

**Southwest Nova Scotia Habitat Conservation Strategy
Summary Report January 2017**

Habitat Conservation Priority – Coastal Islands

The following represents one of a series of summary documents that have been developed to aide in the dissemination of information presented in the *Southwest Nova Scotia Habitat Conservation Strategy*. For more detailed information, please see the final report, Farrow & Nussey 2015.

Coastal islands are abundant in the Southwest Nova Scotia (SWNS) bioregion, mostly located among the many large bays and inlets along the shorelines with the Atlantic Coast and Gulf of Maine (Figure 1). They are an important habitat component for many species, including a number of critical breeding sites for seabirds and waterfowl (Environment Canada 2013). Due to their isolation, islands are often free of predators and other sources of disturbance, providing excellent habitat for colonial breeding birds, including Common Eider, Razorbill, Atlantic Puffin, Roseate Tern, and Leach's Storm Petrel, which nest almost exclusively on islands (NS EHJV 2008). Islands in the southern end of the bioregion also provide ideal stopover sites for hundreds of thousands of migrating birds, and over-wintering sites for the federally and provincially listed Harlequin Duck, which over-winters in five to six known discreet locations in waters adjacent to the bioregion's abundant coastal islands (NS EHJV 2008).

Brier Island, located at the westernmost point of Nova Scotia in the Bay of Fundy, and its surrounding marine waters are recognized as a globally significant area for migrating shorebird and waterbird species, including phalaropes, shearwaters, and Black-legged Kittiwake (IBA 2012). Thousands of Razorbill, Thick-billed Murre, and Dovekie overwinter in the waters around Brier Island. North Brothers, one of two islets that make up The Brothers located approximately 700 m from the southwest coast of Nova Scotia, supports the largest population of Roseate Tern in Canada, representing approximately half of the estimated Canadian population among the 550 to 725 pairs of nesting Arctic and Common Tern found on the island (IBA 2012; J. McKnight, per. comm.). These two islands have been designated as a wildlife management area and activities that threatened the tern colony are being managed. Bon Portage Island, also located on the southwest coast, supports the largest known colony of Leach's Storm Petrel in the Maritimes. Cape Sable Island, located at the southernmost point of Nova Scotia, represents a globally significant stopover for spring and fall shorebird migrant species, including Semipalmated Sandpiper, Black-bellied Plover, Sanderling, Least Sandpiper, Dunlin, and the federally endangered Red Knot (IBA 2012). Other waterbirds that can be found using the abundant coastal islands in the region include loons, herons, cormorants, and seaducks. Conservation of coastal islands within the bioregion will contribute to the conservation of 12 priority species.

Nested Conservation Priority Species

- Roseate Tern (EN)
- Leach's Storm Petrel
- Harlequin Duck (SC)
- Common Eider
- Razorbill
- Atlantic Puffin

Landscape context assessment of coastal islands: Good

Development within the bioregion is concentrated along the coastlines; nonetheless approximately 80% of the land adjacent to the coast is classified as undeveloped (CBCL Ltd. 2009). A high percentage of the coastline, including coastal islands is under private ownership however, so there is considerable potential for increased coastal development. The numerous drumlin islands of Mahone Bay (just east of the bioregion) for example, are under increasing pressure from human activity and development given the closer proximity to the Halifax Regional Municipality. The sensitivity of the bioregion to sea-level rise and hence coastal erosion is high to moderate along the shorelines with the Atlantic Ocean and the Gulf of Maine, where the majority of coastal islands occur (Shaw *et al.* 1998). In total 775 ha (6.4%) of coastal islands in the bioregion are currently under protected or conservation status.

Condition assessment of coastal islands: Good

Islands are isolated by nature, but may be subject to varying levels of disturbance, based on their location and activities in surrounding waters. Predators gain access to near shore islands by swimming (i.e., American Mink) or over the ice during cold winters (i.e., Eastern Coyote). At present, low levels of human habitation and use on most coastal islands in the bioregion have resulted in minimal anthropogenic disturbance. Uncontrolled sheep grazing, however, occurs on a number of coastal islands in Lobster Bay. The impact of this practice is localized; however, grazing sheep can be extremely detrimental to native vegetation and have the potential to introduce invasive plant species (Morrison & Hines-Clark 1999). Their grazing activity may also result in disturbance to migratory birds nesting in tall grasses on coastal islands (Nocera 2000).

Size assessment of coastal islands: Not Applicable

Islands in the bioregion are considered important regardless of size given their use by a broad suite of priority species, though larger islands can host permanent populations of mammalian predators. There are at least 935 coastal islands

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(mapped islands located up to 5 kilometres offshore) within the bioregion, with an average size of 13.5 ha and a total area of 12,031 ha, or 0.7% of the bioregion.

Current threats to coastal islands

- 1.1 Cottage and residential development
- 2.3 Livestock farming and ranching
- 2.4 Marine shellfish and finfish aquaculture
- 4.3 Shipping activity oil spills and discharges
- 6.1 Recreational beach use
- 8.2 Problematic native species

Emerging threats to coastal islands

- 11.1 Sea-level rise and coastal erosion
- 11.5 Storm-induced coastal erosion

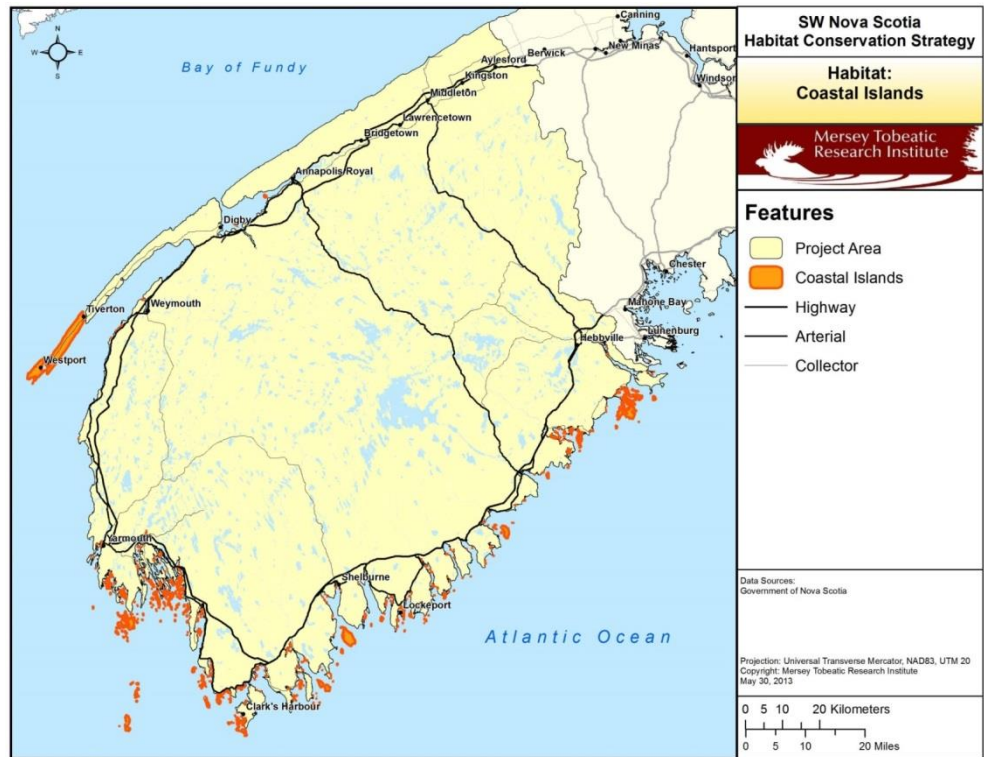


Figure 1. Coastal islands within the Southwest Nova Scotia bioregion.

Overall assessment of coastal islands in the Southwest Nova Scotia bioregion: Good

References

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Table 1. Conservation actions related to coastal islands for conservation partners in the Southwest Nova Scotia bioregion.

Conservation Actions¹ Description of related action (specific and measurable if possible)	Collaborators	Importance²	Date for Completion	Priority Habitat(s)³	Primary Related Threat(s)
1. Land/Water Protection					
1.1 Site/Area Protection Contribute to Marine Protected Area planning within the Scotian Shelf marine bioregion, and the identification and description of Ecologically and Biologically Significant Areas and other habitat classification schemes that contribute towards the protection of 10% of coastal and marine areas by 2020.	DFO, EC, PC	Necessary	2020	Beaches and Dunes, Tidal Marshes, Tidal Flats, Coastal Islands	
1.1 Site/Area Protection Province of Nova Scotia to designate 68 000 ha of new protected areas under the 14% Protected Areas Initiative.	Province of NS	Necessary	2025	All	
1.1 Site/Area Protection Secure 500 ha of priority 1 and priority 2 coastal habitat to protect them from development.	NCC	Necessary	2025	Beaches and Dunes, Tidal Marshes, Tidal Flats, Coastal Islands	1.1 Cottage and residential development
1.1 Site/Area Protection Acquire priority coastal habitat as opportunities arise.	NSNT	Necessary	2025	Beaches and Dunes, Tidal Marshes, Tidal Flats, Coastal Islands	
2. Land/Water Management					
2.1 Site/Area Management Inform and implement the North American Waterfowl Management Plan (NAWMP) and conduct waterfowl surveys as required by the plan.	EC, EHJV, USFWS, USGS	Necessary	Ongoing	Tidal Marshes, Tidal Flats, Coastal Islands, Freshwater Wetlands, Grasslands, Riparian and Floodplain Systems	
2.1 Site/Area Management Implement management plans for Sand Pond National Wildlife Area and Sable River, Port Joli, Haley Lake, and Port Hebert Migratory Bird Sanctuaries.	EC	Necessary	Ongoing	All	
Site/Area Management Complete ecological risk assessments to assess threats to species and	Province of NS	Beneficial		All	

¹ Categories based on IUCN – CMP Unified Classification of Conservation Actions Needed (Version 2.0). Actions are meant to be specific and measurable if possible, and are not listed in order of importance.

² CRITICAL: Conservation actions that, without implementation, would clearly result in the reduction of viability of a biodiversity target or the increase in magnitude of a critical threat within the next 5-10 years. Also includes research information that is needed before key decisions can be made on the management of biodiversity targets. NECESSARY: Conservation actions that are needed to maintain or enhance the viability of biodiversity targets or reduce critical threats. Also includes research that will assist in decisions on management of biodiversity targets. BENEFICIAL: Conservation actions that will assist in maintaining or enhancing viability of biodiversity targets and reducing threats.

³ Priority Habitats: Beaches and dunes, tidal marshes, tidal flats, coastal islands, freshwater wetlands, Acadian forest mosaic, riparian and floodplain systems, grasslands/agro-ecosystems, barrens.

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Conservation Actions ¹ Description of related action (specific and measurable if possible)	Collaborators	Importance ²	Date for Completion	Priority Habitat(s) ³	Primary Related Threat(s)
ecosystems within existing and proposed protected areas. Create a spatial layer of sensitive habitats and ecosystems to aid in planning and an action plan for protected area managers.					
2.1 Site/Area Management Continue ecological integrity monitoring to assess the state of forest, freshwater, wetland, and coastal ecosystem health in Kejimikujik National Park through the monitoring, analysis, and reporting of approximately 30 measures (e.g., forest birds, salamanders, water quality, soft-shell clams, Eelgrass) and by summarizing these finding in the <i>State of the Park Report</i> .	Parks Canada through collaboration with many partners	Necessary	Ongoing	All	
2.2 Invasive/Problematic Species Control Establish a structure to facilitate collaboration and strategic decision making regarding invasive species control techniques.	NCC, MTRI	Beneficial	2020	All	8.1 Invasive/ alien species/ diseases
2.2 Invasive/Problematic Species Control Raise awareness of invasive species in Nova Scotia and the role they play in ecosystems through the Backyard Biodiversity project.	PC, MTRI	Beneficial	Ongoing	All	8.1 Invasive / alien species/ diseases
3. Species Management					
3.1 Species Management Continue to monitor the Eastern Mountain Avens on Brier Island and Digby Neck as needed and continue studies of reproduction and growth with partners. Assist with baseline studies of conditions in Big Meadow Bog and other critical habitat sites and monitor gull populations and vegetation threats in Big Meadow Bog.	Fernhill Institute for Plant Conservation, MTRI, NCC, EC, NSDNR, Acadia University, Nova Scotia Museum of Natural History	Necessary	Ongoing	Freshwater Wetlands	1.1.1 Cottage and residential development
3.2 Species Recovery Engage and consult with all partners in the development of SAR recovery documents, and support the activities described within recovery documents for the schedule of studies for SAR and the identification of their critical habitat within the SWNS bioregion.	EC, NSDNR, Academic Institutions, NSNT, NCC, MTRI	Necessary	Ongoing	All	
4. Education and Awareness					
4.3 Awareness and Communications Address habitat threats through the education and engagement of stakeholders, landowners, and landusers.	NSNT	Beneficial	Ongoing		
4.3 Awareness and Communications Continue to work with partners to engage the communities of Brier Island and Digby Neck about Eastern Mountain Avens conservation through public meetings, the Gulf of Maine Institute youth group, and the community stewardship committee.	Fernhill Institute for Plant Conservation, MTRI, NCC, EC, NSDNR, Acadia	Necessary	Ongoing	Freshwater Wetlands	1.1.1 Cottage and residential development

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Conservation Actions ¹ Description of related action (specific and measurable if possible)	Collaborators	Importance ²	Date for Completion	Priority Habitat(s) ³	Primary Related Threat(s)
	University, NS Museum of Natural History				
5. Law and Policy					
5.1.2 Legislation (National level) Implement the Migratory Bird Convention Act, Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act, Species at Risk Act, Canadian Environmental Protection Act, Canada Wildlife Act, Environmental Enforcement Act, Canadian Environmental Assessment Act, Fisheries Act.	EC, DFO	Necessary	Ongoing		
5.4 Compliance and Enforcement Undertake wildlife and environmental enforcement activities (EC Wildlife Enforcement, Environmental Enforcement); address illegal hunting and disturbance, illegal activities and habitat destruction	EC, Province of NS	Necessary	Ongoing	All	
6. Livelihood, Economic, and Other Incentives					
6.4 Conservation Payments Implement and encourage the use of EC Ecological Gifts (Ecogifts) program.	EC, NCC, NSNT	Necessary	Ongoing	All	
7. External Capacity Building					
7.2 Alliance and Partnership Development Provide EC-CWS input into: Staying Connected Initiative, Western Hemispheric Shorebird Reserve Network, and Important Bird Areas.	EC through collaboration with many partners	Beneficial	Ongoing	All	
7.3 Conservation Finance Communicate, inform, and increase awareness related to funding opportunities for conservation: <i>North American Wetland Conservation Act</i> (NAWCA)/Eastern Habitat Joint Venture (EHJV), North Atlantic Landscape Conservation Cooperative (NALCC); National Conservation Plan (NCP): Atlantic Ecosystems Initiative (AEI), Habitat Stewardship Program (HSP), Aboriginal Fund for Species at Risk (AFSAR), National Wetland Conservation Fund (NWCF).	EC, US Federal and State partners	Necessary	Ongoing	All	
7.3 Conservation Finance Continue to engage longstanding/key funding partners to support conservation work in the SWNS bioregion.	NCC, MTRI, NSNT, ENGOS	Necessary	Ongoing	All	