



Laurentian Channel

Area from 45°N to 47.5°N, from the slopes of the banks into the Laurentian Channel to the western boundary of the Placentia Bay-Grand Banks Large Ocean Management Area
 Site: 23

Site Description

The southern fringe of the Laurentian Channel has an area of 5941 km². The southern slope consists of 100 to 300 m vertical drops. The Channel is a glacially-created submarine valley 1400 km long that surrounds Anticosti Island and the western and southern coasts of Newfoundland. Depths range from 180 to 550 m, with some 10 to 55

km wide subtidal shelves under 100 m in depth. The sides of the channel are relatively straight, with an average width of 100 km. The open water season is 9 months long. Ice cover consists of open pack ice, although much of southwestern Newfoundland is relatively ice free. The area considered to be of importance for the purposes of this document falls within the Laurentian Channel and Scotian Shelf regions of Parks Canada's National Marine Conservation Areas system. The channel separates Banquereau and the eastern Scotian shelf from the Grand Banks of Newfoundland. It is a seismically active portion of the Newfoundland continental shelf.

Marine Habitats

The seabed of the Laurentian Channel consists of LaHave clay, homogeneous marine mud and emerald silt. The channel bottom has been characterized as *Brisaster fragilis*-*Ctenodiscus crispatus*-*Amphiura otteri*-*Pennatularia* habitat, named after a deep water spatangoid (heart urchin), a mud sea star, a deep sea brittle star and a sea pen, respectively.

The channel walls would be suitable habitat for deep sea corals. The channel's waters are highly saline and rich in nutrients. Traveling from the Atlantic along the edge of the continental shelf, these waters come in as a deep water layer that is generally warmer than the surface layer, then are brought to the surface and mix with water from the St. Lawrence River.

Coastal environments include fjords, low rocky shores, deltas, coastal bluffs, coastal dunes, barrier beaches and tidal flats. The coast of southwestern Newfoundland contains fjords – plateaus with 200 to 450 m cliffs. The depth of the channel means that it acts as a break separating several stocks of shallow water fish species.

Marine Life of Note

Phytoplankton and zooplankton gather in the region in large numbers. Invertebrates in the

Laurentian Channel include soft corals, deep sea corals, sea anemones, Icelandic Scallop, Shortfin Squid, Lesser Bobtail Squid, Northern Atlantic Octopus, Northern Shrimp, lobster, heart urchins, mud sea stars, deep sea brittle stars, sea pens, Stone Crab, and deep sea King Crab.

The area has significant groundfish populations, including some species at risk. Fish in the Laurentian Channel include Atlantic Halibut, Atlantic Herring, Atlantic Salmon, Smooth Skate, Black Dogfish, Blue Shark, Porbeagle Shark, Greenland Halibut, haddock, hagfish, hake, whitefish, redfish, mackerel, capelin, monkfish, Witch Flounder, Swordfish and the at-risk **Northern, Atlantic and Spotted Wolffish, Atlantic Cod** and Cusk.

Marine birds in the area are mostly pelagic species or those that have nesting areas on coasts close to the channel. Breeding seabirds in the region mostly consist of gulls. Seabirds in the Laurentian Channel include Greater, Sooty, Cory's and Manx Shearwaters, Wilson's and Leach's Storm-Petrels, Northern Gannet, Northern Fulmar, jaegers, gulls, terns and sea ducks.

The region is a major summer feeding area for marine mammals, particularly migratory cetaceans. Harbour Porpoise (a species at risk); Atlantic White-sided, White-beaked, Short-beaked Common, Bottlenose and Striped Dolphins; Humpback, Fin,

Minke, Northern Right, Sei, Sperm, Beluga, Northern Bottlenose, Killer, and Long-finned Pilot Whales have been sighted, as have the at-risk Blue Whale, Right Whale and Sowerby's Beaked Whale. The Laurentian Channel contains breeding areas for Harp and Hooded Seals. Grey Seals are abundant around Anticosti Island and Harbour Seals are residents present in all coastal areas.

Special Features

The Laurentian Channel and Slope has been identified by Fisheries and Oceans Canada as an Ecologically and Biologically Significant Area (EBSA). The variety of depths in the Laurentian Channel creates a diversity of habitats. A 1992 survey determined that it contains the highest levels of biodiversity off of the shore of Newfoundland.

Deep sea corals have been discovered in the Stone Fence area, on the southwestern side of the Laurentian Channel.

Entire populations of groundfish winter in the Laurentian Channel. The southern slope of the Cabot Strait is the only wintering area known for cod. The channel also contains spawning grounds for Cusk, Greenland Halibut, mackerel, redfish, capelin, Atlantic Cod and herring. Atlantic Salmon spawn in several coastal rivers. Black Dogfish pup and aggregate in the Laurentian Channel, and Smooth Skate use the area for nurseries and rearing. Several species of fish, pinnipeds and cetaceans migrate through the area.

Protection

Five preliminary representative marine areas within the Laurentian Channel National Marine Conservation Area (NMCA) region (which is broader than the Laurentian Channel EBSA) have been identified by Parks Canada, one of which will be considered as a possible NMCA: Anticosti Island /Gaspé Peninsula, Cow Head / Bay of Islands, Strait of Belle Isle, Cabot Strait and South Coast Fjords.

Threats and Recommendations

The effects of shipping are of concern in the Laurentian Channel. Related threats include accidental oil spills, illegal bilge dumping and ship strikes.

Offshore oil and gas development, including shipping, seismic activity, blasting, oil spills, lights and flares could impact marine communities in the area. Improved surveillance, increased enforcement, higher fines and capture of polluters can deter and prevent marine oil pollution. It is also recommended that convenient and accessible onshore oil disposal facilities for bilge and oil contaminated ballast water be established, ship inspections be carried out more frequently and thoroughly, and education programs regarding oil pollution be expanded for ship operators and the public.

Studies are necessary to confirm representative marine areas, and a preferred site must be selected within the Laurentian Channel region for consideration as an NMCA. The Gulf of St. Lawrence Integrated Management process should be expedited with thorough community involvement, in order to protect sensitive areas in the region.

Discussion Questions:

1. What are your comments?

2. Do you think this area is special? Why or why not?