	13.7	12.8	94	0		0	16.1	NA
2022-09-05 2:00	14.2	13.6	96	0	27	5	16.1	NA
2022-09-05 3:00	14.4	13	91	0	29	4	16.1	NA
2022-09-05 4:00	15.3	13.7	90	0	28	4	16.1	NA
2022-09-05 5:00	15.5	13.4	87	0	30	5	16.1	NA
2022-09-05 6:00	14.6	13.5	93	0		4	16.1	NA
2022-09-05 7:00	14.7	14	95	0		0	16.1	NA
2022-09-05 8:00	16.1	15	93	0		5	16.1	NA
2022-09-05 9:00	16.4	15.6	95	0		0	16.1	NA
2022-09-05 10:00	17.1	16.3	95	0	34	5	16.1	NA
2022-09-05 11:00	18	17	94	0	35	5	16.1	NA
2022-09-05 12:00	19	17	88	0	32	9	16.1	NA
2022-09-05 13:00	20.2	17.2	82	0	35	8	16.1	NA
2022-09-05 14:00	20.9	16.4	75	0	1	8	16.1	NA
2022-09-05 15:00	21.7	16.1	70	0	35	15	16.1	NA
2022-09-05 16:00	21.7	15.7	68	0	30	15	16.1	NA
2022-09-05 17:00	21	14.8	67	0	30	21	16.1	NA
2022-09-05 18:00	19.1	13.5	70	0	30	26	16.1	NA
2022-09-05 19:00	18.5	12.7	69	0	30	22	16.1	NA
2022-09-05 20:00	18.9	11.3	61	0	34	17	16.1	NA
2022-09-05 21:00	17.4	12.2	71	0	31	11	16.1	NA
2022-09-05 22:00	16	12.4	79	0	33	9	16.1	NA
2022-09-05 23:00	15.3	12.2	82	0	34	8	16.1	NA
2022-09-06 0:00	14.3	11.7	84	0	35	9	16.1	NA
2022-09-06 1:00	14.3	11.6	84	0	35	8	16.1	NA
2022-09-06 2:00	14.2	11.9	86	0	36	5	16.1	NA
2022-09-06 3:00	14.1	12	87	0	36	5	16.1	NA
2022-09-06 4:00	13.6	12.2	91	0	3	5	16.1	NA
2022-09-06 5:00	13.2	12.3	94	0	5	8	16.1	NA
2022-09-06 6:00	13.4	12.3	93	0		4	16.1	NA
2022-09-06 7:00	13.3	12	92	0		0	16.1	NA
2022-09-06 8:00	13.5	11.9	90	0	3	5	16.1	NA
2022-09-06 9:00	13.3	12	92	0	4	8	16.1	NA
2022-09-06 10:00	13.2	11.9	92	0	4	8	16.1	NA
2022-09-06 11:00	13.7	12.1	90	0		4	16.1	NA
2022-09-06 12:00	15.5	12.6	83	0		4	16.1	NA
2022-09-06 13:00	18.1	13.2	73	0	35	5	16.1	NA
2022-09-06 14:00	19	12.2	65	0	1	11	16.1	NA
2022-09-06 15:00	20.3	12.7	61	0	32	9	16.1	NA
2022-09-06 16:00	19.1	13.9	72	0	31	15	16.1	NA
2022-09-06 17:00	20.4	14.9	70	0	29	22	16.1	NA
2022-09-06 18:00	20.5	14.9	70	0	32	18	16.1	NA
2022-09-06 19:00	19.8	14.9	73	0	31	15	16.1	NA
2022-09-06 20:00	20.5	15.2	71	0	29	18	16.1	NA
2022-09-06 21:00	19.5	14.8	74	0	30	15	16.1	NA
2022-09-06 22:00	18.1	13.7	75	0	34	8	16.1	NA
2022-09-06 23:00	15.8	13.1	84	0	36	5	16.1	NA
2022-09-07 0:00	14.6	12.7	88	0		4	16.1	NA
2022-09-07 1:00	14.6	13	90	0	4	8	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-07 2:00	13.4	12.3	93	0	1	5	16.1	NA
2022-09-07 3:00	12.9	12	94	0	4	5	16.1	NA
2022-09-07 4:00	12.7	11.9	95	0	1	5	16.1	NA
2022-09-07 5:00	12.9	12	94	0	1	5	16.1	NA
2022-09-07 6:00	11.2	10.5	96	0	1	5	16.1	NA
2022-09-07 7:00	11	9.6	91	0	2	8	16.1	NA
2022-09-07 8:00	10.7	9.9	95	0	4	8	16.1	NA
2022-09-07 9:00	10.4	9.6	95	0	2	9	16.1	NA
2022-09-07 10:00	11.2	10.4	95	0	4	8	16.1	NA
2022-09-07 11:00	13.5	11.5	88	0		4	16.1	NA
2022-09-07 12:00	15.8	11.9	77	0	3	8	16.1	NA
2022-09-07 13:00	17.3	11.9	70	0	5	11	16.1	NA
2022-09-07 14:00	19.1	12.4	65	0	3	11	16.1	NA
2022-09-07 15:00	20.3	12.5	60	0	4	11	16.1	NA
2022-09-07 16:00	19.9	10.8	55	0		5	16.1	NA
2022-09-07 17:00	20.4	12.5	60	0	27	17	16.1	NA
2022-09-07 18:00	20.1	13.2	64	0	28	15	16.1	NA
2022-09-07 19:00	20.2	12.1	59	0	30	18	16.1	NA
2022-09-07 20:00	20.7	11	53	0	31	9	16.1	NA
2022-09-07 21:00	19.8	10.9	56	0	30	9	16.1	NA
2022-09-07 22:00	17.8	13.4	75	0	5	8	16.1	NA
2022-09-07 23:00	15.3	13.2	87	0	8	8	16.1	NA
2022-09-08 0:00	14.1	12.7	91	0	9	8	16.1	NA
2022-09-08 1:00	12.4	11.7	96	0	3	5	16.1	NA
2022-09-08 2:00	11.4	10.6	95	0	6	8	16.1	NA
2022-09-08 3:00	10	9.6	97	0	3	8	16.1	NA
2022-09-08 4:00	9.7	9.3	97	0	2	8	16.1	NA
2022-09-08 5:00	9.5	9.1	97	0	2	5	16.1	NA
2022-09-08 6:00	9.1	9	99	0	1	5	16.1	NA
2022-09-08 7:00	8.9	8.8	99	0	4	4	16.1	NA
2022-09-08 8:00	8.9	8.8	99	0	3	5	16.1	NA
2022-09-08 9:00	7.9	7.6	98	0		0	16.1	NA
2022-09-08 10:00	10.9	10.8	99	0	1	9	16.1	NA
2022-09-08 11:00	12.3	12	98	0	2	8	16.1	NA
2022-09-08 12:00	14.2	12.8	91	0	4	5	16.1	NA
2022-09-08 13:00	16.4	12.3	76	0	12	9	16.1	NA
2022-09-08 14:00	18.6	12.4	67	0		4	16.1	NA
2022-09-08 15:00	19.7	11.9	60	0		5	16.1	NA
2022-09-08 16:00	19.5	12	61	0		5	16.1	NA
2022-09-08 17:00	20.8	11.9	56	0		8	16.1	NA
2022-09-08 18:00	20.3	12.7	61	0	13	9	16.1	NA
2022-09-08 19:00	19.4	13.2	67	0	12	17	16.1	NA
2022-09-08 20:00	19.3	13.7	70	0	14	17	16.1	NA
2022-09-08 21:00	18.5	13.8	74	0	14	9	16.1	NA
2022-09-08 22:00	17.6	13.2	75	0	15	8	16.1	NA
2022-09-08 23:00	16.2	12.8	80	0	14	8	16.1	Rain
2022-09-09 0:00	14.6	12.5	87	0	12	5	16.1	NA
2022-09-09 1:00	14.3	12.5	89	0	9	5	16.1	NA
2022-09-09 2:00	14.2	12.8	91	0	10	5	16.1	NA
2022-09-09 3:00	13.6	12.7	94	0	9	8	16.1	NA
2022-09-09 4:00	11.9	11.3	96	0	3	5	16.1	NA
2022-09-09 5:00	11.4	11.1	98	0	1	11	16.1	NA
2022-09-09 6:00	11.9	11.4	97	0	6	8	16.1	NA
2022-09-09 7:00	12.2	11.4	95	0	5	5	16.1	NA
2022-09-09 8:00	11.9	11.6	98	0	4	11	16.1	NA
2022-09-09 9:00	12.2	11.6	96	0	4	9	16.1	NA
2022-09-09 10:00	12.4	11.9	97	0	5	11	16.1	NA
2022-09-09 11:00	14.1	12.6	91	0	6	8	16.1	NA
2022-09-09 12:00	16	12.7	80	0	9	13	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-09 13:00	17.8	11.7	67	0	8	13	16.1	NA
2022-09-09 14:00	18.5	11.2	62	0	7	15	16.1	NA
2022-09-09 15:00	18.7	10.2	57	0	7	15	16.1	NA
2022-09-09 16:00	18.3	9.1	55	0	10	17	16.1	NA
2022-09-09 17:00	18.3	10.9	62	0	3	9	16.1	NA
2022-09-09 18:00	20.3	10.9	54	0	8	17	16.1	NA
2022-09-09 19:00	20.3	10.5	53	0	7	11	16.1	NA
2022-09-09 20:00	19.5	10.7	57	0	9	17	16.1	NA
2022-09-09 21:00	18.1	11.1	63	0	7	9	16.1	NA
2022-09-09 22:00	16.9	11.9	72	0	5	13	16.1	NA
2022-09-09 23:00	15.3	11.3	77	0	7	9	16.1	NA
2022-09-10 0:00	14.1	10	76	0	5	13	16.1	NA
2022-09-10 1:00	12.8	9.7	81	0	4	9	16.1	NA
2022-09-10 2:00	12.2	9.8	85	0	1	8	16.1	NA
2022-09-10 3:00	11.6	9.9	89	0	2	5	16.1	NA
2022-09-10 4:00	11.6	10	90	0	4	9	16.1	NA
2022-09-10 5:00	11.7	9.3	85	0	3	9	16.1	NA
2022-09-10 6:00	11.2	8.4	83	0	4	8	16.1	NA
2022-09-10 7:00	12.1	9	81	0	2	9	16.1	NA
2022-09-10 8:00	12.9	9.4	79	0	36	13	16.1	NA
2022-09-10 9:00	11.5	9.3	86	0	2	5	16.1	NA
2022-09-10 10:00	12.8	10.5	86	0	36	13	16.1	NA
2022-09-10 11:00	15	11.3	78	0	36	13	16.1	NA
2022-09-10 12:00	16.9	11.2	69	0	36	18	16.1	NA
2022-09-10 13:00	18.6	10.9	60	0	36	17	16.1	NA
2022-09-10 14:00	20.2	10.2	52	0	36	18	16.1	NA
2022-09-10 15:00	20.5	10.7	53	0	34	18	16.1	NA
2022-09-10 16:00	21.7	12.1	54	0	35	18	16.1	NA
2022-09-10 17:00	21.4	11.1	52	0	35	21	16.1	NA
2022-09-10 18:00	21.3	11	51	0	34	18	16.1	NA
2022-09-10 19:00	20.6	10.7	53	0	35	18	16.1	NA
2022-09-10 20:00	20.1	11.4	57	0	34	17	16.1	NA
2022-09-10 21:00	18.9	10	56	0	35	15	16.1	NA
2022-09-10 22:00	17	11.2	68	0	33	15	16.1	NA
2022-09-10 23:00	16.1	11.1	72	0	33	15	16.1	NA
2022-09-11 0:00	15.9	12.5	80	0	32	11	16.1	NA
2022-09-11 1:00	16.1	13.3	83	0	33	13	16.1	NA
2022-09-11 2:00	15.9	13.5	85	0	33	11	16.1	NA
2022-09-11 3:00	15.5	13.4	87	0	34	8	16.1	NA
2022-09-11 4:00	15.6	13.1	85	0	32	8	16.1	NA
2022-09-11 5:00	15.4	12.9	85	0	34	9	16.1	NA
2022-09-11 6:00	15.4	12.9	85	0	35	13	16.1	NA
2022-09-11 7:00	15.3	12.3	82	0	33	11	16.1	NA
2022-09-11 8:00	14.8	12	83	0	33	13	16.1	NA
2022-09-11 9:00	14.9	12.1	83	0	33	18	16.1	NA
2022-09-11 10:00	14.8	12.3	85	0	32	15	16.1	NA
2022-09-11 11:00	16	13	82	0	34	17	16.1	NA
2022-09-11 12:00	17.9	12.6	71	0	34	15	16.1	NA
2022-09-11 13:00	19.5	12.8	65	0	34	11	16.1	NA
2022-09-11 14:00	20.7	11.9	57	0	35	17	16.1	NA
2022-09-11 15:00	21.7	11.4	52	0	34	21	16.1	NA
2022-09-11 16:00	21.8	11.6	52	0	33	15	16.1	NA
2022-09-11 17:00	21.6	12.9	57	0	31	22	16.1	NA
2022-09-11 18:00	21.1	13.2	60	0	33	18	16.1	NA
2022-09-11 19:00	20.8	12.4	58	0	33	18	16.1	NA
2022-09-11 20:00	20.2	11.5	57	0	34	21	16.1	NA
2022-09-11 21:00	19.5	11.4	59	0	33	5	16.1	NA
2022-09-11 22:00	17	11.6	70	0	29	8	16.1	NA
2022-09-11 23:00	15.2	11	76	0	29	9	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-12 0:00	14.4	11.6	83	0	26	8	16.1	NA
2022-09-12 1:00	14.8	11.8	82	0		0	16.1	NA
2022-09-12 2:00	14.6	13	90	0	30	8	16.1	NA
2022-09-12 3:00	13	11.9	93	0		4	16.1	NA
2022-09-12 4:00	13.9	12.3	90	0	33	8	16.1	NA
2022-09-12 5:00	14.3	12.4	88	0	32	13	16.1	NA
2022-09-12 6:00	15	12.5	85	0	32	13	16.1	NA
2022-09-12 7:00	15.3	13.2	87	0	32	15	16.1	NA
2022-09-12 8:00	15.8	13.5	86	0	32	9	16.1	NA
2022-09-12 9:00	15.9	13.6	86	0	33	8	16.1	NA
2022-09-12 10:00	15.4	13.1	86	0		4	16.1	NA
2022-09-12 11:00	17.7	14.8	83	0	34	5	16.1	NA
2022-09-12 12:00	19.2	15.1	77	0	33	11	16.1	NA
2022-09-12 13:00	19.1	16	82	0	29	22	16.1	NA
2022-09-12 14:00	20.7	16.3	76	0	31	21	16.1	NA
2022-09-12 15:00	21	16.4	75	0	31	18	16.1	NA
2022-09-12 16:00	19.7	15.8	78	0	30	22	16.1	NA
2022-09-12 17:00	21	16.4	75	0	31	18	16.1	NA
2022-09-12 18:00	20.2	16.2	78	0	31	18	16.1	NA
2022-09-12 19:00	20.3	16.5	79	0	30	15	16.1	NA
2022-09-12 20:00	18.8	16.3	85	0	29	17	16.1	NA
2022-09-12 21:00	18.3	16.1	87	0	30	9	16.1	NA
2022-09-12 22:00	17.6	16.1	91	0	31	11	16.1	NA
2022-09-12 23:00	17.2	15.9	92	0	30	18	16.1	NA
2022-09-13 0:00	16.1	15.3	95	0	31	4	16.1	NA
2022-09-13 1:00	15.5	14.9	96	0	31	8	16.1	NA
2022-09-13 2:00	15.2	14.1	93	0	30	11	16.1	NA
2022-09-13 3:00	14.4	13.2	93	0	3	5	16.1	NA
2022-09-13 4:00	14.2	13.1	93	0	35	5	16.1	NA
2022-09-13 5:00	13.9	13.1	95	0	36	9	16.1	NA
2022-09-13 6:00	14.5	13.9	96	0	32	8	16.1	NA
2022-09-13 7:00	14.1	13.6	97	0	33	5	16.1	NA
2022-09-13 8:00	14.2	13.9	98	0	34	5	16.1	NA
2022-09-13 9:00	12.5	12	97	0		0	16.1	NA
2022-09-13 10:00	13.6	13.5	99	0		5	16.1	NA
2022-09-13 11:00	14.3	14.2	99	0	32	8	0.4	Fog
2022-09-13 12:00	15.2	15.1	99	0	30	8	0.4	Fog
2022-09-13 13:00	17.6	16.1	91	0	25	8	16.1	NA
2022-09-13 14:00	19.1	16.3	84	0	25	9	16.1	NA
2022-09-13 15:00	21	15.9	72	0	26	8	16.1	NA
2022-09-13 16:00	22.6	17	70	0	22	9	16.1	NA
2022-09-13 17:00	22.8	16.9	69	0	20	5	16.1	NA
2022-09-13 18:00	22.9	16.9	68	0	15	11	16.1	NA
2022-09-13 19:00	22.9	17.4	71	0	15	13	16.1	NA
2022-09-13 20:00	22	17.9	77	0	13	11	16.1	NA
2022-09-13 21:00	21	17.1	78	0	15	13	16.1	NA
2022-09-13 22:00	19.4	16.9	85	0	14	9	16.1	NA
2022-09-13 23:00	17.8	16.5	92	0	13	9	16.1	NA
2022-09-14 0:00	16.5	15.7	95	0	12	5	16.1	NA
2022-09-14 1:00	16.3	15.8	97	0	19	8	16.1	NA
2022-09-14 2:00	14.8	14.7	99	0		4	16.1	NA
2022-09-14 3:00	15.1	15	99	0	11	5	16.1	NA
2022-09-14 4:00	16.5	16	97	0	15	8	16.1	NA
2022-09-14 5:00	16.5	15.9	96	0	15	9	16.1	NA
2022-09-14 6:00	16.6	16.1	97	0	15	9	16.1	NA
2022-09-14 7:00	16.7	15.9	95	0	12	8	16.1	NA
2022-09-14 8:00	16.9	16.2	96	0	15	11	16.1	NA
2022-09-14 9:00	17	16.2	95	0	13	11	16.1	NA
2022-09-14 10:00	17.4	16.9	97	0	12	11	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-14 11:00	18.1	17.6	97	0	14	17	12.9	NA
2022-09-14 12:00	18.7	17.9	95	0	15	13	16.1	NA
2022-09-14 13:00	19.4	17.7	90	0	13	17	16.1	NA
2022-09-14 14:00	21.2	17.8	81	0	13	21	16.1	NA
2022-09-14 15:00	19.2	18.6	96	0	13	13	16.1	NA
2022-09-14 16:00	19.4	19.1	98	0.2	12	17	8.1	Rain,Fog
2022-09-14 17:00	20.2	19.9	98	0.8	15	15	9.7	Fog
2022-09-14 18:00	20.8	20.5	98	0.2	16	15	8.1	Fog
2022-09-14 19:00	23.4	21.8	90	0	20	13	16.1	NA
2022-09-14 20:00	23.4	20.8	85	0	18	17	16.1	NA
2022-09-14 21:00	22.7	19.5	82	0	18	13	16.1	NA
2022-09-14 22:00	21.1	18.5	85	0	21	13	16.1	NA
2022-09-14 23:00	19.9	18.2	90	0	22	18	16.1	NA
2022-09-15 0:00	19.8	17.4	86	0	24	18	16.1	NA
2022-09-15 1:00	18.8	15.7	82	0	25	15	16.1	NA
2022-09-15 2:00	17.9	14.6	81	0	25	17	16.1	NA
2022-09-15 3:00	17.7	14.6	82	0	26	18	16.1	NA
2022-09-15 4:00	17	14.3	84	0	26	18	16.1	NA
2022-09-15 5:00	16.5	13.8	84	0	26	17	16.1	NA
2022-09-15 6:00	16.1	13.1	82	0	26	18	16.1	NA
2022-09-15 7:00	15.3	12.8	85	0	27	17	16.1	NA
2022-09-15 8:00	14.6	12.5	87	0	27	17	16.1	NA
2022-09-15 9:00	14.4	12.1	86	0	27	15	16.1	NA
2022-09-15 10:00	13.6	11.5	87	0	26	15	16.1	NA
2022-09-15 11:00	14.8	11.6	81	0	24	18	16.1	NA
2022-09-15 12:00	15.5	11.8	78	0	26	21	16.1	NA
2022-09-15 13:00	15.7	10.4	70	0	27	24	16.1	NA
2022-09-15 14:00	15.9	10.2	69	0	27	28	16.1	NA
2022-09-15 15:00	15.7	9	64	0	28	26	16.1	NA
2022-09-15 16:00	15.5	8.9	64	0	29	22	16.1	NA
2022-09-15 17:00	15.9	7.5	57	0	28	30	16.1	NA
2022-09-15 18:00	17.1	9	58	0	30	26	16.1	NA
2022-09-15 19:00	16.1	8.5	60	0	29	30	16.1	NA
2022-09-15 20:00	15.7	6.9	55	0	28	32	16.1	NA
2022-09-15 21:00	15	6.6	57	0	28	34	16.1	NA
2022-09-15 22:00	13.9	5.3	56	0	27	28	16.1	NA
2022-09-15 23:00	13.5	5.5	58	0	28	35	16.1	NA
2022-09-16 0:00	12.6	6.5	66	0	29	35	16.1	NA
2022-09-16 1:00	10.8	7.7	81	0	26	21	16.1	NA
2022-09-16 2:00	10.4	7.7	83	0	25	18	16.1	Rain
2022-09-16 3:00	10.5	5.7	72	0	25	26	16.1	NA
2022-09-16 4:00	11	6.6	74	0	27	34	16.1	NA
2022-09-16 5:00	11.2	5.8	69	0.2	26	26	16.1	NA
2022-09-16 6:00	11.9	6.2	68	0	26	35	16.1	NA
2022-09-16 7:00	11.1	6.4	73	0	25	28	16.1	NA
2022-09-16 8:00	11.7	6.9	72	0	27	41	16.1	NA
2022-09-16 9:00	12.1	6.2	67	0	29	35	16.1	NA
2022-09-16 10:00	12.1	5.2	63	0	29	35	16.1	NA
2022-09-16 11:00	10.9	6.7	75	0	25	30	16.1	NA
2022-09-16 12:00	10.9	6.9	76	0	26	28	16.1	NA
2022-09-16 13:00	11.4	7.4	76	0	27	37	16.1	NA
2022-09-16 14:00	11.7	7.6	76	0	27	26	16.1	NA
2022-09-16 15:00	11.5	7.8	78	0	27	26	16.1	NA
2022-09-16 16:00	13	6.7	65	0	28	26	16.1	NA
2022-09-16 17:00	12.9	6.6	66	0	28	35	16.1	NA
2022-09-16 18:00	12.5	6.6	67	0	29	34	16.1	NA
2022-09-16 19:00	11.6	8.3	80	0	30	32	16.1	NA
2022-09-16 20:00	12.3	6.5	68	0	30	35	16.1	NA
2022-09-16 21:00	12.3	6.3	67	0	29	39	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-16 22:00	12.1	6.2	67	0	29	28	16.1	NA
2022-09-16 23:00	12	6.5	69	0	29	34	16.1	NA
2022-09-17 0:00	11.7	5.8	67	0	29	32	16.1	NA
2022-09-17 1:00	11.6	6.6	71	0	31	24	16.1	NA
2022-09-17 2:00	9.7	6.8	82	0.8	30	37	9.7	Rain
2022-09-17 3:00	9.9	6.6	80	0	31	43	16.1	NA
2022-09-17 4:00	9.6	8.1	90	0.2	30	28	16.1	Rain
2022-09-17 5:00	9.6	8.8	95	0.8	30	28	9.7	Rain,Fog
2022-09-17 6:00	10	8	87	0	30	30	14.5	NA
2022-09-17 7:00	10	8.1	88	0.2	31	28	9.7	Fog
2022-09-17 8:00	9.9	9.1	95	1	30	30	4	Rain,Fog
2022-09-17 9:00	10.1	8.9	92	1.2	30	26	8.1	Rain,Fog
2022-09-17 10:00	10.6	8.9	89	0	29	30	16.1	NA
2022-09-17 11:00	10.6	8.4	86	0	30	28	16.1	NA
2022-09-17 12:00	11	8.3	83	0	30	26	16.1	NA
2022-09-17 13:00	11.7	6.4	70	0	30	24	16.1	NA
2022-09-17 14:00	12.6	6.3	65	0	31	34	16.1	NA
2022-09-17 15:00	13.5	5.7	59	0	31	24	16.1	NA
2022-09-17 16:00	13.4	6.1	61	0	32	22	16.1	NA
2022-09-17 17:00	14.1	7.3	63	0	31	30	16.1	NA
2022-09-17 18:00	14.4	7	61	0	31	30	16.1	NA
2022-09-17 19:00	14.7	7.1	60	0	30	28	16.1	NA
2022-09-17 20:00	14.8	6.6	58	0	31	26	16.1	NA
2022-09-17 21:00	14.7	5.9	55	0	30	24	16.1	NA
2022-09-17 22:00	14	5.3	56	0	30	22	16.1	NA
2022-09-17 23:00	13.2	6.1	62	0	30	13	16.1	NA
2022-09-18 0:00	10.9	5.9	71	0	21	8	16.1	NA
2022-09-18 1:00	10.3	5.9	74	0	25	11	16.1	NA
2022-09-18 2:00	10.8	6.2	73	0	25	13	16.1	NA
2022-09-18 3:00	10.3	6.7	78	0	26	9	16.1	NA
2022-09-18 4:00	11	7.2	77	0	24	13	16.1	NA
2022-09-18 5:00	11.3	6.7	73	0	24	15	16.1	NA
2022-09-18 6:00	10.9	7.2	78	0	25	18	16.1	NA
2022-09-18 7:00	10.9	7.1	77	0	24	17	16.1	NA
2022-09-18 8:00	10.5	7.2	80	0	26	21	16.1	NA
2022-09-18 9:00	10.1	7.2	82	0	25	15	16.1	NA
2022-09-18 10:00	10.3	7.6	83	0	25	17	16.1	NA
2022-09-18 11:00	11.7	7.5	75	0	26	22	16.1	NA
2022-09-18 12:00	11.8	8	77	0	27	18	16.1	NA
2022-09-18 13:00	13.3	8.8	74	0	27	22	16.1	NA
2022-09-18 14:00	13.9	9.4	74	0	27	22	16.1	NA
2022-09-18 15:00	14.7	9.5	71	0	29	24	16.1	NA
2022-09-18 16:00	14.9	8.5	65	0	29	24	16.1	NA
2022-09-18 17:00	13.4	8.2	70	0	32	18	16.1	NA
2022-09-18 18:00	14	7.2	63	0	32	15	16.1	NA
2022-09-18 19:00	14.6	5.7	55	0	31	17	16.1	NA
2022-09-18 20:00	13.7	4.9	55	0	31	18	16.1	NA
2022-09-18 21:00	13	2.6	49	0	31	13	16.1	NA
2022-09-18 22:00	10.2	2.1	57	0	34	5	16.1	NA
2022-09-18 23:00	6.9	3	76	0	34	5	16.1	NA
2022-09-19 0:00	5	1.7	79	0	1	5	16.1	NA
2022-09-19 1:00	4.9	2.2	83	0	3	5	16.1	NA
2022-09-19 2:00	4.8	2.4	84	0	1	5	16.1	NA
2022-09-19 3:00	3.1	1.5	89	0	2	4	16.1	NA
2022-09-19 4:00	2.3	1.6	95	0	35	8	16.1	NA
2022-09-19 5:00	2.4	1.8	96	0		4	16.1	NA
2022-09-19 6:00	2.6	2.2	97	0		0	16.1	NA
2022-09-19 7:00	1.4	1.1	98	0	31	4	16.1	NA
2022-09-19 8:00	1.9	1.8	99	0	26	4	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-19 9:00	3.4	3.3	99	0	24	4	16.1	NA
2022-09-19 10:00	3	2.7	98	0		0	16.1	NA
2022-09-19 11:00	7.2	6.3	94	0	30	8	16.1	NA
2022-09-19 12:00	11.7	7.2	74	0	29	9	16.1	NA
2022-09-19 13:00	13.4	7.9	69	0	28	17	16.1	NA
2022-09-19 14:00	14.2	5.7	56	0	29	18	16.1	NA
2022-09-19 15:00	14.9	6	55	0	31	28	16.1	NA
2022-09-19 16:00	15.3	6.5	55	0	33	21	16.1	NA
2022-09-19 17:00	15.5	6.1	53	0	32	13	16.1	NA
2022-09-19 18:00	15.6	6.9	56	0	31	15	16.1	NA
2022-09-19 19:00	15.7	6.6	54	0	31	18	16.1	NA
2022-09-19 20:00	15.1	5.7	53	0	31	13	16.1	NA
2022-09-19 21:00	12.7	5.9	63	0	30	8	16.1	NA
2022-09-19 22:00	11.5	5.8	68	0		4	16.1	NA
2022-09-19 23:00	9.7	5.7	76	0	36	4	16.1	NA
2022-09-20 0:00	7.5	4.8	83	0	1	5	16.1	NA
2022-09-20 1:00	7	4.7	85	0	1	5	16.1	NA
2022-09-20 2:00	4.3	3.2	93	0	36	5	16.1	NA
2022-09-20 3:00	3.8	3.1	95	0	1	8	16.1	NA
2022-09-20 4:00	3.8	2.9	94	0	3	5	16.1	NA
2022-09-20 5:00	4.2	3.6	96	0	1	9	16.1	NA
2022-09-20 6:00	5	4	93	0	3	9	16.1	NA
2022-09-20 7:00	5.6	4.4	92	0	2	9	16.1	NA
2022-09-20 8:00	5.8	4.6	92	0	4	9	16.1	NA
2022-09-20 9:00	6.2	5	92	0	6	8	16.1	NA
2022-09-20 10:00	6.3	5	92	0	6	5	16.1	NA
2022-09-20 11:00	7.5	6	90	0	5	8	16.1	NA
2022-09-20 12:00	8.7	7	89	0	6	9	16.1	NA
2022-09-20 13:00	9.3	7.6	89	0	6	13	16.1	NA
2022-09-20 14:00	12.1	8.2	77	0	7	13	16.1	NA
2022-09-20 15:00	12.9	7.6	70	0	9	18	16.1	NA
2022-09-20 16:00	12.9	7.9	72	0	10	21	16.1	NA
2022-09-20 17:00	12	9.4	84	0.2	9	17	16.1	Rain
2022-09-20 18:00	12.3	8.6	78	0	10	21	16.1	NA
2022-09-20 19:00	12.3	8.4	77	0	9	22	16.1	NA
2022-09-20 20:00	12.1	9.5	84	0	10	22	16.1	Rain
2022-09-20 21:00	11.7	9.1	84	0	8	18	16.1	NA
2022-09-20 22:00	11.1	8.9	86	0	8	15	16.1	NA
2022-09-20 23:00	10.9	8.8	87	0	8	17	16.1	NA
2022-09-21 0:00	11.1	9.2	88	0	8	17	16.1	NA
2022-09-21 1:00	11.1	10	93	0	8	15	16.1	Rain
2022-09-21 2:00	11.1	10.5	96	0.8	7	15	14.5	Rain
2022-09-21 3:00	11.9	11.6	98	2.2	9	18	6.4	Rain,Fog
2022-09-21 4:00	11.7	11.2	97	0.5	9	22	16.1	NA
2022-09-21 5:00	11.7	11.4	98	0	8	22	11.3	Rain
2022-09-21 6:00	11.6	11.3	98	0.5	8	24	4	Rain,Fog
2022-09-21 7:00	11.8	11.5	98	1	7	22	4	Rain,Fog
2022-09-21 8:00	12.3	12	98	1.2	9	22	16.1	Rain
2022-09-21 9:00	12.8	12.7	99	1	6	17	8.1	Rain,Fog
2022-09-21 10:00	14.7	14.6	99	6.5	10	28	8.1	Rain,Fog
2022-09-21 11:00	15.1	14.8	98	2.5	10	24	6.4	Rain,Fog
2022-09-21 12:00	15.4	15.1	98	1.2	11	24	14.5	Rain
2022-09-21 13:00	16	15.5	97	2	12	13	12.9	Rain
2022-09-21 14:00	16.9	16.7	99	0	12	15	6.4	Fog
2022-09-21 15:00	16.7	16.4	98	0	12	17	16.1	NA
2022-09-21 16:00	17.6	17.1	97	1	11	21	12.9	NA
2022-09-21 17:00	17.6	17.2	97	0	14	17	6.4	Fog
2022-09-21 18:00	18.4	17.9	97	0	14	11	12.9	NA
2022-09-21 19:00	18.8	17.7	93	0	18	8	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-21 20:00	18.2	17.6	96	0	12	13	16.1	NA
2022-09-21 21:00	17.8	17.3	97	0	12	17	16.1	NA
2022-09-21 22:00	17.3	17	98	0	13	11	16.1	NA
2022-09-21 23:00	17	16.8	99	0	12	9	1.2	Fog
2022-09-22 0:00	16.7	16.5	99	0	12	8	1.6	Fog
2022-09-22 1:00	16.6	16.4	99	0	15	8	0.6	Fog
2022-09-22 2:00	16.6	16.6	100	0		4	0.6	Fog
2022-09-22 3:00	16.6	16.6	100	0	20	4	9.7	Fog
2022-09-22 4:00	16.3	16.3	100	0	27	4	16.1	NA
2022-09-22 5:00	16.3	16.1	99	0	25	8	16.1	NA
2022-09-22 6:00	16.2	16.1	99	0	21	8	4.8	Fog
2022-09-22 7:00	16	15.9	99	0.2	28	9	2	Rain,Fog
2022-09-22 8:00	15.6	15.5	99	0.2	25	5	0.4	Fog
2022-09-22 9:00	15.6	15.6	100	0		0	0.8	Fog
2022-09-22 10:00	15.6	15.6	100	0		0	0	Fog
2022-09-22 11:00	15.8	15.8	100	0.5		4	11.3	NA
2022-09-22 12:00	16	16	100	0	19	5	16.1	NA
2022-09-22 13:00	16.4	16.4	100	0	16	5	16.1	NA
2022-09-22 14:00	17	15.8	93	0	16	11	16.1	NA
2022-09-22 15:00	19.3	16.3	83	0	16	15	16.1	NA
2022-09-22 16:00	18.4	15.6	84	0	18	11	16.1	NA
2022-09-22 17:00	18.8	15.8	83	0	17	17	16.1	NA
2022-09-22 18:00	19.5	15.7	78	0	18	17	16.1	NA
2022-09-22 19:00	17.7	14	79	0	18	21	16.1	NA
2022-09-22 20:00	16	12.4	79	0	20	13	16.1	NA
2022-09-22 21:00	15.8	12.8	82	0	20	15	16.1	NA
2022-09-22 22:00	15.5	13.2	86	0	17	11	16.1	NA
2022-09-22 23:00	15.5	13	85	0	20	13	16.1	NA
2022-09-23 0:00	15	13.2	89	0	15	15	16.1	NA
2022-09-23 1:00	15.9	14.6	92	0	14	13	16.1	NA
2022-09-23 2:00	16.1	15	93	0	16	22	16.1	NA
2022-09-23 3:00	16.8	15.7	93	0	16	22	16.1	NA
2022-09-23 4:00	17.6	16.6	94	0	15	28	16.1	NA
2022-09-23 5:00	18.1	17.3	95	0	16	26	16.1	NA
2022-09-23 6:00	18.2	17.2	94	0	15	22	16.1	NA
2022-09-23 7:00	18.8	17.2	90	0	16	21	16.1	NA
2022-09-23 8:00	18.3	17.2	93	0	15	18	16.1	NA
2022-09-23 9:00	19.1	18.1	94	0	18	13	16.1	NA
2022-09-23 10:00	19.3	17.6	90	0	19	13	16.1	NA
2022-09-23 11:00	18.4	17.3	93	0	20	5	16.1	NA
2022-09-23 12:00	17.2	16.2	94	0.5	21	11	9.7	Rain,Fog
2022-09-23 13:00	16.2	14.9	92	0.2	26	9	16.1	Rain
2022-09-23 14:00	16.8	15.3	91	0	28	9	16.1	NA
2022-09-23 15:00	16.7	15.4	92	0	26	11	16.1	Rain
2022-09-23 16:00	15	14.5	97	1	30	15	16.1	Rain
2022-09-23 17:00	15.2	14.7	97	1	32	8	16.1	Rain
2022-09-23 18:00	15	14.4	96	2	32	5	6.4	Rain,Fog
2022-09-23 19:00	14.9	14.4	97	1.8		0	16.1	Rain
2022-09-23 20:00	14.6	14.1	97	2.5	36	5	12.9	Rain
2022-09-23 21:00	14	13.5	97	5.2	35	17	3.6	Rain,Fog
2022-09-23 22:00	13.6	13.1	97	8.2	2	15	3.6	Moderate Rain,Fog
2022-09-23 23:00	13.4	13.1	98	6	36	15	4.8	Moderate Rain,Fog
2022-09-24 0:00	12.8	12.3	97	6.5	3	24	4	Moderate Rain,Fog
2022-09-24 1:00	12	11.4	96	7.3	3	34	3.2	Moderate Rain,Fog
2022-09-24 2:00	11.9	11.4	97	13.1	2	30	4	Moderate Rain,Fog
2022-09-24 3:00	12.9	12.6	98	25.1	2	32	2	Heavy Rain,Fog
2022-09-24 4:00	17.7	17.5	99	30.8	5	43	1.6	Moderate Rain,Fog
2022-09-24 5:00	16.4	15.9	97	9	6	39	1.6	Rain,Fog
2022-09-24 6:00	14.9	14.6	98	4.2	5	39	1.6	Rain,Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-24 7:00	14.5	14.2	98	1.8	4	30	2	Rain,Fog
2022-09-24 8:00	14.1	13.8	98	1	34	24	3.2	Rain,Fog
2022-09-24 9:00	13.9	13.6	98	0.5	30	39	4	Rain,Fog
2022-09-24 10:00	14	13.7	98	0.8	26	35	2.8	Rain,Fog
2022-09-24 11:00	13.3	13	98	7.8	26	41	1.6	Moderate Rain,Fog
2022-09-24 12:00	12.7	12.2	97	8.5	25	46	2.4	Rain,Fog
2022-09-24 13:00	11.9	11.3	96	3	25	55	8.1	Rain,Fog
2022-09-24 14:00	11.4	10.6	95	0.8	26	45	16.1	Rain
2022-09-24 15:00	10.8	10.2	96	2.5	25	46	3.2	Rain,Fog
2022-09-24 16:00	9.8	9.2	96	0.8	24	45	4.8	Rain,Fog
2022-09-24 17:00	9.3	8.6	95	1.2	25	43	12.9	Rain
2022-09-24 18:00	9.2	8.5	95	0.2	25	39	4.8	Fog
2022-09-24 19:00	9.1	8.2	94	0.2	25	35	9.7	Fog
2022-09-24 20:00	9.6	8.1	90	0	26	39	16.1	NA
2022-09-24 21:00	9.7	7.2	84	0	26	43	16.1	NA
2022-09-24 22:00	8.4	7.3	93	0	25	30	6.4	Rain,Fog
2022-09-24 23:00	8.8	7.7	93	0.2	25	35	12.9	NA
2022-09-25 0:00	9.2	7.8	91	0	25	22	16.1	NA
2022-09-25 1:00	10.5	6.7	77	0	28	30	16.1	NA
2022-09-25 2:00	10.6	6.3	75	0	27	26	16.1	NA
2022-09-25 3:00	11.2	6.6	73	0	24	21	16.1	NA
2022-09-25 4:00	9.9	7.7	86	0	25	30	14.5	NA
2022-09-25 5:00	9.5	8.2	92	0.2	22	15	16.1	NA
2022-09-25 6:00	9.8	7.6	86	0	25	21	16.1	NA
2022-09-25 7:00	9.7	6.6	81	0	24	17	16.1	NA
2022-09-25 8:00	8.7	6.5	86	0	23	21	16.1	NA
2022-09-25 9:00	8.6	6.2	85	0.2	24	17	16.1	NA
2022-09-25 10:00	8.8	6	82	0	25	22	16.1	NA
2022-09-25 11:00	9.4	6.4	81	0	24	18	16.1	NA
2022-09-25 12:00	11.4	6.7	73	0	25	18	16.1	NA
2022-09-25 13:00	13.5	6.5	63	0	26	24	16.1	NA
2022-09-25 14:00	15.4	6.9	57	0	27	28	16.1	NA
2022-09-25 15:00	16.5	6.6	52	0	26	26	16.1	NA
2022-09-25 16:00	17.3	8	54	0	29	17	16.1	NA
2022-09-25 17:00	18	8.4	53	0	27	13	16.1	NA
2022-09-25 18:00	19.3	8.6	50	0	24	21	16.1	NA
2022-09-25 19:00	19.9	7.5	44	0	25	26	16.1	NA
2022-09-25 20:00	18.2	10.2	59	0	19	22	16.1	NA
2022-09-25 21:00	17.1	10.5	65	0	21	15	16.1	NA
2022-09-25 22:00	14.8	10.9	77	0	18	13	16.1	NA
2022-09-25 23:00	13.7	11.3	85	0	17	9	16.1	NA
2022-09-26 0:00	13.6	10.6	82	0	20	9	16.1	NA
2022-09-26 1:00	12.9	10.8	87	0	17	11	16.1	NA
2022-09-26 2:00	12.8	11.4	91	0	18	11	16.1	NA
2022-09-26 3:00	13.5	11.8	89	0	20	9	16.1	NA
2022-09-26 4:00	13.7	11.9	89	0	20	9	16.1	NA
2022-09-26 5:00	13.2	12.1	93	0	15	5	16.1	NA
2022-09-26 6:00	13.6	12.7	94	0	17	11	16.1	NA
2022-09-26 7:00	13.3	12.7	96	0	15	11	16.1	NA
2022-09-26 8:00	13.3	12.3	93	0	16	13	16.1	NA
2022-09-26 9:00	13.4	12.1	92	0	13	11	16.1	NA
2022-09-26 10:00	14.2	13.4	95	0	14	15	16.1	NA
2022-09-26 11:00	14.9	14	94	0	15	18	16.1	NA
2022-09-26 12:00	14.5	13.9	96	1	13	13	9.7	Rain,Fog
2022-09-26 13:00	14.8	14.3	97	3.3	12	13	3.6	Rain,Fog
2022-09-26 14:00	15.3	15	98	11.1		4	1.6	Thunderstorms,Heavy Rain,Fog
2022-09-26 15:00	16.1	15.6	97	8	10	9	16.1	Thunderstorms,Rain
2022-09-26 16:00	16.6	16.3	98	0.5		0	16.1	Rain
2022-09-26 17:00	17.4	16.9	97	6	19	9	2.8	Moderate Rain,Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-26 18:00	17.3	17	98	4	15	11	16.1	Rain
2022-09-26 19:00	17.3	16.7	96	0.2	17	21	16.1	NA
2022-09-26 20:00	17.6	16.9	96	0	19	15	16.1	NA
2022-09-26 21:00	17.4	16.8	96	0	19	9	16.1	NA
2022-09-26 22:00	17.2	16.6	96	0	18	13	16.1	NA
2022-09-26 23:00	17	16.4	96	0	18	15	16.1	NA
2022-09-27 0:00	16.8	16	95	0	19	18	16.1	NA
2022-09-27 1:00	16.1	15.3	95	0	19	13	16.1	NA
2022-09-27 2:00	15.7	14.8	94	0	19	13	16.1	NA
2022-09-27 3:00	15.1	14.3	95	0	17	13	16.1	NA
2022-09-27 4:00	14.9	14.3	96	0	19	11	16.1	NA
2022-09-27 5:00	14.6	14.1	97	0	15	11	16.1	NA
2022-09-27 6:00	14.8	14.5	98	0	14	13	16.1	NA
2022-09-27 7:00	15	14.5	97	0	14	9	16.1	NA
2022-09-27 8:00	15.4	15.1	98	0	14	13	16.1	NA
2022-09-27 9:00	16	15.9	99	0	16	13	1.2	Fog
2022-09-27 10:00	16.5	16.3	99	0	14	11	2	Fog
2022-09-27 11:00	16.5	16.4	99	0	13	13	0.4	Fog
2022-09-27 12:00	16.3	16.3	100	0	12	13	0.4	Rain,Fog
2022-09-27 13:00	16.3	16.3	100	0	13	15	1.6	Fog
2022-09-27 14:00	16.8	16.6	99	0	15	18	16.1	NA
2022-09-27 15:00	17	16.7	98	0	16	24	16.1	NA
2022-09-27 16:00	17.4	17.1	98	3	14	18	2.8	Rain,Fog
2022-09-27 17:00	17.7	17.4	98	3.8	13	13	16.1	Rain
2022-09-27 18:00	18.2	17.9	98	7.3	18	17	8.1	Rain,Fog
2022-09-27 19:00	18.3	17.7	96	0	18	9		NA
2022-09-27 20:00	18.2	17.3	95	0	16	13	16.1	NA
2022-09-27 21:00	18	17.2	95	0.2	15	15	16.1	NA
2022-09-27 22:00	17.9	17.6	98	0.8	16	15	14.5	Rain
2022-09-27 23:00	18.1	17.5	96	0	20	11	16.1	NA
2022-09-28 0:00	17.7	17.2	97	0	16	13	16.1	NA
2022-09-28 1:00	17.7	17.4	98	0	18	9	16.1	NA
2022-09-28 2:00	17.7	17.1	96	0	20	8	16.1	NA
2022-09-28 3:00	17.5	16.9	96	0		4	16.1	NA
2022-09-28 4:00	17.1	16.6	97	0	18	9	16.1	NA
2022-09-28 5:00	16.8	16.3	97	0	22	8	16.1	NA
2022-09-28 6:00	16	15.5	97	0	22	8	16.1	NA
2022-09-28 7:00	15.3	15	98	0		4	16.1	NA
2022-09-28 8:00	14.4	14.3	99	0	17	4	14.5	NA
2022-09-28 9:00	14.3	14.2	99	0		0	11.3	NA
2022-09-28 10:00	12.6	12.6	100	0	10	5	0.4	Fog
2022-09-28 11:00	13.7	13.7	100	0	12	5	14.5	NA
2022-09-28 12:00	14.9	14.9	100	0	9	9	1.6	Fog
2022-09-28 13:00	15.6	15.6	100	0	13	9	12.9	NA
2022-09-28 14:00	16.5	16.2	98	0	12	8	16.1	NA
2022-09-28 15:00	16.4	15.8	96	0	11	5	16.1	NA
2022-09-28 16:00	16.8	16.2	96	0	12	8	16.1	NA
2022-09-28 17:00	16.7	16.2	97	0	12	5	16.1	NA
2022-09-28 18:00	18	16.7	92	0	19	9	16.1	NA
2022-09-28 19:00	18.5	16.5	88	0	24	8	16.1	NA
2022-09-28 20:00	18.3	16.4	89	0.2		4	16.1	NA
2022-09-28 21:00	17.4	16.6	95	0	20	5	16.1	NA
2022-09-28 22:00	16.8	16	95	0	26	5	16.1	NA
2022-09-28 23:00	15.7	14.4	92	0	29	11	16.1	NA
2022-09-29 0:00	15	13.5	91	0	28	11	16.1	NA
2022-09-29 1:00	14.4	12.8	90	0	27	13	16.1	NA
2022-09-29 2:00	14.2	12.3	88	0	27	17	16.1	NA
2022-09-29 3:00	13.4	12	91	0	26	15	16.1	NA
2022-09-29 4:00	12.9	12	94	0	27	8	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-09-29 5:00	12.6	11.7	94	0	25	9	16.1	NA
2022-09-29 6:00	12.8	11.2	90	0	28	13	16.1	NA
2022-09-29 7:00	12.5	11	91	0	26	18	16.1	NA
2022-09-29 8:00	12.1	11	93	0	26	13	16.1	NA
2022-09-29 9:00	12.2	11.3	94	0	27	13	16.1	NA
2022-09-29 10:00	12	11.1	94	0	28	9	16.1	NA
2022-09-29 11:00	12.2	11.6	96	0	27	11	16.1	NA
2022-09-29 12:00	12.8	11.9	94	0	27	9	16.1	NA
2022-09-29 13:00	13.5	11.8	89	0	30	15	16.1	NA
2022-09-29 14:00	13.8	11.7	87	0	31	18	16.1	NA
2022-09-29 15:00	14	11.4	84	0	30	21	16.1	NA
2022-09-29 16:00	14.4	11.3	82	0	30	15	16.1	NA
2022-09-29 17:00	15.7	11.9	78	0	30	18	16.1	NA
2022-09-29 18:00	16.3	11.1	71	0	31	18	16.1	NA
2022-09-29 19:00	15.7	11.5	76	0	29	21	16.1	NA
2022-09-29 20:00	15.6	11.2	75	0	30	21	16.1	NA
2022-09-29 21:00	14.6	11.8	83	0	29	15	16.1	NA
2022-09-29 22:00	12.8	11.1	89	0	34	5	16.1	NA
2022-09-29 23:00	11.2	10.3	94	0	35	5	16.1	NA
2022-09-30 0:00	10.3	9.2	93	0	32	8	16.1	NA
2022-09-30 1:00	9.9	9.1	95	0	33	5	16.1	NA
2022-09-30 2:00	8.4	7.9	97	0	34	5	16.1	NA
2022-09-30 3:00	9.1	7.9	92	0	33	5	16.1	NA
2022-09-30 4:00	7.8	7.5	98	0	2	5	16.1	NA
2022-09-30 5:00	7.3	6.9	97	0	33	8	16.1	NA
2022-09-30 6:00	7.5	6.9	96	0		4	16.1	NA
2022-09-30 7:00	6	5.7	98	0		0	16.1	NA
2022-09-30 8:00	7.4	7.3	99	0		4	16.1	NA
2022-09-30 9:00	6.2	5.9	98	0	9	4	16.1	NA
2022-09-30 10:00	7.7	7.4	98	0		0	16.1	NA
2022-09-30 11:00	8	7.9	99	0		0	16.1	NA
2022-09-30 12:00	11.5	9.2	86	0	29	11	16.1	NA
2022-09-30 13:00	12.7	8.1	74	0	28	17	16.1	NA
2022-09-30 14:00	13	7	67	0	29	18	16.1	NA
2022-09-30 15:00	13.7	7.5	66	0	27	17	16.1	NA
2022-09-30 16:00	14.5	8.5	67	0	30	17	16.1	NA
2022-09-30 17:00	14.6	7.7	63	0	32	17	16.1	NA
2022-09-30 18:00	15	7.4	60	0	29	15	16.1	NA
2022-09-30 19:00	15.3	7	58	0	33	8	16.1	NA
2022-09-30 20:00	15	5.4	52	0	26	8	16.1	NA
2022-09-30 21:00	14.1	6.9	62	0		4	16.1	NA
2022-09-30 22:00	9.3	7.8	90	0		0	16.1	NA
2022-09-30 23:00	7.8	6.6	92	0		4	16.1	NA
2022-10-01 0:00	9.9	9	94	0	26	8	16.1	NA
2022-10-01 1:00	10.7	9.6	93	0	25	13	16.1	NA
2022-10-01 2:00	10.6	9.5	93	0	23	11	16.1	NA
2022-10-01 3:00	10	9.4	96	0	24	13	16.1	NA
2022-10-01 4:00	9.5	8.6	94	0	26	15	16.1	NA
2022-10-01 5:00	9.3	8.2	93	0	26	13	16.1	NA
2022-10-01 6:00	9.3	8.1	92	0	26	13	16.1	NA
2022-10-01 7:00	8.8	6.9	88	0	29	9	16.1	NA
2022-10-01 8:00	8.7	6	83	0	27	8	16.1	NA
2022-10-01 9:00	9	5.6	79	0	25	15	16.1	NA
2022-10-01 10:00	9.1	5.9	80	0	26	15	16.1	NA
2022-10-01 11:00	9.6	6.5	81	0	23	11	16.1	NA
2022-10-01 12:00	12.5	7.1	69	0	22	5	16.1	NA
2022-10-01 13:00	14.1	7.6	65	0	21	8	16.1	NA
2022-10-01 14:00	16.8	8.8	59	0	24	13	16.1	NA
2022-10-01 15:00	18.4	8.4	52	0	25	21	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-01 16:00	18	8.9	55	0	31	17	16.1	NA
2022-10-01 17:00	18	9.3	57	0	30	18	16.1	NA
2022-10-01 18:00	17.3	9.6	60	0	30	15	16.1	NA
2022-10-01 19:00	15.9	9.5	65	0	30	15	16.1	NA
2022-10-01 20:00	15.3	8.6	64	0	31	15	16.1	NA
2022-10-01 21:00	14.5	9.7	73	0	29	9	16.1	NA
2022-10-01 22:00	12.8	9.5	80	0	31	8	16.1	NA
2022-10-01 23:00	12.2	9.8	85	0	1	5	16.1	NA
2022-10-02 0:00	11.2	8.8	85	0	35	8	16.1	NA
2022-10-02 1:00	10.1	8.8	92	0	34	5	16.1	NA
2022-10-02 2:00	9.7	8.1	90	0	31	8	16.1	NA
2022-10-02 3:00	9.1	7.8	91	0	33	5	16.1	NA
2022-10-02 4:00	8.4	7.7	95	0		4	16.1	NA
2022-10-02 5:00	9	7.5	90	0	33	9	16.1	NA
2022-10-02 6:00	8.3	6.1	86	0	35	9	16.1	NA
2022-10-02 7:00	8.2	5.7	84	0	35	8	16.1	NA
2022-10-02 8:00	7.9	5.2	83	0		4	16.1	NA
2022-10-02 9:00	8.3	5.1	80	0	34	9	16.1	NA
2022-10-02 10:00	8.2	4.6	78	0	34	9	16.1	NA
2022-10-02 11:00	8.2	3.2	71	0	35	9	16.1	NA
2022-10-02 12:00	8.9	2.5	64	0	35	13	16.1	NA
2022-10-02 13:00	9.5	1.3	56	0	36	15	16.1	NA
2022-10-02 14:00	8.9	-0.4	52	0	34	17	16.1	NA
2022-10-02 15:00	9.4	0.2	53	0	34	18	16.1	NA
2022-10-02 16:00	9.8	0.7	53	0	34	15	16.1	NA
2022-10-02 17:00	9.4	-0.6	50	0	36	17	16.1	NA
2022-10-02 18:00	9.9	1.2	55	0	34	13	16.1	NA
2022-10-02 19:00	10.4	1.3	53	0	33	15	16.1	NA
2022-10-02 20:00	9.8	0.6	53	0	2	17	16.1	NA
2022-10-02 21:00	7.5	0.4	60	0	36	13	16.1	NA
2022-10-02 22:00	5.8	0.6	69	0	36	8	16.1	NA
2022-10-02 23:00	4.5	1	78	0	36	8	16.1	NA
2022-10-03 0:00	3.5	1	83	0	35	5	16.1	NA
2022-10-03 1:00	3.4	0.8	83	0		4	16.1	NA
2022-10-03 2:00	2.4	0.5	87	0		4	16.1	NA
2022-10-03 3:00	2.3	0.5	88	0		4	16.1	NA
2022-10-03 4:00	0.4	-0.6	93	0	6	8	16.1	NA
2022-10-03 5:00	-0.8	-1.4	96	0	2	8	16.1	NA
2022-10-03 6:00	1	-0.5	90	0	2	8	16.1	NA
2022-10-03 7:00	-0.3	-1.1	94	0	1	9	16.1	NA
2022-10-03 8:00	1	-0.4	90	0	3	9	16.1	NA
2022-10-03 9:00	-0.1	-1.5	91	0	35	5	16.1	NA
2022-10-03 10:00	0.5	-1.3	88	0	1	8	16.1	NA
2022-10-03 11:00	1.6	0.2	90	0	36	8	16.1	NA
2022-10-03 12:00	6	1.5	73	0		0	16.1	NA
2022-10-03 13:00	9.6	3.2	64	0		4	16.1	NA
2022-10-03 14:00	10.4	3	60	0	31	11	16.1	NA
2022-10-03 15:00	9.5	3.2	65	0	31	11	16.1	NA
2022-10-03 16:00	11.4	2.9	56	0	31	17	16.1	NA
2022-10-03 17:00	11.3	2.9	56	0	28	26	16.1	NA
2022-10-03 18:00	11.4	2.4	54	0	33	15	16.1	NA
2022-10-03 19:00	11.4	2	52	0	31	17	16.1	NA
2022-10-03 20:00	10.8	2	54	0	29	11	16.1	NA
2022-10-03 21:00	9.5	2.2	60	0	31	9	16.1	NA
2022-10-03 22:00	5.1	2.8	85	0		0	16.1	NA
2022-10-03 23:00	2.6	1.5	92	0	36	8	16.1	NA
2022-10-04 0:00	2.4	1.1	91	0	1	8	16.1	NA
2022-10-04 1:00	0.9	0.3	96	0	1	8	16.1	NA
2022-10-04 2:00	0.7	0	95	0	1	5	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-04 3:00	0.8	0.2	96	0		5	16.1	NA
2022-10-04 4:00	0.5	0.2	98	0	14	0	16.1	NA
2022-10-04 5:00	0.1	-0.2	98	0		8	16.1	NA
2022-10-04 6:00	-0.6	-1	97	0	1	5	16.1	NA
2022-10-04 7:00	-0.4	-0.7	98	0	10	0	16.1	NA
2022-10-04 8:00	-0.4	-0.7	98	0		0	16.1	NA
2022-10-04 9:00	-0.7	-1	98	0		4	16.1	NA
2022-10-04 10:00	0.1	-0.2	98	0	25	4	16.1	NA
2022-10-04 11:00	1.7	1.6	99	0		0	16.1	NA
2022-10-04 12:00	8.1	5.2	82	0		0	16.1	NA
2022-10-04 13:00	10.8	5.6	70	0	22	8	16.1	NA
2022-10-04 14:00	13	5.9	62	0	24	11	16.1	NA
2022-10-04 15:00	14	3.8	50	0	20	13	16.1	NA
2022-10-04 16:00	14.8	4.7	51	0	19	17	16.1	NA
2022-10-04 17:00	15.9	5.6	50	0	20	13	16.1	NA
2022-10-04 18:00	16.2	5	47	0	16	17	16.1	NA
2022-10-04 19:00	15.7	5.5	50	0	19	11	16.1	NA
2022-10-04 20:00	14.8	4.9	51	0	18	15	16.1	NA
2022-10-04 21:00	13.1	3.8	53	0	18	9	16.1	NA
2022-10-04 22:00	9.8	5.1	72	0	14	11	16.1	NA
2022-10-04 23:00	9.6	7.4	86	0	17	8	16.1	NA
2022-10-05 0:00	9.5	7.8	89	0	18	11	16.1	NA
2022-10-05 1:00	8.9	8	94	0	18	9	16.1	NA
2022-10-05 2:00	9.1	8.2	94	0	18	9	16.1	NA
2022-10-05 3:00	9.1	8.6	96	0	21	9	16.1	NA
2022-10-05 4:00	6	5.6	97	0		0	16.1	NA
2022-10-05 5:00	6.1	5.8	98	0	10	4	8.1	Fog
2022-10-05 6:00	8.8	8.7	99	0	15	8	16.1	NA
2022-10-05 7:00	5.3	5.2	99	0	5	5	0.6	Fog
2022-10-05 8:00	5.5	5.4	99	0	5	4	1.2	Fog
2022-10-05 9:00	7	7	100	0		4	2.8	Fog
2022-10-05 10:00	7	7	100	0	6	5	0.8	Fog
2022-10-05 11:00	8.5	8.5	100	0		0	1.6	Fog
2022-10-05 12:00	11.5	11.5	100	0	9	9	16.1	NA
2022-10-05 13:00	11.6	11.6	100	0	8	9	16.1	NA
2022-10-05 14:00	14.7	11.1	79	0	12	15	16.1	NA
2022-10-05 15:00	15.4	10.7	73	0	16	8	16.1	NA
2022-10-05 16:00	16.9	10.5	66	0	17	21	16.1	NA
2022-10-05 17:00	16.7	10	64	0	16	18	16.1	NA
2022-10-05 18:00	16	9.7	66	0	16	17	16.1	NA
2022-10-05 19:00	14.9	10.2	73	0	13	11	16.1	NA
2022-10-05 20:00	14	11.2	83	0	13	17	16.1	NA
2022-10-05 21:00	13.2	11.1	87	0	13	17	16.1	NA
2022-10-05 22:00	12.7	11.1	90	0	11	11	16.1	NA
2022-10-05 23:00	11.6	10.8	95	0	9	9	16.1	NA
2022-10-06 0:00	11.7	10.8	94	0	9	11	16.1	NA
2022-10-06 1:00	11.4	10.3	93	0	9	15	16.1	NA
2022-10-06 2:00	11.5	10.9	96	0	7	13	16.1	NA
2022-10-06 3:00	11.5	10.9	96	0	8	15	16.1	NA
2022-10-06 4:00	11.6	11	96	0	7	9	16.1	NA
2022-10-06 5:00	11.6	11	96	0	7	9	16.1	NA
2022-10-06 6:00	11.6	11.3	98	0	7	13	8.1	Fog
2022-10-06 7:00	11.6	11.5	99	0.2	6	13	4.8	Fog
2022-10-06 8:00	11.4	11.3	99	0	6	13	2	Fog
2022-10-06 9:00	11.5	11.4	99	0.2	6	15	2.4	Fog
2022-10-06 10:00	11.5	11.4	99	0	6	13	2	Rain,Fog
2022-10-06 11:00	11.8	11.7	99	0.2	6	15	2.8	Fog
2022-10-06 12:00	12.4	12.3	99	0	7	17	3.6	Fog
2022-10-06 13:00	13	12.9	99	0.2	7	18	2.8	Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-06 14:00	13.3	13.2	99	0	7	21	1.6	Fog
2022-10-06 15:00	13.4	13.3	99	0	6	18	2	Fog
2022-10-06 16:00	13.9	13.8	99	0.2	7	17	2.8	Fog
2022-10-06 17:00	13.7	13.6	99	1	6	18	2.4	Rain,Fog
2022-10-06 18:00	14.1	14	99	1.5	6	13	4.8	Rain,Fog
2022-10-06 19:00	13.8	13.7	99	3.2	7	17	4.8	Rain,Fog
2022-10-06 20:00	13.7	13.6	99	2.8	5	24	8.1	Rain,Fog
2022-10-06 21:00	13.6	13.5	99	6.2	5	13	4.8	Rain,Fog
2022-10-06 22:00	13.6	13.3	98	3.2	7	18	8.1	Rain,Fog
2022-10-06 23:00	13.4	13.1	98	1	6	18	16.1	NA
2022-10-07 0:00	12.8	12.5	98	0	4	13	16.1	Rain
2022-10-07 1:00	12.8	12.7	99	0.2	5	15	4.8	Rain,Fog
2022-10-07 2:00	12.8	12.7	99	0.8	4	15	2.8	Fog
2022-10-07 3:00	12.7	12.6	99	0.5	4	15	2.4	Rain,Fog
2022-10-07 4:00	12.7	12.6	99	0.5	4	9	2	Rain,Fog
2022-10-07 5:00	12.7	12.6	99	0.2	3	11	2.4	Rain,Fog
2022-10-07 6:00	12.7	12.6	99	0.2	2	9	8.1	Fog
2022-10-07 7:00	12.8	12.7	99	0	4	13	16.1	NA
2022-10-07 8:00	13	12.9	99	0	1	11	8.1	Fog
2022-10-07 9:00	13.1	13	99	0	3	9	8.1	Fog
2022-10-07 10:00	13	12.9	99	0	5	11	16.1	NA
2022-10-07 11:00	13.2	13.1	99	0		4	16.1	NA
2022-10-07 12:00	14.2	13.7	97	0	36	8	16.1	NA
2022-10-07 13:00	15.2	14.1	93	0	3	11	16.1	NA
2022-10-07 14:00	15.4	14.3	93	0	5	9	16.1	NA
2022-10-07 15:00	15.2	14	92	0	7	5	16.1	NA
2022-10-07 16:00	15.9	14.1	89	0	8	8	16.1	NA
2022-10-07 17:00	16.1	14	87	0		5	16.1	NA
2022-10-07 18:00	16.7	14.1	85	0	9	8	16.1	NA
2022-10-07 19:00	16.5	14.3	87	0	10	11	16.1	NA
2022-10-07 20:00	15.8	14.2	90	0	18	8	16.1	NA
2022-10-07 21:00	14.9	14	94	0	15	9	16.1	NA
2022-10-07 22:00	13.7	13.2	97	0	13	11	16.1	NA
2022-10-07 23:00	13.2	13.1	99	0	13	9	4.8	Fog
2022-10-08 0:00	13.1	13	99	0	14	9	16.1	NA
2022-10-08 1:00	13.2	13.1	99	0	14	13	16.1	NA
2022-10-08 2:00	13.3	13	98	0	15	11	16.1	NA
2022-10-08 3:00	12.9	12.6	98	0	14	11	16.1	NA
2022-10-08 4:00	12.1	12	99	0	14	15	2.4	Fog
2022-10-08 5:00	11.7	11.6	99	0	15	15	16.1	NA
2022-10-08 6:00	11.6	11.5	99	0	15	8	16.1	NA
2022-10-08 7:00	11.7	11.6	99	0	15	11	16.1	NA
2022-10-08 8:00	11.7	11.6	99	0	16	9	9.7	Fog
2022-10-08 9:00	11.7	11.6	99	0	15	11	1.2	Fog
2022-10-08 10:00	11.8	11.7	99	0	15	11	1	Fog
2022-10-08 11:00	11.9	11.9	100	0	18	13	2	Fog
2022-10-08 12:00	12.4	12.3	99	0	20	17	14.5	NA
2022-10-08 13:00	12.4	11.3	93	0	22	17	16.1	NA
2022-10-08 14:00	12.9	11.4	90	0	20	15	16.1	NA
2022-10-08 15:00	13.7	11.9	89	0	18	11	16.1	NA
2022-10-08 16:00	14.3	12.5	89	0	20	11	16.1	NA
2022-10-08 17:00	14.6	13.2	91	0	23	11	16.1	NA
2022-10-08 18:00	17.1	13.5	79	0	24	21	16.1	NA
2022-10-08 19:00	16	12.8	81	0	21	17	16.1	NA
2022-10-08 20:00	12.4	11.6	95	2.5	28	13	16.1	Rain
2022-10-08 21:00	11.8	11	95	0.8	28	15	16.1	Rain
2022-10-08 22:00	11.5	10.7	95	0	26	13	16.1	NA
2022-10-08 23:00	10.7	9.9	95	0	28	13	16.1	NA
2022-10-09 0:00	10.5	8.1	85	0	27	18	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-09 1:00	9.5	7	84	0	30	9	16.1	NA
2022-10-09 2:00	8.7	6.8	88	0	22	8	16.1	NA
2022-10-09 3:00	8.1	7.5	96	0	25	5	16.1	NA
2022-10-09 4:00	7.8	6.8	93	0	27	5	16.1	NA
2022-10-09 5:00	6.8	5.9	94	0	25	9	16.1	NA
2022-10-09 6:00	6.8	5.4	91	0	26	13	16.1	NA
2022-10-09 7:00	5.5	4.2	91	0	29	9	16.1	NA
2022-10-09 8:00	5	4.4	96	0	29	5	16.1	NA
2022-10-09 9:00	3.3	2.9	97	0	31	4	16.1	NA
2022-10-09 10:00	2.3	1.7	96	0	26	5	16.1	NA
2022-10-09 11:00	2.2	2	98	0		0	16.1	NA
2022-10-09 12:00	7.8	3.4	73	0	26	13	16.1	NA
2022-10-09 13:00	8.8	2.9	67	0	24	11	16.1	NA
2022-10-09 14:00	10.4	2.5	58	0	23	15	16.1	NA
2022-10-09 15:00	11.2	1.3	50	0	22	17	16.1	NA
2022-10-09 16:00	12.1	1.5	48	0	26	17	16.1	NA
2022-10-09 17:00	12.9	3.1	51	0	22	17	16.1	NA
2022-10-09 18:00	13.6	0.8	42	0	22	22	16.1	NA
2022-10-09 19:00	13.6	1.9	45	0	25	17	16.1	NA
2022-10-09 20:00	12.6	1.8	47	0	27	15	16.1	NA
2022-10-09 21:00	11.3	2.2	53	0	26	11	16.1	NA
2022-10-09 22:00	9.3	2.7	63	0	27	13	16.1	NA
2022-10-09 23:00	7.8	3.7	75	0	25	5	16.1	NA
2022-10-10 0:00	8.2	3.9	74	0	22	8	16.1	NA
2022-10-10 1:00	7.7	3.6	75	0	25	9	16.1	NA
2022-10-10 2:00	6.6	3.1	78	0	24	9	16.1	NA
2022-10-10 3:00	5.9	2.6	79	0	23	8	16.1	NA
2022-10-10 4:00	6.2	3.1	80	0		5	16.1	NA
2022-10-10 5:00	6.4	3.9	84	0	25	9	16.1	NA
2022-10-10 6:00	6.8	4.5	85	0	27	11	16.1	NA
2022-10-10 7:00	6.4	4.6	88	0	25	11	16.1	NA
2022-10-10 8:00	6.1	4.9	92	0	25	15	16.1	NA
2022-10-10 9:00	4.7	4	95	0	26	8	16.1	NA
2022-10-10 10:00	4.5	3.8	95	0	26	15	16.1	NA
2022-10-10 11:00	5.3	4.4	94	0	27	11	16.1	NA
2022-10-10 12:00	7.7	5.5	86	0	25	15	16.1	NA
2022-10-10 13:00	8.6	5.2	79	0	26	18	16.1	NA
2022-10-10 14:00	9.7	4	67	0	25	17	16.1	NA
2022-10-10 15:00	10	2.9	61	0	28	22	16.1	NA
2022-10-10 16:00	10.9	2.5	56	0	28	21	16.1	NA
2022-10-10 17:00	10.7	-1	44	0	28	24	16.1	NA
2022-10-10 18:00	10.5	-0.1	48	0	29	21	16.1	NA
2022-10-10 19:00	10.2	0.1	49	0	30	11	16.1	NA
2022-10-10 20:00	8.8	0.8	57	0	30	11	16.1	NA
2022-10-10 21:00	8.2	0.8	60	0	31	5	16.1	NA
2022-10-10 22:00	4.1	1.8	85	0		0	16.1	NA
2022-10-10 23:00	3.6	2.1	90	0	17	5	16.1	NA
2022-10-11 0:00	3.9	1.3	83	0	25	8	16.1	NA
2022-10-11 1:00	5.1	0.1	70	0	27	11	16.1	NA
2022-10-11 2:00	5.7	0.4	69	0	28	15	16.1	NA
2022-10-11 3:00	5.3	0.9	73	0	29	8	16.1	NA
2022-10-11 4:00	4.9	1.6	79	0	27	11	16.1	NA
2022-10-11 5:00	4.7	2.1	83	0		4	16.1	NA
2022-10-11 6:00	4.7	2.6	86	0	27	9	16.1	NA
2022-10-11 7:00	4.3	2.2	86	0	28	9	16.1	NA
2022-10-11 8:00	4.7	2.4	85	0	26	15	16.1	NA
2022-10-11 9:00	1.1	0.1	93	0		0	16.1	NA
2022-10-11 10:00	3.9	0.7	79	0	23	9	16.1	NA
2022-10-11 11:00	4.4	0.9	78	0	27	9	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-11 12:00	7	2.1	71	0	21	5	16.1	NA
2022-10-11 13:00	9.6	2.1	60	0	24	15	16.1	NA
2022-10-11 14:00	11.2	1.2	50	0	23	17	16.1	NA
2022-10-11 15:00	12.4	1.3	47	0	24	17	16.1	NA
2022-10-11 16:00	11.9	2.7	53	0	27	15	16.1	NA
2022-10-11 17:00	13.2	2.6	49	0	29	15	16.1	NA
2022-10-11 18:00	13.6	3.7	51	0	28	13	16.1	NA
2022-10-11 19:00	13.3	3.8	52	0	29	11	16.1	NA
2022-10-11 20:00	12.5	4	56	0	31	9	16.1	NA
2022-10-11 21:00	10.7	4.2	64	0	27	5	16.1	NA
2022-10-11 22:00	5.8	4.2	89	0	31	4	16.1	NA
2022-10-11 23:00	3.9	2.7	92	0		0	16.1	NA
2022-10-12 0:00	6	4.4	89	0	24	9	16.1	NA
2022-10-12 1:00	6.5	4.2	85	0	27	17	16.1	NA
2022-10-12 2:00	6.6	3.1	78	0	26	13	16.1	NA
2022-10-12 3:00	4.9	2.6	85	0		4	16.1	NA
2022-10-12 4:00	6.1	3.8	85	0	27	8	16.1	NA
2022-10-12 5:00	3.3	2.1	92	0	92	0	16.1	NA
2022-10-12 6:00	3.9	3.1	94	0		4	16.1	NA
2022-10-12 7:00	4.8	4.1	95	0		0	16.1	NA
2022-10-12 8:00	6.3	4.1	86	0	23	11	16.1	NA
2022-10-12 9:00	5.9	3.8	86	0	20	9	16.1	NA
2022-10-12 10:00	5	2.9	86	0	25	11	16.1	NA
2022-10-12 11:00	6.4	3.2	80	0	27	11	16.1	NA
2022-10-12 12:00	8.9	4.7	75	0	27	9	16.1	NA
2022-10-12 13:00	10.9	5.5	69	0	26	9	16.1	NA
2022-10-12 14:00	12.5	6.1	65	0	24	11	16.1	NA
2022-10-12 15:00	14.1	5.7	57	0	25	13	16.1	NA
2022-10-12 16:00	15.2	5.3	51	0	26	13	16.1	NA
2022-10-12 17:00	15.9	5.3	49	0	28	11	16.1	NA
2022-10-12 18:00	16.3	5.8	50	0	27	9	16.1	NA
2022-10-12 19:00	16.3	5.4	48	0	28	11	16.1	NA
2022-10-12 20:00	15.9	5.1	48	0	28	8	16.1	NA
2022-10-12 21:00	13.7	6.1	60	0		4	16.1	NA
2022-10-12 22:00	8.1	5.9	86	0	9	9	16.1	NA
2022-10-12 23:00	7.6	5.9	89	0	13	5	16.1	NA
2022-10-13 0:00	7.6	6.7	94	0	13	8	16.1	NA
2022-10-13 1:00	5.6	5.3	98	0		0	16.1	NA
2022-10-13 2:00	5	4.7	98	0		4	16.1	NA
2022-10-13 3:00	6.4	3.5	82	0	23	11	16.1	NA
2022-10-13 4:00	4.5	4.1	97	0	34	8	16.1	NA
2022-10-13 5:00	2.3	1.7	96	0		0	16.1	NA
2022-10-13 6:00	2.8	2.5	98	0		0	16.1	NA
2022-10-13 7:00	2.7	2.4	98	0	24	4	16.1	NA
2022-10-13 8:00	1.9	1.6	98	0	5	5	16.1	NA
2022-10-13 9:00	1.7	1.4	98	0	5	4	16.1	NA
2022-10-13 10:00	3.6	3.4	98	0		4	0.4	Rain,Fog
2022-10-13 11:00	4	3.9	99	0	5	4	16.1	NA
2022-10-13 12:00	8.7	8	95	0	10	5	16.1	NA
2022-10-13 13:00	10.4	8.4	87	0	4	5	16.1	NA
2022-10-13 14:00	12.7	9.7	82	0	9	5	16.1	NA
2022-10-13 15:00	16.1	9.9	66	0	15	9	16.1	NA
2022-10-13 16:00	17.7	9.6	59	0	20	9	16.1	NA
2022-10-13 17:00	18.3	10.7	61	0	13	11	16.1	NA
2022-10-13 18:00	18.2	10.5	61	0	14	17	16.1	NA
2022-10-13 19:00	17.3	10.5	64	0	14	17	16.1	NA
2022-10-13 20:00	16.7	10.6	67	0	14	17	16.1	NA
2022-10-13 21:00	14.6	10.3	75	0	16	11	16.1	NA
2022-10-13 22:00	12	10.1	88	0	13	9	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-13 23:00	10.5	9.6	94	0	13	8	16.1	NA
2022-10-14 0:00	8.9	8.6	98	0	9	8	14.5	NA
2022-10-14 1:00	10.5	10.4	99	0	14	11	16.1	NA
2022-10-14 2:00	10.9	10.1	95	0	14	9	16.1	NA
2022-10-14 3:00	11.3	10.4	94	0	13	9	16.1	NA
2022-10-14 4:00	10.6	10	96	0	11	5	16.1	NA
2022-10-14 5:00	10.3	10.2	99	0	10	9	12.9	NA
2022-10-14 6:00	11	10.4	96	0	12	5	16.1	NA
2022-10-14 7:00	10.2	9.9	98	0	12	11	16.1	NA
2022-10-14 8:00	10	9.7	98	0	9	9	16.1	NA
2022-10-14 9:00	9.4	9.1	98	0	7	13	16.1	NA
2022-10-14 10:00	9.4	9.1	98	0	8	11	16.1	NA
2022-10-14 11:00	9.8	9.5	98	0	9	11	16.1	NA
2022-10-14 12:00	10.2	9.8	97	0	9	13	14.5	NA
2022-10-14 13:00	10.7	9.9	95	0	10	18	16.1	NA
2022-10-14 14:00	13.5	10.3	81	0	7	15	16.1	NA
2022-10-14 15:00	14.5	9.6	72	0	10	21	16.1	NA
2022-10-14 16:00	14.8	11.5	80	0	12	21	16.1	NA
2022-10-14 17:00	14.6	11.1	79	0	10	22	16.1	NA
2022-10-14 18:00	15	12	82	0	13	18	16.1	NA
2022-10-14 19:00	15.4	12.6	83	0	11	13	16.1	NA
2022-10-14 20:00	14.9	12.4	85	0	11	17	16.1	NA
2022-10-14 21:00	13.9	12.1	89	0	10	21	16.1	NA
2022-10-14 22:00	12.1	11.3	95	0	9	17	16.1	NA
2022-10-14 23:00	11.3	10.9	97	0	9	15	16.1	NA
2022-10-15 0:00	11	10.7	98	0	9	17	16.1	NA
2022-10-15 1:00	11.5	11.4	99	0	10	17	16.1	NA
2022-10-15 2:00	12	11.9	99	0	10	22	16.1	NA
2022-10-15 3:00	12.7	12.2	97	0	13	21	16.1	NA
2022-10-15 4:00	12.6	12	96	0	11	18	16.1	NA
2022-10-15 5:00	12.2	11.7	97	0	11	22	16.1	NA
2022-10-15 6:00	12.6	12	96	0	12	24	16.1	NA
2022-10-15 7:00	12.5	11.9	96	0	10	24	16.1	NA
2022-10-15 8:00	12.2	11.9	98	0	9	21	16.1	NA
2022-10-15 9:00	12.1	11.8	98	0	9	22	16.1	NA
2022-10-15 10:00	12.3	11.7	96	0	9	22	16.1	NA
2022-10-15 11:00	12.4	11.6	95	0	10	21	16.1	NA
2022-10-15 12:00	12.8	11.7	93	0	11	26	16.1	NA
2022-10-15 13:00	13.2	12.1	93	0	11	22	16.1	NA
2022-10-15 14:00	13	12.2	95	0	11	24	16.1	NA
2022-10-15 15:00	12.7	12.2	97	0	11	21	3.2	Fog
2022-10-15 16:00	12.9	12.8	99	0	11	24	1.2	Fog
2022-10-15 17:00	13	12.9	99	0	11	26	2.4	Fog
2022-10-15 18:00	13.4	13.1	98	0	12	21	4.8	Fog
2022-10-15 19:00	13.1	12.8	98	0	11	24	4.8	Fog
2022-10-15 20:00	12.9	12.6	98	0	11	18	4.8	Fog
2022-10-15 21:00	12.9	12.6	98	0	11	24	12.9	NA
2022-10-15 22:00	12.6	12.5	99	0	10	17	2	Fog
2022-10-15 23:00	12.7	12.6	99	0	11	15	11.3	NA
2022-10-16 0:00	12.7	12.6	99	0	10	24	4.8	Fog
2022-10-16 1:00	12.7	12.6	99	0	11	24	1.2	Fog
2022-10-16 2:00	13	12.9	99	0	11	21	1.2	Fog
2022-10-16 3:00	12.7	12.7	100	0	10	21	4	Fog
2022-10-16 4:00	12.6	12.6	100	0.8	9	22	2	Fog
2022-10-16 5:00	13	13	100	0	9	17	1.2	Fog
2022-10-16 6:00	13.1	13.1	100	0	8	17	14.5	NA
2022-10-16 7:00	13.1	13	99	0		13	16.1	Rain
2022-10-16 8:00	13.5	13.4	99	0	10	8	16.1	NA
2022-10-16 9:00	13.4	13.3	99	0.2	9	9	2	Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-16 10:00	13.3	13.2	99	0.2	8	11	1.6	Rain,Fog
2022-10-16 11:00	13.2	13.2	100	0.2	7	8	1.6	Fog
2022-10-16 12:00	13.4	13.4	100	0	7	13	2.4	Fog
2022-10-16 13:00	13.6	13.6	100	0.2	8	15	2.8	Fog
2022-10-16 14:00	14.1	14	99	0	4	8	9.7	Fog
2022-10-16 15:00	14.3	13.8	97	0	5	9	16.1	NA
2022-10-16 16:00	14.5	14	97	0	4	9	16.1	NA
2022-10-16 17:00	14.6	14.1	97	0		4	4.8	Fog
2022-10-16 18:00	15	14.1	94	0	1	8	16.1	NA
2022-10-16 19:00	14.4	13.9	97	0	1	5	16.1	NA
2022-10-16 20:00	14.3	13.8	97	0	36	5	16.1	NA
2022-10-16 21:00	14.3	13.8	97	0	31	5	16.1	NA
2022-10-16 22:00	14.1	13.5	96	0	30	5	14.5	NA
2022-10-16 23:00	13.7	13.4	98	0	31	8	16.1	NA
2022-10-17 0:00	13.4	13.3	99	0		4	2.8	Fog
2022-10-17 1:00	13.3	13.2	99	0	31	9	11.3	NA
2022-10-17 2:00	13.1	13	99	0	30	9	16.1	NA
2022-10-17 3:00	13.2	12.7	97	0	30	9	16.1	NA
2022-10-17 4:00	13.3	12.7	96	0	31	8	16.1	NA
2022-10-17 5:00	13.4	12.8	96	0	30	8	16.1	NA
2022-10-17 6:00	13.5	13.2	98	0	28	11	4	Fog
2022-10-17 7:00	13.6	13.5	99	0	28	9	1.2	Fog
2022-10-17 8:00	13.7	13.6	99	0	29	11	1.2	Fog
2022-10-17 9:00	13.8	13.8	100	0	28	13	1.6	Fog
2022-10-17 10:00	14.1	14.1	100	0	28	15	1	Fog
2022-10-17 11:00	13.6	13.6	100	0	28	15	2.4	Rain,Fog
2022-10-17 12:00	13.5	13.5	100	0.2	29	13	8.1	Fog
2022-10-17 13:00	13.4	13.4	100	0	30	11	0.6	Fog
2022-10-17 14:00	13	13	100	0	28	11	2.8	Fog
2022-10-17 15:00	13.2	13.2	100	0	31	13	16.1	NA
2022-10-17 16:00	13.5	12.4	93	0	30	17	16.1	NA
2022-10-17 17:00	14.4	12.4	87	0	30	13	16.1	NA
2022-10-17 18:00	15.7	13.1	84	0	32	11	16.1	NA
2022-10-17 19:00	16.1	12.7	80	0	29	11	16.1	NA
2022-10-17 20:00	15.9	12.5	80	0		0	16.1	NA
2022-10-17 21:00	13.4	12.1	92	0		4	16.1	NA
2022-10-17 22:00	10.7	10.3	97	0	5	8	16.1	NA
2022-10-17 23:00	10.7	10.4	98	0	8	5	16.1	NA
2022-10-18 0:00	10.3	10.2	99	0	7	9	11.3	NA
2022-10-18 1:00	11.4	11.3	99	0	9	5	0.4	Fog
2022-10-18 2:00	11.1	11.1	100	0	11	11	0.4	Fog
2022-10-18 3:00	11.1	11.1	100	0	12	9	0.6	Fog
2022-10-18 4:00	10.7	10.7	100	0	10	11	0.6	Fog
2022-10-18 5:00	10.4	10.4	100	0	7	11	0.4	Fog
2022-10-18 6:00	10.3	10.3	100	0	7	8	0.4	Fog
2022-10-18 7:00	9.9	9.9	100	0	9	11	0.6	Fog
2022-10-18 8:00	9.9	9.9	100	0	8	9	1.2	Fog
2022-10-18 9:00	10.1	10.1	100	0	8	11	0.4	Fog
2022-10-18 10:00	10.6	10.6	100	0	8	13	0.6	Fog
2022-10-18 11:00	10.7	10.7	100	0	11	17	0.8	Rain,Fog
2022-10-18 12:00	11.3	11.3	100	0	10	17	0.6	Rain,Fog
2022-10-18 13:00	11.5	11.5	100	0	11	18	16.1	NA
2022-10-18 14:00	12.8	11.6	92	0	11	22	16.1	NA
2022-10-18 15:00	14.8	11.9	82	0	13	17	16.1	NA
2022-10-18 16:00	15.3	12.7	84	0	12	15	16.1	NA
2022-10-18 17:00	14.9	12.8	87	0	11	24	16.1	NA
2022-10-18 18:00	14.3	13.1	92	0	13	13	16.1	NA
2022-10-18 19:00	12.9	12.1	95	0	14	13	16.1	NA
2022-10-18 20:00	11.9	11.4	97	0	10	21	12.9	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-18 21:00	11.4	11.1	98	0	12	17	11.3	NA
2022-10-18 22:00	11	10.9	99	0	11	22	4	Fog
2022-10-18 23:00	11.1	11	99	0	10	22	16.1	NA
2022-10-19 0:00	11.1	11	99	0	10	18	14.5	NA
2022-10-19 1:00	10.6	10.5	99	0	10	22	16.1	NA
2022-10-19 2:00	10.5	10.2	98	0	10	26	14.5	NA
2022-10-19 3:00	10.5	10.2	98	0	11	24	16.1	NA
2022-10-19 4:00	10.4	10.1	98	0	10	28	6.4	Fog
2022-10-19 5:00	10.3	10.2	99	0	11	26	2.8	Fog
2022-10-19 6:00	10	9.9	99	0	11	21	2.4	Fog
2022-10-19 7:00	10.2	10.2	100	0.2	11	22	1	Rain,Fog
2022-10-19 8:00	10.3	10.3	100	0	9	22	1	Rain,Fog
2022-10-19 9:00	10.1	10.1	100	0.2	10	18	8.1	Fog
2022-10-19 10:00	10.2	10.2	100	0	11	21	2.8	Rain,Fog
2022-10-19 11:00	10.5	10.5	100	0.2	10	26	2	Rain,Fog
2022-10-19 12:00	11.2	11.2	100	0.2	10	26	3.6	Fog
2022-10-19 13:00	12.2	12.2	100	0	9	26	1	Fog
2022-10-19 14:00	13.8	13.8	100	0	10	26	2	Fog
2022-10-19 15:00	14.8	14.8	100	0	12	22	9.7	Fog
2022-10-19 16:00								
2022-10-19 17:00	15	14.9	99	1.2	12	26	4.8	Rain,Fog
2022-10-19 18:00	14.8	14.7	99	1	12	21	1.6	Rain,Fog
2022-10-19 19:00	14.5	14.4	99	3	13	21	2	Fog
2022-10-19 20:00	14.2	14.1	99	0.5	14	22	1	Rain,Fog
2022-10-19 21:00	14.1	14	99	1.8	13	22	1.2	Rain,Fog
2022-10-19 22:00	14.3	14.3	100	0	13	22	0.6	Rain,Fog
2022-10-19 23:00	14.3	14.3	100	0.2	13	22	1.2	Rain,Fog
2022-10-20 0:00	14.4	14.4	100	0.5	12	24	1	Rain,Fog
2022-10-20 1:00	14.4	14.4	100	0	13	24	0.8	Rain,Fog
2022-10-20 2:00	14.6	14.6	100	0.2	13	26	1	Rain,Fog
2022-10-20 3:00	14.8	14.8	100	0	13	22	1	Rain,Fog
2022-10-20 4:00	15.3	15.3	100	0.2	13	28	1.2	Rain,Fog
2022-10-20 5:00	15.7	15.7	100	0.8	13	22	1.2	Rain,Fog
2022-10-20 6:00	15.9	15.9	100	4	13	15	1.6	Rain,Fog
2022-10-20 7:00	15.9	15.9	100	4.5	13	21	2.4	Rain,Fog
2022-10-20 8:00	17.1	17.1	100	5	15	24	4	Rain,Fog
2022-10-20 9:00	12.9	12	94	3.8	31	32	4	Rain,Fog
2022-10-20 10:00	11.5	11.2	98	5.5	30	18	2.8	Rain,Fog
2022-10-20 11:00	11.3	10.9	97	0.5	31	17	16.1	NA
2022-10-20 12:00	11.1	10.7	97	0	31	17	9.7	Fog
2022-10-20 13:00	10.6	10.3	98	0	30	22	2.4	Fog
2022-10-20 14:00	11.7	9.6	87	0	30	15	16.1	NA
2022-10-20 15:00	12.1	10.2	88	0	28	17	16.1	NA
2022-10-20 16:00	12.1	8	76	0	27	18	16.1	NA
2022-10-20 17:00	12.6	7.7	72	0	29	17	16.1	NA
2022-10-20 18:00	13	7.7	70	0	33	9	16.1	NA
2022-10-20 19:00	13.2	7.9	70	0	33	5	16.1	NA
2022-10-20 20:00	12.8	7.8	71	0	30	8	16.1	NA
2022-10-20 21:00	11	7.9	81	0	24	4	16.1	NA
2022-10-20 22:00	7.1	6.7	97	0		0	16.1	NA
2022-10-20 23:00	5.5	5.3	99	0		0	12.9	NA
2022-10-21 0:00	5.3	5.2	99	0		4	16.1	NA
2022-10-21 1:00	8.1	6.1	87	0	22	13	16.1	NA
2022-10-21 2:00	8.4	5.9	84	0	24	15	16.1	NA
2022-10-21 3:00	7.6	5.1	84	0	25	13	16.1	NA
2022-10-21 4:00	7.2	4.5	83	0	26	11	16.1	NA
2022-10-21 5:00	6.6	4.3	85	0	23	8	16.1	NA
2022-10-21 6:00	6.8	5	88	0	26	9	16.1	NA
2022-10-21 7:00	7.3	5.6	89	0	25	9	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-21 8:00	6.9	5.4	90	0	28	8	16.1	NA
2022-10-21 9:00	6	5.1	94	0	25	8	16.1	NA
2022-10-21 10:00	7.5	5.8	89	0	25	9	16.1	NA
2022-10-21 11:00	8	6	87	0	19	8	16.1	NA
2022-10-21 12:00	9	6.8	86	0	21	11	16.1	NA
2022-10-21 13:00	10.6	7.8	82	0	22	11	16.1	NA
2022-10-21 14:00	11.9	7.5	74	0	21	15	16.1	NA
2022-10-21 15:00	12.6	7.8	72	0	19	15	16.1	NA
2022-10-21 16:00	13.2	7.4	68	0	19	18	16.1	NA
2022-10-21 17:00	13.8	6.7	62	0	22	18	16.1	NA
2022-10-21 18:00	14.3	6.9	61	0	20	13	16.1	NA
2022-10-21 19:00	14.3	6.9	61	0	20	15	16.1	NA
2022-10-21 20:00	13.6	5.8	59	0	21	8	16.1	NA
2022-10-21 21:00	12.2	7.1	71	0	19	11	16.1	NA
2022-10-21 22:00	10	7.3	83	0	16	9	16.1	NA
2022-10-21 23:00	10.1	7.4	83	0	20	9	16.1	NA
2022-10-22 0:00	9.7	7.7	87	0		5	16.1	NA
2022-10-22 1:00	10.3	7.9	85	0	24	8	16.1	NA
2022-10-22 2:00	9.8	7.9	88	0	20	8	16.1	NA
2022-10-22 3:00	9.9	8.6	92	0	22	9	16.1	NA
2022-10-22 4:00	8.6	8	96	0		0	16.1	NA
2022-10-22 5:00	7.2	6.7	97	0		4	16.1	NA
2022-10-22 6:00	6.5	6.4	99	0		4	14.5	Rain
2022-10-22 7:00	8.2	8.2	100	0		4	1	Fog
2022-10-22 8:00	8.8	8.8	100	0		4	16.1	NA
2022-10-22 9:00	7.2	7.1	99	0		0	2.4	Fog
2022-10-22 10:00	8	8	100	0	17	8	0.4	Rain,Fog
2022-10-22 11:00	6.9	6.9	100	0		0	0	Fog
2022-10-22 12:00	8.8	8.8	100	0		0	16.1	NA
2022-10-22 13:00	11.2	8.3	82	0	21	9	16.1	NA
2022-10-22 14:00	13.8	7	63	0	23	13	16.1	NA
2022-10-22 15:00	15.4	6.3	54	0	21	17	16.1	NA
2022-10-22 16:00	16.5	6.2	50	0	24	21	16.1	NA
2022-10-22 17:00	17.3	6	47	0	24	18	16.1	NA
2022-10-22 18:00	17.8	6.3	47	0	25	15	16.1	NA
2022-10-22 19:00	17.7	7.4	51	0	21	17	16.1	NA
2022-10-22 20:00	15.1	7.4	60	0	19	15	16.1	NA
2022-10-22 21:00	13.1	6.9	66	0	19	11	16.1	NA
2022-10-22 22:00	11.8	7.8	76	0	18	13	16.1	NA
2022-10-22 23:00	11.1	9	87	0	20	9	16.1	NA
2022-10-23 0:00	10.9	10	94	0	18	8	16.1	NA
2022-10-23 1:00	9.8	9.2	96	0		0	16.1	NA
2022-10-23 2:00	9.2	9	98	0	23	5	16.1	NA
2022-10-23 3:00	11.1	10.7	97	0	23	15	16.1	NA
2022-10-23 4:00	11	10.6	97	0	21	9	16.1	NA
2022-10-23 5:00	11.4	11.1	98	0	27	11	16.1	NA
2022-10-23 6:00	10.8	10.7	99	0	23	13	16.1	NA
2022-10-23 7:00	10.8	10.7	99	0	22	11	16.1	NA
2022-10-23 8:00	10.6	10	96	0	20	8	16.1	NA
2022-10-23 9:00	7.8	7.5	98	0		0	16.1	NA
2022-10-23 10:00	7.4	7.3	99	0	19	4	16.1	NA
2022-10-23 11:00	6.1	5.7	97	0	22	5	16.1	NA
2022-10-23 12:00	10.8	9.1	89	0	24	5	16.1	NA
2022-10-23 13:00	13	9.1	77	0	23	8	16.1	NA
2022-10-23 14:00	15.3	6.2	54	0	28	13	16.1	NA
2022-10-23 15:00	15.9	4.6	47	0	29	11	16.1	NA
2022-10-23 16:00	17.2	5.4	46	0	29	11	16.1	NA
2022-10-23 17:00	17.9	5.5	44	0	29	8	16.1	NA
2022-10-23 18:00	18.3	5.8	44	0	29	8	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-23 19:00	18.2	6.5	46	0		4	16.1	NA
2022-10-23 20:00	17.3	8.3	55	0	18	8	16.1	NA
2022-10-23 21:00	13.9	9.2	73	0	10	8	16.1	NA
2022-10-23 22:00	10.4	9.3	93	0		0	16.1	NA
2022-10-23 23:00	11.9	8.8	81	0	27	11	16.1	NA
2022-10-24 0:00	11.7	8.1	78	0	24	5	16.1	NA
2022-10-24 1:00	9.4	6.5	82	0	28	9	16.1	NA
2022-10-24 2:00	10	6.1	77	0		4	16.1	NA
2022-10-24 3:00	8.8	6.4	85	0		0	16.1	NA
2022-10-24 4:00	6.7	5.7	93	0	36	5	16.1	NA
2022-10-24 5:00	8.6	7.1	90	0		0	16.1	NA
2022-10-24 6:00	6.8	6.2	96	0	10	8	16.1	NA
2022-10-24 7:00	7.7	7.1	96	0	2	5	16.1	NA
2022-10-24 8:00	8.5	7.8	95	0	4	4	16.1	NA
2022-10-24 9:00	9.6	8.4	92	0	8	8	16.1	NA
2022-10-24 10:00	10.1	8.2	88	0	5	9	16.1	NA
2022-10-24 11:00	9.8	8.4	91	0		4	16.1	NA
2022-10-24 12:00	11.3	9.1	86	0	4	9	16.1	NA
2022-10-24 13:00	13.1	9	76	0	4	5	16.1	NA
2022-10-24 14:00	16.5	9.6	63	0		4	16.1	NA
2022-10-24 15:00	19.4	9.2	51	0	17	9	16.1	NA
2022-10-24 16:00	18.6	9.7	56	0	15	9	16.1	NA
2022-10-24 17:00	19.7	9.8	52	0	11	8	16.1	NA
2022-10-24 18:00	19.9	10.1	53	0	16	5	16.1	NA
2022-10-24 19:00	19.4	8.7	50	0	16	8	16.1	NA
2022-10-24 20:00	18	9	55	0	12	8	16.1	NA
2022-10-24 21:00	14.6	9.5	71	0	12	8	16.1	NA
2022-10-24 22:00	13.9	10	77	0	11	8	16.1	NA
2022-10-24 23:00	13.1	9.4	78	0	10	8	16.1	NA
2022-10-25 0:00	12.5	10.2	86	0	10	9	16.1	NA
2022-10-25 1:00	12.8	11.1	89	0	13	9	16.1	NA
2022-10-25 2:00	12.6	11.7	94	0	2	5	16.1	NA
2022-10-25 3:00	11.9	11.4	97	0		0	16.1	NA
2022-10-25 4:00	12.4	12.2	99	1.5	11	11	4.8	Rain,Fog
2022-10-25 5:00	12.8	12.7	99	0.2	15	5	6.4	Fog
2022-10-25 6:00	12.8	12.7	99	0	7	8	2	Fog
2022-10-25 7:00	12.1	12.1	100	0	9	8	0.6	Fog
2022-10-25 8:00	12.6	12.6	100	0	10	9	0.4	Fog
2022-10-25 9:00	12.9	12.9	100	0.2	5	8	0.8	Rain,Fog
2022-10-25 10:00	12.7	12.7	100	0.5	6	9	0.8	Rain,Fog
2022-10-25 11:00	12.4	12.4	100	0.2	8	8	0.8	Rain,Fog
2022-10-25 12:00	12.7	12.7	100	0	6	11	1	Rain,Fog
2022-10-25 13:00	13	13	100	0.2	6	11	1.2	Fog
2022-10-25 14:00	13.5	13.5	100	0	10	13	2.4	Fog
2022-10-25 15:00	14.1	14.1	100	0	12	11	2.8	Fog
2022-10-25 16:00	14.3	14.3	100	0	12	15	12.9	NA
2022-10-25 17:00	14.6	14.6	100	0	11	13	12.9	NA
2022-10-25 18:00	14.1	14.1	100	0	14	5	4	Fog
2022-10-25 19:00	14.7	14.6	99	0		0	16.1	NA
2022-10-25 20:00	14.5	14.4	99	0	10	4	3.6	Fog
2022-10-25 21:00	14.1	14	99	0	14	5	0.6	Fog
2022-10-25 22:00	13.9	13.9	100	0	11	5	0.6	Fog
2022-10-25 23:00	13.9	13.9	100	0	12	4	0.6	Fog
2022-10-26 0:00	13.8	13.8	100	0	16	5	0.4	Fog
2022-10-26 1:00	13.9	13.9	100	0		4	1.2	Fog
2022-10-26 2:00	14.3	14.3	100	0		0	2.8	Fog
2022-10-26 3:00	14.6	14.6	100	0	10	4	8.1	Fog
2022-10-26 4:00	15.1	15.1	100	0		0	16.1	NA
2022-10-26 5:00	16.4	16.4	100	0	25	9	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-26 6:00	16.9	16.8	99	0	25	9	16.1	NA
2022-10-26 7:00	16.6	16.4	99	0	25	9	16.1	NA
2022-10-26 8:00	16.4	16.2	99	0	26	9	16.1	NA
2022-10-26 9:00	16.1	16.1	100	0	30	5	16.1	NA
2022-10-26 10:00	14.7	14.6	99	0		0	0.8	Fog
2022-10-26 11:00	15.1	15.1	100	0	17	4	0.2	Fog
2022-10-26 12:00	16.2	16.2	100	0	16	5	8.1	Fog
2022-10-26 13:00	17.6	17.4	99	0		0	16.1	NA
2022-10-26 14:00	18.8	17.8	94	0	15	5	16.1	NA
2022-10-26 15:00	19.3	17.9	91	0	18	11	16.1	NA
2022-10-26 16:00	19.6	17.6	88	0	13	9	16.1	NA
2022-10-26 17:00	20	17.6	86	0	13	11	16.1	NA
2022-10-26 18:00	19	17.2	89	0	13	15	16.1	NA
2022-10-26 19:00	18.2	16.9	92	0	16	17	16.1	NA
2022-10-26 20:00	17.3	16.5	95	0	14	13	16.1	NA
2022-10-26 21:00	15.6	15.5	99	0	12	11	0.4	Fog
2022-10-26 22:00	15	15	100	0	13	11	0.6	Rain,Fog
2022-10-26 23:00	14.7	14.7	100	0	11	13	0.6	Rain,Fog
2022-10-27 0:00	14.6	14.6	100	0	10	15	0.6	Rain,Fog
2022-10-27 1:00	14.6	14.6	100	0	11	17	0.8	Rain,Fog
2022-10-27 2:00	14.9	14.9	100	0	12	22	1	Rain,Fog
2022-10-27 3:00	15.1	15.1	100	1	12	17	1.6	Rain,Fog
2022-10-27 4:00	15.6	15.6	100	1.5	12	18	6.4	Rain,Fog
2022-10-27 5:00	16	16	100	3	13	21	4.8	Rain,Fog
2022-10-27 6:00	17.2	17.2	100	9.8	13	15	2.4	Rain,Fog
2022-10-27 7:00	18.9	18.9	100	1.2	16	26	0.8	Rain,Fog
2022-10-27 8:00	18.7	18.7	100	0.8	17	22	11.3	Rain
2022-10-27 9:00	18.7	18.7	100	2.5	16	22	12.9	Rain
2022-10-27 10:00	19.2	19	99	2.5	19	17	8.1	Fog
2022-10-27 11:00	19	18.8	99	0	18	15	16.1	NA
2022-10-27 12:00	18.7	18.4	98	0	16	11	16.1	NA
2022-10-27 13:00	18.4	18.2	99	0	17	13	16.1	NA
2022-10-27 14:00	19	18.7	98	0	20	9	16.1	NA
2022-10-27 15:00	19.5	18.7	95	0	25	15	16.1	NA
2022-10-27 16:00	19.7	18.7	94	0	21	9	16.1	NA
2022-10-27 17:00	19.8	18.3	91	0	22	17	16.1	NA
2022-10-27 18:00	20.6	18.8	89	0	23	11	16.1	NA
2022-10-27 19:00	21.7	19	84	0	26	9	16.1	NA
2022-10-27 20:00	20	16.9	82	0	29	15	16.1	NA
2022-10-27 21:00	17.5	16	91	0	30	13	16.1	NA
2022-10-27 22:00	16.9	15.5	92	0	30	18	16.1	NA
2022-10-27 23:00	16.5	15.7	95	0	30	11	12.9	NA
2022-10-28 0:00	16.5	15.2	92	0	30	17	16.1	NA
2022-10-28 1:00	15.8	14.3	90	0	30	26	16.1	NA
2022-10-28 2:00	12.6	8.1	74	0	30	18	16.1	NA
2022-10-28 3:00	11.4	6.8	73	0	31	28	16.1	NA
2022-10-28 4:00	10.7	6.9	77	0	32	21	16.1	NA
2022-10-28 5:00	10.2	6.4	77	0	32	21	16.1	NA
2022-10-28 6:00	9.8	5.8	76	0	32	21	16.1	NA
2022-10-28 7:00	9.4	4.8	73	0	32	21	16.1	NA
2022-10-28 8:00	8.7	3.6	70	0	33	17	16.1	NA
2022-10-28 9:00	7.7	2	67	0	34	17	16.1	NA
2022-10-28 10:00	7.7	2.4	69	0	33	13	16.1	NA
2022-10-28 11:00	7.8	2.3	68	0	34	15	16.1	NA
2022-10-28 12:00	8.8	1.7	61	0	34	17	16.1	NA
2022-10-28 13:00	8.8	0.8	57	0	33	18	16.1	NA
2022-10-28 14:00	9.8	0.5	52	0	35	18	16.1	NA
2022-10-28 15:00	9.8	1	54	0	32	21	16.1	NA
2022-10-28 16:00	10.5	2.4	57	0	35	13	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-28 17:00	10.5	1.7	54	0	34	22	16.1	NA
2022-10-28 18:00	9.1	1.6	59	0	31	22	16.1	NA
2022-10-28 19:00	8.5	1.2	60	0	33	18	16.1	NA
2022-10-28 20:00	7.7	1.1	63	0	34	15	16.1	NA
2022-10-28 21:00	5.9	0.9	70	0	34	5	16.1	NA
2022-10-28 22:00	3.5	0.7	82	0	3	5	16.1	NA
2022-10-28 23:00	3	0.7	85	0		4	16.1	NA
2022-10-29 0:00	1.7	0.5	92	0	3	4	16.1	NA
2022-10-29 1:00	3.6	1	83	0	34	8	16.1	NA
2022-10-29 2:00	2.7	0.8	87	0		4	16.1	NA
2022-10-29 3:00	1.4	0.4	93	0	1	5	16.1	NA
2022-10-29 4:00	-0.1	-1	94	0		4	16.1	NA
2022-10-29 5:00	-0.3	-0.7	97	0		0	16.1	NA
2022-10-29 6:00	-0.8	-1.1	98	0		4	16.1	NA
2022-10-29 7:00	-0.2	-0.5	98	0	15	4	16.1	NA
2022-10-29 8:00	-0.8	-1.1	98	0		0	16.1	NA
2022-10-29 9:00	-0.9	-1.2	98	0	19	4	16.1	NA
2022-10-29 10:00	-1.5	-1.9	97	0		0	16.1	NA
2022-10-29 11:00	-0.2	-0.9	95	0	24	5	16.1	NA
2022-10-29 12:00	3.7	1.8	87	0	25	9	16.1	NA
2022-10-29 13:00	6.5	1.7	71	0	21	5	16.1	NA
2022-10-29 14:00	8.7	0.5	56	0	22	8	16.1	NA
2022-10-29 15:00	9.9	-1	46	0	24	15	16.1	NA
2022-10-29 16:00	11.1	0.2	47	0	29	13	16.1	NA
2022-10-29 17:00	11.3	1.2	50	0	29	13	16.1	NA
2022-10-29 18:00	12.3	0.6	45	0	28	11	16.1	NA
2022-10-29 19:00	12.8	-0.4	40	0	25	17	16.1	NA
2022-10-29 20:00	12.3	-1.9	37	0	24	11	16.1	NA
2022-10-29 21:00	10	-1.7	44	0	23	11	16.1	NA
2022-10-29 22:00	8.5	-1.6	49	0	25	13	16.1	NA
2022-10-29 23:00	8	-0.8	54	0	25	17	16.1	NA
2022-10-30 0:00	7	-0.5	59	0	26	11	16.1	NA
2022-10-30 1:00	6.8	-0.4	60	0	26	13	16.1	NA
2022-10-30 2:00	7.2	0	60	0	27	15	16.1	NA
2022-10-30 3:00	6.9	0.2	62	0	25	13	16.1	NA
2022-10-30 4:00	6	0.1	66	0	29	9	16.1	NA
2022-10-30 5:00	6.1	-0.4	63	0	26	11	16.1	NA
2022-10-30 6:00	6.2	-0.1	64	0	27	15	16.1	NA
2022-10-30 7:00	6.5	0.3	64	0	28	15	16.1	NA
2022-10-30 8:00	6	0.8	69	0	27	15	16.1	NA
2022-10-30 9:00	6.6	1.2	69	0	27	15	16.1	NA
2022-10-30 10:00	6.5	1.6	71	0	28	13	16.1	NA
2022-10-30 11:00	6.1	2	75	0	30	8	16.1	NA
2022-10-30 12:00	8.3	3.2	70	0		5	16.1	NA
2022-10-30 13:00	10.5	4.3	65	0	27	21	16.1	NA
2022-10-30 14:00	11.9	4.9	62	0	29	17	16.1	NA
2022-10-30 15:00	12.3	5	61	0	29	22	16.1	NA
2022-10-30 16:00	12.8	4.9	58	0	29	24	16.1	NA
2022-10-30 17:00	13	6.6	65	0	28	21	16.1	NA
2022-10-30 18:00	13.1	5	58	0	31	22	16.1	NA
2022-10-30 19:00	12.6	5.8	63	0	30	11	16.1	NA
2022-10-30 20:00	11.9	5.2	63	0	29	13	16.1	NA
2022-10-30 21:00	9.8	6.5	80	0	30	5	16.1	NA
2022-10-30 22:00	8.5	6.1	85	0	27	8	16.1	NA
2022-10-30 23:00	6.9	4.5	85	0	22	9	16.1	NA
2022-10-31 0:00	4	2.4	89	0		4	16.1	NA
2022-10-31 1:00	4.8	3.3	90	0		0	16.1	NA
2022-10-31 2:00	2.9	2	94	0	17	4	16.1	NA
2022-10-31 3:00	2.3	1.7	96	0	10	4	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-10-31 4:00	1.4	1	97	0		0	16.1	NA
2022-10-31 5:00	4.7	2.5	86	0	20	4	16.1	NA
2022-10-31 6:00	4.5	2.6	87	0	24	5	16.1	NA
2022-10-31 7:00	2.4	0.7	89	0		0	16.1	NA
2022-10-31 8:00	5.7	2	77	0	23	4	16.1	NA
2022-10-31 9:00	2.8	1.7	92	0		4	16.1	NA
2022-10-31 10:00	0.9	0.2	95	0		4	16.1	NA
2022-10-31 11:00	5.3	0.5	71	0	26	13	16.1	NA
2022-10-31 12:00	9.2	0.5	54	0	23	11	16.1	NA
2022-10-31 13:00	12.3	-0.9	40	0	24	24	16.1	NA
2022-10-31 14:00	13.6	0.1	39	0	25	26	16.1	NA
2022-10-31 15:00	15	-0.3	35	0	26	21	16.1	NA
2022-10-31 16:00	15.4	0.5	36	0	26	15	16.1	NA
2022-10-31 17:00	16.8	1.1	34	0	28	17	16.1	NA
2022-10-31 18:00	17.1	0.9	33	0	28	13	16.1	NA
2022-10-31 19:00	17.3	1.4	34	0	29	15	16.1	NA
2022-10-31 20:00	15.3	0.9	37	0	30	13	16.1	NA
2022-10-31 21:00	12.6	0.9	45	0	31	11	16.1	NA
2022-10-31 22:00	12.1	2.9	53	0	30	13	16.1	NA
2022-10-31 23:00	7.9	4.7	80	0	29	5	16.1	NA
2022-11-01 0:00	6.8	6.2	96	0		0	16.1	NA
2022-11-01 1:00	4.8	4.1	95	0	2	5	16.1	NA
2022-11-01 2:00	5.8	5.4	97	0	27	5	16.1	NA
2022-11-01 3:00	5.1	4.8	98	0	6	8	16.1	NA
2022-11-01 4:00	5.3	4.9	97	0	8	8	16.1	NA
2022-11-01 5:00	4.7	4.4	98	0	9	8	16.1	NA
2022-11-01 6:00	5.6	5.2	97	0	6	5	16.1	NA
2022-11-01 7:00	4.7	4.4	98	0	1	5	16.1	NA
2022-11-01 8:00	5.4	5.1	98	0	5	9	16.1	NA
2022-11-01 9:00	6.7	6.1	96	0	6	9	16.1	NA
2022-11-01 10:00	7.1	6.4	95	0	2	9	16.1	NA
2022-11-01 11:00	7.3	6.7	96	0	8	4	16.1	NA
2022-11-01 12:00	8.4	7.5	94	0	10	8	16.1	NA
2022-11-01 13:00	9.7	8.5	92	0	9	8	16.1	NA
2022-11-01 14:00	12.2	9.8	85	0	13	5	16.1	NA
2022-11-01 15:00	13	10.7	86	0	12	8	16.1	NA
2022-11-01 16:00	12.5	11.1	91	0	6	5	9.7	Fog
2022-11-01 17:00	14.5	10.8	79	0	16	13	16.1	NA
2022-11-01 18:00	13.6	11	84	0	16	13	16.1	NA
2022-11-01 19:00	12.5	10.1	85	0.2	15	11	4.8	Rain
2022-11-01 20:00	11.3	10.7	96	0.8	12	11	16.1	NA
2022-11-01 21:00	10.2	9.8	97	0.2	12	11	8.1	Fog
2022-11-01 22:00	11.5	11.4	99	0	12	11	1.2	Fog
2022-11-01 23:00	12.9	12.8	99	0	17	9	12.9	NA
2022-11-02 0:00	13	12.9	99	0	19	13	4.8	Fog
2022-11-02 1:00	13.1	13	99	0	20	9	4.8	Fog
2022-11-02 2:00	13.1	13	99	0		4	11.3	NA
2022-11-02 3:00	13.1	13	99	0		4	16.1	NA
2022-11-02 4:00	13.1	13	99	0	24	11	16.1	NA
2022-11-02 5:00	13.3	13.2	99	0	25	11	16.1	NA
2022-11-02 6:00	13.3	13.2	99	0	26	9	4.8	Fog
2022-11-02 7:00	13.2	13.1	99	0	28	21	16.1	NA
2022-11-02 8:00	12.6	12.1	97	0	27	13	16.1	NA
2022-11-02 9:00	12.2	11.7	97	0	26	15	16.1	NA
2022-11-02 10:00	11.7	10.5	92	0	26	11	16.1	NA
2022-11-02 11:00	11.6	10.2	91	0	28	21	16.1	NA
2022-11-02 12:00	12.1	9.5	84	0.2	30	24	16.1	NA
2022-11-02 13:00	12.2	8.7	79	0	30	34	16.1	NA
2022-11-02 14:00	11.6	6.9	73	0	29	26	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-02 15:00	12.4	3.4	54	0	31	35	16.1	NA
2022-11-02 16:00	12.3	3.6	55	0	32	32	16.1	NA
2022-11-02 17:00	11.6	3.9	59	0	32	34	16.1	NA
2022-11-02 18:00	10.7	2.5	57	0	31	30	16.1	NA
2022-11-02 19:00	9.8	1.7	57	0	31	34	16.1	NA
2022-11-02 20:00	8.5	0.7	58	0	31	35	16.1	NA
2022-11-02 21:00	7.9	0.6	60	0	30	34	16.1	NA
2022-11-02 22:00	7.7	-1.8	51	0	32	34	16.1	NA
2022-11-02 23:00	7.3	-1.1	55	0	32	28	16.1	NA
2022-11-03 0:00	6.7	-1	58	0	32	24	16.1	NA
2022-11-03 1:00	5.4	-1.4	61	0	33	24	16.1	NA
2022-11-03 2:00	5.6	-2	58	0	33	17	16.1	NA
2022-11-03 3:00	5.2	-3.9	52	0	33	22	16.1	NA
2022-11-03 4:00	4.9	-4.4	51	0	33	28	16.1	NA
2022-11-03 5:00	4.8	-4.5	51	0	32	24	16.1	NA
2022-11-03 6:00	5.2	-2.6	57	0	32	17	16.1	NA
2022-11-03 7:00	5	-3.1	56	0	31	24	16.1	NA
2022-11-03 8:00	4.7	-3.3	56	0	32	24	16.1	NA
2022-11-03 9:00	4.5	-3.3	57	0	33	18	16.1	NA
2022-11-03 10:00	4.8	-2.3	60	0	31	21	16.1	NA
2022-11-03 11:00	4.7	-2.1	61	0	31	13	16.1	NA
2022-11-03 12:00	5.5	-1.9	59	0	31	22	16.1	NA
2022-11-03 13:00	6.3	-1.4	58	0	32	21	16.1	NA
2022-11-03 14:00	7.4	-0.7	57	0	33	22	16.1	NA
2022-11-03 15:00	7.5	-0.6	56	0	30	28	16.1	NA
2022-11-03 16:00	6.7	0.3	64	0	30	21	16.1	NA
2022-11-03 17:00	8.4	0.4	57	0	28	21	16.1	NA
2022-11-03 18:00	8.6	1.1	59	0	30	15	16.1	NA
2022-11-03 19:00	8	0.6	59	0	27	22	16.1	NA
2022-11-03 20:00	8.2	2.2	66	0	28	17	16.1	NA
2022-11-03 21:00	6.6	0.7	66	0	23	8	16.1	NA
2022-11-03 22:00	4.8	0.4	73	0	25	8	16.1	NA
2022-11-03 23:00	6.8	-2.6	51	0	25	18	16.1	NA
2022-11-04 0:00	8.1	-4.6	40	0	26	22	16.1	NA
2022-11-04 1:00	8.2	-5.3	38	0	27	28	16.1	NA
2022-11-04 2:00	8.5	-5.4	37	0	26	30	16.1	NA
2022-11-04 3:00	8.1	-5.3	38	0	26	30	16.1	NA
2022-11-04 4:00	7.7	-4.1	43	0	26	28	16.1	NA
2022-11-04 5:00	6.6	-2	54	0	26	24	16.1	NA
2022-11-04 6:00	6.6	-1.1	58	0	26	22	16.1	NA
2022-11-04 7:00	7.8	0.8	61	0	25	24	16.1	NA
2022-11-04 8:00	8.5	2.1	64	0	26	26	16.1	NA
2022-11-04 9:00	8.1	3.6	73	0	26	21	16.1	NA
2022-11-04 10:00	8.2	4.6	78	0	27	18	16.1	NA
2022-11-04 11:00	9	5	76	0	26	21	16.1	NA
2022-11-04 12:00	9.9	5.7	75	0	26	13	16.1	NA
2022-11-04 13:00	11.1	6.3	72	0	25	17	16.1	NA
2022-11-04 14:00	13.8	7.2	64	0	25	15	16.1	NA
2022-11-04 15:00	16.5	7	53	0	28	18	16.1	NA
2022-11-04 16:00	17.1	7	51	0	28	18	16.1	NA
2022-11-04 17:00	17	8.2	56	0	29	15	16.1	NA
2022-11-04 18:00	18	7.3	49	0	28	9	16.1	NA
2022-11-04 19:00	18.1	7.2	48	0	26	15	16.1	NA
2022-11-04 20:00	16.8	7.3	53	0	27	13	16.1	NA
2022-11-04 21:00	14.8	6.5	57	0	26	13	16.1	NA
2022-11-04 22:00	14.2	6.6	60	0	26	18	16.1	NA
2022-11-04 23:00	14.6	6.2	57	0	27	18	16.1	NA
2022-11-05 0:00	13	8.3	73	0	26	18	16.1	NA
2022-11-05 1:00	13	8.5	74	0	25	22	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-05 2:00	12.9	8.4	74	0	26	26	16.1	NA
2022-11-05 3:00	12.8	7.5	70	0	27	17	16.1	NA
2022-11-05 4:00	12.7	6.3	65	0	27	24	16.1	NA
2022-11-05 5:00	12.3	5.7	64	0	25	26	16.1	NA
2022-11-05 6:00	11.8	5.6	66	0	26	21	16.1	NA
2022-11-05 7:00	11.6	6.6	71	0	23	15	16.1	NA
2022-11-05 8:00	9.7	7.3	85	0	25	9	16.1	NA
2022-11-05 9:00	9.1	7.9	92	0	25	11	16.1	NA
2022-11-05 10:00	10	9	94	0	24	9	16.1	NA
2022-11-05 11:00	10.7	9.8	94	0	25	15	16.1	NA
2022-11-05 12:00	12.5	10.5	88	0	25	15	16.1	NA
2022-11-05 13:00	15	11.2	78	0	26	21	16.1	NA
2022-11-05 14:00	17.5	10.7	64	0	25	17	16.1	NA
2022-11-05 15:00	19	11	59	0	24	17	16.1	NA
2022-11-05 16:00	20.1	11.7	58	0	24	17	16.1	NA
2022-11-05 17:00	21.3	12	55	0	27	28	16.1	NA
2022-11-05 18:00	20.9	12.7	59	0	24	26	16.1	NA
2022-11-05 19:00	20.7	12.8	60	0	26	26	16.1	NA
2022-11-05 20:00	19.7	13.3	66	0	26	22	16.1	NA
2022-11-05 21:00	17.6	13.2	75	0	25	11	16.1	NA
2022-11-05 22:00	16.9	13.7	81	0	21	11	16.1	NA
2022-11-05 23:00	15.7	13.9	89	0	24	9	16.1	NA
2022-11-06 0:00	15.2	13.8	91	0	29	5	16.1	NA
2022-11-06 1:00	15.4	13.8	90	0	27	15	16.1	NA
2022-11-06 2:00	15.8	14	89	0	27	11	16.1	NA
2022-11-06 3:00	15.8	14.1	89	0	26	17	16.1	NA
2022-11-06 4:00	16.2	14.3	89	0	26	21	16.1	NA
2022-11-06 5:00	16.1	14.5	90	0	26	17	16.1	NA
2022-11-06 6:00	15.9	14.6	92	0	26	8	16.1	NA
2022-11-06 7:00	15.6	14.3	92	0	27	5	16.1	NA
2022-11-06 8:00	15.6	14	90	0	27	11	16.1	NA
2022-11-06 9:00	15.2	13.6	90	0	27	9	16.1	NA
2022-11-06 10:00	14.6	13	90	0		4	16.1	NA
2022-11-06 11:00	15.1	13.5	90	0	24	13	16.1	NA
2022-11-06 12:00	15.5	13.9	90	0	26	11	16.1	NA
2022-11-06 13:00	17.2	14.1	82	0	24	22	16.1	NA
2022-11-06 14:00	18.6	14.3	76	0	23	13	16.1	NA
2022-11-06 15:00	20.5	14.3	67	0	24	24	16.1	NA
2022-11-06 16:00	20.2	14.6	70	0	22	15	16.1	NA
2022-11-06 17:00	22	13.4	58	0	23	22	16.1	NA
2022-11-06 18:00	22.7	13.3	55	0	23	21	16.1	NA
2022-11-06 19:00	22.2	13.7	58	0	23	22	16.1	NA
2022-11-06 20:00	20.5	13.8	65	0	23	15	16.1	NA
2022-11-06 21:00	17.8	14.3	80	0	18	13	16.1	NA
2022-11-06 22:00	17.9	14.3	79	0	23	22	16.1	NA
2022-11-06 23:00	17.9	14.1	78	0	23	26	16.1	NA
2022-11-07 0:00	17.6	14.2	80	0	20	21	16.1	NA
2022-11-07 1:00	17.5	14.4	82	0	22	24	16.1	NA
2022-11-07 2:00	17.1	14.4	84	0	23	21	16.1	NA
2022-11-07 3:00	16.8	14.5	86	0	23	17	16.1	NA
2022-11-07 4:00	17.1	14.6	85	0	23	15	16.1	NA
2022-11-07 5:00	17.2	14.7	85	0	23	15	16.1	NA
2022-11-07 6:00	17.1	15	87	0	24	11	16.1	NA
2022-11-07 7:00	17.7	15.2	85	0	23	28	16.1	NA
2022-11-07 8:00	17.5	14.8	84	0	24	21	16.1	NA
2022-11-07 9:00	17.7	14.8	83	0	23	22	16.1	NA
2022-11-07 10:00	18.2	15.1	82	0	22	34	16.1	NA
2022-11-07 11:00	18.3	15	81	0	23	32	16.1	NA
2022-11-07 12:00	18.4	14.9	80	0	23	32	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-07 13:00	19.7	15.2	75	0	24	34	16.1	NA
2022-11-07 14:00	20.7	15.6	72	0	24	43	16.1	NA
2022-11-07 15:00	21.1	15.3	69	0	23	34	16.1	NA
2022-11-07 16:00	19.9	15.7	76	0	22	34	16.1	NA
2022-11-07 17:00	19.1	15	77	0	22	37	16.1	NA
2022-11-07 18:00	18.9	15.4	80	0	23	32	16.1	NA
2022-11-07 19:00	18.7	15.4	81	0	23	28	16.1	NA
2022-11-07 20:00	17.4	15.4	88	0	22	26	16.1	NA
2022-11-07 21:00	16.2	15.7	97	2.2	24	18	4	Rain,Fog
2022-11-07 22:00	16	15.2	95	0.8	24	21	16.1	NA
2022-11-07 23:00	16.3	14.7	90	0	23	34	16.1	NA
2022-11-08 0:00	15.6	14.5	93	0	24	35	16.1	NA
2022-11-08 1:00	9.5	6.8	83	0	32	28	16.1	Rain
2022-11-08 2:00	9.7	6.6	81	0.2	30	21	16.1	NA
2022-11-08 3:00	10.2	2.8	60	0	30	30	16.1	NA
2022-11-08 4:00	9.9	2.4	60	0	29	30	16.1	NA
2022-11-08 5:00	9.8	1.2	55	0	29	34	16.1	NA
2022-11-08 6:00	9.5	0.7	54	0	30	37	16.1	NA
2022-11-08 7:00	8.8	1	58	0	30	30	16.1	NA
2022-11-08 8:00	8.7	0.4	56	0	29	35	16.1	NA
2022-11-08 9:00	8.1	-1.6	50	0	30	41	16.1	NA
2022-11-08 10:00	7.8	-2.2	49	0	30	46	16.1	NA
2022-11-08 11:00	7.4	-1.6	53	0	30	41	16.1	NA
2022-11-08 12:00	7.2	-0.3	59	0	29	34	16.1	NA
2022-11-08 13:00	6	-2.6	54	0	30	32	16.1	NA
2022-11-08 14:00	6.3	-1.8	56	0	29	35	16.1	NA
2022-11-08 15:00	6	-2.6	54	0	29	52	16.1	NA
2022-11-08 16:00	5.6	-3.4	52	0	30	43	16.1	NA
2022-11-08 17:00	6.2	-1.7	57	0	30	45	16.1	NA
2022-11-08 18:00	3.9	0.1	76	0.2	30	39	11.3	Rain
2022-11-08 19:00	4.7	0.1	72	0	30	48	16.1	NA
2022-11-08 20:00	3.8	0.5	79	0.2	30	39	16.1	NA
2022-11-08 21:00	4.5	-0.4	70	0.2	30	45	14.5	Rain
2022-11-08 22:00	4.1	0.9	80	0	31	32	11.3	Rain
2022-11-08 23:00	4.3	0.9	78	0.5	31	43	16.1	NA
2022-11-09 0:00	4.4	1.8	83	0.2	30	35	11.3	Rain
2022-11-09 1:00	4.6	0.1	72	0.2	32	24	16.1	Rain
2022-11-09 2:00	4.3	1.3	81	0.2	31	32	16.1	Rain
2022-11-09 3:00	2.9	1.1	88	2	31	24	6.4	Rain,Fog
2022-11-09 4:00	3.4	0.2	79	1.8	32	28	16.1	NA
2022-11-09 5:00	3.1	0.4	83	0.8	32	30	14.5	Rain
2022-11-09 6:00	3.6	-0.8	73	0	33	30	16.1	NA
2022-11-09 7:00	3.8	-0.6	73	0.2	31	28	16.1	NA
2022-11-09 8:00	1.5	0.3	92	0.8	32	26	4.8	Snow
2022-11-09 9:00	2.3	0.7	89	0.5	33	17	14.5	Rain
2022-11-09 10:00	2.2	0.3	87	0.5	34	22	16.1	Rain
2022-11-09 11:00	1.8	0.2	89	0.8	33	13	8.1	Rain,Fog
2022-11-09 12:00	2.3	0.1	85	0.5	33	15	16.1	Rain
2022-11-09 13:00	3.3	-0.3	77	0	33	17	16.1	NA
2022-11-09 14:00	4	-0.6	72	0	35	17	16.1	NA
2022-11-09 15:00	4.3	-1.1	68	0	34	26	16.1	NA
2022-11-09 16:00	4.6	-1.6	64	0	33	17	16.1	NA
2022-11-09 17:00	3.5	0.8	83	0.2	34	17	16.1	Rain
2022-11-09 18:00	3.4	-0.7	75	0	33	22	16.1	NA
2022-11-09 19:00	3.8	-1.3	70	0	32	21	16.1	NA
2022-11-09 20:00	3.6	-2.2	66	0	32	24	16.1	NA
2022-11-09 21:00	3.4	-1.8	69	0	31	13	16.1	NA
2022-11-09 22:00	3.5	-2.1	67	0	31	21	16.1	NA
2022-11-09 23:00	3.4	-2.2	67	0	30	13	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-10 0:00	3.3	-2.3	67	0	30	11	16.1	NA
2022-11-10 1:00	2.7	-2.5	69	0	31	8	16.1	NA
2022-11-10 2:00	2.8	-1.8	72	0	31	9	16.1	NA
2022-11-10 3:00	1.7	-1.6	79	0	26	15	16.1	NA
2022-11-10 4:00	2.2	-1.6	76	0	23	11	16.1	NA
2022-11-10 5:00	2.2	-2.7	70	0	24	17	16.1	NA
2022-11-10 6:00	2.6	-4.2	61	0	26	17	16.1	NA
2022-11-10 7:00	2.4	-3.4	66	0	27	18	16.1	NA
2022-11-10 8:00	2	-3	70	0	25	9	16.1	NA
2022-11-10 9:00	2.6	-4.6	59	0	24	11	16.1	NA
2022-11-10 10:00	3.5	-5.9	50	0	22	17	16.1	NA
2022-11-10 11:00	4.8	-6.3	45	0	28	9	16.1	NA
2022-11-10 12:00	5.2	-4.1	51	0	26	15	16.1	NA
2022-11-10 13:00	6.1	-2	56	0	26	22	16.1	NA
2022-11-10 14:00	7.2	2.1	70	0	26	21	16.1	NA
2022-11-10 15:00	7.9	3.6	74	0	25	34	16.1	NA
2022-11-10 16:00	8.4	4.3	75	0	26	34	16.1	NA
2022-11-10 17:00	9	4.6	74	0	24	26	16.1	NA
2022-11-10 18:00	9.6	5	73	0	26	28	16.1	NA
2022-11-10 19:00	10.4	5.3	70	0	27	30	16.1	NA
2022-11-10 20:00	10.3	5.6	73	0	26	24	16.1	NA
2022-11-10 21:00	10.5	5.7	72	0	26	21	16.1	NA
2022-11-10 22:00	10.9	5.9	71	0	28	24	16.1	NA
2022-11-10 23:00	10.6	6.8	77	0.2	28	17	16.1	NA
2022-11-11 0:00	11	6.1	71	0	27	18	16.1	NA
2022-11-11 1:00	10.8	5.9	71	0	26	17	16.1	NA
2022-11-11 2:00	10.9	5.6	70	0	28	15	16.1	NA
2022-11-11 3:00	9.7	7.7	87	0	30	18	16.1	Rain
2022-11-11 4:00	9.9	8.2	89	0	28	15	16.1	NA
2022-11-11 5:00	11	7.7	80	0	29	26	16.1	NA
2022-11-11 6:00	10.6	8.2	85	0	25	15	16.1	NA
2022-11-11 7:00	10.6	8.6	87	0	27	17	16.1	NA
2022-11-11 8:00	10.5	8.8	89	0	29	17	16.1	NA
2022-11-11 9:00	9.9	6.7	81	0	30	17	16.1	NA
2022-11-11 10:00	9.8	6.5	80	0	30	9	16.1	NA
2022-11-11 11:00	9.7	6.6	81	0	32	11	16.1	NA
2022-11-11 12:00	9.7	7	83	0	29	8	16.1	NA
2022-11-11 13:00	10	6.9	81	0	29	11	16.1	NA
2022-11-11 14:00	10.5	6.9	78	0	31	9	16.1	NA
2022-11-11 15:00	11.4	6.8	73	0	29	15	16.1	NA
2022-11-11 16:00	10.8	6.2	73	0	30	8	16.1	NA
2022-11-11 17:00	11.8	6.6	70	0	28	5	16.1	NA
2022-11-11 18:00	10.9	6.6	75	0	75	0	16.1	NA
2022-11-11 19:00	10.9	7.1	77	0		4	16.1	NA
2022-11-11 20:00	10.5	6.9	78	0	10	5	16.1	NA
2022-11-11 21:00	8.2	6.3	88	0	7	5	16.1	NA
2022-11-11 22:00	8.1	6.7	91	0	6	13	16.1	NA
2022-11-11 23:00	7.3	6.4	94	0	12	9	16.1	NA
2022-11-12 0:00	6.9	6.3	96	0	11	9	16.1	NA
2022-11-12 1:00	7.2	6.9	98	0	10	8	16.1	NA
2022-11-12 2:00	7.6	7.3	98	0	8	9	12.9	NA
2022-11-12 3:00	7.9	7.8	99	0	8	11	8.1	Fog
2022-11-12 4:00	8.3	8.2	99	0	8	8	9.7	Fog
2022-11-12 5:00	8.3	8.2	99	0	7	8	2.4	Fog
2022-11-12 6:00	9.3	9.2	99	0	10	11	1.6	Fog
2022-11-12 7:00	9.3	9.2	99	0	9	9	0.6	Rain,Fog
2022-11-12 8:00	9.4	9.4	100	0.5	7	5	1	Rain,Fog
2022-11-12 9:00	9.4	9.4	100	1	7	8	3.2	Rain,Fog
2022-11-12 10:00	9.4	9.4	100	1.5	9	9	4.8	Rain,Fog

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-12 11:00	10.3	10.3	100	0.8	10	11	0.6	Rain,Fog
2022-11-12 12:00	13.1	13.1	100	2	14	11	12.9	Rain
2022-11-12 13:00	15.6	15.5	99	1	18	26	6.4	Rain,Fog
2022-11-12 14:00	16.2	15.7	97	1	20	30	6.4	Rain,Fog
2022-11-12 15:00	16.4	15.9	97	2.8	19	24	4.8	Rain,Fog
2022-11-12 16:00	17.2	16.6	96	0.8	22	22	14.5	Rain
2022-11-12 17:00	17.4	16.8	96	3	21	26	9.7	Fog
2022-11-12 18:00	18.3	16.8	91	0	21	34	16.1	NA
2022-11-12 19:00	17.7	16.9	95	0.2	21	28	16.1	Rain
2022-11-12 20:00	18.1	17.4	96	1	21	28	6.4	Rain,Fog
2022-11-12 21:00	18.3	17.8	97	1.2	21	28	6.4	Rain,Fog
2022-11-12 22:00	18	17.4	96	1.5	20	37	8.1	Rain,Fog
2022-11-12 23:00	17.9	17.3	96	0	22	26	4.8	Rain,Fog
2022-11-13 0:00	17.7	16.6	93	0	23	30	16.1	NA
2022-11-13 1:00	17.5	16.2	92	0	23	28	16.1	NA
2022-11-13 2:00	14	13.5	97	0.8	28	32	12.9	Rain
2022-11-13 3:00	10.1	9.5	96	0.2	29	54	4	Fog
2022-11-13 4:00	7.7	7.4	98	0	29	37	2.4	Rain,Fog
2022-11-13 5:00	6.9	6.3	96	0.2	31	21	9.7	Fog
2022-11-13 6:00	6.6	6	96	0	31	21	4.8	Rain,Fog
2022-11-13 7:00	6.2	5.6	96	0	32	18	6.4	Fog
2022-11-13 8:00	6.1	5.4	95	0	32	17	6.4	Fog
2022-11-13 9:00	5.9	5.2	95	0	33	15	11.3	NA
2022-11-13 10:00	5.7	5	95	0	32	9	16.1	NA
2022-11-13 11:00	5.4	4.7	95	0	36	11	16.1	NA
2022-11-13 12:00	5.6	4.6	93	0	35	5	16.1	NA
2022-11-13 13:00	6.1	5.2	94	0	30	8	16.1	NA
2022-11-13 14:00	6.3	5.1	92	0		4	6.4	Fog
2022-11-13 15:00	7.3	5.2	86	0.2		4	16.1	NA
2022-11-13 16:00	8	6.1	88	0	5	5	16.1	NA
2022-11-13 17:00	7.5	6.6	94	0	3	8	4	Fog
2022-11-13 18:00	7.9	6.7	92	0	11	8	16.1	NA
2022-11-13 19:00	7.5	6.9	96	0	12	9	16.1	NA
2022-11-13 20:00	6.9	6.5	97	0	13	9	9.7	Fog
2022-11-13 21:00	6.6	6.3	98	0	8	13	9.7	Fog
2022-11-13 22:00	6.3	6	98	0	9	17	16.1	NA
2022-11-13 23:00	6.1	5.8	98	0	9	21	16.1	NA
2022-11-14 0:00	6.1	5.7	97	0	8	22	16.1	NA
2022-11-14 1:00	6.2	5.9	98	1.2	7	22	4.8	Rain,Fog
2022-11-14 2:00	6.2	5.9	98	1.8	8	21	11.3	Rain
2022-11-14 3:00	6.1	5.8	98	0.2	9	21	6.4	Rain,Fog
2022-11-14 4:00	6.4	6.3	99	0	8	21	3.6	Rain,Fog
2022-11-14 5:00	6.9	6.8	99	0.5	8	26	2.8	Rain,Fog
2022-11-14 6:00	7.2	7.1	99	0.2	7	22	2.4	Rain,Fog
2022-11-14 7:00	7.5	7.4	99	0.5	8	21	2.4	Rain,Fog
2022-11-14 8:00	7.9	7.8	99	0.2	8	18	2.8	Rain,Fog
2022-11-14 9:00	8.1	8	99	0.2	8	9	4.8	Rain,Fog
2022-11-14 10:00	8.3	8.2	99	0.2		15	2.4	Rain,Fog
2022-11-14 11:00	8.2	8.1	99	0.2		4	16.1	NA
2022-11-14 12:00	9.8	8.4	91	0	23	18	16.1	NA
2022-11-14 13:00	8.7	4.9	77	0	25	43	16.1	NA
2022-11-14 14:00	7.1	2.3	71	0	24	43	16.1	NA
2022-11-14 15:00	6.6	1.7	71	0	26	45	16.1	NA
2022-11-14 16:00	6.7	0.8	66	0	26	50	16.1	NA
2022-11-14 17:00	6.3	0.6	67	0	27	37	16.1	NA
2022-11-14 18:00	6.1	0.5	67	0	28	41	16.1	NA
2022-11-14 19:00	4.8	2.7	86	0	28	34	16.1	Rain
2022-11-14 20:00	4.1	2.9	92	0.5	27	34	16.1	Rain
2022-11-14 21:00	3.7	2.8	94	1	28	32	11.3	Rain

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-14 22:00	3.8	1	82	0.8	29	32	16.1	NA
2022-11-14 23:00	3.5	-1.2	72	0	30	39	16.1	NA
2022-11-15 0:00	3.5	-1.3	71	0	29	34	16.1	NA
2022-11-15 1:00	3.7	-1.2	71	0	29	34	16.1	NA
2022-11-15 2:00	3.5	-0.9	73	0	29	28	16.1	NA
2022-11-15 3:00	3.3	-0.5	76	0	28	34	16.1	NA
2022-11-15 4:00	3.4	-0.8	74	0	29	34	16.1	NA
2022-11-15 5:00	3.2	-1.4	72	0	30	32	16.1	NA
2022-11-15 6:00	2.8	-0.2	81	0	30	24	16.1	NA
2022-11-15 7:00	3.1	-1.3	73	0	30	28	16.1	NA
2022-11-15 8:00	2.9	-1	75	0	30	21	16.1	NA
2022-11-15 9:00	2.2	-0.8	81	0	31	21	16.1	NA
2022-11-15 10:00	2.9	-1	76	0	31	22	16.1	NA
2022-11-15 11:00	1	-0.5	90	0	26	18	16.1	Rain
2022-11-15 12:00	0.9	-0.1	93	0	25	13	16.1	NA
2022-11-15 13:00	2.8	-1.4	74	0	30	22	16.1	NA
2022-11-15 14:00	3	-1.1	74	0	30	22	16.1	NA
2022-11-15 15:00	3.2	-1.2	73	0	29	22	16.1	NA
2022-11-15 16:00	3.2	-1.2	73	0	30	22	16.1	NA
2022-11-15 17:00	3.9	-0.7	72	0	30	22	16.1	NA
2022-11-15 18:00	2.8	-0.1	81	0	32	15	16.1	NA
2022-11-15 19:00	3.6	-1.1	71	0	31	18	16.1	NA
2022-11-15 20:00	2.8	-0.3	80	0	30	8	16.1	NA
2022-11-15 21:00	2.1	-0.3	84	0		9	16.1	Rain
2022-11-15 22:00	0.5	0.1	97	0		4	2	Snow
2022-11-15 23:00	0.2	-0.1	98	0		4	2.8	Rain,Fog
2022-11-16 0:00	1	-0.5	90	0		4	16.1	Rain
2022-11-16 1:00	0.5	-0.2	95	0.8	24	11	16.1	Rain
2022-11-16 2:00	0.5	-0.7	92	0.8	25	13	16.1	NA
2022-11-16 3:00	0.4	-0.5	94	0.2	24	11	3.6	Rain,Snow
2022-11-16 4:00	0.4	-0.5	94	0.2		5	6.4	Fog
2022-11-16 5:00	0.3	-0.1	97	0.2		4	16.1	NA
2022-11-16 6:00	0.1	-0.2	98	0	27	8	2.4	Freezing Rain,Snow
2022-11-16 7:00	0	-0.1	99	0.2		0	6.4	Rain,Snow
2022-11-16 8:00	0	-0.1	99	0		4	6.4	Fog
2022-11-16 9:00	0	-0.1	99	0.2		0	8.1	Rain,Fog
2022-11-16 10:00	-0.7	-0.8	99	0		4	2.8	Fog
2022-11-16 11:00	-0.7	-0.8	99	0	7	5	16.1	NA
2022-11-16 12:00	-0.1	-0.2	99	0	6	4	16.1	NA
2022-11-16 13:00	0.4	0.3	99	0	7	5	16.1	NA
2022-11-16 14:00	0.8	-0.1	94	0.2	6	8	16.1	NA
2022-11-16 15:00	2.4	1.2	92	1	10	11	16.1	NA
2022-11-16 16:00	3.3	1.3	87	1.8	13	15	16.1	NA
2022-11-16 17:00	4	1.6	84	0.5	13	9	16.1	NA
2022-11-16 18:00	4.4	0.6	76	0.2	15	11	16.1	NA
2022-11-16 19:00	4.4	1.1	79	0	13	9	16.1	NA
2022-11-16 20:00	3.9	1.6	85	0	10	8	16.1	NA
2022-11-16 21:00	3.8	1.8	87	0	9	15	16.1	NA
2022-11-16 22:00	4.1	2.6	90	0	9	15	16.1	Rain
2022-11-16 23:00	4.8	4.1	95	0	10	17	16.1	Rain
2022-11-17 0:00	5.5	4.9	96	0.2	11	26	8.1	Rain,Fog
2022-11-17 1:00	6.2	5.9	98	2	11	35	6.4	Rain,Fog
2022-11-17 2:00	7.2	6.9	98	2.5	11	26	4.8	Rain,Fog
2022-11-17 3:00	7.7	7.4	98	3.8	11	34	6.4	Rain,Fog
2022-11-17 4:00	8.4	8.1	98	3.2	9	18	2.8	Rain,Fog
2022-11-17 5:00	9.8	9.7	99	4	10	17	4	Rain,Fog
2022-11-17 6:00	10.9	10.8	99	1.5	8	8	2.8	Rain,Fog
2022-11-17 7:00	13.6	13.5	99	0.8	19	15	6.4	Fog
2022-11-17 8:00	12	11	93	0	21	21	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-17 9:00	10.8	8.6	86	0	24	22	16.1	NA
2022-11-17 10:00	10.2	8.3	88	0	25	17	16.1	NA
2022-11-17 11:00	8.5	6	84	0	28	26	16.1	NA
2022-11-17 12:00	5.9	3.2	83	0	27	35	16.1	NA
2022-11-17 13:00	5.6	3.1	84	0	26	26	16.1	NA
2022-11-17 14:00	5	2.2	82	0	25	28	16.1	NA
2022-11-17 15:00	5.1	1.6	78	0	26	30	16.1	NA
2022-11-17 16:00	5.4	0.8	72	0	24	35	16.1	NA
2022-11-17 17:00	4.6	0.6	75	0	26	24	16.1	NA
2022-11-17 18:00	5.1	-0.5	67	0	26	22	16.1	NA
2022-11-17 19:00	5.3	-1.9	60	0	27	34	16.1	NA
2022-11-17 20:00	4.4	-1.1	68	0	26	22	16.1	NA
2022-11-17 21:00	3.8	-0.9	71	0	25	18	16.1	Rain
2022-11-17 22:00	2.8	-1.6	73	0	26	21	16.1	NA
2022-11-17 23:00	2.6	-1.2	76	0	27	22	16.1	NA
2022-11-18 0:00	1.9	-1.4	79	0	25	32	16.1	Rain
2022-11-18 1:00	1.6	-2.5	74	0	25	30	16.1	Rain,Snow
2022-11-18 2:00	-0.1	-2.6	83	0	25	24	16.1	Snow
2022-11-18 3:00	-0.4	-4.3	75	0	25	24	16.1	NA
2022-11-18 4:00	-0.6	-5.6	69	0	25	30	16.1	NA
2022-11-18 5:00	-1.1	-5.7	71	0	26	24	16.1	NA
2022-11-18 6:00	-1.3	-5.9	71	0	24	24	16.1	NA
2022-11-18 7:00	-1.6	-6.2	71	0	25	24	16.1	NA
2022-11-18 8:00	-1.8	-6.4	71	0	25	26	16.1	NA
2022-11-18 9:00	-2.2	-6.4	73	0	25	18	16.1	NA
2022-11-18 10:00	-2.5	-6.5	74	0	24	22	16.1	NA
2022-11-18 11:00	-2.7	-7.1	72	0	25	26	16.1	NA
2022-11-18 12:00	-2.3	-6.9	71	0	24	17	16.1	NA
2022-11-18 13:00	-1.2	-7.5	63	0	26	32	16.1	NA
2022-11-18 14:00	-0.1	-7.6	57	0	27	24	16.1	NA
2022-11-18 15:00	0	-7.7	56	0	25	28	16.1	NA
2022-11-18 16:00	0.6	-6.7	58	0	27	18	16.1	NA
2022-11-18 17:00	0.5	-6.6	59	0	25	22	16.1	NA
2022-11-18 18:00	0.3	-6.4	61	0	25	26	16.1	NA
2022-11-18 19:00	0.4	-6.2	61	0	26	32	16.1	NA
2022-11-18 20:00	0.2	-5.9	64	0	27	21	16.1	NA
2022-11-18 21:00	-0.5	-5.8	68	0	27	21	16.1	NA
2022-11-18 22:00	-1.5	-5.7	73	0	26	9	16.1	NA
2022-11-18 23:00	-1.8	-5.9	74	0	26	11	16.1	NA
2022-11-19 0:00	-2.3	-6.2	75	0	27	8	16.1	NA
2022-11-19 1:00	-2.6	-5.8	79	0		0	16.1	NA
2022-11-19 2:00	-1.9	-5.9	74	0	24	9	16.1	NA
2022-11-19 3:00	-1.6	-5.8	73	0	26	8	16.1	NA
2022-11-19 4:00	-1.3	-5.9	71	0		4	16.1	NA
2022-11-19 5:00	-0.1	-6.1	64	0		4	16.1	NA
2022-11-19 6:00	0.1	-5.9	64	0	29	5	16.1	NA
2022-11-19 7:00	0	-4.8	70	0	27	5	16.1	Rain
2022-11-19 8:00	-0.5	-3.9	78	0	27	8	16.1	NA
2022-11-19 9:00	-0.8	-3.3	83	0	27	13	16.1	NA
2022-11-19 10:00	-1.1	-3.3	85	0	27	13	16.1	NA
2022-11-19 11:00	-2.5	-4.1	89	0	23	9	16.1	NA
2022-11-19 12:00	-1.1	-3.9	82	0	21	8	16.1	NA
2022-11-19 13:00	1.5	-6.4	56	0	27	11	16.1	NA
2022-11-19 14:00	2.6	-7.2	49	0	26	18	16.1	NA
2022-11-19 15:00	3.6	-6.6	47	0	26	21	16.1	NA
2022-11-19 16:00	3.7	-6.1	49	0	27	22	16.1	NA
2022-11-19 17:00	3.8	-6.3	48	0	28	21	16.1	NA
2022-11-19 18:00	4.1	-5.8	49	0	29	18	16.1	NA
2022-11-19 19:00	3.4	-5.6	52	0	28	15	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-19 20:00	3	-4.9	56	0	28	9	16.1	NA
2022-11-19 21:00	0.8	-3.9	71	0	27	8	16.1	NA
2022-11-19 22:00	-1.7	-4.1	84	0		0	16.1	NA
2022-11-19 23:00	-2.9	-4.3	90	0	8	8	16.1	NA
2022-11-20 0:00	-3.4	-4.5	92	0	7	8	16.1	NA
2022-11-20 1:00	-2.1	-3.9	87	0	8	8	16.1	NA
2022-11-20 2:00	-2	-3.3	91	0	3	4	16.1	NA
2022-11-20 3:00	-0.9	-3	86	0	4	5	16.1	NA
2022-11-20 4:00	-0.4	-2.8	84	0	5	11	16.1	NA
2022-11-20 5:00	-0.1	-2.3	85	0	4	13	16.1	NA
2022-11-20 6:00	-0.1	-1.7	89	0	3	13	2.8	Snow
2022-11-20 7:00	-0.3	-1.3	93	0	6	11	16.1	NA
2022-11-20 8:00	-0.1	-1.1	93	0	4	13	16.1	NA
2022-11-20 9:00	0.1	-0.8	94	0	4	11	16.1	NA
2022-11-20 10:00	0.3	-0.3	96	0	8	9	16.1	NA
2022-11-20 11:00	0.9	0.5	97	0.2	10	13	11.3	Rain
2022-11-20 12:00	2.1	2	99	0.5	10	9	16.1	NA
2022-11-20 13:00	5.1	4.7	97	0	18	9	16.1	NA
2022-11-20 14:00	7.2	4.8	84	0.2	19	17	16.1	NA
2022-11-20 15:00	6.1	4.2	88	0	21	21	16.1	Rain
2022-11-20 16:00	5.1	3.1	87	0.2	22	24	16.1	Rain
2022-11-20 17:00	4.7	0.7	75	0	23	24	16.1	NA
2022-11-20 18:00	5.5	2	78	0	22	21	16.1	NA
2022-11-20 19:00	6	1.3	72	0	21	15	16.1	NA
2022-11-20 20:00	5.1	1.2	76	0	24	9	16.1	NA
2022-11-20 21:00	3.4	-1.4	71	0	23	8	16.1	NA
2022-11-20 22:00	2.8	-2.9	66	0	22	11	16.1	NA
2022-11-20 23:00	1.5	-0.8	85	0	27	35	16.1	Rain
2022-11-21 0:00	-1.1	-2.4	91	0	26	30	2.8	Snow
2022-11-21 1:00	-1.3	-4.4	79	0	26	30	16.1	NA
2022-11-21 2:00	-2.2	-5.5	78	0	25	32	16.1	NA
2022-11-21 3:00	-2.6	-6.4	75	0	25	35	16.1	NA
2022-11-21 4:00	-2.9	-7.1	73	0	25	37	16.1	NA
2022-11-21 5:00	-3.1	-7.8	70	0	26	35	16.1	NA
2022-11-21 6:00	-3.5	-8	71	0	25	32	16.1	NA
2022-11-21 7:00	-3.6	-8.4	69	0	26	37	16.1	NA
2022-11-21 8:00	-3.7	-8.7	69	0	27	41	16.1	NA
2022-11-21 9:00	-4	-6.7	82	0	26	30	3.2	Snow
2022-11-21 10:00	-4.2	-5.6	90	0	26	37	2.4	Snow
2022-11-21 11:00	-3.6	-5.3	88	0	26	45	16.1	Snow
2022-11-21 12:00	-3.5	-5.2	88	0	27	37	9.7	Snow
2022-11-21 13:00	-4.1	-5.1	93	0	26	37	0.6	Moderate Snow
2022-11-21 14:00	-2.5	-3.6	92	0	28	37	1.6	Snow
2022-11-21 15:00	-2.9	-5	86	0	28	41	1.2	Snow
2022-11-21 16:00	-2.8	-5.1	84	0	27	28	4	Snow
2022-11-21 17:00	-3.2	-5.5	84	0	27	26	9.7	Snow
2022-11-21 18:00	-2.4	-6.5	74	0	27	35	14.5	Snow
2022-11-21 19:00	-1.8	-8	63	0	28	34	16.1	NA
2022-11-21 20:00	-1.5	-7.3	65	0	27	32	16.1	NA
2022-11-21 21:00	-1.4	-7	66	0	25	17	16.1	NA
2022-11-21 22:00	-2.4	-9.5	58	0	25	21	16.1	NA
2022-11-21 23:00	-3.3	-9	65	0	24	15	16.1	NA
2022-11-22 0:00	-3.6	-8.1	71	0	25	21	16.1	NA
2022-11-22 1:00	-4.4	-8	76	0	26	17	16.1	NA
2022-11-22 2:00	-4.1	-8.4	72	0	25	13	16.1	NA
2022-11-22 3:00	-3.6	-8.7	68	0	25	15	16.1	NA
2022-11-22 4:00	-3	-8.1	68	0	24	15	16.1	NA
2022-11-22 5:00	-1.6	-7	67	0	20	17	16.1	NA
2022-11-22 6:00	-0.8	-4.9	74	0	20	18	16.1	Snow

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-22 7:00	-0.3	-3.3	80	0	19	15	16.1	NA
2022-11-22 8:00	0.4	-1.8	85	0	17	22	16.1	Rain
2022-11-22 9:00	0.4	-0.3	95	0	17	18	8.1	Snow
2022-11-22 10:00	2.1	1.1	93	0.8	23	28	16.1	Rain
2022-11-22 11:00	1.5	0.5	93	0.2	28	26	16.1	NA
2022-11-22 12:00	0.6	-0.1	95	0	27	22	4	Rain,Fog
2022-11-22 13:00	1.2	-0.4	89	0.5	27	28	16.1	NA
2022-11-22 14:00	1.1	-1.6	82	0.2	28	35	16.1	NA
2022-11-22 15:00	0.6	-4	72	0.2	29	37	16.1	NA
2022-11-22 16:00	0.6	-5	66	0	29	34	16.1	NA
2022-11-22 17:00	0.8	-5	65	0	29	39	16.1	Rain
2022-11-22 18:00	0.3	-6.9	59	0	30	35	16.1	NA
2022-11-22 19:00	0.1	-6.8	60	0	29	37	16.1	NA
2022-11-22 20:00	-0.3	-6.7	62	0	30	32	16.1	NA
2022-11-22 21:00	-0.6	-7.2	61	0	30	22	16.1	NA
2022-11-22 22:00	-0.5	-6.8	63	0	29	17	16.1	NA
2022-11-22 23:00	-0.6	-7.2	61	0	29	11	16.1	NA
2022-11-23 0:00	-1.7	-8.5	60	0	24	17	16.1	NA
2022-11-23 1:00	-2.6	-9	62	0	25	15	16.1	NA
2022-11-23 2:00	-2.2	-9.6	57	0	24	15	16.1	NA
2022-11-23 3:00	-2.1	-9.1	59	0	24	11	16.1	NA
2022-11-23 4:00	-1.6	-8.2	61	0	20	8	16.1	NA
2022-11-23 5:00	-1.3	-7.4	63	0	20	5	16.1	NA
2022-11-23 6:00	-2.3	-7.1	70	0	24	5	16.1	NA
2022-11-23 7:00	-1.3	-6.3	69	0	24	11	16.1	NA
2022-11-23 8:00	-1.4	-6.2	70	0	24	9	16.1	NA
2022-11-23 9:00	-0.6	-4.9	73	0	21	11	16.1	NA
2022-11-23 10:00	-0.1	-4.4	73	0	23	8	16.1	NA
2022-11-23 11:00	0.4	-4.1	72	0	26	8	16.1	NA
2022-11-23 12:00	0.3	-2.6	81	0	28	13	4.8	Snow
2022-11-23 13:00	0.4	-1.5	87	0	27	9	16.1	Rain
2022-11-23 14:00	0.9	-1.8	82	0	23	8	16.1	NA
2022-11-23 15:00	0.9	-2	81	0	26	18	16.1	Rain
2022-11-23 16:00	1.9	-1.5	78	0	31	34	16.1	Rain
2022-11-23 17:00	0.5	-4.7	68	0	29	37	16.1	NA
2022-11-23 18:00	0.2	-5.6	65	0	29	28	16.1	NA
2022-11-23 19:00	0.6	-5.6	63	0	29	30	16.1	NA
2022-11-23 20:00	0.1	-6.6	61	0	30	32	16.1	NA
2022-11-23 21:00	0.1	-6.6	61	0	30	21	16.1	NA
2022-11-23 22:00	-0.1	-7.9	56	0	29	37	16.1	NA
2022-11-23 23:00	-1.1	-5.1	74	0	31	26	16.1	NA
2022-11-24 0:00	-1.5	-7.9	62	0	31	24	14.5	Snow
2022-11-24 1:00	-1.9	-9.3	57	0	30	35	16.1	Snow
2022-11-24 2:00	-2.8	-8	68	0	33	30	6.4	Snow
2022-11-24 3:00	-2.8	-10.5	56	0	32	37	16.1	Snow
2022-11-24 4:00	-3.2	-11.4	54	0	30	30	16.1	Snow
2022-11-24 5:00	-4.2	-9	69	0	31	30	3.2	Snow
2022-11-24 6:00	-3.7	-10.2	61	0	31	30	14.5	Snow
2022-11-24 7:00	-3.3	-11.1	55	0	30	32	16.1	Snow
2022-11-24 8:00	-3.3	-9.4	63	0	30	30	14.5	Snow
2022-11-24 9:00	-3.3	-7.5	73	0	30	34	6.4	Snow
2022-11-24 10:00	-3	-7.4	72	0	29	35	12.9	Snow
2022-11-24 11:00	-2.5	-6.7	73	0	29	30	16.1	Rain,Snow
2022-11-24 12:00	-2.5	-6.9	72	0	29	35	16.1	Snow
2022-11-24 13:00	-1.8	-6.6	70	0	30	39	16.1	NA
2022-11-24 14:00	-1.5	-6.8	67	0	30	34	16.1	NA
2022-11-24 15:00	-1.1	-6.1	69	0	29	34	16.1	NA
2022-11-24 16:00	-0.9	-6.5	66	0	29	37	16.1	NA
2022-11-24 17:00	-0.3	-7.1	60	0	29	37	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-24 18:00	-0.4	-7	61	0	29	39	16.1	NA
2022-11-24 19:00	-1	-7.2	63	0	29	43	16.1	NA
2022-11-24 20:00	-1.7	-7.4	65	0	28	35	16.1	NA
2022-11-24 21:00	-2	-9.2	58	0	29	46	16.1	NA
2022-11-24 22:00	-1.9	-10.3	53	0	30	34	16.1	NA
2022-11-24 23:00	-1.7	-8.9	58	0	30	45	16.1	NA
2022-11-25 0:00	-1.3	-7.7	62	0	30	35	16.1	NA
2022-11-25 1:00	-0.8	-6	68	0	31	32	16.1	Rain,Snow
2022-11-25 2:00	-0.4	-7.7	58	0	32	24	16.1	Snow
2022-11-25 3:00	-0.6	-7	62	0	32	15	16.1	Snow
2022-11-25 4:00	-0.9	-7.9	59	0	31	21	16.1	NA
2022-11-25 5:00	-0.9	-7.3	62	0	31	24	16.1	NA
2022-11-25 6:00	-1	-7	64	0	31	18	16.1	NA
2022-11-25 7:00	-1.3	-6.9	66	0	31	21	16.1	NA
2022-11-25 8:00	-1.2	-6.4	68	0	31	21	16.1	NA
2022-11-25 9:00	-1.3	-5.9	71	0	30	18	16.1	NA
2022-11-25 10:00	-1.6	-5.6	74	0	31	9	16.1	NA
2022-11-25 11:00	-2.7	-5.4	82	0	28	13	16.1	NA
2022-11-25 12:00	-3.3	-6	82	0	25	5	16.1	NA
2022-11-25 13:00	-2.6	-6.3	76	0	24	9	16.1	NA
2022-11-25 14:00	-1.3	-5.7	72	0	24	13	16.1	NA
2022-11-25 15:00	-0.5	-5.6	69	0	22	5	16.1	NA
2022-11-25 16:00	0.6	-10.4	44	0	19	11	16.1	NA
2022-11-25 17:00	0.7	-9.4	47	0	22	8	16.1	NA
2022-11-25 18:00	1.7	-7.9	49	0	21	9	16.1	NA
2022-11-25 19:00	1.3	-7.7	51	0	16	13	16.1	NA
2022-11-25 20:00	1.1	-6.1	59	0	15	11	16.1	NA
2022-11-25 21:00	1.1	-3.6	71	0	15	11	16.1	NA
2022-11-25 22:00	1.8	-1.5	79	0	13	13	16.1	NA
2022-11-25 23:00	2.8	0.5	85	0	14	15	16.1	NA
2022-11-26 0:00	4.4	2.3	86	0	13	13	16.1	NA
2022-11-26 1:00	5.1	3.1	87	0	14	17	16.1	NA
2022-11-26 2:00	5.1	4.2	94	0.2	13	22	16.1	Rain
2022-11-26 3:00	5.2	4.6	96	0.2	12	24	11.3	Rain
2022-11-26 4:00	5.7	5.3	97	1	13	26	9.7	Rain,Fog
2022-11-26 5:00	6	5.6	97	2.8	12	35	6.4	Rain,Fog
2022-11-26 6:00	6.7	6.4	98	3.2	14	28	6.4	Rain,Fog
2022-11-26 7:00	7.2	6.9	98	4.5	13	26	6.4	Rain,Fog
2022-11-26 8:00	7.3	7	98	4.2	10	22	4	Rain,Fog
2022-11-26 9:00	7.9	7.5	97	5	11	28	4.8	Rain,Fog
2022-11-26 10:00	8.4	8.1	98	2	12	26	8.1	Rain,Fog
2022-11-26 11:00	8.9	8.6	98	1	12	26	16.1	NA
2022-11-26 12:00	8.5	8.2	98	0		4	4.8	Fog
2022-11-26 13:00	8.7	8.6	99	0	31	5	4.8	Fog
2022-11-26 14:00	8.8	8.7	99	0.2	34	8	2	Fog
2022-11-26 15:00	9.1	9	99	0	31	13	8.1	Fog
2022-11-26 16:00	9	8.6	97	0	31	21	16.1	NA
2022-11-26 17:00	8	7.6	97	0	31	22	16.1	NA
2022-11-26 18:00	6.6	6.3	98	1	30	37	2	Rain,Fog
2022-11-26 19:00	7.5	7.1	97	0.8	32	22	11.3	NA
2022-11-26 20:00	6.8	6.2	96	0	32	21	4.8	Fog
2022-11-26 21:00	5.9	5.3	96	0	33	22	11.3	Rain
2022-11-26 22:00	5.3	4.9	97	0.2	32	22	6.4	Fog
2022-11-26 23:00	4.9	4.3	96	0	33	28	9.7	Fog
2022-11-27 0:00	4.7	4.1	96	0	33	28	4.8	Rain,Fog
2022-11-27 1:00	4.9	4.2	95	0	32	22	8.1	Fog
2022-11-27 2:00	4.5	3.8	95	0	32	28	8.1	Rain,Fog
2022-11-27 3:00	4.3	3.6	95	0.2	32	24	6.4	Rain,Fog
2022-11-27 4:00	4.2	3.3	94	0	33	28	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-27 5:00	3.8	2.9	94	0	33	28	14.5	NA
2022-11-27 6:00	3.7	3	95	0	34	24	6.4	Fog
2022-11-27 7:00	3.8	2.9	94	0		5	16.1	NA
2022-11-27 8:00	3.5	2.6	94	0		9	16.1	NA
2022-11-27 9:00	3.5	2.6	94	0	33	11	12.9	NA
2022-11-27 10:00	3.4	2.7	95	0	34	13	9.7	Fog
2022-11-27 11:00	3.2	2.5	95	0	34	11	8.1	Fog
2022-11-27 12:00	3.2	2.3	94	0	33	9	16.1	NA
2022-11-27 13:00	3.5	2.6	94	0	31	17	16.1	NA
2022-11-27 14:00	3.6	2.6	93	0	31	21	16.1	NA
2022-11-27 15:00	3.1	1.9	92	0	33	13	16.1	NA
2022-11-27 16:00	3.5	1.3	85	0	31	18	16.1	NA
2022-11-27 17:00	3.7	0.9	82	0	29	22	16.1	NA
2022-11-27 18:00	4.1	0.4	77	0	30	22	16.1	NA
2022-11-27 19:00	4.1	0.3	76	0	30	26	16.1	NA
2022-11-27 20:00	3.7	0.4	79	0	29	13	16.1	NA
2022-11-27 21:00	2.7	0.4	85	0	29	5	16.1	NA
2022-11-27 22:00	-0.2	-1.2	93	0		4	16.1	NA
2022-11-27 23:00	0.1	-0.5	96	0		0	16.1	NA
2022-11-28 0:00	3.4	0.1	79	0	24	8	16.1	NA
2022-11-28 1:00	4.1	-0.2	74	0	20	8	16.1	NA
2022-11-28 2:00	4.4	0.1	74	0	24	11	16.1	NA
2022-11-28 3:00	4.4	1.6	82	0	24	15	16.1	NA
2022-11-28 4:00	4.9	3.6	91	0	22	17	16.1	NA
2022-11-28 5:00	5.5	4.3	92	0	16	13	16.1	NA
2022-11-28 6:00	5.9	4.9	93	0	17	9	16.1	NA
2022-11-28 7:00	5.8	4.9	94	0	11	8	16.1	NA
2022-11-28 8:00	5.8	5.4	97	0.2	11	11	12.9	Rain
2022-11-28 9:00	6.6	6.5	99	0.2	10	13	4	Fog
2022-11-28 10:00	7	6.9	99	0.5	9	11	1.2	Rain,Fog
2022-11-28 11:00	7	6.9	99	0.5	11	22	16.1	NA
2022-11-28 12:00	7.4	7.1	98	1.2	11	30	6.4	Rain,Fog
2022-11-28 13:00	7.7	7.4	98	3.2	12	22	6.4	Rain,Fog
2022-11-28 14:00	10.9	10.8	99	0.8	23	11	11.3	NA
2022-11-28 15:00	13.6	12.2	91	0	24	22	16.1	NA
2022-11-28 16:00	9.2	8.8	97	1	29	28	6.4	Rain,Fog
2022-11-28 17:00	8.4	7.7	95	0	28	22	16.1	NA
2022-11-28 18:00	6.6	6.3	98	0	29	30	4.8	Fog
2022-11-28 19:00	5.4	5.1	98	0.2	30	26	3.6	Rain,Fog
2022-11-28 20:00	4.2	3.8	97	0	30	30	16.1	NA
2022-11-28 21:00	4	3.2	95	0	31	34	16.1	NA
2022-11-28 22:00	3.7	3	95	0	31	26	12.9	NA
2022-11-28 23:00	3.4	2.2	92	0	32	18	16.1	NA
2022-11-29 0:00	3	1.7	91	0	33	21	16.1	NA
2022-11-29 1:00	2.4	0.8	89	0	33	22	16.1	Rain
2022-11-29 2:00	2	0.2	88	0.2	35	15	16.1	Rain
2022-11-29 3:00	1.7	-0.2	87	0	32	21	16.1	NA
2022-11-29 4:00	1.5	-0.9	84	0	33	13	16.1	NA
2022-11-29 5:00	1.9	-1.2	80	0	31	9	16.1	NA
2022-11-29 6:00	1	-0.6	89	0	31	26	4.8	Rain,Fog
2022-11-29 7:00	1.5	-3.4	70	0.2	31	26	16.1	NA
2022-11-29 8:00	1	-4.6	66	0	32	21	16.1	NA
2022-11-29 9:00	1	-4.1	69	0	30	24	16.1	Rain
2022-11-29 10:00	0.3	-4.7	69	0	32	22	16.1	Rain
2022-11-29 11:00	-0.3	-4.8	72	0	32	15	16.1	Rain,Snow
2022-11-29 12:00	-0.7	-5.3	71	0	31	15	16.1	Snow
2022-11-29 13:00	-0.5	-5.2	71	0	32	18	16.1	Snow
2022-11-29 14:00	-0.2	-5.6	67	0	32	13	16.1	NA
2022-11-29 15:00	0	-6.1	64	0	30	24	16.1	NA

Date/Time (UTC)	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Precip. Amount (mm)	Wind Dir (10s deg)	Wind Spd (km/h)	Visibility (km)	Weather
2022-11-29 16:00	0.3	-5.9	63	0	31	21	16.1	NA
2022-11-29 17:00	0.4	-6.1	62	0	30	21	16.1	NA
2022-11-29 18:00	0.1	-6.1	63	0	32	11	16.1	NA
2022-11-29 19:00	-0.4	-6.8	62	0	30	26	16.1	NA
2022-11-29 20:00	-0.7	-6.7	64	0	31	24	16.1	NA
2022-11-29 21:00	-0.9	-7.1	63	0	32	17	16.1	NA
2022-11-29 22:00	-0.9	-6.2	68	0	32	17	16.1	NA
2022-11-29 23:00	-0.9	-6.5	66	0	32	17	16.1	NA
2022-11-30 0:00	-1	-6.4	67	0	33	17	16.1	NA
2022-11-30 1:00	-1	-6.2	68	0	31	21	16.1	NA
2022-11-30 2:00	-0.8	-5.9	69	0	32	11	16.1	NA
2022-11-30 3:00	-1.2	-6.6	67	0	32	13	16.1	NA
2022-11-30 4:00	-1.2	-6.2	69	0	31	15	16.1	NA
2022-11-30 5:00	-1.1	-5.6	71	0	33	9	16.1	NA
2022-11-30 6:00	-1.2	-6.2	69	0	34	8	16.1	NA
2022-11-30 7:00	-1.3	-6.5	68	0	31	13	16.1	NA
2022-11-30 8:00	-1.6	-6.7	68	0	31	11	16.1	NA
2022-11-30 9:00	-1.5	-6.4	69	0	31	9	16.1	NA
2022-11-30 10:00	-2.3	-6.5	73	0	34	5	16.1	NA
2022-11-30 11:00	-2.9	-6.1	79	0		4	16.1	NA
2022-11-30 12:00	-2.6	-5.4	81	0		4	16.1	NA
2022-11-30 13:00	-1.2	-4.8	77	0		5	16.1	NA
2022-11-30 14:00	0.1	-5.8	64	0	15	9	16.1	NA
2022-11-30 15:00	0.7	-5.5	64	0	17	11	16.1	NA
2022-11-30 16:00	0.8	-5.4	63	0	15	11	16.1	NA
2022-11-30 17:00	1.6	-4.3	65	0	12	15	16.1	NA
2022-11-30 18:00	1.8	-4.3	64	0	13	21	16.1	NA
2022-11-30 19:00	1.6	-4.1	66	0	15	21	16.1	NA
2022-11-30 20:00	0.6	-3.5	74	0	16	13	16.1	NA
2022-11-30 21:00	1.3	-2.8	74	0	14	11	16.1	NA
2022-11-30 22:00	1.7	-2.1	76	0	13	15	16.1	NA
2022-11-30 23:00	2.7	-1.1	76	0	15	21	16.1	NA