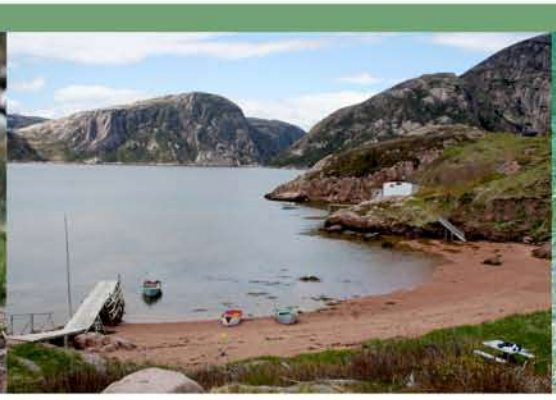
# Special Marine Areas

## in Newfoundland and Labrador

## 2nd Edition

CPAWS

CANADIAN PARKS AND WILDERNESS SOCIETY
NEWFOUNDLAND AND LABRADOR CHAPTER



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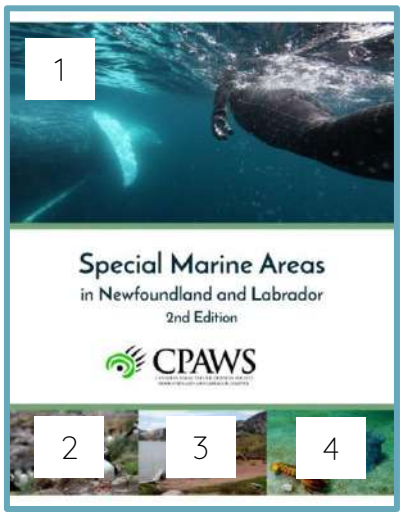


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## LIST OF ABBREVIATIONS

| | |
|---|---|
| AOI | Area of Interest |
| CBD | Convention on Biological Diversity |
| COSEWIC | Committee on the Status of Endangered Wildlife in Canada |
| CPAWS | Canadian Parks and Wilderness Society |
| CSAS | Canadian Science Advisory Secretariat |
| DFO | Fisheries & Oceans Canada |
| EBSA | Ecologically and Biologically Significant Area |
| ECCC | Environment and Climate Change Canada |
| EEZ | Canada's 200 nautical-mile Exclusive Economic Zone |
| EHJV | Eastern Habitat Joint Venture |
| IBA | Important Bird Area |
| IUCN | International Union for Conservation of Nature |
| MBS | Marine Bird Sanctuary |
| MPA | Marine Protected Area |
| MWA | Marine Wildlife Area |
| NAFO | Northwest Atlantic Fisheries Organization |
| NMCA | National Marine Conservation Area |
| NL | Newfoundland and Labrador |
| PC | Parks Canada |
| RMA | Representative Marine Area |
| SAR | Species At Risk |
| SSAC | Species Status Advisory Committee |
| UNCLOS | United Nations Convention on the Law of the Sea |
| UNEP | United Nations Environment Program |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UNGA | United Nations General Assembly |
| VME | Vulnerable Marine Ecosystem |
| WERAC | Wilderness and Ecological Reserves Advisory Council |

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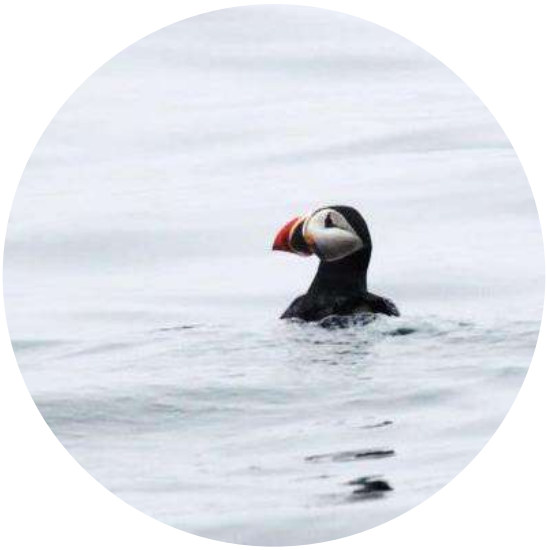
- Government of Newfoundland and Labrador Department of Municipal Affairs and Environment
- Innu Nation
- Marine Institute
- Memorial University Biology
- Memorial University Geography
- Miawpukek First Nation
- Nature Conservancy Canada
- NunatuKavut
- Parks Canada
- Qalipu
- Torngat Secretariat
- World Wildlife Fund

## SUMMARY

The ocean surrounding Newfoundland and Labrador is rich in marine ecosystems which support marine life from the largest whales to the tiniest plankton, upon which generations of people and a cherished way of life has depended. Our province boasts the Grand Banks, with some of the most important and productive fisheries in the world. We are also known as the 'Seabird Crossroads of the World', hosting millions of migratory birds every year. We also have a burgeoning eco-tourism industry, centered partly on whale and bird-watching experiences. Newfoundland and Labrador has a real chance to be ocean conservation leaders.



**Atlantic Puffin.** Photo: Paul Regular

However, the continued declines in ocean health, including local fish populations demonstrate that existing conservation measures are not enough to ensure the long-term survival of species and ecosystems upon which our coastal communities depend, especially in the face of a variety of human activities. Overfishing and by-catch are still large problems for fishery recovery. Oil and gas exploration is expanding into vulnerable marine habitats. Shipping, seismic surveys, and offshore industrial activity are all increasing. Transmission lines are being constructed across Cabot Strait and the Strait of Belle Isle. Hydroelectric development in Labrador is changing the hydrology of a major estuary. Aquaculture is being aggressively pursued in coastal regions throughout the province. Moreover, climate change is shifting sea ice and redistributing populations of marine species.

Tackling these challenges should include an understanding of the special marine areas in the province. This guide identifies and describes these areas through maps and other information. We have collaborated with scientists from universities, federal and provincial governments, non-profit organizations and community groups to expand our knowledge of coastal and marine areas. Building on our 2007 Special Marine Areas Guide, we highlight 140 special marine areas that include coastal sites, coral beds, bird colonies, breeding areas, fish spawning grounds, and migratory routes. The presentation of special areas in this guide is organized according to bioregional planning units used in the *National Framework for Canada's Marine Protected Areas Network* with six ecologically distinct Eco-units and additional information about the Gulf of St. Lawrence.

As a signatory to the United Nations Convention on Biological Diversity, Canada has committed to achieving national and international targets to advance conservation priorities including safeguarding land and ocean. In Newfoundland and Labrador, at present there are two Marine Protected Areas, three Marine Bird Sanctuaries, and a variety of parks, ecological reserves, fisheries closures, stewardship agreements, and species at risk programs that contribute to achieving these marine conservation targets. Science has conclusively demonstrated that effective marine conservation means that ocean areas require strong protection and that community involvement and public support are essential for any conservation success.

Our hope is that this will be an informative and empowering tool for local communities and conservation champions to use to maintain the health of areas that are important to them.

**Sandyville, Hermitage Bay.** Photo: Nick White

## WHY DESCRIBE SPECIAL MARINE AREAS?

The ocean surrounding Newfoundland and Labrador supports many ecologically unique, important, and diverse marine areas, some of which are better known than others and many of which have supported coastal communities for generations. With the decline of many commercially and ecologically important fish populations, people around the province are questioning how best to maintain the health of the ocean and everything it provides us.

It is important to recognize that the sites in this guide are not necessarily recommendations for new protected areas, and the maps in this workbook do not outline proposed boundaries. Organizations and individuals in Newfoundland and Labrador expressed a need to have a document that could generate discussion and interest, an initial step prior to more in-depth analysis and engagement of communities and stakeholders. The Special Marine Areas Guide is that important first step.

## THE ROLE AND APPROACH OF CPAWS-NL

The Canadian Parks and Wilderness Society, Newfoundland and Labrador Chapter (CPAWS-NL) promotes the protection of special and representative areas in Newfoundland and Labrador, on land and in sea. As part of this work, we have supported the development of this guide in order to continue a valuable discussion regarding the location of special or representative marine features around the province, and to encourage interest among coastal communities and the public about the wonders in our marine backyards.

In 2009, CPAWS-NL released the first edition Special Marine Areas Guide that identified 73 sites in the Newfoundland and Labrador region. The initial guide was a milestone for Newfoundland and Labrador, as it represented the first time that a local organization had engaged governments, scientists and communities to identify special marine areas.

A workshop involving scientists from universities, federal and provincial governments, and non-profit organizations identified areas of special importance. The main criteria for determining whether an area was 'special' focused on stakeholders and expert views regarding the need for some level of protection. Since the release of the guide, numerous changes and threats to sites, as well as new federal commitments to marine protection compelled CPAWS-NL to update the guide.

In March 2016, a second Special Marine Areas Workshop was held at the Johnson GEO Centre in St. John's for the purposes of updating existing sites, reviewing threats and identifying 67 additional marine areas of importance in the Newfoundland and Labrador Shelves Bioregion and its six Eco-units. Approximately 40 participants, including representatives from Labrador contributed to the discussion. This Second Edition is an attempt to codify and structure those valuable efforts.

We are inspired by the ongoing collaborative effort to develop the guide and hope that this will be an informative and empowering tool for local communities and conservation champions to use to maintain the health of areas that are important to them.

## HOW TO USE THIS GUIDE

This guide contains a series of maps showing the special marine areas identified in Newfoundland and Labrador based on bioregional eco-units developed for Canada's *National Framework for Marine Protected Areas*. The maps show areas that have been identified so far as containing special features.

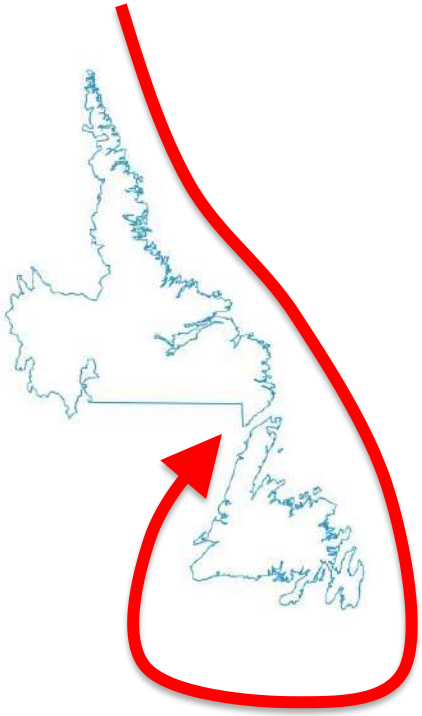


Figure 1. Clockwise direction of site numbering used in this report.

Site numbers begin at the northern tip of Labrador, continue down the coast of Labrador and wrap around Newfoundland in a clockwise direction, ending in the Strait of Belle Isle on the northern tip of Newfoundland. Eco-unit descriptions summarize the major ecological and biophysical features, protection efforts, threats, and recommendations for each of the bioregional sub-divisions. Supporting tables provide information about locations, habitats and special features, marine life of note and any relevant protected areas or designations. Some areas have been included as sub-sites of a larger area (e.g. Site 68b - L'Anse Amour is a sub-site of Site 68 – Strait of Belle Isle). To avoid repetition, not all information was included in the sub-site summary. The reader is advised to look at the summary of the larger area for more complete information.

Please note that marine life highlighted in each site summary is not intended to be a complete list, and some marine species – such as Leatherback Turtle and most cetaceans – can potentially occur anywhere around Newfoundland and Labrador and were not mentioned specifically in every summary. Furthermore, the described presence of certain mobile fauna at the sites, including fish, birds, seals and whales, often indicates seasonal presence. Several sites contain what are known as Important Bird Areas (IBAs); these are sites known to provide essential habitat for one or more bird species (see Appendix B – Maps for a map of these sites) and are described in greater detail later in this report. It is important to recognize that aggregations of seabirds and marine mammals may be indicators of productive areas for fish and invertebrates, just as localized concentrations of food may signify important feeding and aggregation habitat for seabirds and marine mammals.

Also included in this workbook is a list of general recommendations for special areas around the province. The list of references consulted in the preparation of this document is organized by location; some sources were used more generally and are provided at the beginning of the reference list. A list of the scientific names of species referred to in this document and a list of species at risk found in the bioregion are included as appendices. This document was compiled based on the best available and accessible information at the time of writing. Detailed studies were not available at the time of writing for all the special marine areas identified, and some areas are particularly data-poor. Additional unique marine phenomena, habitats and species may exist in these areas, but further research is required to confirm this. In contrast, some information is common to many sites, but is repeated so that each site summary can be read on its own. Submission of additional information to fill in the gaps is welcome and you may contact us at CPAWSNL.org

## SECOND EDITION UPDATES

Several notable changes and additions were made to this section edition of the guide. Sites were reviewed within the scope of national marine spatial planning frameworks to better complement Canada's updated strategies, programs, and initiatives. Both the NL Shelves and Gulf of St. Lawrence Bioregions are addressed in this edition.

Fisheries and Oceans Canada has identified 26 Ecologically and Biologically Significant Areas (EBSAs)[1] in the NL Shelves Bioregion, which are highlighted and referenced in this report. Coastal areas have been given greater attention to underscore the importance of the connectivity between coastal and estuarine areas with offshore habitats and communities. These include, but are not limited to, terrestrial parks that border marine areas and sites under coastal and wetland stewardship agreements.

In this guide we acknowledge the significant developments regarding land claims agreements for Indigenous peoples in the province who now have a direct role in the governance and designation of special marine areas. For example, Akami-Uapishk$^{U}$-KakKasuak-Mealy Mountains National Park, which has important coastal and offshore island components, is cooperatively managed with the Innu Nation, Nunatsiavut Government, NunatuKavut Community Council, and Innu of Quebec. In cases where formal Land Claims Agreements are finalized, Aboriginal peoples regulate hunting and fishing, and may establish their own protected areas.

Leatherback Sea Turtle. Photo: Peter Stacey

This report also expands on international protected areas programs involving migratory species, benthic communities, and transitory habitats. These are sometimes difficult to delineate and are often greatly affected by climate change. We highlight Important Bird Areas, like Witless Bay, Baccalieu Island, and Cape St. Mary's, which have globally significant seabird colonies. We also give greater attention to vulnerable marine ecosystems, which add diversity and nutritionally distribute throughout the water column and trophic web. Areas like the Hatton Basin, Saglek Bank, and the channels and canyons along the Southwest Grand Banks shelf edge, contain important and diverse deep water coral areas that provide structural habitat for invertebrates and fish.

[1] Spatial planning sub-units. See Ecologically and Biologically Significant Areas, Page 19.

We identify threats within each bioregion, including specific anthropogenic disturbances from offshore activities, and larger, potentially devastating impacts that may come with climate change. Many marine species ranges, migratory routes, and breeding or spawning areas are expected to shift poleward as a result of climate change. In these scenarios, coral communities and sedentary organisms would face significant challenges to survival.

This document maintains a regional focus on the communities and species important to each area, but examines them in a broader context of national programs. Our hope is that through this guide we may engage governments, academics, communities, and other organizations, encourage consideration for the protection of vulnerable areas, and move towards sustainable coastal and ocean management in the province.

## FULFILLING OUR COMMITTMENTS

Canada has adopted domestic and international marine conservation targets of 5% of coastal and marine areas by 2017 and 10% by 2020. In order to meet these targets, the Government of Canada has recently released a number of strategies, programs, and initiatives aimed at protecting marine areas. The *Federal Marine Protected Areas Strategy* was released in 2005 with the hope of coordinating federal departments towards the goal of establishing a network of marine protected areas. This was followed by the *National Framework for Canada's Network of Marine Protected Areas* (2011) which provides 'the strategic direction for the design of a national network of marine protected areas'.

The National Conservation Plan, released in 2014, reaffirmed commitments to the 2020 target, known as Aichi Target 11 under the Convention of Biological Diversity (CBD), to protect at least 10% of our ocean territory. It aimed to advance conservation priorities including safeguarding lands and waters, enhancing and restoring ecosystems and biodiversity, and developing stewardship values by connecting Canadians with nature. Under the plan, the federal government invested $252 million to take action on specific proposed areas and research and establish new areas based on existing tools and strategies.

However, as of 2016 less than 1% of continental North America's oceans were protected and 0.04% was considered adequate for long-term, sustained ecosystem functioning (Jessen et al., 2016). Canada was furthest behind with only 0.11% of its oceans protected and potentially and additional 2-3% in proposed MPAs. Canada will need to protect more than 70,000 $km^2$ to reach its 2017 target of 5%. The immediate next steps taken and the success or failure of implementing a national network for marine protected areas will determine if Canada will have any hope of meeting its 2020 target of at least 10%.

Meeting these conservation targets alone is not sufficient. Currently, scientific recommendations are that we need to designate 30% of the ocean in strongly protected MPAs (Jessen et al., 2017; O'Leary et al., 2016). Scientific studies have clearly shown that fully-protected areas, that prohibit all industrial and extractive activities, produce much greater benefits in terms of biodiversity conservation and productivity than partially protected areas (Jessen et al., 2017; Edgar et al., 2014; Lester et al., 2009; Coleman et al., 2013). Partially-protected areas may prevent further harm to marine ecosystems but will not support recovery of populations (Lester and Halpern, 2008). Their success will also depend on local support, strategies cognizant of social and political realities, and effective planning and management processes appropriate for their context (Agardy et al., 2011; Fox et al., 2012). Local and traditional knowledge, as well as scientific research, must inform both the selection of future protected areas and protection measures. A refugial network of well-designed MPAs with adequate resources, durable management, and public support is required to prevent fish extinctions and protect marine diversity (Wood et al, 2008; Edgar et al., 2014).

The future of marine protection in Canada will play out in the ocean that surrounds Newfoundland and Labrador. With approximately 19% of Canada's marine jurisdiction, a long history of offshore activities and tragedies like the collapse of the Atlantic Cod, Newfoundland and Labrador is well-versed in oceans management and policy implementation, and their challenges. While groundfish have shown a rebound in recent years, stock assessments for Northern Shrimp and Snow Crab paint a grim picture for the shellfish industry in this Province. These failures demonstrate that existing conservation mechanisms are not enough to ensure the long-term health of species and ecosystems upon which coastal communities are dependent. Local communities, conservation organizations, Aboriginal groups, and government agencies will need to work together to ensure that we replenish fish stocks, restore ecological integrity, and make real change happen in Canada's oceans.

**Atlantic Puffins.** Photo: Paul Regular

## LAND CLAIMS AGREEMENTS

Several Aboriginal groups and land claims agreements exist within Newfoundland and Labrador, which are important considerations in marine protected areas processes. Under the Labrador and Inuit Land Claims Agreement (2005), the Nunatsiavut Government must be consulted on any major developments, marine management plans, or MPA development within the Settlement Area, which includes an adjacent ocean zone extending to the limit of Canada's EEZ. Similarly, the Nunavik Inuit Settlement Area covers a large area in northern Quebec and Labrador, including the Hudson Strait and Torngat area. The Innu Nation Tshah Petapen (New Dawn) Agreement covers roughly 70% of Labrador, including Lower Churchill, Upper Churchill, Natuashish, and Shesashuit. More recently, the Southern Inuit of NunatuKavut have formed the NunatuKavut Community Council and asserted laid claims to an area of Southern Labrador from Lake Melville to Mary's Harbour, including areas containing Lower Churchill hydroelectric developments. In Newfoundland, the Miawpukek Mi'kamawey Mawi'omi governs the Conne River Mi'kmaq.

Aboriginal groups and governments in Newfoundland and Labrador have an important role in marine protection. Local and traditional knowledge is important for understanding species assemblages and marine ecological processes, particularly in more remote Northern areas. As primary users of these areas, Aboriginal peoples facilitate or cooperatively participate in the management of protected areas. In cases where formal Land Claim Agreements are finalized, Aboriginal groups may regulate hunting, fishing, and may establish their own protected areas.

Torngat Mountains National Park and Akami-Uapishk$^{U}$-KakKasuak-Mealy Mountains National Park Reserve are examples of protected areas established through collaboration with Indigenous communities and with shared management and planning responsibilities. Both of these are terrestrial parks which allow traditional activities to be carried out within the park boundary. Gilbert Bay Marine Protected Area was established in consultation with local stakeholders including Labrador Métis Nation (now known as NunatuKavut). Currently, however, no marine protection has been established by any Aboriginal group of government in the NL Shelves Bioregion.

## NATIONAL FRAMEWORK FOR CANADA'S MARINE PROTECTED AREAS

Canada has various MPA programs with unique legislation, mandates, and approaches to planning and management. Canada's *National Framework*, established in 2011, provides a strategic direction for the design and establishment of a national network of marine protected areas. The *Framework* is designed to be a coordinated and collaborative approach to network development that considers complementary mandates of DFO, PC, and ECC. It also considers other effective area-based conservation measures including closures and protected habitat. While individual programs differ, all agencies have adopted the IUCN (International Union for Conservation of Nature) definition of a protected area:

> *'A clearly defined geographical space recognized, dedicated, and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.'*

The primary goal of the network is to provide long-term protection of marine biodiversity and ecosystem functioning. The network will be established across 13 defined bioregions covering Canada's Exclusive Economic Zone and the Great Lakes. A Regional MPA Network Planning Team is tasked with developing network priorities using best available information about species assemblages, oceanographic characteristics, human uses and other factors. Bioregional marine protected areas network development incorporates the following design properties:

- Ecological and Biologically Significant Areas (EBSAs)
- Representativity
- Connectivity
- Replication
- Adequacy and Viability

Bioregional network planning is further elaborated through collaboration with Aboriginal groups, Provinces and Territories, ENGOs, industry, and stakeholders. The Canada Newfoundland and Labrador Committee on Oceans Management (CNLCOM) provides oversight to the development of a MPA Network Plan for the NL Shelves Bioregion.

## FEDERAL NETWORK OF PROTECTED AREAS

The Federal Marine Protected Areas Strategy outlines the responsibilities of federal departments and agencies that establish and manage protected marine areas.

- Marine Protected Areas (MPAs) are established under the *Oceans Act* by Fisheries and Oceans Canada.
- Marine Wildlife Areas (MWAs) are established under the *Canada Wildlife Act* by Environment and Climate Change Canada.
- National Marine Conservation Areas (NMCAs) are established under the *Canada National Marine Conservation Areas Act* by Parks Canada.

Other complementary federal programs can include National Parks (with marine components), Migratory Bird Sanctuaries (with marine components), Species at Risk Act Critical Habitats, and Fisheries Act Fisheries Closures.

In addition, Newfoundland and Labrador Ecological Reserves can be established under the *Wilderness and Ecological Reserves Act*, and a number of marine areas are protected or designated through other means or legislation, some of which are described in this document.

## MARINE PROTECTED AREAS UNDER THE *OCEANS ACT*

Marine Protected Areas refer to the legally reserved spaces established by DFO under the *Oceans Act.* As the lead federal authority on Canada's oceans, DFO has the overall responsibility for enforcing fisheries conservation, marine environment and habitat protection, and marine safety. While various government regulators may collaborate on MPA network design, selection, management, and support, it is the responsibility of DFO to ensure regulatory compliance and enforcement for MPAs.

In the current bioregional MPA network planning process, Marine Protected Areas are initially identified as Areas of Interest (AOI), or areas proposed for MPA designation under the *Oceans Act*. These may be drawn from EBSAs (see Ecologically and Biologically Significant Areas) which have met the necessary criteria for representativity, uniqueness, etc. AOIs are selected, assessed, and refined through planning process. From here, they are screened and evaluated, with adequate stakeholder consultation, to determine suitability as a MPA. If successful, the AOI may receive interim protection, develop a management plan, and specific recommendations may be implemented prior to formal designation and management implementation. Currently, the Laurentian Channel is designated as an AOI within the NL Shelves Bioregion. Two Marine Protected Areas are established within the NL Shelves Bioregion:

- Eastport MPA – Two small areas surrounding Round and Duck Islands in Bonavista Bay
- Gilbert Bay MPA – a 60km$^2$ area approximately 300 km from Happy Valley-Goose Bay on Labrador's southeast coast

## BIOREGIONAL CLASSIFICATION

Bioregions are divisions of Canada's marine environment based on distinguishing ecological attributes. MPA network planning uses 13 ecologically-defined marine bioregions developed by Fisheries and Oceans Canada through a national science advisory process in 2009. The geographic scope of bioregional network is generally from the high-water mark on the coastline to depths below 4 kilometres within Canada`s 200-nautical-mile Exclusive Economic Zone (EEZ). Two marine bioregions are relevant to Newfoundland and Labrador: the NL Shelves Bioregion and the Gulf of St. Lawrence Bioregion.

The NL Shelves Bioregion covers approximately one million $km^2$ within the EEZ. It extends from the northern tip of Labrador to the southern Grand Banks, encompassing the east coast of Labrador and the east and south coasts of Newfoundland. The bioregion is strongly influenced by currents; the cold Labrador Current moving south from west Greenland and the warm Gulf Stream moving north from the eastern United States. The mixing of these currents at the Grand Banks, and their interactions at various underwater canyons, shelves, coastal inlets and bays, creates productive waters for plankton and fish communities. The NL Shelves and Scotian Shelf Bioregions are defined by their differences in these communities, with the trough of the Laurentian Channel acting as a transition zone. Similarly, the northern boundary of NL Shelves Bioregion reflects divergent oceanographic processes at the confluence of the Hudson Strait, although this is a less distinct boundary. Seasonal pack ice is also a notable defining characteristic of this bioregion.

Eco-units represent biologically or ecologically distinct subdivisions of bioregions. The ecological boundaries for the six eco-units within the NL Shelves Bioregion were defined by the MPA Network Planning Team. These eco-units (described in more detail later in this report) are as follows:

1. NL Shelves
2. Labrador Sea
3. Northern Grand Banks
4. Southern Grand Banks
5. Laurentian Channel / South Coast
6. Laurentian Fan

The Gulf of St. Lawrence Bioregion is defined separately, led by Fisheries and Oceans Canada – Quebec Region, and includes its own compatible strategic conservation objectives with input from the Newfoundland and Labrador Region. This bioregion is relevant for the west coast of Newfoundland and Strait of Belle-Isle areas. It is discussed in more detail on page 47.

## ECOLOGICALLY AND BIOLOGICALLY SIGNIFICANT AREAS

Ecologically and Biologically Significant Areas (EBSAs) are spatial planning sub-units defined through Canadian Science Advisory Secretariat (CSAS) processes. EBSAs must meet one or all of the following criteria referenced CBD scientific publication, commonly known as the *Azores Report* (2007):

1. Uniqueness or rarity
2. Special importance for life-history stages of species
3. Importance for threatened, endangered, or declining species and/or habitats
4. Vulnerability, fragility, sensitivity, or slow recovery
5. Biological productivity
6. Biological diversity
7. Naturalness

Initially, 26 EBSAs were identified in the NL Shelves Bioregion in 2013. Similarly, 13 EBSAs were identified in the Gulf of St Lawrence Bioregion, of which 2 are immediately relevant to the Province of Newfoundland and Labrador. A map of currently identified EBSAs can be found in Appendix B – Maps.

**Atlantic Wolffish** Photo: Ocean Quest Adventures

## SPECIES AT RISK

The *Species at Risk Act* (SARA) was established in 2003 in response to the United Nations Convention on Biodiversity. The *Act*, enforced by Environment and Climate Change Canada, aims to prevent wildlife species from becoming extinct and provides for their recovery. SARA contains prohibitions that make it an offence to hunt, harass, sell, or damage the residence (e.g. nests) of individuals of a species listed as endangered, threatened, or extirpated.

The Newfoundland and Labrador *Endangered Species Act* (2001) provides additional protection to designated species. There are currently 35 species listed under the *Act*. Designation follows recommendations from the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and/or the Species Status Advisory Committee (SSAC).

## NEWFOUNDLAND AND LABRADOR PROTECTED AREAS

While oceans and marine environments are primarily a federal government responsibility under the authority of DFO, there are several situations where the Province of Newfoundland and Labrador and Aboriginal groups and governments designate, manage, and/or enforce protection of marine environments. These are primarily exhibited through Seabird Ecological Reserves, coastal and wetland stewardship agreements, and land claims agreements.

### NL WILDERNESS AND ECOLOGICAL RESERVES

Newfoundland and Labrador's wilderness reserves are established under the *Wilderness and Ecological Reserves Act* (1980) and administered by the Department of Environment and Climate Change. An independent advisory council, WERAC, advises the provincial government on the establishment and management of reserves in the province. These are generally considered IUCN category Ia protected areas, which means they are strict nature reserves with little human interference other than scientific research.

In some cases, particularly in the case of Seabird Ecological Reserves, marine components may be included. Witless Bay Seabird Ecological Reserve, for example, was originally designated as a Wildlife Reserve (seabird sanctuary) to limit hunting under the *Wildlife Act* in 1964 until the Ecological Reserve was established. The reserve affords greater legal protection of habitat for nesting puffins, storm-petrels, murres, and gulls. It also extends 1 km offshore and between island colonies to acknowledge bird activity in surrounding waters.

Currently, there are 7 Seabird Ecological Reserves with marine components protected under the Newfoundland and Labrador *Wilderness and Ecological Reserves Act*.

- Baccalieu Island Ecological Reserve
- Cape St. Mary's Ecological Reserve
- Funk Island Ecological Reserve
- Gannet Islands Ecological Reserve
- Hare Bay Islands Ecological Reserve
- Lawn Bay Ecological Reserve
- Witless Bay Ecological Reserve

## EASTERN HABITAT JOINT VENTURES

The Eastern Habitat Joint Venture (EHJV) program develops partnerships to acquire, conserve, and enhance important wildlife habitat across the Province. Wetlands, estuaries, beaches, shorelines, and drainage areas of importance to waterfowl and migratory birds are frequently considered for stewardship agreements. These sites are often in coastal or tidal transition areas that may lie partially or entirely outside marine geographic jurisdictions.

The EHJV program is administered through the Newfoundland and Labrador Department of Environment and Conservation's Wildlife Division. Currently, 37 communities have signed habitat stewardship agreements in Newfoundland and Labrador.

## OTHER PROGRAMS

There are a variety of international instruments and frameworks to facilitate marine protected area designation, including the United Nations Convention on the Law of the Sea (UNCLOS), the United Nations Environment Program (UNEP) Regional Seas Conventions, the Convention on Biological Diversity (CBD), the North American Bird Conservation Initiative, and regional fisheries agreements as through the Northwest Atlantic Fisheries Organization (NAFO). Federal and Provincial governments play a role in implementing international programs in Canada. These include provisions for the protection of UNESCO World Heritage Sites, Ramsar Wetlands (Grand Codroy Estuary), migratory birds, and Vulnerable Marine Ecosystems (VMEs).

## MIGRATORY BIRDS

Newfoundland and Labrador seasonally hosts a wide variety of birds who may visit anywhere from the Canadian Arctic to South America and West Africa. Many stop at the numerous islands and inlets of the Province to breed, rest, and feed at various stages of their journey. Identifying and protecting congregating birds at these critical junctures can be fundamental to the survival of vulnerable species.

The North American Bird Conservation Initiative was developed in 1999 between Canada, Mexico, and the United States to implement and evaluate conservation actions across the continent. 12 Bird Conservation Regions exist in Canada, including 2 Marine Biogeographical Units, which roughly overlap with the NL Shelves and Gulf of St. Lawrence Bioregions. Various conservation plans and programs exist for waterfowl, shorebirds, and waterbirds to help protect habitat during vulnerable life-history stages.

Important Bird Areas (IBAs) are critical habitats for birds identified by BirdLife International. Many overlap with National Wildlife Areas, Migratory Bird Sanctuaries, and Wilderness and Ecological Reserves, and they may transcend administrative borders on private or public land. There are currently 45 IBA sites associated with Newfoundland and Labrador (both terrestrial and marine).

A number of protections exist for migratory birds in this Province. The *Migratory Birds Convention Act* (1994), under responsibility of Environment and Climate Change Canada, provides protection of migratory birds, their eggs, and their nests. National Wildlife Areas and Migratory Bird Sanctuaries are administered by Environment and Climate Change Canada and protect critical bird habitat as distinct geographic areas. Three Migratory Bird Sanctuaries currently exist in Newfoundland and Labrador:

- Shepherd Island (Strait of Belle Isle)
- Île aux Canes (Strait of Belle Isle)
- Terra Nova (Bonavista Bay)

Newfoundland and Labrador's Seabird Ecological Reserves are established under the *Wilderness and Ecological Reserves Act* (1980) and provide broader protection to entire colonies.

## VULNERABLE MARINE ECOSYSTEMS AND CORAL CLOSURES

In response to the 2006 United Nations General Assembly (UNGA) Sustainable Fisheries Resolution 61/105, NAFO has enacted coral and sponge closures and seamount closures to protect vulnerable marine ecosystems (VMEs). Closures are regulatory areas designed to restrict or remove fishing gear that impact the ocean floor. These include:

- Coral Protection Zone in Division 3O
- Area adjacent to Flemish Cap
- Orphan Knoll
- Newfoundland Seamounts
- Fogo Seamounts

The Coral and Sponge Conservation Strategy for Eastern Canada was released in 2015 to guide the protection of benthic species and communities. In addition to NAFO closures and MPA designation, Fisheries and Oceans Canada can enact closures and gear/effort/temporal restrictions on fisheries under the *Fisheries Act*. One industry-driven closure in an area of the Northern Labrador Sea known as the Hatton Basin (see Eco-unit 1), was initiated by the Fisheries Council of Canada (Canadian Association of Prawn Producers, Groundfish Enterprise Allocation Council, and the Northern Coalition).

**Juvenile Atlantic Puffin** Photo: Paul Regular

ECO-UNIT 1

# NEWFOUNDLAND AND LABRADOR SHELVES

## OVERVIEW:

The first and largest of the Eco-units shares its name with this Bioregion: Newfoundland and Labrador Shelves. This unit consists of the Labrador Shelf and northeast Newfoundland Shelf from the Hudson Strait to the northern slope of the Grand Banks. The coastal extent is approximately Cape Chidley at the northern tip of Labrador, south to Bonavista. The marine area extends offshore to the 1500 m bathymetric contour in the east.

This area is dominated by Labrador current, which brings cold arctic water from Hudson Bay and West Greenland. There are two distinct water masses that branch over the shelf and the slope, each hosting distinct fish communities. A 1500 m depth was used to separate these currents but the entire shelf slope is a transition area between

water masses and major fish assemblages. This unit covers a large latitude range and has a high seasonality with a mix of arctic, temperate species sharing the water at different times. Sea ice develops and retreats at different times throughout the region and creates important offshore habitat for marine mammals, birds, and scavengers.

The coastlines of both Newfoundland and Labrador are complex with extensive with many inlets, bays, cove, and islands exposed to the cold Labrador current. Bonavista Bay, on the northeast coast of Newfoundland, is notably exposed and strongly influenced by the Labrador Current on the northeast Newfoundland Shelf. The large bay has abundant and diverse subtidal fauna, seabirds, and marine mammals (including the endangered Harbour Porpoise). As such, it is well-recognized as a special area with several locations protected by legislation including Terra Nova National Park (terrestrial), Terra Nova Migratory Bird Sanctuary, and Eastport Marine Protected Area. Other important protected areas include Gilbert Bay Marine Protected Area in Labrador and Migratory Bird Sanctuaries at Ile aux Canes and Shepherd Islands near Hare Bay. These are currently the only federally-designated areas with marine protection in the NL Shelves Bioregion.

Important deep water coral communities exist throughout this Eco-unit. The area at the confluence of the Davis Strait and Hudson Strait is of particularly high coral diversity and abundance. An industry-driven voluntary fisheries closure has been established at the deep outflow of Hudson Strait around the slope of Hatton Basin. Further south, the Labrador Slope, Hawke Channel/Hamilton Bank, and Orphan Spur areas contain productive coral “hotspots”. While corals found in the region are not reef-forming species, they provide habitat for several commercially fished species and return nutrients for primary production. Gorgonian corals (a type of branching, fan-shaped coral), in particular, provide smaller organisms with protection from predation, as well as resting, foraging, and nesting areas.

Two large terrestrial National Parks have been established in Labrador: Torngat National Park, from Saglek Fjord to the northern tip of Labrador at Cape Chidley, and Akami-uapishku - KakKasuak Mealy Mountains National Park on the southeast coast of Labrador. While these parks have no marine component, they offer some coastal protection (e.g. Wunderstrands) and infrastructure that could facilitate further protection of the area.

Several productive offshore banks exist in this Eco-unit. These include: Saglek Bank, Okak Bank, Nain Bank, Makkovik Bank, Harrison Bank, Hamilton Bank, Belle Isle Bank, Funk Island Bank, and the Grand Banks Extension. These areas host a high diversity of pelagic fish, groundfish and shellfish. The Fogo Shelf, off northeastern Newfoundland, is particularly diverse and abundant in fish species. A fisheries closure has been established at Funk Island Deep, the channel between Fogo shelf and Funk Island Bank. Important salmon rivers are found at Bay of Exploits on the north coast of Newfoundland and Sandwich Bay in Labrador.

Hamilton Inlet and Lake Melville form the largest estuary in Labrador, with extensive intertidal flats, wetlands, coastal plains, and offshore islands. The Groswater Bay area has 10 Important Bird Areas, as well as several regionally, nationally, and internationally significant waterfowl, seabird, and other migratory bird colonies, aggregations, and habitats. This area has also been identified as potential NMCA.

Important Bird Areas of note include Gannet Islands Ecological Reserve, Hare Bay and the Grey Islands, Funk Island, and Cape Freels. Gannet Islands Ecological Reserve contains the largest breeding colony of Razorbills and the second largest breeding colony of Atlantic Puffin in North America. The Grey Islands/Hare Bay area supports large numbers of winter eiders and some of the largest assemblages of Arctic and Common Terns in the Province. Funk Island contains the largest breeding colony of Common Murre in the western North Atlantic with 412,000 pairs reported in 2007. The Cape Freels to Wadham Islands coastline hosts large numbers of wintering eiders and Atlantic Puffins.

There are several species ubiquitous to the region, including Common Minke Whales, Polar Bears, Ivory Gulls, and Harp, Hooded, and Harbour Seals. These are highly transitory species that can be found throughout the Eco-unit at various seasons. Large numbers of seals breed annually on the pack ice at the Notre Dame Channel and Hamilton Inlet.

## THREATS:

Bottom fishing, particularly trawling is a major threat to benthic communities due to by-catch of damage inflicted by the gear. Deep-sea corals are sessile suspension feeders and they are therefore affected by pollution and sediment resuspension (e.g. by discharges, trawling, dredging, seabed aggregate extraction or pipeline/cable laying) and are unable to move away from disturbances. The large protrusions exhibited by the species found in the Davis Strait-Hudson Strait, Southern Labrador Slope, Hamilton Bank, and Orphan Spur regions make these species very susceptible to being damaged or collected by bottom fishing, particularly during the first tow of a trawl.

The fishing industry closure has been criticized for covering less than 1/3 of the Hudson Strait coral “hotspot”, and only of an area that is not generally fished (Gilkinson and Edinger, 2009; Kenchington et al., 2011). This closure, like many others, has arbitrarily-decided boundaries based on fishing experiences and not scientific validation (Durán Muñoz, 2008). It does not include all or most concentrations of coral and sponge. In general, the area is mostly avoided by the commercial fishing fleet while the perimeter around this area is heavily fished. Also, some bottom trawlers are permitted to fish Aboriginal quotas in the area, and gill net and longline fishing is still active in the region. Voluntary closures are more appropriate where the actions of a single vessel do not inflict considerable damage.

However, a single trawl operating over corals areas can collect as much as 500 kg of coral as by-catch within 15 minutes (Wareham and Edinger, 2007). Deep-sea corals have such slow growth rates that recovery following damage or destruction might require more than 100 years (Andrews et al., 2002; Gilkinson and Edinger, 2009).

Several areas in the NL Shelves Eco-unit were once important to fish harvesters from the province, other Atlantic provinces, and other countries. However, most of the major fish stocks in areas such as the Saglek Bank, Hamilton Bank, and Northeast Shelf and Slope have been depleted through a combination of overfishing and unsustainable fisheries management practices. Over-fishing in areas like Gander and Bonavista Bays during spawning season prevents eggs from being laid or fertilized, and thereby prevents successful reproduction for stock replenishment. Over the long term this activity can result in fish population declines. By-catch also produces a large amount of fish waste and unnecessary take of unintended and/or threatened fish populations or seabirds. Also, efforts at fisheries closures and marine protection may have the unintended consequence of increasing fishing pressure at the boundary of the protected areas. Morever, there are concerns about adequate resources and personnel for enforcement and monitoring activities of existing and potential future marine protected areas.

Labrador is experiencing significant industrial growth which is expected to continue throughout the next decade. The Lower Church Hydroelectric Project is a large-scale project that will transform the landscape of Labrador, and potentially have long-term impacts on marine environments as well. Concerns about the project include the transport of methylmercury, a dangerous contaminant, to sensitive areas like Lake Melville, and the down-stream nutrient loss as a result of regulating spring run-off from the Churchill River (Calder et al., 2016). Changes to the hydrology of the region can have significant downstream effects on estuarine, wetland, and waterfowl habitats, as well as food webs involving commercially-important fish species.

Oil and gas exploration is expected to substantially increase at the Southeast Labrador Slope and Orphan Basin. Exploration activities can have devastating effects on seabirds, cetaceans and other marine organisms. Seismic surveys and underwater noises negatively affect the physiology and behaviour of marine mammals (Cerchio et al., 2014; Gordon et al., 2003; Nowacek et al.; 2013). Collisions with survey and support vessel are also a concern. The placement of oil rigs, platforms and pipelines may crush corals, smother them through increased sediment resuspension, and alter currents and nutrient flows. Pollution from spills and drill muds can choke and inhibit the feeding processes of sessile benthic invertebrates.

Shipping activity throughout the region is a growing concern. Accidental spills and illegal discharges can pollute sensitive marine habitats (Wiese and Ryan, 2003). The shipping route associated with the Voisey's Bay mine, which is just south of the Nain Coastline and passes among the offshore islands, is a concern for waterbirds that aggregate there. The presence

of many shoals and small islands in the area increase the risks of shipwrecks and possible oil spills. Any contaminants and oil pollution has the potential of becoming trapped behind the islands and in the bays around Nain, and the coarse sediments, intertidal flats and beaches may trap and retain contaminants. The amount of shipping traffic in the Bay of Exploits area is increasing, and people there are concerned about the possibility of oil spills. Ocean dumping sites in Notre Dame and Bonavista Bays is an ongoing issue, and is expected to increase as smaller landfills are phased out. Net entanglements, collisions with ships, and pollution are all concerns for marine mammals. In addition, causeways have blocked certain areas in Bonavista and Notre Dame Bays, dissecting the marine environment and inhibiting species' movements.

Climate change has become a significant threat in this region, with the potential to drastically alter marine ecosystems. There is evidence of a decrease in summer sea ice in the Hudson Strait, which has consequentially led to rise in marine predators like killer whales (*Orcinus orca*) (Ferguson et al., 2010). This appears to represent a major redistribution of southern temperate species into more accessible arctic waters. Ice conditions in areas like Notre Dame Bay are also changing and there has also been a noticeable increase in water temperature on the northeast coast of Newfoundland since the mid-1990s. Many marine species ranges, migratory routes, and breeding/spawning areas are expected to shift poleward while corals and sedentary organisms may face significant challenges to survival.

## RECOMMENDATIONS

In the interest of maintaining and recovering depleted fish stocks, protection options should be explored with the involvement of concerned communities in the Newfoundland and Labrador Shelves Eco-unit. No-take areas could be established during spawning and hatching season in areas like Gander Bay. Management agencies should engage fishers in discussions to determine sustainable fishing methods around important bird areas like the Gannet Islands, for example minimum distance of gill-netting, and examine other fishing methods in the area to determine how to minimize negative effects on marine food webs. Resources for year-round enforcement and long-term funding for committee activities, personnel and research are recommended for existing marine protected areas at Eastport and Gilbert Bay.

Buffer zones and extensions should be discussed for existing and potential future marine protected areas. Torngat Mountains and Terra Nova National Parks and Mealy Mountains National Park Reserve do not contain marine component despite their diverse and productive coastal and offshore areas. Other parks and coastal sites like Dildo Run Provincial park are too small to adequately represent the ecoregions in which they are located, and do not include marine components. Discussions are encouraged between management agencies and local communities to explore options for extending protection into subtidal areas.

The fishing industry should consider expanding closures to include coral aggregations adjacent to the Hatton Basin closure and the northern tip of Saglek Bank. A mandatory (rather than voluntary) closure, directed at all corals, sea pens, and sponges, should also be considered here. Management agencies should engage affected communities and conservation champions to discuss broader protection measures for deep-sea, sessile benthic communities. Data gaps due to trawl-based surveys which exclude rough-bottom areas could be addressed and supplemented with alternative research methodologies including ROV sampling. Due to the extreme vulnerability of corals and their value to marine productivity, it is crucial to implement the precautionary principle in areas where they are present.

Oil and gas companies should work cooperatively with conservation champions to ensure that sensitive areas like the Nain Coastline are not damaged. Nautical charts should note areas around Tessiarsuk Lake, Seven Islands Bay and the Galvano Islands. Increased enforcement, improved surveillance, higher fines and capture of polluters are also necessary to deter and prevent marine oil pollution. Convenient and accessible onshore oil disposal facilities for bilge and oil-contaminated ballast water should also be established.

A substantial effort should be placed on climate change research and mitigation strategies for this research. Fisheries and marine-based industries must adapt to changing ecosystems and seasonal in ice extents.

**Humpback Whale.** Photo: Ocean Quest Adventure Resort

ECO-UNIT 2

# LABRADOR SEA

## OVERVIEW:

The Labrador Sea Eco-unit includes the deep water area below the 1500 m bathymetric contour east to the 200-mile offshore limit. Adjacent to the NL Shelves Eco-unit, this area covers the slightly warmer water mass from West Greenland. The deeper slope area appears to host distinct fish communities. The area is generally under-represented due to distance from coast and depth and the transitory nature of open-ocean and pack ice habitat.

Extensive sea ice generally forms mid-November to late August in the north and mid-December to late June in the south. The development and recession of this ice influences the ecology of the region through changes in light penetration, winds, currents, and the mixing of water. Pack ice provides a highly productive and ecologically

important ecosystem. For marine species, it offers shelter and protection from predation, including arctic species from Hudson Bay and West Greenland. Over 70% of harp seals and 90% of hooded seals give birth on the offshore pack ice that forms in this area (DFO, 2013). Marine predators are attracted to the large number of whelping seals. Polar Bears travel here from northern Labrador and Baffin Island to feed in spring and this gorging sustains them for much of the year. The endangered Ivory Gull can be found throughout this area, as well as a variety of other seabirds and marine scavengers.

The Southern Pack Ice was identified as a transitory EBSA, which cannot be defined by rigid boundaries but is considered a unique and ecologically significant feature. This unit also contains portions of Labrador Slope, Orphan Spur and Northeastern Shelf and Slope EBSAS.

## THREATS:

The Labrador Sea Eco-unit faces significant threats of increased oil and gas exploration at the Southeast Labrador Slope and Orphan Basin. Irresponsible oil and gas exploration activities can have devastating effects on seabirds, cetaceans and other marine organisms. Seismic surveys and underwater noises negatively affect the physiology and behaviour of marine mammals. Collisions with survey and support vessel are also a concern. The placement of oil rigs, platforms and pipelines may crush corals, smother them through increased sediment resuspension, and alter currents and nutrient flows. Pollution from spills and drill muds can choke and inhibit the feeding processes of sessile benthic invertebrates.

Climate change is now a significant threat in this region, with the potential to drastically alter marine ecosystems. There is evidence of a decrease in summer sea ice which has consequentially led to rise in marine predators like killer whales (*Orcinus orca*). This appears to represent a major redistribution of southern temperate species into more accessible arctic waters. Many marine species ranges, migratory routes, and breeding/spawning areas are expected to shift poleward while corals and sedentary organisms may face significant challenges to survival.

## RECOMMENDATIONS

The Labrador Sea is generally under-represented and poorly researched due to the distance offshore, water depths, and the transitory nature of sea ice. Increased research, including programs involving remotely-sensed data collection, will be required to adequately inform policy.

Oil and gas companies should work cooperatively with conservation leaders to ensure that sensitive species are not negatively affected by their activities. Improved education oppportunities and discussions about the timing of key biological processes would greatly improve the ability of engaged companies to adjust activities and avoid potential unnecessary damage to the dynamic marine ecosystems here. Increased enforcement, improved surveillance, higher fines and capture of polluters are also necessary to deter and prevent marine oil pollution.

Climate change research and mitigation strategies are urgently needed. Marine-based industries must adapt to changing ecosystems and seasonal ice extents.

Witless Bay Ecological Reserve. Photo: Nick White

ECO-UNIT 3

# NORTHERN GRAND BANKS

## OVERVIEW:

This eco-unit includes the northern portion of the Grand Banks shelf and slope below 100 metres. It is an irregular shape extending east from Bonavista Peninsula in the north and Cape St. Mary's in the south to the 200 mile offshore limit. The area is 150 km and 300 km wide and roughly follows the north slope of the Grand Banks.

The Grand Banks are a long, shallow extension of the continental shelf. The 100 m bathymetric contour separates from the Southern Grand Banks, with a 6-7 °C temperature differential between the two Eco-units. The Banks, on whole, are a transition area where the cold Labrador Current and warm Gulf Stream mix to create cool, foggy, and wet weather. This mixing also forces nutrient-rich deep waters to the surface and creates highly productive waters both inshore and

offshore. Cod, halibut, haddock, flounder, wolffish, herring, sand lance, plaice, mackerel, salmon, hake, skates, and redfish all aggregate at various times on the northeast shelf. The Banks are considered one of the richest fishing grounds in the world.

The near-shore areas of eastern Newfoundland contain a number of beaches and rocky islands, which provide important fish spawning and seabird nesting habitat. Capelin move from Northern Grand Banks along a major migration route in NAFO Division 3L to spawn on beaches in the Eastern Avalon, Conception Bay, and Trinity Bay. The Trinity to Bay de Verde area has been identified as a marine natural area of significance in Canada, with an important fish spawning site at Bellevue Beach and massive seabird congregations at Baccalieu Island and Grate's Point. Globally significant seabird colonies with massive congregations of Leach's Storm-petrel, Atlantic Puffin, and Northern Gannet exist at Baccalieu Island, Witless Bay, and Cape St. Mary's. These sites are protected as Seabird Ecological Reserves under the NL *Wilderness and Ecological Reserves Act*. Denning habitat for the endangered Atlantic Wolffish has been identified in Northern Conception Bay.

The Eco-unit includes the coastline of the Avalon Peninsula, which is the most populated area of the Province and experiences the highest tourism and offshore vessel traffic in the Province. World-class natural features are found along this coast, including the rugged +500 km East Coast Trail, Witless Bay whale, seabird, and iceberg tours, and ancient geological features. Mistaken Point, on the southeastern tip of the island, is particularly significant as a UNESCO World Heritage site with the oldest and one of the rarest known assemblages of large fossils anywhere.

## THREATS:

The Northeast Shelf and Slope of the Grand Banks is heavily fished. There are also major fish migration routes between the northeast shelf and slope and Trinity and Conception Bays so any fish captured before or during spawning in these areas will have ramifications for stocks across NAFO Division 3L. The commercial fishery can impact non-target species through competition for resources and gear entanglement (Todd et al., 1996; Benjamins et al., 2008). By-catch in monofilament nets continues in the region and has the potential to cause significant mortality for seabirds and at-risk fish species (Regular et al., 2013; Davoren, 2007; Benjamins et al., 2008).

Traffic from fishing vessels also creates chronic pollution for marine species and habitats either through routine operations or catastrophic spills (Wiese and Ryan, 2003). One such incident occurred in August, 2017 when a fishing vessel ran aground and leaked 35 to 55 litres of diesel fuel directly inside Witless Bay Seabird Ecological Reserve during breeding season, despite provincial regulations that requires vessels to maintain a 100-metre distance from such protected areas (CBC, 2017).

The level of protection in the Petty Harbour – Maddox Cove area is not comprehensive or strong enough to provide adequate protection marine species and habitats. For example, draggers and non-renewable resource extraction are not prohibited. Also, this protection can be easily withdrawn, and enforcement has been inadequate. Some of the restrictions have been weakened in the Protected Fishing Area. For example a 1990 amendment permitted fishers from the nearby community of Bay Bulls to use longlines in a portion of the area. Following the 1992 cod moratorium, Petty Harbour-Maddox Cove fishers permitted lumpfish gill nets to be used. The negative impacts on the sea floor of longline trawls and by-catch and "ghost net" phenomena are therefore renewed threats to the area.

Oil exploration and development activity is expected to grow in the Jeanne d'Arc Basin directly east of Avalon Peninsula (approximately 350 m), with additional exploration expected at the northeast slope of the Grand Banks and the Flemish Pass. Oil and gas exploration activities can have devastating effects on seabirds, cetaceans and other marine organisms. Seismic surveys and underwater noises negatively affect the physiology and behaviour of marine mammals. Collisions with survey and support vessel are also a concern.

The waters off the coast of the Avalon Peninsula are within a major shipping route, resulting in a significant amount of large vessel traffic. This vessel traffic brings with it a threat of oil pollution due to spills and illegal discharges. Because of the currents, wind and tides, outside pollution can impact areas like Witless Bay and Cape St. Mary's Ecological Reserves, despite their marine buffer zones. Marine oil pollution is lethal to seabirds. Shipping traffic to and from St. John's has been implicated in the high frequency of chronic oil pollution of seabirds along the southern Avalon.

Anthropogenic disturbances to sensitive coastal sites may be considerable in this Eco-unit. With large numbers of visitors to sites like Bellevue Beach, there are concerns about impacts of pedestrian activity, pets, and litter on nesting areas and sensitive habitats. Similarly, there is increasing concern about the levels of eco-tourism in the Witless Bay area, particularly the impact of tour boat activities. In peak tourism season, as many as 10 to 15 tour boats visit the Ecological Reserve every day, with a total of more than 10,000 people visiting each year. Close approaches by boats, as well as their speed and the activities of passengers, can disturb breeding colonies. Auks are particularly sensitive to such disturbance. For example, disturbances can cause adult fly-offs in Common Murre breeding areas, resulting in loss of eggs or chicks. Close approaches to whales such as humpbacks can result in behavioural reactions. Tour boat operators under permit and commercial fishers are not subject to the distance restrictions when approaching islands in the Ecological Reserve. Lastly, artificial light from oil and gas platforms (flares), fisheries, and coastal communities, affects the nocturnal activity of seabirds like storm-petrels (Montevecchi, 2013).

## RECOMMENDATIONS

With the involvement of concerned communities, protection options should be explored in the Grand Banks, including the Northeast Shelf and Slope, with the aim of recovering depleted fish stocks and maintaining the health of marine ecosystems. Enhanced community support and solidarity, increased support from Fisheries and Oceans Canada and stronger legislative protection have been recommended for Petty Harbour – Maddox Cove area.

Management agencies should work with local communities to explore alternative gear types to reduce seabird by-catch around Important Bird Areas, and to explore options for extending protection further into the waters surrounding Baccalieu Island, Witless Bay, and Cape St. Mary's that are used by the birds and their prey. Discussions should also be held regarding a minimum distance of gill-netting to seabird colonies and potential restrictions during capelin spawning season, at which time fish, breeding seabirds and marine mammals are known to congregate and seabird by-catch rates are at their highest. Continued monitoring of seabird populations at these areas is also necessary. On-site patrolling by a ranger has been recommended for high visitor-traffic areas to deter behaviour that would disturb wildlife. Modifying and minimizing coastal and offshore lighting during peak fledging periods is recommended to reduce unnecessary deaths of nocturnal seabirds.

Improved capacity is needed to respond to emergencies such as natural disasters such as coastal flooding, and accidental events such as oil spills. Increased enforcement, improved surveillance, higher fines and capture of polluters are also necessary to deter and prevent marine oil pollution. Convenient and accessible onshore oil disposal facilities for bilge and oil-contaminated ballast water should be established.

Photo: Patrick Strang

ECO-UNIT 4

# SOUTHERN GRAND BANKS

## OVERVIEW:

This Eco-unit extends east and south from Placentia and Fortune Bays to the 200-mile offshore limit, as far as the Jeanne D'Arc Basin in the east and the Laurentian Fan in the west. It is bounded by the Northern Grand Banks Eco-unit at the 100 m bathymetric contour. This is a large shallow area of the continental shelf, with depths generally less than 100 m.

The interaction of the currents with the continental shelf lifts nutrients to the surface, which creates highly productive fishing grounds. The Grand Banks contain areas important spawning, nursery, feeding, and wintering grounds for a wide variety of invertebrates and fish. Some shoals and ridges, such as found at the Virgin Rocks, and basins, as found at Whale Deep, provide additional unique habitat for invertebrates and spawning fish. St.

Pierre Bank in the west contains concentrations of scallops and Spiny Dogfish, as well as corals and sea pens. Productive benthic communities with rare species exist at the southeast shoal and tail, and at the Lilly Canyon-Carson Canyon area.

The Southern Grand Banks Eco-unit also includes the coastline between Pass Island on the Connaigre Peninsula and Cape St. Mary's on the southwest corner of the Avalon Peninsula. Placentia and Fortune Bays are large, deep near-shore areas with productive and diverse marine habitats. Placentia Bay is an important area for the survival of diverse species of pelagic and demersal fish. It also contains important feeding areas for seabirds and cetaceans. Greater Shearwaters are abundant in Placentia Bay and Lawn Islands Seabird Ecological Reserve on the southern Burin Peninsula contains the only known colony of Manx Shearwater in North America. Large colonies of Leach's Storm-petrel breed here, as well as on nearby Grand Colombier and Green Islands. Fortune Bay is a particularly large, deep bay that brings a cold water mass deep inland. Giant kelp beds here serve a variety of invertebrates (crab, lobster, squid) and the Bay has an abundance of inshore fish.

Several important coastal areas exist along this shore, many of which have terrestrial parks or stewardship agreements in place. Come-By-Chance, St. Lawrence, Frenchman's Cove, and Garnish each have stewardship agreements established to protect wetland habitats, which are valuable refuges for breeding and nesting shorebirds and waterfowl (including Harlequin Duck). Fortune Head Ecological Reserve protects an exposed headland with ancient, well-preserved fossils and rocks. The long, pristine Bay Du Nord River at the head of Fortune Bay was designated as an official Canadian Heritage River in 2005 and its productive upstream headwaters are protected by the Bay Du Nord Wilderness Reserve.

Marine mammals, including Harbour Seals, Harbour Porpoises, Dolphins, North Atlantic Right Whales, Blue Whales, and Killer Whales, migrate and feed throughout this region.

## THREATS:

Historically, the Southern Grand Banks area has been heavily fished. Fishing pressure has increased in the Grand Banks since the 1950s. Unsustainable fishing practices have contributed to the collapse of groundfish stocks and virtually all stocks are now well below historical levels (Gomes et al., 1995; DFO, 2005). By-catch of corals in commercial fisheries, for example by trawls, gill nets and longlines, is of particular concern in the southwest Grand Banks, and protection measures are necessary to conserve coral areas.

Offshore oil and gas development poses threats to several areas of the Grand Banks, including Lilly and Carson Canyons, the Southeast Shoal and Virgin Rocks, if not carried out in an environmentally- and ecologically-responsible manner. The Hibernia oil platform is located approximately 85 km north of Carson Canyon. Such development has boosted

economic growth in the province; however, its proximity to sensitive biological areas has the potential to threaten the health of these rich and diverse areas. Offshore oil platforms have attracted birds for roosting and feeding. Oil spills of any size can have a negative effect on birds, fish and other marine species in the area. The extent of seabird mortality due to oil spills depends on both timing and location; even small spills in densely-occupied areas can lead to high mortality. Between 10,000 and 16,000 seabirds are estimated to have been put at risk by a crude oil spill from the Terra Nova floating production, storage and offloading vessel in the Grand Banks in November 2004 (Wilhelm et al., 2006). Gas flaring often attracts birds and can also lead to mortality.

Exploration activities can also have devastating effects on seabirds, cetaceans, and other marine organisms. Permanent structures established for oil exploration and extraction, oil pipelines, and other activities associated with oil exploration such as the use of explosives can disrupt the marine ecosystems in their vicinity (Cerchio et al., 2014; Gordon et al., 2003; Nowacek et al.; 2013).

High levels of industrial activity and vessel traffic have disturbed and contaminated areas in Placentia Bay (Dominguez et al., 2003; Khan, 2003). An oil refinery, shipyard facility, fabrication facility, ferry terminal and offshore oil transshipment facility have all resulted from growth of the oil and gas industry in the province. It contains one of the largest oil handling ports in Canada, and therefore, is at a high risk of oil spills due to accidents or deliberate bilge discharges. Sediments in Placentia Bay move in an onshore-offshore direction rather than parallel to the shore, meaning that sedimentation and contaminants introduced into the bay remain within coves and embayments. More recently, a nickel processing facility has been established at Long Harbour, further adding to traffic and potential sources of effluent and discharge in Placentia Bay.

Aquaculture has grown significantly in Placentia Bay with several farms for Blue Mussel and Atlantic Cod established and more pending. Due to the need for economic growth and existing fisheries infrastructure, aquaculture projects are being aggressively pursued throughout the province.  Recently, the Atlantic Salmon Federation has been actively opposing the Grieg Seafarm proposed salmon aquaculture development in Placentia Bay with concerns about escapes, genetic mixing with wild salmon, disease control, and proximity to nearby wild salmon habitat. Net-pen aquaculture is known to have a number of ecological, social, and economic risks. Escapes are common and known to displace and modify habitats of wild fish species (Naylor et al., 2005). Ecological damage due in part from aquaculture industry has driven Scotland's once lucrative recreational fishery for Atlantic salmon into serious decline (McKibben and Hay, 2004). The potential effects of aquaculture on marine species and ecosystems in Newfoundland and Labrador are not yet well understood and legislation is still lacking.

## RECOMMENDATIONS

Protection options should be explored in the Grand Banks, including aggregation areas at St. Pierre Bank, Virgin Rocks, and the Southeast Shoal and Tail, with the aim of recovering depleted fish stocks and maintaining the health of marine ecosystems. Management agencies should work with local communities and the fishing industry to explore alternative gear types to reduce the amount of bird by-catch.

Scientifically rigorous monitoring programs by independent observers are necessary on oil platforms to document episodic wildlife mortality. Independent studies should be conducted to examine the impact of oil and gas development on ecosystem health, and investigate and adopt alternative management techniques to protect seabirds and other marine fauna. Increased enforcement, improved surveillance, higher fines and capture of polluters are also necessary to deter and prevent marine oil pollution. Convenient and accessible onshore oil disposal facilities for bilge and oil-contaminated ballast water should be established. Improved capacity is needed to respond to emergencies such as natural disasters such as coastal flooding, and accidental events such as oil spills.

Discussions are encouraged between management agencies and local communities to explore options for extending and strengthening protection of coastal sites into subtidal areas. Several protected areas and stewardship agreements exist in areas like Come-By-Chance, St. Lawrence, and Fortune Head and Frenchman's Cove/Garnish, but these either do not include marine components or are not adequately protected by legislation.

The Precautionary Principle is recommended for all proposed aquaculture projects in the region. Full environmental assessments should be required, particularly for salmon projects which have potential to disrupt, displace, and negatively impact an endangered population of Atlantic Salmon. Adequate legislation, monitoring, and enforcement regarding aquaculture should be established in the province.

South Coast Fjords.

ECO-UNIT 5

# LAURENTIAN CHANNEL / SOUTH COAST

## OVERVIEW:

The Laurentian Channel / South Coast Eco-unit includes the Burgeo and Hermitage deep water channels running from the south coast of Newfoundland to the Laurentian Channel. Approximately ½ of the Laurentian Channel is contained within the unit, as the east and west slopes appear to exhibit distinct communities. Deep warm water from the Gulf Stream mixes with water from the St. Lawrence River to create productive habitat for plankton, invertebrates, and groundfish. The Burgeo Bank, in particular, is an important Cod spawning and stock mixing area. The Laurentian Channel itself has highly saline walls, rich in nutrients.

The southwest coast of Newfoundland, extending from Hermitage Bay to Cape Ray, is characterized by high granite cliffs and deep, glacially-carved fjords. These create many sheltered inlets and habitats for a variety of marine species. This coast has the largest tides in Newfoundland. Seaweeds in the Bay d'Espoir area exhibit extremely high diversity, especially in the intertidal zone. The Penguin Islands east of Ramea contain some of the most productive and diverse wave-exposed kelp beds in the province. Goblin Head and the Outer Bay d'Espoir area contain unusally deep waters with deep-sea benthic and planktonic animals. The head of Bay d'Espoir also has historically important salmon areas at Little River and Conne River. The range of a threatened Designatable Unit of Atlantic Salmon (DU4) extends along the entire south coast of Newfoundland. Committee on the Status of Endangered Wildlife in Canada (COSEWIC)

The Hermitage Channel is a large, highly-stratified fjord, carrying warm and saline deep water layer from the Laurentian Channel into Hermitage and Fortune Bays. Many marine mammals and rare species follow this route to feed in the sheltered bays, including Leatherback Turtles, Harbour Porpoises, and Humpback, Fin, Blue, Right, and Killer Whales. Endangered Porbeagle Sharks are also known to aggregate off Pass Island.

Coastal areas at J.T. Cheeseman Provincial Park, Channel - Port aux Basques and Grand Bay West, as well as the Sandbanks at Burgeo contain extensive beaches and marshes which provide habitat for the globally-vulnerable Piping Plover.

## THREATS:

The waters off the south coast of Newfoundland are within a major shipping route from the Gulf of St. Lawrence, resulting in a significant amount of large vessel traffic. Ferry routes between Hermitage – McCallum, Burgeo – Grey River, Rose Blanche - La Poile, and Port-Aux-Basques to North Sydney bring additional traffic to the region. Marine traffic brings with it a threat of oil pollution due to spills and illegal discharges, which is lethal to seabirds. Because of the currents, wind and tides, pollution can affect inshore areas.

Collisions with ships, net entanglements, and pollution are threats to marine mammals including the endangered Blue Whale, and the endangered Leatherback Turtle, who frequent the region.

Construction is underway on the Marine Link by Emera Inc., which involves the development of a transmission line between Granite Canal, Newfoundland and Woodbine, Nova Scotia. The transmission line will be buried across the Cabot Strait with a known disturbance to coral benthic communities, groundfish species, and marine wildlife.


Figure 2. Map of Maritime Link route between Newfoundland and Nova Scotia. (Adapted from Emera Newfoundland and Labrador, 2013).

Aquaculture projects have been aggressively pursued in Hermitage and Fortune Bays. Production has more than tripled since 2003 with approximately 80 finfish sites and 4 shellfish sites licensed. As mentioned in here are several concerns about impacts of aquaculture including genetic mixing of escapes with wild species, disease control, and habitat modification. Given that the South Newfoundland population of Atlantic Salmon has been identified as threatened by COSEWIC, and considering the large uncertainties surrounding the potentially significant negative environmental effects of net-pen aquaculture, any aquaculture expansion proposals in this area are of great public concern and should be well-scrutinized.

Overfishing and irresponsible fishing are lingering issues throughout this region There has been heavy fishing in the North Shore – Fortune Bay area since early settlement. American Plaice, a species that is under moratorium, is often caught as by-catch in the cod fishery on Burgeo Bank.

Several sensitive beach areas at Burgeo – Sandbanks, J.T. Cheeseman Provincial Park, and Grand Bay West, are threatened by human activities activity. The presence of dogs off-leash can lead to death of Piping Plover chicks.Sea level rise due to climate change is also expected to increase erosion in the area.

## RECOMMENDATIONS

Increased enforcement, improved surveillance, higher fines and capture of polluters are necessary to deter and prevent marine oil pollution. Convenient and accessible onshore oil disposal facilities for bilge and oil-contaminated ballast water should also be established.

The Precautionary Principle is recommended for all proposed aquaculture projects in the region. Full environmental assessments should be required, particularly for salmon projects which have potential to disrupt, displace, and negatively impact an endangered population of Atlantic Salmon. Adequate legislation, monitoring, and enforcement regarding aquaculture should be established in the province.

Protection options should be explored for the south coast of Newfoundland with the aim of recovering depleted fish stocks and maintaining the health of marine ecosystems. Management agencies should work with local communities and the fishing industry to explore alternative gear types to reduce the amount of by-catch.

While some protection exists for several small coastal sites, discussions are encouraged between management agencies and local communities to explore options for strengthening protection and extending coverage into subtidal areas. To protect sensitive dune and shorebird habitat and nesting areas, it is recommended that the use of recreational vehicles be limited. Pedestrians should walk only on wet sand during breeding season, and keep clear of nesting areas. Pets should be kept on leashes and food and trash should be kept off the areas. A public education and stewardship program should be part of any habitat protection strategy. Increased surveillance and stricter fines would help to deter irresponsible activity.

Sea Pen Meadow at Desbarres Canyon. Photo: Dr. Evan Edinger

ECO-UNIT 6

# LAURENTIAN FAN

## OVERVIEW:

The Laurentian Fan is the deep water area at the continental slope where the St. Lawrence River terminates at the Atlantic Ocean. The area is south of the Grand Banks, below the 200 m bathymetric contour, with depths exceeding 2500 metres. While the slope region extends along a broad area, this Eco-unit is recognizes the species assemblages, temperature, and depth differences.

The Gulf Stream brings warmer water to this area and a variety of warmer/deeper water species with it. Seabirds, whales, and pelagic fish including tuna, swordfish, and sharks, all frequent the Laurentian Fan Eco-unit. The endangered Leatherback Turtle migrates here in the summer, as well as the Gulf of St. Lawrence and Grand Banks.

Important benthic communities are found at the shelf edge throughout the Laurentian Fan. Productive submarine canyons are found along the slope where upwelling of the Gulf Stream creates nutrient-rich waters. The Southwest Grand Banks has been identified as a Vulnerable Marine Ecosystem with diverse deep water coral areas that provide structural habitat for invertebrates and groundfish. The Desbarres Canyon, Halibut Channel Mouth and Haddock Channel Mouth, in particular, exhibit high coral species diversity. A Coral Protection Zone established in NAFO division 3O is closed to all bottom-impacted gear.

## THREATS:

By-catch of corals in commercial fisheries is of particular concern for this area. Gorgonian corals are the most sensitive to disturbance due to their slow growth rate and stiff skeletons. Long-lived corals such as these may take centuries to grow back following damage, if they are able to grow back at all (Andrews et al., 2002; Gilkinson and Edinger, 2009). Gear that catches corals includes trawls, longlines, crab pots and gill nets. A single trawl operating over corals areas can collect as much as 500 kg of coral as by-catch within 15 minutes (Wareham and Edinger, 2007).

The Coral Protection Zone NAFO Division 3O effectively misses the major coral area near the mouth of the Haddock and Halibut Channel. This closure, like many others, has arbitrarily-decided boundaries based on fishing experiences and not scientific validation (Durán Muñoz, 2008). The main area, which may be the most important coral area in the NL Bioregion in terms of diversity, is directly west of the closure in NAFO Division 3Ps.

## RECOMMENDATIONS

It is recommended that closures be expanded to include coral aggregations in the adjacent NAFO Division 3PS to include the major coral area at the mouth of the Haddock and Halibut Channel. Management agencies should engage affected communities and conservation organizations to discuss broader protection measures for deep-sea, sessile benthic communities. Data gaps due to trawl-based surveys which exclude rough-bottom areas could be addressed and supplemented with habitat mapping, including multibeam echosounding and ROV sampling (Murillo et al., 2010). Due to the extreme vulnerability of corals and their value to marine productivity, it is crucial to implement the precautionary principle in areas where they are present.



# GULF OF ST. LAWRENCE

## OVERVIEW:

The Gulf of St. Lawrence Bioregion is a massive estuary at the mouth of the St. Lawrence River in eastern Canada. It touches 5 provinces: Quebec, New Brunswick, Prince Edward Island, Nova Scotia, and Newfoundland and Labrador. The Bioregion extends from Île d'Orléans, Quebec in the west to the Strait of Belle Isle in the east. At the eastern limit it stretches between Henley Harbour in Labrador and Raleigh in Newfoundland. In the south it extends between Bay St. Lawrence in Nova Scotia an Port-aux Basques in Newfoundland. For the most part, the Bioregion overlaps with the Biogeographic unit for the Gulf of St. Lawrence, defined by the DFO (2009) Biogeographic Classification of Canadian Marine Areas. However, it excludes the portion within NAFO Division 4Vn, which is found within the Scotian Shelf Bioregion.

In this Province we primarily focus on the west coast of Newfoundland and the Strait of Belle Isle between the south coast of Labrador and the tip of the Great Northern Peninsula. The region is influenced by the Labrador Current which mixes with the warm waters from the Cabot Strait and Atlantic Ocean, providing productive areas with a high range of water temperatures. The area offshore of the west coast of Newfoundland is significant for a large abundance of fish and winter refuges for herring and capelin.

The Strait of Belle-Isle, located between Labrador and Newfoundland, is a transition zone with a unique mixture of arctic and temperate species. It is also a major migration route with the highest concentration of cetaceans in Atlantic Canada during the summer. The Strait contains several terrestrial provincial parks and ecological reserves along the coastline which may provide infrastructure for further protection of the area. Red Bay has been designated as a UNESCO World Heritage Site for its importance as a 16th century Basque whaling station.

Several important coastal areas and inlets are found along the west coast of Newfoundland. The Codroy Valley at the southwest corner of the island has been recognized as a Wetland of International Importance under the Ramsar Convention (1971). Just to the north, Bay St. George and the Port-au-Port area contain important eelgrass beds and salt marshes, and large beach areas at Boswarlos and Sandy Point. These are important habitats for invertebrates and shorebirds, including the globally vulnerable Piping Plover. The Bay of Islands area contains productive lobster areaas and is also an important overwintering area for the endangered Blue Whale. Gros Morne National Park has been designated as a UNESCO World Heritage Site, but lacks any marine protection below the high water mark. Bonne Bay and St. Paul's Inlet here contain many unique and extremely diverse coastal habitats.

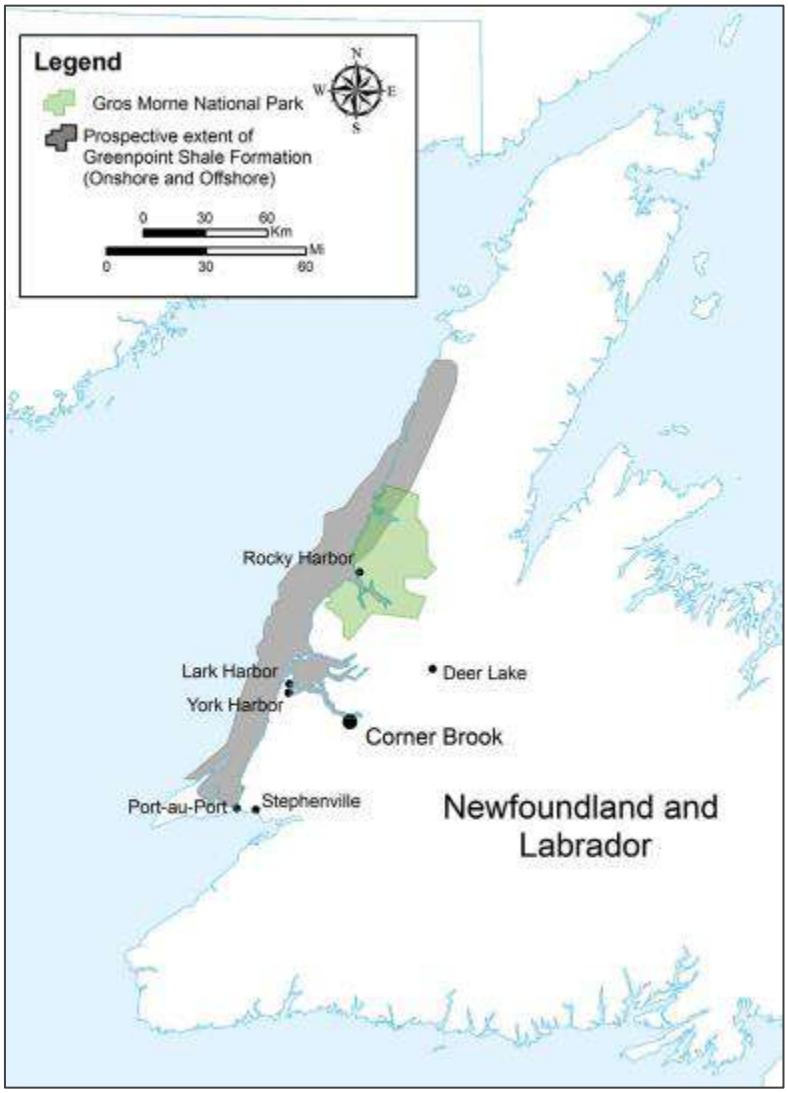
## THREATS:

The Strait of Belle Isle is a heavily used shipping route between Europe and the St. Lawrence/Great Lakes system. During the shipping season (June to December) four to eight ships pass through the area every day. Potential increased access to the Arctic due to climate change may increase transport-related threats. Oil pollution from illegal discharges and accidental spills is a constant potential threat, and current capacity to respond to oil spills and other emergencies is considered inadequate. Ship strikes on marine mammals and entanglement in fishing gear are also current threats. Several spills in the vicinity have already devastated seabirds and can be disastrous to waterfowl, particularly when they are moulting.

The Lower Churchill Labrador Island Link project will involve laying marine cable across the Strait of Belle Isle from Forteau  Point, Labrador to Shoal Cove, Newfoundland. This development will disturb benthic communities, groundfish species, and migration routes.

Oil and natural gas exploration, including hydraulic fracturing, has been considered for areas around the Port au Port Peninsula and west of the Bay of Islands (see Figure 3). Concerns about the impacts of hydraulic fracturing projects include pollutants and offshore leakage, and geologic instability. The UNESCO World Heritage Committee recommended a buffer zone around Gros Morne National Park to protect the unique natural area from potential exploration impacts.

Figure 3. Location of shale resources in Western Newfoundland. (Adapted from NLHFRP, 2016).



Like many other places in the province, overfishing is a problem in this region as well. Lobster, herring and cod fisheries in the Port au Port area had been depleted by the 1800s. A major concern here is overfishing during herring spawning, which can result in removal of fish that would otherwise reproduce and replenish future stocks. Despite diverse species in Bonne Bay, overfishing has led to low population sizes there as well. Scallop dragging, dredging and other activities that disturb the bottom can uproot eelgrass,causing extensive damage to eelgrass beds, as well cause turbidity in the water, hindering photosynthesis. Damage to eelgrass beds results in habitat loss for other organisms, including crustaceans, juvenile fish (such as cod) and waterfowl.

Terrestrial human activities and cottage or tourism developments are major threats for coastal areas on the west coast of Newfoundland. The use of all-terrain vehicles (ATVs) can crush eggs, nests and plants and damage sand dunes. People attempt to access areas like Sandy Point with ATVs at low tide or, more commonly, transport the vehicles to the island by boat. Salt marshes in St. George's Bay are heavily impacted by humans on all-terrain vehicles.

Developments, notably cottages, along scenic coastal areas can increase disturbances along the west coast of Newfoundland. Many people use cottages in the Pistolet Bay area, for example. Development in upland areas of Codroy Valley could alter or otherwise affect waterfowl use of the area. Major expansion of residential and tourism-related industrial development is occurring on portions of the shoreline that are not included in Gros Morne National Park. Other threats here include sewage outflow, terrestrial runoff, waste from local fish plants, the effects of tourism on the intertidal zone, and runoff from terrestrial oil spills.

Because the west coast of Newfoundland represents the range limit of certain species, climate change may affect species distributions and ecosystem characteristics.

## RECOMMENDATIONS

In the interest of maintaining and recovering depleted fish stocks, protection options should be explored with the involvement of concerned communities on the west coast of Newfoundland. No take areas could be established during spawning and hatching season in areas like Port au Port. Activities in the St. George's Bay area should be monitored and modified as necessary to avoid damage to eelgrass beds.

The decision to halt any hydraulic fracturing projects by the Newfoundland and Labrador Government should be upheld until several recommendations by the Newfoundland & Labrador Hydraulic Fracturing Review Panel are implemented. These include conducting scientific research, engaging communities, and the development of a regulatory framework.

Appropriate buffers should also be defined and established around existing protected areas if such developments are to proceed in the future.

Discussions are encouraged between management agencies, ENGOS, and local communities to explore options for extending and strengthening protection around coastal sites on the west coast of Newfoundland. Education and public awareness programs should be established in areas with private land ownership and stewardship agreements. Due to the presence of several coastal provincial parks and ecological reserves the infrastructure is in place for further protection of these areas. Gros Morne National Park, in particular, would benefit from extending protection into marine areas.

To protect sensitive dune and shorebird habitat and nesting areas, it is recommended that the use of recreational vehicles such as all-terrain vehicles and off-road vehicles be limited, particularly during nesting season. Pedestrians and equestrians should remain only on wet sand during breeding season, and keep clear of nesting areas. Pets should be kept on leashes and food and trash should be kept off of the areas. A public education and stewardship program should be part of any habitat protection strategy.

Effects of climate change should be monitored and mitigation strategies should be developed for offshore marine areas and species.

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# NEWFOUNDLAND AND LABRADOR SHELVES BIOREGION

## ECO-UNIT 1: NL SHELVES

**1** Davis Strait - Hudson Strait
**1a** Hatton Basin
**2** Torngat Mountains Marine Area
**2a** Cape Chidley
**3** Saglek Bank
**4** Outer Shelf Nain Bank
**5a** Tessiarsuk Lake
**5** Nain Coastline and Offshore Area
**6** Hunt River
**7** Hopedale Saddle
**8** Hamilton Inlet
**8a** Gannet islands
**8b** Inner Groswater Bay
**8c** Outer Groswater Bay
**8d** Mealy Mountains Coastal and Offshore Area
**8e** Rigolet
**8f** Herring Islands
**8g** Quaker Hat Island
**8h** Table Bay
**8i** Sandwich Bay
**9** Lake Melville
**10** Southeast Labrador Slope
**11** Hawke Channel - Hamilton Bank
**12** Gilbert Bay
**13** Orphan Spur
**13a** Tobin's Point
**14** Hare Bay
**15** Grey Islands (Bell Is. and Groais Is.)
**15a** Shepherd Island (MBS)
**15b** Ile aux Canes (MBS)
**16** Funk Island Deep – Notre Dame Channel
**16a** Funk Island
**17** Fogo Shelf
**17a** Little Fogo Islands
**17b** Wadham Islands
**17c** Dildo Run
**17d** Bay of Exploits
**17e** Gander Bay
**17f** Windmill Bight
**17g** Carmanville (Wetland Stewardship Area)
**18** Notre Dame Bay
**18a** King's Point - Baie Verte Peninsula
**18b** Leading Tickles
**18c** Springdale (Wetland Stewardship Area)
**19** Cabot Island – Cape Freels
**19a** South West Pond
**20** Gambo (Wetland Stewardship Area)
**21** Bonavista Bay
**21a** Newman Sound
**21b** Bloody Bay Reach
**21c** Terra Nova (Marine Bird Sanctuary)
**22** Eastport

## ECO-UNIT 2: LABRADOR SEA

**23** Labrador Sea Pack Ice (Transitory)

## ECO-UNIT 3: NORTHERN GRAND BANKS

**24** Northeast Shelf and Slope
**25** Elliston - Bird Islands
**26** Smith Sound
**27** Clarenville (Goose Sanctuary)
**28** Bellevue Beach
**29** Baccalieu Island
**30** Bay Roberts - Spaniards Bay
**31** Lance Cove
**32** Northeast Conception Bay
**33** Cape St. Francis
**34** Middle Cove
**35** Eastern Avalon
**35a** Petty Harbour Maddox Cove
**35b** Witless Bay
**36** Chance Cove
**37** Mistaken Point - Cape Race
**38** Biscay Bay
**39** St. Vincent's
**39a** Holyrood Pond
**40** Salmonier - St. Mary's Bay
**41** Cape Shore
**41a** Cape St. Mary's

## ECO-UNIT 4: SOUTHERN GRAND BANKS

**42** Placentia Bay Extension
**42a** Come By Chance
**42b** Placentia Area Salt Marsh
**42c** Bar Haven
**42d** Ragged Islands
**42e** St. Lawrence
**42f** Lawn Islands
**43** Green Island (Burin - St. Pierre)
**44** Grand Colombier Island
**45** Fortune Head
**46** Frenchman's Cove
**47** Garnish
**48** North Shore - Fortune Bay
**48a** Bay du Nord River
**49** St. Pierre Bank
**50** Grand Banks
**50a** Whale Deep
**50b** Virgin Rocks
**50c** Southeast Shoal and Tail
**50d** Lilly Canyon - Carson Canyon

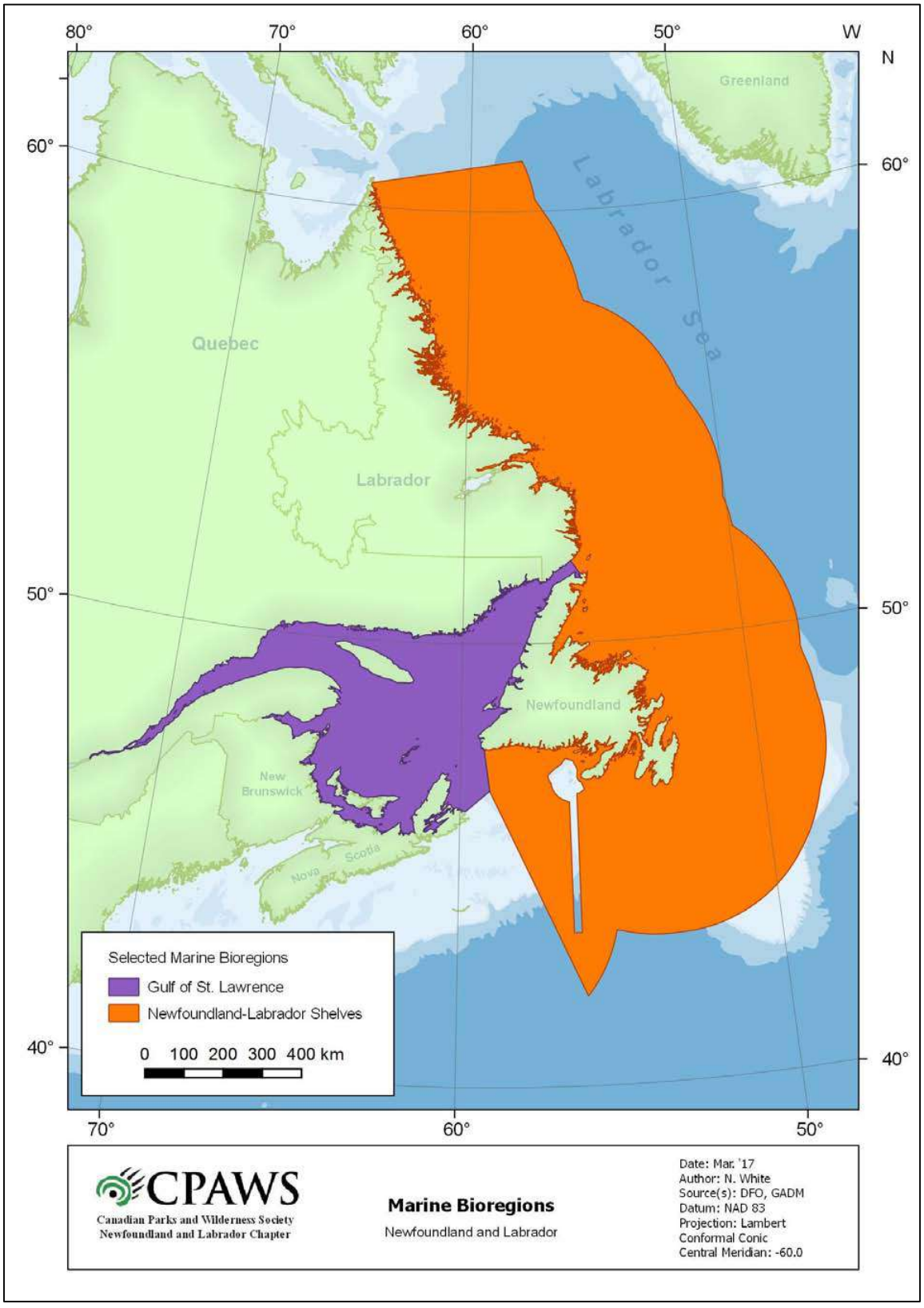
## ECO-UNIT 5: LAURENTIAN CHANNEL/SOUTH COAST

**51** Hermitage Bay – Outer Bay d'Espoir
**51a** Conne River
**51b** Little River
**51c** Goblin Head
**52** Hermitage Channel
**52a** Pass Island
**53** South Coast (Entire)
**53a** Grey River
**53b** Sandbanks - Burgeo
**53c** Southwest Coast Fjords
**54** Penguin Islands
**55** Burgeo Bank
**56** Channel - Port aux Basques
**57** J.T. Cheeseman
**58** Laurentian Channel and Slope

## ECO-UNIT 6: LAURENTIAN FAN

**59** Southwest Grand Banks
**59a** Desbarres Canyon
**59b** Coral Protection Zone - NAFO 3O
**59c** Coral Area - NAFO 3Ps
**59d** Halibut Channel Mouth
**59e** Haddock Channel Mouth

**60** Codroy Valley and Estuary
**61** St. George's Bay - Port au Port
**61a** Sandy Point
**62** Bay of Islands
**62a** Blow Me Down
**62b** York Harbour
**63** Gros Morne Offshore Area
**63a** Bonne Bay
**63b** St. Paul's Inlet
**64** West Coast of Newfoundland
**65** Table Point
**66** Hawke's Bay (Wetland Stewardship Area)
**67** The Hole - Point Riche
**68** Strait of Belle-Isle
**68a** Forteau River
**68b** L'Anse Amour – Point Amour
**68c** Red Bay
**68d** Pistolet Bay
**68e** Burnt Cape
**68f** Pinware River
**69** St. Peter's Bay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Newfoundland and Labrador Chapter
Marine Bioregions
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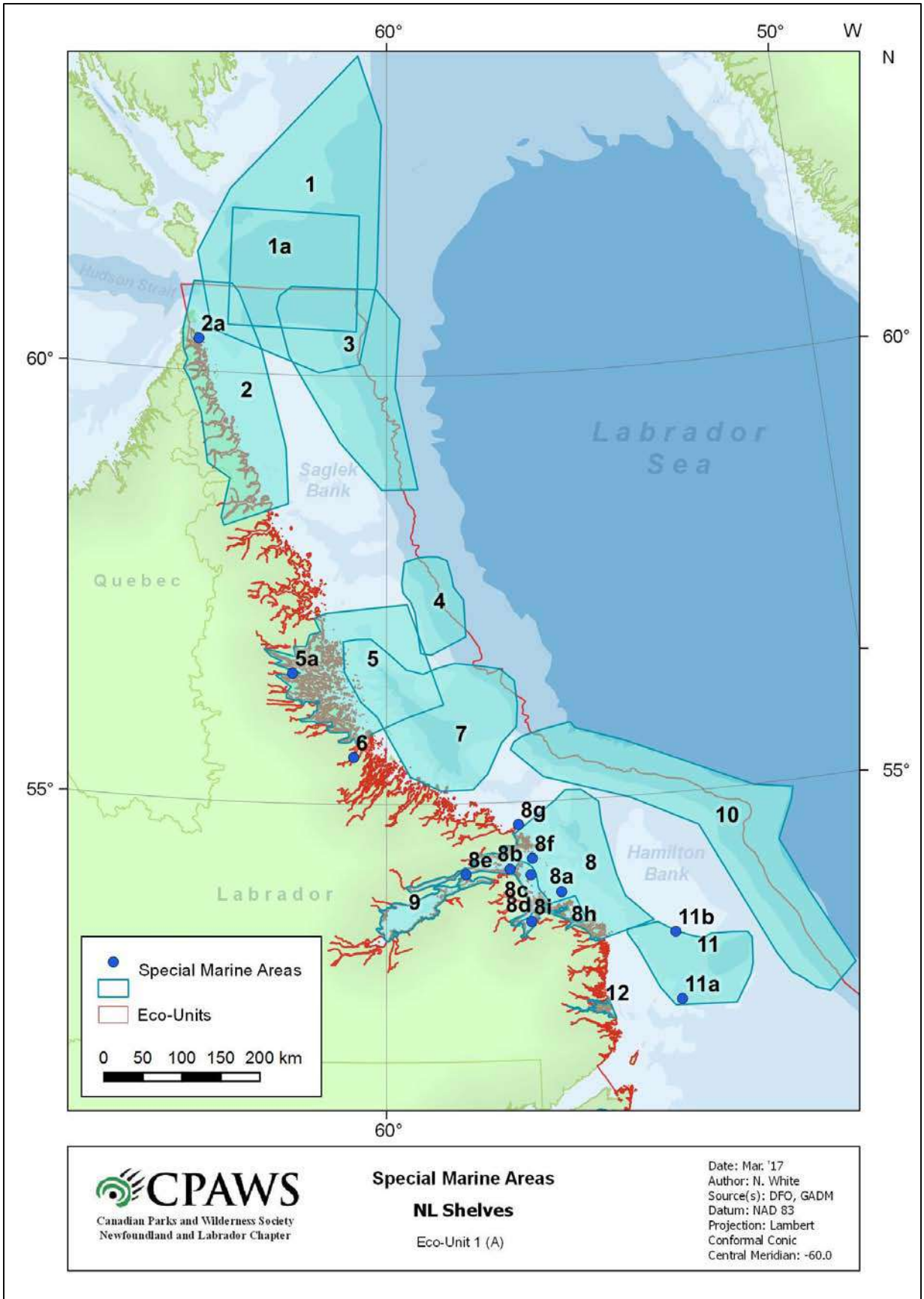
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Newfoundland and Labrador Chapter
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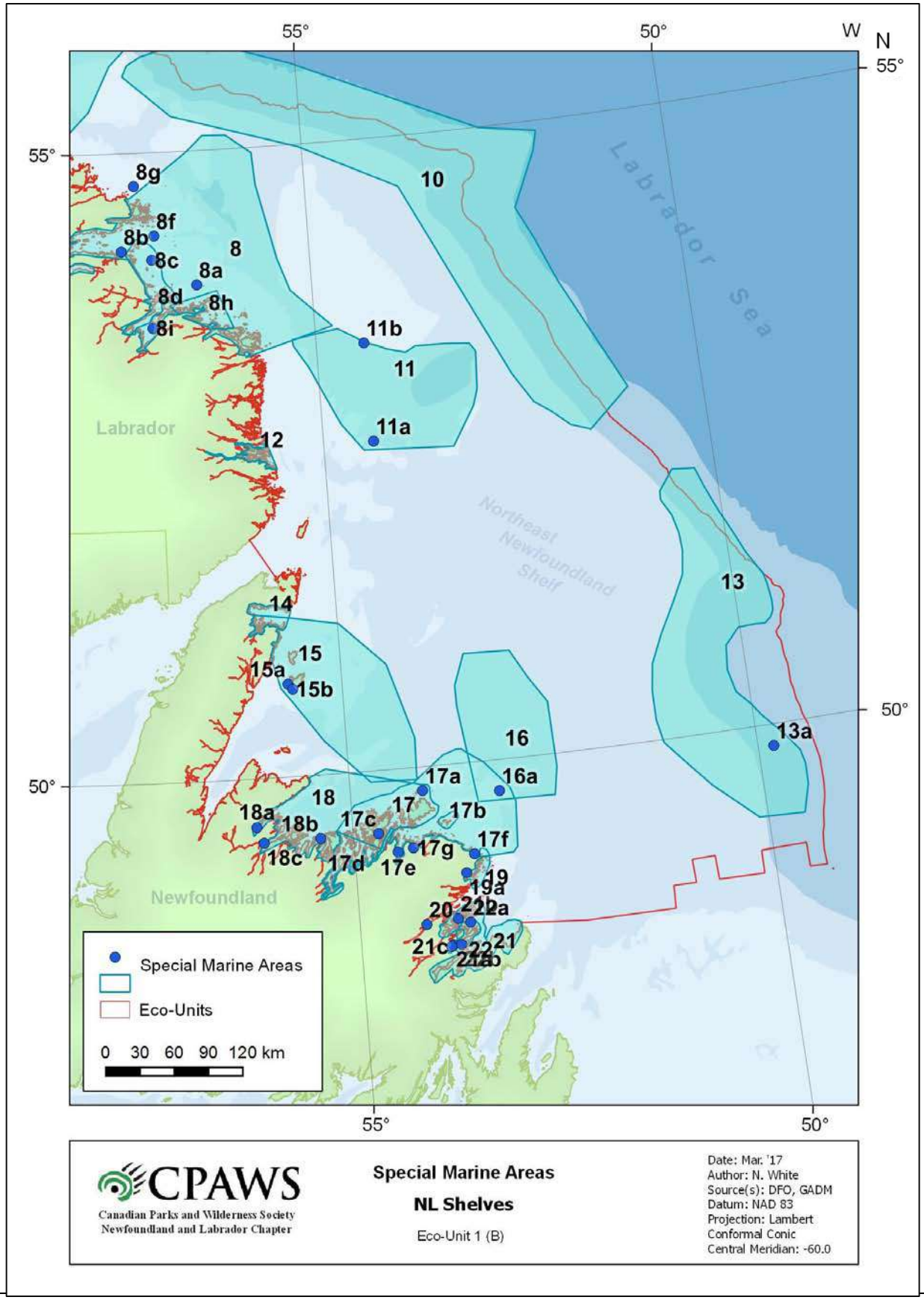
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Canadian Parks and Wilderness Society
Newfoundland and Labrador Chapter
Special Marine Areas
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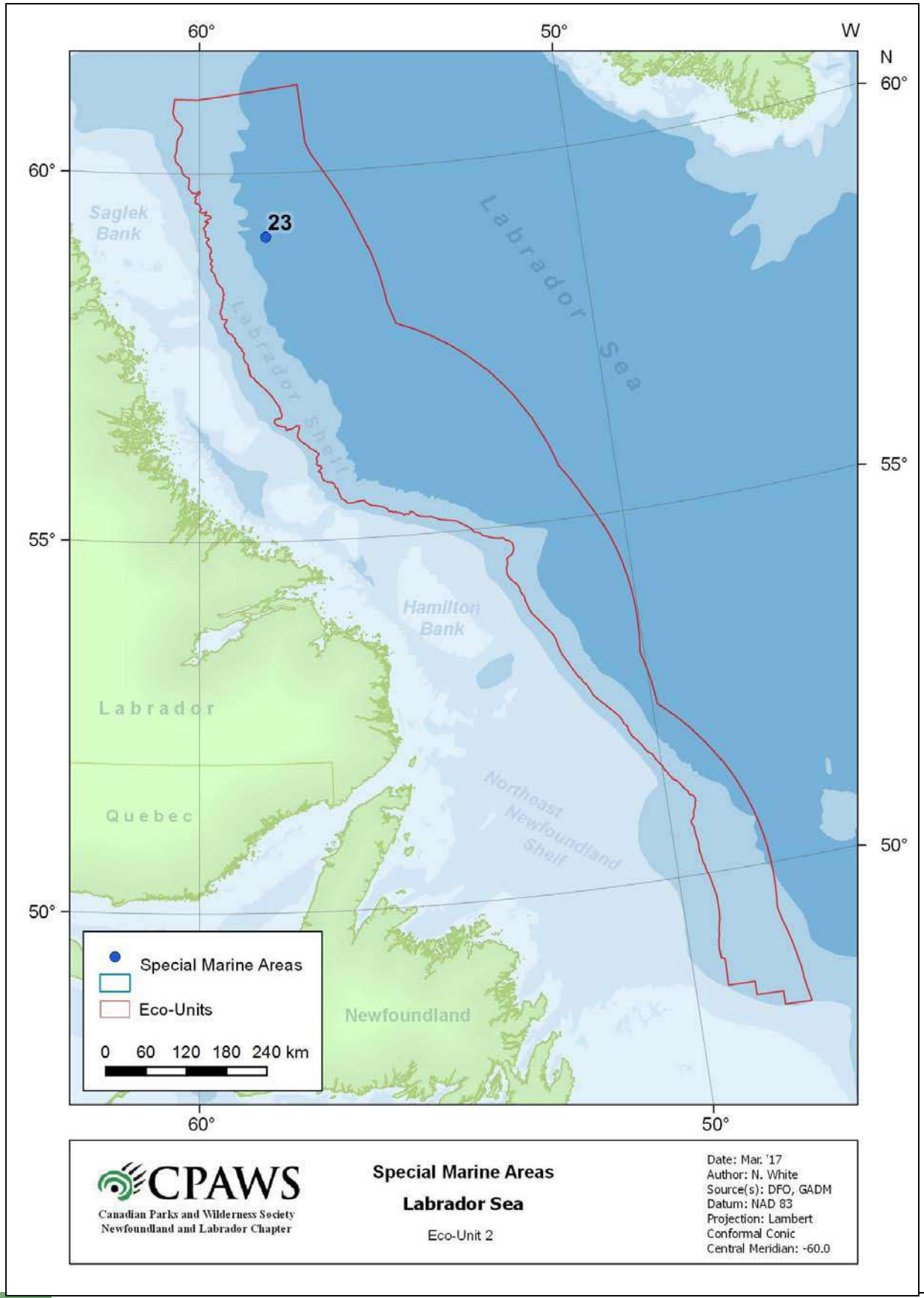
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Northeast Newfoundland Shelf
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Canadian Parks and Wilderness Society
Newfoundland and Labrador Chapter
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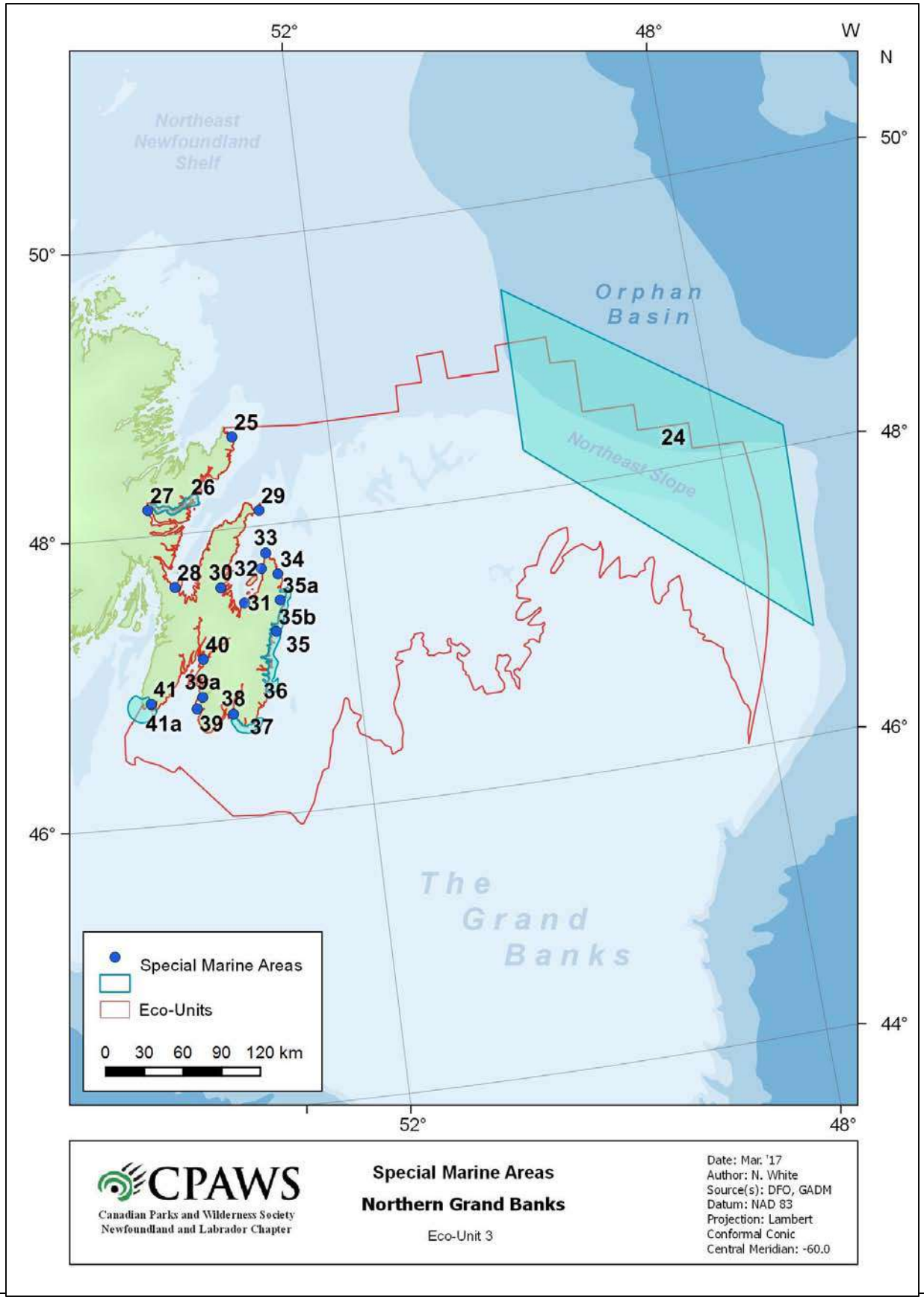
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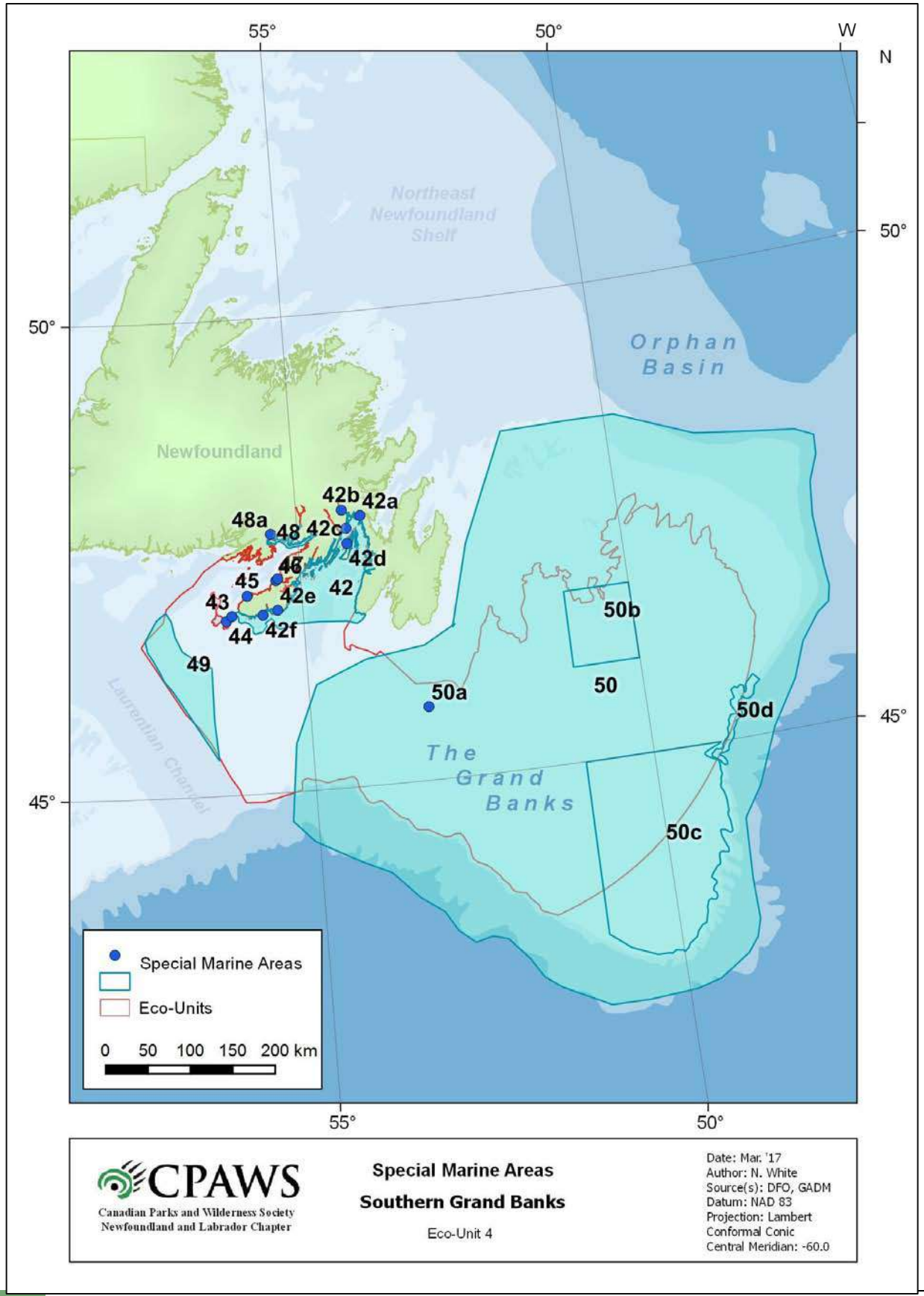
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Newfoundland and Labrador Chapter
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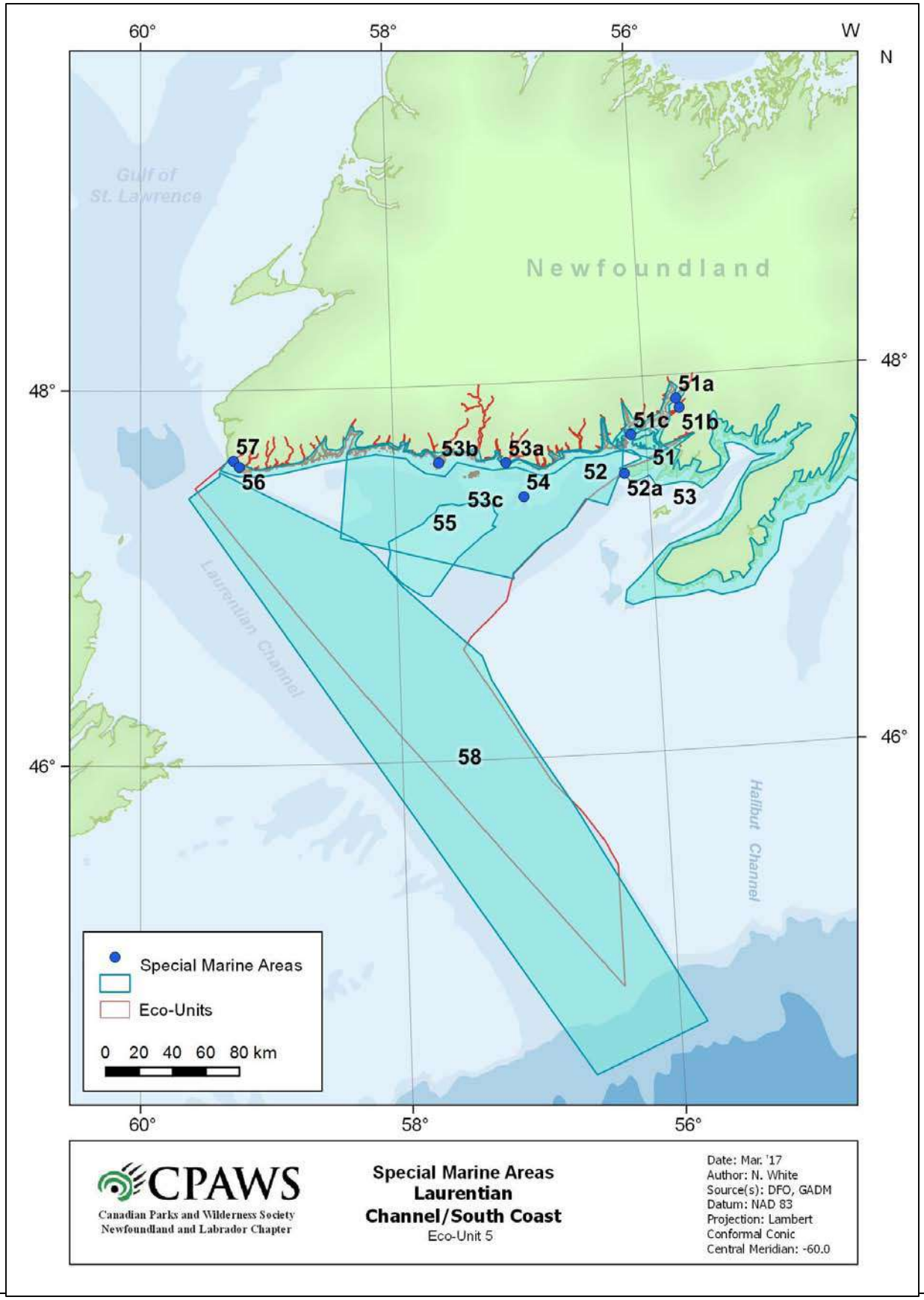
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Newfoundland and Labrador Chapter
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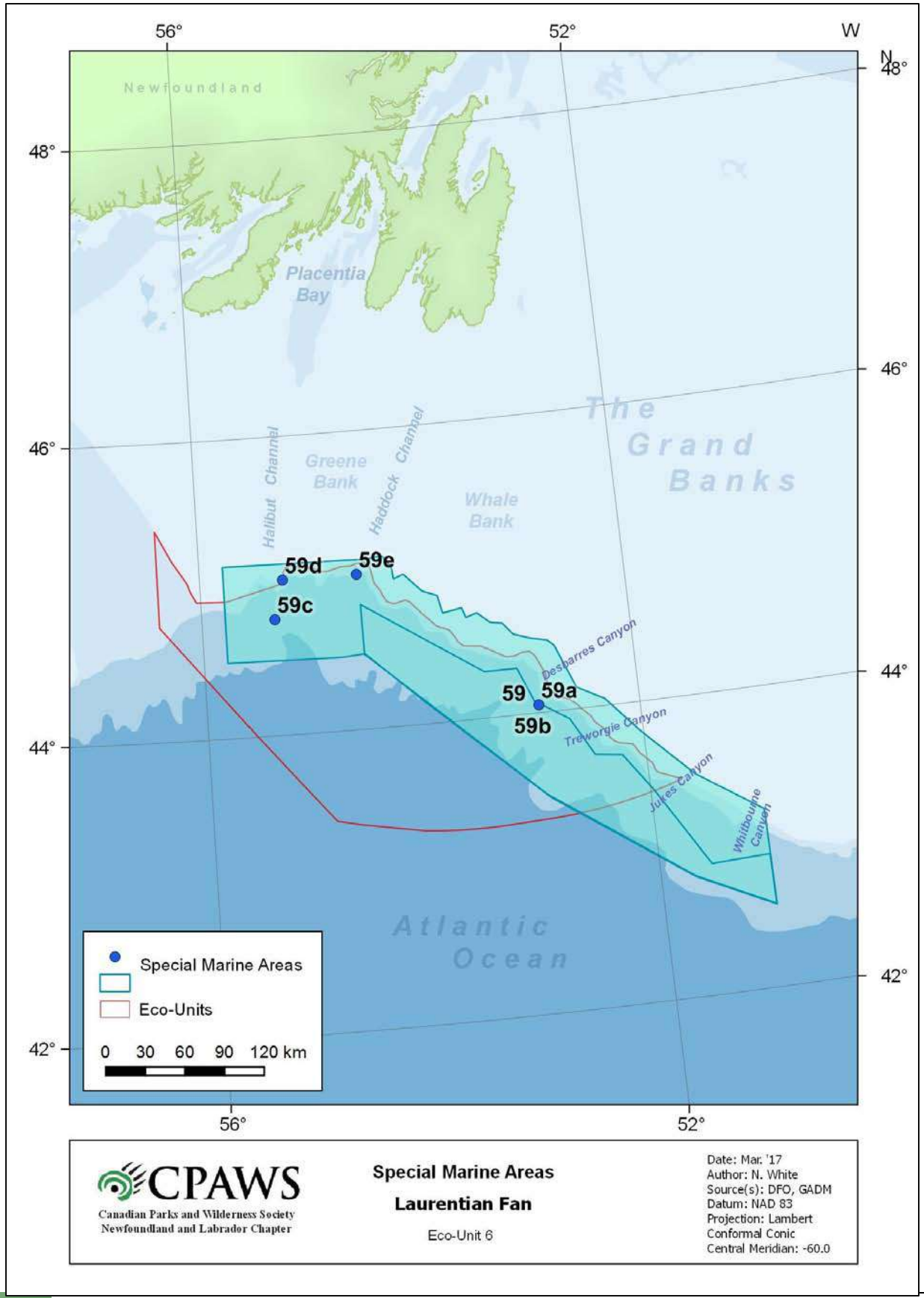
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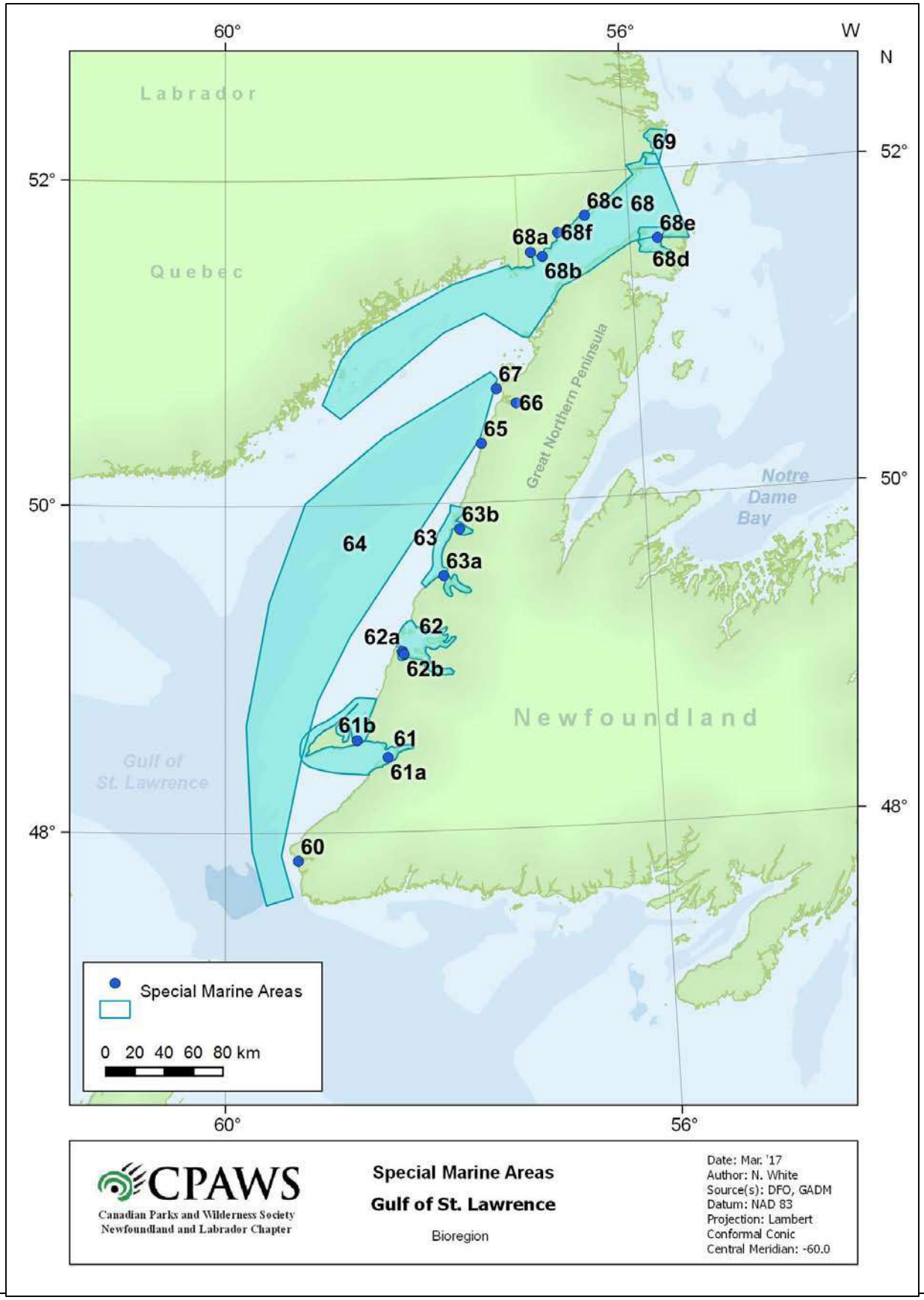
Canadian Parks and Wilderness Society
Newfoundland and Labrador Chapter
Special Marine Areas
Laurentian Fan
Eco-Unit 6
Date: Mar. '17
Author: N. White
Source(s): DFO, GADM
Datum: NAD 83
Projection: Lambert
Conformal Conic
Central Meridian: -60.0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Labrador
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Special Marine Areas
0 20 40 60 80 km
CPAWS
Canadian Parks and Wilderness Society
Newfoundland and Labrador Chapter
Special Marine Areas
Gulf of St. Lawrence
Bioregion
Date: Mar. '17
Author: N. White
Source(s): DFO, GADM
Datum: NAD 83
Projection: Lambert
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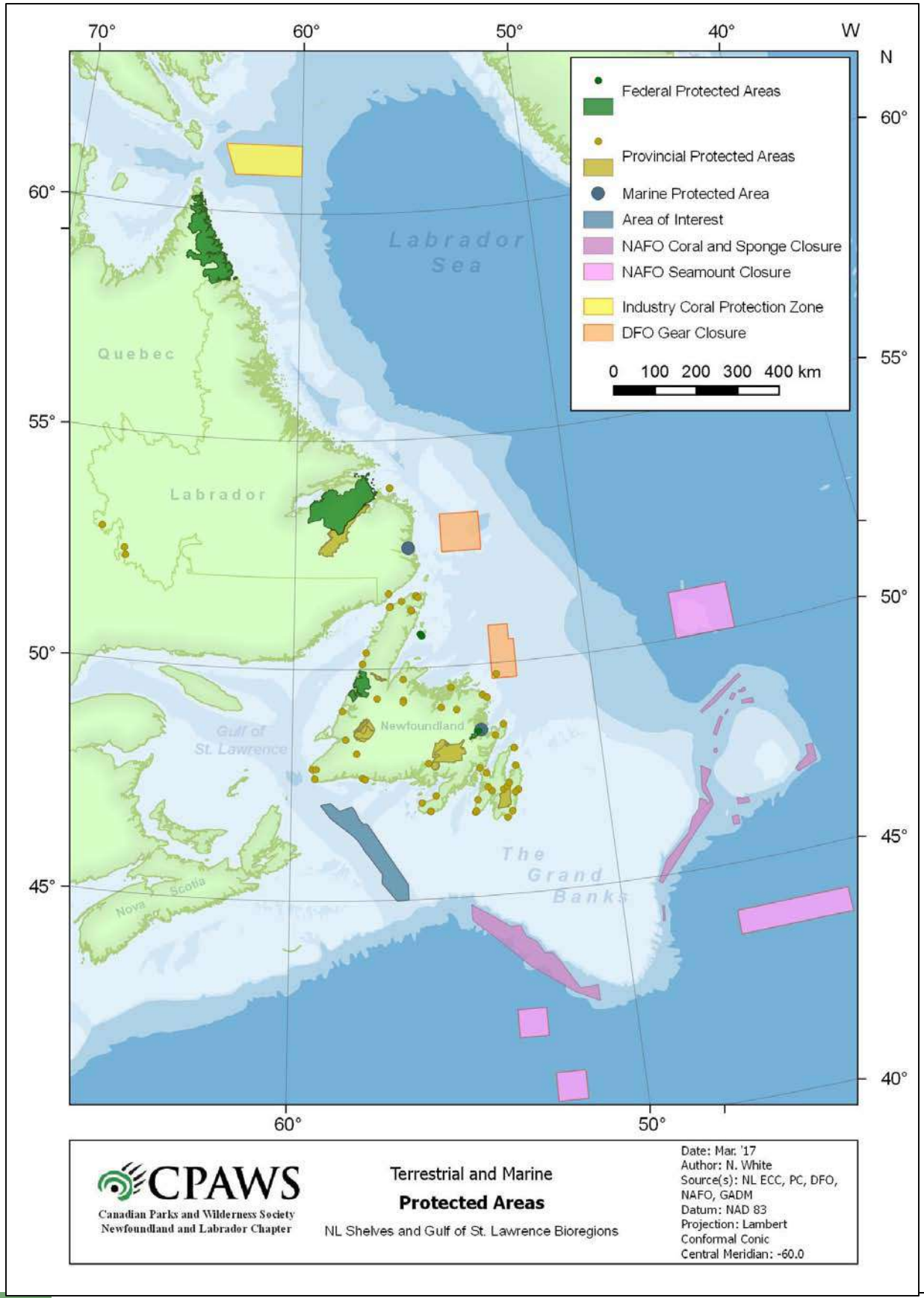
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Federal Protected Areas
Provincial Protected Areas
Marine Protected Area
Area of Interest
NAFO Coral and Sponge Closure
NAFO Seamount Closure
Industry Coral Protection Zone
DFO Gear Closure
0 100 200 300 400 km
Labrador Sea
Quebec
Labrador
Newfoundland
Gulf of St. Lawrence
The Grand Banks
Nova Scotia
CPAWS
Canadian Parks and Wilderness Society
Newfoundland and Labrador Chapter
Terrestrial and Marine
Protected Areas
NL Shelves and Gulf of St. Lawrence Bioregions
Date: Mar. '17
Author: N. White
Source(s): NL ECC, PC, DFO, NAFO, GADM
Datum: NAD 83
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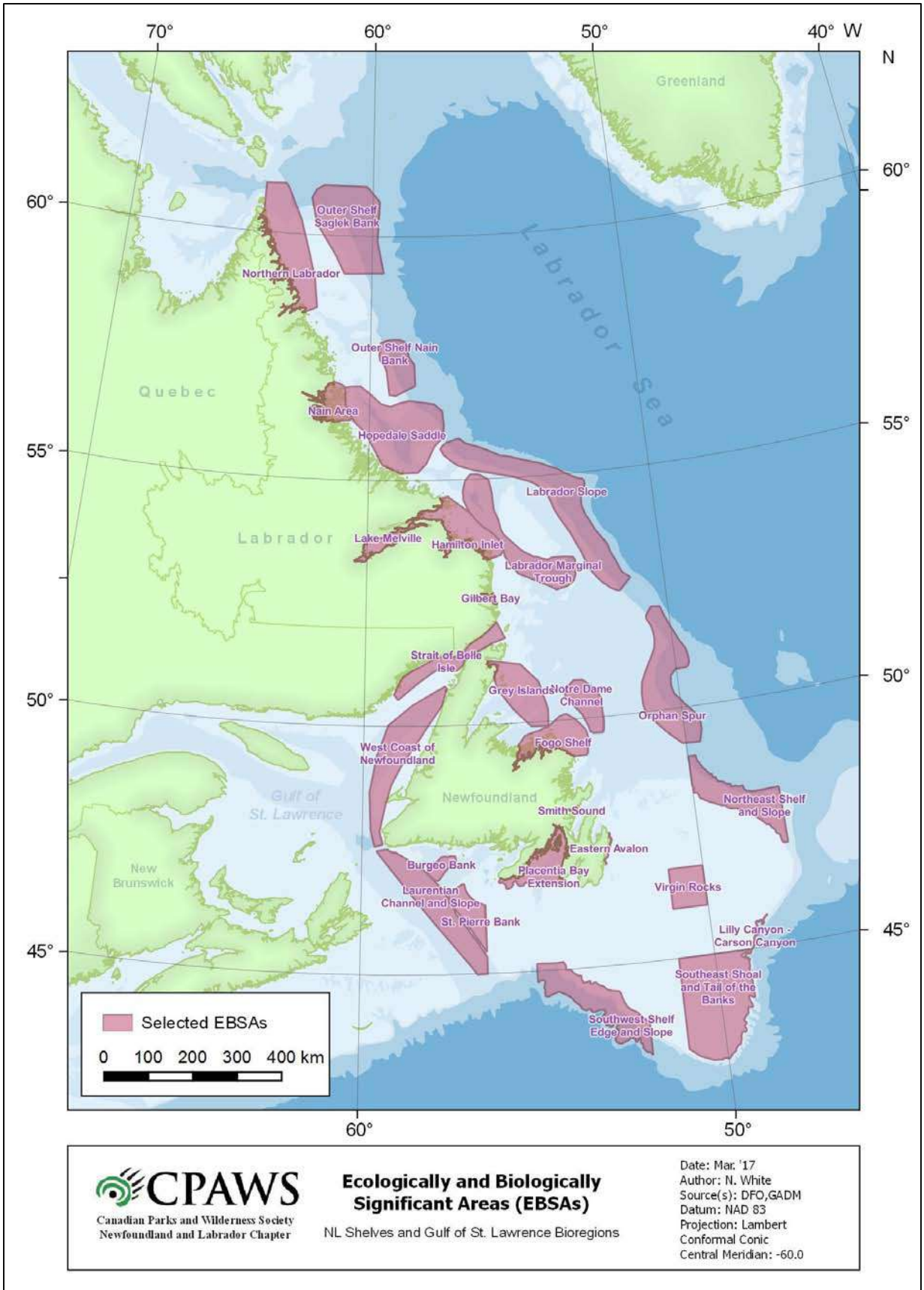
Central Meridian: -60.0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Outer Shelf Nain Bank
Nain Area
Hopedale Saddle
Labrador Slope
Lake Melville
Hamilton Inlet
Labrador Marginal Trough
Gilbert Bay
Strait of Belle Isle
Grey Islands
Notre Dame Channel
Orphan Spur
West Coast of Newfoundland
Fogo Shelf
Northeast Shelf and Slope
Smith Sound
Eastern Avalon
Burgeo Bank
Placentia Bay Extension
Virgin Rocks
Laurentian Channel and Slope
St. Pierre Bank
Lilly Canyon - Carson Canyon
Southeast Shoal and Tail of the Banks
Southwest Shelf Edge and Slope
Selected EBSAs
0 100 200 300 400 km
CPAWS
Canadian Parks and Wilderness Society
Newfoundland and Labrador Chapter
Ecologically and Biologically Significant Areas (EBSAs)
NL Shelves and Gulf of St. Lawrence Bioregions
Date: Mar. '17
Author: N. White
Source(s): DFO,GADM
Datum: NAD 83
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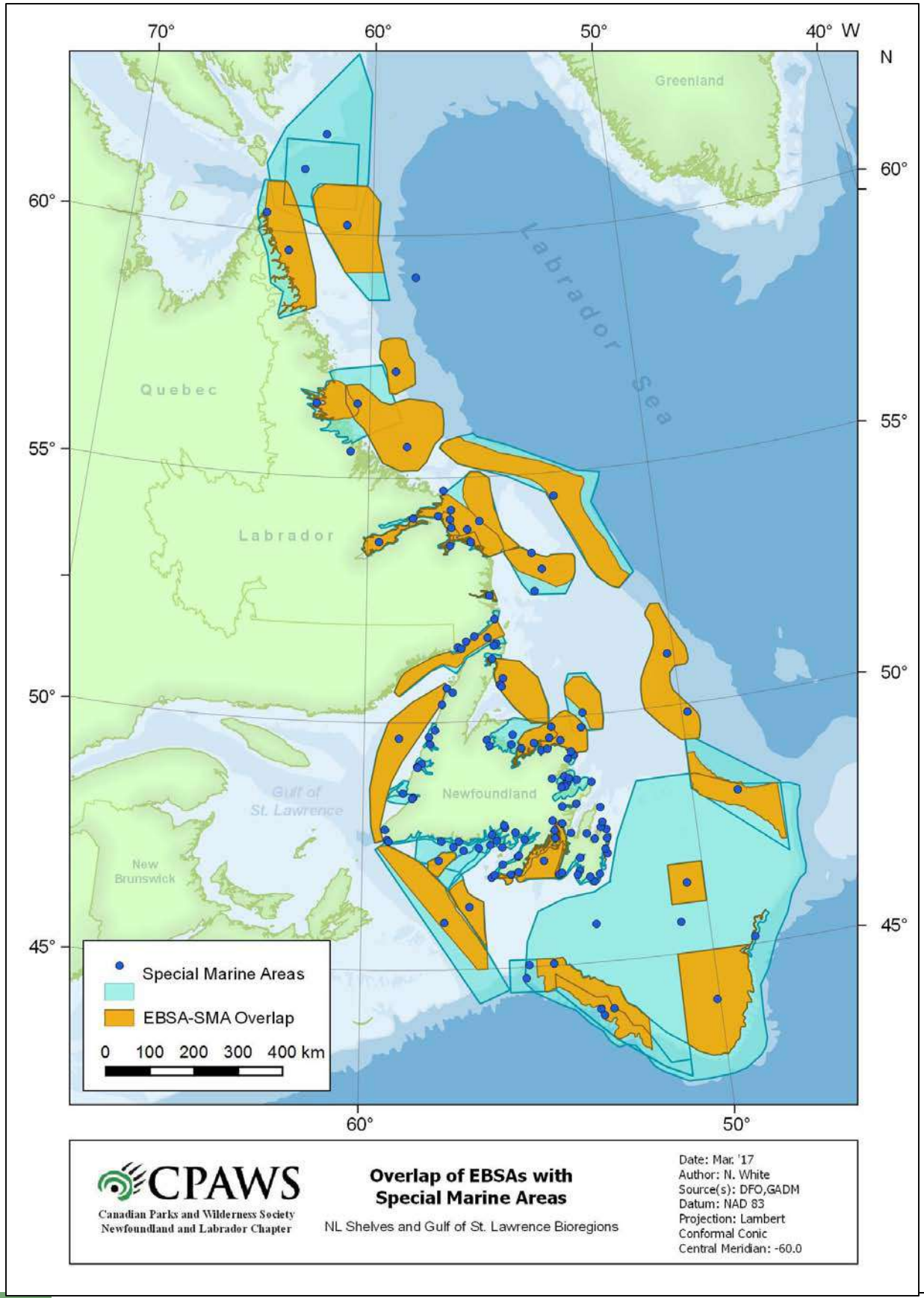
Central Meridian: -60.0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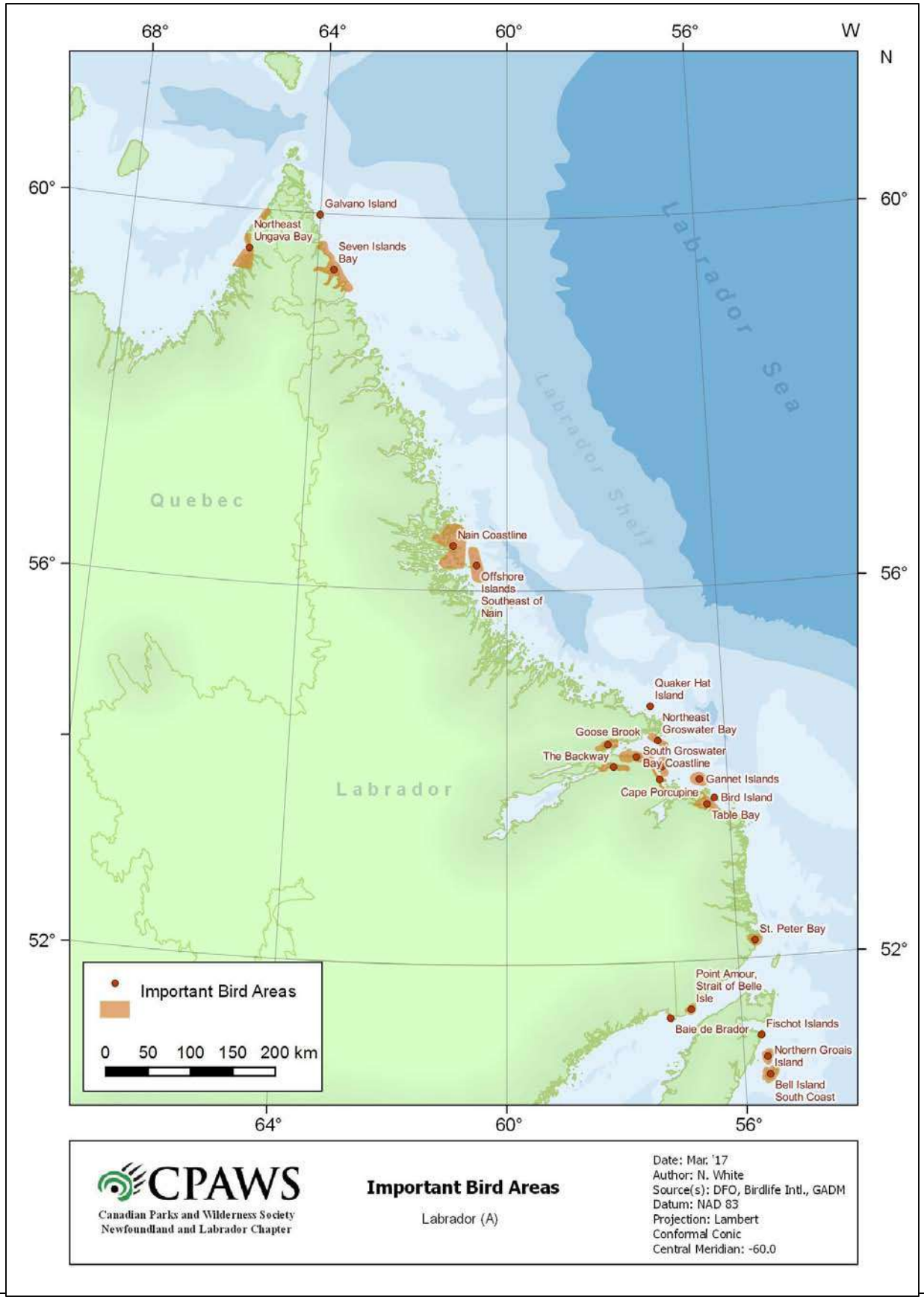
CPAWS
Canadian Parks and Wilderness Society
Newfoundland and Labrador Chapter
Overlap of EBSAs with Special Marine Areas
NL Shelves and Gulf of St. Lawrence Bioregions
Date: Mar. '17
Author: N. White
Source(s): DFO,GADM
Datum: NAD 83
Projection: Lambert Conformal Conic
Central Meridian: -60.0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Labrador Shelf
Quebec
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Galvano Island
Northeast Ungava Bay
Seven Islands Bay
Nain Coastline
Offshore Islands Southeast of Nain
Quaker Hat Island
Northeast Groswater Bay
Goose Brook
The Backway
South Groswater Bay Coastline
Gannet Islands
Cape Porcupine
Bird Island
Table Bay
St. Peter Bay
Point Amour, Strait of Belle Isle
Baie de Brador
Fischot Islands
Northern Groais Island
Bell Island South Coast
Important Bird Areas
0 50 100 150 200 km
CPAWS
Canadian Parks and Wilderness Society
Newfoundland and Labrador Chapter
Important Bird Areas
Labrador (A)
Date: Mar. '17
Author: N. White
Source(s): DFO, Birdlife Intl., GADM
Datum: NAD 83
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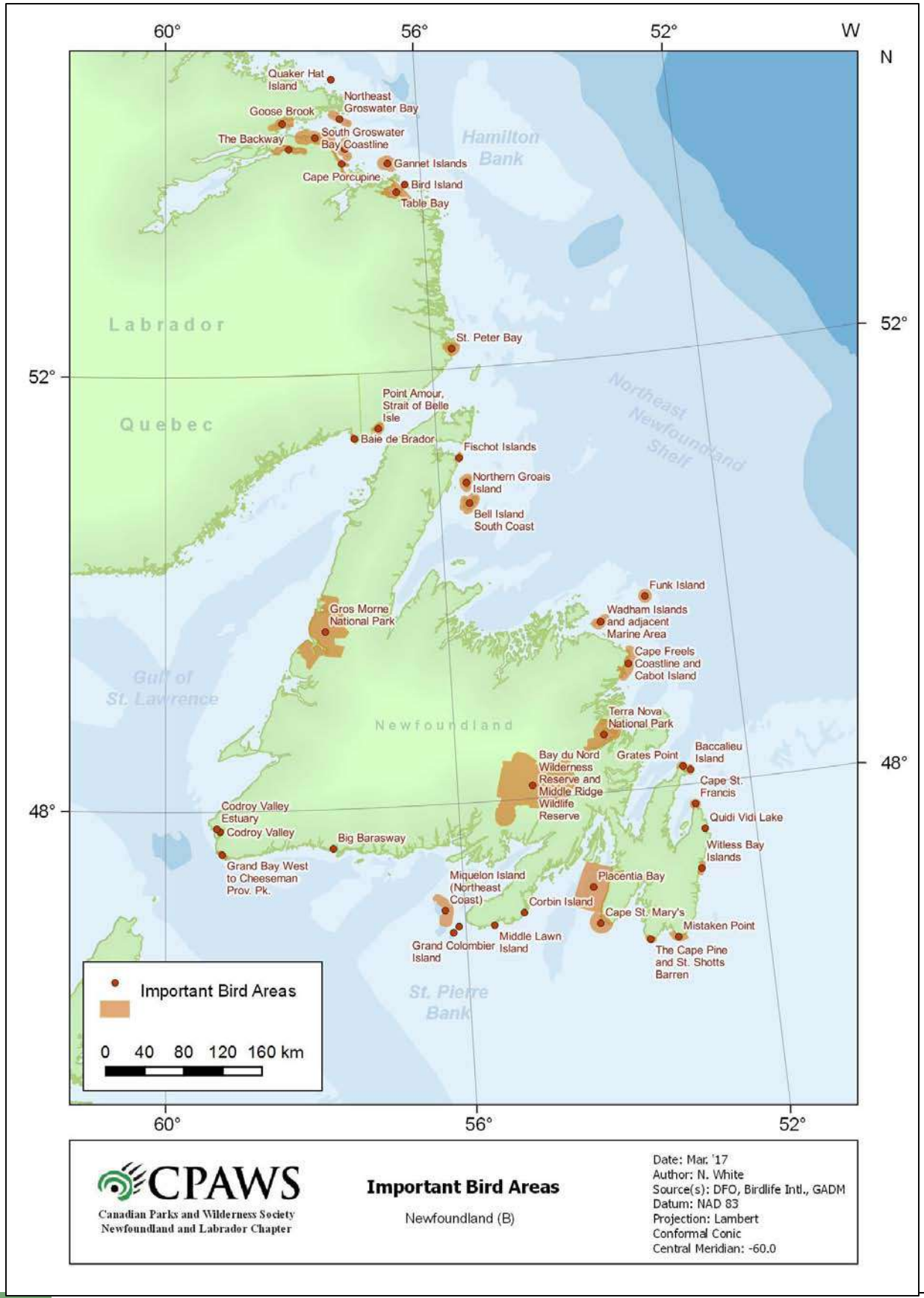
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Goose Brook
The Backway
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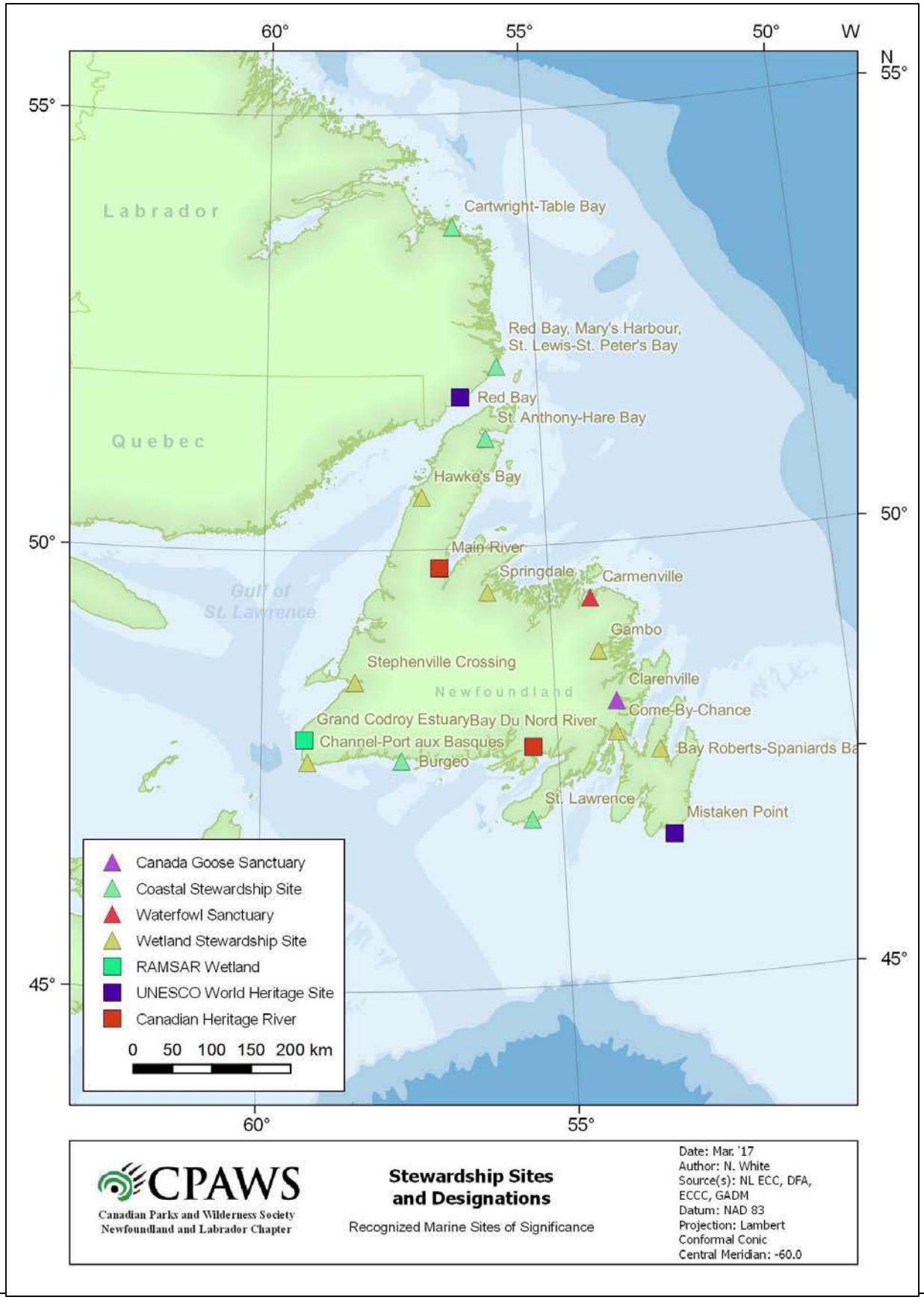
Gannet Islands
Cape Porcupine
Bird Island
Table Bay
Hamilton Bank
Labrador
St. Peter Bay
Point Amour, Strait of Belle Isle
Baie de Brador
Fischot Islands
Northern Groais Island
Bell Island South Coast
Quebec
Northeast Newfoundland Shelf
Funk Island
Wadham Islands and adjacent Marine Area
Gros Morne National Park
Cape Freels Coastline and Cabot Island
Gulf of St. Lawrence
Terra Nova National Park
Newfoundland
Bay du Nord Wilderness Reserve and Middle Ridge Wildlife Reserve
Grates Point
Baccalieu Island
Cape St. Francis
Codroy Valley Estuary
Codroy Valley
Quidi Vidi Lake
Big Barasway
Witless Bay Islands
Grand Bay West to Cheeseman Prov. Pk.
Miquelon Island (Northeast Coast)
Placentia Bay
Corbin Island
Cape St. Mary's
Mistaken Point
Middle Lawn Island
Grand Colombier Island
The Cape Pine and St. Shotts Barren
St. Pierre Bank
Important Bird Areas
0 40 80 120 160 km
CPAWS
Canadian Parks and Wilderness Society
Newfoundland and Labrador Chapter
Important Bird Areas
Newfoundland (B)
Date: Mar. '17
Author: N. White
Source(s): DFO, Birdlife Intl., GADM
Datum: NAD 83
Projection: Lambert
Conformal Conic
Central Meridian: -60.0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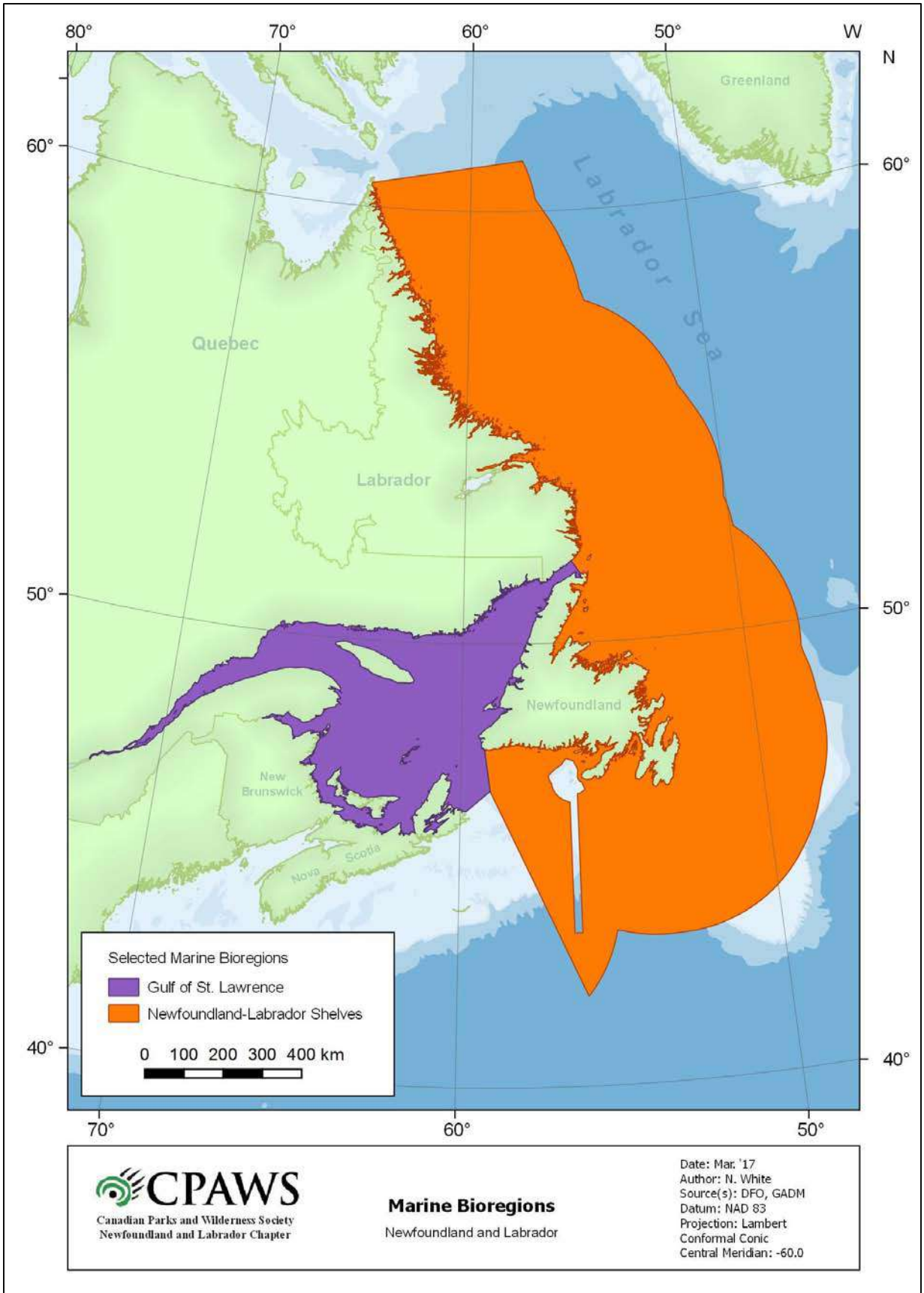
Cartwright-Table Bay
Red Bay, Mary's Harbour, St. Lewis-St. Peter's Bay
Red Bay
St. Anthony-Hare Bay
Hawke's Bay
Main River
Springdale
Carmenville
Gambo
Stephenville Crossing
Clarenville
Come-By-Chance
Grand Codroy Estuary
Bay Du Nord River
Channel-Port aux Basques
Burgeo
Bay Roberts-Spaniards Ba
St. Lawrence
Mistaken Point
Canada Goose Sanctuary
Coastal Stewardship Site
Waterfowl Sanctuary
Wetland Stewardship Site
RAMSAR Wetland
UNESCO World Heritage Site
Canadian Heritage River
0 50 100 150 200 km
CPAWS
Canadian Parks and Wilderness Society
Newfoundland and Labrador Chapter
Stewardship Sites and Designations
Recognized Marine Sites of Significance
Date: Mar. '17
Author: N. White
Source(s): NL ECC, DFA, ECCC, GADM
Datum: NAD 83
Projection: Lambert Conformal Conic
Central Meridian: -60.0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Labrador Sea
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Selected Marine Bioregions
Gulf of St. Lawrence
Newfoundland-Labrador Shelves
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CPAWS
Canadian Parks and Wilderness Society
Newfoundland and Labrador Chapter
Marine Bioregions
Newfoundland and Labrador
Date: Mar. '17
Author: N. White
Source(s): DFO, GADM
Datum: NAD 83
Projection: Lambert
Conformal Conic
Central Meridian: -60.0

## 1 NEWFOUNDLAND AND LABRADOR SHELVES

| ID | Area Name | Site Description | Special Features | Marine Life of Note | Protection |
|---|---|---|---|---|---|
| 1 | Davis Strait - Hudson Strait | • Extends North of Labrador marine region into Nunavut.<br>• Arctic water from Hudson Bay mixes with Atlantic water from West Greenland.<br>• Tidal range upwards of 18 m.<br>• <60% winter sea ice coverage. | • Overlaps with Hatton-Basin-Labrador-Davis Strait EBSA (Eastern Arctic Bioregion) and overlaps with northern parts of the Labrador shelf in the Outer Shelf Saglek Bank EBSA (NL Shelves Bioregion).<br>• Highest abundance of deep-sea corals in NL region.<br>• Northern shrimp found and harvested in Davis Strait.<br>• Major hooded seal whelping and breeding area.<br>• Decrease sea ice extent has led to rise in marine predators. | • Popcorn coral<br>• Bubblegum coral<br>• Northern Wolffish<br>• Spotted Wolffish<br>• Atlantic Wolffish<br>• Ivory Gull<br>• Common Eider<br>• Narwhals<br>• Beluga Whale<br>• Bowhead Whale<br>• Atlantic Walrus<br>• Killer Whale<br>• Polar Bear | • Unfished waters where a rough ocean floor damages gear.<br>• 12,500 km$^2$ voluntary fisheries closure to protect corals.<br>• Nunavik Marine Region Wildlife Board (NMRWB) voluntary summer whale hunt closures to protect endangered Eastern Hudson Bay beluga. |
| 1a | Hatton Basin | • Depression at outflow of the Hudson Strait, near the convergence with the Northwest Atlantic. | • Dense aggregations of corals, sea pens, and sponges.<br>• Greatest coral species richness and most important concentration of corals in NL region. | • Large gorgonian coral<br>• Black coral<br>• Bamboo coral | • Industry-driven 12,500 km$^2$ voluntary fisheries closure to protect corals.<br>• Closure may miss main coral areas.<br>• A cooperative coral monitoring program is in place. |
| 2 | Torngat Mountains Marine Area | • Offshore area adjacent to Torngat Mountains National Park, extending from Saglek Fjord to Cape Chidley..<br>• Affected by pack ice, mountain and coastal | • Overlaps with Northern Labrador EBSA.<br>• Seven Islands Bay and Galvano Islands IBAs.<br>• Traditional Inuit use for hunting, fishing, and traveling.<br>• Significant aggregations of | • Common Eider<br>• Harlequin Duck<br>• Barrow's Goldeneye<br>• Peregrine Falcon<br>• Rock ptarmigan<br>• Atlantic Cod<br>• Atlantic Walrus | • Torngat Mountains National Park was established in 2008 under the *National Parks Act*.<br>• It is free from development, but traditional activities |

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| | | climates. | Harlequin Duck.<br>• Significant breeding congregations of Common Eider. | • Polar Bear<br>• Seals | allowed.<br>• The Park has no marine component. |
| **2a** | Cape Chidley | • Located at the northern tip of Labrador Peninsula.<br>• Dry, exposed arctic area with seasonal coastal ice into August. | • Isolated, harsh arctic climate provides sheltered sites for migratory seabirds. | • Harlequin Duck<br>• Black-legged Kittiwake<br>• Ivory Gull<br>• Glacous Gull<br>• Great Black-backed Gull | • Torngat Mountains National Park, prohibits development or non-traditional wildlife resource utilization. |
| **3** | Saglek Bank | • One of the largest banks of the Labrador Shelf.<br>• Located offshore northern Labrador, extending generally from 200-2000 m bathymetric contours from Cape Chidley south toward Saglek Bay.<br>• Nutrient-rich outflow from the Hudson Strait results in high concentration of phytoplankton near the surface of the water. | • Overlaps with Outer Shelf Saglek Bank EBSA.<br>• Unique deep-water zooplankton species.<br>• Small gorgonian corals and sponges along the slope; sea pens in the NW portion.<br>• Northern range extensions of *P. johnsoni* and the *stylasterid*<br>• Shallowest records of Popcorn coral.<br>• Atlantic cod over-winter on Saglek Bank, shelf break formerly a major spawning area.<br>• Significant concentrations of Roundnose Grenadier. | • Small gorgonian coral<br>• Large gorgonian coral<br>• Stony cup corals<br>• Soft corals<br>• Sea pens<br>• Sponges<br>• Black coral<br>• Wolffish<br>• Roundnose Grenadier<br>• Atlantic cod<br>• Ivory Gull<br>• Long-finned Pilot Whale<br>• Minke Whale<br>• Humpback Whale | |
| **4** | Outer Shelf Nain Bank | • Outer shelf and Labrador Slope area adjacent to the Nain Bank.<br>• Extends approximately from 200-2000 m bathymetric contours.<br>• Dominated by the cold | • Overlaps with Outer Shelf Nain Bank EBSA.<br>• Shelf slope is important for deep-sea corals, sponges, sea pens.<br>• Important benthic communities at approximately 500 m depth. | • Black corals<br>• Stony cup corals<br>• Large gorgonian corals<br>• Bonsai coral<br>• Common cup coral<br>• Sea pens | |

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| | | Labrador current.<br>• Prone to heavy sea ice for 4 to 6 months of the year. | • High concentrations of black corals and stony cup corals in south end.<br>• High concentrations of fish species including small and medium benthivores and plankivores. | • Soft corals<br>• American Plaice<br>• Harp Seal<br>• Hooded Seal<br>• Ivory Gull | |
| **5** | Nain Coastline and Offshore Area | • Offshore islands southeast of the community of Nain in north-central Labrador.<br>• Coastline contains the communities of Nain (*Nunajnguk*) and Natuashish.<br>• Complex coastline made up of hundreds of isalnds, islets, and shoals.<br>• Intertidal zone where rivers empty.<br>• Islands shelter coastline from pack ice and storm surges. | • Contains Nain Area EBSA and portion of Hopedale Saddle EBSA.<br>• Voisey's Bay has the largest sand delta in the area.<br>• Land-fast ice habitat (ice anchored to the coastline) is unique.<br>• High species diversity, 60% of species recorded in the eastern Canadian Arctic.<br>• Spawning areas for Capelin and Atlantic Salmon; juvenile rearing and feeding areas for Arctic Char.<br>• Globally significant for congregatory seabird species.<br>• Nationally significant for threatened waterfowl species. | • Capelin<br>• Atlantic Salmon<br>• Atlantic Puffin<br>• Razorbill<br>• Glaucous Gull<br>• Thick-billed Murre<br>• Black Guillemot<br>• Surf Scoters<br>• Common Eiders<br>• Harlequin Duck<br>• Peregrine Falcon<br>• Ringed Seals<br>• Polar Bears<br>• Long-finned Pilot Whale<br>• Beluga Whale<br>• Minke Whale<br>• Humpback Whale<br>• White-beaked Dolphin | • Nain Bight has been identified as a possible National Marine Conservation Area. |
| **5a** | Tessiarsuk Lake | • Mermictic (salt and freshwater layers do not mix) lake situated at the head of Anaktalik Bay in northern Labrador.<br>• Permanently stratified rock basin within a land-locked fjord and isolated from the sea by a shallow threshold. | • Unique fresh and salt water layering occurs here.<br>• Contains species of indigenous copepods.<br>• Only known North American site of rare species of a priapulid worm. | • Priapulid worm *Halicryptus spinulosus*<br>• Rock Cod<br>• Atlantic Cod<br>• Atlantic Salmon<br>• Arctic Char<br>• Stickleback spp.<br>• Sucker spp. | |

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| | | | | • Northern Pike<br>• Slimy Sculpin<br>• Harlequin Duck<br>• Barrow's Goldeneye<br>• Common Eider<br>• Sandpiper spp.<br>• Seals<br>• Polar Bear | |
| **6** | **Hunt River** | • Gently flowing salmon river located approximately 30 km northwest of Hopedale. | • Important Atlantic Salmon and Arctic Char spawning area. | • Atlantic Salmon<br>• Arctic Char<br>• Brook Trout | • Hunt River is a scheduled river located in Salmon Fishing Zone 1, administered and regulated by DFO under the *Fisheries Act*. |
| **7** | **Hopedale Saddle** | • Includes the Labrador Marginal Trough area offshore from Nain, the inner shelf, the southern slope of Nain Bank, and the northern slope of Makkovik Bank.<br>• Glacial ice streams carved numerous canyons shaping the continental slope and shelf edge.<br>• The area is partially covered with sea ice in winter, providing shelter for marine mammals. | • Overlaps with **Hopedale Saddle EBSA**.<br>• Overwintering area for endangered population of Eastern Bay Beluga.<br>• Aggregations of sea pens (400 m depth), soft corals, small gorgonians<br>• Endangered skates, wolffish, and Roundnose Grenadier are found in high densities throughout this area. | • Sea Pens<br>• Sea Brocolli<br>• Bonsai Coral<br>• Atlantic Wolffish<br>• Spotted Wolffish<br>• Roundnose Grenadier<br>• Greenland Halibut<br>• Northern Shrimp<br>• Ivory Gull<br>• Dovekies<br>• Murres<br>• Greater Shearwater<br>• Phalarope<br>• Skuas and jaegers | |
| **8** | **Hamilton Inlet** | • Found at the outflow of Lake Melville, which drains most of the Labrador plateau.<br>• Contains estuaries, intertidal flats, wetlands adjacent to the Mealy Mountains, coastal plains, sand dunes, | • Overlaps with **Hamilton Inlet EBSA** and portion of **Labrador Marginal Trough EBSA**.<br>• Hamilton Inlet and Lake Melville form the largest estuary in Labrador.<br>• **10 IBAs** are located within Hamilton Inlet. | • Salt-marsh Cordgrass<br>• Atlantic Salmon<br>• Atlantic Wolffish<br>• Spotted Wolffish<br>• Atlantic Puffin<br>• Razorbill<br>• Eskimo Curlew | • **Akami-uapishku - KakKasuak Mealy Mountains National Park Reserve** was established in 2015 under the *National Parks Act* which prohibits development or non-traditional wildlife |

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| | | offshore islands, and open ocean. | • Northern limit of rare Salt-marsh Cordgrass.<br>• Capelin spawning beaches.<br>• Highly productive rivers for Atlantic Salmon.<br>• Several regionally, nationally, and internationally significant waterfowl, seabird, and other migratory bird colonies, aggregations, and habitats.<br>• Main whelping area for Harp Seals on pack ice in this area. | • Black Duck<br>• Surf Scoter<br>• Black Scoter<br>• Harlequin Duck<br>• Barrow's Goldeneye<br>• Harp Seal<br>• Minke Whale<br>• Humpback Whale<br>• Blue Whale<br>• Leatherback Turtle<br>• Polar Bear | resource utilization.<br>• No marine component to the National Park.<br>• Black Duck and Sea Duck Joint Ventures conservation action plan under the North America Waterfowl Management Plan. |
| **8a** | Gannet Islands | • Remote group of small, low-lying granite islands close to the mouth of Sandwich Bay. | • Recognized as an IBA with the largest and most diverse seabird breeding colony in Labrador.<br>• Largest Razorbill colony in North America.<br>• Second largest breeding colony of Atlantic Puffin in eastern North America.<br>• Largest known moulting site for Harlequin Duck in eastern North America. | • Atlantic Salmon<br>• Atlantic Cod<br>• Atlantic Puffin<br>• Razorbill<br>• Harlequin Duck<br>• Peregrine Falcon<br>• seals<br>• North Atlantic Right Whale | • The archipelago of islands is a 166.4 $km^2$ Seabird Ecological Reserve, prohibiting development and visitor access except for scientific purposes. It was established in 1983 (1964) under the *Wilderness and Ecological Reserves Act* and is administered by the NL Department of Environment and Climate Change. |
| **8b** | Inner Groswater Bay | • Located at the western end of Hamilton Inlet.<br>• Characterized by large tidal amplitude and large intertidal flats.<br>• Goose Brook empties from Lake Melville into a small, sheltered bay with large mud and sand flats. | • The tidal flats are rich in invertebrates and important for waterfowl aggregation.<br>• Northern limit of Salt-marsh Cordgrass (*Spartina alterniflora*), which stabilizes shorelines and provides important habitat for staging and breeding waterfowl. | • Salt-marsh Cordgrass<br>• Atlantic Salmon<br>• Rock Cod<br>• Common Eider<br>• Black Scoter<br>• Whimbrel<br>• Harp Seal<br>• Humpback Whale<br>• Minke Whale | |

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| **8c** | Outer Groswater Bay | • Located at the western end of Hamilton Inlet, including Cape Porcupine and Porcupine Strand coastal area.<br>• Small offshore islands and islets. | • Cape Porcupine is a globally significant IBA with respect to congregatory species and nationally significant with respect to waterfowl concentrations.<br>• As many as 10,000 pre-moult scoters have been observed staging in the Cape Porcupine area at one time.<br>• Northeastern Groswater Bay is a globally significant IBA with respect to congregatory species and seabird concentrations on its offshore islands.<br>• Approximately 11% of the estimated eastern North American population of Harlequin Duck was recorded on Tumbledown Dick and Stag Islands in 1998. | • Iceland Scallop<br>• Toad Crab<br>• Mussels<br>• Sea urchins<br>• Capelin<br>• Turbot<br>• Flounder<br>• Arctic Char<br>• Trout<br>• Atlantic Salmon<br>• Rock Cod<br>• Harp Seal<br>• White-beaked Dolphin<br>• Minke Whale<br>• Surf Scoter<br>• White-winged Scoter<br>• Black Scoter<br>• Harlequin Duck<br>• Common Murres<br>• Razorbills | |
| **8d** | Mealy Mountains Coastal and Offshore Area | • Coastal and offshore area of Akami-uapishku - KakKasuak Mealy Mountains National Park Reserve.<br>• Includes a 50-km sandy beach known as Porcupine Strand (a.k.a. Wunderstrands).<br>• Located directly northwest of Cartwright. | • Includes portions of South Groswater Bay Coastline, Cape Porcupine, and Tumbledown Dick Islands IBAs.<br>• Globally significant seabird congregations and nationally significant waterfowl concentrations. | • Surf Scoter<br>• White-winged Scoter<br>• Black Scoter<br>• Harlequin Duck | • Akami-uapishku - KakKasuak Mealy Mountains National Park Reserve was established in 2015 under the *National Parks Act* which prohibits development or non-traditional wildlife resource utilization.<br>• Park includes coastal areas and offshore islands but has no marine component. |
| **8e** | Rigolet | • Rigolet, the most southern Inuit community, is located | • Important movement corridor for Atlantic Salmon. | • Atlantic Salmon<br>• Arctic Char | |

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| | | where Lake Melville empties into Groswater Bay and the Labrador Sea.<br>• Includes the "Narrows", an important marine corridor where nutrient-rich fresh water mixes with salt water of the Labrador Current. | • Known locally as a "Grumpus", Minke Whales are commonly observed feeding along shores of the community. Minke are important to the community and increasingly for Nunatsiavut ecotourism. | • Canada Goose<br>• Brook Trout<br>• Harp Seal<br>• Minke Whale<br>• Humpback Whale<br>• Beluga Whale<br>• Killer Whale<br>• Polar Bear | |
| **8f** | Herring Islands | • Small islands with nesting seabirds in Groswater Bay, at the northeastern most head of Hamilton Inlet. | • Part of the Northeastern Groswater Bay IBA, with continentally significant congregatory species and seabird concentrations.<br>• Herring Islands house the second-largest seabird colony in Labrador with as many as 16,900 pairs of Atlantic Puffin recording in a 1978 survey. | • Atlantic Puffin<br>• Razorbill<br>• Common Murre<br>• Leach's Storm-petrel | |
| **8g** | Quaker Hat Island | • An isolated, treeless 10 $km^2$ island located 10 km northeast of the northern head of Hamilton Inlet. | • Identified as an IBA and globally significant with respect to congregatory species.<br>• Over 1% of the estimated North American population of Razorbill with 450 breeding pairs. | • Razorbill<br>• Thick-billed Murre<br>• Common Murre<br>• Atlantic Puffin<br>• Whales | |
| **8h** | Table Bay | • A 200 $km^2$ bay located in south-central Labrador approximately 30 km east of Cartwright.<br>• Large tidal amplitude (> 3m) with deep glacio-fluvial deposits and intertidal flats.<br>• Includes the Bird Islands some 50 km east of Cartwright. | • Table Bay and Bird Island are identified as IBAs, considered globally and continentally significant with respect to congregatory species, and nationally significant with respect to seabird concentrations.<br>• Islands in the bay house the largest Common Eider breeding colony in Labrador.<br>• Important area for potentially | • Common Eider<br>• Thick-billed Murre<br>• Peregrine Falcon<br>• Scoters<br>• Razorbill<br>• Whimbrel<br>• Lesser Golden Plover<br>• Black-bellied Plover<br>• Harlequin Duck<br>• Whales<br>• Porpoises | • Cartwright Coastal Habitat Stewardship Agreement encompasses most of the islands and coastal habitat in Table Bay (877 $km^2$). |

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| | | | extinct Eskimo Curlew. | • Dolphins<br>• Polar Bear | |
| **8i** | Sandwich Bay | • Located in the southern portion of Hamilton Inlet at the terminus of Paradise River.<br>• Contains large tidal amplitudes that create intertidal flats and sandy shoals. | • Paradise River, Eagle River, White Bear River, and North Rivers are highly productive for Atlantic Salmon.<br>• The coastal area outside of Sandwich Bay was identified by DFO as having the highest density of Atlantic Salmon in the Newfoundland and Labrador shelf area.<br>• Significant aggregations of shorebirds during late summer/fall migration. | • Shelfish<br>• Gastropods<br>• Polyps<br>• Atlantic Salmon<br>• Flounder<br>• Capelin<br>• Whimbrel<br>• Lesser Golden Plover<br>• Black-bellied Plover<br>• Gulls<br>• Long-finned Pilot Whale<br>• Polar Bear | • Paradise River, Eagle River, White Bear River, and North Rivers are scheduled Salmon Rivers located in Zone 2, administered and regulated by DFO under the *Fisheries Act*. |
| **9** | Lake Melville | • An approximately 3000 km$^2$ saltwater estuary located at the terminus of Churchill River and the head of Groswater Bay.<br>• The Naskaupi River flows into Grand Lake, an inland extension of Lake Melville.<br>• Includes the communities of Sheshatshiu, North West River, Mud Lake, and Happy Valley – Goose Bay. | • Overlaps with Lake Melville EBSA.<br>• Lake Melville and Hamilton Inlet together form the largest estuary in the province.<br>• The Backway IBA is considered a globally significant with respect to migratory species and has noteable waterfowl concentrations.<br>• The coastal habitats at Lake Melville contain a diversity of wetland plant species including Salt-marsh Cordgrass (*Spartina alterniflora*), which provides important habitat for staging and breeding waterfowl including dabbling ducks, diving ducks and geese. | • Salt-marsh Cordgrass<br>• Whelp<br>• Scallops<br>• Sea Urchin<br>• Brook Trout<br>• Arctic Char<br>• Rainbow Smelt<br>• Atlantic Salmon<br>• Greenland Cod<br>• Surf Scoter<br>• White-winged Scoter<br>• Black Scoter<br>• Terns<br>• Harbour Porpoise<br>• Dolphins<br>• Long-finned Pilot Whales | |

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| **10** | Southeast Labrador Slope | • Site refers to the continental slope along the edge of the central southeastern Labrador slope from the 400 m to the 2000 m bathymetric contours. | • Overlaps with the Labrador Slope EBSA.<br>• The southern Labrador Shelf contains areas that are more productive than the Grand Banks.<br>• Concentrations of corals and sponges.<br>• This area is in a transition zone between climatic regions, and is the northern limit of many southern species of benthic invertebrates.<br>• Several rare and endangered fish species and fish functional groups.<br>• Variety of seabirds, marine mammals, and cetaceans occur in concentrations along the entire edge slope. | • Bubblegum Coral<br>• Black Coral<br>• Sponges<br>• Atlantic Wolffish<br>• Spotted Wolffish<br>• Northern Wolffish<br>• Roundnose Grenadier<br>• Skates<br>• Northern Shrimp<br>• Halibut<br>• Redfish<br>• Atlantic Salmon<br>• Atlantic Cod<br>• American Plaice<br>• Black-legged Kittiwake<br>• Dovekie<br>• Gulls<br>• Shearwaters<br>• Northern Fulmar<br>• Skuas<br>• Jaegars<br>• Phalaropes<br>• Seals<br>• Whales | |
| **11** | Hawke Channel – Hamilton Bank | • Hamilton Bank is located offshore, just over 100 km east of Cartwright.<br>• A strong current flows west of the Hawke Channel, at the Hawke Saddle, a deep trough that intersects the offshore bank.<br>• Regional upwellings of nutrient-rich deeper waters of the Hawke Saddle mixing with the Labrador Current | • Overlaps with a portion of Labrador Marignal Trough EBSA.<br>• The combined Hawke Channel and Hamilton Bank area is one of the most productive offshore areas in the northwest Atlantic.<br>• A coral “hotspot” occurs at the mouth of the Hawke Saddle.<br>• The Hawke Channel contains the largest known concentrations of Atlantic Cod. | • Gastropods<br>• Icelandic Scallop<br>• Snow Crab<br>• Northern Shrimp<br>• Arctic Char<br>• Halibut<br>• Atlantic Cod<br>• Atlantic Wolffish<br>• Capelin<br>• Sculpin<br>• Flounder<br>• Redfish | • A community-driven trawling and gill-netting exclusion zone known as the “Hawke-box” was established by DFO in 2003 following calls for a closure from local fishers. The closure was expanded to 8610 km$^2$. |

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| | | make the area highly productive. | • Contains the only known offshore spawning population of Northern Cod on the Newfoundland-Labrador Shelf.<br>• The area was historically important habitat for commercial fish species. | • Dovekies<br>• Shearwaters<br>• Murres<br>• Seals | |
| **12** | Gilbert Bay | • A narrow inlet located on the southeast coast of Labrador.<br>• Includes community of Port Hope Simpson and is within the NunatuKavut region.<br>• A number of restricted arms have a relatively short ice-free season and highly stratified temperature and salinity gradients. | • This bay contains a unique concentration of a genetically distinct sub-species of Atlantic Cod.<br>• Waters support diverse species including shellfish, demersal fish, pelagic fish, and anadromous fish.<br>• Coralline algae beds support a variety of marine organisms and plants. | • Iceland Scallop<br>• Rock Crab<br>• Atlantic Cod<br>• Winter Flounder<br>• Staghorn Sculpin<br>• Herring<br>• Capelin<br>• Atlantic Salmon<br>• Arctic Char<br>• Common Loon<br>• Canada Geese<br>• Common Merganser<br>• Minke Whale<br>• Harbour Porpoise<br>• Killer Whale<br>• Harp Seal | • A 60 km$^2$ Gilbert Bay Marine Protected Area was established by DFO under the *Oceans Act* in 2005 at the request of local stakeholders. |
| **13** | Orphan Spur | • Large offshore area extending along the Labrador Slope that includes the Orphan Spur and a portion of the Trinity Trough Mouth Fan. | • Overlaps with Orphan Spur EBSA.<br>• Contains two important coral areas at Tobin`s Point and Funk Island Spur.<br>• High coral concentrations have been recorded for several species, up to 1300 m depths.<br>• Aggregations of rare and endangered fish species.<br>• Internationally-important area for over-wintering eiders from Europe. | • Sea pens<br>• Soft coral<br>• Black coral<br>• Witch Flounder<br>• American Plaice<br>• Atlantic Cod<br>• Redfish<br>• Northern Wolffish<br>• Atlantic Wolffish<br>• Skates<br>• Roundnose Grenadier<br>• Thick-billed Murre | |

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| | | | | • Storm petrels<br>• Skuas and jaegers<br>• Northern Fulmar<br>• Greater Shearwater<br>• Dovekie | |
| **13a** | Tobin's Point | • Coral area located on the Northeast Newfoundland Shelf at the southwest slope of Orphan Basin. | • Very high diversity and abundance of coral based on fisheries observer bycatch data.<br>• Historically important commercial fishing area. | • Sea Pens<br>• Sea Fans<br>• Bubblegum Coral<br>• Black Coral<br>• Greenland Halibut<br>• Northern Shrimp<br>• Snow Crab | |
| **14** | Hare Bay | • Rectangular-shaped bay on the northeast side of the Great Northern Peninsula in Newfoundland.<br>• Characterized by many inlets, bays, coves, and islands. | • This area overlaps with a portion of the Grey Islands EBSA.<br>• The Fischot Islands are recognized as an IBA for the large congregation of wintering eiders.<br>• The Gilliat, Spring, and Brent Islands support some of the largest assemblages of Arctic and Common Terns in the province.<br>• Fossil gastropods are also found in the area.<br>• The bay contains a salmon river and cod spawning area. | • American Eel<br>• Atlantic Salmon<br>• Atlantic Cod<br>• Ivory Gull<br>• Common Eider<br>• Canada Goose<br>• Common Terns<br>• Arctic Terns<br>• Black-legged Kittiwake<br>• Double-crested Cormorant<br>• Gulls<br>• Harp Seal<br>• Killer Whale<br>• Polar Bear | • Hare Bay Islands Ecological Reserve, encompassing Gilliat, Spring, and Brent Islands, was established in 1983 (1964) under the *Wilderness and Ecological Reserves Act* and is administered by the NL Department of Environment and Climate Change.<br>• The St. Anthony Coastal Stewardship Agreement signed in 2008 encompasses most of the Hare Bay coastline surrounding the Hare Bay Islands Ecological Reserve. |
| **15** | Grey Islands (Bell Is. and Groais Is.) | • Located east of the Northern Peninsula in Newfoundland.<br>• Includes the Grey Islands, the inshore part of Hare | • Overlaps with Grey Islands EBSA.<br>• Includes 3 IBAs: Fischot Islands, Northern Groais Island, and Bell Island South Coast. | • Soft Coral<br>• Small Gorgonians<br>• Atlantic Cod<br>• Atlantic Salmon<br>• Harlequin Duck | • This area partially overlaps with Hare Bay Islands Ecological Reserve (see Site #14).<br>• Grey Islands contain Ile |

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| | | Bay, and extends southeast along the inner shelf towards Fogo Shelf. | • The islands in this area support a high diversity of waterfowl and seabirds.<br>• Corals are found in high concentrations in the inner shelf area. | • Common Eider<br>• Great Black-backed Gull<br>• Herring Gull<br>• Common Tern<br>• Arctic Tern | | aux Canes and Shepherd Island Migratory Bird Sanctuaries, protected and administered by Environment and Climate Change Canada under the *Migratory Birds Convention Act*. |
| **15a** | Ile aux Canes – Migratory Bird Sanctuary | • Known as Green Island locally, a small island directly adjacent to Bell Island off the Northern Peninsula in Newfoundland. | • Part of the Bell Island South Coast IBA.<br>• Recognized for nesting colonies of eiders. | • Common Eider | • | A 150 ha Migratory Bird Sanctuary established in 1991 is protected and administered by Environment and Climate Change Canada under the *Migratory Birds Convention Act*. |
| **15b** | Shepherd Island – Migratory Bird Sanctuary | • A small island directly adjacent to Bell Island off the Northern Peninsula in Newfoundland. | • Part of the Bell Island South Coast IBA.<br>• Recognized for nesting colonies of eiders. | • Common Eider | • | A 16 ha Migratory Bird Sanctuary established in 1991 is administered by Environment and Climate Change Canada under the *Migratory Birds Convention Act*. |
| **16** | Funk Island Deep – Notre Dame Channel | • This area is a channel between the Fogo Shelf and Funk Island Bank, and part of a larger channel extending offshore from Notre Dame Bay. | • Contains Notre Dame Channel EBSA.<br>• High diversity of pelagic fish, groundfish, and shellfish.<br>• Significant aggregations capelin, American plaice, Greenland halibut, snow crab, and Northern Shrimp are found in this area.<br>• This area is also significant for whale feeding and migration. | • Snow Crab<br>• Northern Shrimp<br>• Capelin<br>• Smooth Skate<br>• Thorny Skate<br>• American Plaice<br>• Greenland Halibut<br>• Witch Flounder<br>• Redfish<br>• Murres<br>• Gulls<br>• Northern Fulmar<br>• Skuas and jaegers<br>• Phalaropes | • A Funk Island Deep fisheries closure was established in 2002 by DFO. It is closed to small vessel bottom trawling and gillnetting.<br>• The Funk Island Deep box is a voluntary closure to large vessel shrimp fishing. | |

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| | | | | • Sooty Shearwater<br>• Harp Seal<br>• Whales | |
| **16a** | Funk Island | • An isolated, flat, bare granite island located off the northeast coast of Newfoundland approximately 60 km northeast of Cape Freels.<br>• The cold Labrador Current and upwellings on the Funk Island Banks create highly productive waters. | • Funk Island is recognized as an IBA and is globally significant with respect to large congregations of nesting murres and gannets.<br>• Common Murre breeding colony is the largest in the western North Atlantic with 412,000 pairs reported in 2007.<br>• Consistent seabird records through formal surveys since the 1950s.<br>• Evidence of the extinct Great Auk remains on the site.<br>• Cod stock that over-winters on the Funk Island Bank contributes significantly to inshore fisheries in White, Notre Dame, and Bonavista Bays. | • Squid<br>• Saury<br>• Capelin<br>• Atlantic Mackerel<br>• Atlantic Salmon<br>• Atlantic Cod<br>• Northern Gannet<br>• Common Murre<br>• Atlantic Puffin<br>• Razorbill<br>• Seals<br>• Whales | • A 5.2 km$^2$ Funk Island Seabird Ecological Reserve was established in 1983 (1964) under the *Wilderness and Ecological Reserves Act* and is administered by the NL Department of Environment and Climate Change.<br>• The area within 3 nm of Funk Island is closed to hunting and access to the island is restricted. |
| **17** | Fogo Shelf | • Extends from Bay of Exploits and follows the 200 m bathymetric contour to Cape Freels.<br>• Includes Bay of Exploits, Inner Shelf Area, Twillingate Island, New World Island, Fogo Island, and Cape Freels | • Overlaps with Fogo Shelf EBSA.<br>• Includes portions of three IBAs: Wadham Islands, Funk Island, and Cape Freels.<br>• Abundance of capelin spawning areas on North Twillingate Island and along the coast west of Cape Freels.<br>• Bay of Exploits and Gander River are highly productive for salmon.<br>• Important whale feeding areas have been identified here.<br>• Diverse groundfish, pelagic fish, shellfish and aquatic plants are | • Capelin<br>• Atlantic Salmon<br>• Common Eider<br>• Atlantic Puffin<br>• Great Black-backed Gull<br>• Herring Gull<br>• Greater Shearwater<br>• Northern Fulmar<br>• Thick-billed Murre<br>• Whales | • Contains Funk Island Ecological Reserve (see site #16a).<br>• Community-based ocean conservation and research projects among communities of Fogo Island and Change Islands. |

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| | | | also present. | | | |
| **17a** | Little Fogo Islands | • An archipelago with over 100 small islands directly north of Fogo Island | • Important seabird breeding colonies and over-wintering eiders.<br>• Culturally significant resettled community for residents of Fogo Island. | • Common Eider | • | |
| **17b** | Wadham Islands | • Seven islands in a 120 km$^2$ area located approximately 15 km east of Fogo Island. | • Recognized as an IBA and is globally significant with respect to congregatory species and concentrations of waterfowl and seabirds.<br>• Contains a large colony of puffins, with 15,950 pairs recorded in 1984. | • Atlantic Puffin<br>• Common Eider<br>• Leach's Storm-petrel<br>• Razorbill<br>• Black Guillemot<br>• Common Tern<br>• Arctic Tern | • | |
| **17c** | Dildo Run | • Located on New World Island, on the north coast of Newfoundland between Notre Dame Bay and Hamilton Sound.<br>• The surrounding coastal waters are very sheltered and relatively shallow, creating rich intertidal areas. | • This area supports a number of disjunct benthic invertebrates which may be relicts from a historically warmer climate.<br>• Eelgrass beds and other marine plants in the area provide important habitat and spawning grounds.<br>• Herring spawning sites are located within the area.<br>• Geographical characteristics suggest Dildo Run may have further important features but the area has not been studied in depth.<br>• The presence of a Provincial Park could support further protection. | • *Petricola spp.* (Clam)<br>• *Bryopsis spp.* (Seaweed)<br>• Eelgrass<br>• Rockweed<br>• Kelp<br>• American Eel<br>• Atlantic Herring<br>• Atlantic Mackerel<br>• Atlantic Salmon<br>• Skates<br>• Leach's Storm-petrel<br>• Terns<br>• Gulls<br>• Pilot Whale | • Dildo Run Provincial Park is a small 327 ha terrestrial park established under the *Provincial Parks Act* and administered by the NL Department of Environment and Climate Change.<br>• The Provincial Park has no marine component. |

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| **17d** | Bay of Exploits | • A large, complex bay on the north coast of Newfoundland.<br>• Empties the Exploits River and its extensive network of tributaries. | • Bay of Exploits hosts the largest salmon run in Newfoundland with over 30,000 Atlantic Salmon. | • Atlantic Salmon<br>• Atlantic Cod | • Charles Brook, Northern Arm River, Peter's River, Exploits River and tributary streams are scheduled Salmon Rivers located in Zone 4, administered and regulated by DFO under the *Fisheries Act*. |
| **17e** | Gander Bay | • A shallow water estuary on the northeast coast of Newfoundland.<br>• Gander River and Gander Bay empty here.<br>• The coastline is irregular, containing several bays and islands which extend the ocean's influence far inland. | • The bay contains diverse species of invertebrates.<br>• The complex coastline contains spawning sites and the islands provide ideal nesting locations for several seabird breeding colonies. | • Lobster<br>• Herring<br>• Atlantic Cod<br>• Atlantic Salmon<br>• American Eel<br>• Sea ducks<br>• Leach's Storm-petrel<br>• Atlantic Puffin<br>• Terns<br>• Gulls<br>• Seals<br>• Whales<br>• Dolphins | • A small voluntary closure for lobster exists in Gander Bay.<br>• Gander River and tributary streams are scheduled Salmon Rivers located in Zone 4, administered and regulated by DFO under the *Fisheries Act*. |
| **17f** | Windmill Bight | • Located in northeastern Newfoundland 3 km from the community of Lumsden.<br>• Characteristics include a sandy beach and dunes, a lagoon, rocky headlands, and Atlantic plateau bog. | • Considered a pristine, ecologically significant area containing fragile sand dunes.<br>• Eelgrass beds and other marine plants in the area provide important habitat and spawning grounds.<br>• 44 species of birds use habitat in the area.<br>• The lagoon serves as a feeding area for migratory seabirds. | • Eelgrass<br>• American Eel<br>• Capelin<br>• Herring<br>• Lumpfish<br>• Piping Plover (historic)<br>• Terns | • Windmill Bight Provincial Park Reserve was established under the *Provincial Parks Act* and administered by the NL Department of Environment and Climate Change.<br>• The Park Reserve protects the plateau bog as representative element of the Eastern Hyper-Ocean Barrens Ecoregion. |

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| **17g** | Carmanville – Wetland Stewardship Area | • A community located in Hamilton Sound on the northeastern coast of Newfoundland.<br>• Includes Middle Arm, Carmanville Pond, Cynthia Pond, and Whitewater and Crackie Ponds. | • Middle Arm is a highly productive coastal used extensively by waterfowl in spring and fall. A bird-banding program has been ongoing in this area since 1983.<br>• Several salt marshes support important aquatic vegetation and invertebrates which creates habitat for waterfowl. | • Slender Glasswort<br>• Eelgrass<br>• Salt-marsh Sedge<br>• Sea Lavender<br>• Seaside Plantain<br>• Canada Goose<br>• Red-breasted Merganser | • Carmanville Wetland Habitat Stewardship Agreement encompasses Middle Arm and ponds in four management units totalling 2,492 acres. |
| **18** | Notre Dame Bay | • A 6000 km$^2$ inlet located on the north coast of Newfoundland.<br>• The irregular coastline contains several bays, inlets, and islands which extend the ocean's influence far inland.<br>• Fogo Island, Change Islands, Exploits Islands, and Twillingate are contained in this area.<br>• There are also many salt marshes and estuaries around the bay.<br>• Fast ice persists in the small bays and inlets throughout the winter season. | • The bay is a refuge of warm water seaweeds and invertebrates.<br>• Eelgrass beds exist in many sheltered areas of the bay.<br>• Several deep-water trenches and spawning areas for cod, herring, and lumpfish are found throughout the bay.<br>• The islands and coastline provide ideal nesting locations for seabirds and shorebirds.<br>• A large herd of Harp and Hooded Seals breed annually on the pack ice. | • Eelgrass<br>• Snow Crab<br>• Northern Red Shrimp<br>• American Lobster<br>• American Eel<br>• Atlantic Salmon<br>• Atlantic Cod<br>• Wolffish<br>• Leatherback Turtle<br>• Eiders<br>• Terns<br>• Gulls<br>• Whales<br>• Harbour Porpoise<br>• Seals | |
| **18a** | King's Point – Baie Verte Peninsula | • Located at the southwest arm of Green Bay on the north coast of Newfoundland. | • A distinct population of Redfish exists in this area. | • Redfish | |
| **18b** | Leading Tickles | • Located in Notre Dame Bay on the north coast of Newfoundland.<br>• The coastline consists of highly exposed rock, cliffs, | • This area is considered ecologically significant for several marine species such as lobster, capelin and herring.<br>• The site is known to be | • American Eel<br>• American Lobster<br>• Crabs<br>• Scallops<br>• Atlantic Salmon | • A community initiative to designate a 50 km$^2$ Marine Protected Area has since lost support locally. |

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| | | fjords, and pebble beaches.<br>• There are several large islands nearby including Burnt, Cull, and Alcock Islands. | important for juvenile fish.<br>• The estuarine area contains eelgrass beds, which provides important habitat for fish, shellfish, and waterfowl. | • Atlantic Cod<br>• Murres<br>• Gulls<br>• Shearwaters<br>• Terns<br>• Atlantic Puffin<br>• Harbour Porpoise<br>• Whales<br>• Seals | |
| **18c** | Springdale – Wetland Stewardship Area | • Encompasses three main wetlands including Upper Burnt Berry Bog, Lower Burnt Berry Bog, and Indian Brook Estuary. | • These wetlands are important for staging, nesting, and breeding waterfowl.<br>• The estuary's salt marsh and exposed mud flats provide food and resting areas for waterfowl. | • Canada Goose<br>• White-winged Scoter<br>• Common Goldeneye<br>• Common Merganser<br>• Green-winged Teal<br>• Northern Pintail<br>• Greater Yellowlegs<br>• Spotted Sandpiper<br>• Common Terns<br>• Bald Eagles<br>• Osprey | • Springdale Wetland Habitat Stewardship Agreement encompasses 1950.4 acres on the northwest side of Halls Bay. |
| **19** | Cabot Island – Cape Freels | • A complex corner of land with numerous shoals and small, rocky islands on the northeast Coast of Newfoundland.<br>• Located near the communities of Templeman, Newtown and Cape Freels. | • Cape Freels Coastline and Cabot Island is recognized as an IBA that is globally significant with respect to waterfowl concentrations and continentally significant with respect to congregatory species.<br>• In 1995, 25,000 wintering eiders were reported on the Cape Freels to Wadham Island coastline. This is one of the largest concentrations in Newfoundland.<br>• Capelin, herring, and lumpfish | • American Eel<br>• Atlantic Cod<br>• Atlantic Salmon<br>• Common Murre<br>• Razorbill<br>• Atlantic Puffin<br>• Common Tern<br>• Arctic Tern<br>• Common Eider<br>• Red Knot<br>• sdg | • The New-Wes-Valley Wetland Habitat Stewardship protects 459 ha of nearby wetland and coastal habitat. |

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| | | | spawn in the vicinity of Cabot Island. | | |
| **19a** | South West Pond | • Located near the community of Greenspond in north-central Newfoundland. | • Contains a unique race of Atlantic Salmon which does not overwinter at sea.<br>• Spawning areas for herring, capelin, and lumpfish also exist in the vicinity. | • American Eel<br>• Atlantic Salmon | • Winter angling is not permitted in the area. |
| **20** | Gambo – Wetland Stewardship Area | • Located at the head of Freshwater Bay in north-central Newfoundland.<br>• Includes a large area stretching from Traverse Brook to Butts Pond to Square Pond. | • A variety of wetlands provide important nesting and staging areas for waterfowl. | • Eelgrass<br>• Canada Goose<br>• Brant Goose<br>• Common Tern<br>• Double-crested Cormorants<br>• Gulls<br>• Bald Eagles | • Springdale Wetland Habitat Stewardship Agreement encompasses 5 management units totalling 2082 acres on the northwest side of Halls Bay. |
| **21** | Bonavista Bay | • A large bay on the north-central coast of Newfoundland.<br>• Wide, exposed, and strongly influenced by the Labrador Current.<br>• Barrens on exposed coastal areas and many salt marshes and intertidal flats on inlets. | • Subtidal fauna, seabirds, and marine mammals in Bonavista Bay are diverse and abundant.<br>• Many spawning sites for cod, as well as herring, capelin, and lumpfish.<br>• Bonavista Bay has been identified as a marine natural area of Canadian significance. | • *Petricola spp.* (Clam)<br>• *Bryopsis spp.* (Seaweed)<br>• *Bowerbankia spp* (Bryozoans)<br>• American Eel<br>• Atlantic Salmon<br>• Atlantic Cod<br>• Leach's Storm-petrel<br>• Common Tern<br>• Arctic Tern<br>• Black-legged Kittiwake<br>• Atlantic Puffin<br>• Gulls<br>• Common Eider<br>• Harbour Porpoise<br>• Leatherback Turtle | • Terra Nova National Park is within the terrestrial and coastal area of part of Bonavista Bay, but offers limited marine protection.<br>• Eastport Marine Protected Area was designated under the *Oceans Act* and administered by DFO (see site #22).<br>• Bonavista Bay was identified for possible development of a NMCA. |

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| **21a** | Newman Sound | • A u-shaped, glacially-carved fjord in the southwestern Bonavista Bay, adjacent to Terra Nova National Park.<br>• Contains sheltered waters and an extensive intertidal feeding zone and good roosting sites for birds. | • Eelgrass beds provide important habitat and spawning grounds.<br>• Rhodolith (coralline algae) bed between the inner and outer sound provides habitat for highly diverse benthic communities.<br>• Unqiue bedrock fjord walls are also very rich in biota.<br>• High diversity of fish species on the northwest coast of Bonavista Bay.<br>• The large tidal flats and river flats at Big Brook River represent a relatively rare ecosystem on Newfoundland's east coast.<br>• Long-term coastal research has taken place here. | • Sponges<br>• Eelgrass<br>• Green Crab<br>• Capelin<br>• Atlantic Cod<br>• American Eel<br>• Atlantic Salmon<br>• Harbour Porpoise<br>• Blue Whale | • An effort to establish a Marine Protected Area has since lost support. |
| **21b** | Bloody Bay Reach | • Located directly north of the community of Burnside.<br>• The area consists of a number islands, inlets, and shoals , including an 250 metre-long sandbar formed by tidal activity known as 'The Beaches'. | • The Beaches and Bloody Bay Cove were recognized in 2011 as a place of provincial significance for artefacts and features from all known pre-contact cultures in Newfoundland (Martime Archaic, Palaeo-eskimo and Recent Indian).<br>• Considered one of the most significant archaeology sites in the Province. | • Atlantic Salmon | |
| **21c** | Terra Nova Migratory Bird Sanctuary | • Two tidal inlets in Bonavista Bay: the Southwest Arm of Broad Cove, and inner Newman Sound.<br>• Shallow tidal inlets and intertidal flats in their upper reaches. | • High diversity of migratory birds, with 30 species regularly recorded in Newman Sound and Southwest Arm. | • Canada Goose<br>• American Black Duck<br>• Common Goldeneye<br>• Common Merganser | • Terra Nova Migratory Bird Sanctuary was established in 1967 under the *Migratory Birds Convention Act* and is managed by the Canadian Wildlife Service. |

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| | | • Southwest Arm freezes during the winter months. | | | The MBS prohibits hunting or disturbing migratory birds.<br>• The shorelines are protected by Terra Nova National Park.. |
| **22** | Eastport | • A peninsula located at the head of Bonavista Bay.<br>• Characterized by a rugged coastline, with a number of islands experiencing a full range of wave exposure. | • High biological activity around the numerous islands in the area, which provide productive habitat for a variety of marine species.<br>• Contains excellent cod, salmon, and lobster grounds and has a very diverse fishery relative to neighbouring areas.<br>• The community-led protection initiatives in this area represent a unique synergy of residents concerned for and engaged in sustainable development that can serve as a model for other areas. | • Eelgrass<br>• American Eel<br>• American Lobster<br>• Atlantic Salmon<br>• Atlantic Cod<br>• Wolffish<br>• Barrow's Goldeneye<br>• Atlantic Puffin<br>• Leach's Storm-petrel<br>• Black-legged Kittiwake<br>• Terns<br>• Gulls<br>• Humpback Whale<br>• Pilot Whale<br>• Seals | • Eastport, one of the province's two **Marine Protected Areas** is located around **Round** and **Duck Islands**. |

| ID | Area Name | Site Description | Special Features | Marine Life of Note | Protection |
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| 23 | Labrador Sea Pack Ice (Transitory) | • Highly variable and dynamic feature that cannot be defined by rigid boundaries.<br>• Heavily influenced by the Labrador Current.<br>• Sea ice from mid-November/December to late-June/early-August. | • Seasonal pack ice is a highly productive and ecologically important ecosystem.<br>• Dynamic ice development and retreat influences phytoplankton blooms and capelin population dynamics.<br>• Area is under-represented and not sampled due to depth. | • Capelin<br>• Ivory Gull<br>• Harp Sseal<br>• Hooded Seal<br>• Bottlenose Dolphin<br>• Polar Bear | • Unfished waters due to depth. |

| ID | Area Name | Site Description | Special Features | Marine Life of Note | Protection |
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| 24 | Northeast Shelf and Slope | • On the northeastern Grand Bank, starting at the Nose of the Bank from the edge of the shelf to the 1000 m isobath. | • Overlapped with Northeast Shelf and Slope EBSA.<br>• Contains relatively high concentrations of threatened Spotted Wolffish in spring. The area is important to this species' short- and long- term sustainability. | • Greenland Halibut<br>• Spotted Wolffish<br>• Harp Sseal<br>• Hooded Seal<br>• Pilot Whale<br>• Bottlenose Dolphin<br>• Polar Bear | |
| 25 | Elliston – Bird Islands | • Pair of islands 2 km east of community of Elliston and 7 km east of Town of Bonavista. | • Contains large congregations of breeding Atlantic Puffins.<br>• The close proximity and accessibility of the site makes this area important for tourism. | • Atlantic Puffin | |
| 26 | Smith Sound | • A zig-zagged-shaped 28 km sheltered fjord on the north side of Random Island, Trinity Bay.<br>• It is one of the longest inshore waterways in Newfoundland and Labrador and is often extremely stratified in temperature and sometimes salinity. | • Overlaps with Smith Sound EBSA.<br>• Large spawning area and important over-winter area for Northern Cod.<br>• Cod aggregation is unique and may be critical to the recovery of the population.<br>• Presence of eelgrass beds and capelin make Smith Sound ideal for spawning, nursing, and refuge.<br>Also an important area for migratory breeding and nesting birds. | • Eelgrass<br>• Jellyfish<br>• Atlantic Cod<br>• Capelin<br>• Herring<br>• Green-winged Teal<br>• Ring-necked Duck<br>• Common Goldeneye<br>• American Black Duck<br>• Canada Goose<br>• Common Snipe<br>• Greater Yellowlegs<br>• Least Sandpiper<br>• Seals<br>• Blue Whale | |

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| **27** | Clarenville Canada Goose Sanctuary | • A coastal area between Random Island causeway to the north and Naked Man lookout near the Trans Canada Highway to the south.<br>• Adjacent to communities of Clarenville and Shoal Harbour. | • Known as a popular area for waterfowl and rest stop for migratory birds. | • Canada Goose | • No Hunting or Trapping Reserve established 1982 under the *Wildlife Act*. |
| **28** | Bellevue Beach | • Located in the southernmost area of Trinity Bay.<br>• Characterized by a beach of sand, pebbles, and cobbles which shelters a large barachois, supporting marsh and intertidal habitat for migrating birds. | • Trinity to Bay de Verde has been identified as a marine natural area of significance in Canada.<br>• There are well-developed sand dunes are found at Bellevue Beach, which are rare in Newfoundland.<br>• One of the largest spawning areas for capelin on Newfoundland's east coast. Capelin spawn intensively only once in June to early July.<br>• Important habitat for migrating shorebirds. | • Eelgrass<br>• Irish moss<br>• Blue Mussels<br>• Atlantic Salmon<br>• Capelin<br>• Atlantic Cod<br>• American Eel<br>• Lobster<br>• Osprey<br>• Sperm Whales<br>• Blue Whale | • **Bellevue Beach Provincial Park Reserve** was established under the NL *Provincial Parks Act* and administered by the NL Department of Environment and Climate Change.<br>• Protection extends to the low water mark. |
| **29** | Baccalieu Island | • A 6.3 km long, 1 km wide island located 5.5 km off the northwestern tip of the Avalon Peninsula.<br>• The island's topography consists of hills and valleys, cliffs, and steep slopes. | • **Baccalieu Island** is recognized as an **IBA** that is globally significant with respect to congregatory species, colonial waterbirds and seabird concentrations.<br>• It is the largest seabird island in the province with the greatest diversity of seabird species in eastern North America.<br>• It hosts the largest Leach`s Storm-petrel breeding colony in the world. Approximately 3.36 | • Atlantic Salmon<br>• Capelin<br>• Atlantic Cod<br>• Leach's Storm-petrel<br>• Black-legged Kittiwake<br>• Northern Gannet<br>• Common Murre<br>• Atlantic Puffin<br>• Common Eider<br>• Ivory Gull<br>• Harbour Porpoise | • **Baccalieu Island Provincial Ecological Reserve** is a 5 $km^2$ established under the *Provincial Parks Act* and administered by the NL Department of Environment and Climate Change.<br>• The reserve has a marine component in the 1 km buffer around the island. |

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| | | | million pairs return from the open Atlantic in late April and leave in September.<br>• Historically one of the richest fishing grounds in Newfoundland.<br>• Capelin spawn in high concentrations on sandy or gravel beaches on Baccalieu Island. | • Seals<br>• Whales | |
| **30** | Bay Roberts – Spaniards Bay | • An estuary located between the towns of Bay Roberts and Spaniard`s Bay.<br>• Includes Shearstown Pond, Arnie`s Pond and the sand bar and beach at the head of Spaniard`s Bay. | • The productive estuary provides habitat and feeding areas for seabirds and waterfowl.<br>• Atlantic Salmon and sea-run brown trout pass through the estuary. | • Atlantic Salmon<br>• Brown Trout<br>• Common Tern<br>• American Black Duck<br>• Northern Pintail<br>• Bald Eagle<br>• Osprey | • Bay Roberts & Spaniard`s Bay Habitat Stewardship Agreement encompasses 192 acres of wetlands in the Shearstown Estuary.<br>• A Joint Management Committee was established in 2005 |
| **31** | Lance Cove | • A 600 m sand bar and barachois in Upper Gullies, Conception Bay.<br>• Lance Cove Pond is sheltered by a breakwater, covered with large cobble stones. | • The sandy beach and sheltered estuary are unique features in this Eco-unit and provide ideal habitat for shorebirds and waterfowl. | • No information available. | |
| **32** | Northeast Conception Bay | • Waters 0-100 m deep from Portugal Cove to Cape St. Francis. | • Area contains important Wolffish denning habitat. | • Atlantic Wolffish | |
| **33** | Cape St. Francis | • Rock point at the northern tip of the eastern Avalon Peninsula of Newfoundland, 25 km north of St. John's.<br>• Surrounding waters contain many small rocks and shoals, and often sea ice during winters. | • Identified as an IBA and is continentally significant with respect to congregatory species. | • Common Eiders<br>• Purple Sandpipers<br>• Dovekie<br>• Manx Shearwater | |

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| **34** | Middle Cove | • Located approximately 8 km north of St. John's on the Northeast Avalon Peninsula of Newfoundland.<br>• Contains a crescent-shaped pebble beach approximately 300 m long. | • Known as a capelin hotspot, with important capelin spawning grounds.<br>• A popular municipal park, marine education site, and hiking trailhead (East Coast Trail). | • Capelin | |
| **35** | Eastern Avalon | • East coast of the Avalon Peninsula of Newfoundland, from Blackhead to Cappahayden, and out to approximately 100 m offshore. | • Overlaps with **Eastern Avalon EBSA.**<br>• Contains **Witless Bay IBA**, identified for a globally significant colony of breeding seabirds.<br>• The area is an important for ecotourism, with widely-marketed seabird, whale, and iceberg attractions.<br>• Eastern Avalon is an important migration route for whales. | • Irish Moss<br>• Corals<br>• Atlantic Cod<br>• Capelin<br>• Atlantic Salmon<br>• Leatherback Turtle<br>• Whales<br>• Seals | • Contains **Witless Bay Ecological Reserve** (see site #35b).<br>• Contains Petty Harbour-Maddox Cove, established as a Protected Fishing Area (see site #35a). |
| **35a** | Petty Harbour – Maddox Cove | • Small and sheltered communities located 15 km south of St. John's on the east coast of the Avalon Peninsula.<br>• The area has the appearance of a fjord, with steep hills rising from the shore. A number of small islands and offshore rocks are in the vicinity. | • Contains one of the best fishing grounds in Newfoundland.<br>• Petty Harbour is one of the first community-based fishery management initiatives in Newfoundland to establish gear restrictions.<br>• The community has set precedents and standards for managing fish and fish habitat and has shared knowledge of sustainable fishing practices internationally. | • Kelp<br>• Irish Moss<br>• Corals<br>• Lobster<br>• Crab<br>• Shrimp<br>• Atlantic Salmon<br>• Capelin<br>• Atlantic Cod<br>• American Eel<br>• Common Eider<br>• Scoters<br>• Harlequin Duck<br>• Seals<br>• Whales | • The local community initiated protection measures in 1961, and the area is now protected from cod trawls and cod nets under Regulation of the *Fisheries Act*.<br>• Petty Harbour is one of the first community-based fishery management initiatives in Newfoundland to establish gear restrictions. The community has set precedents and standards for managing fish and fish habitat. |

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| **35b** | Witless Bay | • Located off the east coast of the Avalon Peninsula of Newfoundland, between the communities of Bay Bulls and Mobile.<br>• Group of four rocky islands with steep grassy slopes: Gull, Green, Great, and Pee Pee Island. | • Identified as an IBA, as it supports a globally significant colony of breeding seabirds.<br>• Great Island contains the largest colony of Atlantic Puffins in eastern North America, with 216,000 pairs estimated in 1994.<br>• 780,000 pairs of Leach's Storm-petrels have been recorded.<br>• The colony has been a base for long-term ecological research.<br>• Ecotourism is important to the local economy. | • Capelin<br>• Atlantic Cod<br>• Atlantic Puffin<br>• Common Murre<br>• Black-legged Kittiwake<br>• Razorbill<br>• Herring Gull<br>• Northern Fulmar<br>• Leach's Storm-petrel<br>• Harbour Porpoise | • Witless Bay Seabird Ecological Reserve was established for the islands and surrounding waters in 1983 under the *Wilderness and Ecological Reserves Act*. |
| **36** | Chance Cove | • Southeast corner of Newfoundland's Avalon Peninsula, 20 km south of communities of Renews and Cappahayden.<br>• Chance Cove River empties into heavily-deposited barachois estuary (bar lagoon). | • The bar lagoon provides sheltered and productive shorebird habitat.<br>• Chance Cove River supports Atlantic Salmon and sea-run Brown Trout. | • Toad Crab<br>• Snow Crab<br>• Squid<br>• Flounder<br>• Atkantic Cod<br>• Capelin<br>• Herring<br>• Atlantic Salmon<br>• Brown Trout<br>• Thick-billed Murre<br>• Manx Shearwater<br>• Harlequin Duck<br>• Harbour Seals | • Chance Cove Provincial Park is a 2068 ha terrestrial park established under the *Provincial Parks Act* and administered by the NL Department of Environment and Climate Change. |
| **37** | Mistaken Point – Cape Race | • A headland located on the southeastern tip of the Avalon Peninsula in Newfoundland, 16 km southeast of the community of Portugal Cove South and 7.5 km southwest of Cape Race.<br>• The most extreme wave-exposed, usually ice-free, rocky shoreline in | • Contains the oldest and one of the rarest known assemblages of large fossils anywhere, and was recognized as a UNESCO World Heritage Site in 2016.<br>• Recognized as an IBA and is globally significant with respect to congregatory species.<br>• High wave energy supports large kelp beds with huge variety of seaweed and sessile | • Kelp<br>• Hydroids<br>• Bryozoans<br>• Atlantic Cod<br>• Atlantic Salmon<br>• Purple Sandpiper<br>• Common Eider<br>• Ruddy Turnstones | • Mistaken Point Ecological Reserve was established in 1987 under the *Wilderness and Ecological Reserves Act*.<br>• The protected area is 5 km long, extending approximately 650 m inland from the low tide line, for a total area of 2.95 km$^2$. |

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| | | Newfoundland. | invertebrates which survive 15 m above the official high tide level because they are constantly in fog and bathed with seawater spray. | | |
| **38** | Biscay Bay | • A sandy beach and barachois found in Trepassey Bay on the southeast coast of the Avalon Peninsula in Newfoundland. | • The sandy beach is rare in Newfoundland and the long barachois extends more than 3 kms inland. | • Atlantic Salmon<br>• Horned Grebe<br>• Surf Scoter<br>• Black Scoter<br>• White-winged Scoter<br>• Long-tailed Duck<br>• Common Eider | • Biscay Bay River is a scheduled river located in Salmon Fishing Zone 9, administered and regulated by DFO under the *Fisheries Act*. |
| **39** | St. Vincent's | • A cove and with a 5 km long gravel beach and steep dropoff close to shore.<br>• The Holyrood Pond estuary empties into St. Vincent's (see site #39a). | • This site is popular for whale watching. | • Atlantic Cod<br>• Humpback Whale | |
| **39a** | Holyrood Pond | • A 22 km long semi-enclosed fjord with brackish waters separated from ocean by a beach at St. Vincent's. | • Contains a rare, possibly distinct population of Atlantic Cod.<br>• This area has been relatively understudied. | • Atlantic Cod<br>• White Hake<br>• Rainbow Smelt | |
| **40** | Salmonier – St. Mary's Bay | • Productive waters at the mouth of Salmonier River and the head of St. Mary's Bay on the southern Avalon Peninsula of Newfoundland. | • Important fish spawning area. | • Eels<br>• Atlantic Salmon<br>• Rainbow Smelt | |
| **41** | Cape Shore | • The coastal area between Placentia and St. Mary's Bays on the Avalon Peninsula, including communities of St. Bride's, Point Lance, and Branch. | • Contains **Cape St. Mary's IBA**.<br>• The area is very productive with respect to plankton and seaweeds, and important wintering site for thousands of sea ducks.<br>• Houses the largest wintering | • Blue Mussel<br>• Sea Urchins<br>• Capelin<br>• Atlantic Cod<br>• Northern Gannet<br>• Common Murre<br>• Black-legged | • Contains **Cape St. Mary's Seabird Ecological Reserve** (see site #41a). |

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| | | • Characterized by high barrens, rocky and uneven terrain, and rugged cliffs, mostly over 100 m high. | population of Harlequin Duck in NL.<br>• Historically important area for inshore cod fishery. | Kittiwake<br>• Minke Whale<br>• Pothead Whale<br>• Humpback Whale<br>• Fin Whale<br>• Atlantic White-sided Dolphin<br>• White-beaked Dolphin | |
| **41a** | Cape St. Mary's | • Located on the southwestern tip of the Avalon Peninsula in Newfoundland, between Placentia and St. Mary's Bays.<br>• Characterized by steep coastal cliffs rising approximately 76 m out of the sea. | • Recognized as an IBA with globally significant congregations of colonial seabirds, including the southernmost and 4th largest gannet colony in North America.<br>• Uniquely accessible colonies, with part extending onto the mainland rather than on an offshore island.<br>• Over 180 species of birds have been recorded at Cape St. Mary's. | • Northern Gannet<br>• Dovekie<br>• Common Murre<br>• Thick-billed Murres<br>• Razorbill<br>• Black-legged Kittiwake<br>• Great Cormorant<br>• Double-crested Cormorant<br>• Harlequin Duck<br>• Common Eider<br>• Black Scoter<br>• White-winged Scoter<br>• Red-breasted Merganser | • Cape St. Mary's Seabird Ecological Reserve was established in 1983 under the *Wilderness and Ecological Reserves Act.*<br>• The Reserve covers 64km$^2$, 54 km$^2$ of which is the marine portion. |

| ID | Area Name | Site Description | Special Features | Marine Life of Note | Protection |
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| 42 | Placentia Bay Extension | • All of Placentia Bay on the south coast of Newfoundland, bounded 145 km across the mouth of the bay between Point Crewe and Point Lance.<br>• The bay is approximately 125 km long and is 240 m deep at its midpoint.<br>• Coarse-grained gravel deposits and cliffs dominate the coastline, with estuaries at the heads of deep embayments.<br>• Oceanography is characterized by a counter-clockwise gyre as currents enter east, and by localized upwelling at headlands (Burin and Cape St. Mary's). | • Overlaps with Placentia Bay Extension EBSA.<br>• Largest spawning cod stock in the NW Atlantic Ocean.<br>• Important area for the survival and dispersal of high concentrations of ichthyoplankton (cod, cunner, plaice, capelin).<br>• High pelagic and demersal diversity.<br>• The eastern half of Placentia Bay was identified as an IBA for globally significant congregatory species, including over 100,000 Greater Shearwaters.<br>• Includes a historic harbour seal haulout and pupping site at Point May. | • Eelgrass<br>• Green Crab<br>• Tunicates<br>• Bryozoans<br>• Corals<br>• Lobster<br>• Scallops<br>• Atlantic Cod<br>• Capelin<br>• Wolffish<br>• Atlantic Puffin<br>• Greater Shearwater<br>• Sooty Shearwater<br>• Jaegars<br>• Common Eider<br>• Bald Eagle<br>• Leatherback Turtle<br>• Humpback Whale<br>• Blue Whale<br>• Harbour Seals<br>• Harbour Porpoise | • Placentia Bay as a whole, from Point Crewe to Cape St. Mary's, is a fisheries management area established to protect scallop stocks from commercial harvesting.<br>• Cape St. Mary's houses a Seabird Ecological Reserve (see site #41a).<br>• Come-By-Chance is a Wetland Stewardship Area (see site #42a). |
| 42a | Come-By-Chance | • A deep inlet found at the head of Placentia Bay, on the southside of the isthmus connecting the Avalon Peninsula in southern Newfoundland.<br>• An estuary extends from Come By Chance Gut, and includes a coastal pond to the west (Gilbert's Pond). | • The wetlands and estuary provide important shelter and refuge for waterfowl species in Placentia Bay. | • American Black Duck<br>• Green-winged Teal<br>• Canada Geese | • Come By Chance Wetland Habitat Stewardship Agreement, signed in 1995 encompasses 469 acres of wetlands and estuary. |
| 42b | Placentia Bay Salt-Marsh | • Located just outside Swift Current on the mouth of | • Large eelgrass beds, which provide important feeding and | • Eelgrass<br>• Sedges (Juncus | • Piper's Hole Provincial Park was privatized and |

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| | | Piper's Hole River at the head of Placentia Bay.<br>• A large flat basin with a high tidal influence. | resting areas for a variety of fish species. | *balticus*) | decommissioned in 1997 in expand rural business opportunities. |
| **42c** | Bar Haven | • A small island in northwestern Placentia Bay, between Merasheen Island and main shore. | • Very productive area with high benthic diversity.<br>• A coastal population of cod spawns consistently at Bar Haven Island.<br>• The largest known contemporary Atlantic Cod stock in Newfoundland waters, with more than 400,000 cod visiting the area to spawn. | • Eelgrass<br>• Kelp<br>• Lobster<br>• Scallops<br>• Snow Crab<br>• Corals<br>• American Eel<br>• Atlantic Cod<br>• Atlantic Herring<br>• Leatherback Turtle<br>• Harlequin Duck | |
| **42d** | Ragged Islands | • A group of about 300 small sheltered islands, shoals and basins west of Merasheen Island in Placentia Bay, Newfoundland. | • The area west of Merashen Island is high in biodiversity and contains endemic seaweeds.<br>• The western coastal areas of the islands are very productive and important for fish and seabirds.<br>• Harbour seals pup in the area.<br>• Important feeding areas for whales are found north of the islands. | • Kelp (*Phaeosiphoniella spp.*)<br>• Corals<br>• Lobster<br>• Snow Crab<br>• Scallops<br>• American Eel<br>• Atlantic Cod<br>• Atlantic Herring<br>• Atlantic Salmon<br>• Purple Sandpiper<br>• Harbour Seal<br>• Whales | |
| **42e** | St. Lawrence | • An approximately 13 km stretch of relatively low coastline between communities of Lawn and St. Lawrence on the southern Burin Peninsula of Newfoundland.<br>• Includes the outflow of | • The estuary and coastline provide feeding and resting areas for large numbers of shorebirds, waterfowl, and seabirds, including those nesting at the nearby Lawn Islands Archipelago Reserve (see site #42f). | • American Black Duck<br>• Common Eider<br>• Harlequin Duck | • St. Lawrence Coastal Habitat Stewardship Agreement, signed in 2013, follows the coastline with a 400 m terrestrial buffer. |

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| | | Three Stick Pond in the west, Little Lawn Harbour, Chambers Cove, and Salt Cove in the east.<br>• Little Lawn Pond is a barachois. | | | |
| **42f** | Lawn Islands | • An archipelago of small islands located on the southern Burin Peninsula, including Middle Lawn, Swale, Colombier, and Offer Lawn Islands.<br>• The islands are characterized by coastal cliffs, rocky shores, and rugged hills. | • Contains the only known colony of Manx Shearwater in North America.<br>• The islands also provide habitat for at least seven other breeding seabird species, including a significant colony of Leach's Storm-petrel. | • Lobster<br>• Crab<br>• Scallop<br>• Lumpfish<br>• Winter Flounder<br>• Atlantic Cod<br>• Manx Shearwater<br>• Leach's Storm-petrel<br>• Herring Gull<br>• Black-backed Gull<br>• Black Guillemot<br>• Seals<br>• Whales | • Lawn Islands Seabird Ecological Reserve was established in 2009 (2015) under the *Wilderness and Ecological Reserves Act*.<br>• The Reserve covers 384.6 ha, 370.7 ha of which is the marine portion. |
| **43** | Green Island (Burin – St. Pierre) | • A small oval island located 11 km west of Point May off the Burin Peninsula of Newfoundland.<br>• Characterized by a rocky coastline with low cliffs. | • Recognized as an IBA with globally significant congregrations of seabirds and colonial waterbirds<br>• When last surveyed, the island contained 72,000 pairs of breeding Leach's Storm-petrel (1985).<br>• Large herring populations are known to be found in the area. | • Herring<br>• Leach's Storm-petrel<br>• Herring Gull<br>• Common Tern<br>• Arctic Tern | |
| **44** | Grand Colombier Island | • Grand Colombier Island is located 500 m north of the island of St. Pierre in the French archipelago St. Pierre and Miquelon.<br>• The island is treeless with steep sides, rocky outcrops, | • Recognized as an IBA with globally significant congregations of seabirds and colonial waterbirds, including upwards of 100,000 pairs of breeding Leach's Storm-petrel (1989). | • Capelin<br>• Black-legged Kittiwakes<br>• Murres<br>• Northern Fulmar<br>• Manx Shearwater<br>• Great Cormorant | |

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| | | and large quantities of seabird guano. | • Seaweed productivity is enhanced by nutrients from guano, and rich gardens attract large numbers of predatory fish and diving seabirds. | • Great Black-backed Gull<br>• Atlantic Puffin<br>• Leach's Storm-petrel<br>• Killer Whale | |
| **45** | Fortune Head | • A minor headland located located on the southwestern edge of the Burin Peninsula in Newfoundland, 1.6 km west of the community of Fortune.<br>• The area is characterized by exposed bedrock, low cliffs, and extensive barrens. | • Exposed rock shows the geological boundary between the Precambrian and Cambrian Period, with well-preserved fossils and rocks in the area that are approximately 540 million years old.<br>• The International Union of Geological Scientists designated Fortune Head as the world's best example of the Precambrian-Cambrian boundary stratotype. | • Lobster<br>• Whelk<br>• Scallop<br>• Shrimp<br>• American Eel<br>• Herring<br>• Mackerel<br>• Tuna<br>• Atlantic Cod<br>• Lumpfish<br>• Atlantic Salmon | • **Fortune Head Ecological Reserve** was established in 1990 (1992) under the *Wilderness and Ecological Reserves Act.*<br>• The Reserve covers 2.21 $km^2$ with no marine component. |
| **46** | Frenchman's Cove | • Located in eastern Fortune Bay on the west coast of the Burin Peninsula.<br>• Frenchman's Cove Barasway and the smaller Seal Cove Barasway are sheltered salt water estuaries. The former contains a variety of habitats including a pebble beach, marsh, sand and mud flats, and a tidal lagoon. | • The gravel strand plain at Frenchman's Cove represents the largest sediment deposits on the Burin Peninsula.<br>• The barachois wetland provides important breeding and nesting area for waterfowl and shorebirds. | • Eelgrass<br>• Lobster<br>• Crab<br>• Squid<br>• American Eel<br>• Capelin<br>• Atlantic Cod<br>• Atlantic Salmon<br>• Canada Geese<br>• American Black Duck<br>• Common Goldeneye<br>• Red Knot<br>• Great Cormorant<br>• Double-crested Cormorant<br>• Northern Pintail | • **Frenchman's Cove Provincial Park** is a 51 ha terrestrial park established under the *Provincial Parks Act* and administered by the NL Department of Environment and Climate Change.<br>• Frenchman's Cove Municipal Habitat Stewardship Agreement, signed in 2013, contains two management units including a porion of Frenchman's Cove and nearby Seal Cove totalling 760 acres. |

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| | | | | • Wilson's Snipe<br>• Harbour Seals<br>• Dolphins<br>• Whales | |
| **47** | Garnish | • A natural harbour located 17 km west of Marystown on the west coast of the Burin Peninsula.<br>• Includes a portion of Frenchman's Cove (see site 46) | • The gravel strand plain at Frenchman's Cove represents the largest sediment deposits on the Burin Peninsula (see site #46). | • (See site #46) | • Garnish Municipal Habitat Stewardship Agreement, signed in 2013, contains two management units including a portion of Frenchman's Cove and nearby Big Hill Pond totalling 760 acres. |
| **48** | North Shore – Fortune Bay | • The largest bay on the southern shore of Newfoundland, extending 105 km inland and is more than 183 m at its deepest.<br>• Fortune Bay has a cold deep-water mass with relatively low levels of salinity. Unusual upwelling in the bay keeps the entire bay relatively cold. | • The north shore of Fortune Bay has the biggest giant kelp beds in Newfoundland.<br>• The kelp beds create high primary productivity and serve as habitat for an extremely diverse array of invertebrates and seaweed.<br>• Fortune Bay has an abundance of inshore fish and a longer fishing season than most of the island.<br>• The Bay du Nord River, which flows into northern Fortune Bay, is part of the Canadian Heritage River system (see site #49). | • Giant kelp (*Saccharina longicruris*)<br>• Lobster<br>• Squid<br>• Scallop<br>• Snow Crab<br>• American Eel<br>• Atlantic Cod<br>• Flounder<br>• Capelin<br>• Redfish<br>• Atlantic Salmon<br>• Harbour Seal | |
| **48a** | Bay Du Nord River | • A pristine river in south-central Newfoundland that empties into the northwest Fortune Bay. | • Designated as an official Canadian Heritage River in 2005. | • Atlantic Salmon<br>• Brook Trout | • Bay Du Nord Heritage River Corridor covers about 997 km$^2$ but has no formal legislation.<br>• The upstream headwaters of Bay Du Nord River are protected by Bay Du Nord Wilderness Reserve, established in 1986 (1990) |

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| | | | | | | under the *Wilrderness and Ecological Reserves Act*. |
| **49** | St. Pierre Bank | • Located south and west of the Canada-France International Boundary, southwest of the St. Pierre and Miquelon islands to the 200 m isobaths. | • Overlaps with St. Pierre Bank EBSA.<br>• Known as containing spawning and feeding area for scallops and the only concentration of scallops in the Grank Banks region.<br>• Also contains the highest concentration of Spiny Dogfish at their northernmost extent in the Northwest Atlantic.<br>• Several species of cetaceans aggregate, feed, and migrate in the area. | • Corals<br>• Sea Pens<br>• Sea Cucucmbers<br>• Scallops<br>• Atlantic Cod<br>• Northern Wolffish<br>• Spotted Wolffish<br>• Striped Wolffish<br>• Spiny Dogfish<br>• Roundnose Grenadier<br>• Whales | • DFO has implemented a seasonal closure (Mar. 1-June 30) to directed cod fishing. |
| **50** | Grand Banks | • A series of shallow banks that are part of the continental shelf around Newfoundland.<br>• The entire area is 730 km long and covers 280,000 km2.<br>• Depths of the shallow banks range from 25 – 100 m. Between the banks exist troughs several hundred metres deep.<br>• Upwellings and mixing of the cold Labrador Current and warm Gulf Stream make the area highly productive and particularly important for marine mammals and seabirds. | • The Grand Banks contain 5 EBSAs.<br>• Considered some of the richest fishing grounds in the world and have been identified as a hotspot of fish diversity.<br>• They contain areas important for spawning fish, as well as nursery, feeding and wintering grounds for a wide variety of invertebrates and fish.<br>• The area has also been called the 'Seabird Crossroads of the Atlantic' and is a very important wintering area and feeding ground.<br>• Contains the second largest population of gannets and the only population of Manx Shearwaters in North America. | • Lobsters<br>• Scallops<br>• Atlantic Cod<br>• Haddock<br>• Sand Lance<br>• Herring<br>• Capelin<br>• Atlantic Halibut<br>• American Plaice<br>• Yellowtail<br>• Witch Flounder<br>• Winter Flounder | |
| **50a** | Whale Deep | • A deep, enclosed basin | • The area is uniquely deep for | • Snow crab | |

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| | | approximately 100 km offshore from the south coast of Newfoundland in the western Grand Banks. | the Grand Banks, with depths over 120 metres. | • Cod<br>• Thorny Skate<br>• American Plaice |
| **50b** | Virgin Rocks | • Located in the northern central area of the Grand Banks and consists of shallow shoals of jagged underwater ridges, covering several $km^2$. | • Overlaps with the Virgin Rocks EBSA.<br>• The area is uniquely shallow for the Grand Banks, with rocks nearly exposed just 3.6 m below the water's surface.<br>• Important spawning habitat for Atlantic Cod, American Plaice and Yellowtail Flounder and congregation area for capelin.<br>• Seabirds are known to congregate in the vicinity and feed on capelin. | • Atlantic Cod<br>• American Plaice<br>• Yellowtail Flounder<br>• Capelin |
| **50c** | Southeast Shoal and Tail | • Located approximately 350 km off of the coast of Newfoundland, at the highest point on the Grand Banks.<br>• It is a shallow sandy area only 40 to 60 m in depth, with glacial influence.<br>• Intersected by the 200 nautical mile limit of Canadian waters. | • Overlaps with the Southeast Shoal and Tail EBSA.<br>• Shallow depth with mixing currents creates nutrient-rich, productive waters in this area.<br>• This area has the highest benthic biomass in the Grand Banks, and is considered one of the most productive ecosystems in the Northwest Atlantic.<br>• Relatively recently submerged in its unique geologic history.<br>• It contains some rare species, and some benthic species that are endemic to the Northwest Atlantic.<br>• Localized concentrations of food signify important feeding and aggregation habitat for seabirds and marine mammals. | • Blue Mussel<br>• Wedge Clam<br>• Capelin<br>• American Plaice<br>• Atlantic Cod<br>• Striped Wolffish<br>• Yellowtail Flounder<br>• Haddock<br>• Humpback Whale<br>• Leatherback Turtle<br>• North Atlantic Right Whale |
| **50d** | Lilly Canyon – | • Located on the southeastern | • Overlaps with Lilly Canyon and | • Corals |

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| | Carson Canyon | slope of the Grand Banks.<br>• Carson Canyon in particular is the northernmost canyon and is 10 km wide, 80 km long and 700 m deep where it intersects the shelf break.<br>• Upwellings occur over canyons, which contain layers of cold and warmer waters which mix. Wind also induces upwellings at the shelf break and downstream. | Carson Canyon EBSA.<br>• The canyons contain areas with high primary productivity and high biodiversity.<br>• An important area for feeding and productivity of Iceland Scallops. A high proportion occurs here. | • Sponges<br>• Iceland Scallops<br>• Seals<br>• Whales |

| ID | Area Name | Site Description | Special Features | Marine Life of Note | Protection |
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| **51** | Hermitage Bay – Outer Bay d'Espoir | • A small coastal bay on the south coast of Newfoundland.<br>• Characterized by a rugged coastline with fjords, sheltered inlets, and steep cliffs up to 377 m high.<br>• Contains several deep basins divided by sills.<br>• The central basin, Goblin Deeps, is a strongly-stratified 800 m deep sea basin. | • Goblin Deeps, an unsual deep-water phenomenon close to shore, is covered with sealife for the first 600 m.<br>• The basin is filled with high salinity seawater from the Laurentian Channel, which can be 5 to 7 o C and support unique assemblages of deep-sea benthic and planktonic animals.<br>• Seaweeds exhibit extremely high diversity, especially in the intertidal zone.<br>• The area contains some nesting seabirds.<br>• Archaeological evidence exists of Maritime Archaic Indians, Paleo-Eskimo, Dorset Eskimo and Beothuk presence on Long Island at the entrance to Hermitage Bay. | • Corals<br>• Sponges<br>• Lobster<br>• Squid<br>• Sea Urchin<br>• Lima<br>• Barnacles<br>• Porcupine Crab<br>• Lamp Shells<br>• Atlantic Salmon<br>• Green-winged Teal<br>• Least Sandpiper<br>• Harbour Seals<br>• Sperm Whale<br>• Fin Whale<br>• Humpback Whale<br>• Blue Whale<br>• White-beaked Dolphin | |
| **51a** | Conne River | • Located at the head of Bay d'Espoir on the southcentral coast of Newfoundland.<br>• The distance from the Conne River estuary to Hermitage Bay is approximately 50 km. | • Historically important area for Atlantic Salmon. | • Atlantic Salmon | • The community implemented a voluntary cessation of the Conne River aboriginal fishery in 1992 due to declines in abundance.<br>• Conner River is a classified river located in Salmon Fishing Zone 11, administered and regulated by DFO under the *Fisheries Act*. |

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| **51b** | Little River | • Located near the head of Bay d'Espoir, directly adjacent to Conne River on the southcentral coast of Newfoundland.<br>• Empties into Bay d'Espoir close to the northeast section of Bois Island. | • Historically important area for Atlantic Salmon. | • Atlantic Salmon | |
| **51c** | Goblin Head | • A sheltered inlet surrounded by high cliffs in Hermitage Bay.<br>• The surrounding waters are ice free with very rich diversity and upwellings | • Repeat spawning of Atlantic Salmon has been recorded here.<br>• Goblin Deeps is an unusual deep-water phenomenon (see site #51).<br>• The basin contains diverse coral, sponges, anemones, and benthic invertebrates. | • Corals<br>• Sponges<br>• Copepods<br>• Ctenophores<br>• Lobster<br>• Squid<br>• Atlantic Salmon<br>• Atlantic Cod<br>• Hake<br>• Greenland Halibut | |
| **52** | Hermitage Channel | • A highly stratified fjord extending from Hermitage Bay on the southcentral coast of Newfoundland to the 400 m bathymetric contour at the edge of the Laurentian Channel.<br>• Bounded by Burgeo and St. Pierre Banks.<br>• Carries a warm and saline deep water layer (2-7$^0$ C) into Hermitage and Fortune Bays. | • The fjord has a three levels of stratification with rare, complex oceanography due to the influence from the Laurentian Channel. | • Capelin<br>• Herring<br>• Haddock<br>• Halibut<br>• Redfish<br>• Pollock<br>• Atlantic Wolffish<br>• Atlantic Cod<br>• Porbeagle Shark<br>• Whales<br>• Leatherback Turtle | |
| **52a** | Pass Island | • A small island at the western tip of the Connaigre Peninsula on the south coast of Newfoundland. | • Aggregation area for Porbeagle Sharks.<br>• The area also contains a small colony of Grey Seals. | • Herring<br>• Atlantic Wolffish<br>• Atlantic Cod<br>• Porbeagle Shark<br>• Grey Seals | |
| **53** | South Coast | • The entire south coast of | • Contains a portion of the | • Atlantic Salmon | • The area contains 58 |

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| | (Entire) | Newfoundland from Cape Race to Cape Ray.<br>• Includes many important salmon rivers including Salmonier, Bay du Nord, White Bear, and Grey Rivers.<br>• Much of the south coast has steep cliffs rising to heights of 150 m.<br>• The coast is generally ice-free, although land-fast ice may fill local bays and inlets. | Placentia Bay Extension EBSA.<br>• Contains 7 IBAs.<br>• Overlaps with the South Newfoundland Designatable Unit of Atlantic Salmon.<br>• This area has the largest tides in Newfoundland. | • American Eel<br>• Atlantic Cod<br>• Northern Gannet<br>• Murres<br>• Sharks<br>• Seals<br>• Whales | scheduled salmon rivers, administered and regulated by DFO under the *Fisheries Act*. |
| **53a** | Grey River | • A fjord on the south coast of Newfoundland.<br>• The river has a narrow 140 m wide mouth but extends more than 20 km inland.<br>• The basin is sheltered by hills reaching elevations over 300 m.<br>• The river forks east and north just past the community of Grey River. | • The long, sheltered river provides ideal habitat for salmon. | • Atlantic Salmon | • Grey River is a scheduled river located in Salmon Fishing Zone 11, administered and regulated by DFO under the *Fisheries Act*. |
| **53b** | Sandbanks – Burgeo | • A 13 km jagged coastline with sandy beaches, directly west of Burgeo on the south coast of Newfoundland.<br>• The area experiences 1.7 m diurnal tides and is heavily influenced by both the Gulf Stream and Labrador Current.<br>• Characterized by sand dunes and long, flat sandy | • Big Barasway is identified as an IBA with national significance for its population of Piping Plover.<br>• Expansive sandy beaches and sand dunes are uncommon in Newfoundland.<br>• Beaches provide important habitat for shorebirds including the globally vulnerable Piping Plover. | • Piping Plover | • Sandbanks Provincial Park is a 232 ha terrestrial park established under the *Provincial Parks Act* and administered by the NL Department of Environment and Climate Change.<br>• Big Barasway Wildlife Reserve was established in 1992 under the Wildlife Act. It encompasses 1.4 |

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| | | beaches. | | | km2 and provides habitat protection for the Piping Plover. |
| **53c** | Southwest Coast Fjords | • Area from La Poile Bay to Pass Island on the south coast of Newfoundland.<br>• Extends 70 km offshore to include portions of Burgeo Bank and Hermitage Channel.<br>• Immense granite cliffs in the east rise over 300 m above sea level.<br>• Includes Grand Bruit, Burgeo, Ramea, François, and McCallum. | • The sheltered, biologically-rich fjords provide a haven for marine mammals. | • Leatherback Turtle<br>• Humpback Whale<br>• Fin Whale<br>• Blue Whale<br>• Killer Whale | • The Southwest Coast Fjords area was identified for possible development of a NMCA. |
| **54** | Penguin Islands | • An archipelago located east of Ramea, 20 km off the south coast of Newfoundland.<br>• Characterized by a cluster of islands and sea stacks.<br>• The surrounding waters and ice free and very clear. | • The area is highly productive and contains some of the most productive and diverse wave-exposed kelp beds in the province.<br>• The area contains breeding seabird colonies and large numbers of over-wintering birds.<br>• Whales feed around the islands in the summer. | • American Plaice<br>• Winter Flounder<br>• Haddock<br>• Atlantic Halibut<br>• Cod<br>• Redfish<br>• Snow Crab<br>• Razorbill<br>• Thick-billed murre<br>• Black Guillemot<br>• Gulls<br>• Common Eider<br>• Northern Fulmar<br>• Manx Shearwater<br>• Common Tern<br>• Arctic Tern<br>• Caspian Tern<br>• Harbour Seals<br>• White-beaked Dolphin<br>• Fin Whale | • |

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| | | | | • Humpback Whale<br>• Blue Whale | |
| **55** | Burgeo Bank | • A relatively shallow bank above the 200 m bathymetric contour, approximately 50 km south of Burgeo. | • Cod aggregate to spawn here in spring. This is an important mixing area for the 3Pn4RS and 3PS cod stocks at this time. | • Cod | • An 81,890 km$^2$ fisheries conservation area established to protect spawning redfish.<br>• DFO has implemented a seasonal closure (Nov. 15-Apr. 15) to directed cod fishing. |
| **56** | Channel – Port aux Basques (Grand Bay West) | • An area with an 8 km beach system located at the southwest corner of Newfoundland between Cape Ray and Grand Bay West. | • Recognized as an IBA with national significance for its population of Piping Plover.<br>• Ponds and marshes provide habitat for juvenile waterfowl, including the globally-vulnerable Piping Plover. | • Piping Plover<br>• Northern Pintail<br>• Black-headed Gull | • Channel – Port aux Basques Municipal Habitat Stewardship Agreement, signed in 2003, contains three management units including Shorts Pond, Big Barachois, and Rocky Barachois totalling 727 acres. |
| **57** | J.T. Cheeseman to Grand Bay West | • Located 15 km west of Channel – Port aux Basques on the southwest corner of Newfoundland.<br>• Characterized by sand dunes, beaches, and a sandy barachois. | • The area contains a relatively rare and large sandy barachois.<br>• Grand Bay West to Cheeseman Provincial Park IBA contains important nesting habitat for the globally vulnerable Piping Plover. | • Eelgrass<br>• Lobster<br>• Dogwinkle<br>• Surf Clam<br>• Blue Mussel<br>• Green Sea Urchin<br>• American Eel<br>• Capelin<br>• Atlantic Salmon<br>• Sticklebacks<br>• Sharks<br>• Canada Goose<br>• Piping Plover<br>• Murres<br>• Harbour Seals<br>• White-beaked Dolphin | • J.T. Cheeseman Provincial Park was established in 1960 under the *Provincial Parks Act* and administered by the NL Department of Environment and Climate Change. |

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| | | | | • Blue Whale | |
| **58** | Laurentian Channel and Slope | • The southern fringe of the Laurentian Channel including the eastern slope and the shelf edge with depths of > 1000 m.<br>• The Gulf of St. Lawrence empties into the Atlantic Ocean here.<br>• The Channel is a glacially-created submarine valley 1400 km long with depths up to 550 m. | • Contains with the Laurentian Channel and Slope EBSA.<br>• The channel's walls are highly saline and rich in nutrients.<br>• Deep warm water from the Gulf Stream mixes with water from the St. Lawrence River to create productive habitat for plankton, invertebrates, and groundfish.<br>• The area contains the highest concentration of black dogfish in Canadian waters. | • Soft corals<br>• Deep sea corals<br>• Sea pens<br>• Sea anemones<br>• Iceland Scallop<br>• Black Dogfish<br>• Northern Wolffish<br>• Atlantic Wolffish<br>• Spotted Wolffish<br>• Atlantic Cod<br>• Atlantic Salmon<br>• Porbeagle Shark<br>• Leatherback Turtle<br>• Blue Whale<br>• Right Whale<br>• Sowerby's Beaked Whale<br>• Harbour Porpoise | • The Laurentian Channel was identified in 2010 as an Area of Interest for development of a Marine Protected Area under the *Oceans Act*. |

| ID | Area Name | Site Description | Special Features | Marine Life of Note | Protection |
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| **59** | Southwest Grand Banks | • Located in the Southwest Grand Banks, including the shelf edge to the 2000 m bathymetric contour.<br>• Containing and connecting the areas known as Halibut Channel, Haddock Channel and Whitbourne Canyon with depths up to 300 m. | • Contains Southwest Shelf Edge and Slope EBSA.<br>• Identified as a VME for important and diverse deep water coral areas here that provide structural habitat for invertebrates and fish.<br>• The groundfish biomass in the southwest Grand Banks is significant, and it contains spawning and aggregation areas for haddock, as well as spawning sites for redfish.<br>• The area also shows high fish species richness and diversity.<br>• Seabirds and cetaceans aggregate and feed in the area. | • Sea pens<br>• Cup Coral<br>• Bamboo Coral<br>• Gorgonian Coral<br>• Redfish<br>• Haddock<br>• Fea's Petrel<br>• Leatherback Turtle<br>• Whales | • Contains a portion of the NAFO Division 3O Coral Protection Zone (see site #59b). |
| **59a** | Desbarres Canyon | • A submarine canyon located at the southwest margin of the Grand Banks in NAFO Division 3O.<br>• Substrate consists of muddy sand, especially below 700 m. | • High coral species diversity has been recorded here at the middle and upper slopes.<br>• Sea pens are abundant in this area. | • Sea Pens<br>• Soft Gorgonian Coral<br>• Bamboo Coral<br>• Bubblegum Coral | |
| **59b** | Coral Protection Zone – NAFO 3O | • Includes the continental slope of the southwest Grand Banks approximately from the 200 - 2500 m bathymetric contours, bounded by NAFO Division 3O jurisdictional boundaries to the west and east. | • Small Gorgonian Coral VMEs have been identified in the vicinity.<br>• Large Gorgonian Coral habitat exists at adjacent shelf edge in shallower water. | • Sea Pens<br>• Soft Coral | • NAFO Division 3O Coral Protection Zone, a 14,040 km2 area closed to all bottom-impacted gear, was established in 2007 (2014) under the *Fisheries Act* and administered by Fisheries and Oceans Canada.<br>• This gear closure misses sensitive coral habitat in |

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| | | | | | shallower waters and NAFO Zone 3Ps.<br>• The closure is in effect until 2020. |
| **59c** | Coral Area – NAFO 3Ps | • A high-diversity coral area at the continental shelf edge between 100 -200 km east of the Laurentian Channel (see sites #59d and #59e). | • Considered the most important area for corals in the NL region.<br>• High coral species diversity has been recorded here. | • Large Gorgonian Coral | • |
| **59d** | Halibut Channel Mouth | • A submarine canyon located 110 km east of the Laurentian Channel. | • High coral species diversity has been recorded here at the middle and upper slopes. | • Bamboo Coral<br>• Soft Gorgonian Coral | • |
| **59e** | Haddock Channel Mouth | • A submarine canyon located 175 km east of the Laurentian Channel.<br>• Substrate ranges from boulders and cobble to mud and silt. | • High coral species diversity has been recorded here at the middle and upper slopes.<br>• Sea pens are abundant and diverse in deeper waters. | • Bamboo Coral<br>• Soft Gorgonian Coral<br>• Cup Coral<br>• Black Coral<br>• Redfish | • |

| ID | Area Name | Site Description | Special Features | Marine Life of Note | Protection |
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| 60 | Codroy Valley and Estuary | • Located northwest of Port aux Basques in the southwest corner of Newfoundland.<br>• The large, broad estuary of the Grand Codroy River is 925 ha, 12 km long and up to 3 km wide, with a 100 m channel serving as the outlet to the ocean.<br>• Drains Grand Codroy River with water from the Long Range and Anguille mountains.<br>• The estuary is shallow, intertidal, brackish-water marsh, which contains four small islands, intertidal flats and sand bars that are exposed at low tide. | • Recognized in 1987 as a Wetland of International Importance under the Ramsar Convention (1971).<br>• Contains Codroy Valley Estuary IBA, recognized as continentally significant with respect to congregatory species.<br>• Contains Codroy Valley IBA, recognized as nationally significant with respect to restricted range species, including Red Crossbill and Ovenbird.<br>• More than 150 species of birds have been identified in the area.<br>• The area is within the migration corridor for several birds and is an important staging area, including approximately 3000 Canada Geese in fall and early winter. | • Eelgrass<br>• Canada Goose<br>• Red Crossbill<br>• Ovenbird<br>• Piping Plover<br>• Northern Shoveler | • 174 ha of the Grand Codroy River Estuary has been protected through private stewardship and partnerships between the Nature Conservancy of Canada, NL Department of Environent, Climate Change and Conservation, and Ducks Unlimited Canada.<br>• Codroy Valley Provincial Park, established under the *Provincial Parks Act*, protects the beach area at the mouth of the bay.<br>• Grand Codroy Provincial Park Reserve is at the head of the bay and protects a portion of the fluvial delta. |
| 61 | St. George's Bay – Port au Port | • A large, sheltered bay with a triangular-shaped peninsula on the west coast of Newfoundland.<br>• The bay contains glacio-marine mud and deposits of sand and gravel, and in some areas rocky ledges.<br>• There is an abundance of sandy shorelines and mud flats in coastal areas, including a large sand spit at Sandy Point (see | • Bay St. George contains many important eelgrass beds and maritime New England-type salt marshes.<br>• Shorebirds and songbirds use the habitat in the area during fall migration and nesting season.<br>• Seven rivers in the area are important for Atlantic Salmon. | • Eelgrass<br>• Cordgrass<br>• Gorgonian Coral<br>• Sea Pens<br>• Scallops<br>• American Eel<br>• Atlantic Herring<br>• Banded Killifish<br>• Atlantic Salmon<br>• Willet<br>• Piping Plover<br>• Osprey | • Stephenville Crossing Wetland Habitat Stewardship Agreement, signed in 1995, contains the Main Gut, Nardine's Pond, Little River, St. Georges River, and Harry's River totalling 3931 acres.<br>• Harry's River, and Little Barachois, Southwest, and Bottom Brooks (and their |

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| | | site #61a). | | • Blue Whale<br>• Harbour Seal | | tributaries) are scheduled rivers located in Salmon Fishing Zone 13, administered and regulated by DFO under the *Fisheries Act*. |
| **61a** | Sandy Point | • A large 1000 ha sand spit that extends 2 km into St. George's Bay on the west coast of Newfoundland.<br>• With erosion, the peninsula became disconnected and it is now an island.<br>• Marine and coastal habitats include tidal sand flats, salt marshes, eelgrass beds, beaches and sand dunes. | • Contains the largest Spartina salt marsh and one of the largest eelgrass beds known to exist in the province.<br>• High numbers of migrating shorebirds inhabit the island in the summer.<br>• The area houses 15 to 20% of the provincial population of Piping Plover. Up to five pairs of Piping Plovers have been observed to nest in the area.<br>• Only known nesting location in the province for Willet is on Flat Island. | • Eelgrass<br>• Seabeach Sedge<br>• Saltmarsh Rush<br>• Seaside Lavender<br>• Saltwater Cordgrass<br>• Willet<br>• Piping Plover<br>• Semipalmated Plover<br>• Greater Yellowlegs<br>• Common Snipe<br>• Spotted Sandpiper<br>• Common Tern<br>• Arctic Tern | • Several protection measures have been considered but failed, including designation as a Provincial Park, Ecological Reserve, National Wildlife Area, and Provincial Historic Site.<br>• The NCC currently protects nine properties totaling 28 ha. |
| **61b** | Boswarlos | • Located at the bottom of East Bay in Port au Port Bay on the northern sheltered coast of the Port au Port Peninsula.<br>• Characterized by rolling lowlands surrounded by steep hills.<br>• The coastal area is made up of rocky ledges, low cliffs, cobbles, boulders, bedrock slabs and outcrops, with large sand-gravel beaches. | • Contains extensive eelgrass beds, which help prevent shoreline erosion and provide habitat for shorebirds and songbirds.<br>• Shallow areas contain abundant scallop beds. | • Eelgrass<br>• Rockweed<br>• Kelp<br>• Giant Scallop<br>• Lobster<br>• American Eel<br>• Capelin<br>• Atlantic Salmon<br>• Atlantic Cod<br>• Ruddy Turnstone<br>• Semipalmated Plover<br>• Semipalmated Sandpiper<br>• Killdeer | • |
| **62** | Bay of Islands | • A large inlet which drains | • Productive area for American | • Eelgrass | • |

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| | | the Humber River with waters from the Long Range Mountains on the west coast of Newfoundland.<br>• The Bay contains three major arms: Humber Arm, Middle Arm, and North Arm, each with smaller inlets.<br>• Islands in the bay include Woods, Governors, Pearl, Tweed, and Guernsey Islands. | Lobster.<br>• A seabird colony in the Bay contains over 500 pairs of Black-legged Kittiwakes.<br>• Also an important overwintering area for Blue Whales. | • Lobster<br>• Atlantic Cod<br>• American Eel<br>• Atlantic Salmon<br>• Black-legged Kittiwakes<br>• Blue Whale | |
| **62a** | Blow Me Down | • A peninsula located between York and Lark Harbours in the Bay of Islands.<br>• The coastal area of the ecoregion contains cliffs and a rough topography, and is subject to heavy ice scour from landfast ice. | • Surrounding waters contain productive lobster fishing areas.<br>• Because Blow Me Down is already a terrestrial/coastal Provincial Park, infrastructure is in place for further protection of the area. | • Eelgrass<br>• Lobster<br>• Scallop<br>• Capelin<br>• Atlantic Cod<br>• American Eel<br>• Atlantic Salmon | • Blow Me Down Provincial Park was established as a 226 ha terrestrial park under the *Provincial Parks Act*. |
| **62b** | York Harbour | • An inlet located on the southwest corner of Bay of Islands.<br>• Governors Island is located in the middle of the Harbour. | • York Harbour, Lark Harbour and the outer Bay of Islands contain productive lobster fishing areas. | • Seagrass<br>• Lobster | • Blow Me Down Provincial Park is adjacent (see site #62a). |
| **63** | Gros Morne Offshore Area | • A glacially-formed National Park on the west coast of Newfoundland.<br>• The coastal area consists of coastal plains, fjords and coastal cliffs. | • Recognized as a UNESCO World Heritage Site in 1987 due to its unique, accessible, and pristine geological features. | • Eelgrass<br>• Green Crab<br>• American Eel<br>• Capelin<br>• Lumpfish<br>• Atlantic Wolffish<br>• Atlantic Salmon<br>• Atlantic Cod<br>• Porbeagle Shark<br>• Gulls | • Gros Morne National Park was established as a terrestrial park under the *Canada National Parks Act* in 1973 (2005).<br>• The park includes the shoreline down to the high water mark. |

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| | | | | • Guillemots<br>• Terns<br>• Eiders | |
| **63a** | Bonne Bay | • A compound fjord (carved by multiple glaciers) located midway up the west coast of Newfoundland.<br>• The deep East Arm (230 m depth) is separated from the outer Bonne Bay basin by a shallow sill 14 m deep, and the outer basin is separated by an offshore sill which is approximately 35 m deep.<br>• Circulation is characterized by salty inflow in deeper waters and estuarine outflow, primarily from land drainage, on the surface. | • There are 20 or more different marine habitats in the area.<br>• Extensive eelgrass beds grow here, especially shallow areas at Lomond, Deer Arm, Neddy Harbour, and Sandy Head.<br>• Invertebrates are extremely diverse due to the large number of habitats.<br>• All the seabirds, shorebirds, and waterfowl of Atlantic Canada may be observed in Bonne Bay.<br>• Bonne Bay Marine Station has operated for 40 years, hosting international research and monitoring programs in the area. | • Eelgrass<br>• Soft coral<br>• American Eel<br>• Lumpfish<br>• Herring<br>• Redfish<br>• Pipefish<br>• Windowpane Flounder<br>• Porbeagle Shark<br>• Harlequin Duck<br>• Canada Goose<br>• Minke Whale<br>• Harp Seal<br>• Hooded Seal<br>• Harbour Seal<br>• Grey Seal | • Bonne Bay is surrounded by **Gros Morne National Park** (see site #63) including the shoreline down to the high water mark. |
| **63b** | St. Paul's Inlet | • A large, shallow, brackish-water inlet at the northern end of Gros Morne National Park.<br>• It is 11 km long and surrounded on its western end by tidal wetlands and at the east by the Long Range Mountains.<br>• The mouth is surrounded by extensive foreshore flats.<br>• The shallow entrance sill restricts tidal inflow/outflow. | • An extensive salt marsh has a distinct mixture of temperate and arctic species.<br>• Unique coastal habitats like sand shallows form here.<br>• The islands in the bay contain important shorebird nesting sites. | • Bryopsis (green algae)<br>• Lamanaria platymeris (kelp)<br>• Namalion helminthoides (red algae)<br>• Eelgrass<br>• Halophytes<br>• Rough Periwinkle<br>• American Eel<br>• Sea-run trout<br>• Atlantic Cod<br>• Atlantic Salmon<br>• Sticklebacks<br>• Terns | • St. Paul`s Inlet is surrounded by Gros Morne National Park (see site #63). |

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| | | | | • Canada Goose<br>• Red Knot<br>• Piping Plover<br>• Harlequin Duck | |
| **64** | West Coast of Newfoundland | • A mostly offshore area on the west coast of Newfoundland, extending from Cabot Strait at its southern limit to Esquiman Channel in the north.<br>• The area is very large and complex, and has a high range of water temperatures and sea ice coverage.<br>• The northern reaches of the area are influenced by the Labrador Current while the southern limits are warmed by water from the Cabot Strait and Atlantic Ocean.<br>• | • Overlaps with the West Coast of Newfoundland EBSA.<br>• Significant for a large abundance of fish, with dense populations of cod, herring, and halibut in areas like the Esquiman Channel.<br>• In winter, large numbers of Atlantic Herring and capelin from the Gulf seek refuge in the Esquiman Channel. These are the only known refuges for these populations.<br>• The Cabot Strait is an important migration corridor and refuge as well | • Atlantic Herring<br>• Atlantic Halibut<br>• Ribbon Barracudina<br>• Spiny Dogfish<br>• Silver Hake<br>• Pollock<br>• Redfish<br>• American Plaice<br>• Capelin<br>• Atlantic Cod<br>• Atlantic Wolffish<br>• Blue Whale<br>• Beluga Whale<br>• North Atlantic Right Whale | |
| **65** | Table Point | • Located on the Great Northern Peninsula of Newfoundland, approximately 2 km north of the community of Belburns.<br>• Characterized by bare, exposed limestone, coastal cliffs, grass ledges, and coastal plains.<br>• The area experiences extreme ice conditions. | • Table Point contains exceptionally well-preserved fossils from the Middle Ordovician period, which dates some 470 million years..<br>• Limestone exposed in the area is approximately 470 million years old. | • Irish Moss<br>• American Lobster<br>• Snow Crab<br>• Whelk<br>• American Eel<br>• Atlantic Cod<br>• Atlantic Salmon<br>• Harlequin Duck<br>• Canada Goose<br>• Harp Seals | • Table Point Ecological Reserve was established in 1986 (1990) under the NL *Wilderness and Ecological Reserves Act*, protecting 1.16 km$^2$ in total. |
| **66** | Hawke's Bay | • Located on the northwest coast of Newfoundland in the Gulf of St. Lawrence. | • The saltwater marsh at Goose Holes contains unique plants and wildlife specialized for tidal | • Eelgrass<br>• Kelp beds<br>• Irish moss | • Hawke's Bay Wetland Habitat Stewardship Agreement was signed in |

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| | | • The Bay contains several inlets and islands with cliffs and rocky shorelines.<br>• The head of the Bay is characterized by low-lying plains, tidal wetlands, and salt marshes.<br>• Torrent and East Rivers flow into the Bay.<br>• Shallower areas along the coast support eelgrass and kelp beds. | activity and salt water.<br>• Productive wetlands here are important for nesting waterfowl.<br>• Torrent River is a major salmon river.<br>• Nearby Port au Choix and the coastline of the broader region contain important archaeological evidence from Maritime Archaic, Dorset, and Paleoeskimo Peoples dating back 6000 years. | • Rockweed<br>• Atlantic Salmon<br>• Northern Pintail<br>• American Black Duck | 2008, and encompasses 5 management units totalling 761 ha. |
| **67** | The Hole – Point Riche | • A 200 m deep underwater canyon located south of Point Riche and the community of Port au Choix on the west coast of Newfoundland.<br>• It is surrounded on either side by a shoal. | • The Hole is very productive and diverse because of localized mixing and upwelling.<br>• Unique sudden deep water area close to shore, with the notable presence of sea pens.<br>• Capelin spend the winter in the deep water and spawn on the shoals. | • Sea pens<br>• Lobster<br>• Shrimp<br>• American Eel<br>• Atlantic Cod<br>• Atlantic Salmon<br>• Seals<br>• Whales | • Nearby Port au Choix is a National Historic Site, which protects the shoreline to the high water mark. |
| **68** | Strait of Belle-Isle | • A cold, narrow 9,500 km$^2$ waterway that stretches northeast and southwest, separating Newfoundland's Northern Peninsula from southern Labrador.<br>• It is approximately 125km long, 60 m deep and ranges from 16-29 km in width.<br>• Ice coverage is up to 140 days, and sea ice be found in the Strait 8-10 months of year.<br>• Characterized by strong currents, cold water, ice | • Overlaps with the Strait of Belle Isle EBSA.<br>• Point Amour, Strait of Belle Isle is recognized as an IBA (see site #68b).<br>• Several terrestrial provincial parks and ecological reserves along the coastline provide infrastructure for further protection of the area.<br>• Bordering the Arctic oceanic ecosystem, the Strait is a transition zone that contains a unique mixture of marine life.<br>• The area has very high uniqueness, concentration and | • Eelgrass<br>• Giant Kelp<br>• Finger Kelp<br>• Sponges<br>• Shrimp<br>• Iceland Scallop<br>• Herring<br>• American Eel<br>• Capelin<br>• Atlantic Salmon<br>• Atlantic Cod<br>• Ivory Gull<br>• Common Eider<br>• Harlequin Duck<br>• Barrow's Goldeneye<br>• Blue Whale | • Pinware Provincial Park.<br>• Pistolet Bay Provincial Park.<br>• Burnt Cape, Watt's Point, and Sandy Cove Ecological Reserves were established to protect rare flora located on the northern coast of the Great Northern Peninsula.<br>• Flower's Cove Species at Risk Stewardship Agreement was signed in 2002 to protect rare Limestone Barren habitat and plants within a 8.7 ha |

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| | | scouring, and rocky outcrops.<br>• Coastal areas include Forteau Bay, Pinware, Red Bay in Labrador, and St. Barbe, Flower's Cove, and Cook's Harbour in Newfoundland. | adaptive values, particularly in terms of pelagic fish and benthic invertebrates.<br>• Historically, large shrimp beds existed off the Labrador coast.<br>• Seaweed diversity and productivity is high in this area, with a number of seasweeds undescribed and only known to this region.<br>• This is an important migration route for many fish (especially Atlantic Salmon), seabirds and cetaceans.<br>• This area contains the highest concentrations of cetaceans in Atlantic Canada during summer months. | • Beluga Whale<br>• Polar Bear | terrestrial management unit. |
| **68a** | Forteau River | • A cascading river in a glacial valley on the southwest coast of Labrador in the Strait of Belle Isle.<br>• The river has several waterfalls and areas of standing water, and is surrounded on either side by rocky outcrops and rolling hills.<br>• The mouth of the river at Forteau Bay is characterized by vegetated lowlands and tidal flats with long stretches of sandy beaches on the shoreline. | • This area is important for salmon and sea-run trout.<br>• Forteau Bay and nearby Point Amour are important areas for birds (see site #68b).<br>• Whales are often sighted from the community of Forteau. | • Atlantic Salmon<br>• Sea-run Brook Trout | • Forteau River is a scheduled river located in Salmon Fishing Zone 14B, administered and regulated by DFO under the *Fisheries Act*. |
| **68b** | L'Anse Amour – Point Amour | • A small fishing community located on the eastern shore of Forteau Bay in | • Recognized as an IBA with globally significant congregations of seabirds and | • Kelp<br>• American Eel | |

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| | | Southern Labrador.<br>• Characterized by strong tidal mixing, cold water, rounded headlands, and local upwelling.<br>• Coastal waters freeze from mid-January to mid-April.. | waterfowl.<br>• Huge numbers of birds migrate through this relatively small area, and some stop for extended periods.<br>• A total of 62,275 Common Eiders were recorded in a bird migration monitoring program April-May 1996.<br>• Inshore habitats include extensive, productive kelp beds, sea urchin areas, and invertebrate communities affiliated with strong, cold ocean currents. | • Capelin<br>• Atlantic Cod<br>• Sea-run Brook Trout<br>• Atlantic Salmon<br>• Common Eider<br>• Black Guillemot<br>• Lesser Golden Plover<br>• Whimbrel<br>• Harp Seal | |
| **68c** | Red Bay | • A small harbour sheltered by granite hills and barrens on the south coast of Labrador.<br>• A narrow 450 m-wide entrance, further blocked by Penney Island, protects the 1 km-wide harbour basin.<br>• The outer bay and surrounding coastline is characterized by numerous low-lying rocky inlets and islands. | • Designated as a UNESCO World Heritage Site in 2013 and a National Historic Site for its importance as a mid-16th century Basque whaling station.<br>• The archaeological elements are some of the most extensive and best preserved of this type.<br>• The area is adjacent to an important cetacean migration corridor. | • Murres<br>• Pothead Whale<br>• Minke Whale<br>• Humpback Whale<br>• Killer Whale<br>• Dolphins | • While recognized as a national historic site, designation does not affect ownership or provide protection of the site. |
| **68d** | Pistolet Bay | • A 19 by 22 km shallow-water indentation on the tip of the Great Northern Peninsula of Newfoundland.<br>• The effects of intense glaciations and icebergs are apparent on the ocean floor and landscape. | • The extensive, shallow intertidal habitat is used by a large number of terrestrial birds, waterfowl, shorebirds and seabirds. A 1998 bird survey recorded 61 terrestrial and marine species in the area.<br>• Parkers Brook has the only known sea-run population of Arctic Char in | • Eelgrass<br>• Kelp<br>• Irish moss<br>• Capelin<br>• Arctic Char<br>• American Eel<br>• Atlantic Salmon<br>• Atlantic Cod | • Pistolet Bay Provincial Park is a 68 ha terrestrial park established in 1974 under the *Provincial Parks Act*.<br>• Five rivers entering the Bay are scheduled rivers located in Salmon Fishing Zone 14A, administered |

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| | | • The bay often fills with ice that remains into spring. | the island.<br>• Capelin use sandy beaches in the area for spawning.<br>• Several salmon rivers enter the Bay.<br>• Due to the presence of a Provincial Park, the infrastructure is in place for further protection of the area. | • Ivory Gull<br>• Harlequin Duck<br>• Harp Seal<br>• Humpback Whale<br>• Minke Whale<br>• Harbour Porpoise<br>• Polar Bear | and regulated by DFO under the *Fisheries Act*. |
| **68e** | Burnt Cape | • A 4km by 1km limestone peninsula connected to the tip of the Great Northern Peninsula by a narrow strip of land.<br>• It is exposed and surrounded on three sides by the cold waters of the Strait of Belle Isle. | • The Cape's cold, exposed conditions are suitable habitat for arctic and alpine species.<br>• It has the shortest growing season, the lowest summer temperatures and lowest mean annual minimum temperatures of any coastal region on the island.<br>• The area provides prime habitat for cold-ocean fish.<br>• Capelin use the sandy beaches for spawning.<br>• Many migratory seabirds and waterfowl use the area. | • Kelp<br>• Irish moss<br>• Capelin<br>• Herring<br>• Atlantic Cod<br>• Lumpfish<br>• Winter Flounder<br>• Ivory Gull<br>• Harbour Porpoise<br>• Whales<br>• Polar Bear | • Burnt Cape Ecological Reserve was established in 1998 (2000) under the NL *Wilderness and Ecological Reserves Act* to protect rare flora. Bird hunting is permitted in the reserve area. |
| **68f** | Pinware River | • A long, winding river carved into the coastal highlands on the south of Labrador.<br>• Tidal pools and estuary at the mouth of the river are sheltered by the surrounding granite hills.<br>• The coastline has stretches of long sandy beaches. | • Pinware Hill contains Paleo-Indian archaeological sites dating back nearly 9000 years.<br>• Important area for Atlantic Salmon.<br>• Sandy beaches and sand dunes are rare coastal habitats in the Province.<br>• Due to the presence of a Provincial Park, the infrastructure is in place for further protection of the area. | • Atlantic Salmon<br>• Trout | • Pinware River Provincial Park is a 68 ha coastal park established in 1974 under the *Provincial Parks Act*. |
| **69** | St. Peter's Bay | • A complex coastline of | • Recognized as an IBA with | • Common Eider | • St. Peter Bay was one of |

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| | | inlets and islands in southeastern Labrador, located 30 km south of the community of Mary's Harbour.<br>• The area includes St. Peter's Bay and Niger Sound.<br>• Characterized by open sea inlets, coastal cliffs, and rocky shores. | continentally significant congregations of seabirds, and relatively large numbers of the endangered Harlequin Duck.<br>• The bay supports breeding and moulting Common Eider. Over 5000 Common Eiders were observed in the bay in 1998, representing approximately 6.4% of the Atlantic population. | • Leach`s Storm-petrel<br>• Harlequin Duck<br>• Double-crested Cormorant<br>• Humpack Whale | the first migratory bird sanctuaries following confederation in 1949, but was revoked in the late 1970`s after poor management and administration.<br>• A Coastal Habitat Stewardship agreement was signed in site by communities of Red Bay, Mary's Harbour, St. Lewis. |