APPENDIX 1
CANADA'S LEGISLATIVE AND POLICY FRAMEWORK

Legislative or Policy Framework	Description
Department of Fisheries and Oceans Act	This *Act* establishes the powers, duties and functions of the Minister of Fisheries and Oceans Canada, which extends to and include all matters over which Parliament has jurisdiction, relating to seacoast and inland fisheries, fishing and marine sciences, and the coordination of the policies and programs of the Government of Canada respecting oceans. http://laws.justice.gc.ca/en/F-15/
Oceans Act	This *Act* outlines Canada's duties and responsibilities in its oceans territory and introduces a new oceans management model promoting sustainable development of Canada's oceans and their resources. The *Act* gives the Minister of Fisheries and Oceans Canada the legal authority to develop an ocean management strategy based on the principles of sustainable development, integrated management and the precautionary approach. It also details the responsibilities of the Minister of Fisheries and Oceans Canada in the development and implementation of integrated management plans, including the authority to recommend the establishment of *Oceans Act* Marine Protected Areas. http://laws.justice.gc.ca/en/O-2.4/
Fisheries Act	This *Act* provides the Minister of Fisheries and Oceans Canada with the authority to manage freshwater and marine fisheries, including providing for licensing, enforcement and provisions for closing areas to fishing, prohibiting the harmful alteration, disruption or destruction of fish habitat or the deposit of substances deleterious to fish. It is one of the strongest environmental laws in Canada. http://laws.justice.gc.ca/en/F-14/index.html
Coastal Fisheries Protection Act	This *Act* is the legislative means for controlling foreign fishing vessel access to, and activities in, Canadian fisheries waters and ports. It sets out the Minister of Fisheries and Oceans Canada's responsibility for regulating foreign fishing in Canadian waters. http://laws.justice.gc.ca/en/C-33/index.html

New Emerging Fisheries Policy	This Policy applies to all new fisheries undertaken in marine or fresh water areas where Fisheries and Oceans Canada manages the fishery. It provides applicants with a transparent process to follow and it gives DFO managers a procedure that can be applied fairly and consistently. It outlines the requirements that must be met and the procedures to follow before a new fishery can be initiated. It includes also a provision for the establishment of a scientific base with which stock responses to new fishing pressures can be assessed. The objective of this policy is to diversify fisheries and increase economic returns while ensuring conservation of the stocks and realizing the sustainable use of fisheries resources. http://www.dfo-mpo.gc.ca/communic/fish_man/nefp_e.htm
Policy for the Management of Fish Habitat	This Policy provides a mix of regulatory and proactive strategies that together support the concepts of sustainable development and ecosystem approach. The overall objective of the Habitat Policy is to "increase the natural productive capacity of habitats for the nation's fisheries resources" through the conservation, restoration and development of fish habitat. http://www.dfo-mpo.gc.ca/canwaters-eauxcan/infocentre/legislation-lois/policies/fhm-policy/index_e.asp
Canada National Marine Conservation Areas Act	This *Act* provides the Minister of the Environment with the authority to establish National Marine Conservation Areas, with the objective of protecting and conserving marine areas that are representative of the country's oceans environments and Great Lakes, and to encourage public understanding, appreciation and enjoyment of this marine heritage. http://laws.justice.gc.ca/en/C-7.3/
Species at Risk Act	The *Act* provides the ministers of Environment, Fisheries and Oceans Canada and Parks Canada with the authority to protect nationally listed wildlife at risk from becoming extinct or lost from the wild, provides for the recovery of endangered and threatened species and encourages the management of other species to prevent them from becoming at risk. The *Act* also creates prohibitions to protect listed threatened and endangered species, their residences and their critical habitat. Conservation through stewardship and cooperation are at the foundation of the *Act*. http://laws.justice.gc.ca/en/S-15.3/

Canada Shipping Act	This *Act* sets out Canada's rights and obligations as they pertain to shipping and recreational boating in Canadian waters. Stated objectives of the Act are to protect the marine environment from damage due to navigation and shipping activities, establish an effective inspection and enforcement program, and to ensure that Canada meets all its international obligations with respect to shipping and navigation. Under the *Canada Shipping Act*, The Minister of Fisheries and Oceans has the right to designate pollution response officers. http://laws.justice.gc.ca/en/C-10.15/
Canada Marine Act	This *Act* focuses on commercial shipping and Canada's ports infrastructure and organization. The Act also sets out a National Marine Policy which specifically calls for measures which promote a high level of safety and environmental protection. http://laws.justice.gc.ca/en/C-6.7/
Federal Marine Protected Areas Strategy	This Strategy clarifies the roles and responsibilities of Fisheries and Oceans Canada and other federal departments and agencies with marine protected areas mandates, and describes how these bodies can collectively create a cohesive and complementary network of marine protected areas. The Strategy's main goal is the establishment of a network of marine protected areas, established and managed within an integrated oceans management framework, which contributes to the health of Canada's oceans and marine environments. In support of this goal, the Strategy will aim to fulfill its objectives to: establish a more systematic approach to marine protected area planning and establishment; enhance collaboration for management and monitoring of marine protected areas; increase awareness, understanding and participation of Canadians in the marine protected area network; and link Canada's network of marine protected areas to continental and global networks. http://www.dfo-mpo.gc.ca/canwaters-eauxcan/infocentre/publications/docs/fedmpa-zpmfed/index_e.asp
Oceans Strategy	This Strategy defines the vision, principles and policy objectives for the future management of Canada's estuarine, coastal and marine ecosystems. The Strategy supports policy and programs aimed at: Understanding and Protecting the Marine Environment; Supporting Sustainable Economic Opportunities; and Providing International Leadership. As a policy framework, this Strategy has the overarching goal of ensuring healthy, safe and prosperous oceans for the benefit of current and future generations of Canadians. http://www.dfo-

	mpo.gc.ca/oceans-habitat/oceans/ri-rs/cos-soc/index_e.asp
Canada's Oceans Action Plan	This Plan enables government-wide action to develop Canada's ocean resources for the benefit of coastal communities, while protecting fragile marine ecosystems. It is the framework to advance an integrated federal oceans agenda and is a key priority in the Department of Fisheries and Oceans Canada's strategic plan. The Oceans Action Plan is based on four interconnected pillars: International Leadership, Sovereignty and Security; Integrated Oceans Management for Sustainable Development; Health of the Oceans; and Ocean Science and Technology. To that end, Canada will continue to play a leadership role in international oceans management advancing within global fora concepts such as an ecosystem approach to management, integrated management planning and marine protected areas. http://www.dfo-mpo.gc.ca/oceans-habitat/oceans/oap-pao/index_e.asp
Canada's Policy to Manage the Impacts of Fishing on Sensitive Benthic Areas	This policy provides a more systematic, transparent, and consistent approach to addressing the impacts of fishing on sensitive benthic areas that may cause serious or irreversible harm. It applies to all commercial, recreational, and Aboriginal marine fishing activities that are licensed and/or managed by the Department of Fisheries and Oceans Canada both within and outside Canada's 200-nautical mile exclusive economic zone. The policy outlines separate processes for historically fished and frontier areas, recognizing that there is a higher level of uncertainty about benthic habitats, communities and species in frontier areas. This policy requires greater precaution when fishing activities are being considered in frontier areas and special consideration to historically fished areas that have not been exposed to bottom contact fishing. http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/benthi-eng.htm

APPENDIX 2

INVENTORY OF CANADIAN FISHERIES MANAGEMENT MEASURES TO PROTECT SENSITIVE MARINE AREAS AND SPECIES FROM FISHING PRACTICES

The following is a brief inventory of Canadian management measures that exist in Canada's three coastal areas, the Pacific Ocean, the Arctic and the Atlantic Ocean, some of which exist since the 1970's, and all of which are currently in effect. This does not generally include management measures to address gear conflicts, harbour congestion, and reduction of harvesting pressure on localized stocks, unless such measures involve mobile bottom gear and the measures result in reduced damage and impacts on the sensitive bottom habitats and species.

PACIFIC

A. Measures Protecting Sensitive Marine Areas

1. Sensitive Ecosystem Features

Sponge Reef Closures

Closed year round to all bottom trawling, are four reef areas located in waters of the Eastern Queen Charlotte Sound and Hecate Strait. The following coordinates of each closed area are for information purposes only. Since 2006, the total area of the glass sponge reefs in BC has increased by 174 square kilometres due to the expansion of the area of reefs two and three.

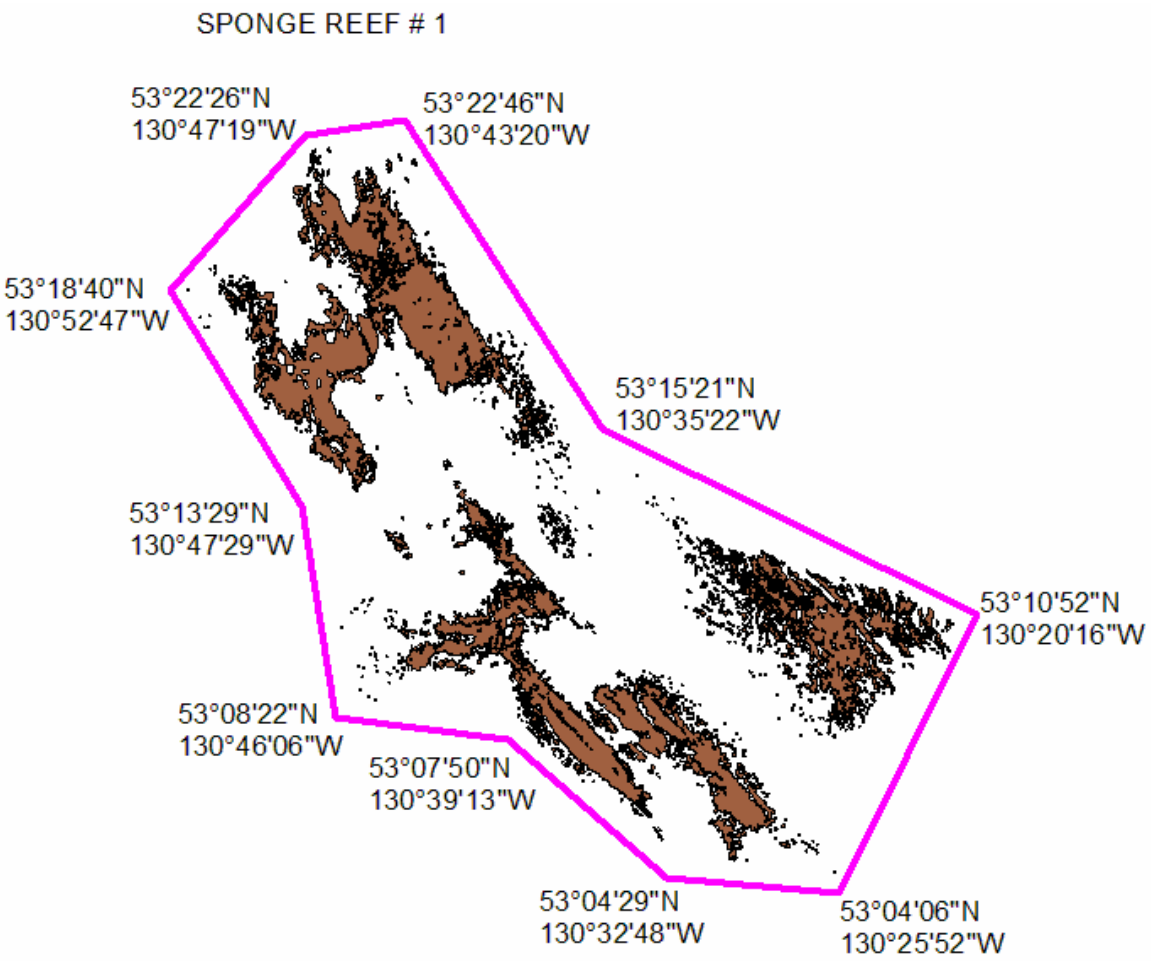
The intent of these closures is to provide protection for the four unique sponge reef ecosystems. These closures were last amended and came into effect for the 2007/2008 season. Fisheries and Oceans Canada will continue to monitor fishing activity in adjacent areas and should current measures not be providing needed protection further modifications to the closed areas or additional management measures may be considered**.**

Sponge Reef Number 1

Those waters of Sub areas 105-2 and 106-1 that lie inside a line that:

Begins at	53°18′40″N latitude	130°52′47″W longitude
Then southerly to	53°13′29″N latitude	130°47′29″W longitude
Then to	53°08′22″N latitude	130°46′06″W longitude
Then to	53°07′50″N latitude	130°39′13″W longitude
Then to	53°04′29″N latitude	130°32′48″W longitude
Then to	53°04′06″N latitude	130°25′52″W longitude

Then to	53°10′52″N latitude	130°20′16″W longitude
Then to	53°15′21″N latitude	130°35′22″W longitude
Then to	53°22′46″N latitude	130°43′20″W longitude
Then to	53°22′26″N latitude	130°47′19″W longitude
Then to the beginning point		



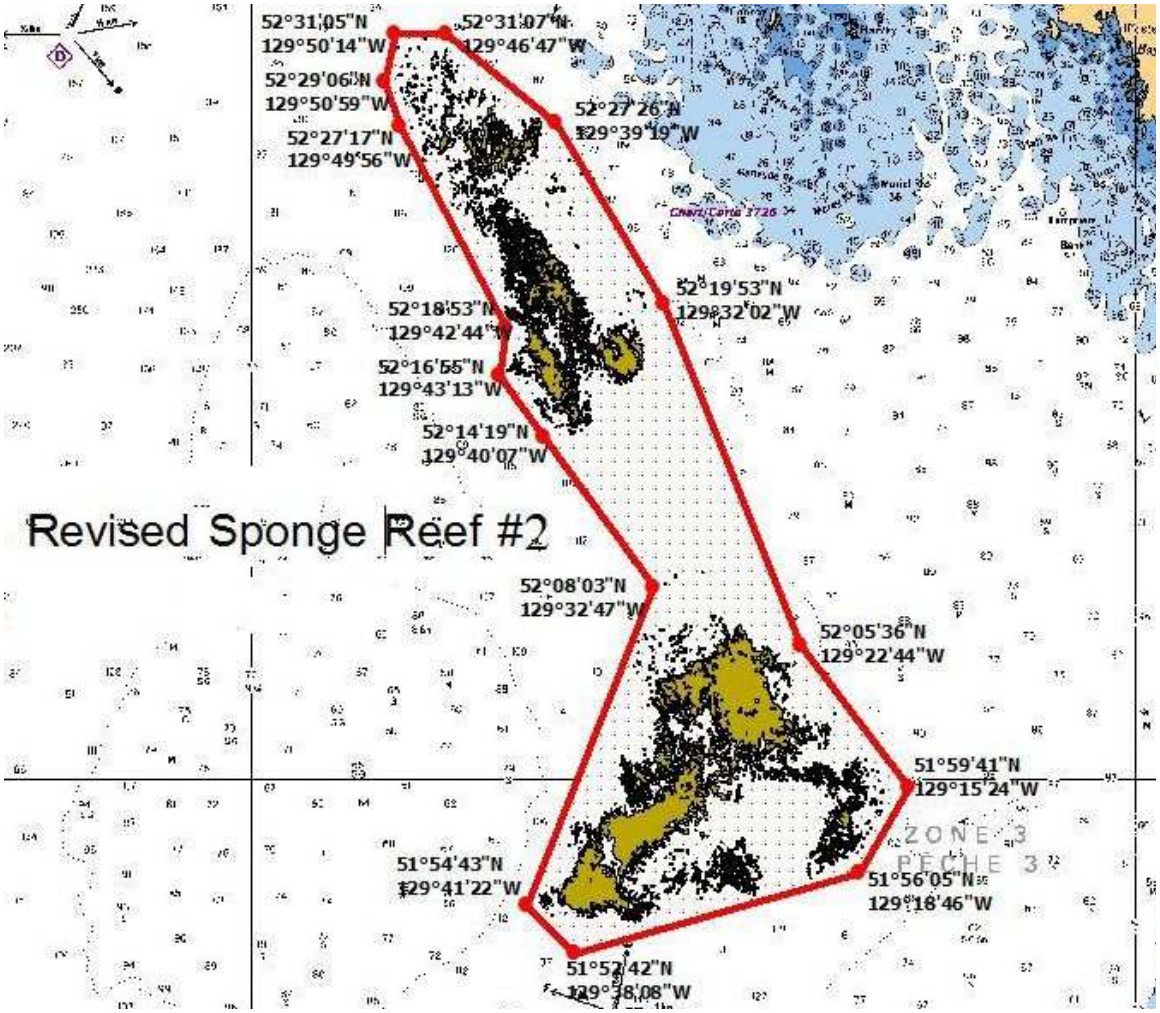
Sponge Reef Number 2[*]

Those waters of Sub areas 106-2 and 107-1 that lie inside a line that:

Begins at	52°31′05″N latitude	129°50′14″W longitude
Then southerly to	52°29′06″N latitude	129°50′59″W longitude
Then to	52°27′17″N latitude	129°49′56″W longitude
Then to	52°18′53″N latitude	129°42′44″W longitude
Then to	52°16′55″N latitude	129°43′13″W longitude
Then to	52°14′19″N latitude	129°40′07″W longitude

[*] Area closure has increased since 2006

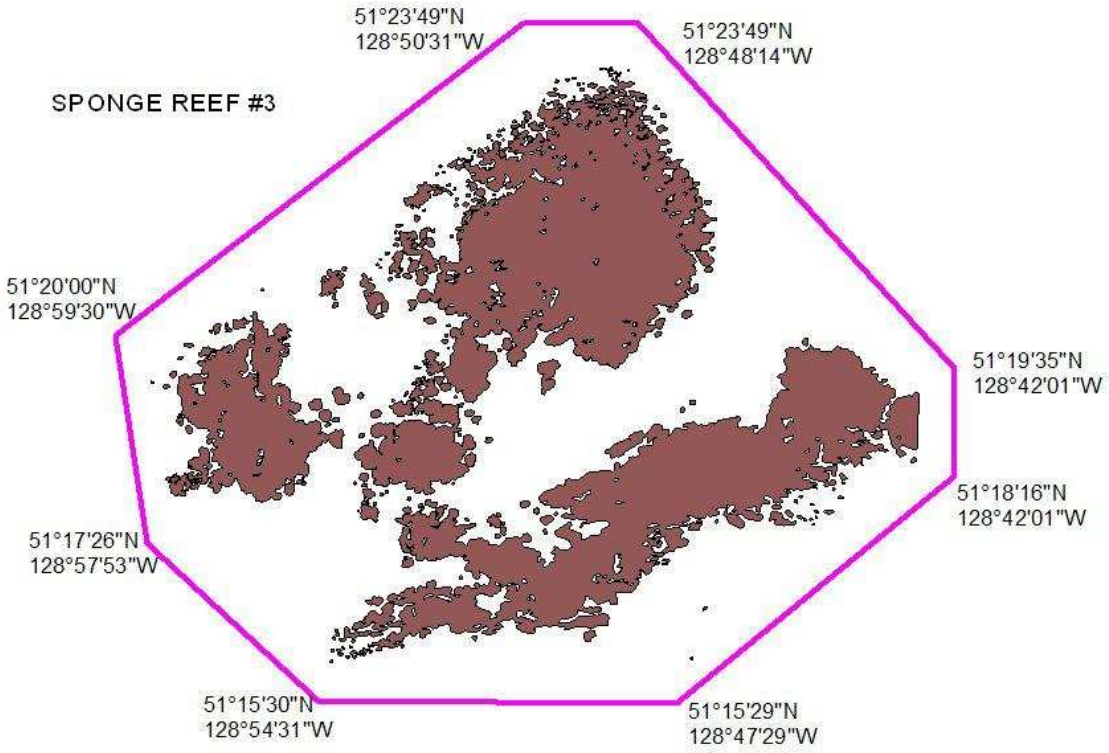
Then to	52°08′03″N latitude	129°32′47″W longitude
Then to	51°54′43″N latitude	129°41′22″W longitude
Then to	51°52′42″N latitude	129°38′08″W longitude
Then to	51°56′05″N latitude	129°18′46″W longitude
Then to	51°59′41″N latitude	129°15′24″W longitude
Then to	52°05′36″N latitude	129°22′44″W longitude
Then to	52°19′53″N latitude	129°32′02″W longitude
Then to	52°27′26″N latitude	129°39′19″W longitude
Then to	52°31′07″N latitude	129°46′47″W longitude



Sponge Reef Number 3[*]

The waters of Area 110 that lie inside a line that:

Begins at	51°23′49″N latitude	128°50′31″W longitude
Then southerly to	51°20′00″N latitude	128°59′30″W longitude
Then to	51°17′26″N latitude	128°57′53″W longitude
Then to	51°15′30″N latitude	128°54′31″W longitude
Then to	51°15′29″N latitude	128°47′29″W longitude
Then to	51°18′16″N latitude	128°42′01″W longitude
Then to	51°19′35″N latitude	128°42′01″W longitude
Then to	51°23′49″N latitude	128°48′14″W longitude
Then to the beginning point		



[*] Area closure has increased since 2006

Sponge Reef Number 4[*]

The waters of Area 110 that lie inside a line that:

Begins at	51°23′49″N latitude	128°50′31″W longitude
Then southerly to	51°20′00″N latitude	128°59′30″W longitude
Then to	51°17′26″N latitude	128°57′53″W longitude
Then to	51°15′30″N latitude	128°54′31″W longitude
Then to	51°15′29″N latitude	128°47′29″W longitude
Then to	51°18′16″N latitude	128°42′01″W longitude
Then to	51°19′35″N latitude	128°42′01″W longitude
Then to	51°23′49″N latitude	128°48′14″W longitude
Then to the beginning point		

Clayoquot Sound

Closed year-round to all trawling in Sub areas 24-1, 24-2, 24-4 to 24-12 and 24-14. The intent of this closure is to address shellfish interception and shallow water habitat concerns.

Johnstone, Georgia and Juan de Fuca Straits

There are a number of Sub areas within the Johnstone, Georgia and Juan de Fuca Straits that are closed to both bottom and mid-water trawling. The closures have been implemented for reasons that include: herring spawn areas, salmon/herring holding areas, conflicts with crab gear, harbour congestion and reduction of harvesting pressure on localized groundfish stocks. However, the bottom trawling closures reduce the damage that may be caused by bottom gear to sensitive bottom habitats and species.

The closures described in the following paragraphs may change in-season. Current Fisheries Public Notices should be referred to prior to fishing.

Satellite Channel

Closed year round in that portion of Sub area 18-6 inside a line: that begins at 48 deg 41.46 min N. lat. 123 deg 29.48 min W. long. then to 48 deg 41.96 min N. lat. 123 deg 28.178 min W. long. then to 48 deg 42.82 min N. lat. 123 deg 28.92 min W. long. then to 48 deg 42.32 min N. lat. 123 deg 30.23 min W. long. Then to the beginning point. (B.C. Provincial Ecological Reserve Number 67.)

Gulf - Bottom Trawl Closures by Sub area

Sub area(s)	Closure Description	Period Closed
12-6	Those portions of Sub area 12-6 inside a line commencing at Red Point on the	All year

[*] Map not available

Sub area(s)	Closure Description	Period Closed
	north-western shore of Harbledown Island, thence north-westerly to 50°38'N and 126°45'W, thence true east to 50°38' N and 126°35'W, thence true south to Dead Point on the northern shore of Harbledown Island, thence westerly along the north shore of Harbledown Island to the point of commencement at Red Point on Harbledown Island.	
12-20	Entire Sub area	All year
12-29, 12-34	Entire Sub areas	February 16 to April 30
12-39	Those portions of Sub area 12-39 inside a line commencing at Slope Point on the southern shore of Gilford Island, thence north-westerly in a straight line to the navigational light on Duff Islet in lower Fife Sound, thence north-easterly in a straight line to Powell Point on Gilford Island, thence southerly along the western shore of Gilford Island to the point of commencement at Slope Point.	All year
12-42	Entire Sub area	All year
12-46	Entire Sub area	February 16 to April 30
13-1 to 13-17	Entire Sub areas	All year
13-33,13-34	Entire Sub areas	All year
14-1,14-8	Entire Sub areas	All year
14-11,14-14,14-15	Entire Sub areas	All year
14-2 to 14-7	Entire Sub areas	April 1 to September30
14-9,14-10,14-12	Entire Sub areas	April 1 to September30
16-3,16-4	Entire Sub areas	All year
17-1,17-3,17-7	Entire Sub areas	All year
17-9,17-14,17-17	Entire Sub areas	All year
17-20,17-21	Entire Sub areas	All year
18-2	Entire Sub areas	All year
18-7, 18-8, 18-9	Entire Sub areas	All year
19-1,19-2	Entire Sub areas	All year
19-6 to 19-12	Entire Sub areas	All year
20-6,20-7	Entire Sub areas	All year
28-1 to 28-14	Entire Sub areas	All year
29-3,29-4,29-6	Shoreward of 100 m contour line as shown on CHS charts # 3463 and # 3512.	All year
29-7 to 29-17	Entire Sub areas	All year

2. Spawning Grounds/Spawning Biomass

Tide Marks

This period closure is identified each year within the appropriate Integrated Fisheries Management Plans for bottom contact fisheries. The following areas have period closures for all trawling in Sub area 130-2 and those portions of Areas 109 to 111 and Sub areas 108-2 and 130-1 west of a line: that begins at 51 deg 39.33 min N. lat. 130 deg 30.5 min W. long. then to 51 deg 48 min N. lat. 130 deg 00 min W. long. then to 51 deg 47 min N. lat. 129 deg 37 min W. long. then to 51 deg 28 min N. lat. 129 deg 48 min W. long. then to 51 deg 13 min N. lat. 129 deg 28 min W. long. then true south to 51 deg 04 min N. lat. 129 deg 28 min W. long. then to 50 deg 52 min N. lat. 129 deg 36 min W. long. The intent of this closure is to reduce harvesting pressure on Pacific Ocean perch stocks during the spawning period.

Hecate Strait/Dixon Entrance - Protection of Pacific Cod

This period closure is identified each year within the appropriate Integrated Fisheries Management Plans for bottom contact fisheries. The following areas have period closures for all trawling in area 105, and those portions of area 101, south of 54°12'N latitude and those portions of 102, 104, and Area 4 south of 54°10'N latitude, and Sub areas 4-3, 5-10, 5-11, 5-20 to 5-22, 106-1 and that portion of 102-2 north of 52°51'N. This action is to protect the spawning biomass of pacific cod found in Hecate Strait and Dixon Entrance.

Lower West Coast Vancouver Island - Protection of Pacific Cod

This period closure is identified each year within the appropriate Integrated Fisheries Management Plans for both bottom and mid-water trawling fisheries. The following areas have period closures for both bottom and mid-water trawling in those portions of Sub areas 123-3, 123-4, 123-5, 123-6, 124-1 and 124-3 that are found within the area bounded by a line that begins on the Vancouver Island shore near Amphitrite Point lighthouse at 48°55'N latitude 125°32'W longitude; then westerly to 49°04'N latitude 125°44'W longitude; then southerly to 48°55'N latitude 125°50'W longitude; then southerly to 48°47'N latitude 125°46'W longitude; then easterly to 48°44'N latitude 125°32'W longitude; then easterly to 48°49'N latitude 125°17'W longitude; then northerly along the surf line to the point of commencement. The intent of this closure is to reduce the harvesting of pacific cod during the spawning period.

B. Measures Protecting Sensitive Species (juvenile/undersized/sensitive bycatches)

General

Subject to Sections 7.3.1.1 and 7.3.1.2 of the Pacific Region Integrated Fisheries Management Plan for Groundfish for 2009/2010, the coast-wide mesh size in any part of a bottom trawl or mid-water trawl net, including the cod-end, shall not be less than 76 mm (approximately three inches).

In Areas 13 to 19 and 29: the mesh size in a bottom trawl net shall not be less than 108 mm (approximately 4.25 inches) in the final 50 meshes, including the cod-end. In all other parts of a bottom trawl net, the mesh size shall not be less than 76 mm (approximately three inches).

In Hecate Strait and Eastern Dixon Entrance: the mesh size in a bottom trawl net shall not be less than 140 mm (approximately 5.5 inches) in the last 100 meshes of the net, including the cod-end.

In all other parts of a bottom trawl net, the mesh size shall not be less than 76 mm (approximately three inches). This restriction applies to that area bounded on the south by 52°51'N in Hecate Strait, bounded on the north by the Canada/United States International boundary, bounded on the west by 132°00'W in Dixon Entrance, and bounded on the east by the mainland of British Columbia.

Pacific hake fishery

All bottom trawl nets and mid-water trawl nets, when used in fishing for pacific hake destined for delivery to a foreign fishing vessel licensed under the *Coastal Fisheries Protection Regulations*, shall have an escape panel fitted to permit the release of unwanted fish. This panel shall be located in the intermediate portion of the trawl net commencing at a point six feet from where the intermediate is attached to the cod-end. The panel shall be composed of not less than one row of meshes running parallel to the long axis of the intermediate for a distance of not less than six feet. The row(s) of mesh shall be cut and sewn with a length of twine or similar material having a breaking strength not exceeding 70 pounds.

McIntyre Bay/Masset

Closed to all trawling year-round in Sub areas 1-3, 1-4, 1-5 and 1-6. **The intent of this closure is to reduce harvesting pressure on localized stocks of fish, minimize the catch of juvenile halibut** and to provide improved access to food fish for the local First Nations.

Bocaccio Rockfish Measures

To address a concern for bocaccio rockfish identified through a Pacific Scientific Advice Review Committee (PSARC) review a voluntary program for the trawl fleet was developed and implemented in 2004 in which groundfish trawl vessels directed the proceeds of all landed bocaccio rockfish for research and management purposes. This action has greatly reduced bocaccio catches from recent historic levels will be continued in 2006/2007.

Hecate Strait/Dixon Entrance - Protection of Soft Shell Crabs

This period closure is identified each year within the appropriate Integrated Fisheries Management Plans for bottom contact fisheries. The following areas have period closures to bottom trawling in Sub areas 2-1, 2-2, 2-3, 102-1 and 104-5; that portion of

Sub area 101-7, south of 54°11'N, and east of 132°43'W; those portions of Sub areas 101-10 and 104-4, south of 54°15'N; that portion of Sub area 102-2, that is both north of 53°00'N, and west of 131°10'W; that portion of Sub area 104-2, that is both south of 54°15'N, and west of 131°10'W; that portion of Sub area 104-3, that is west of 131°10'W; that portion of Sub area 105-1, that is west of 131°10'W; that portion of Sub area 105-2, west of 131°10'W. The intent of this closure is to protect crabs during the soft-shell period.

Inshore Rockfish Conservation

Inshore Rockfish Conservation

There are 164 Rockfish Conservation Areas (RCAs) in place within BC waters. The most recent additions were implemented February 1, 2007 in the Strait of Georgia Area. RCA's have been identified and are used as a measure to protect inshore rockfish populations from harvest. Fishing activity is restricted within all the RCA's. Both groundfish and shrimp trawling are restricted and not permitted in RCA's. A description of all RCAs and the permitted fishing activity can be found at:

http://www.pac.dfo-mpo.gc.ca/recfish/Restricted_Areas/rca_e.htm.

ARCTIC

A. Measures Protecting Sensitive Marine Areas

1. Sensitive Ecosystem Features

Deep Sea Cold Water Corals and narwhal over-wintering area

Since 1998, an area identified as a narwhal over-wintering area in Davis Strait has had a license restriction in place that limits the time spent by vessels fishing for turbot in this area. Using any gear type, the maximum allowable fishing period allowed in this area for each vessel is four days per year. More recently, deep sea, cold water corals have been identified within this same area. This area is defined as the area bounded in the south by latitude 67°15'N, in the north by 68°15'N, in the east by NAFO Division 0A boundary and in the west by longitude 60°30'W. Thus, both the narwhal over-wintering site and the deep sea corals are protected by the limited fishing. This area is identified and protected through the *Fishery Management Plan for NAFO Sub area 0 Greenland halibut* developed by Fisheries and Oceans Canada, together with stakeholders.

While restrictions to trawls which might prevent damage to corals, this could result in the increase use of other gears, and thereby increase narwhal entanglements in long lines or gill nets for example. Discussions are underway with stakeholders considering a new management plan for the northern part of Davis Strait turbot fishery. Stakeholders

are being asked to indicate how they believe the area might be better protected. It is possible that a further reduction in fishing period, gear restrictions or a complete exclusion from this area could be enacted. At present, the uses of long-lines are being encouraged in Division 0A which would potentially decrease possible damage to deep sea corals. Some areas have been identified in the *Fishery Management Plan for NAFO Sub area 0 Greenland halibut* as off limits to mobile gear and the area of known hard corals could be included in the area banned to mobile gear during the management planning process.

Onboard observers are required to note by location any cetacean sightings or any time that corals are retrieved by fishing gear. Noting the retrieval of coral provides information as to how often fishing gear may be encountering coral areas and therefore provides some information as to the distribution of these corals.

2. Spawning Grounds/Spawning Biomass

As it is still uncertain exactly where and when spawning of turbot is taking place in Divisions 0A and 0B of Davis Strait, on board observers are being tasked with gathering more data from fish that are harvested in an attempt to determine when fish appear to be spawning and where this spawning may be occurring, with a view to consider future measures to protect such areas.

B. Measures Protecting Sensitive Species (juvenile/undersized/sensitive bycatches)

Under the *Fishery Management Plan for NAFO Sub area 0 Greenland halibut* there is a provision for using minimum gill net mesh sizes above or below a particular water depth as well as a maximum number and maximum length of gill nets that can be set. While the gill net mesh size was proposed primarily to limit the harvest of small turbot, it also provides additional protection to smaller species commonly harvested as bycatch. The limits as to the length of individual gill nets and the number that can be set at any given time was primarily designed to prevent the loss of nets due to ice movement. Under the plan, long line hooks are restricted to a minimum size to reduce capture of small fish and trawl mesh size is specified. All of the above limit the harvest of undersized turbot and assist in reducing bycatch.

Lost gear

A proposed change to the *Fishery Management Plan for NAFO Sub area 0 Greenland halibut* is to have a maximum gill net length and a maximum number of gill nets that can be in a gang and set at any time. Due to the possibility of ice moving into the area or fall storms limiting the ability of fishers to retrieve gear, limiting the amount of gear that can be fishing at any given time should mean that there will be sufficient time to pick up most if not all of the gear before boats are forced to move out of the area.

DFO Fisheries Management, in cooperation with the Nunavut Wildlife Management Board and the Baffin Fisheries Coalition, established a deadline for the removal of gill

nets from Division 0A in 2005 as a preventative measure with respect to rapidly changing ice conditions. It is probable that this measure will be repeated on an annual basis resulting in the loss of fewer, if any, gill nets when ice moves into the area.

ATLANTIC

A. Measures Protecting Sensitive Marine Areas

1. Sensitive Ecosystem Features

In the Atlantic, mobile bottom gear use has significantly reduced over the past 25-30 years. In 1977, with Canada's declaration of a 200 nautical mile exclusive fishing zone, foreign vessel activity, mostly by offshore bottom trawlers, reduced significantly. As well, offshore trawling for cod was prohibited in the southern Gulf of St. Lawrence. In 1993, with the collapse of many groundfish stocks, several groundfish fisheries caught with bottom trawl gear were closed, including cod, white hake and redfish, contributing to a major reduction in bottom trawling. In 1998, a much smaller groundfish fishery has re-opened, with much fewer Total Allowable Catches (TACs) and fewer vessels and 2003 saw a complete closure for the year. The fishing seasons have also been significantly reduced in the Gulf of St. Lawrence, from late April to December in the 1980's, to early July to October in the 2000's. This reduced activity has reduced the impacts of bottom gear on bottom marine areas in the Gulf and the Atlantic Coast.

Corals

Northeast Channel Coral Conservation Area: 424 square kilometres
This is an area of South West Nova Scotia in NAFO Area 4X5Z, which contains Octocrals (bubblegum and seacorn corals). The closed area is 424 km square and all fishing is prohibited in this area.

Lophelia Coral Stone Fence Conservation Area: 15 square kilometres
This area is located in the waters off eastern Nova Scotia in NAFO Subdivision 4Vs also known as the Stone Fence. This closure protects the only known living Lophelia perusa reef in Atlantic Canada. The closure is to all types of fishing gear and is 15 square kilometers. More information can be found on the Department of Fisheries and Oceans website as follows: http://www.marinebiodiversity.ca/lesley/corals-sheet5.pdf

Marine Protected Area - Gully Area: 2464 square kilometres
The Gully is the largest submarine canyon in eastern North America. Located off Nova Scotia near Sable Island, the Gully contains a rich diversity of marine habitats and species, including deep-sea corals and the northern bottlenose whale. The Gully was designated a Marine Protected Area in May 2004, providing lasting and comprehensive protection for this important marine habitat. The closure covers an area of 2464 square kilometers.

12 Mile Restriction
The offshore groundfish fleet using otter trawl vessels greater than 100 feet are prohibited from fishing with mobile gear all along the Canadian Atlantic coast, within 12

miles from the coast. This restriction applies to offshore license holders even if the vessel put temporarily on the offshore license is less than 65 feet (vessels greater than 65 feet are offshore vessels). While this restriction was originally imposed for gear conflict reasons, the restriction on use of bottom mobile gear in sensitive coastal waters reduces the threat and potential damage occurring on the bottom habitats, communities and species.

A similar buffer zone exists along Québec's Northshore and the Northern side of Gaspésie since 1985, where no mobile gear (shrimp trawls) may be used within 12 miles from the shoreline.

Scallop fishery

Scallop bottom mapping has significantly reduced the bottom impact by reducing the number of hours towed of the offshore scallop fleet by 100,000.

In the Gulf of St. Lawrence, several closures, buffer zones and other measures (wheels raise towbar 50.8mm off the bottom) exist to reduce disruption and protect lobster habitat (larval settling areas) and marine plants. These include:

Closure of area West of Confederation Bridge – Scallop Fishery Area (SFA) 22	2005	No use of mobile gear within area	Scallop Drags.
Use of runners / wheels on towbar	2002	Less disruptive of habitat: wheels raise towbar 50.8mm off the bottom.	Scallop drags
Coastal buffer within SFA22	2005	Protect lobster habitat (larval settling areas) & marine plants.	Scallop drags
Coastal buffer within SFA21A			Scallop drags
Coastal buffer within SFA21B	1997-1998		Scallop drags
Coastal buffer within SFA24			Scallop drags

The fishing season and effort have greatly reduced in this fishery since the 1990's. As well, discussions are underway to implement further coastal buffer zones in SFA 21B (on Gulf side), SFA 21C and SFA 23. Fisheries have also shown an interest in developing a commercial diving fishery which would replace existing mobile-gear licenses in this fishery. If implemented, this would allow continued harvest of scallops in the Gulf of St. Lawrence with virtually no impact on habitat.

3O Coral Closure*

Effective January 1, 2008 in NAFO Division 3O, harvesters shall not engage in any fishing activity involving gear which is designed to come into contact with the sea floor in the area defined by connecting the co-ordinates listed below. This includes, but not limited to, otter trawl, longline and gillnets. This area is closed for the protection of its habitat.

- 42 degrees 53' 00" N, 51 degrees 00' 00" W -
42 degrees 52' 04" N, 51 degrees 31' 44" W -
43 degrees 24' 13" N, 51 degrees 58' 12" W
- 43 degrees 24' 20" N, 51 degrees 58' 18" W -
43 degrees 39' 38" N, 52 degrees 13' 10" W
- 43 degrees 40' 59" N, 52 degrees 27' 52" W -
43 degrees 56' 19" N, 52 degrees 39' 48" W
- 44 degrees 04' 53" N, 52 degrees 58' 12" W -
44 degrees 18' 38" N, 53 degrees 06' 00" W -
44 degrees 18' 36 "N, 53 degrees 24' 07 "W
- 44 degrees 49' 59" N, 54 degrees 30' 00" W -
44 degrees 29' 55" N, 54 degrees 30' 00" W
- 43 degrees 26' 59" N, 52 degrees 55' 59" W -
42 degrees 48' 00" N, 51 degrees 41' 06" W -
42 degrees 33' 02" N, 51 degrees 00' 00" W

4X+5 Coral closure area* is described below by straight lines joining the following points in the order they are listed:

Point	North Latitude	West Longitude
1.	42° 04′ 00″N	65° 44′ 00″W
2.	42° 00′ 00″N	65° 45′ 00″W
3.	41° 55′ 30″N	65° 40′ 00″W
4.	42° 00′ 00″N	65° 40′ 00″W
5.	42° 04′ 00″N	65° 44′ 00″W

Orphan Knoll Seamount*: closure to all fishing activities involving demersal fishing gears, except approved exploratory fishing activities, defined by connecting the following coordinates (in numerical order and back to coordinate 1) from January 1, 2007 until December 31, 2010:

Point	North Latitude	West Longitude
1.	50° 00′ 30″N	45° 00′ 30″W

*Closure not in effect in 2006 at the time of the submission of the Canadian report.

* Closure not in effect in 2006 at the time of the submission of the Canadian report

2.	51° 00′ 30″N	45° 00′ 30″W
3.	51° 00′ 30″N	47° 00′ 30″W
4.	50° 00′ 30″N	47° 00′ 30″W

Corner Seamounts*: closure to all fishing activities involving demersal fishing gears, except approved exploratory fishing activities, defined by connecting the following coordinates (in numerical order and back to coordinate 1) from January 1, 2007 until December 31, 2010:

Point	North Latitude	West Longitude
1.	35°00′00″N	48°00′00″W
2.	36°00′00″N	48°00′00″W
3.	36°00′00″N	52°00′00″W
4.	35°00′00″N	52°00′00″W

Newfoundland Seamounts*: closure to all fishing activities involving demersal fishing gears, except approved exploratory fishing activities, defined by connecting the following coordinates (in numerical order and back to coordinate 1) from January 1, 2007 until December 31, 2010:

Point	North Latitude	West Longitude
1.	43°29′00″N	43°20′00″W
2.	44°00′00″N	43°20′00″W
3.	44°00′00″N	46°40′00″W
4.	43°29′00″N	46°40′00″W

New England Seamounts[*]: closure to all fishing activities involving demersal fishing gears, except approved exploratory fishing activities, defined by connecting the following coordinates (in numerical order and back to coordinate 1) from January 1, 2007 until December 31, 2010:

Point	North Latitude	West Longitude
1.	35°00′00″N	57°00′00″W
2.	39°00′00″N	57°00′00″W
3.	36°00′00″N	64°00′00″W
4.	35° 00′ 00″N	64°00′00″W

[*] Closure not in effect in 2006 at the time of the submission of the Canadian report

"Stone Fence" closure* – 12 sq. kilometres:

Point	North Latitude	West Longitude
1.	44° 29′ 30″N	57° 12′ 30″W
2.	44° 29′ 30″N	57° 10′ 00″W
3.	44° 27′ 30″ N	57° 09′ 00″W
4.	44° 27′ 30″N	57° 12′ 30″W

Northern Shrimp fishery
Closed Areas / No-Trawl & Gillnet Zone

In the late 1990s concerns surfaced among crab harvesters regarding suspected damage to cod and crab and crab habitat by the shrimp otter trawl fishery and observed bycatch of crab in the turbot gillnet fishery. In July, 2002 as part of a package of initiatives, the closure of a 20 x 20 nautical mile study area was announced in the Hawke Channel in NAFO Division 2J to gillnetting and trawling activity effective September 26, 2002. In July 2003, the closed study area in the Hawke Channel was expanded from 400 square nautical miles to 2500 square nautical miles. This measure to reduce mobile gear was intended to protect cod and crab, but also protected their habitat by reducing bottom damage. Variation orders as well as groundfish license conditions were used to establish this no trawl/gill net zone.

In 2004 another small area was established where usage of gill nets were prohibited in the Funk Island Deep area in NAFO Division 3K to protect cold water corals. In 2005, this area was expanded and became a no trawl zone as well.

Closure in the Bay of Chaleurs
Since 1995, the Bay of Chaleurs from the 10 fathom line is closed from September 1 to December 31 to all bottom trawl gear as a means of protecting lobster habitat in the area. According to regulations, the Bay of Chaleurs is closed to otter trawls from January 1 to December 31st. The only exception is a grandfather clause which permits a vessel to fish from September 1 to December 31, however that vessel has not been granted that condition previous to 1993. While this is a closure meant to address gear conflict issues, it has eliminated any bottom impacts that may have been caused by such gear.

2. Spawning Grounds/Spawning Biomass

Haddock Nursery and Spawning Ground

The 4VW Haddock Nursery area is very large and is closed to all fishing for groundfish by all gear types. In addition, there are spring closures in the Gulf of St. Lawrence to protect cod during their spawning season.

Approx 13, 000 square kilometers:

Point	North Latitude	West Longitude
1.	43o21'00"N	63o20'00"W
2.	43o01'00"N	63o20'00"W
3.	43o04'00"N	62o30'00"W
4.	43o04'00"N	62o00'00"W
5.	43o19'00"N	61o18'00"W
6.	44o02'00"N	61o18'00"W
7.	44o02'00"N	61o42'00"W
8.	43o42'00"N	62o44'00"W
9.	43o21'00"N	63o20'00"W

Browns bank haddock spawning area Feb 1 - May 31 closed to all groundfish for both mobile and fixed gear.

All of Georges Bank is closed most of February and from March 1-May 31. Closure initially designed as a haddock spawning area and it is closed to all fishing for groundfish for both mobile and fixed gear.

In addition, there are spring closures in the Gulf of St. Lawrence to protect cod during their spawning season. As well, the NAFO division of 4T located in the southern Cape of Gaspe has permanently closed the fishing for Greenland halibut in this area in order to protect the reproduction of the species.

Newfoundland and Labrador fisheries

A number of areas are currently closed to Lobster fishing around Newfoundland, in addition to the 2 closed Lobster fishing areas that have developed into the Marine Protected Areas in Eastport which was legislated in 2005. The establishment of closed areas in the lobster fisheries is a management measure developed through the lobster integrated fisheries management plan process since the early 1990s and is regulated through variation order. The lobster seasons have been shortened in recent years, and pot limits reduced.

Since the early 1990s, a herring closed area has been established to protect spring herring spawners on the West Coast of NL.

In 2002, a closed area to all groundfish fishing was established on the West Coast of Newfoundland and Labrador (Port au Port Bay) to protect cod spawners until June 24. As well, another closed area to the cod fishery from April 1 – June 24 was established to protect migrating cod into the Gulf of St. Lawrence.

There are established timeframes that are closed to protect cod spawning in NAFO subdivision 3Ps. In addition, the Burgeo Bank area is closed between November 15 – May 30 when the 2 cod populations of NAFO sub-division 4R3Pn and NAFO subdivision 3Ps interact and spawn.

Since the mid 1970s Herring Fishing Areas (HFAs) 12 and 13 have been closed to pelagic fixed gear along the Northern Peninsula of Newfoundland and Labrador from June 15 – July 31 in order to protect salmon. In 1998, this was amended to include a closed pelagic (herring) area within HFA 14 to cover an estuarine area (mouth of river). These closures are regulated through variation order.

There is a delayed opening of scallop fishery in Fortune Bay in order to protect lobster during their spawning season. The scallop fishery (dragging) is closed effectively between April 1 – August 31 and opens in September through variation order. This was established in 2002 and continues. There are currently discussions to establish the same measures in Fortune Bay.

Unit II redfish spawning closure April 1-June 30

Funk Island Deep closure to gillnets and mobile gear.

Gulf of St. Lawrence

In the Gulf of St. Lawrence, the spring fishery for scallops in SFA-24 was discontinued in 1997 to eliminate scallop dragging on lobster bottoms during spawning period.

As well, directed fishing for cod in the southern Gulf of St. Lawrence NAFO Subdivision 4Vn is closed from January 1 until June 23 annually, in order to protect spawning cod. An area spanning 2,146 km² and including portions of NAFO Subdivisions 4Ti, 4Tk and 4Tn is also closed annually to all groundfish fisheries to protect cod spawning grounds.

B. Measures Protecting Sensitive Species (juvenile/undersized/sensitive bycatches)

There are gear restrictions provided in the *Atlantic Fisheries Regulations* to minimize the bycatch or incidental catch and undersized catch. They include escape panels for lobster traps, maximum mesh sizes for crab traps, mackerel and herring nets, and prohibitions on the use of monofilament netting in the herring and mackerel fisheries. (Monofilament netting is also prohibited in the capelin fishery via license conditions.)

These Regulations and standard license conditions also include measures to minimize lost gear and hence reduce the destruction and bycatches caused by such lost gear.

They include the requirement to report any lost groundfish gillnets within 24 hours, and the requirement for lobster traps to have untreated wooden laths or uncoated twine/wire to ensure that if lost, the traps will decay and will not continue to fish.

Each fleet in the groundfish fishery must provide annual Conservation Harvesting Plans which include among other things, limitations on bycatch. Fisheries and Oceans Canada has implemented small fish and bycatch protocols in the groundfish fishery that restrict the harvest of small fish and incidental harvests. If either the small fish limit (15 per cent for most species) or the incidental harvest reaches or exceeds the prescribed levels in the fleets Plan, fisheries are closed until a successful test fishery is undertaken and it is determined that this is no longer a problem.

Other noteworthy measures to avoid incidental catches include:

Scallop fishery

Expert Opinions (EO) are completed annually to examine ways to reduce bycatch of groundfish by scallop fleet on Georges Bank. Based on EO and industry consultations small seasonal closures have been implemented on Georges Bank for all scallop vessels designed to reduce the bycatch of groundfish (mostly Cod and Yellowtail flounder) at a time when fish are concentrated for spawning. The closure is for varying months during February to end of March for cod and in May for Yellowtail flounder.

Shrimp and Silver hake fisheries

Resulting from concerns about the level of by-catch of groundfish species by the small-meshed shrimp trawls and the effect on their populations, an exclusion device known as the Nordmore Grate was introduced in the Canadian Northern shrimp fishery in 1993. This requirement was expanded to all shrimp fisheries at all times. This device sorts out the larger fish, allowing them to escape through an opening in the top of the net, while allowing the smaller shrimp to pass through and be retained in the cod-end of the net. With extensive use of the grate in recent years, groundfish mortality in Canadian shrimp fisheries has been reduced markedly, and virtually eliminated in the sensitive groundfish NAFO areas of 2J and 3KL[1].

By-catch reductions are also achieved through use of the Nordmore Grate for the silver hake fishery. As well, there is ongoing research by scallop vessels to reduce by-catch of groundfish in both these trawl fisheries.

Redfish fishery

Vessels are restricted from fishing with small mesh in water less than 50 fathoms in depth and fishing for redfish, when using small mesh gear(130 mm) is also prohibited in the following areas:

[1] The northern prawn trawl fishery became the first Canadian fishery certified by the Marine Stewardship Council (MSC) and is the largest MSC certified shrimp fishery in the world. See DFO Press Release: http://www.dfo-mpo.gc.ca/media/statement-declarations/2008/20080819-eng.htm

- that portion of the Bay of Fundy north of 43°30'00" Latitude North,

- that portion of waters in NAFO Division 4X enclosed by straight lines joining the following points the order in which they are listed from January 1 to June 30 each year (Browns Bank);

Point	North Latitude	West Longitude
1.	42°04'00"N	65°44'00"W
2.	42°40'00"N	64°30'00"W
3.	43°00'00"N	64°30'00"W
4.	43°00'00"N	66°32'00"W
5.	42°20'00"N	66°32'00"W
6.	42°20'00"N	66°00'00"W
7.	42°04'00"N	65°44'00"W

- That portion of the waters in NAFO Division 4X enclosed by straight lines joining the following points (Bowtie) the order in which they are listed from January 1 to December 31 each year.

Point	North Latitude	West Longitude
1.	43°27'00"N	65°12'00"W
2.	43°05'00"N	65°40'00"W
3.	42°40'00"N	65°40'00"W
4.	43°10'00"N	64°28'00"W
5.	43°27'00"N	65°12'00"W

Silver hake fishery

Fishing with small mesh for silver hake limited to only three areas being Emerald Basin, La have Basin and edge of Shelf known as small mesh gear line.

Georges Bank Fisheries

By-catches of scallop, cod, haddock and yellowtail flounder are accounted for in all Georges Bank fisheries. Specifically, scallop by-catch reserve (discards only), 12 per cent for cod, 1 per cent for haddock and 30 per cent for yellowtail flounder caught in other fisheries are accounted within each of the directed fisheries TACs set for these species. These amounts are removed from the directed fishery. Fisheries and Oceans Canada is currently examining the possibility to extend this concept to all other

areas/fisheries such as lobster, herring and other fisheries, where all by-catch is counted with a TAC. There are also by-catch quota caps on non quota stocks such as cusk and white hake.

Newfoundland and Labrador Fisheries

Trap net leader restrictions in conditions of license for all small pelagics have been established to minimize the by-catch of salmon and cod.

Groundfish license conditions stipulate limits for incidental by-catch including (but not limited to) cod, american plaice, yellowtail flounder and redfish.

There are defined dates for the bait fishery for herring that have been established to minimize by-catch of salmon. Herring bait fishery is closed from July 1 – August 14 in the license conditions.
Water depth and mesh size restrictions have been established through Groundfish conditions of license on groundfish gillnets to minimize crab and other by-catch.

Mobile gear depth restrictions were established through conditions of license to protect migrating cod populations for Western Newfoundland waters.

Atlantic walrus, grey whale, beluga and wolfish have been considered as species at risk and accordingly specific recovery plans are being developed to protect them and ensure their rebuilding. Management measures in the Groundfish license conditions stipulate that incidental catch of striped wolfish (of special concern) cannot exceed 10 per cent of total catch.

APPENDIX 3:

INTERNATIONAL GOVERNANCE STRATEGY: SCIENCE PROJECTS IN SUPPORT OF VMEs

Priority Issue	Science Objective	Project title
1. Identification, description, & mapping vulnerable marine ecosystems (VME)	i. Development of guidance and procedures for the identification of VMEs and mapping of VMEs.	• CBD workshop logistics & contribution • Workshop on EBSA/VME criteria in the North East Pacific
	ii. Research in support of identification, characterization and mapping of VME.	• Detailed Analyses of coral and sponge species distributions and abundance within the high seas NAFO Regulatory Area • Benthic surveys of VME in the NRA • Benthic surveys of Orphan Knoll • Connectivity and Uniqueness of Closed Areas in International Waters Adjacent to Canada • Deep-sea sponge taxonomy and distribution • Development of coral identification sheets for use in the high seas NAFO Regulatory Area • Surface area maps of coral and sponge VME within the Canadian EEZ and NAFO Regulatory Area • Assessment of existing habitat-related information available for known and predicted VMEs for the purposes of biological and physical characterization • Investments and participation in the Spanish multi-beam surveys in the NRA to detect and map VMEs • Development of a deep-sea (3000m) towed camera system • Characterizing noise environment and marine mammal assemblages for candidate VME on the Grand Banks and the NRA
	iii. Detection of VMEs: Research on rapid cost-effective methods for detecting VME.	• Validation of predictive models for detecting VME • Detecting VMEs in the NRA using the habitat template approach • Towards a predictive model to locate and map VMEs
2. Scientific & technical guidance on how to conduct assessments for activities which	i. Development of scientific and technical guidance for activities which may have significant	• Vulnerability and recovery potential of marine ecosystems following human impacts.

may have a significant adverse impact (SAI) on marine biodiversity.	adverse impacts.	
3. Determine if fishing activities are likely to have a SAI on VME and biodiversity, particularly low-productivity fishery resources.	i. Science advice on methods to identify, describe and assess SAI and the recoverability.	• Bottom impact comparisons using HD video. • Guidance on determining significant adverse impacts
	ii. Understand impacts of various fishing gears, vessels, and practices on VME and biodiversity, and determine those which may have SAI.	• National peer-review meeting on impacts of long lines and gill nets (including a contract to gather relevant information for discussion). • Assessment of bycatch impacts on biodiversity • Understanding the impacts of various fishing gears on VME and biodiversity.
4. Science-based encounter protocols	i. Advice on evidence of what constitutes an encounter (including thresholds) and appropriate measures	• Defining encounter protocols in the NRA. • National peer-review meeting to develop an encounter protocol framework for providing science advice.
5. Science advice to support the establishment of a network of representative marine protected areas (to be presented at the CBD Workshop in September 2009)	i. Science review and recommendation on biogeographic zones that would be used as the basis the establishment of a representative network of high seas marine protected areas in the NW Atlantic, North Pacific and Arctic.	• Workshop on biogeographic classification systems • Delineating ecoregions in the NW Atlantic to support the development of MPA networks • Comparison of ecologically and biologically sensitive marine areas in the NE Pacific. • Science in support of the establishment of a MPA network in the eastern Arctic.

APPENDIX 4:

THE EVOLVING APPROACH FOR ECOSYSTEM MANAGEMENT IN FISHERIES

Canada has developed the *Sustainable Fisheries Framework,* building on existing fisheries management practices, to form a foundation for implementing an ecosystem approach in the management of its fisheries. It incorporates existing policies for fisheries management conservation and sustainable use, governance, and economics with new and evolving policies using a phased-in approach. It also includes tools to monitor and assess results of conservation and sustainable use in order to identify areas that may need improvement.

The primary goal of the *Sustainable Fisheries Framework* is to ensure that Canada's fisheries are environmentally sustainable, while supporting economic prosperity. The Framework is designed to foster a more rigorous, consistent, and transparent approach to decision making across all key fisheries in Canada. It is expected that the Framework and its associated polices will be completed as part of a three-year Fisheries Renewal program planned to conclude in 2011. The implementation of the framework will be phased-in over time into operational Canadian fisheries.

The Framework comprises four main elements: conservation and sustainable use policies; economic policies; governance policies and principles; and planning and monitoring tools.

The conservation and sustainable use policies incorporate precautionary and ecosystem approaches into fisheries management decisions to ensure continued health and productivity of Canada's fisheries and healthy fish stocks, while protecting biodiversity and fisheries habitat. Combined, these polices demonstrate Canada's commitment to the principles of ecosystem-based fisheries management. The newest of these policies include:

- A Fishery Decision-Making Framework Incorporating the Precautionary Approach
- Managing Impacts of Fishing on Benthic Habitat, Communities and Species
- Policy on New Fisheries for Forage Species

The Framework and its policies will be implemented progressively over time. The phased approach is being done according to the priorities identified through planning sessions held across Canada throughout the year. The conservation and sustainable use policies, in particular, will be applied based on the needs of individual fisheries. The implementation of the framework, including changes to harvest arrangements, will be the subject of engagement with Aboriginal groups. The Framework will also continue to evolve as new policies and tools are created.

The implementation process will use adaptive management principles, whereby experience applying the policies to fisheries management will guide future applications. The Department will also review implementation progress after three years and use 'lessons learned' to make any necessary adjustments.

Integrated Fisheries Management Plans (IFMPs) will continue to play a critical role as the primary resource management tool through which the Framework's policies are applied. Fisheries managers, through engagement with industry and other interested parties, will begin by determining which fisheries require the most attention. Priorities may be determined based on a number of factors such as the identification of a common gap across similar fisheries, requirements for fishery eco-certification, domestic and international commitments, personnel or funding capacity at the Department, and industry readiness.

Once the priorities are set, management actions for a fishery will be determined in stewardship with stakeholders using the new IFMP template, which incorporates the following:

1) An overview of the fishery

2) The stock assessment and status, including ecosystem interactions, precautionary approach references and stock trends

3) Economics of the fishery, including the socio-economic profile, and viability and market trends

4) Management issues, including depleted species concerns, oceans and habitat considerations and gear impacts

5) Access and allocation elements, including any sharing arrangements

6) Short – and long-term sustainable fisheries objectives for stock conservation, the ecosystem, stewardship, socio-economic factors, and compliance

7) Management measures for the duration of the plan, including total allowable catch, fishing seasons and areas, control and monitoring of the harvest, decision rules, licensing requirements of the Species at Risk Act and habitat protections measures

8) The compliance plan

9) A performance review of management objectives

Protecting Canada's VMEs: Sensitive Benthic Marine Areas and Associated Species

As part of its commitment to ecosystem-based fisheries management and, bearing in mind the precautionary standards adopted at UNGA in 2006 regarding the identification

and protection of VMEs, Canada has developed the *Policy to Manage the Impacts of Fishing on Sensitive Benthic Areas*. This policy provides a more systematic, transparent, and consistent approach to addressing these issues in Canadian fisheries as it applies to all commercial, recreational, and Aboriginal marine fishing activities that are licenced and/or managed by DFO both within and outside Canada's 200-nautical mile exclusive economic zone.

The policy outlines separate processes for historically fished and frontier areas:

- A historically fished area is a marine ecosystem area where there is a history of fishing. This includes current ongoing fishing activity.

- A frontier area is a marine ecosystem area in deep water (deeper than 2000m) or in the Arctic where there is no history of fishing and little if any information available concerning the benthic features (habitat, communities and species) and the impacts of fishing on these features.

This two-fold approach was taken in response to the *2006 Canadian Science Advisory Secretariat (CSAS) report, Impacts of Trawl Gears and Dredges on Benthic Habitats, Populations and Communities (CSAS Science Advisory Report 2006/025)*, which suggests that there is a higher level of scientific uncertainty about benthic habitats communities and species in frontier areas. The report also notes that the greatest impact to vulnerable benthic habitats, communities, and species in a given area can be caused by the first few fishing events.

The policy thus requires greater precaution when fishing activities are being considered in frontier areas. It also gives special consideration to historically fished areas that have not been exposed to bottom-contact fishing. In particular, proposals for new bottom-contact fishing in historically fished areas will require risk assessments prior to proceeding.

The policy outlines the following key steps for both historically fished and frontier areas:

1) Assemble and map existing data and information that would help determine the extent and location of benthic habitat types, features, communities and species; including whether the benthic features (communities, species and habitat) situated in areas where fishing activities are occurring or being proposed are important from an ecological and biological perspective;

2) Assemble and map existing information and data on the fishing activity;

3) Based on all available information, and using the Ecological Risk Analysis Framework, assess the risk that the activity is likely to cause harm to the benthic habitat, communities and species, and particularly if such harm is likely to be serious or irreversible;

4) Determine whether management measures are needed, and implement such management measures; and,

5) Monitor and evaluate the effectiveness of the management measure and determine whether changes are required to the management measures following this evaluation.

The policy provides that ongoing fishing activities and proposals to expand fishing activities in historically fished areas would be processed through existing management planning processes, including regional advisory processes for harvesting management plans and IFMPs. Where such planning processes do not exist, new mechanisms to engage resource users and others with an interest in the resource will be developed. Engagement in the application of this policy is critical, and will be managed for the most part through regional offices of Fisheries and Oceans Canada.

Implementation of the New Policy: A Work in Progress

While formal implementation is expected to commence following completion of an Ecological Risk Analysis Framework, DFO has already started some of the work required to deliver the policy. For example, some regions have begun to map current and historical fishing activity to clearly delineate frontier and historically fished areas. Actions to protect sensitive benthic areas have also been taken by a number of regions that are consistent with the Policy (see Appendix 2 Inventory of Canadian Fisheries Management Measures).

The Ecological Risk Analysis Framework will be used to identify any risk levels that fisheries may pose to an ecosystem component so appropriate precautionary action may be taken. DFO will begin this process by developing a risk analysis framework of fishing impacts on corals and sponges. Within historically fished areas, DFO will conduct preliminary evaluations to help identify benthic areas that may be more at risk than others to help prioritize the work and actions required to mitigate or avoid harm.

APPENDIX 5:

INTEGRATED OCEANS MANAGEMENT IN CANADA

Historically, Canada has always placed an emphasis on the protection of our oceans. In 1996 Canada became the first nation in the world to enact a comprehensive piece of legislation regarding oceans, the *Oceans Act*. The Act is an enabling piece of legislation that allows for the establishment of integrated management processes which ensure that the appropriate management measures are applied for the long-term health of Canada's oceans ecosystems.

Integrated management (IM) is a collaborative approach to managing Canada's ocean resources. It enables decision makers responsible for ocean-based activities to manage these activities in a manner that will sustain a healthy marine environment and provide due consideration of other ocean users. By implementing an IM approach, Canada is working to ensure that the health of our marine ecosystems is maintained, user conflicts are addressed, the cumulative effects of activities within an ocean space are limited, and the use of our ocean resources and marine habitats are sustainable.

Implementation of Canada's approach to IM and the development of Integrated Management plans are built around an objective of ensuring the sustainable use of the resources and their habitats, including the protection of VMEs. As such, management decisions concerning oceans resources must be made with full consideration of their impact on our ecosystem. Canada's integrated and ecosystem-based management approach identifies areas which are of special concern and require additional protection, such as VMEs, and identifies the area as protected.

The Eastern Scotian Shelf Integrated Oceans Management Plan, released in 2007, is the first IM plan under the *Oceans Act*. This strategic-level plan provides direction and commitment for ecosystem-based and adaptive management of marine activities. The plan contains a comprehensive set of goals, objectives and strategies for collaborative governance and integrated management, sustainable human use and healthy ecosystems. The Eastern Scotian Shelf was selected due to its high level of living and non-living marine resources, significant areas of high biological diversity and productivity, and increasing levels of multiple use and competition for ocean space and resources.

Using ecosystem-based management within an IM framework, Canada has identified nineteen eco-regions (Appendix 7 Canada's Marine Ecoregions) and five Large Oceans Management Areas (LOMAs; See Appendix 8 Canada's Oceans Management Areas). For each LOMA, Canada has developed an Ecosystem Overview and Assessment Report (EOAR) which describes the status and trends of physical and biological aspects of their respective ecosystems, and identifies key linkages between the two (e.g. trophic structure). These reports were completed in 2007.

Each EOAR supports the identification of Ecologically and Biologically Significant Areas (EBSAs), degraded areas, depleted species, and Ecologically Significant Species/Community Properties (ESS/CPs). EBSAs are areas that have a particularly high

ecological or biological significance and require the provision of a greater-than-usual degree of risk aversion in the management of activities. Some of these areas may be sensitive to particular threats posed by human activities and require special management measures to achieve the protection required to maintain their ecological character.

EBSAs are one of the information sources used for identifying Areas of Interest for consideration as *Oceans Act* Marine Protected Areas, although Canada is examining a number of Areas of Interest located outside of the LOMAs, which have been brought forward because of their need for protection (Appendix 7 and 8).

APPENDIX 6:

MARINE PROTECTED AREAS (MPAs)

Canada uses MPAs as one of its area-based tools for oceans management. A Federal Marine Protected Areas Strategy produced in 2005 sets out a cooperative and collaborative approach to the development of a network of federal marine protected areas in Canada, which will expand to include provincial and territorial MPA protection measures as well.

Federal responsibility for the MPA network is shared between three authorities with mandated responsibilities to establish MPAs, Environment Canada, Fisheries and Oceans Canada and the Parks Canada Agency. Each of these federal authorities takes related but different criteria into consideration when identifying MPAs. The *Oceans Act* of Fisheries and Oceans Canada provides DFO with a leading and coordinating role in development of a network of MPAs.

Under the *Canadian Wildlife Act* Environment Canada has provisions to designate National Wildlife Areas which include Marine Wildlife Areas (MWAs) located beyond the 12 nautical mile territorial sea limit out to the 200 nautical mile EEZ limit. These areas are designated to protect and conserve habitat for a variety of wildlife including migratory birds and endangered species. At present, there are several Marine Wildlife Areas being considered as candidates for this designation.

Parks Canada has established National Marine Conservation Areas (NMCAs) and is responsible for both protecting these ecosystems and managing them for visitors to understand, respect and appreciate the NMCAs in a sustainable manner. They include the seabed, the water above it, and any species within that area. They may also include wetlands, estuaries, islands and other coastal lands.

Parks Canada currently has three designated NMCAs:

- Fathom Five National Marine Park of Canada
- Lake Superior National Marine Conservation Area of Canada*; and,
- Saguenay-St. Lawrence Marine Park

Section 35 of the *Oceans Act* sets out possible reasons for designating MPAs under that Act; namely:

> (*a*) the conservation and protection of commercial and non-commercial fishery resources, including marine mammals, and their habitats;

* New National Marine Conservation Area established since the release of Canada's 2006 Submission on Efforts and Action taken pursuant to Paragraphs 66 to 69 of United Nations General Assembly Resolution 59/25 to Identify, Manage and Protect Sensitive Marine Ecosystems and Species.

(*b*) the conservation and protection of endangered or threatened marine species, and their habitats;

(*c*) the conservation and protection of unique habitats;

(*d*) the conservation and protection of marine areas of high biodiversity or biological productivity; and

(*e*) the conservation and protection of any other marine resource or habitat as is necessary to fulfil the mandate of the Minister.

There are currently seven MPAs designated under the *Oceans Act*:

- The Endeavor Hydrothermal Vents, British Columbia
- The Gully, Nove Scotia
- Basin Head, Prince Edward Island
- Gilbert Bay, Labrador
- Eastport, Newfoundland
- The Musquash Estuary, New Brunswick
- The Bowie Seamount, British Columbia

Since 2006, two additional *Oceans Act* MPAs have been designated, the Musquash Estuary and the Bowie Seamount[1].

The Musquash Estuary

The Musquash Estuary is an internationally significant marine ecosystem located on the Atlantic coast of Canada on the Bay of Fundy. The Musquash Estuary is unique due to its size, expansive salt marshes, and relatively undisturbed natural condition. It is the largest ecologically-intact estuary in the Bay of Fundy, and exhibit's all of the dominant habitats related to biological communities found within the Bay of Fundy.

The purpose of the MPA is to protect and conserve the integrity of the estuarine ecosystem. The MPA Regulations prohibit the disturbance, damage,

The Bowie Seamount

The Bowie Seamount MPA (which includes Bowie, Hodgkins and Davidson seamounts) is a series of ancient subsea volcanoes (seamounts) located off the coast of British Columbia, Canada. From a bottom depth of nearly 3100 metres, the Bowie Seamount rises to within 25 metres of the ocean's surface and is the shallowest seamount in Canadian waters. Bowie represents a relatively uncommon shallow-water habitat in off-shore waters and is one of only five such seamounts in the Northeast Pacific Ocean.

The purpose of the MPA is to protect and conserve

[1] For a full description of MPAs designated under the *Oceans Act* previous to 2006, please refer to Canada's 2006 Submission

destruction or removal of any living organism or habitat within the Estuary.	the seamounts and their ecosystem. The MPA Regulations prohibit the removal, disturbance, damage and destruction of any living marine organism or any part of its habitat, including the seabed, within the MPA. Preliminary oceanographic studies and underwater photography have shown that the Bowie Seamount is a biologically rich area, with a dynamic and productive ecosystem. Many VMEs have been recorded in high densities and require protection as a vast number of fish and marine mammal species are dependent on the seamount for their health and survival.

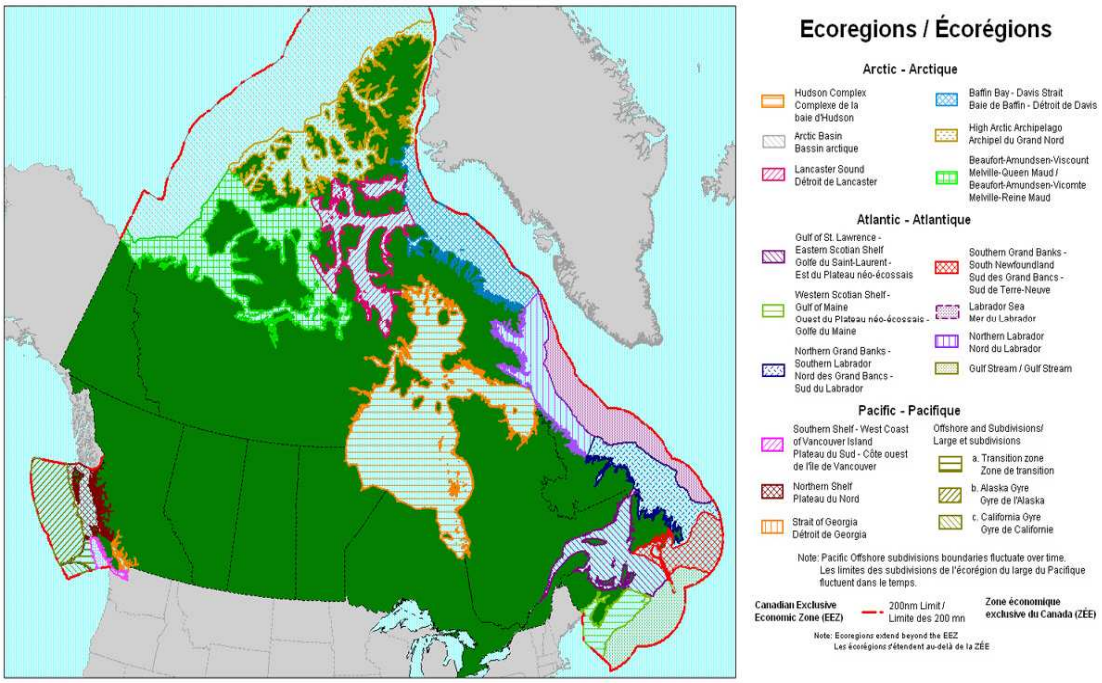
In addition to the seven designated MPAs, DFO has also compiled a list of current Areas of Interest which need to be examined further to determine whether an MPA designation is appropriate:

Area of interest	**Conservation Objective**
Manicouagan, Quebec	To protect and conserve the high diversity and productivity of the Manicouagan Peninsula's marine ecosystem, including several species at risk.
Tarium Niryutait, Beaufort, NWT	To conserve and protect beluga whales and the supporting ecosystem; to maintain a thriving population of beluga whales for optimum sustainable culturally important subsistence harvest by Inuvialuit.
St. Lawrence Estuary, Quebec	To conserve and protect cetaceans and harbour seals and their habitats and food resources.
Race Rock. B.C.	To conserve and protect a biologically diverse and highly productive ecosystem.
New Areas of Interest	6 new Areas of Interest are to be selected nationally in 2009, with anticipation of designation by 2012

APPENDIX 7:

CANADA'S MARINE ECOREGIONS

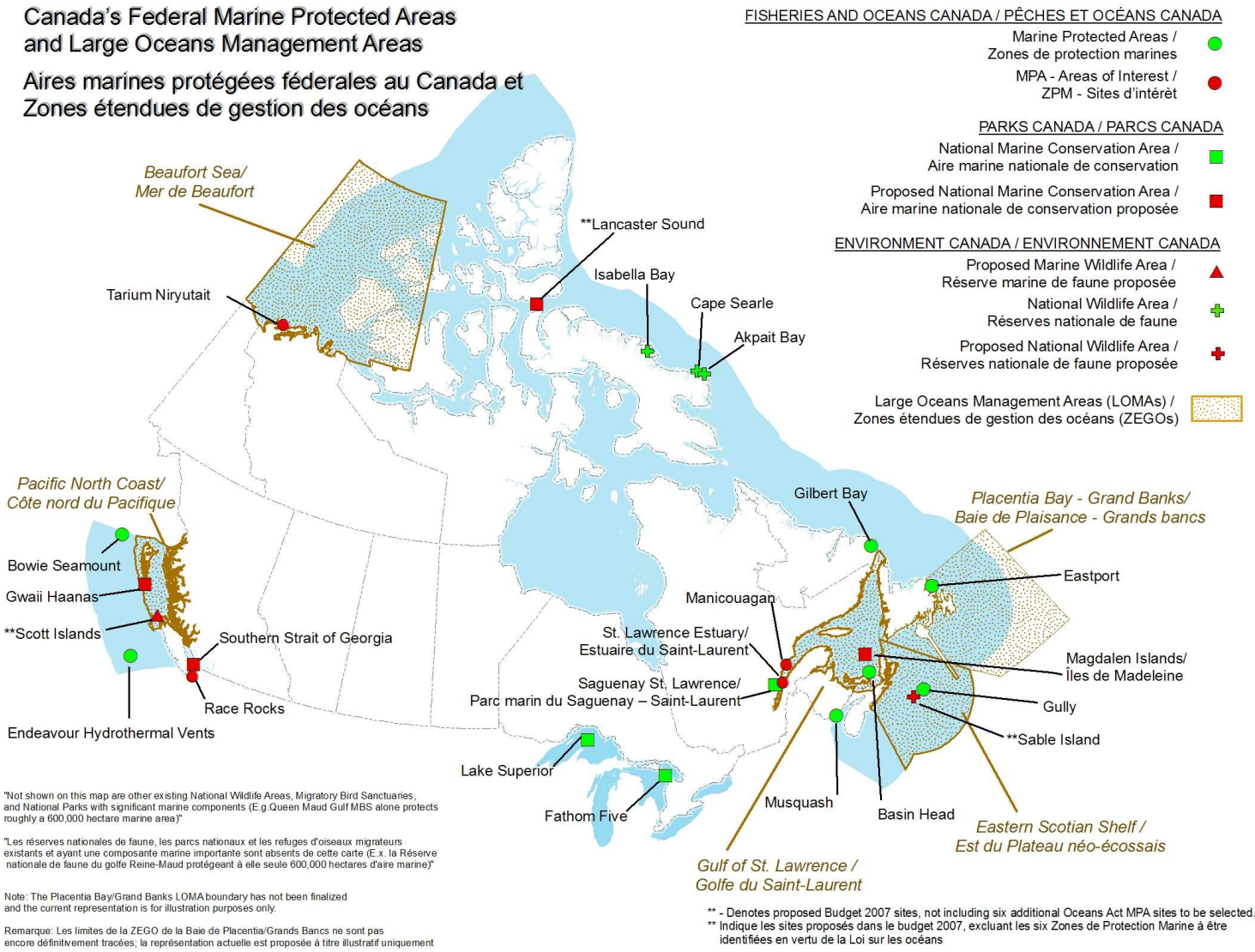
Figure 5. Canada's Marine Ecoregions
Figure 5. Écorégions marines du Canada



Powles, H., Vendette, V., Siron, R., and O'Boyle, R. 2004. Proceedings of the Canadian Marine Ecoregions Workshop. Canadian Science Advisory Secretariat Proceedings Series 2004/016. Department of Fisheries and Oceans, Ottawa, Canada. 47 p. Available online: http://www.dfo-mpo.gc.ca/csas/Csas/Proceedings/2004/PRO2004_016_B.pdf

APPENDIX 8 :

CANADA'S OCEANS MANAGEMENT AREAS – LARGE OCEAN MANAGEMENT AREAS, MARINE PROTECTED AREAS AND AREAS OF INTEREST



Oceans Directorate, Department of Fisheries and Oceans Canada, R. Kipping, April 2009.