

Final Report to NS Department of Natural Resources Habitat Conservation Fund (HCF)

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Project Title: Fostering citizen science and conservation at coastal bird 'hot spots' on Nova Scotia's shores

Project Overview: This project engaged community members across NS – from Cape Breton to Cape Sable Islands - in meaningful science and conservation activities that enhance coastal habitats and improve understanding of coastal bird populations. Diverse partnerships, training workshops and one-on-one mentoring were used to build skills, foster stewardship, and enable a network of volunteer 'citizen scientists' to participate in and contribute to diverse monitoring, research and conservation initiatives focusing on waterfowl, shorebirds, seabirds, and coastal habitats. We engaged over 100 Nova Scotians in citizen science and coastal stewardship, surpassing our goal.

Project Goals: There were two goals of this project:

- 1) Strengthen and expand a growing network of volunteers who are directly engaged in coastal bird monitoring, research, and habitat conservation (citizen science) around NS; and
- 2) Enhance scientific understanding and stewardship of coastal birds and habitats by connecting volunteers to new and ongoing monitoring, research and conservation initiatives happening in or near communities around NS.

Project Objectives and Work Completed:

Objective 1. Identify information gaps, conservation needs, and opportunities for volunteer involvement in a variety of shorebird, waterfowl and seabird monitoring and coastal habitat conservation initiatives in NS (e.g., research projects, Migratory Bird Sanctuaries, Wildlife Management Areas, Important Bird Areas, species at risk programs).

Seizing opportunities and connecting with partners were essential approaches for this project. Throughout the project period, we consulted with government, non-government, academic and community group partners on diverse research, monitoring and conservation initiatives that could benefit from volunteer involvement. These partnerships helped us exceed our 80 volunteer engagement target.

Table 1 provides an overview of many of these partnerships and initiatives. We were able to make direct connections between volunteers and research scientists with one of the best examples at the Minas Basin Important Bird Area (IBA). Volunteers from Blomidon Naturalists Society assisted researchers from Mount Allison University, New Jersey Audubon and Canadian Wildlife Service by surveying intertidal mudflats and re-sighting multiple banded Semipalmated Sandpipers (see photo). Several re-sighted birds had been banded in South America. All re-sightings were valuable contributions.

Most citizen science activities were focused on designated IBAs and two Migratory Bird Sanctuaries, which are known coastal 'hot spots' for birds; however, we also seized opportunities to work on other areas of known significance, such as NS Nature Trust (NSNT) and Nature Conservancy of Canada (NCC) conservation lands. Through this



This banded Semipalmated Sandpiper was documented at Minas Basin IBA and reported to Mt. Allison U. and CWS researchers by volunteer, Rick Whitman.

project we strengthened our partnerships with other non-profit organizations, particularly NSNT and NCC. Specifically, we trained and connected local volunteers to their projects and conservation lands.

Objective 2. Continue to support existing network of volunteers engaged in shorebird migration and waterfowl monitoring on South Shore (building on BSC's previous work supported by Habitat Conservation Fund).

Through support from Habitat Conservation Fund, we have developed two successful training workshops for non-experts to build knowledge on coastal habitats and birdlife, volunteer-based monitoring opportunities and learn key skills to contribute as a citizen scientist. Results of this are shown by the high number of volunteer engagement in shorebird workshops and migrant shorebird habitats within South Shore IBAs (see Table 1). We ran a successful workshop focusing on the

Pomquet Beach Region IBA, which included several participants from Antigonish Harbour Watershed Association. We also collaborated with NCC on waterfowl monitoring within the South Shore Port Joli IBA. Data from this event was shared with CWS Migratory Bird Sanctuary and Parks Canada management as well as via eBird.ca.

Objective 3. Engage at least 80 volunteers in bird monitoring, research projects, and habitat conservation activities that benefit coastal birds and promote local stewardship on the Northumberland Shore, Eastern Shore, Fundy Shore, South Shore, and Cape Breton Island.

Table 1 provides an overview of our engagement activities. In total, 148 Nova Scotians were engaged as citizen scientists – by far surpassed our target of 80 volunteers. As we had proposed, project activities successfully reached community members and groups in Northumberland Shore, Eastern Shore, Fundy Shore, South Shore, and Cape Breton Island.

Objective 4. Enhance effort and coverage of coastal bird monitoring, research and habitat conservation initiatives, and increase community-based coastal stewardship through volunteer involvement.

We successfully expanded citizen science efforts beyond previous strongholds along Nova Scotia's South Shore. Data from project activities was uploaded to eBird.ca and, therefore, will be accessible to the public and decision-makers. Beyond this project, many volunteer citizen scientists will continue to visit coastal 'hot spots' in Nova Scotia, initiate and participate in conservation activities, monitor wildlife and habitats and act as valuable eyes and ears. We also recognize that there's a strong desire among community groups and individuals across NS to develop knowledge and skills on coastal habitats and wildlife and to become engaged in meaningful conservation and science.



Project participants in Port Joli IBA (above) and Pomquet IBA.

Achievements and Lessons Learned:

Overall, we feel that this project was a resounding success. We strengthened a network of diverse partners and provided meaningful linkages between community members and community groups to unique coastal habitat and bird initiatives. Coastal habitats were enhanced through this project through clean-ups, monitoring and improved signage. Building engagement opportunities in Cape Breton will require strong partnerships and additional resources; however, we hope to focus more on Cape Breton Island in the near future.

In conclusion, we acknowledge NS DNR's Habitat Conservation Fund for supporting this project. We also thank all volunteers and the following individuals and partners who assisted in project planning and activities: Zoe Crysler (Acadia U), Fisherman & Scientists Research Society, Carina Gjerdrum (CWS), Helen Gorham (Barrington Reg. High School), Diana Hamilton (Mt. Allison U.), Colin MacKinnon (CWS), Mary Manning (Shelburne Reg. High School), Tony Miller (Antigonish Harbour Watershed Assoc.), Pam Mills (NS DNR), Craig Smith (NCC), Phil Taylor (Acadia U.), Dirk van Loon (Harrison Lewis Centre), Alice Walker (NSNT), Rick Whitman (BNS) and other members of the Blomidon Naturalists Society.

Table 1. Details of Project Activities on Citizen Science Engagement

Coastal ecosystem or habitat	Coastal birds or bird group	Region of NS	Citizen Science Action	# Citizen Scientists Engaged	IBA site (if applicable)	When? (mo/yr)	Research or Conservation Partners Engaged
Coastal marine ecosystems	Northern Gannet	NS-wide	Engaged fishermen and other coastal users in reporting Northern Gannet sightings through listserve and FSRS newsletter to fishermen.	5	N/A	08/12	- Can. Wildlife Service - Fisherman & Scientists Research Society (FSRS)
	Harlequin Duck	Atlantic Coast	Engaged a local landowner in Harlequin Duck surveys off Johnson's Pond, Shelburne Co.	1	South Shore IBA (Port Joli Sector)	11/12 – 04/13	N/A
	Seabirds	Bay of Fundy	Engaged 4 local bird experts and one community member in development of a conservation action list to further conservation of habitats at Brier Island IBA.	5	Brier Island & Offshore Waters	10/12 & 08/13	N/A
Intertidal habitats	Fall migrant shorebirds	Bay of Fundy	Engaged 8 Blomidon Naturalists Society members in IBA stewardship activities: public outreach event; habitat clean-up; shorebird monitoring and band re-sighting; and improved signage to reduce disturbance.	8	Minas Basin IBA	07/12 – 10/12 & 07/13 – 10/13	- Blomidon Naturalists Society - Mount Allison University - New Jersey Audubon Society - NS DNR
		South Shore	Conducted 2 workshops and site visits with local community members focusing on building skills for conducting site visits to monitor habitats and shorebirds.	33	South Shore IBAs: Cape Sable Is. Barrington Bay Roseway-Baccaro Port Joli	05/12 - 10/12 & 08/13 – 09/13	- NS Nature Trust - Can. Wildlife Service's Atl. Canada Shorebird Survey - Great Basin Bird Obs.
		Eastern Shore	Trained and engaged 3 volunteers as shorebird surveyors. 25 surveys conducted at different sites.	3	Musquodoboit IBA	07-10/12 & 07-09/12	- Can. Wildlife Service's Atl. Canada Shorebird Survey
		Northumberland Shore	Engaged 6 community members and 2 DNR biologists in shorebird workshop to build capacity for intertidal bird monitoring.	9	Pomquet Beach Region IBA	08/13	- NS DNR - Antigonish Harbour Watershed Association

Table 1. Description of Citizen Science engagement efforts *continued*

Coastal ecosystem or habitat	Coastal birds or bird group	Region of NS	Citizen Science Action	# Citizen Scientists Engaged	IBA site (if applicable)	When? (mo/yr)	Research or Conservation Partners Engaged	
Intertidal habitats <i>continued</i>	Purple Sandpiper	Atlantic Coast	Engaged 10 volunteers in intertidal surveys for Purple Sandpipers	10	South Shore IBA Port Joli Sector	03/12	- NS DNR - Can. Wildlife Service	
	Ipswich Sparrow	Atlantic Coast	Contacted 4 and engaged 1 landowners as research participants in tracking study	1	South Shore IBAs	08-11/12	- Acadia University: MSc student, Zoe Crysler & Dr. Phil Taylor	
			Engaged 6 volunteers and 1 landowner in 12 habitat surveys for Ipswich Sparrow research project.	7	Musquodoboit IBA			
	Piping Plover	Cape Breton Island	Engaged 4 volunteers and two community groups in monitoring and habitat protection in Aspy Bay, Glace Bay, Mabou and Port Hood regions.	4	Big Glace Bay IBA	05-08/12	- NS DNR - Port Hood Community Development Assoc. - West Mabou Beach Committee	
			Halifax-Dartmouth Area	Removed 5 large bags of garbage from beach, dune and wetland habitat at Conrads Beach.	8	N/A	09/12	- NS DNR
			South Shore	Collaborated with high school and NSNT on beach clean-ups at 2 IBAs. (Clean-up planned for Sep 2013).	28	South Shore IBAs: Cape Sable Island Roseway-Baccaro	05/12-05/13	- NSNT - Barrington High School
Coastal wetlands	Coastal waterbirds	Northumberland Strait	Held meetings with Antigonish Harbour Watershed Association to discuss initiating a citizen science project to identify and monitor several coastal wetland hot spots and a suite of coastal waterbirds.	7	Pomquet Beach Region IBA	05/12 & 04/13	- Antigonish Harbour Watershed Association	
	Coastal waterfowl	South Shore	Partnered with NCC and HLC on waterfowl event to assess coastal waterfowl use within Port Joli Sector IIBA. Engaged 19 volunteers. Data shared with CWS and PCA.	19	South Shore IBA Port Joli Sector	11/12	- Nature Conservancy of Canada (NCC) - Harrison Lewis Centre (HLC) - Can. Wildlife Service - Parks Canada (PCA)	
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