

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Limnodromus griseus</i>	Short-billed Dowitcher				S3M	142	41.0 ± 22.5	NS
A	<i>Chroicocephalus ridibundus</i>	Black-headed Gull				S3N	181	18.8 ± 0.2	NS
A	<i>Picoides arcticus</i>	Black-backed Woodpecker				S3S4	110	4.1 ± 0.2	NS
A	<i>Loxia curvirostra</i>	Red Crossbill				S3S4	111	17.5 ± 0.01	NS
A	<i>Sorex albibarbis</i>	Eastern Water Shrew				S3S4	1	98.8 ± 0.1	PE
A	<i>Botaurus lentiginosus</i>	American Bittern				S3S4B,S4S5M	253	8.6 ± 7.07	NS
A	<i>Setophaga castanea</i>	Bay-breasted Warbler				S3S4B,S4S5M	395	5.6 ± 1.0	NS
A	<i>Actitis macularius</i>	Spotted Sandpiper				S3S4B,S5M	929	4.5 ± 7.07	NS
A	<i>Leiothlypis peregrina</i>	Tennessee Warbler				S3S4B,S5M	409	5.6 ± 0.5	NS
A	<i>Passerella iliaca</i>	Fox Sparrow				S3S4B,S5M	214	8.8 ± 0.15	NS
A	<i>Mergus serrator</i>	Red-breasted Merganser				S3S4B,S5M,S5N	331	13.8 ± 7.07	NS
A	<i>Calidris maritima</i>	Purple Sandpiper				S3S4N	41	20.6 ± 10.0	NS
A	<i>Lanius borealis</i>	Northern Shrike				S3S4N	18	40.7 ± 1.0	NS
A	<i>Morus bassanus</i>	Northern Gannet				SHB	354	8.7 ± 0.15	NS
A	<i>Aythya americana</i>	Redhead				SHB	21	51.1 ± 1.18	NS
A	<i>Leucophaeus atricilla</i>	Laughing Gull				SHB	8	50.0 ± 0.5	NS
A	<i>Progne subis</i>	Purple Martin				SHB	5	76.9 ± 0.34	NS
A	<i>Eremophila alpestris</i>	Horned Lark				SHB,S4S5N,S5M	6	49.0 ± 0.53	NS
I	<i>Bombus bohemicus</i>	Ashton Cuckoo Bumble Bee	Endangered	Endangered	Endangered	S1	24	29.4 ± 0.5	NS
I	<i>Danaus plexippus</i>	Monarch	Endangered	Special Concern	Endangered	S2?B,S3M	179	17.7 ± 0.2	NS
I	<i>Lampsilis cariosa</i>	Yellow Lampmussel	Special Concern	Special Concern	Threatened	S1	66	87.0 ± 0.1	NS
I	<i>Alasmodonta varicosa</i>	Brook Floater	Special Concern	Special Concern	Threatened	S3	8	47.2 ± 0.1	NS
I	<i>Bombus terricola</i>	Yellow-banded Bumble Bee	Special Concern	Special Concern	Vulnerable	S3	271	14.8 ± 0.2	NS
I	<i>Coccinella transversoguttata richardsoni</i>	Transverse Lady Beetle	Special Concern		Endangered	SH	1	32.1 ± 2.5	NS
I	<i>Quedius spelaeus</i>	Spelean Rove Beetle				S1	1	94.6 ± 1.0	NS
I	<i>Papilio brevicauda</i>	Short-tailed Swallowtail				S1	1	81.2 ± 1.0	NS
I	<i>Papilio brevicauda bretonensis</i>	Short-tailed Swallowtail				S1	14	58.1 ± 2.5	NS
I	<i>Leucorrhinia patricia</i>	Canada Whiteface				S1	1	98.3 ± 0.1	NS
I	<i>Coenagrion interrogatum</i>	Subarctic Bluet				S1	1	77.0 ± 0.05	NS
I	<i>Atlanticoncha ochracea</i>	Tidewater Mucket				S1	20	84.9 ± 1.45	NS
I	<i>Polygonia satyrus</i>	Satyr Comma				S1?	2	53.8 ± 2.5	NS
I	<i>Euphyes bimacula</i>	Two-spotted Skipper				S1S2	1	67.4 ± 0.1	NS
I	<i>Boloria chariclea</i>	Arctic Fritillary				S1S2	2	62.4 ± 2.5	NS
I	<i>Somatochlora albicincta</i>	Ringed Emerald				S1S2	2	95.4 ± 0.05	NS
I	<i>Haematopota rara</i>	Shy Cleg				S1S3	1	55.9 ± 0.05	NS
I	<i>Tharsalea dorcas</i>	Dorcas Copper				S2	36	18.9 ± 0.01	NS
I	<i>Tharsalea dospassosi</i>	Maritime Copper				S2	1	31.3 ± 0.05	NS
I	<i>Neurocordulia michaeli</i>	Broad-tailed Shadowdragon				S2	22	80.3 ± 0.05	NS
I	<i>Somatochlora septentrionalis</i>	Muskeg Emerald				S2	9	56.7 ± 0.05	NS
I	<i>Coenagrion resolutum</i>	Taiga Bluet				S2	1	96.1 ± 1.0	PE
I	<i>Margaritifera margaritifera</i>	Eastern Pearlshell				S2	131	3.1 ± 0.5	NS
I	<i>Pantala hymenaea</i>	Spot-Winged Glider				S2?B	3	63.4 ± 0.05	NS
I	<i>Nymphalis l-album</i>	Compton Tortoiseshell				S2S3	2	62.4 ± 2.5	NS
I	<i>Aglaia milberti</i>	Milbert's Tortoiseshell				S2S3	2	59.2 ± 2.5	NS
I	<i>Lanthus vernalis</i>	Southern Pygmy Clubtail				S2S3	8	49.9 ± 0.2	NS
I	<i>Somatochlora williamsoni</i>	Williamson's Emerald				S2S3	8	62.7 ± 0.05	NS
I	<i>Alasmodonta undulata</i>	Triangle Floater				S2S3	5	39.4 ± 0.1	NS
I	<i>Hormorus undulatus</i>	Undulated Broad-nosed Weevil				S3	2	93.9 ± 0.2	NS
I	<i>Oxyporus lateralis</i>	Lateral Cross-toothed Rove Beetle				S3	1	80.2 ± 0.2	NS
I	<i>Chrysochus auratus</i>	Dogbane Leaf Beetle				S3	1	83.0 ± 0.2	NS
I	<i>Naemia seriata</i>	Seaside Lady Beetle				S3	3	52.5 ± 0.54	NS
I	<i>Chilocorus stigma</i>	Twice-stabbed Lady Beetle				S3	2	9.7 ± 0.2	NS

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I	<i>Ipthiminius opacus</i>	Cloudy Darkling Beetle				S3	2	19.4 ± 0.01	NS
I	<i>Monochamus marmorator</i>	Balsam Fir Sawyer				S3	3	80.4 ± 0.2	NS
I	<i>Callophrys lanoraieensis</i>	Bog Elfin				S3	1	97.1 ± 0.2	NS
I	<i>Strymon melinus</i>	Gray Hairstreak				S3	2	35.5 ± 0.1	NS
I	<i>Phanogomphus descriptus</i>	Harpoon Clubtail				S3	16	3.1 ± 0.05	NS
I	<i>Ophiogomphus aspersus</i>	Brook Snaketail				S3	5	3.1 ± 0.05	NS
I	<i>Ophiogomphus mainensis</i>	Maine Snaketail				S3	4	65.4 ± 0.1	NS
I	<i>Ophiogomphus rupinsulensis</i>	Rusty Snaketail				S3	36	80.3 ± 0.05	NS
I	<i>Somatochlora forcipata</i>	Forcinate Emerald				S3	7	51.6 ± 1.0	NS
I	<i>Enallagma vernale</i>	Vernal Bluet				S3	8	3.6 ± 0.05	NS
I	<i>Polygonia interrogationis</i>	Question Mark				S3B	22	35.5 ± 0.1	NS
I	<i>Cecropterus pylades</i>	Northern Cloudywing				S3S4	15	13.7 ± 0.1	NS
I	<i>Amblyscirtes hegon</i>	Pepper and Salt Skipper				S3S4	8	12.9 ± 1.0	NS
I	<i>Argynnis aphrodite</i>	Aphrodite Fritillary				S3S4	6	41.4 ± 2.5	NS
I	<i>Polygonia faunus</i>	Green Comma				S3S4	16	13.6 ± 0.05	NS
I	<i>Oeneis jutta</i>	Jutta Arctic				S3S4	7	13.8 ± 0.01	NS
I	<i>Aeshna clepsydra</i>	Mottled Darner				S3S4	1	11.8 ± 0.05	NS
I	<i>Aeshna constricta</i>	Lance-Tipped Darner				S3S4	2	75.5 ± 0.2	NS
I	<i>Boyeria graefiana</i>	Ocellated Darner				S3S4	6	52.3 ± 0.2	NS
I	<i>Gomphaeschna furcillata</i>	Harlequin Darner				S3S4	3	12.3 ± 0.05	NS
I	<i>Somatochlora franklini</i>	Delicate Emerald				S3S4	1	99.2 ± 1.0	PE
I	<i>Erythrodiplex berenice</i>	Seaside Dragonlet				S3S4	4	79.7 ± 0.2	NS
I	<i>Nannothemis bella</i>	Elfin Skimmer				S3S4	5	4.5 ± 0.05	NS
I	<i>Sympetrum danae</i>	Black Meadowhawk				S3S4	11	0.9 ± 0.05	NS
I	<i>Amphiagrion saucium</i>	Eastern Red Damsel				S3S4	19	19.7 ± 0.05	NS
I	<i>Polygonia gracilis</i>	Hoary Comma				SH	1	59.2 ± 2.5	NS
N	<i>Erioderma pedicellatum</i> (Atlantic pop.)	Boreal Felt Lichen - Atlantic pop.	Endangered	Endangered	Endangered	S1	333	27.9 ± 0.5	NS
N	<i>Peltigera hydrothyria</i>	Eastern Waterfan	Threatened	Threatened	Threatened	S1	113	16.1 ± 0.01	NS
N	<i>Pannaria lurida</i>	Wrinkled Shingle Lichen	Threatened	Threatened	Threatened	S2S3	246	19.1 ± 5.74	NS
N	<i>Anzia colpodes</i>	Black-foam Lichen	Threatened	Threatened	Threatened	S3	3	84.4 ± 1.0	NS
N	<i>Fuscopannaria leucosticta</i>	White-rimmed Shingle Lichen	Threatened			S3	2	45.5 ± 0.01	NS
N	<i>Pectenella plumbea</i>	Blue Felt Lichen	Special Concern	Special Concern	Vulnerable	S3	690	9.4 ± 0.5	NS
N	<i>Sclerophora peronella</i> (Atlantic pop.)	Frosted Glass-whiskers (Atlantic population)	Special Concern	Special Concern		S3S4	14	31.9 ± 0.01	NS
N	<i>Pseudevernia cladonia</i>	Ghost Antler Lichen	Not At Risk			S2S3	4	57.2 ± 0.01	NS
N	<i>Fissidens exilis</i>	Pygmy Pocket Moss	Not At Risk			S3	9	32.2 ± 1.0	NS
N	<i>Cinclidium stygium</i>	Sooty Cupola Moss				S1	2	22.7 ± 0.01	NS
N	<i>Seligeria diversifolia</i>	a Moss				S1	1	80.8 ± 0.3	NS
N	<i>Cladonia brevis</i>	Short Peg Lichen				S1	1	56.8 ± 0.0	NS
N	<i>Lathagrium cristatum</i>	Fingered Jelly Lichen				S1	3	42.3 ± 0.05	NS
N	<i>Scytinium schraderi</i>	Wrinkled Jellyskin Lichen				S1	1	38.9 ± 1.0	NS
N	<i>Polychidium muscicola</i>	Eyed Mossthorns				S1	1	29.0 ± 0.05	NS
N	<i>Sticta limbata</i>	Powdered Moon Lichen				S1	2	38.1 ± 2.0	NS
N	<i>Dermatocarpon miniatum</i>	Common Stippleback Lichen				S1	1	67.1 ± 0.01	NS
N	<i>Peltigera lepidophora</i>	Scaly Pelt Lichen				S1	3	42.6 ± 0.01	NS
N	<i>Hypogymnia hultenii</i>	Powdered Honeycomb Lichen				S1	18	38.5 ± 0.5	NS
N	<i>Jubula pennsylvanica</i>	a liverwort				S1?	2	23.1 ± 0.01	NS
N	<i>Eocalypogeia schusteriana</i>	Schuster's Pouchwort				S1?	2	65.2 ± 0.01	NS
N	<i>Brachythecium erythrorrhizon</i>	Taiga Ragged Moss				S1?	4	65.2 ± 0.01	NS
N	<i>Conardia compacta</i>	Coast Creeping Moss				S1?	2	32.2 ± 2.0	NS
N	<i>Oligotrichum hercynicum</i>	Hercynian Hair Moss				S1?	3	61.2 ± 0.01	NS
N	<i>Paludella squarrosa</i>	Tufted Fen Moss				S1?	1	59.3 ± 5.0	NS
N	<i>Syntrichia ruralis</i>	a Moss				S1?	1	88.2 ± 1.0	NS

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N	<i>Lathagrium undulatum</i> var. <i>granulosum</i>	Jelly Flakes Lichen				S1?	1	50.2 ± 1.0	NS
N	<i>Scytinium intermedium</i>	Forty-five Jellyskin Lichen				S1?	3	38.1 ± 1.0	NS
N	<i>Peltigera malacea</i>	Veinless Pelt Lichen				S1?	1	13.4 ± 0.01	NS
N	<i>Buxbaumia minakatae</i>	Hump-Backed Elves				S1S2	1	63.9 ± 100.0	NS
N	<i>Platydictya confervoides</i>	a Moss				S1S2	1	88.9 ± 3.0	NS
N	<i>Hamatocaulis vernicosus</i>	a Moss				S1S2	1	23.8 ± 0.01	NS
N	<i>Enchylium bachmanianum</i>	Bachman's Jelly Lichen				S1S2	2	45.2 ± 1.0	NS
N	<i>Placidium squamulosum</i>	Limy Soil Stipplescale Lichen				S1S2	1	42.5 ± 4.0	NS
N	<i>Cladonia labradorica</i>	Labrador Lichen				S1S2	1	61.3 ± 0.05	NS
N	<i>Parmotrema reticulatum</i>	Netted Ruffle Lichen				S1S2	1	50.4 ± 0.5	NS
N	<i>Solorina spongiosa</i>	Blinking Owl Lichen				S1S2	7	57.3 ± 0.2	NS
N	<i>Parmeliella parvula</i>	Poor-man's Shingles Lichen				S1S2	25	50.4 ± 0.5	NS
N	<i>Barbilophozia lycopodioides</i>	Greater Pawwort				S1S3	1	58.8 ± 0.01	NS
N	<i>Odontoschisma sphagni</i>	Bog-Moss Flapwort				S1S3	1	75.0 ± 0.01	NS
N	<i>Xylopsora friesii</i>	a Lichen				S1S3	1	75.7 ± 0.01	NS
N	<i>Peltigera neckeri</i>	Black-saddle Pelt Lichen				S1S3	5	19.4 ± 0.66	NS
N	<i>Stereocaulon grande</i>	Grand Foam Lichen				S1S3	1	85.3 ± 0.01	NS
N	<i>Anacamptodon splachnoides</i>	a Moss				S2	2	23.6 ± 0.2	NS
N	<i>Scorpidium scorpioides</i>	Hooked Scorpion Moss				S2	12	17.3 ± 0.01	NS
N	<i>Sphagnum platyphyllum</i>	Flat-leaved Peat Moss				S2	4	23.0 ± 0.01	NS
N	<i>Sphagnum subnitens</i>	Lustrous Peat Moss				S2	2	53.5 ± 0.01	NS
N	<i>Scorpidium cossonii</i>	Cosson's Hook Moss				S2	6	21.7 ± 0.65	NS
N	<i>Flavocetraria nivalis</i>	Crinkled Snow Lichen				S2	2	93.6 ± 0.5	NS
N	<i>Scytinium imbricatum</i>	Scaly Jellyskin Lichen				S2	1	44.3 ± 0.05	NS
N	<i>Nephroma arcticum</i>	Arctic Kidney Lichen				S2	3	53.9 ± 0.5	NS
N	<i>Nephroma resupinatum</i>	a lichen				S2	1	47.7 ± 0.5	NS
N	<i>Anaptychia crinalis</i>	Hanging Fringed Lichen				S2	2	90.0 ± 0.5	NS
N	<i>Moerckia flotoviana</i>	Flotow's Ruffwort				S2?	2	65.2 ± 0.01	NS
N	<i>Riccardia multifida</i>	Delicate Germanderwort				S2?	1	83.9 ± 0.2	NS
N	<i>Anomodon viticulosus</i>	a Moss				S2?	2	32.2 ± 1.0	NS
N	<i>Atrichum angustatum</i>	Lesser Smoothcap Moss				S2?	2	52.7 ± 3.0	NS
N	<i>Drepanocladus polygamus</i>	Polygamous Hook Moss				S2?	2	49.9 ± 0.01	NS
N	<i>Pseudocampyllum radiale</i>	Long-stalked Fine Wet Moss				S2?	1	17.3 ± 0.01	NS
N	<i>Dicranum condensatum</i>	Condensed Broom Moss				S2?	2	87.8 ± 0.01	PE
N	<i>Fontinalis sullivantii</i>	Sullivant's Water Moss				S2?	1	63.9 ± 100.0	NS
N	<i>Grimmia anomala</i>	Mountain Forest Grimmia				S2?	1	79.3 ± 0.01	NS
N	<i>Philonotis marchica</i>	a Moss				S2?	1	74.4 ± 0.01	NS
N	<i>Platydictya jungermannioides</i>	False Willow Moss				S2?	5	22.4 ± 0.01	NS
N	<i>Tortella fragilis</i>	Fragile Twisted Moss				S2?	8	36.6 ± 0.01	NS
N	<i>Cyrtomnium hymenophylloides</i>	Short-pointed Lantern Moss				S2?	1	65.1 ± 0.01	NS
N	<i>Scorpidium revolvens</i>	Limprichtia Moss				S2S3	8	23.1 ± 0.01	NS
N	<i>Moelleropsis nebulosa</i>	Blue-gray Moss Shingle Lichen				S2S3	17	45.6 ± 0.01	NS
N	<i>Ramalina thrausta</i>	Angelhair Ramalina Lichen				S2S3	9	17.7 ± 0.5	NS
N	<i>Collema leptaleum</i>	Crumpled Bat's Wing Lichen				S2S3	219	13.2 ± 0.01	NS
N	<i>Usnea rubicunda</i>	Red Beard Lichen				S2S3	3	51.1 ± 0.01	NS
N	<i>Ahtiana aurescens</i>	Eastern Candlewax Lichen				S2S3	1	89.1 ± 6.33	NS
N	<i>Usnocetraria oakesiana</i>	Yellow Band Lichen				S2S3	1	99.9 ± 0.01	PE
N	<i>Cetraria muricata</i>	Spiny Heath Lichen				S2S3	2	57.8 ± 0.01	NS
N	<i>Scytinium tenuissimum</i>	Birdnest Jellyskin Lichen				S2S3	18	32.2 ± 1.0	NS
N	<i>Parmelia fertilis</i>	Fertile Shield Lichen				S2S3	13	13.0 ± 0.01	NS
N	<i>Parmeliopsis ambigua</i>	Green Starburst Lichen				S2S3	4	63.0 ± 0.5	NS
N	<i>Usnea mutabilis</i>	Bloody Beard Lichen				S2S3	1	15.2 ± 0.5	NS
N	<i>Fuscopannaria sorediata</i>	a Lichen				S2S3	12	32.0 ± 0.01	NS

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N	<i>Stereocaulon condensatum</i>	Granular Soil Foam Lichen				S2S3	7	50.2 ± 0.01	NS
N	<i>Cladonia coccifera</i>	Eastern Boreal Pixie-cup Lichen				S2S3	5	56.8 ± 0.01	NS
N	<i>Fissidens taxifolius</i>	Yew-leaved Pocket Moss				S3	3	32.2 ± 0.01	NS
N	<i>Sphagnum contortum</i>	Twisted Peat Moss				S3	7	16.7 ± 0.01	NS
N	<i>Tetraplodon angustatus</i>	Toothed-leaved Nitrogen Moss				S3	2	27.6 ± 0.01	NS
N	<i>Tetraplodon mnioides</i>	Entire-leaved Nitrogen Moss				S3	1	58.6 ± 0.01	NS
N	<i>Rostania occultata</i>	Crusted Tarpaper Lichen				S3	4	29.5 ± 5.0	NS
N	<i>Solorina saccata</i>	Woodland Owl Lichen				S3	12	14.9 ± 0.05	NS
N	<i>Fuscopannaria ahlneri</i>	Corrugated Shingles Lichen				S3	63	9.4 ± 0.5	NS
N	<i>Scytinium lichenoides</i>	Tattered Jellyskin Lichen				S3	19	15.2 ± 0.2	NS
N	<i>Leptogium milligranum</i>	Stretched Jellyskin Lichen				S3	1	12.8 ± 0.01	NS
N	<i>Nephroma bellum</i>	Naked Kidney Lichen				S3	12	22.8 ± 1.5	NS
N	<i>Platismatia norvegica</i>	Oldgrowth Rag Lichen				S3	172	19.4 ± 0.01	NS
N	<i>Punctelia appalachensis</i>	Appalachian Speckleback Lichen				S3	1	18.9 ± 0.01	NS
N	<i>Viridothelium virens</i>	a lichen				S3	1	61.7 ± 5.0	NS
N	<i>Ephebe lanata</i>	Waterside Rockshag Lichen				S3	3	31.7 ± 0.01	NS
N	<i>Phaeophyscia pusilloides</i>	Pompom-tipped Shadow Lichen				S3	5	25.3 ± 0.01	NS
N	<i>Peltigera collina</i>	Tree Pelt Lichen				S3	131	9.4 ± 0.5	NS
N	<i>Cladonia pocillum</i>	Rosette Pixie-cup Lichen				S3	1	65.2 ± 0.01	NS
N	<i>Calliergon giganteum</i>	Giant Spear Moss				S3?	4	38.8 ± 0.01	NS
N	<i>Mnium stellare</i>	Star Leafy Moss				S3?	2	65.2 ± 0.01	NS
N	<i>Sphagnum lindbergii</i>	Lindberg's Peat Moss				S3?	4	52.2 ± 0.01	NS
N	<i>Sphagnum riparium</i>	Streamside Peat Moss				S3?	2	60.7 ± 0.01	NS
N	<i>Cladonia stygia</i>	Black-footed Reindeer Lichen				S3?	6	31.1 ± 0.2	NS
N	<i>Dicranum leioneuron</i>	a Dicranum Moss				S3S4	1	38.9 ± 0.01	NS
N	<i>Encalypta ciliata</i>	Fringed Extinguisher Moss				S3S4	1	39.4 ± 2.5	NS
N	<i>Encalypta procera</i>	Slender Extinguisher Moss				S3S4	15	38.1 ± 1.0	NS
N	<i>Splachnum ampullaceum</i>	Cruet Dung Moss				S3S4	1	55.2 ± 0.01	NS
N	<i>Thamnobryum alleghaniense</i>	a Moss				S3S4	26	58.1 ± 0.01	NS
N	<i>Schistidium agassizii</i>	Elf Bloom Moss				S3S4	1	85.3 ± 3.0	NS
N	<i>Hylocomiastrum pyrenaicum</i>	a Feather Moss				S3S4	1	47.1 ± 3.0	NS
N	<i>Bryoria pseudofuscescens</i>	Mountain Horsehair Lichen				S3S4	8	86.0 ± 0.2	PE
N	<i>Enchylium tenax</i>	Soil Tarpaper Lichen				S3S4	14	36.0 ± 0.01	NS
N	<i>Sticta fuliginosa</i>	Peppered Moon Lichen				S3S4	14	26.9 ± 0.5	NS
N	<i>Arctoparmelia incurva</i>	Finger Ring Lichen				S3S4	18	59.8 ± 0.01	NS
N	<i>Scytinium teretiusculum</i>	Curly Jellyskin Lichen				S3S4	3	44.9 ± 0.01	NS
N	<i>Leptogium acadiense</i>	Acadian Jellyskin Lichen				S3S4	59	12.3 ± 0.01	NS
N	<i>Scytinium subtile</i>	Appressed Jellyskin Lichen				S3S4	16	12.7 ± 0.01	NS
N	<i>Chaenotheca brachypoda</i>	a stubble lichen				S3S4	1	53.8 ± 1.17	NS
N	<i>Cladonia floerkeana</i>	Gritty British Soldiers Lichen				S3S4	6	56.9 ± 0.01	NS
N	<i>Vahliaella leucophaea</i>	Shelter Shingle Lichen				S3S4	33	11.4 ± 0.01	NS
N	<i>Heterodermia speciosa</i>	Powdered Fringe Lichen				S3S4	25	19.7 ± 0.01	NS
N	<i>Leptogium corticola</i>	Blistered Jellyskin Lichen				S3S4	7	36.0 ± 0.01	NS
N	<i>Melanohalea olivacea</i>	Spotted Camouflage Lichen				S3S4	3	66.8 ± 0.5	NS
N	<i>Parmeliopsis hyperopta</i>	Gray Starburst Lichen				S3S4	3	63.0 ± 0.5	NS
N	<i>Peltigera hymenina</i>	Cloudy Pelt Lichen				S3S4	2	11.4 ± 0.5	NS
N	<i>Sphaerophorus fragilis</i>	Fragile Coral Lichen				S3S4	1	60.9 ± 0.2	NS
N	<i>Sclerophora peronella</i>	Frosted Glass-whiskers Lichen				S3S4	1	25.0 ± 0.01	NS
N	<i>Coccocarpia palmicola</i>	Salted Shell Lichen				S3S4	428	41.9 ± 1.0	NS
N	<i>Physcia tenella</i>	Fringed Rosette Lichen				S3S4	1	87.8 ± 0.01	PE
N	<i>Anaptychia palmulata</i>	Shaggy Fringed Lichen				S3S4	82	9.4 ± 0.5	NS
N	<i>Evernia prunastri</i>	Valley Oakmoss Lichen				S3S4	11	35.3 ± 0.01	NS

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N	<i>Heterodermia neglecta</i>	Fringe Lichen				S3S4	48	9.9 ± 0.5	NS
P	<i>Fraxinus nigra</i>	Black Ash	Threatened		Threatened	S1S2	445	9.0 ± 0.01	NS
P	<i>Juncus caesariensis</i>	New Jersey Rush	Special Concern	Special Concern	Vulnerable	S3	240	54.4 ± 0.1	NS
P	<i>Isoetes prototypus</i>	Prototype Quillwort	Special Concern	Special Concern	Vulnerable	S3	14	92.1 ± 0.05	NS
P	<i>Floerkea proserpinacoides</i>	False Mermaidweed	Not At Risk			S2S3	24	4.3 ± 1.0	NS
P	<i>Salix candida</i>	Sage Willow			Endangered	S1	50	39.9 ± 0.01	NS
P	<i>Arnica lonchophylla</i>	Northern Arnica				S1	1	32.1 ± 7.07	NS
P	<i>Betula minor</i>	Dwarf White Birch				S1	1	82.8 ± 0.01	NS
P	<i>Cardamine dentata</i>	Toothed Bittercress				S1	5	17.9 ± 0.5	NS
P	<i>Cochlearia tridactylites</i>	Limestone Scurvy-grass				S1	4	62.8 ± 0.1	NS
P	<i>Draba norvegica</i>	Norwegian Whitlow-Grass				S1	1	78.9 ± 2.5	NS
P	<i>Stellaria crassifolia</i>	Fleshy Stitchwort				S1	2	24.5 ± 2.0	NS
P	<i>Hudsonia tomentosa</i>	Woolly Beach-heath				S1	14	37.8 ± 1.7	NS
P	<i>Utricularia ochroleuca</i>	Yellowish-white Bladderwort				S1	1	90.0 ± 1.0	NS
P	<i>Bistorta vivipara</i>	Alpine Bistort				S1	1	39.7 ± 1.0	NS
P	<i>Montia fontana</i>	Water Blinks				S1	2	18.6 ± 1.0	NS
P	<i>Agalinis tenuifolia</i>	Slender Agalinis				S1	1	30.7 ± 0.01	NS
P	<i>Scrophularia lanceolata</i>	Lance-leaved Figwort				S1	2	40.5 ± 1.5	NS
P	<i>Carex alopecoidea</i>	Foxtail Sedge				S1	3	36.7 ± 0.5	NS
P	<i>Carex granularis</i>	Limestone Meadow Sedge				S1	21	18.7 ± 0.01	NS
P	<i>Carex tenuiflora</i>	Sparse-Flowered Sedge				S1	3	54.3 ± 0.5	NS
P	<i>Carex tinctoria</i>	Tinged Sedge				S1	2	36.7 ± 1.0	NS
P	<i>Carex viridula ssp. brachyrhyncha</i>	Greenish Sedge				S1	1	35.7 ± 0.01	NS
P	<i>Carex viridula var. elatior</i>	Greenish Sedge				S1	58	17.8 ± 0.01	NS
P	<i>Carex grisea</i>	Inflated Narrow-leaved Sedge				S1	6	47.4 ± 0.01	NS
P	<i>Cyperus lupulinus ssp. macilentus</i>	Hop Flatsedge				S1	15	37.1 ± 0.01	NS
P	<i>Eleocharis erythropoda</i>	Red-stemmed Spikerush				S1	7	29.1 ± 0.01	NS
P	<i>Rhynchospora capillacea</i>	Slender Beakrush				S1	8	35.1 ± 10.0	NS
P	<i>Scirpus atrovirens</i>	Dark-green Bulrush				S1	3	35.7 ± 0.01	NS
P	<i>Blysmopsis rufa</i>	Red Bulrush				S1	1	94.8 ± 1.0	NS
P	<i>Iris prismatica</i>	Slender Blue Flag				S1	4	45.6 ± 0.1	NS
P	<i>Triantha glutinosa</i>	Sticky False-Asphodel				S1	18	39.8 ± 0.01	NS
P	<i>Malaxis monophyllos var. brachypoda</i>	North American White Adder's-mouth				S1	1	28.9 ± 7.07	NS
P	<i>Calamagrostis stricta ssp. inexpansa</i>	Slim-stemmed Reed Grass				S1	3	14.8 ± 0.01	NS
P	<i>Hordeum brachyantherum</i>	Meadow Barley				S1	1	85.7 ± 0.01	NS
P	<i>Phleum alpinum</i>	Alpine Timothy				S1	2	84.1 ± 0.01	NS
P	<i>Torreyochloa pallida var. pallida</i>	Pale False Manna Grass				S1	2	88.4 ± 1.5	NS
P	<i>Graphephorum melicoides</i>	Purple False Oats				S1	3	72.6 ± 0.01	NS
P	<i>Sparganium androcladum</i>	Branching Bur-Reed				S1	3	48.0 ± 0.03	NS
P	<i>Dryopteris goldiana</i>	Goldie's Woodfern				S1	1	58.8 ± 0.01	NS
P	<i>Equisetum palustre</i>	Marsh Horsetail				S1	8	29.6 ± 0.01	NS
P	<i>Botrychium lunaria</i>	Common Moonwort				S1	2	91.6 ± 1.0	NS
P	<i>Bolboschoenus robustus</i>	Sturdy Bulrush				S1?	2	58.7 ± 5.0	NS
P	<i>Allium schoenoprasum</i>	Wild Chives				S1?	1	97.3 ± 0.3	NS
P	<i>Allium schoenoprasum var. sibiricum</i>	Wild Chives				S1?	4	38.1 ± 7.07	NS
P	<i>Huperzia selago</i>	Northern Firmoss				S1?	4	67.1 ± 0.01	NS
P	<i>Sanicula odorata</i>	Clustered Sanicle				S1S2	8	16.8 ± 0.5	NS
P	<i>Ageratina altissima</i>	White Snakeroot				S1S2	2	44.4 ± 1.5	NS
P	<i>Cornus suecica</i>	Swedish Bunchberry				S1S2	5	59.3 ± 6.0	NS
P	<i>Anemone virginiana var. alba</i>	Virginia Anemone				S1S2	8	27.8 ± 0.1	NS

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P	<i>Parnassia parviflora</i>	Small-flowered Grass-of-Parnassus				S1S2	18	33.7 ± 1.2	NS
P	<i>Carex haydenii</i>	Hayden's Sedge				S1S2	4	18.4 ± 0.05	NS
P	<i>Platanthera huronensis</i>	Fragrant Green Orchid				S1S2	13	6.1 ± 0.2	NS
P	<i>Calamagrostis stricta</i> ssp. <i>stricta</i>	Slim-stemmed Reed Grass				S1S2	2	59.4 ± 1.0	NS
P	<i>Woodсия alpina</i>	Alpine Cliff Fern				S1S2	4	93.3 ± 2.0	NS
P	<i>Selaginella selaginoides</i>	Low Spikemoss				S1S2	5	49.0 ± 0.8	NS
P	<i>Carex vacillans</i>	Estuarine Sedge				S1S3	3	36.7 ± 0.5	NS
P	<i>Zizia aurea</i>	Golden Alexanders				S2	12	43.1 ± 5.0	NS
P	<i>Rudbeckia laciniata</i>	Cut-Leaved Coneflower				S2	3	45.3 ± 7.07	NS
P	<i>Solidago multiradiata</i>	Multi-rayed Goldenrod				S2	1	94.2 ± 2.0	NS
P	<i>Arabis pycnocarpa</i>	Cream-flowered Rockcress				S2	7	90.6 ± 0.1	NS
P	<i>Hudsonia ericoides</i>	Pinebarren Golden Heather				S2	12	87.6 ± 0.5	PE
P	<i>Anemonastrum canadense</i>	Canada Anemone				S2	15	17.2 ± 3.0	NS
P	<i>Ranunculus sceleratus</i>	Cursed Buttercup				S2	1	56.7 ± 7.07	NS
P	<i>Comandra umbellata</i>	Bastard's Toadflax				S2	40	36.8 ± 0.01	NS
P	<i>Carex gynocrates</i>	Northern Bog Sedge				S2	16	18.4 ± 0.01	NS
P	<i>Carex livida</i>	Livid Sedge				S2	24	44.0 ± 5.0	NS
P	<i>Juncus greenii</i>	Greene's Rush				S2	1	37.9 ± 1.5	NS
P	<i>Juncus alpinoarticulatus</i> ssp. <i>americanus</i>	Northern Green Rush				S2	11	15.0 ± 5.0	NS
P	<i>Luzula spicata</i>	Spiked Woodrush				S2	1	47.5 ± 0.01	NS
P	<i>Lilium canadense</i>	Canada Lily				S2	42	13.9 ± 4.0	NS
P	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	Yellow Lady's-slipper				S2	36	16.3 ± 7.07	NS
P	<i>Cypripedium parviflorum</i> var. <i>makasin</i>	Small Yellow Lady's-Slipper				S2	19	30.2 ± 0.01	NS
P	<i>Cypripedium reginae</i>	Showy Lady's-Slipper				S2	438	17.3 ± 0.01	NS
P	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchid				S2	2	38.6 ± 1.5	NS
P	<i>Platanthera macrophylla</i>	Large Round-Leaved Orchid				S2	3	71.3 ± 0.2	NS
P	<i>Bromus latiglumis</i>	Broad-Glumed Brome				S2	11	8.4 ± 0.01	NS
P	<i>Cinna arundinacea</i>	Sweet Wood Reed Grass				S2	24	6.1 ± 0.01	NS
P	<i>Elymus wiegandii</i>	Wiegand's Wild Rye				S2	9	9.1 ± 0.01	NS
P	<i>Sparganium hyperboreum</i>	Northern Burreed				S2	4	32.7 ± 1.0	NS
P	<i>Cryptogramma stelleri</i>	Steller's Rockbrake				S2	17	29.8 ± 0.01	NS
P	<i>Cuscuta cephalanthi</i>	Buttonbush Dodder				S2?	7	36.1 ± 7.07	NS
P	<i>Rumex persicarioides</i>	Peach-leaved Dock				S2?	1	48.0 ± 0.01	NS
P	<i>Crataegus submollis</i>	Quebec Hawthorn				S2?	2	64.4 ± 7.07	NS
P	<i>Thuja occidentalis</i>	Eastern White Cedar			Vulnerable	S2S3	4	39.9 ± 0.2	NS
P	<i>Osmorhiza longistylis</i>	Smooth Sweet Cicely				S2S3	23	13.0 ± 1.0	NS
P	<i>Bidens hyperborea</i>	Estuary Beggarticks				S2S3	3	45.5 ± 1.0	NS
P	<i>Erigeron philadelphicus</i>	Philadelphia Fleabane				S2S3	13	30.9 ± 7.07	NS
P	<i>Impatiens pallida</i>	Pale Jewelweed				S2S3	29	8.1 ± 1.0	NS
P	<i>Caulophyllum thalictroides</i>	Blue Cohosh				S2S3	26	8.9 ± 0.01	NS
P	<i>Draba arabisans</i>	Rock Whitlow-Grass				S2S3	11	29.8 ± 1.6	NS
P	<i>Boechera stricta</i>	Drummond's Rockcress				S2S3	5	80.8 ± 0.1	NS
P	<i>Stellaria humifusa</i>	Saltmarsh Starwort				S2S3	4	87.9 ± 1.0	PE
P	<i>Oxybasis rubra</i>	Red Goosefoot				S2S3	5	42.8 ± 7.07	NS
P	<i>Hypericum majus</i>	Large St John's-wort				S2S3	5	41.7 ± 0.01	NS
P	<i>Hypericum x dissimulatum</i>	Disguised St. John's-wort				S2S3	2	48.4 ± 1.0	NS
P	<i>Empetrum atropurpureum</i>	Purple Crowberry				S2S3	2	57.4 ± 3.0	NS
P	<i>Euphorbia polygonifolia</i>	Seaside Spurge				S2S3	14	20.4 ± 0.01	NS
P	<i>Myriophyllum farwellii</i>	Farwell's Water Milfoil				S2S3	4	20.3 ± 7.07	NS
P	<i>Hedeoma pulegioides</i>	American False Pennyroyal				S2S3	2	55.8 ± 5.0	NS
P	<i>Oenothera fruticosa</i> ssp. <i>tetragona</i>	Narrow-leaved Evening Primrose				S2S3	1	50.2 ± 1.5	NS

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P	<i>Polygonum aviculare</i> ssp. <i>buxiforme</i>	Box Knotweed				S2S3	1	75.9 ± 7.07	NS
P	<i>Polygonum oxyspermum</i> ssp. <i>raii</i>	Ray's Knotweed				S2S3	13	14.6 ± 3.0	NS
P	<i>Rumex triangulivalvis</i>	Triangular-valve Dock				S2S3	10	9.9 ± 10.0	NS
P	<i>Anemone quinquefolia</i>	Wood Anemone				S2S3	16	54.5 ± 1.5	NS
P	<i>Caltha palustris</i>	Yellow Marsh Marigold				S2S3	62	32.7 ± 1.5	NS
P	<i>Amelanchier fernaldii</i>	Fernald's Serviceberry				S2S3	5	54.8 ± 1.5	NS
P	<i>Potentilla canadensis</i>	Canada Cinquefoil				S2S3	1	31.3 ± 2.6	NS
P	<i>Salix pellita</i>	Satiny Willow				S2S3	6	22.3 ± 1.6	NS
P	<i>Tiarella cordifolia</i>	Heart-leaved Foamflower				S2S3	1	22.6 ± 3.81	NS
P	<i>Agalinis purpurea</i> var. <i>parviflora</i>	Small-flowered Purple False Foxglove				S2S3	2	18.0 ± 0.01	NS
P	<i>Carex adusta</i>	Lesser Brown Sedge				S2S3	1	58.9 ± 4.5	NS
P	<i>Carex comosa</i>	Bearded Sedge				S2S3	1	54.4 ± 1.5	NS
P	<i>Carex hystericina</i>	Porcupine Sedge				S2S3	38	13.4 ± 0.01	NS
P	<i>Carex scirpoidea</i>	Scirpuslike Sedge				S2S3	4	81.4 ± 4.0	NS
P	<i>Eleocharis ovata</i>	Ovate Spikerush				S2S3	3	53.4 ± 0.01	NS
P	<i>Scirpus pedicellatus</i>	Stalked Bulrush				S2S3	9	8.3 ± 0.01	NS
P	<i>Vallisneria americana</i>	Wild Celery				S2S3	1	85.3 ± 10.0	NS
P	<i>Spiranthes casei</i>	Case's Ladies'-Tresses				S2S3	1	86.2 ± 1.89	NS
P	<i>Spiranthes casei</i> var. <i>novaescotiae</i>	Case's Ladies'-Tresses				S2S3	2	50.6 ± 0.2	NS
P	<i>Spiranthes lucida</i>	Shining Ladies'-Tresses				S2S3	28	20.9 ± 0.01	NS
P	<i>Calamagrostis stricta</i>	Slim-stemmed Reed Grass				S2S3	5	90.4 ± 0.01	PE
P	<i>Potamogeton friesii</i>	Fries' Pondweed				S2S3	12	8.1 ± 0.01	NS
P	<i>Cystopteris laurentiana</i>	Laurentian Bladder Fern				S2S3	6	29.7 ± 10.0	NS
P	<i>Woodsia glabella</i>	Smooth Cliff Fern				S2S3	14	29.7 ± 7.07	NS
P	<i>Botrychium lanceolatum</i> ssp. <i>angustisegmentum</i>	Narrow Triangle Moonwort				S2S3	10	13.3 ± 3.0	NS
P	<i>Botrychium simplex</i>	Least Moonwort				S2S3	4	17.1 ± 5.0	NS
P	<i>Ophioglossum pusillum</i>	Northern Adder's-tongue				S2S3	1	85.8 ± 5.0	NS
P	<i>Angelica atropurpurea</i>	Purple-stemmed Angelica				S3	26	8.2 ± 0.01	NS
P	<i>Hieracium robinsonii</i>	Robinson's Hawkweed				S3	9	80.5 ± 1.6	NS
P	<i>Senecio pseudoarnica</i>	Seabeach Ragwort				S3	18	22.4 ± 1.0	NS
P	<i>Symphyotrichum boreale</i>	Boreal Aster				S3	66	17.8 ± 0.01	NS
P	<i>Symphyotrichum ciliolatum</i>	Fringed Blue Aster				S3	3	45.8 ± 0.01	NS
P	<i>Betula michauxii</i>	Michaux's Dwarf Birch				S3	13	70.0 ± 0.01	NS
P	<i>Betula pumila</i>	Bog Birch				S3	20	16.7 ± 0.01	NS
P	<i>Cardamine parviflora</i>	Small-flowered Bittercress				S3	2	90.8 ± 1.5	NS
P	<i>Palustricodon aparinoides</i>	Marsh Bellflower				S3	5	28.4 ± 5.0	NS
P	<i>Lobelia kalmii</i>	Brook Lobelia				S3	100	17.8 ± 0.01	NS
P	<i>Sagina nodosa</i>	Knotted Pearlwort				S3	2	57.1 ± 5.0	NS
P	<i>Sagina nodosa</i> ssp. <i>borealis</i>	Knotted Pearlwort				S3	1	88.5 ± 5.0	PE
P	<i>Stellaria longifolia</i>	Long-leaved Starwort				S3	1	8.4 ± 0.01	NS
P	<i>Triosteum aurantiacum</i>	Orange-fruited Tinker's Weed				S3	200	13.3 ± 0.01	NS
P	<i>Viburnum edule</i>	Squashberry				S3	8	78.9 ± 7.07	NS
P	<i>Crassula aquatica</i>	Water Pygmyweed				S3	4	41.0 ± 7.07	NS
P	<i>Empetrum eamesii</i>	Pink Crowberry				S3	5	64.3 ± 0.01	NS
P	<i>Vaccinium uliginosum</i>	Alpine Bilberry				S3	3	80.2 ± 0.5	NS
P	<i>Halenia deflexa</i>	Spurred Gentian				S3	25	5.9 ± 0.01	NS
P	<i>Myriophyllum verticillatum</i>	Whorled Water Milfoil				S3	5	17.9 ± 0.01	NS
P	<i>Utricularia resupinata</i>	Inverted Bladderwort				S3	1	60.7 ± 0.8	NS
P	<i>Epilobium strictum</i>	Downy Willowherb				S3	28	16.2 ± 5.0	NS
P	<i>Polygala sanguinea</i>	Blood Milkwort				S3	9	49.9 ± 0.2	NS
P	<i>Persicaria arifolia</i>	Halberd-leaved Tearthumb				S3	8	47.3 ± 0.01	NS
P	<i>Plantago rugelii</i>	Rugel's Plantain				S3	1	30.7 ± 0.01	NS

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P	<i>Primula laurentiana</i>	Laurentian Primrose				S3	1	74.1 ± 7.07	NS
P	<i>Samolus parviflorus</i>	Seaside Brookweed				S3	23	26.6 ± 0.01	NS
P	<i>Pyrola minor</i>	Lesser Pyrola				S3	13	30.0 ± 2.0	NS
P	<i>Anemone virginiana</i>	Virginia Anemone				S3	30	20.8 ± 0.01	NS
P	<i>Galium kamtschaticum</i>	Northern Wild Licorice				S3	14	25.3 ± 0.2	NS
P	<i>Galium labradoricum</i>	Labrador Bedstraw				S3	106	14.6 ± 0.02	NS
P	<i>Salix pedicellaris</i>	Bog Willow				S3	12	15.6 ± 0.01	NS
P	<i>Salix sericea</i>	Silky Willow				S3	1	57.6 ± 0.01	NS
P	<i>Saxifraga paniculata</i> ssp. <i>laestadii</i>	Laestadius' Saxifrage				S3	8	25.0 ± 7.07	NS
P	<i>Lindernia dubia</i>	Yellow-seeded False Pimperel				S3	4	8.8 ± 0.01	NS
P	<i>Laportea canadensis</i>	Canada Wood Nettle				S3	19	8.8 ± 0.01	NS
P	<i>Pilea pumila</i>	Dwarf Clearweed				S3	1	87.0 ± 6.0	NS
P	<i>Viola nephrophylla</i>	Northern Bog Violet				S3	11	7.9 ± 0.01	NS
P	<i>Carex bebbii</i>	Bebb's Sedge				S3	36	21.7 ± 0.01	NS
P	<i>Carex castanea</i>	Chestnut Sedge				S3	20	22.1 ± 0.01	NS
P	<i>Carex cryptolepis</i>	Hidden-scaled Sedge				S3	15	12.1 ± 0.7	NS
P	<i>Carex eburnea</i>	Bristle-leaved Sedge				S3	174	37.7 ± 0.01	NS
P	<i>Carex hirtifolia</i>	Pubescent Sedge				S3	11	8.9 ± 0.01	NS
P	<i>Carex lupulina</i>	Hop Sedge				S3	10	44.8 ± 0.01	NS
P	<i>Carex rosea</i>	Rosy Sedge				S3	6	24.5 ± 0.01	NS
P	<i>Carex tenera</i>	Tender Sedge				S3	3	22.0 ± 1.0	NS
P	<i>Carex tribuloides</i>	Blunt Broom Sedge				S3	16	5.2 ± 0.05	NS
P	<i>Carex tuckermanii</i>	Tuckerman's Sedge				S3	2	62.7 ± 0.01	NS
P	<i>Carex atratiformis</i>	Scabrous Black Sedge				S3	3	29.7 ± 7.07	NS
P	<i>Eleocharis flavescens</i> var. <i>olivacea</i>	Bright-green Spikerush				S3	3	51.8 ± 5.0	NS
P	<i>Eleocharis quinqueflora</i>	Few-flowered Spikerush				S3	34	18.4 ± 0.05	NS
P	<i>Eriophorum gracile</i>	Slender Cottongrass				S3	8	15.9 ± 0.01	NS
P	<i>Schoenoplectus americanus</i>	Olney's Bulrush				S3	1	47.5 ± 0.01	NS
P	<i>Juncus stygius</i> ssp. <i>americanus</i>	Moor Rush				S3	31	48.8 ± 1.0	NS
P	<i>Oreojuncus trifidus</i>	Highland Rush				S3	6	38.8 ± 0.75	NS
P	<i>Cypripedium parviflorum</i>	Yellow Lady's-slipper				S3	161	11.4 ± 0.01	NS
P	<i>Goodyera oblongifolia</i>	Menzies' Rattlesnake-plantain				S3	13	54.4 ± 10.0	NS
P	<i>Neottia bifolia</i>	Southern Twayblade				S3	47	5.5 ± 0.01	NS
P	<i>Platanthera flava</i>	Southern Rein-Orchid				S3	2	99.0 ± 0.01	NS
P	<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid				S3	58	5.2 ± 0.05	NS
P	<i>Platanthera hookeri</i>	Hooker's Orchid				S3	3	22.3 ± 0.1	NS
P	<i>Piptatheropsis canadensis</i>	Canada Ricegrass				S3	1	98.4 ± 0.1	NS
P	<i>Poa glauca</i>	Glaucous Blue Grass				S3	14	29.9 ± 0.01	NS
P	<i>Stuckenia filiformis</i>	Thread-leaved Pondweed				S3	50	14.6 ± 0.02	NS
P	<i>Potamogeton praelongus</i>	White-stemmed Pondweed				S3	21	26.1 ± 0.05	NS
P	<i>Potamogeton richardsonii</i>	Richardson's Pondweed				S3	10	4.6 ± 1.0	NS
P	<i>Potamogeton zosteriformis</i>	Flat-stemmed Pondweed				S3	13	38.2 ± 7.07	NS
P	<i>Asplenium viride</i>	Green Spleenwort				S3	32	6.0 ± 0.01	NS
P	<i>Dryopteris fragrans</i>	Fragrant Wood Fern				S3	6	26.3 ± 7.07	NS
P	<i>Polystichum lonchitis</i>	Northern Holly Fern				S3	7	15.4 ± 5.0	NS
P	<i>Sceptridium dissectum</i>	Dissected Moonwort				S3	2	73.7 ± 1.0	NS
P	<i>Polypodium appalachianum</i>	Appalachian Polypody				S3	7	16.0 ± 0.01	NS
P	<i>Persicaria amphibia</i> var. <i>emersa</i>	Long-root Smartweed				S3?	1	62.5 ± 0.01	NS
P	<i>Spiranthes ochroleuca</i>	Yellow Ladies'-tresses				S3?	38	9.4 ± 0.2	NS
P	<i>Diphasiastrum x sabinifolium</i>	Savin-leaved Ground-cedar				S3?	16	30.1 ± 1.0	NS
P	<i>Erigeron hyssopifolius</i>	Hyssop-leaved Fleabane				S3S4	91	33.9 ± 5.0	NS
P	<i>Hieracium paniculatum</i>	Panicled Hawkweed				S3S4	1	74.8 ± 0.2	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Bidens beckii</i>	Water Beggarticks				S3S4	10	38.3 ± 0.5	NS
P	<i>Packera paupercula</i>	Balsam Groundsel				S3S4	171	15.0 ± 5.0	NS
P	<i>Atriplex glabriuscula</i> var. <i>franktonii</i>	Frankton's Saltbush				S3S4	7	24.5 ± 0.01	NS
P	<i>Shepherdia canadensis</i>	Soapberry				S3S4	178	29.3 ± 0.01	NS
P	<i>Vaccinium boreale</i>	Northern Blueberry				S3S4	17	25.0 ± 7.07	NS
P	<i>Vaccinium cespitosum</i>	Dwarf Bilberry				S3S4	24	71.9 ± 7.07	NS
P	<i>Vaccinium corymbosum</i>	Highbush Blueberry				S3S4	1	91.7 ± 2.55	NS
P	<i>Fagus grandifolia</i>	American Beech				S3S4	536	5.9 ± 0.12	NS
P	<i>Bartonia virginica</i>	Yellow Bartonia				S3S4	1	40.2 ± 0.1	NS
P	<i>Decodon verticillatus</i>	Swamp Loosestrife				S3S4	5	24.1 ± 7.07	NS
P	<i>Persicaria pensylvanica</i>	Pennsylvania Smartweed				S3S4	13	9.0 ± 0.01	NS
P	<i>Fallopia scandens</i>	Climbing False Buckwheat				S3S4	18	7.0 ± 0.01	NS
P	<i>Rumex pallidus</i>	Seabeach Dock				S3S4	1	46.2 ± 0.01	NS
P	<i>Pyrola asarifolia</i>	Pink Pyrola				S3S4	17	15.9 ± 0.01	NS
P	<i>Endotropis alnifolia</i>	alder-leaved buckthorn				S3S4	489	8.3 ± 0.01	NS
P	<i>Amelanchier spicata</i>	Running Serviceberry				S3S4	10	26.7 ± 0.01	NS
P	<i>Fragaria vesca</i> ssp. <i>americana</i>	Woodland Strawberry				S3S4	72	6.2 ± 0.04	NS
P	<i>Fragaria vesca</i>	Woodland Strawberry				S3S4	9	41.6 ± 0.2	NS
P	<i>Galium aparine</i>	Common Bedstraw				S3S4	3	47.6 ± 0.01	NS
P	<i>Geocaulon lividum</i>	Northern Comandra				S3S4	76	20.5 ± 2.5	NS
P	<i>Limosella australis</i>	Southern Mudwort				S3S4	9	50.1 ± 5.0	NS
P	<i>Ulmus americana</i>	White Elm				S3S4	83	5.1 ± 0.01	NS
P	<i>Verbena hastata</i>	Blue Vervain				S3S4	43	27.7 ± 0.1	NS
P	<i>Viola selkirkii</i>	Great-Spurred Violet				S3S4	1	19.3 ± 1.0	NS
P	<i>Carex argyrantha</i>	Silvery-flowered Sedge				S3S4	1	49.8 ± 0.5	NS
P	<i>Sisyrinchium atlanticum</i>	Eastern Blue-Eyed-Grass				S3S4	1	90.0 ± 0.2	NS
P	<i>Triglochin gaspensis</i>	Gasp – Arrowgrass				S3S4	9	17.8 ± 0.01	NS
P	<i>Juncus acuminatus</i>	Sharp-Fruit Rush				S3S4	4	27.3 ± 0.01	NS
P	<i>Juncus subcaudatus</i>	Woods-Rush				S3S4	8	54.9 ± 1.0	NS
P	<i>Luzula parviflora</i> ssp. <i>melanocarpa</i>	Black-fruited Woodrush				S3S4	15	54.4 ± 10.0	NS
P	<i>Goodyera repens</i>	Lesser Rattlesnake-plantain				S3S4	39	8.5 ± 0.01	NS
P	<i>Liparis loeselii</i>	Loesel's Twayblade				S3S4	24	11.9 ± 5.0	NS
P	<i>Platanthera obtusata</i>	Blunt-leaved Orchid				S3S4	15	24.1 ± 5.0	NS
P	<i>Platanthera orbiculata</i>	Small Round-leaved Orchid				S3S4	18	24.1 ± 5.0	NS
P	<i>Alopecurus aequalis</i>	Short-awned Foxtail				S3S4	17	6.9 ± 0.01	NS
P	<i>Dichanthelium clandestinum</i>	Deer-tongue Panic Grass				S3S4	88	80.1 ± 0.01	NS
P	<i>Panicum philadelphicum</i>	Philadelphia Panicgrass				S3S4	1	19.7 ± 0.01	NS
P	<i>Koeleria spicata</i>	Narrow False Oats				S3S4	11	39.1 ± 0.01	NS
P	<i>Asplenium trichomanes</i>	Maidenhair Spleenwort				S3S4	14	16.8 ± 0.01	NS
P	<i>Equisetum pratense</i>	Meadow Horsetail				S3S4	22	11.2 ± 0.01	NS
P	<i>Diphasiastrum complanatum</i>	Northern Ground-cedar				S3S4	9	24.1 ± 5.0	NS
P	<i>Diphasiastrum sitchense</i>	Sitka Ground-cedar				S3S4	28	26.6 ± 0.01	NS
P	<i>Huperzia appressa</i>	Mountain Firmoss				S3S4	4	25.9 ± 1.0	NS
P	<i>Sceptridium multifidum</i>	Leathery Moonwort				S3S4	8	38.2 ± 10.0	NS
P	<i>Botrychium matricarifolium</i>	Daisy-leaved Moonwort				S3S4	6	9.9 ± 10.0	NS
P	<i>Viola canadensis</i>	Canada Violet				SH	1	30.1 ± 0.25	NS
P	<i>Poa alpina</i>	Alpine Blue Grass				SH	2	98.3 ± 0.5	NS
P	<i>Botrychium minganense</i>	Mingan Moonwort				SH	1	92.7 ± 1.5	NS

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The recipient of these data shall acknowledge the AC CDC and the data sources listed below in any documents, reports, publications or presentations, in which this dataset makes a significant contribution.

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17	Lundholm, Jeremy. 2021. Bras d'Or Watershed Field Survey. Saint Mary's University.
16	Blaney, C.S.; Mazerolle, D.M. 2008. Fieldwork 2008. Atlantic Canada Conservation Data Centre. Sackville NB, 13343 recs.
16	Campbell, G. 2017. Maritimes Bicknell's Thrush database 2002-2015. Bird Studies Canada, Sackville NB, 609 recs.
16	MacDonald, M. 2008. PEI Power Corridor Floral Surveys, 2004-08. Jacques Whitford Ltd, 2238 recs (979 rare).
15	Benjamin, L.K. 2011. NSDNR fieldwork & consultant reports 1997, 2009-10. Nova Scotia Dept Natural Resources, 85 recs.
15	Cameron, R.P. 2012. Rob Cameron 2012 vascular plant data. NS Department of Environment, 30 recs.
15	Cameron, R.P. 2017. 2017 rare species field data. Nova Scotia Environment, 64 recs.
15	Chapman, C.N. (Cody). 2020. Nova Scotia Black Ash (<i>Fraxinus nigra</i>) field observations by Confederacy of Mainland Mi'kmaq. Forestry Program, Confederacy of Mainland Mi'kmaq.
15	Newell, R.E. 2004. Assessment and update status report on the New Jersey Rush (<i>Juncus caesariensis</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada, 15 recs.
14	Basquill, S.P. 2012. 2012 Bryophyte specimen data. Nova Scotia Department of Natural Resources, 37 recs.
14	Bryson, I., Douglas, M., Kennedy, C. 2013. Nova Scotia rare plant observations. CBCL.
14	Haughian, Sean. 2021. Update to lichen data from 2017-2021. Nova Scotia Museum.
14	Taylor, B.R., and Tam, J.C. 2012. Local distribution of the rare plant <i>Triosteum aurantiacum</i> in northeastern Nova Scotia, Canada. <i>Rhodora</i> , 114(960): 366-382.
13	Belland, R.J. Maritimes moss records from various herbarium databases. 2014.
13	Blaney, C.S. 2000. Fieldwork 2000. Atlantic Canada Conservation Data Centre. Sackville NB, 1265 recs.
13	Burns, L. 2013. Personal communication concerning bat occurrence on PEI. Winter 2013. Pers. comm.
13	Cameron, R.P. 2009. <i>Erioderma pedicellatum</i> database, 1979-2008. Dept Environment & Labour, 103 recs.
13	Downes, C. 1998-2000. Breeding Bird Survey Data. Canadian Wildlife Service, Ottawa, 111 recs.
13	Klymko, J.J.D. 2016. 2015 field data. Atlantic Canada Conservation Data Centre.
12	Basquill, S.P. 2012. 2012 rare vascular plant field data. Nova Scotia Department of Natural Resources, 37 recs.
12	Island Nature Trust. 2016. Farmland birds project. Mader, Shannon (ed.) .
12	Klymko, J. 2021. Atlantic Canada Conservation Data Centre zoological fieldwork 2020. Atlantic Canada Conservation Data Centre.
11	Cameron, R.P. 2013. 2013 rare species field data. Nova Scotia Department of Environment, 71 recs.
11	Layberry, R.A. & Hall, P.W., LaFontaine, J.D. 1998. The Butterflies of Canada. University of Toronto Press. 280 pp+plates.
11	Neily, T.H. 2012. 2012 <i>Erioderma pedicellatum</i> records in Nova Scotia.
10	e-Butterfly. 2016. Export of Maritimes records and photos. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
10	Klymko, John. 2022. Atlantic Canada Conservation Data Centre zoological fieldwork 2021. Atlantic Canada Conservation Data Centre.
10	McMullin, R.T. 2022. Maritimes lichen records. Canadian Museum of Nature.
10	McNeil, J.A. 2020. Snapping Turtle and Eastern Painted Turtle records, 2020. Mersey Tobeatic Research Institute.
10	Murphy, S. 2006. <i>Juncus caesariensis</i> data from Yava Technologies In Situ Leach Mining Environmental Assessment. Jacques Whitford Inc., 10 recs.
10	White, S. 2018. Notable species sightings, 2016-2017. East Coast Aquatics.
9	Bryson, I. 2020. Nova Scotia and Newfoundland rare species observations, 2018-2020. Nova Scotia Environment.
9	Holder, M.L.; Kingsley, A.L. 2000. Kinglsey and Holder observations from 2000 field work.
9	Neily, T.H. Tom Neily NS Sphagnum records (2009-2014). T.H. Neily, Atlantic Canada Conservation Data Centre. 2019.
9	Ogden, K. Nova Scotia Museum butterfly specimen database. Nova Scotia Museum. 2017.
9	Unama'ki Institute of Natural Resources. 2022. Wissoq (Black Ash) records in Port Hood, NS. pers. comm., 9 records.
8	Chaput, G. 2002. Atlantic Salmon: Maritime Provinces Overview for 2001. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-14. 39 recs.
8	Envirosphere Consultants Ltd., Strum. 2023. SAR records from three Environmental Assessments in Nova Scotia. Envirosphere Consultants Ltd., Strum, 48 records.
8	Goltz, J.P. & Bishop, G. 2005. Confidential supplement to Status Report on Prototype Quillwort (<i>Isoetes prototypus</i>). Committee on the Status of Endangered Wildlife in Canada, 111 recs.
8	Henger, Benjamin. 2023. Barn Swallow observations since 2017. Island Nature Trust.
8	Oldham, M.J. 2000. Oldham database records from Maritime provinces. Oldham, M.J.; ONHIC, 487 recs.
7	Gilhen, J. 1984. Amphibians & Reptiles of Nova Scotia, 1st Ed. Nova Scotia Museum, 164pp.
7	Neily, T.H. & Pepper, C.; Toms, B. 2015. Nova Scotia lichen location database [as of 2015-02-15]. Mersey Tobeatic Research Institute, 1691 records.
7	Nova Scotia Nature Trust. 2013. Nova Scotia Nature Trust 2013 Species records. Nova Scotia Nature Trust, 95 recs.
7	Robinson, S.L. 2011. 2011 ND dune survey field data. Atlantic Canada Conservation Data Centre, 2715 recs.
7	Whittam, R.M. 1999. Status Report on the Roseate Tern (update) in Canada. Committee on the Status of Endangered Wildlife in Canada, 36 recs.
6	Amirault, D.L. 1997-2000. Unpublished files. Canadian Wildlife Service, Sackville, 470 recs.
6	Archibald, D.R. 2003. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 213 recs.
6	Blaney, C.S.; Mazerolle, D.M.; Klymko, J; Spicer, C.D. 2006. Fieldwork 2006. Atlantic Canada Conservation Data Centre. Sackville NB, 8399 recs.
6	Blaney, C.S.; Mazerolle, D.M.; Oberndorfer, E. 2007. Fieldwork 2007. Atlantic Canada Conservation Data Centre. Sackville NB, 13770 recs.
6	Dibblee, R.L. 1999. PEI Cormorant Survey. Prince Edward Island Fisheries, Aquaculture & Environment, 1p. 21 recs.
6	McNeil, Jeffie. 2023. 2022 Turtle Records. Mersey Tobeatic Research Institute.

# recs	CITATION
6	Nussey, Pat & NCC staff. 2019. AEI tracked species records, 2016-2019. Chapman, C.J. (ed.) Atlantic Canada Conservation Data Centre, 333.
6	Pepper, Chris. 2020. Species of conservation concern, Powderhorn Lake, NS. pers.comm. to J. Churchill.
6	Phinney, Lori; Toms, Brad; et. al. 2016. Bank Swallows (Riparia riparia) in Nova Scotia: inventory and assessment of colonies. Merser Tobetic Research Institute, 25 recs.
6	Plissner, J.H. & Haig, S.M. 1997. 1996 International piping plover census. US Geological Survey, Corvallis OR, 231 pp.
5	Cameron, R.P. 2009. Cyanolichen database. Nova Scotia Environment & Labour, 1724 recs.
5	Cameron, R.P. 2018. Degelia plumbea records. Nova Scotia Environment.
5	Ferguson, D.C. 1954. The Lepidoptera of Nova Scotia. Part I, macrolepidoptera. Proceedings of the Nova Scotian Institute of Science, 23(3), 161-375.
5	Lawrence Benjamin. 2009. Wood Anemone records from Victoria Co., from personal communication with S. Ferguson. Nova Scotia Department of Natural Resources, 5 records.
5	Marshall, L. 1998. Atlantic Salmon: Cape Breton SFA 18 (part) & SFA 19. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-09. 5 recs.
5	NatureServe Canada. 2019. iNaturalist Maritimes Butterfly Records. iNaturalist.org and iNaturalist.ca.
5	NS DNR. 2017. Black Ash records from NS DNR Permanent Sample Plots (PSPs), 1965-2016. NS Dept of Natural Resources.
5	Power, T. 2019. Cape Breton Wood Turtle records. NS Lands and Forestry.
5	Whittam, R.M. 1997. Status Report on the Roseate Tern (Sterna dougallii) in Canada. Committee on the Status of Endangered Wildlife in Canada, 5 recs.
4	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2013. Atlantic Canada Conservation Data Centre Fieldwork 2013. Atlantic Canada Conservation Data Centre, 9000+ recs.
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4	Erskine, D. 1960. The plants of Prince Edward Island, 1st Ed. Research Branch, Agriculture Canada, Ottawa., Publication 1088. 1238 recs.
4	Hagerman, Christianne. 2022. Wissoq and Eastern White Cedar field work. E.C. Smith Herbarium, Acadia University.
4	Klymko, John. 2023. Atlantic Canada Conservation Data Centre zoological fieldwork 2022. Atlantic Canada Conservation Data Centre.
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4	Newell, R.E. 2001. Fortress Louisbourg Species at Risk Survey 2001. Parks Canada, 4 recs.
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4	Sollows, M.C. 2009. NBM Science Collections databases: molluscs. New Brunswick Museum, Saint John NB, download Jan. 2009, 6951 recs (2957 in Atlantic Canada).
3	Baechler, Lynn. 2012. Plant observations & photos, 2012. Pers. comm. to S. Blaney, July 2012, 4 recs.
3	Blaney, C.S.; Mazerolle, D.M. 2011. Fieldwork 2011. Atlantic Canada Conservation Data Centre. Sackville NB.
3	Bridgland, J. 2006. Cape Breton Highlands National Park Digital Database. Parks Canada, 190 recs.
3	Clayden, S.R. 2007. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, download Mar. 2007, 6914 recs.
3	Curley, F.R. 2005. PEF&W Collection 2003-04. PEI Fish & Wildlife Div., 716 recs.
3	Klymko, J. 2019. Atlantic Canada Conservation Data Centre zoological fieldwork 2018. Atlantic Canada Conservation Data Centre.
3	LaPaix, R.W.; Crowell, M.J.; MacDonald, M. 2011. Stantec rare plant records, 2010-11. Stantec Consulting, 334 recs.
3	Neily, T.H. 2016. Email communication (May 6, 2016) to Sean Blaney regarding Fissidens exilis observations made in 2016 in Nova Scotia. Pers. Comm., 3 recs.
3	O'Neil, S. 1998. Atlantic Salmon: Northumberland Strait Nova Scotia part of SFA 18. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-08. 9 recs.
3	Porter, K. 2013. 2013 rare and non-rare vascular plant field data. St. Mary's University, 57 recs.
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3	Scott, F.W. 1988. Status Report on the Gaspé Shrew (Sorex gaspensis) in Canada. Committee on the Status of Endangered Wildlife in Canada, 12 recs.
2	Bagnell, B.A. 2001. New Brunswick Bryophyte Occurrences. B&B Botanical, Sussex, 478 recs.
2	Benedict, B. Connell Herbarium Specimens (Data). University New Brunswick, Fredericton. 2003.
2	Blaney, C.S. Miscellaneous specimens received by ACCDC (botany). Various persons. 2001-08.
2	Boyne, A.W. & Grecian, V.D. 1999. Tern Surveys. Canadian Wildlife Service, Sackville, unpublished data. 23 recs.
2	Daury, R.W. & Bateman, M.C. 1996. The Barrow's Goldeneye (Bucephala islandica) in the Atlantic Provinces and Maine. Canadian Wildlife Service, Sackville, 47pp.
2	e-Butterfly. 2019. Export of Maritimes records and photos. McFarland, K. (ed.) e-butterfly.org.
2	Gillis, J. 2007. Botanical observations from bog on Skye Mountain, NS. Pers. comm., 8 recs.
2	Glen, W. 1991. 1991 Prince Edward Island Forest Biomass Inventory Data. PEI Dept of Energy and Forestry, 10059 recs.
2	Hill, N. 2003. Floerkea proserpinacoides at Heatherdale, Antigonish Co. 2002. , Pers. comm. to C.S. Blaney. 2 recs.
2	Hill, Nick. 2021. Fraxinus nigra observations at Marshy Hope. Fern Hill Institute of Plant Conservation.
2	Klymko, J. Henry Hensel's Butterfly Collection Database. Atlantic Canada Conservation Data Centre. 2016.
2	Lock, A.R., Brown, R.G.B. & Gerriets, S.H. 1994. Gazetteer of Marine Birds in Atlantic Canada. Canadian Wildlife Service, Atlantic Region, 137 pp.
2	McAlpine, D.F. New Brunswick Museum bee specimens. New Brunswick Museum. 2013.
2	McMullin, R.T. 2015. Prince Edward Island's lichen biodiversity and proposed conservation status in a report prepared for the province of PEI. Biodiversity Institute of Ontario Herbarium, University of Guelph, 776 records.
2	McRae, Daniel. 2023. PEI EcoGiftsSite Records for 2022. Pers. comm., 990 records.
2	Mersey Tobetic Research Institute. 2021. 2020 Monarch records from the MTRI monitoring program. Mersey Tobetic Research Institute, 72 records.
2	Munden, C. 2018. Email communication on Cypripedium parviflorum. Amateur naturalist, 2.
2	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2014.
2	Nature Conservancy of Canada. 2022. NCC Field data for Nova Scotia. Nature Conservancy of Canada.
2	Ogden, J. NS DNR Butterfly Collection Dataset. Nova Scotia Department of Natural Resources. 2014.
2	Olsen, R. Herbarium Specimens. Nova Scotia Agricultural College, Truro. 2003.
2	Popma, T.M. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 113 recs.

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2	Quigley, E.J. 2006. Plant records, Mabou & Port Hood. Pers. comm. to S.P. Basquill, Jun. 12. 4 recs, 4 recs.
2	Selva, S.B. 2002. Status Report on frosted glass-whiskers, <i>Sclerophora peronella</i> . Committee on the Status of Endangered Wildlife in Canada, Draft Revision, May 2002. 2 recs.
2	Whittam, R.M. 2006. Bicknell's Thrush in CBHNP, BSC database. Bird Studies Canada, 21 recs.
2	Whittam, R.M. et al. 1998. Country Island Tern Restoration Project. Canadian Wildlife Service, Sackville, 2 recs.
1	Anderson, D. 2019. Black Ash observation, Baddeck, Nova Scotia. pers. comm. to J.L. Churchill.
1	Anderson, D.G. 2011. New site for showy lady'slipper on Cape Breton. Nova Scotia Department of Natural Resources, pers.comm. to R. Lautenschlager, Jul 5, 2011.
1	Anon. Dataset of butterfly records for the Maritime provinces. Museum of Comparative Zoology, Harvard University. 2017.
1	Atlantic Canada Bank Swallow Working Group. 2022. 2021 Bank Swallow colony records. Birds Canada.
1	Baechler, Lynn. 2016. Plant observations & photos, 2016. Pers. comm. to S. Blaney, May 2016, 2 recs.
1	Benjamin, L.K. 2009. NSDNR Fieldwork & Consultants Reports. Nova Scotia Dept Natural Resources, 143 recs.
1	Blaney, C.S. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 1042 recs.
1	Cameron, R.P. 2009. Nova Scotia nonvascular plant observations, 1995-2007. Nova Scotia Dept Natural Resources, 27 recs.
1	Cameron, R.P. 2014. 2013-14 rare species field data. Nova Scotia Department of Environment, 35 recs.
1	Canadian National Collection of Insects Arachnids, and Nematodes <i>Bombus</i> specimen database export. Government of Canada. 2022.
1	Chapman, Cody. Unreported Species at Risk Records across Nova Scotia. Chapman, Cody, 5 records.
1	Christie, D.S. 2000. Christmas Bird Count Data, 1997-2000. Nature NB, 54 recs.
1	Clayden, S.R. 1998. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 19759 recs.
1	COSEWIC (Committee on the Status of Wildlife in Canada). 2013. COSEWIC Assessment and Status Report on the Eastern Waterflea <i>Peltigera hydrothyrta</i> in Canada. COSEWIC, 46 pp.
1	Crowell, Iain. 2021. <i>Fraxinus nigra</i> observation near Port Hood. iNaturalist.
1	Crowell, M. 2013. email to Sean Blaney regarding <i>Listera australis</i> at Bear Head and Mill Cove Canadian Forces Station. Jacques Whitford Environmental Ltd., 2.
1	Curley, F.R. 2003. Glen Kelly records for <i>Betula pumila</i> & <i>Asclepias syriaca</i> on PEI. , Pers. comm. to C.S. Blaney. 9 recs.
1	Doucet, D.A. 2007. Lepidopteran Records, 1988-2006. Doucet, 700 recs.
1	Doucet, D.A. 2009. Census of Globally Rare, Endemic Butterflies of Nova Scotia Gulf of St Lawrence Salt Marshes. Nova Scotia Dept of Natural Resources, Species at Risk, 155 recs.
1	Edsall, J. 2007. Personal Butterfly Collection: specimens collected in the Canadian Maritimes, 1961-2007. J. Edsall, unpubl. report, 137 recs.
1	Frittaion, C. 2012. NSNT 2012 Field Observations. Nova Scotia Nature Trust, Pers comm. to S. Blaney Feb. 7, 34 recs.
1	GBIF. 2022. GBIF Occurrence Download. Global Biodiversity Information Facility. https://doi.org/10.15468/dl.28f8qc .
1	Gilman, A.; Testo, W. 2015. Use of Gemma Characters to Identify North American <i>Huperzia</i> (Lycopodiaceae). American Fern Journal, 105(3):145-161.
1	Hall, R.A. 2001. S. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 178 recs.
1	Hill, N.M. 2021. Observation of <i>Carex haydenii</i> and black ash near Marshy Hope and Ponhook Lake. pers. comm.
1	Hughes, Cory. 2020. Atlantic Forestry Centre <i>Coccinella transversoguttata</i> collections. Canadian Forest Service, Atlantic Forestry Centre.
1	Kelly, Glen 2004. Botanical records from 2004 PEI Forestry fieldwork. Dept of Environment, Energy & Forestry, 71 recs.
1	Klymko, J.J.D. 2012. Insect field work & submissions. Atlantic Canada Conservation Data Centre, 852 recs.
1	Klymko, J.J.D. 2012. Maritimes Butterfly Atlas, 2010 and 2011 records. Atlantic Canada Conservation Data Centre, 6318 recs.
1	Klymko, J.J.D. 2018. 2017 field data. Atlantic Canada Conservation Data Centre.
1	Manthorne, A. 2019. Incidental aerial insectivore observations. Birds Canada.
1	McKendry, Karen. 2016. Rare species observations, 2016. Nova Scotia Nature Trust, 19 recs.
1	McLelland, Don. 2022. Orchid records for Prince Edward Island. Pers. comm.
1	McNeil, J.A. 2019. Snapping Turtle records, 2019. Mersey Tobeatic Research Institute.
1	Nature Conservancy Canada, Prince Edward Island. 2022. NCC PEI 2022 occurrence data. NCC PEI. Pers. comm., 214 records.
1	Neily, T.H. & Pepper, C.; Toms, B. 2019. Boreal Felt Lichen Observation, January 2019. Mersey Tobeatic Research Institute, 1 rec.
1	Neily, T.H. & Pepper, C.; Toms, B. 2020. Nova Scotia lichen database [as of 2020-05-25]. Mersey Tobeatic Research Institute, 668 recs.
1	New York Botanical Garden. 2006. Virtual Plant Herbarium - Vascular Plant Types Catalog. Sylva, S.; Kallunki, J. (ed.) International Plant Science Centre, Web site: http://sciweb.nybg.org/science2/vii2.asp . 4 recs.
1	Pohl, G.P. Specimen data from Northern Forest Research Centre. Northern Forest Research Centre. 2022.
1	Richardson, D., Anderson, F., Cameron, R, McMullin, T., Clayden, S. 2014. Field Work Report on Black Foam Lichen (<i>Anzia colpodes</i>). COSEWIC.
1	Riley, Jonathan. 2021. <i>Fraxinus nigra</i> observation near Gillisdale. iNaturalist.
1	Schmidt, B.C. 2017. Details about a <i>Speyeria aphrodite</i> specimen at the Canadian National Collection from Baddeck, NS, sent via email on 15 February 2017.
1	Spicer, C.D. 2004. Specimens from CWS Herbarium, Mount Allison Herbarium Database. Mount Allison University, 5939 recs.
1	Standley, L.A. 2002. <i>Carex haydenii</i> in Nova Scotia. , Pers. comm. to C.S. Blaney. 4 recs.
1	Stephen Freeman. 2022. New location for Black Ash in Queens County, NS. Personal communication, 2.
1	Thomas, H.H., Jones, G.S. & Diblee, R.L. 1980. <i>Sorex palustris</i> on Prince Edward Island. Can. Field Nat., vol 94:329-331. 2 recs.
1	White, S. 2019. Notable species sightings, 2018. East Coast Aquatics.
1	Whittam, R.M. 2000. <i>Senecio pseudoarnica</i> on Country Island. , Pers. comm. to S. Gerriets. 1 rec.

APPENDIX E

NOVA SCOTIA MUSEUM REPORT

HERITAGE AND BIOLOGICAL RESOURCES

April 16, 2024

Heather Levy, Vice-President/Biologist/Lab Manager
Envirosphere Consultants Limited| Envirosphere Labs
PO Box 2906, Unit 5 - 120 Morison Dr.
Windsor, NS, B0N 2T0

Dear Heather Levy:

RE: Environmental Screening 2024_03_18_MacIntyre Mountain Quarry_Heather Levy_Envirosphere

Further to your request of March 18, 2024, staff at Communities, Culture, Tourism & Heritage have reviewed their files for reference to the presence of natural and heritage resources in the study area. Please be aware that the information is not comprehensive and may include varying degrees of accuracy with respect to the precise location and condition of natural and heritage resources.

It should be noted that the amount and degree of disturbance from previous developments could have a significant role in establishing the presence, absence, or condition of natural and heritage resources in this area.

Archaeology

Dr. Katie Cottreau-Robins, the Senior Curator of Archaeology at the Nova Scotia Museum, and Mr. John Cormier, Coordinator of Special Places, have conducted a review of the MacIntyre Mountain Quarry expansion site. They found no recorded archaeological sites in the vicinity or the general area, and noted that the closest hydrology is approximately 500-550 meters away. Based on these observations, they have concluded that an Archaeological Resource Impact Assessment is not deemed necessary, as archaeological potential is considered low.

Botany

For the purposes of this screening, the Nova Scotia Rare Plants Atlas and the Nova Scotia Museum's database were inspected for rare plants. Rare plants were defined as those with subnational status rankings of S1-S3, or provincial status rankings of Yellow, Orange, or Red.

Table 1: Species within 10 km of coordinates, based on NS Rare Plants Atlas

Genus	species	S-rank	SARA status?	NS status?
<i>Bromus</i>	<i>latiglumus</i>	S2		Orange
<i>Caulophyllum</i>	<i>thalictroides</i>	S2S3		Orange
<i>Cinna</i>	<i>arundinacea</i>	S2		Yellow
<i>Floerkea</i>	<i>proserpinacoides</i>	S2S3		Orange
<i>Goodyera</i>	<i>repens</i>	S3S4		yellow
<i>Fallopia</i>	<i>scandens</i>	S3S4		yellow
<i>Potamogeton</i>	<i>obtusifolia</i>	S4		yellow

<i>Viola</i>	<i>nephrophylla</i>	S3		yellow
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Geology

Dr. Tim Fedak has identified the bedrock geology at this area is mapped as Neoproterozoic granite, so there are no concerns about paleontology resources being encountered at the site.

Zoology

Dr. Brenna Frasier has evaluated the MacIntyre Mountain Quarry expansion site and has identified no concerns from a zoological standpoint.

If you have any questions, please contact John.Cormier@novascotia.ca.

Sincerely,



John Cormier
Coordinator, Special Places

APPENDIX F

LABORATORY RESULTS

TSS

Envirosphere Consultants Limited

Unit 5—120 Morison Drive, Box 2906, Windsor, Nova Scotia, B0N 2T0

ph: (902) 798-4022, fax: (902) 798-2614, e-mail: enviroco@ns.sympatico.ca, website: www.envirosphere.ca

Environmental Sample Analysis Report

Report Number: A1102

Lab Number: L2024-024

Project: McIntyre Mountain

Envirosphere Consultants Ltd

Unit 5 - 120 Morison Drive

Windsor, NS | B0N 2T0

Report Date: August 12, 2024

Sample ID	Location	Site	Sample Material	Date Received	Date Analyzed	TSS (mg/L)	Type of Sample	Detection Limit	Sample Comments
23825	McIntyre Mountain	Stream 1 DS	surface water	Jul 23 2024	Jul 25 2024	4.5	REG	1.0 mg/L	
23826	McIntyre Mountain	Stream 1 US	surface water	Jul 23 2024	Jul 25 2024	1.5	REG	1.0 mg/L	
23827	McIntyre Mountain	River Inhab. DS	surface water	Jul 23 2024	Jul 25 2024	<1.0	REG	1.0 mg/L	
23827 (dup)	McIntyre Mountain	River Inhab. DS	surface water	Jul 23 2024	Jul 25 2024	<1.0	DUP	1.0 mg/L	
23828	McIntyre Mountain	River Inhab. US	surface water	Jul 23 2024	Jul 25 2024	<1.0	REG	1.0 mg/L	
23829	McIntyre Mountain	Quarry Pond	surface water	Jul 23 2024	Jul 25 2024	2.5	REG	1.0 mg/L	
BLK	McIntyre Mountain		dH2O	Jul 23 2024	Jul 25 2024	<1.0	BLANK	1.0 mg/L	
CRM	McIntyre Mountain		CRM	Jul 23 2024	Jul 25 2024	214.0	STD	1.0 mg/L	CRM = 209mg/L (ECL 979)

Name of Analyst:  Analyses reviewed by:  Director ☒ Lab Manager (circle one)

This laboratory applies standard practice in conformance with ISO/IEC 17025:2017, "General Requirements for the Competence of Testing and Calibration Laboratories".

Validation Range: 1-1000 mg/L The results in this report relate only to the items tested. More information is available upon request.

The quality of the results is dependent on the quality of sample provided.

Samples for TSS analysis should be kept cool until delivery to the lab unless they are analyzed immediately. A minimum sample volume of 500 ml is preferred. Place sample in a clean plastic container free of cracks or contamination. Fill the bottle to the top and then cap. Samples should reach the lab within 24 hours of sampling, but will be accepted up to 7 days.

Methods: Modified from Standard Methods for the Examination of Water and Wastewater 23rd Edition. 2017 and online version. 2540D. Total Suspended Solids. ECL method 3, Total Suspended Solids.

Type of Sample: REG = regular; STD = standard; DUP = duplicate; CRM = certified reference material.

Sample Comments: BDL = Below Detection limit; QR = Qualified result; NR = No result, damaged or insufficient sample; MAC = Maximum Allowable Concentration.

APPENDIX E
CULTURAL RESOURCE MANAGEMENT REPORT LETTER
(Nova Scotia Communities, Culture and Heritage, 2024)

Environmental Assessment Registration Document:
McIntyres Mountain Quarry Expansion
Kingsville, Inverness County
Nova Scotia

September 5, 2024

Sara Ingram
Cultural Resource Management Group Limited
Ten Mile House
1519 Bedford Highway
Bedford, Nova Scotia
B4A 1E3

Dear Sarah Ingram:

**RE: Heritage Research Permit Report
A2024NS078 – MacIntyre Mountain Quarry Expansion Project ARIA**

We have received and reviewed the revised final report on work conducted under the terms of Heritage Research Permit A2024NS078 – MacIntyre Mountain Quarry Expansion Project ARIA Project in Inverness County, Nova Scotia in 2024.

Dexter Construction Company Ltd. (Dexter) plans to expand its existing quarry on MacIntyre Mountain in Kingsville, Inverness County, Nova Scotia. The proposed development area is situated within PID 50019975 and occupies an approximate area of 29.4 ha, encompassing both the existing quarry and the proposed expansion. Dexter retained Cultural Resource Management Group Limited (CRM Group) to conduct an archaeological resource impact assessment (ARIA) for the proposed development area. This ARIA involved Mi'kmaq engagement, background study, predictive modelling, field reconnaissance, and exploratory subsurface testing.

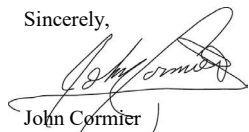
Background study indicated that the general area has been home to the Mi'kmaq for millennia, long prior to the arrival of Europeans. There are several areas nearby with Mi'kmaq placenames, and the closest First Nations lands are at Whycomagh Number 2, We'koqma'q First Nation, situated approximately 26 kms to the northeast. European settlement in the area began in the 19th century. Field reconnaissance showed the proposed development area to be characterized by gently to steeply sloping and undulating terrain with a steep descent along the eastern limit of the Study Area. A single exploratory subsurface test was conducted with negative results. No areas of moderate to high archaeological potential, archaeological features, or cultural materials were identified during the assessment, and the proposed development area was ascribed low archaeological potential.

Based on the above, CRM Group offered the following recommendations:

1. The Study Area, as defined and depicted in this report (Figure 11), should be cleared of further requirement for archaeological investigation.
2. If any further changes are made to the layout of the Study Area beyond the areas assessed in this report, those proposed areas should be subjected to an Archaeological Resource Impact Assessment.
3. If archaeological deposits or human remains are encountered during construction activity within the Study Area, all work in the associated area(s) should be halted and immediate contact made with the Special Places Program (John Cormier: 902-424-4542).

Staff at CCTH have reviewed the revised final report and find it acceptable. Please do not hesitate to contact me with any questions or concerns.

Sincerely,


John Cormier
Coordinator, Special Places

APPENDIX F
WATER BALANCE ASSESSMENT
(Consulting Hydrogeologist J. Fraser, 2025)

Environmental Assessment Registration Document:
McIntyres Mountain Quarry Expansion
Kingsville, Inverness County
Nova Scotia

**MACINTYRE MOUNTAIN
QUARRY EXPANSION PROJECT
WATER BALANCE ASSESSMENT**

Prepared by Mr. Jim Fraser, M.A.SC, P. Geo,

Date: January 2025

1.0 INTRODUCTION

This document outlines the Water Balance Assessment undertaken for the proposed MacIntyre Mountain Quarry Expansion Project, located in Kingsville, Inverness County, Nova Scotia. Dexter Construction Company Limited (Dexter) operates a Nova Scotia Environment and Climate Change (NSECC) approved quarry of less than 4 hectares at this location. The existing quarry serves as a strategic source of construction aggregate to support local construction and roadwork, as well as Nova Scotia Department of Public Works projects in the area. The existing 3.99-hectare quarry is proposed to be expanded to 20.39-hectares. The proposed quarry expansion is intended to provide additional aggregate reserves to support the long-term sustainability of the site. It is anticipated that the rate of quarry development will progress gradually, at a rate consistent with aggregate demand in the area and growth of the local market.

The Water Balance Assessment presented herein is an assessment of the estimated effects on surrounding surface water features resulting from the proposed quarry expansion. The methodology used for this water balance assessment is consistent with the approach used recently to assess similar quarry expansion projects undergoing Environmental Assessment.

For this water balance assessment three (3) site conditions were analyzed; existing (baseline) conditions, quarry full development conditions, and reclaimed quarry conditions. Existing conditions include a quarry area of approximately 3.99-hectares, which includes the highwall and crusher set-up and stockpile areas. Quarry full development conditions consider a development area of 18.85-hectares within the proposed expansion area. Reclamation conditions are representative of the site upon removal of all construction equipment and buildings, after re-contouring, and following the re-introduction of vegetative cover over the quarry areas.

Progressive reclamation will occur throughout the development and operation phases of the quarry, as per the established Reclamation Plan for the site. As the site is developed and aggregate reserves are depleted, disturbed areas no longer required for aggregate production or site related activities will be progressively rehabilitated. This includes using grubbing material originating onsite for site grading, slope construction, and re-vegetation efforts. Temporarily stockpiling and then re-use of overburden as a growing medium for the establishment of vegetation is anticipated to simulate pre-development conditions. Areas that have been progressively rehabilitated would be expected to have reduced surface water runoff and increased infiltration, reflective of natural conditions in the area. This Water Balance Assessment does not account for progressive reclamation, so the development scenarios presented represent the worst-case for each scenario with respect to runoff quantity.

Due to the range of infiltration rates possible, the water balance was completed for two (2) infiltration scenarios. The two infiltration scenarios represent the range of possible outcomes from existing/natural infiltration (most likely) to 100% impervious (worst case, no infiltration).

1.1 Data Collection

1.1.1 Topographic Data

The MacIntyre Mountain quarry and associated study area are located on MacIntyre Mountain in Kingsville, Inverness County, Cape Breton. The general area is characterized by exposed bedrock or otherwise shallow and wet soils with sloped, undulating terrain. Elevations are generally 200 to 300 m

above sea level. Topography at the site is described as hilly, sloping steeply (approximately 10-20% slope) to the east and southeast within the study area.

The proposed quarry expansion area is mostly within a single (1) Catchment Area (A)encompasses 82.7 hectares. The soil in the area consists of sandy loam. Mixed forests form the predominant cover.

Catchment areas were manually determined using a 5-meter contour layer from the province. A LiDAR digital elevation model (DEM) was prepared using provincially available LiDAR data and was then used to validate and confirm the catchment areas.

1.1.2 Climate Data

Precipitation and temperature data were collected from the Baddeck Climate Station (1981-2010), which is located approximately 65 kilometers (km) from the quarry. Monthly lake evaporation data was obtained from the Environment Canada Truro Station (1981-2010). The Truro station is the closest climate station to the Project Site that collects lake evaporation data and is located approximately 170 km away from the quarry. Monthly potential evapotranspiration data was calculated using the Hamon equation (1961) (Lu, et al., 2005). The Hamon equation requires monthly average hours of daylight and monthly average temperature as input. Monthly average hours of daylight were calculated for the site using the Sunrise and Sunset Calculator (<https://www.timeanddate.com/sun/>, last accessed on January 17, 2025).

Table 1 -Climate Normal Data

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
Temperature¹ (°C)	-5.4	-5.8	-2.3	3.2	9.0	13.9	18.1	18.5	14.6	8.9	3.8	-1.5	-
Precipitation¹ (mm)	155	125.6	128.6	125.8	104	104.8	97.5	107.2	127.8	137.1	155	166.3	1,535
Lake Evaporation² (mm)	0.0	0.0	0.0	0.0	89.9	102.0	117.8	96.1	69.0	40.3	0.0	0.0	515
PET³ (mm)	0.0	0.0	0.0	33.5	53.6	76.1	95.9	90.8	64.3	39.6	25.0	0.0	479

¹ Values obtained from the Debert Climate Station

² Values obtained from the Truro Climate Station

³ Potential Evapotranspiration was calculated using the Hamon equation (1961), Lu, et al., 2005) Average Daylight Hours from <https://www.timeanddate.com/> (Kingsville, NS)

2.0 METHODOLOGY

The Water Balance Assessment for the MacIntyre Mountain Quarry was prepared to assess predicted changes in local flow characteristics during an average year for the three site conditions (existing/full development/reclaimed quarry) and two infiltration scenarios (pervious/impervious). The methodology used for this water balance assessment is consistent with the approach used recently to assess similar quarry expansion projects undergoing Environmental Assessment.

2.1 Watershed Delineation

Pre and post development catchment areas were established for select points of interest around the proposed MacIntyre Mountain Quarry Expansion.

Table 2 – Pre and Post Expansion Catchment Area Comparison

Catchment Area	Pre-Development Area (ha)	Post-Development Area (ha)	Post-Development	
			Change (ha)	Change (%)
A	82.7	91.8	9.1	9.9%
B	133.4	127.0	-6.4	-5.0%
C	136.7	125.5	-11.2	-9.0%
D	101.2	108.8	7.6	7.0%

The area potentially affected by the proposed quarry expansion involves four catchment areas; however, the anticipated change in these catchment areas is relatively small. All runoff from the quarry is expected to flow through “Catchment A”, so the Water Balance Assessment was only carried forward for this catchment. Pre-development Catchment A encompasses a total of 82.7 ha. Post-development Catchment A encompasses a total of 91.8 ha.

The catchment area delineations, boundary of existing quarry operations, and the proposed quarry expansion area are presented on **Figure 1** and **Figure 2**.

2.2 Evaporation and Evapotranspiration Potential

Evaporation (E) describes the process of the return of moisture to the atmosphere from open water and land surfaces. Evaporation from plant surfaces is referred to as evapotranspiration (ET). The magnitude of evaporation and evapotranspiration over time is a function of the climate, soil, and vegetation in the area. Evaporation rates tend to peak in the summer months when temperatures are the highest, daylight hours are the longest, sun intensity is greatest, and the growing season is at its peak.

Lake evaporation (LE) is the amount of evaporation from an open body of water. In Atlantic Canada, the lake evaporation rate is greater than the standard evaporation rate because of the constant availability of water. Based on aerial photos and available wetland mapping it is noted that there are no open water sources and/or identified wetlands within Catchment Area A. So, for this water balance assessment lake evaporation has been determined to be 0% of available water.

Evapotranspiration rates were calculated using the Hamon equation (1961), which is based on average monthly temperatures and daylight hours. Potential evapotranspiration rates for the 4 months of January through March and December were set to zero due to low temperatures resulting in minimal potential for evapotranspiration. The total potential evapotranspiration used for this water balance is 479 mm/year. July represents the month with the highest PET at 95.9 mm. **Table 1** includes a summary of the potential evapotranspiration rates used as a water loss parameter in the water balance assessment.

2.3 Infiltration Factor

Water storage/infiltration has been estimated using the infiltration factors taken from Table 3.1 of the Ontario Ministry of Environment, Conservation and Parks (OMEC) Stormwater Management Planning and Design Manual (2003). Calculations using the OMEC Table 3.1 account for slope, soil types and vegetation cover when estimating the water holding capacity for an area. The slope, soil type, and vegetative cover within the quarry catchment area was used to determine the appropriate infiltration factor. Using this procedure, as outlined in Appendix 1 – Quarry Water Balance Factors, the quarry

catchment area was determined to be hilly (0.1), with predominantly woodland (0.2) and sandy loam soil (0.15).

Two scenarios were assessed for the infiltration conditions during existing and quarry full development conditions; (1) an impervious quarry floor where no infiltration occurred through the floor of the quarry; and (2) a pervious quarry floor consisting of similar infiltration capabilities as existing surficial soils (sandy loam). Due to the nature of the surficial soils and the presence of bedrock near the ground surface, it is unlikely the soil will have greater infiltration at the floor of the quarry than the existing surface. In this regard therefore, these two scenarios represent the maximum and minimum values for expected infiltration in the quarry. These two scenarios provide a range of potential outcomes resulting from quarry development. New infiltration factors for these scenarios were calculated using an area-ratio method.

Reclamation conditions were expected to be similar to pre-development conditions, with the exception of Flat Land (0.3) in the area where the quarry was located. An area-ratio method was applied to determine the appropriate infiltration factor for the slope and land use in the quarry catchment area.

Runoff volumes for this water balance were assumed to equal the total precipitation less the potential evapotranspiration, lake evaporation, and infiltration. Infiltration includes groundwater recharge and groundwater that contributes to surface water resources as baseflow. This Water Balance Assessment does not distinguish between the two, and as such groundwater recharge was not included in this water balance assessment. The proposed quarry expansion is not planned to enter the deep bedrock groundwater table and overall is not anticipated to significantly impact or alter groundwater. If future quarry operations are required to enter the water table, a hydrological study will be prepared to assess potential impacts to groundwater, and prior approval from NSECC will be obtained.

3.0 WATER BALANCE ANALYSIS

3.1 MacIntyre Mountain Quarry Catchment Area

The existing conditions include a 3.99-hectare quarry fully located within Catchment Area A. The Water Balance Assessment assumes that the existing Quarry will be expanded to a maximum 18.85-ha within the proposed expansion area. Surface water runoff from the existing quarry and proposed expansion area will follow the local topography, ultimately discharging southeast towards an unnamed tributary to River Inhabitants. **Table 3** summarizes the details of the Water Balance Assessment for the Catchment Area A under the three development scenarios considered (existing/full development/reclaimed quarry) and two infiltration (pervious/impervious) scenarios.

Table 3 – Water Balance – MacIntyre Mountain Quarry Catchment Area A

Quarry Catchment Area B	Area (ha)	Available Water (m ³)	Lake Evaporation (m ³)	PET (m ³)	Infiltration (m ³)	Runoff (m ³)	Change in Infiltration from Existing Conditions	Change in Runoff from Existing Conditions
Existing Conditions: Impervious Quarry Floor	82.7	1,268,967	0	395,929	386,532	486,506	-	-
Quarry Full Development: Impervious Quarry Floor	91.8	1,409,085	0	439,647	406,393	563,045	5.1%	15.7%
Existing Conditions: Pervious Quarry Floor	82.7	1,268,967	0	395,929	397,091	475,948	-	-
Quarry Full Development: Pervious Quarry Floor	91.8	1,409,085	0	439,647	456,150	513,288	14.9%	7.8%
Quarry Reclamation: Pervious Quarry Floor	91.8	1,409,085	0	439,647	466,102	503,337	17.4%	5.8%

Based on the results of the Water Balance Assessment it is estimated that the change in infiltration for Catchment Area A from Existing Conditions to Full Development ranges between 5.1% (Impervious Quarry Floor) to 14.9% (Pervious Quarry Floor). Following Quarry Reclamation, infiltration is expected to increase slightly.

It is estimated that the change in runoff for Catchment Area A from Existing Conditions to Full Development ranges from 15.7% (Impervious Quarry Floor) to 7.8% (Pervious Quarry Floor). Following Quarry Reclamation, runoff is expected to decrease slightly.

4.0 SUMMARY

The MacIntyre Mountain Quarry water balance assessment was prepared to estimate potential changes in surface water flow and assess the potential impact of the proposed quarry expansion on the local hydrological regime. The methodology used for this water balance assessment is consistent with the approach used recently to assess similar quarry expansion projects undergoing Environmental Assessment.

Based on the results of the water balance assessment it is estimated that the change in infiltration for Catchment Area A from Existing Conditions to Full Development ranges between 5.1% (Impervious Quarry Floor) to 14.9% (Pervious Quarry Floor).

It is estimated that the change in runoff for Catchment Area A from Existing Conditions to Full Development ranges from 15.7% (Impervious Quarry Floor) to 7.8% (Pervious Quarry Floor).

It is noted that the quarry is only operated on an as-needed basis to supply aggregate for local construction projects. The continued development and expansion of the site is expected to be gradual, with rock incrementally removed from the highwall as needed. The estimated changes in infiltration and runoff would slowly occur over the next several decades, which will allow for field data to be collected to measure any actual changes and provide the local environment with an opportunity to adapt to any changes.

The results of the Water Balance Assessment will be used to form the basis of further analysis and design of surface water management infrastructure at the quarry in the future. It is anticipated that conditions of any Environmental Assessment approval issued for the proposed quarry expansion will require a detailed surface water monitoring plan, groundwater monitoring plan, and erosion and sediment control plan. These items will be developed following Environmental Assessment approval for the project, as part of the subsequent Industrial Approval amendment process. Water management and monitoring plans will be used to validate the findings of the water balance assessment.

5.0 CONCLUSION

The MacIntyre Mountain Quarry Water Balance Assessment was prepared to estimate changes in surface water flow and assess the potential impact of the proposed quarry expansion on the local hydrological regime. The methodology used for this water balance assessment is consistent with the approach used recently to assess similar quarry expansion projects undergoing Environmental Assessment.

Water management and monitoring plans will be implemented as part of the Industrial Approval process to validate the findings of the water balance assessment.

6.0 REFERENCES

Lu et al. (2005). "A Comparison of Six Potential Evapotranspiration Methods for Regional Use in the Southeastern United States". Journal of the American Water Resources Association, 41, 621-633.

Ontario Ministry of the Environment. (2003). Stormwater Management Planning and Design Manual.

Climate Normal Data (Data taken from Baddeck and Truro Environment Canada Stations).

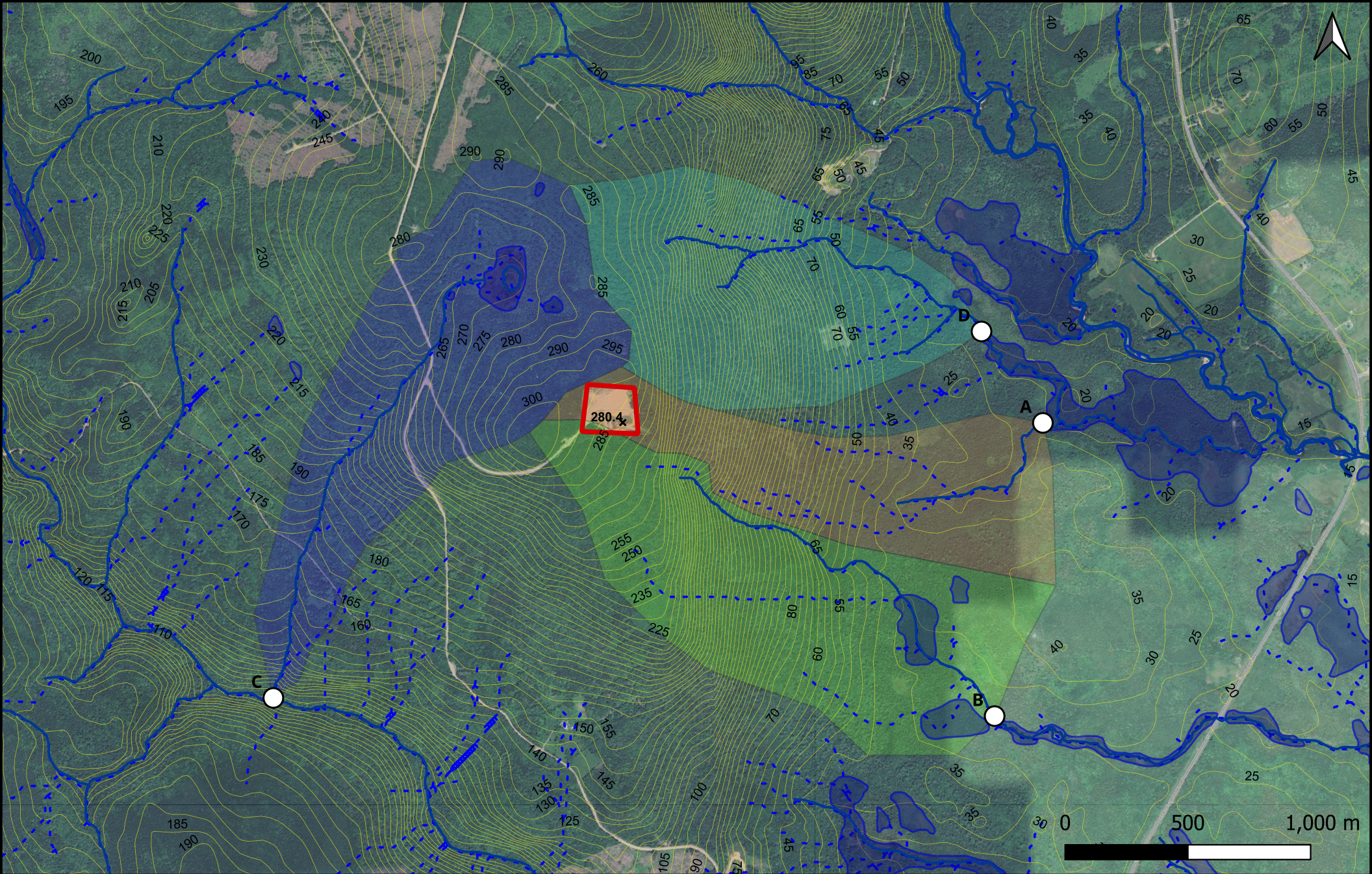


Figure 1
MacIntyre Mountain Quarry
Pre-Development Catchment Areas

January 24, 2025

Legend

- | | | |
|--|---|---|
| — Approved Quarry Permit Boundary (3.96 ha) (existing) | — Watercourses (1:10,000) | Catchment A (826,850 m ²) |
| — Topo Lines (1:10,000) | - - - Flow Accumulation Channels | Catchment B (1,333,520 m ²) |
| Point of Interest | Wetlands (1:10,000) | Catchment C (1,367,120 m ²) |
| | | Catchment D (1,101,770 m ²) |

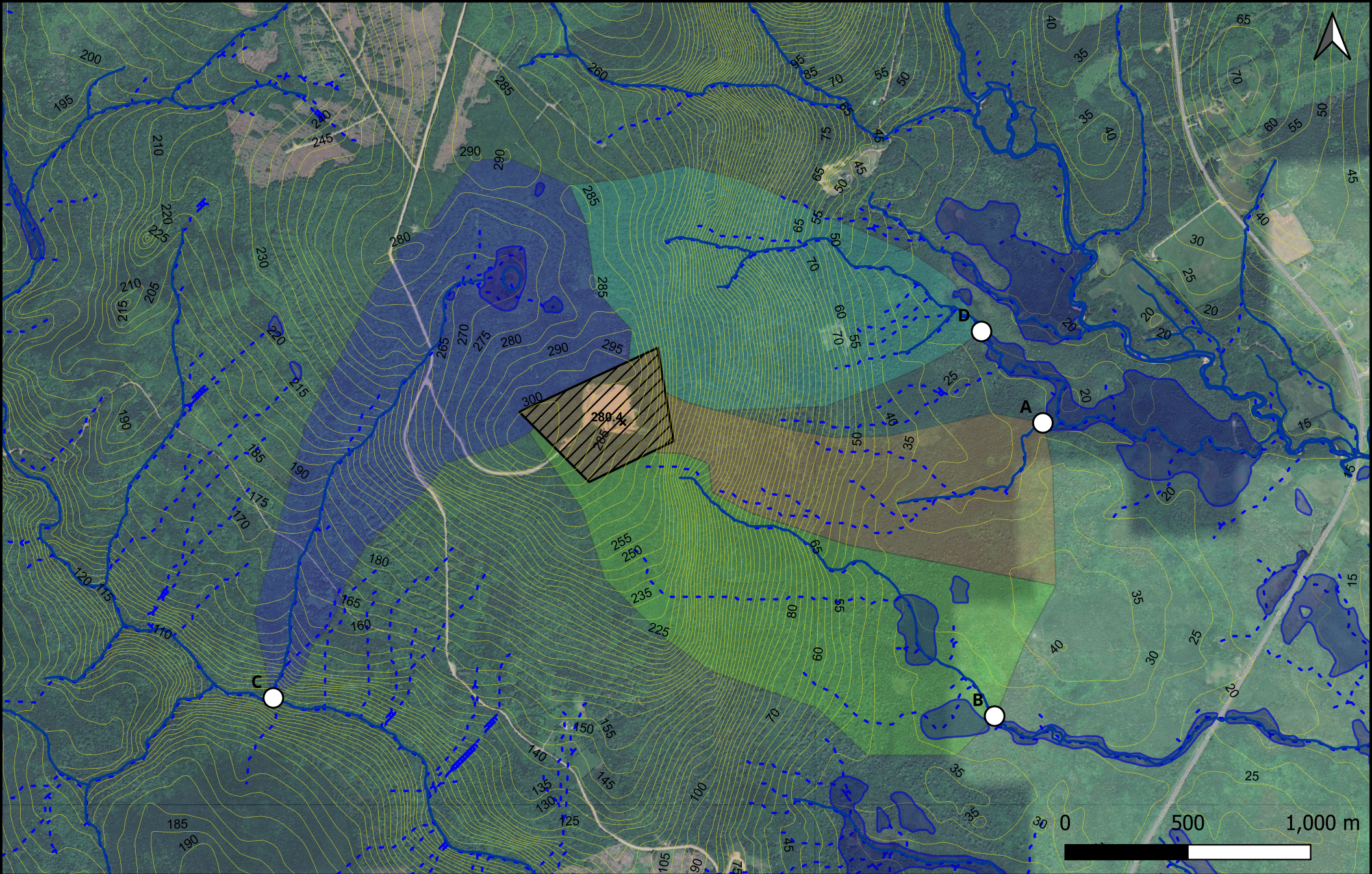












Figure 2
MacIntyre Mountain Quarry
Post-Development Catchment Areas

January 24, 2025

Legend

- | | | |
|--|--|---|
|  Quarry Development Area (18.85 ha) |  Watercourses (1:10,000) |  Catchment A (918,150 m ²) |
|  Topo Lines (1:10,000) |  Flow Accumulation Channels |  Catchment B (1,269,880 m ²) |
|  Point of Interest |  Wetlands (1:10,000) |  Catchment C (1,254,850 m ²) |
| | |  Catchment D (1,087,640 m ²) |

MacIntyre Mountain Quarry Water Balance Factors

Catchment	Development Stage	Scenario	Total Catchment Area <i>m²</i>	Total Quarry Area in Catchment <i>m²</i>	Land Area ¹		Topography ²			Cover				Soils			Total Infiltration Factor
					Open Water Bodies & Wetlands <i>m²</i>	Land Area <i>m²</i>	Quarry <i>(flat land)</i> <i>m²</i>	Other Slope <i>(hilly land)</i> <i>m²</i>	Area - Ratio Infiltration Factor	Quarry <i>m²</i>	Roads <i>(impervious)</i> <i>m²</i>	Forested <i>(woodland)</i> <i>m²</i>	Area - Ratio Infiltration Factor	Quarry <i>m²</i>	Sandy Loam Soil <i>m²</i>	Area - Ratio Infiltration Factor	
Catchment A	Existing Conditons	Impervious Quarry Floor	826,850	40,000	0	826,850	40,000	786,850	0.11	40,000	0	786,850	0.19	40,000	786,850	0.14	0.443
Catchment A	Quarry Full Development	Impervious Quarry Floor	918,150	188,500	0	918,150	188,500	729,650	0.14	188,500	0	729,650	0.16	188,500	729,650	0.12	0.419
Catchment A	Existing Conditons	Pervious Quarry Floor	826,850	40,000	0	826,850	40,000	786,850	0.11	40,000	0	786,850	0.20	40,000	786,850	0.15	0.455
Catchment A	Quarry Full Development	Pervious Quarry Floor	918,150	188,500	0	918,150	188,500	729,650	0.14	188,500	0	729,650	0.18	188,500	729,650	0.15	0.471
Catchment A	Quarry Reclamation	Pervious Quarry Floor	918,150	188,500	0	918,150	188,500	729,650	0.14	188,500	0	729,650	0.19	188,500	729,650	0.15	0.481

Infiltration Factors³

Topography	
Flat Land (average slope <0.6 m/km)	0.3
Rolling Land (average slope 2.8 m/km to 3.8 m/km)	0.2
Hilly Land (average slope (28 m/km to 47m/km or 2.8% to 4.7%)	0.1
Soils	
Tight impervious clay	0.1
Sandy Loam Soil	0.15
Medium combinations of clay and loam	0.2
Open sandy loam	0.4
Cover	
Cultivated land	0.1
Partial Woodland	0.15
Woodland	0.2
Impervious	
Roads, etc.	0

Assumptions
Quarry floor slope = flat land
Forested area = woodland due to historic tree harvesting in the area
Soils = sandy loam soil
Pervious quarry floor = cultivated land
Reclaimed quarry floor = partial woodland

¹ Estimated using Google Earth Imagery
² Estimated using provincial 1:10,000 topography data
³ Ontario Ministry of Environment, Conservation and Parks, SWM Planning and Design Manual

APPENDIX G
PUBLIC CONSULTATION DOCUMENTATION

Environmental Assessment Registration Document:
McIntyres Mountain Quarry Expansion
Kingsville, Inverness County
Nova Scotia



June 5, 2025

Membertou First Nation
47 Maillard Street
Membertou, Nova Scotia
B1S 2P5

Attn: Chief Terrance Paul
Sent via email to terrypaul@membertou.ca

Re: McIntyres Mountain Quarry Expansion Project, Inverness County

Further to our letter of September 6, 2024, regarding the proposed McIntyres Mountain Quarry Expansion Project, this letter is to inform you that Municipal Enterprises Limited, an affiliated company of Dexter Construction Company Limited, will be registering the Project for Environmental Assessment (EA) on June 18, 2025.

A Public Notice accompanying the registration will appear in the Chronicle Herald and Cape Breton Post on the registration date. Attached is a copy of the Notice for your reference.

Hard copies of the EA Registration Document will be available for review at the Port Hawkesbury Public Library, Inverness County Municipal Office, and the Nova Scotia Environment and Climate Change (NSECC) Regional Office in Port Hawkesbury. An electronic copy of the document will also be available through the NSECC EA website (<https://www.novascotia.ca/nse/ea/>).

Any questions or comments regarding the Project may be directed to either Municipal Enterprises Limited or the NSECC Environmental Assessment Branch (EA@novascotia.ca), until July 28, 2025.

We would be pleased to meet with you to discuss the Project in more detail. Should you wish to arrange a meeting, please contact us at your convenience.

Sincerely,

DEXTER CONSTRUCTION COMPANY LIMITED

Gary Rudolph, P.Eng
Director of Aggregates
grudolph@dexter.ca
902-832-6346

Copy: Gillian Fielding, Consultation Advisor, Office of L'nu Affairs