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Canada

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Canada

Canadian
Coast Guard

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Safety First, Service Always

CANADIAN COAST GUARD

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A AIDS TO NAVIGATION AND MARINE SAFETY

A1 AIDS TO NAVIGATION

1 Canadian Aids to Navigation System and Private Buoy Regulations

CANADIAN AIDS TO NAVIGATION SYSTEM

The Canadian Aids to Navigation System is comprised of a mix of visual, aural and electronic aids to navigation which, when used singly or in combination, help the mariner to determine position and course, warn of dangers or obstructions and indicate the best or preferred route.

Visual Aids

Visual aids are short range aids to navigation including buoys, daybeacons, daymarks and lights. In Canada, a combined Lateral-Cardinal system of visual aids is used. Knowledge of the characteristics of each of these basic types of aids is a prerequisite to the safe use of the system.

Other Publications

For proper understanding and interpretation of their function, aids to navigation are to be used in conjunction with available marine publications, in particular, nautical charts, *List of Lights*, *Buoys and Fog Signals*, *Radio Aids to Marine Navigation*, *Sailing Directions*, the *Canadian Aids to Navigation System* booklet GPS/DGPS and the *Owner's Guide to Private Buoys*. Information concerning nautical charts and *Sailing Directions* may be obtained from the Canadian Hydrographic Service, Department of Fisheries and Oceans, Ottawa. (See Notice No. 14 for further details).

Retro-Reflective Material

Most buoys and many land-based aids are equipped with light retro-reflective material. This reflective material is coloured to signify the type or lateral significance of the aid and, for buoys at close range, displays the identification symbols, letters or numbers.

On lighted buoys, this material serves as a back-up to the light. On unlighted buoys, which are normally used in channels intended for daytime use, its role is to assist any vessel caught out after dark.

To make the best use of this retro-reflective material, the Canadian Coast Guard recommends that vessels depending on aids to navigation be equipped with searchlights to enable them to make use of this reflective material when necessary. It is recommended that large vessels be equipped with searchlights with at least 75,000 candelas, and small vessels carry a hand-held search light with at least a 3 watt bulb and 6 volt battery with a nominal power of 4,000 candelas.

Lateral Aids

The lateral system of buoyage in use in Canadian waters is IALA System B. Lateral aids may be in the form of either buoys or fixed aids. These aids indicate the location of hazards and of the safest or deepest water by indicating the side on which they are to be passed. The correct interpretation of lateral aids requires knowledge of the direction of buoyage known as the "upstream direction". The upstream direction is the direction taken by a vessel when proceeding from seaward, toward the headwaters of a river, into a harbour or with the flood tide. In general, the upstream direction is in a southerly direction along the Atlantic Coast, in a northerly direction along the Pacific Coast and in an easterly direction along the Arctic Coast. In some waters the upstream direction is indicated on the charts by the use of red lines and arrows.

When a vessel is proceeding in the upstream direction, starboard hand aids must be kept to starboard (right) and port hand aids must be kept to port (left).

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Cardinal Aids

Cardinal aids may be in the form of either buoys or fixed aids.

However, their predominant use is in the form of buoys in the Canadian system.

Cardinal aids indicate the location of hazards and of the safest or deepest water by reference to the cardinal points of the compass. There are four cardinal marks, North, East, South and West, which are positioned so that the safest or deepest water is to be found to the named side of the mark (e.g. to the north of a north cardinal mark).

Aural Aids

Aural aids are sound producing devices which serve to warn the mariner of a danger under low visibility conditions. Such aids include buoy-mounted bells and whistles which are activated by wave action and fog signals on shore. Most fog signals are operated when visibility is reduced to less than two nautical miles.

Electronic Aids

The electronic aids used in the Canadian system include radar reflectors, radar beacons (RACONs), radio beacons, Global Positioning System (GPS), and Differential GPS (DGPS).

Radar reflectors are passive devices which are used to strengthen the radar image of aids to navigation, whereas RACONs are active devices which, by means of a coded radar image, provide precise identification of the location they are marking.

Radio beacons provide a medium range capability for homing and position fixing purposes as well as for hazard identification.

The Global Positioning System (GPS) is a world-wide satellite-based radio navigation system, which transmits information that enables users equipped with suitable receivers, on land, at sea, or in the air, to establish their position, speed and time, at any time of the day or night and in any weather conditions.

Differential GPS is a method of improving the accuracy of the position derived from GPS receivers by correcting the inherent inaccuracies of the GPS signal and comparing it to a known geographic position.

Reference:

1. A detailed listing of all lighted visual aids and all fog signals is contained in the publication "List of Lights, Buoys and Fog Signals". <https://www.notmar.gc.ca/list-livre-en.php>
2. A detailed listing of all electronic aids is contained in the publication "Radio Aids to Marine Navigation" (DFO 5470 and 5471). <http://www.ccg-gcc.gc.ca/Marine-Communications/Home>
3. A complete description of the Canadian aids to navigation system is contained in the publication "The Canadian Aids to Navigation System". <http://www.ccg-gcc.gc.ca/aids/Canadian-Aids-To-Navigation-2011>

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PRIVATE BUOY REGULATIONS

The Private Buoy Regulations (PBR) defines a private floating aid as a buoy that is not owned by the federal government, a provincial government or a government agency.

The Canadian Coast Guard (CCG) considers any aid owned by a municipal government to be private.

In Canada, it is permissible for private individuals, clubs, corporations, municipal government or other groups to establish aids to navigation or mooring buoys for their own use. Such aids to navigation are known as "private aids" and those that are advertised in the List of Lights and on the charts are so identified. While private fixed aids may take a variety of forms, all private buoys must conform to the *Private Buoy Regulations*. These Regulations describe the colour, shape, size and markings required for each buoy as well as the responsibilities of the person(s) placing them. The requirements for the colour and shape of private buoys as well as their placement and use are the same as those for buoys provided by the Canadian Coast Guard. However, the identification markings used must conform to the *Private Buoy Regulations* rather than the number and letter identification system used by the Coast Guard.

Authority: Canada Shipping Act 2001, Private Buoy Regulations
Transport Canada (Navigation Protection Program)

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2 Cautions in the Use of Aids to Navigation

1. Mariners are cautioned not to rely solely on buoys for navigation purposes. Navigation should be by bearings or angles from fixed aids on shore or other charted landmarks and by sounding or through the use of satellite or radio-navigation systems, whenever possible.
2. Most aids to navigation are not under continuous observation and mariners should be aware that failures and displacements do occur. The Canadian Coast Guard does not guarantee that all aids to navigation will operate as advertised and in the positions advertised at all times. Mariners observing aids to navigation out of operation, out of position, damaged or missing are responsible for reporting such problems to the nearest Canadian Coast Guard Marine Communication and Traffic Services Centre on VHF Ch. 16 immediately or to the closest Canadian Coast Guard office.
3. Aids to navigation are subject to damage, failure and dislocation. This may be caused by ice, storms, vessel strikes and power failures. Ice and storm damage may be widespread and require considerable time to repair. Isolated damage may exist for a long time without being discovered and reported. Floating aids and pier lights in or near the water which are exposed to particularly rigorous strain during ice movement are at the greatest risk of damage.
4. Mariners are cautioned that aids to navigation may fail to exhibit their advertised characteristics. Lights may be extinguished or aural signals may not function due to ice, collisions, mechanical failure and, in the case of bell and whistle buoys, calm water. The shape of an aid to navigation may be altered by ice formation or damage. The colour of an aid to navigation may be altered by freezing spray, marine growth or fouling by birds.
5. The buoy positions shown on nautical charts should be considered as approximate positions. There are a number of limiting factors in accurately positioning buoys and their anchors. These factors include prevailing atmospheric and sea conditions, tidal and current conditions, seabed conditions and the fact that buoys are moored to anchors by varying lengths of chain and may drift about their charted positions within the scope of their moorings.
6. Since moving ice is liable to move buoys from their advertised positions, mariners should proceed with extreme caution under these circumstances.
7. Mariners are reminded that because of differences in horizontal datum (i.e. NAD 27, NAD 83), grids of charts of an area may vary from one chart to another. When plotting the positions of aids to navigation by the latitude and longitude method, the results should be checked against other available information.
8. In some instances, it is necessary to establish a buoy in close proximity to or on a navigational hazard (e.g. shoal, reef or ledge, etc.). In these instances, the buoy symbol may be off-set slightly on the chart in the direction of the preferred navigable water so that the existing hazard depicted on the chart will not be overprinted by the buoy symbol. Such off-sets will be indicated on the chart by means of an arrow.
9. Mariners are cautioned not to navigate too closely to a buoy and risk collision with it, its mooring or with the underwater obstruction which it marks.
10. Many lights are equipped with sun switches. These lights, both on shore and on most buoys, are unlit between sunrise and sunset. Mariners unable to see these lights during the daylight hours should not assume that the equipment is malfunctioning.
11. Many light stations which exhibit a main light 24 hours per day are equipped with an emergency light which is brought into service automatically in the event of failure. These emergency lights are white, have a standard character of group flashing (6)15s and operate throughout the hours of darkness. Emergency lights are normally visible at 5 nautical miles on a dark night with a clear atmosphere. The *List of Lights, Buoys and Fog Signals* publications identify which aids to navigation are equipped with emergency lights.

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12. Atmospheric conditions can have a considerable effect on light transmission and the visibility of lights. For example:
- (a) The distance to a light cannot be reliably estimated from its apparent brightness.
 - (b) It is difficult to distinguish between a white light and a yellow or blue light seen alone at night, except at a short distance.
 - (c) Under some atmospheric conditions, white and yellow lights take on a reddish hue.
 - (d) Alternating lights with phases of different luminous intensity may change their apparent characteristics at different distances because some phases may not be visible.
 - (e) When observed from similar distances, lower intensity lights are more easily obscured by conditions of low visibility than more powerful lights. Coloured lights are often of lower intensity than white lights and are more quickly lost under unfavourable circumstances.
 - (f) Ice, frost or moisture may form on the windows of a lantern during cold weather and more particularly this may reduce their visibility and could cause coloured lights to appear white.
 - (g) A light exhibiting a very short flash may not be visible at as great a range as a light exhibiting a longer flash.
13. The mariner should not rely solely on colour when using a sector light, but should verify the vessel's line of position by taking a bearing on the light. On either side of the line of demarcation, between white and red, and also between white and green, there is always a small arc of uncertain colour.
14. When the arc of visibility of a light is cut off by sloping land, the bearing at which it disappears or appears will vary with the observer's distance and height of eyes.
15. The sighting of a light may be adversely affected by a strongly illuminated background.
16. In view of the varying distances at which a fog signal can be heard at sea, and the frequent occurrence of fog near, but not observable from, a fog signal, mariners are cautioned that:
- (a) When approaching land in fog, they should not rely implicitly upon these fog signals, but should always take soundings, which in nearly all cases will give sufficient warning of danger.
 - (b) Distance from a fog signal should not be judged by the power of the sound. Under certain atmospheric conditions, the sound may be lost at a very short distance from the signal. These conditions may vary within a very short period of time. Mariners should not assume that a fog signal is not in operation because they do not hear it, even when in close proximity.
17. Visual aids to navigation provided by the Canadian Coast Guard are for the purpose of assisting marine navigation. Hunters, snowmobilers and ice fishers are cautioned that aids to navigation installed for marine navigation purposes cannot be relied upon after the closing of the marine navigation season. Such aids may stop operating without warning and will not be re-commissioned by the Canadian Coast Guard until the next opening of marine navigation season.

Continuous Improvement

The Canadian Coast Guard continuously strives to improve efficiencies in the provision of the Canadian aids to navigation system. In some instances, these efficiencies are achieved through the use and implementation of new products and technologies. These include, but are not limited to, changes in the use of plastic buoys rather than steel; and the use of LED lanterns. Mariners are advised that every effort has been made by the Canadian Coast Guard to ensure that new equipment provides safe and reliable aids to navigation systems. If there are any concerns, please contact the Aids to Navigation Superintendent in your region.

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Atlantic Region

The lights on the South Coast of Newfoundland from Cape St. Francis on the Avalon Peninsula to Cape Anguille on the shore of Cabot Strait and certain lights in Notre Dame Bay, Bonavista Bay, Trinity Bay, Conception Bay and Bay of Islands are exhibited all year. All other lights under the control of the Canadian Coast Guard are maintained in operation whenever navigation in the vicinity is open. Lights used solely as harbour lights are not exhibited when the harbour is closed, although general navigation may remain open. Lights which are primarily for the benefit of fishermen are maintained only during the fishing season. In any case where there is reasonable doubt whether the light is required, it is kept in operation. During the winter, some lighted buoys are replaced with winter spars so that it should not be assumed that there are no aids present even though the lights in a given area have been extinguished for the season. The details of all changes in aids to navigation will be described in Notices to Shipping.

The lights in the Bay of Fundy and along the Southwestern and Eastern Coast of Nova Scotia, the Coast of Cape Breton Island, including the Bras d'Or Lakes, the Coast of Prince Edward Island, and along the Northumberland Strait, and Chaleur Bay to the Québec Border, are exhibited year round.

Exceptions to the aforementioned lights are those lights listed as seasonal in the "Remarks" column of the *List of Lights, Buoys and Fog Signals*.

Range lights on the north shore of Prince Edward Island and the east shore of New Brunswick are liable to be moved to mark shifting channels.

All light buoys in the lower part of the Bay of Fundy west of a line drawn through Tufts Point on the New Brunswick shore east of Quaco Head, and Port Lorne light on the Nova Scotia shore; and on the south coast of Nova Scotia west of Liscomb, are maintained year round.

Due to difficulties in maintaining buoys through the winter months as a result of freezing spray and drift ice and the buoys being displaced or set adrift, the lifting of buoys in the upper part of the Bay of Fundy and along the Nova Scotia Coast and Cape Breton Island including the Bras d'Or Lakes and in the Gulf of St. Lawrence and Northumberland Strait to the Québec Border commence lifting November 15 and continue throughout the fall months depending on navigation activity in each area. A certain number of summer buoys are replaced by winter spar buoys. (Those buoys are indicated in the "Remarks" column of the *List of Lights, Buoys and Fog Signals*). Details on changes made to fixed and floating aids for the winter season are published every fall in a Notice to Shipping by the Maritimes Region and disseminated by means of a radio broadcast when changes occur.

Buoys marking the deep water channel to the Strait of Canso will remain on position unless otherwise advised by Notices to Shipping.

Some summer buoys are replaced by winter spar buoys.

Central and Arctic Region

The fixed lighted aids and fog signals are exhibited year round, except for the lights with the annotation "Seasonal" in the "Remarks" column of the *List of Lights, Buoys and Fog Signals*. Seasonal lights are maintained approximately from April 1st to December 20th, except in Hudson Strait and Hudson Bay which are maintained mostly from June 1st to December 1st.

All other lights under the control of the Canadian Coast Guard are maintained in operation whenever navigation in the vicinity is open.

Some fixed aids (which have been modernized to LED between Beauharnois and Traverse du Nord) are endowed with an emergency mode function resulting from the main light. To identify which range lights are provided with this emergency mode function, it is necessary to refer to the column "Remarks" of the *List of Lights, Buoys and Fog Signals*. Consequently, the range light showing a fixed characteristic **F** in the main mode will show an isophase light characteristic and a reduced output in the emergency mode, **ISO 1s (0.5s flash; 0.5s eclipse)**.

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A great number of conventional fixed lighted aids whose main light remains permanently lighted are equipped with emergency lights that turn on automatically at night if the main light is not working. These emergency lights operating temporarily have a different range and characteristic from the main light. To identify which main light is provided with an emergency light, it is necessary to refer to the "Remarks" column of the *List of Lights, Buoys and Fog Signals*.

Moreover, some range lights in restricted channels are equipped with a secondary light. This is a third light, which is neither the main light visible in line of range nor the emergency light: The characteristics of this light are different from those of the main or emergency light. This secondary light (for reference or positioning) is often visible over 360 degrees or for a given sector. Complete information concerning this light is available in the *List of Lights, Buoys and Fog Signals*.

Some floating aids are permanently replaced by new plastic or steel year-round lighted ice spars moored for a two-year period, and left in the water year round. You can obtain information on the characteristics of these buoys by consulting the *List of Lights, Buoys and Fog Signals*.

Details on changes made to the aids to navigation are published by broadcasted *Notices to Shipping* and/or written *Notices to Shipping* and may be available on the Canadian Coast Guard, Central and Arctic Region internet website at <http://www.marinfo.gc.ca>.

In general, buoys are commissioned in the spring (or during the summer in the Arctic) as early as ice conditions will permit and are lifted during the fall prior to the winter season.

For the winter season, many lighted buoys are replaced by winter spar buoys. Mariners are invited to contact the appropriate MCTS center or to consult the Canadian Coast Guard, Central and Arctic Region internet website at <http://www.marinfo.gc.ca> to obtain updates on the seasonal buoy tending activities and operations status report in their area.

The commissioning of seasonal aids may be delayed if weather and/or ice conditions preclude the operation of aids vessels. Mariners are urged to take every precaution and not to rely exclusively on aids to navigation.

NOTE:

Many buoys are lifted; while others remain in the water in an unmaintained status during the winter. Mariners, who use channels before the official opening of the navigational season, are cautioned that these buoys may or may not be in their advertised positions and may or may not be displaying proper characteristics. After the position and status of the floating aids have been verified, a Notice to Shipping will be issued advising mariners that the aids have been checked and are in a maintained status. Such Notices may be broadcast over the Coast Guard VHF radio network and may be available on the Canadian Coast Guard, Central and Arctic Region internet website at <http://www.marinfo.gc.ca>.

Western Region

The lights and buoys along the Pacific Coast are maintained in operation throughout the year. Details on changes made to fixed and floating aids are published in a Notice to Shipping by the Region and disseminated by means of radio broadcast when they occur.

In the spring, freshet conditions on the Fraser River cause the positions of floating aids to be unreliable. Displaced buoys on the Fraser River may be temporarily removed from service, in which case mariners will be advised by a Notice to Shipping.

The establishment and discontinuance of aids to navigation in the Mackenzie System are determined by prevailing ice conditions. Mariners are cautioned that floating aids are subject to displacement by ice and will be decommissioned and/or abandoned at the closing of the season as sea and ice conditions dictate.

The commissioning of seasonal aids may be delayed if weather and/or ice conditions preclude the operation of aids vessels. Mariners are urged to take every precaution and not to rely exclusively on aids to navigation.

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NOTE:

Most floating aids are removed at the end of the navigational season but small percentages are left in the water during the winter. Mariners, who use channels marked by such buoys before the official opening of the navigational season, are cautioned that these buoys may not be in their advertised positions due to storms and shifting ice caused by winter conditions. After the position and the condition of the aids have been verified, a Notice to Shipping will be issued to advise mariners that the aids have been checked and that the channels in each local area are open for navigation. Such Notices may be promulgated over the Coast Guard VHF radio network, or may appear in the monthly Notices to Mariners.

Authority: Canadian Coast Guard

3 Requirements Related to the Protection of Aids to Navigation

CANADA SHIPPING ACT, 2001

PART 5, Section 129

Obligation to report damage

- 129 (1)** If a vessel, or anything towed by a vessel, runs down, moves, damages or destroys an aid to navigation in Canadian waters, the person in charge of the vessel shall, without delay, make a report to a marine communications and traffic services officer or, if that is not feasible, to an officer of the Canadian Coast Guard.

Obligation to report — navigation hazard

- (2)** A person in charge of a vessel in Canadian waters who discovers an uncharted hazard to navigation, or discovers that an aid to navigation is missing, out of position or malfunctioning, shall make a report without delay to a marine communications and traffic services officer or, if that is not feasible, to an officer of the Canadian Coast Guard.

Reference: <http://laws-lois.justice.gc.ca/eng/acts/C-10.15/page-16.html>

CRIMINAL CODE

Section 439 of the *Criminal Code of Canada* provides:

- 439 (1)** Every one who makes fast a vessel or boat to a signal, buoy or other sea-mark that is used for purposes of navigation is guilty of an offence punishable on summary conviction.
- (2)** Every one who wilfully alters, removes or conceals a signal, buoy or other sea-mark that is used for purposes of navigation is guilty of an indictable offence and liable to imprisonment for a term not exceeding ten years.

Reference: <http://laws-lois.justice.gc.ca/eng/acts/C-46/page-91.html>

Authority: Justice Laws Canada
Transport Canada
Canadian Coast Guard
Canada Shipping Act, 2001
<http://laws-lois.justice.gc.ca/eng/acts/C-10.15/FullText.html>

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4 Measured Distances

<u>Location</u>	<u>Charts</u>
Mortier Bay, NL	4587
Panmure Island, PE	4422
Christian Island, ON	2283
Parry Bay, Victoria, BC	3410
Ladysmith Harbour, BC	3475
Sechelt Inlet, BC	3512
Celista Shuswap Lake, BC	3053

Note: Measured distances are privately maintained.

Authority: Canadian Hydrographic Service (CHS)

A2 MARINE MAMMAL GUIDELINES AND MARINE PROTECTED AREAS

5 General Guidelines for Aquatic Species at Risk and Important Marine Mammal Areas

The Federal Department of Fisheries and Oceans Canada is responsible for ensuring the protection and conservation of listed aquatic species at risk (including listed marine mammals and sea turtles), and for protecting the identified critical habitat of any species listed under the *Species at Risk Act* (SARA) as Endangered, Threatened or Extirpated (if a recovery strategy has recommended its reintroduction into the wild in Canada). Under s. 32 of SARA, it is an offence to kill, harm, harass, capture, or take individuals of a species at risk listed as extirpated, endangered or threatened. The Minister of Fisheries and Oceans may issue a permit authorizing a person to engage in activity that would otherwise contravene s. 32, but can only do so under certain specific circumstances. Similarly, pursuant to s. 58(5) (a) of SARA, the critical habitat of listed species at risk must be legally protected. Individuals who contravene the provisions of SARA may be found guilty of an offence and liable for a fine or penalty pursuant to s. 97 of SARA.

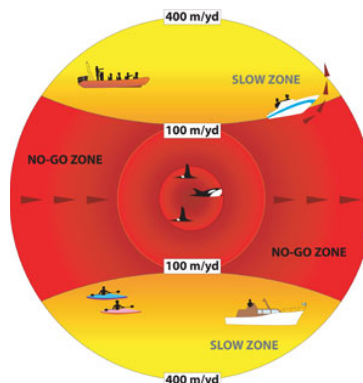
The *Marine Mammals Regulations* under the *Fisheries Act* prohibit any form of disturbance to marine mammals except when fishing for them under the authority of those Regulations. Disturbance includes, among other things, any intentional or negligent act resulting in disruption of their normal behavior. Disturbing cetaceans (whales, porpoises, dolphins, seals and sea otters) may cause them injury or harm and interfere with their natural behaviors, including feeding and socializing. Individuals who contravene the *Marine Mammal Regulations* may be found guilty of an offence and liable for penalty pursuant to s. 78 of the *Fisheries Act*. Careful adherence to the following guidelines will reduce the likelihood of disturbance.

General Guidelines when in the Vicinity of Marine Mammals

*In addition to the following general guidelines, some species such as the Killer Whale have special protection in Canadian and U.S. waters. Be sure to educate yourself about new protections, including regulations with specific distances and detailed recommendations by carefully reviewing the requirements outlined in the region or species below that applies to you.

1. BE AWARE: To view the most current information on the critical habitat of aquatic species at risk, visit: <http://open.canada.ca/data/en/ramp/ramp?keys=db177a8c-5d7d-49eb-8290-31e6a45d786c> or <http://www.dfo-mpo.gc.ca/species-especes/fpp-ppp/index-eng.htm>. For marine protected areas, visit: <http://open.canada.ca/data/en/ramp/ramp?keys=a1e18963-25dd-4219-a33f-1a38c4971250>.
2. BE CAUTIOUS and COURTEOUS: Approach areas of known or suspected marine wildlife activity with extreme caution. Look in all directions before planning your approach or departure.
3. SLOW DOWN: Reduce speed to less than 7 knots when within 400 metres/yards (0.215 nautical miles) of the nearest marine mammal. Avoid abrupt course changes.

Distance Requirements when around Marine Mammals



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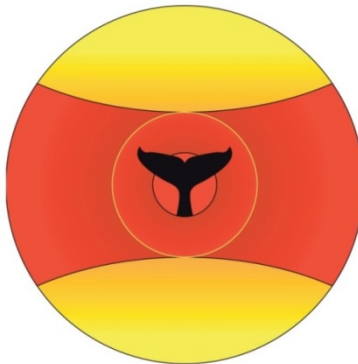
SECTION A – AIDS TO NAVIGATION AND MARINE SAFETY

4. DO NOT APPROACH or position your vessel closer than 100 metres/yards (0.054 nautical miles) to any marine mammal.* Please note: some species require greater minimum distances - please refer to individual species' needs in this Notice to Mariners.
5. If you are sailing in an area known to be frequented by marine mammals and the vessel has an auxiliary motor, let the motor idle or turn on the echo sounder to signal your presence.
6. If you are operating a small, motorized vessel in an area known to be frequented by marine mammals, turn on your echo sounder to signal your presence.
7. KEEP CLEAR of the marine mammal's path. If they are approaching you, cautiously move out of the way.
8. DO NOT APPROACH from the front or from behind. Always approach and depart from the side, moving in a direction parallel to the direction of the marine mammal.
9. DO NOT swim with, touch or feed marine wildlife.
10. DO NOT pursue, hunt, chase, follow, lure (bait), disperse, drive through, herd or encircle marine mammals.
11. Should dolphins or porpoises choose to ride the bow wave of your vessel, avoid a sudden course change. Hold course and speed, or reduce speed gradually.
12. Marine mammals may approach vessels; if they do, slow down, put the engine in neutral if it is safe to do so, and allow the marine mammals to pass. Be wary of any individual that appears tame, and keep clear of tail flukes. Wait until you are more than 400 metres (0.215 nautical miles) away before slowly resuming speed.
13. STAY on the OFFSHORE side of the marine mammals when they are traveling close to shore.
14. LIMIT your viewing time to a recommended maximum of 30 minutes. This will minimize the cumulative impact of many vessels and give consideration to other viewers.
15. REPORT any collisions with marine mammals, or sightings of entangled, injured or dead marine mammals to the Department of Fisheries and Oceans via the regional whale/marine mammal emergency hotlines or Coast Guard radio channels.

Commercial Whale Watching Flag (only used in some regions)

If a commercial whale watching vessel is flying a Whale Target flag (see below), the vessel is in the presence of whales. Please slow down and proceed with caution. Respect the general cetacean guidelines mentioned above.

Commercial Whale Watching Flag Emblem



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ATLANTIC REGION

North Atlantic Right Whale Critical Habitats

Species Status: Endangered

Threats: Collision with vessels, entanglement with fishing gear.

Characteristics of the North Atlantic Right Whale: V-shaped blow, no dorsal fin, deeply notched flukes, callosities (growths on the head).

Report any collisions with whales, entangled whales or dead whales to the whale emergency hotline (1-866-567-6277), VHF channel 16, or Fundy Traffic VHF channel 14. Report any sightings of right whales, including location, date, and photos to XMARwhalesightings@dfo-mpo.gc.ca.

Grand Manan Basin Critical Habitat

Guidelines (June - December):

- Vessels should avoid passage through this area if possible. Avoidance is the most effective means to eliminate or reduce acoustic disturbances and vessel collisions. A small portion of the Grand Manan critical habitat area overlaps with the outbound lane of the Bay of Fundy Traffic Separation Scheme and special precautions should be taken in this area.
- If passage through this area is required, decrease vessel speed to 10 knots or less and post a look-out to increase the likelihood of sighting and avoiding marine mammals. Increased caution must be exercised in conditions of reduced visibility, such as rain, fog, rough sea state, or at night. Be aware that marine mammals often travel in small groups dispersed over an area of several miles. Maneuver around marine mammals with caution (see general guidelines). Do not assume the whales will move out of the way.

Roseway Basin Critical Habitat and IMO-ADOPTED Area to Be Avoided (ATBA)

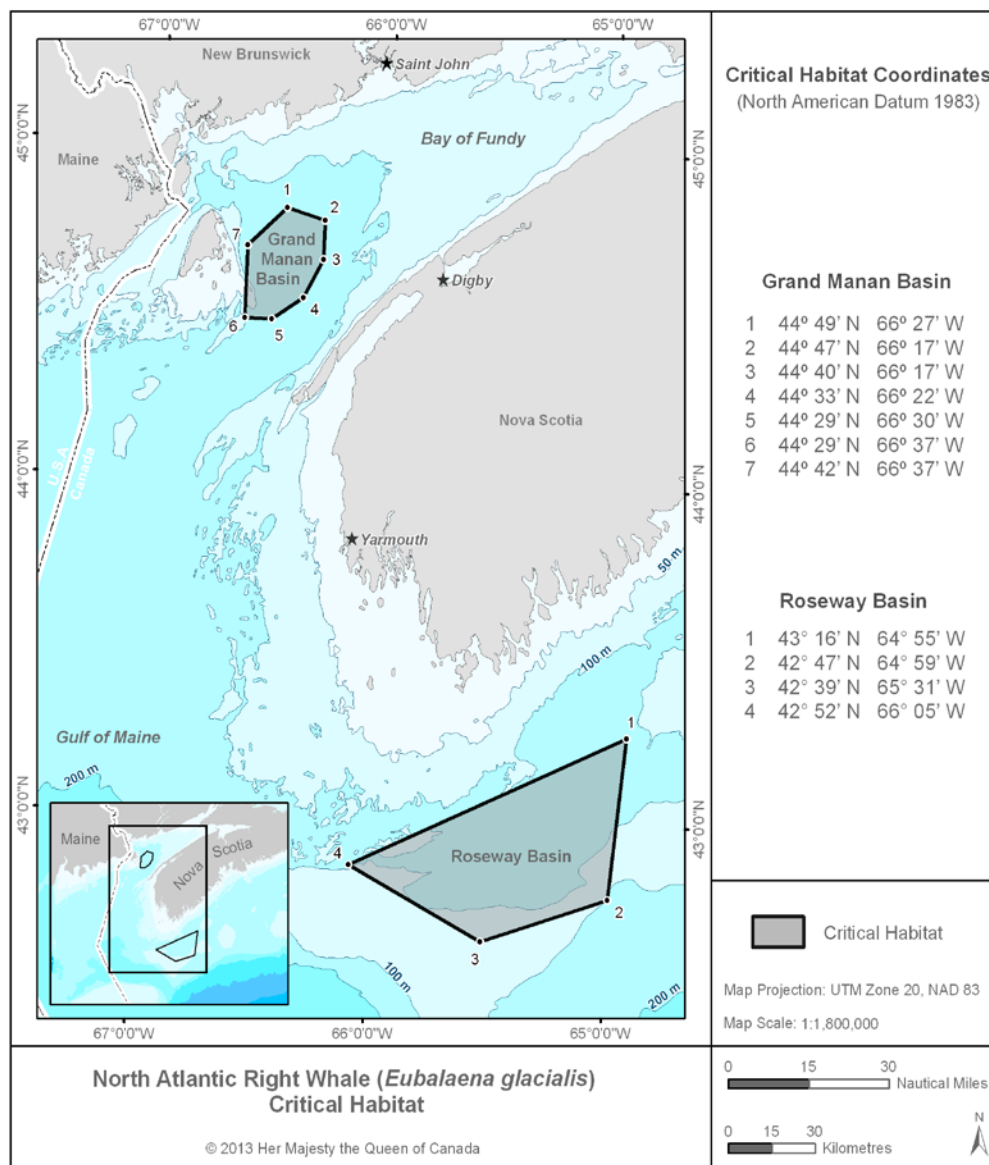
Guidelines (June - December):

- To significantly reduce the risk of vessel strikes on North Atlantic Right Whales, it is recommended that ships of 300 gross tonnages and upwards, solely in transit during the period of June 1st through December 31st, avoid the area. This routing measure has been adopted by International Maritime Organization (IMO) as a seasonal Area to be Avoided (ATBA) described in IMO. SN.1/Circ.263. October 2007.
- Smaller vessels are also asked to avoid passage through the area.
- If passage through this area is required, decrease vessel speed to 10 knots or less and post a look-out to increase the likelihood of sighting and avoiding marine mammals. Increased caution must be exercised in conditions of reduced visibility, such as rain, fog, rough sea state, or at night. Be aware that marine mammals often travel in small groups dispersed over an area of several miles. Maneuver around marine mammals with caution (see general guidelines). Do not assume the whales will move out of the way.

Learn more about the recovery strategy for the North Atlantic Right Whale at
http://www.sararegistry.gc.ca/virtual_sara/files/plans/rs_north_atl_right_whale_0609_e.pdf

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Scotian Shelf Northern Bottlenose Whale Critical Habitat

Species Status: Endangered

Threats: Underwater noise, entanglement in fishing gear, vessel strikes, contaminants, and changes to food supply.

Characteristics of the Scotian Shelf Northern Bottlenose Whale: Low bushy blow, bulbous forehead, sickle-shaped dorsal fin located approximately two-thirds of the way down the body, light grey to brown in colour, maximum length approximately 9 metres.

Report any collisions with whales, entangled whales, or dead whales to the whale emergency hotline (1-866-567-6277), or via VHF channel 16. Report any sightings of bottlenose whales, including location, date, and photos to XMARwhalesightings@dfo-mpo.gc.ca.

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Zone 1 of the Gully Marine Protected Area

Guidelines (year-round):

- The Gully is a designated Marine Protected Area under the *Oceans Act* (see Section 5A). Zone 1 of the Gully Marine Protected Area (i.e. the innermost of the three management zones) is also a critical habitat for Northern Bottlenose Whales (critical habitat coordinates are provided in the map below).
- Vessels should avoid passage through this area if possible. Avoidance is the most effective means to eliminate or reduce acoustic disturbances and vessel collisions.
- If passage through this area is required, decrease vessel speed to 10 knots or less and post a look-out to increase the likelihood of sighting and avoiding marine mammals. Increased caution must be exercised in conditions of reduced visibility, such as rain, fog, rough sea state, or at night. Be aware that marine mammals often travel in small groups dispersed over an area of several miles. Maneuver around marine mammals with caution (see general guidelines). Do not assume the whales will move out of the way.

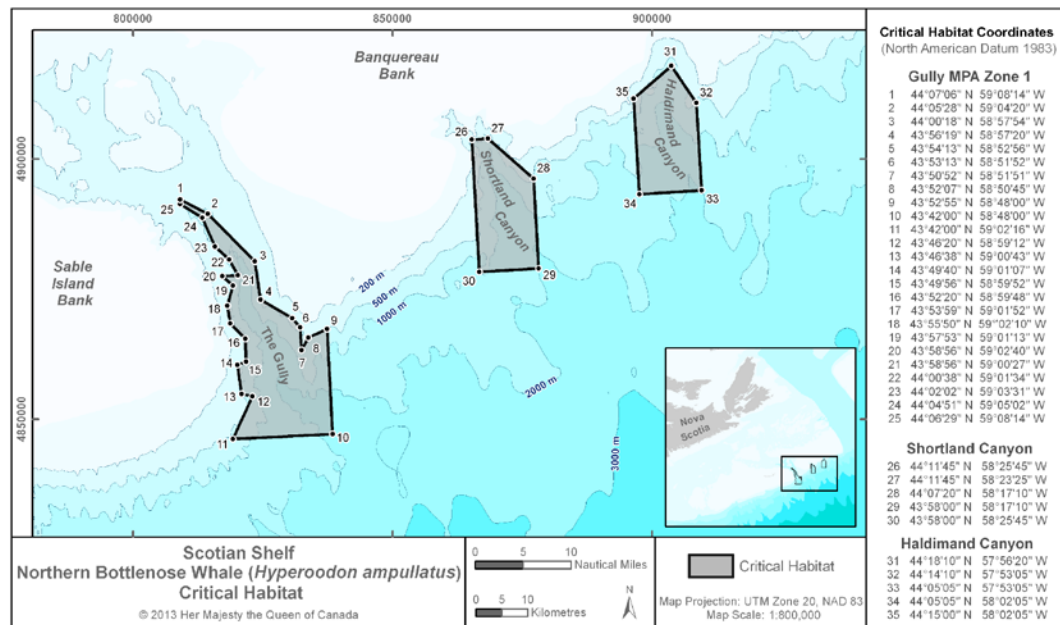
Shortland and Haldimand Canyons

Guidelines (year-round):

- Vessels should avoid passage through this area if possible. Avoidance is the most effective means to eliminate or reduce acoustic disturbances and vessel collisions.
- If passage through this area is required, decrease vessel speed to 10 knots or less and post a look-out to increase the likelihood of sighting and avoiding marine mammals. Increased caution must be exercised in conditions of reduced visibility, such as rain, fog, rough sea state, or at night. Be aware that marine mammals often travel in small groups dispersed over an area of several miles. Maneuver around marine mammals with caution (see general guidelines). Do not assume the whales will move out of the way.

Learn more about the recovery strategy for the Northern Bottlenose Whale at

http://www.sararegistry.gc.ca/virtual_sara/files/plans/RecoveryStrategy-NorthernBottlenoseWhale-v00-2016Jun07-Amended-Eng.pdf.



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WESTERN REGION

Northern and Southern Resident Killer Whales

Species Status: Threatened and Endangered, respectively.

Threats: Principal threats are environmental contamination, reductions in the availability or quality of prey, and both physical and acoustic disturbance.

Characteristics: The killer whale is the largest member of the dolphin family. Its size, striking black and white colouring and tall dorsal fin are the main identifying characteristics. Killer whales are mainly black above and white below, with a white oval eye patch, and a grey saddle patch below the dorsal fin.

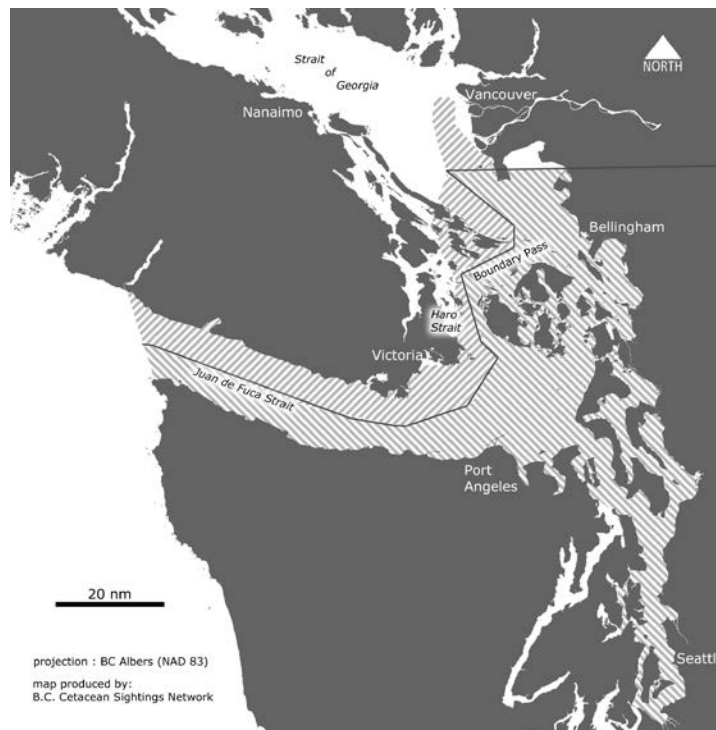
Report any collisions with whales, entangled whales or dead whales to the whale emergency hotline (1-800-465-4336) operated by the British Columbia Marine Mammal Response Network (BCMMRN), or to VHF channel 16. Sightings of whales, including location, date and photos, may be reported to BC Cetacean Sightings Network (BC) www.wildwhales.org, or 1-866-I SAW ONE.

Southern Resident Killer Whale Critical Habitat

Guidelines: Adhere to the *General Guidelines when in the Vicinity of Marine Mammals* as listed in Section 5 of this Notice to Mariners.

The critical habitat for Southern Resident Killer Whales includes the transboundary areas of southern British Columbia and Washington State. This includes Haro Strait and Boundary Pass and adjoining areas in the Strait of Georgia and the Strait of Juan de Fuca. This area is very important habitat for Southern Resident Killer Whales, especially in the summer and fall months when Chinook salmon are moving through the area.

Learn more about the recovery strategy for the Southern Resident Killer Whale at http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=699.



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Southern Resident Killer Whale Critical Habitat Boundaries

(Described clockwise from the western boundary - all Latitudes are Decimal Degrees North; all Longitudes are Decimal Degrees West.)

	Point Description	Latitude Deg	Latitude Min	Longitude Deg	Longitude Min
1	Western boundary	48	29.68	124	44.31
2		48	40.02	124	50.68
3	Excluding waters north of the line joining (Sooke Inlet)	48	21.30	123	44.32
4		48	20.33	123	42.90
5	Excluding waters north of the line joining (Royal Roads, Esquimalt Hbr, Victoria Hbr)	48	24.25	123	28.97
6		48	24.57	123	22.61
7	Excluding waters west of the line joining (Cordova Channel and Sidney Channel)	48	29.69	123	18.61
8		48	36.12	123	18.51
9	Excluding waters west of the line joining (western half of Miners Channel and the waters west of Gooch Island)	48	37.04	123	18.49
10		48	39.70	123	17.72
11	Excluding waters west of the line joining (western half of Prevost Channel and Moresby Passage)	48	39.88	123	17.68
12		48	42.96	123	19.63
13	Excluding waters west of the line joining (western portion of Swanson Channel between Moresby Island and Prevost Island)	48	43.34	123	19.88
14		48	48.86	123	22.70
15	Excluding waters west of the line joining (western portion of Trincomali Channel between Prevost Island and Parker Island)	48	50.66	123	23.33
16		48	52.61	123	23.92
17	Excluding waters west of the line joining (western portion of Trincomali Channel between Parker Island and Galiano Island)	48	52.85	123	23.92
18		48	53.08	123	23.76
19	Excluding waters west of the line joining (western portion of southern Strait of Georgia)	48	54.28	123	20.67
20		48	55.39	123	21.98
21		49	0.00	123	18.88
22		49	10.39	123	22.82
23		49	13.58	123	21.97
24	Excluding waters north of the line joining (portion of southern Strait of Georgia)	49	13.58	123	21.97
25		49	14.00	123	21.09
26		49	14.18	123	19.22
27		49	13.79	123	17.21
28	Excluding waters north and east of the line joining (portion of southern Strait of Georgia)	49	13.79	123	17.21
29		49	12.87	123	15.75
30		49	9.01	123	16.48
31		49	3.39	123	9.24
32		49	3.47	123	8.48
	And bounded on the east and south by Point Roberts and the United States Border				

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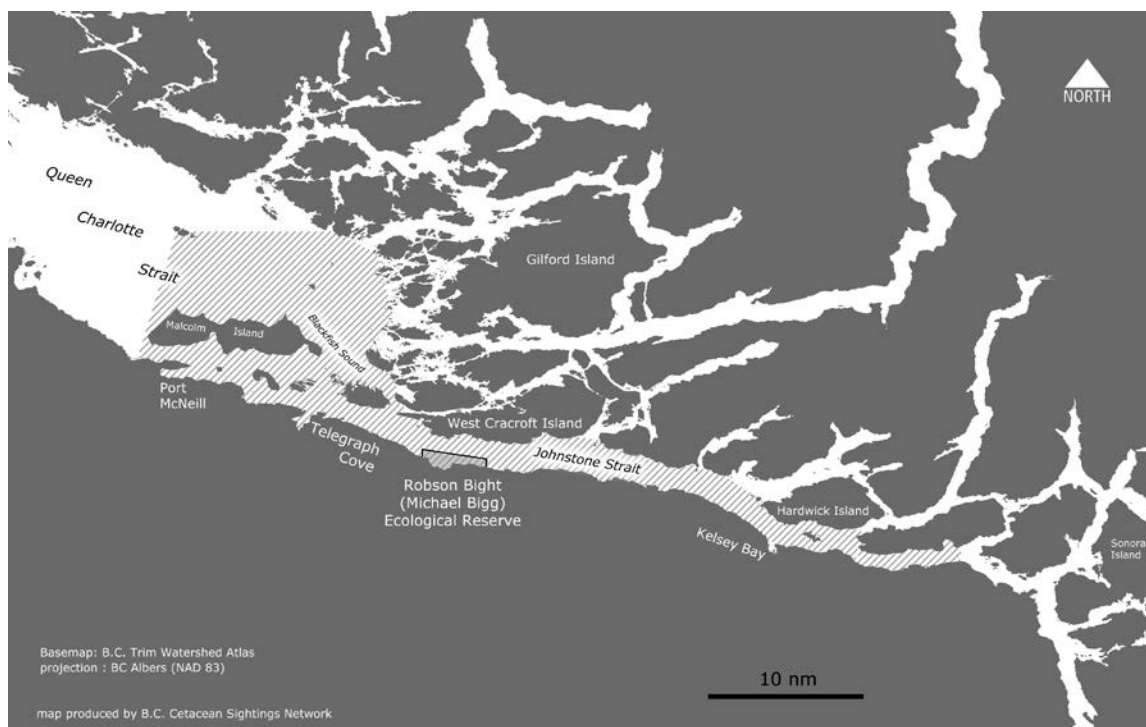
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Northern Resident Killer Whale Critical Habitat

Guidelines: Adhere to the *General Guidelines when in the Vicinity of Marine Mammals* as listed in Section 5 of this Notice to Mariners.

The critical habitat for Northern Resident Killer Whales includes the waters of Johnstone Strait and south-eastern Queen Charlotte Strait, and the channels connecting these straits. This area represents a very important concentration area for northern resident whales.

Learn more about the recovery strategy for the Northern Resident Killer Whale at http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=698



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Northern Resident Killer Whale Critical Habitat – Boundaries

(Described clockwise from the western boundary-all Latitudes are Decimal Degrees North; all Longitudes are Decimal Degrees West.)

	Point Description	Latitude Deg	Latitude Min	Longitude Deg	Longitude Min
1	Western boundary (Vancouver Island to Numas Island)	50	36.98	127	11.00
2		50	46.24	127	6.76
3	Northern boundary (Numas Island to Broughton Island)	50	46.27	127	5.26
4		50	46.41	126	48.27
5	Northern boundary (Broughton Island to Screen Island / Eden Island)	50	46.13	126	47.30
6		50	44.95	126	43.55
7	boundary line running from Eden Island to Crib Island (including waters of Queen Charlotte Strait and excluding waters of Trainer Passage)	50	44.79	126	43.22
8		50	43.67	126	42.73
9	boundary line running from Crib Island to House Ilet (including waters of Queen Charlotte Strait and excluding waters of Arrow and Spring Passages)	50	43.33	126	42.58
10		50	40.16	126	41.21
11	boundary line running from House Ilet to Swanson Island (including waters of Queen Charlotte Strait and excluding waters of Knight Inlet)	50	40.16	126	41.21
12		50	37.75	126	43.86
13	boundary line running from Swanson Island to Compton Island (including waters of Blackfish Sound excluding waters of West Passage)	50	36.06	126	41.77
14		50	35.84	126	41.42
15	boundary line running from Compton Island to Harbledown Island (including waters of Blackfish Sound excluding waters of Whitebeach Passage)	50	35.50	126	40.86
16		50	35.38	126	40.68
17	boundary line running from Harbledown Island to Parson Island (including waters of Blackfish Sound excluding waters of Parson Bay)	50	35.19	126	40.93
18		50	34.43	126	40.73
19	boundary line running from Parson Island to West Cracroft Island (including waters of Blackfish Sound excluding waters of Baronet Passage)	50	33.65	126	39.95
20		50	32.98	126	39.73
	Waters of western Johnstone Strait bounded on the north by West Cracroft Island, the mainland, Hardwicke Island and West Thurlow Island with no exclusions except:				
24	boundary line running from West Cracroft Island to the mainland (including waters of western Johnstone Strait excluding waters of Havannah Channel)	50	31.32	126	20.35
25		50	31.09	126	17.05
26	boundary line running from the mainland to Hardwicke Island (including waters of western Johnstone Strait excluding waters of Sunderland Channel)	50	28.46	126	2.54
27		50	26.57	125	57.94
28	boundary line running from Hardwicke Island to Eden Point on West Thurlow Island (including waters of western Johnstone Strait excluding waters of Chancellor Channel)	50	24.58	125	48.29
29		50	23.91	125	47.38
30	boundary line running from Eden Point to Tyee Point on West Thurlow Island (including waters of western Johnstone Strait excluding waters of Vere Cove)	50	23.91	125	47.38
31		50	23.26	125	47.06
32	Eastern boundary line running from West Thurlow Island (including waters of western Johnstone Strait excluding waters of eastern Johnstone Strait and Mayne Passage)	50	23.42	125	34.39
33		50	21.88	125	34.23
	Waters of western Johnstone Strait bounded on the south by Vancouver Island - no exclusions except:				
35	boundary line running from Graveyard Point to Kelsey Bay Harbour on Vancouver Island (including waters of western Johnstone Strait excluding waters of Salmon Bay)	50	23.45	125	56.71
36		50	23.80	125	57.62

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CENTRAL AND ARCTIC REGION

St. Lawrence Beluga Whale Critical Habitat

Species status: Threatened

Threats: Contaminants, noise, disturbance, habitat degradation, ship strikes and entanglement in fishing gear.

Characteristics of the St. Lawrence Beluga: adults are white; young are grey; rounded bump on the head (melon), no dorsal fin, adults between 2.5 and 4.5 metres.

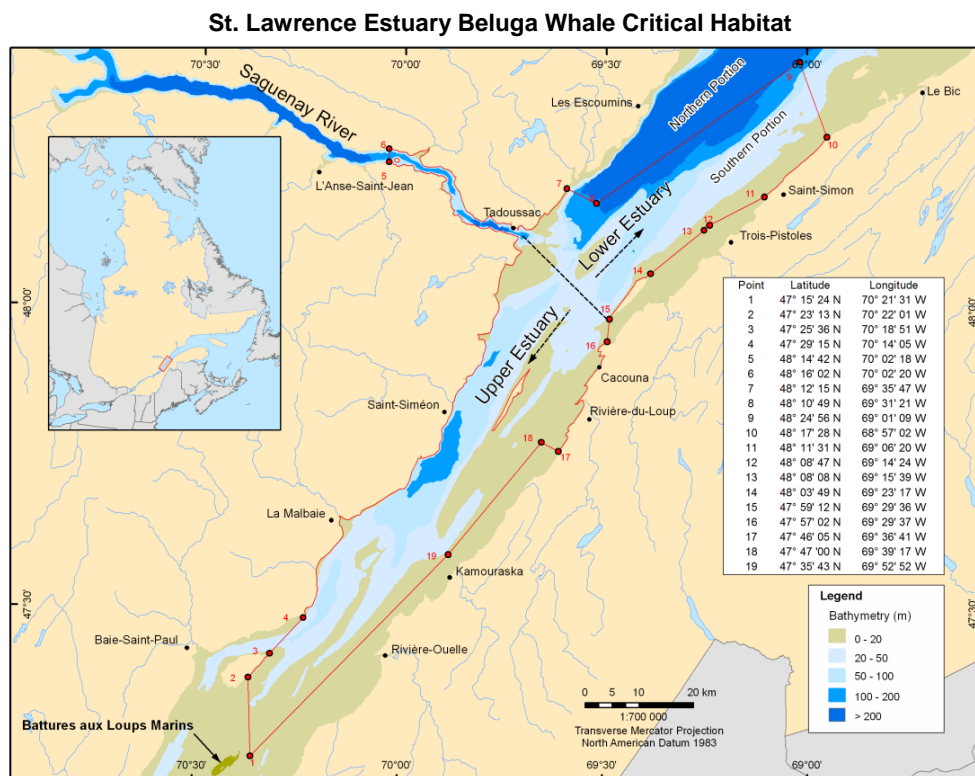
Report any collisions or any entanglements with a Beluga Whale, dead or alive, by calling Quebec's Emergency Network for Marine Mammals at 1-877-722-5346.

St. Lawrence Estuary

Guidelines: Interim measures for voluntary protection

Heightened vigilance is critical for navigators transiting in this area to reduce the risk of collisions with whales. Posting a lookout is recommended in order to increase the chances of seeing the whales and thus take the necessary measures to avoid them. If bypassing the whales is not possible, slow down and wait for the animals to move away to a distance greater than 400 metres (0.215 nautical miles) before resuming original speed. It is more difficult to see the animals at night: increased caution is recommended.

Learn more about the Beluga Whale recovery strategy at
http://www.sararegistry.gc.ca/virtual_sara/files/plans/rs_st_laur_beluga_0312_e.pdf.



Authority: Department of Fisheries and Oceans (DFO)

5A General Regulatory Requirements for all *Oceans Act* Marine Protected Areas

The Federal Department of Fisheries and Oceans has authority under the *Oceans Act* to designate Marine Protected Areas, by regulation, for the conservation and protection of:

- (a) commercial and non-commercial fishery resources and their habitats;
- (b) endangered or threatened species and their habitats;
- (c) unique habitats;
- (d) marine areas of high biodiversity or biological productivity;
- (e) any other marine resource or habitat as is necessary to fulfill the mandate of the Minister of Fisheries and Oceans.

General Prohibitions (Prohibited Activities)

The *Oceans Act* Marine Protected Areas regulations contain a general prohibition on the disturbance, damage, destruction or removal of any living marine organism or any part of its habitat within the Marine Protected Areas. In addition, the regulations prohibit the depositing, discharging or dumping of substances within the Marine Protected Areas that are likely to result in the disturbance, damage, destruction, or removal of any living organisms or any part of its habitat within the Marine Protected Area. These prohibitions apply to all vessel transits within the Marine Protected Areas.

Exceptions (Permitted Activities)

The regulations allow for the exercise of international navigational rights in the Marine Protected Areas year round. Vessels must operate in compliance with all relevant provisions of the *Canada Shipping Act, 2001* and all relevant requirements of the International Maritime Organization. Vessels in non-compliance with these requirements contravene the Marine Protected Area regulations and are also subject to penalties under the *Oceans Act*.

The prohibitions do not apply to any movement or other activity that is carried out for the purpose of public safety, law enforcement or national security or for the exercise of Canadian sovereignty.

Report of Incident

Any person involved in an incident that is likely to result in any prohibited activity shall, within two hours after its occurrence, report the incident to the Canadian Coast Guard.

Penalties

Individuals who contravene *Oceans Act* Marine Protected Areas regulations are guilty of an offence and liable to a fine not exceeding \$500,000 (*Oceans Act*, s.37). Individuals who contravene these regulations may also be subject to penalties under other applicable Federal legislation.

1. Marine Protected Areas in Eastern Canada

The following section provides information on Marine Protected Areas that have been designated under the *Oceans Act* in Eastern Canada.

1.1 The Gully Marine Protected Area

The Gully Marine Protected Area was designated pursuant to the *Oceans Act* on May 7th, 2004. The full text of the regulations may be accessed in the *Canada Gazette Part II*, Vol. 138, No. 10, 663-668 (<http://canadagazette.gc.ca>).

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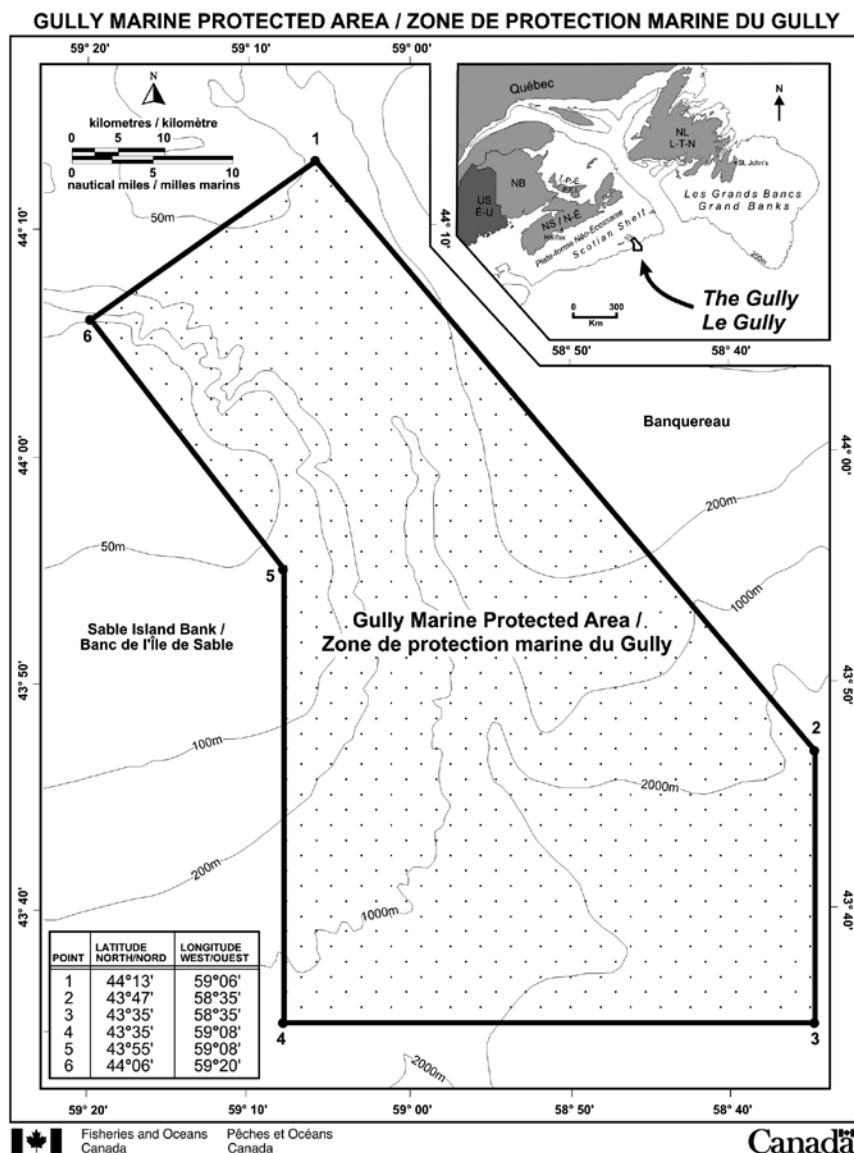
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Coordinates

The Gully is a deep canyon ecosystem on the edge of the Scotian Shelf near Sable Island. The Gully Marine Protected Area is bounded by rhumb lines connecting the following geographical coordinates [North America Datum 1983 (NAD 83)/World Geodetic System (WGS 84)].

Point	Latitude (North)	Longitude (West)
1	44° 13'	59° 06'
2	43° 47'	58° 35'
3	43° 35'	58° 35'
4	43° 35'	59° 08'
5	43° 55'	59° 08'
6	44° 06'	59° 20'

The Gully Marine Protected Area is shown in the map below:



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Regulatory Requirements for Vessels Operating in the Gully Marine Protected Area

- See **Section 5A - General Regulatory Requirements for all Oceans Act Marine Protected Areas.**
- **Specific requirements for the Gully Marine Protected Area**
 - Be aware that for the Gully Marine Protected Area, the **prohibitions extend to the vicinity** of the Marine Protected Area. It is prohibited to carry out any activity in the vicinity of the Gully Marine Protected Area that is likely to result in the disturbance, damage, destruction or removal of any living marine organism or any part of its habitat within the Marine Protected Area.
 - Vessels must avoid discharge of ballast water in the Marine Protected Area. Please see the *Ballast Water Control and Management Regulations* for additional guidance (including exceptions) on ballast water management in and around the Marine Protected Area.

Guidelines for Vessels Operating in the Area (Year Round)

The following procedures are recommended in order to safeguard the Marine Protected Area and its resources.

Marine Mammal Protection

All marine mammal species are protected in the Marine Protected Area. The main species of concern are northern bottlenose, blue, fin, and Sowerby's beaked whales. The key threats associated with shipping are acoustic disturbances and vessel collisions. Vessels should adhere to the following measures to ensure marine mammal protection:

1. Vessels should avoid passage through this area if possible. Avoidance is the most effective means to eliminate or reduce acoustic disturbances and vessel collisions.
2. If passage through this area is required, decrease vessel speed to 10 knots or less and post a look-out to increase the likelihood of sighting and avoiding marine mammals. Increased caution must be exercised in conditions of reduced visibility, such as rain, fog, rough sea state, or at night. Be aware that marine mammals often travel in small groups dispersed over an area of several miles.
3. Vessels should adhere to the following operating measures while maneuvering around marine mammals:
 - Avoid any sudden changes in speed or direction.
 - Avoid heading directly toward marine mammals.
 - Travel parallel to marine mammals.
 - If it is not possible to maneuver around a marine mammal or group of marine mammals, slow down immediately, maintain a minimum distance of 100 metres and wait until animals are more than 400 metres away before slowly resuming speed.

Note: some marine mammal species require different minimum distances – please refer to individual species' needs in Section 5 of this Notices to Mariners.

 - If operating a sailing vessel with an auxiliary motor, leave it in idle or use the echo sounder to signal presence.
4. Vessels must comply with all relevant provisions of the Marine Mammal Regulations pursuant to the *Fisheries Act*. Further guidance is found in **Section 5 - General Guidelines for Aquatic Species at Risk and Important Marine Mammal Areas.**
5. Report any marine mammal collisions, entanglements, distressed or dead animals to the marine animal emergency hotline (1-866-567-6277), or via VHF channel 16. Sightings of northern bottlenose, Sowerby's beaked, blue or North Atlantic right whales including location, date, and photos should be reported to XMARwhalesightings@dfo-mpo.gc.ca.

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Pollution Prevention

The Marine Protected Area regulations apply to activities that may cause harm to the marine environment. Vessels must adhere to the following measures to ensure the protection of marine environmental quality:

1. Vessels must avoid discharges, including ballast water, in the Marine Protected Area. Vessels should also avoid such discharges within a minimum distance of 50 kilometers (27 nautical miles) from the Marine Protected Area.
2. Vessels must report any pollution sightings or incidents to the Canadian Coast Guard (1-800-565-1633 or VHF channel 16).

1.2 The Musquash Estuary Marine Protected Area

The Musquash Estuary Marine Protected Area was designated pursuant to the *Oceans Act* on December 14th, 2006. The full text of the regulations may be accessed in the *Canada Gazette Part II, Vol. 140, No. 26, 2324-2343* (<http://canadagazette.gc.ca>).

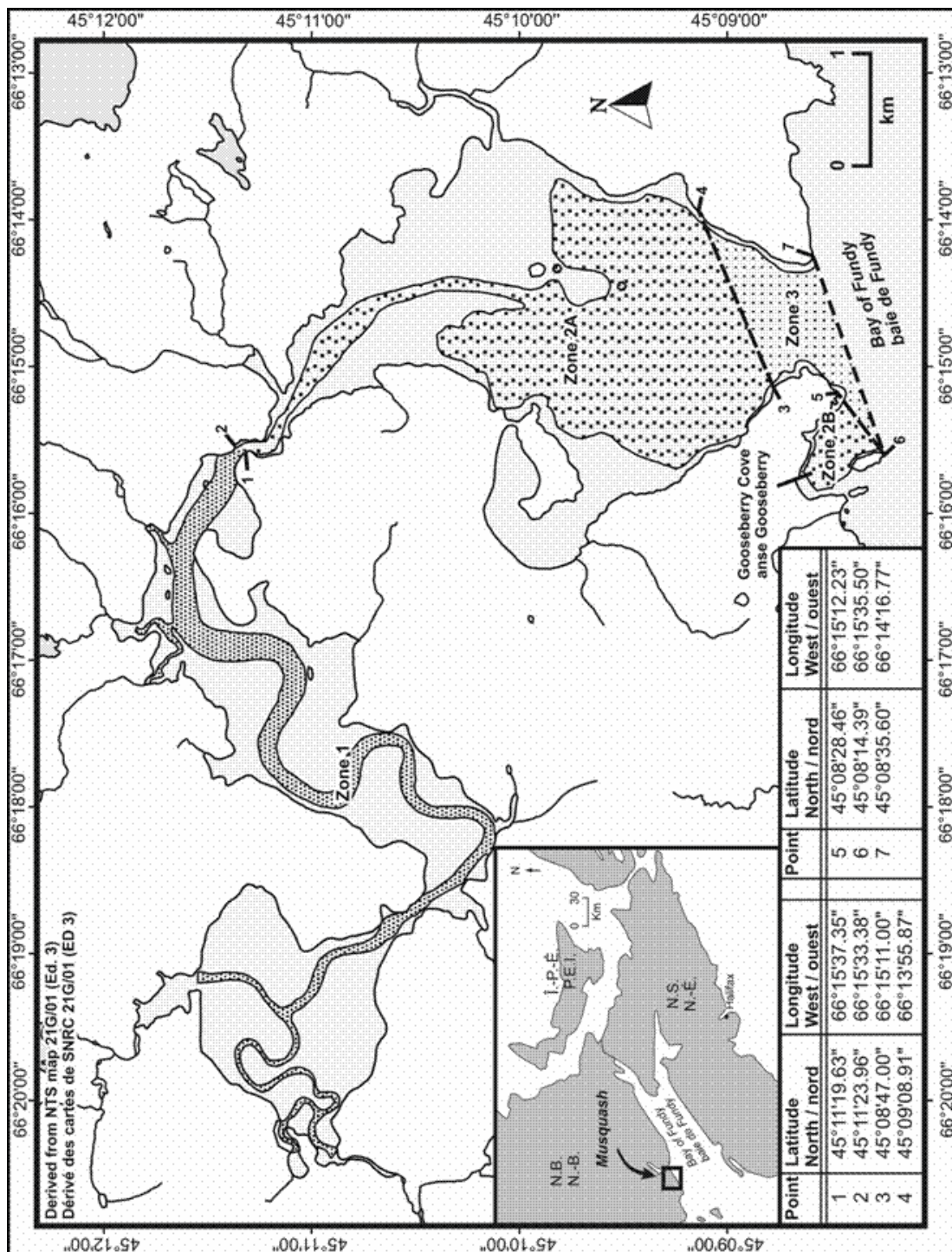
Coordinates

The Musquash Marine Protected Area consists of the waters that are within an area bounded by the low-water line of the estuary and by the following rhumb lines to their respective points of intersection with the low-water line. All geographical coordinates (latitude and longitude) are expressed in the North America Datum 1983 (NAD 83) geodetic reference system.

Point	Latitude (North)	Longitude (West)
1	45° 11' 19.63"	66° 15' 37.35"
2	45° 11' 23.96"	66° 15' 33.38"
3	45° 08' 47.00"	66° 15' 11.00"
4	45° 09' 08.91"	66° 13' 55.87"
5	45° 08' 28.46"	66° 15' 12.23"
6	45° 08' 14.39"	66° 15' 35.50"
7	45° 08' 35.60"	66° 14' 16.77"

The Musquash Estuary Marine Protected Area is shown in the map below:

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Regulatory Requirements for Vessels Operating in the Musquash Estuary Marine Protected Area

- See **Section 5A - General Regulatory Requirements for all Oceans Act Marine Protected Areas.**
- **Specific requirements for the Musquash Estuary Marine Protected Area**

The Musquash Estuary Marine Protected Area is composed of three internal management zones (Zone 1, Zones 2A and 2B, and Zone 3) in which different activities may be permitted, provided that they do not compromise the overall conservation objectives of the Marine Protected Area.

- The operation of a motorized vessel is not permitted in Zone 1.
- The operation of a vessel in **Zones 2A and 2B** is permitted at a speed no greater than **5 knots**.
- The operation of a vessel in **Zone 3** is permitted at a speed no greater than **8 knots**.

1.3 Eastport Marine Protected Areas

The Eastport Marine Protected Areas were designated pursuant to the *Oceans Act* on September 26th, 2005. The full text of the regulations may be accessed in the *Canada Gazette Part II*, Vol. 139, No. 21, 2277-2290 (<http://canadagazette.gc.ca>).

Coordinates

The Eastport Marine Protected Areas consist of the waters surrounding Round Island and Duck Islands, in Bonavista Bay, Newfoundland as described below. All geographical coordinates (latitude and longitude) are expressed in the North America Datum 1983 (NAD 83) geodetic reference system.

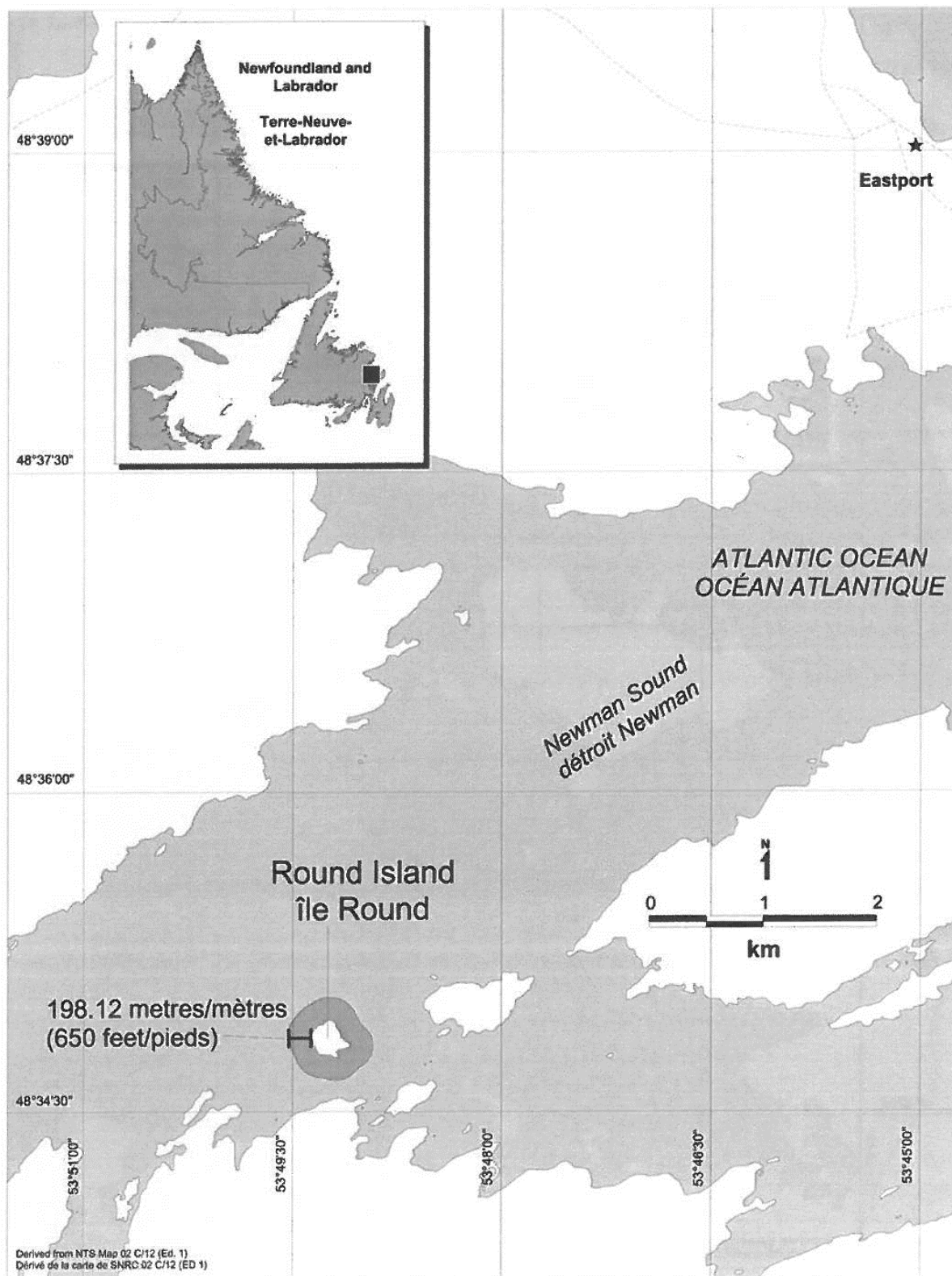
The **Round Island Marine Protected Area** comprises the area 198.12 m (650 ft) seaward from the low water line of the island.

The **Duck Island Marine Protected Area** comprises the waters that are within an area bounded by the island's low water line to the outer limit defined by the following series of rhumb lines.

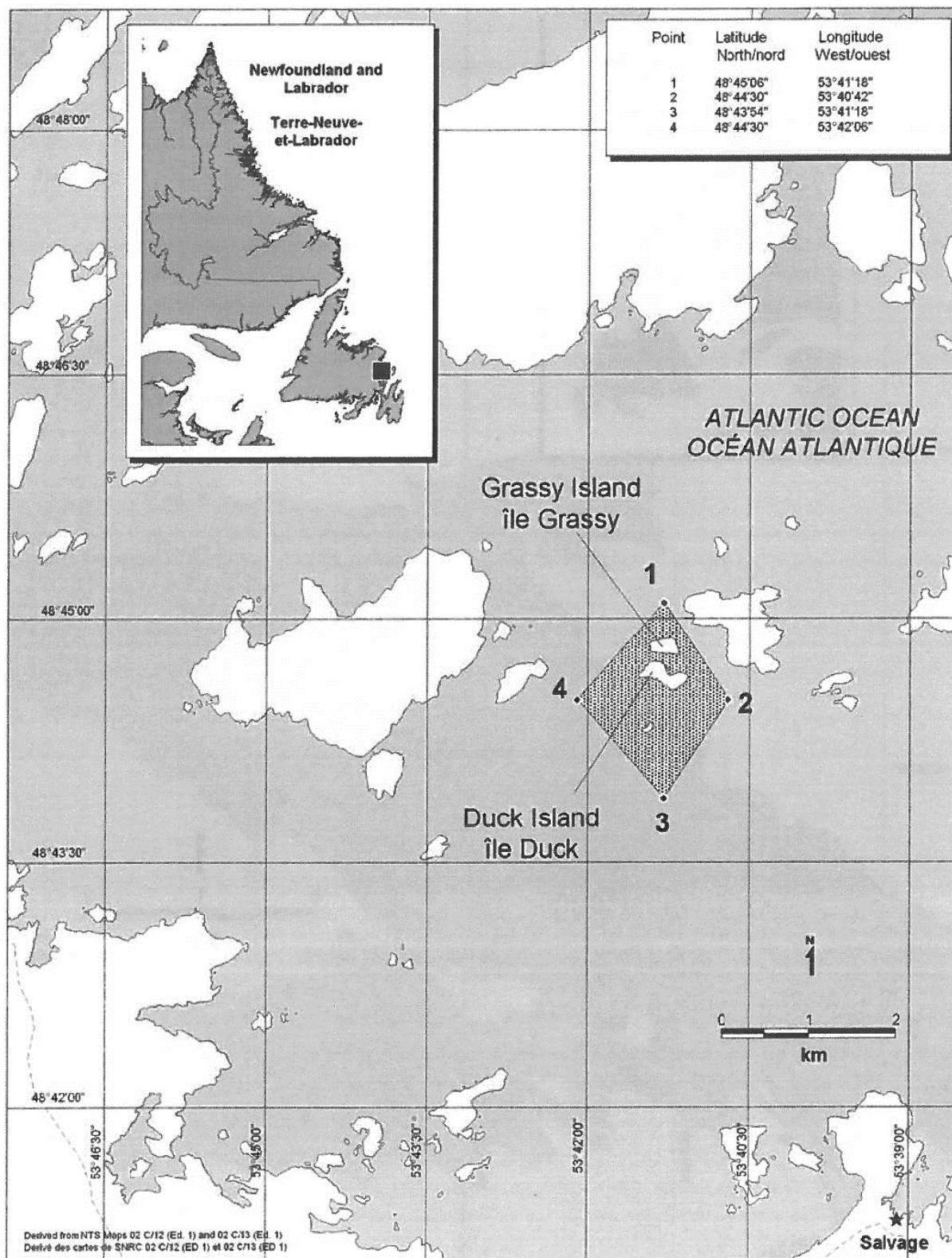
Point	Latitude (North)	Longitude (West)
1	48° 45' 06"	53° 41' 18"
2	48° 44' 30"	53° 40' 42"
3	48° 43' 54"	53° 41' 18"
4	48° 44' 30"	53° 42' 06"

The Duck Island and Round Island Marine Protected Areas are shown on the maps below:

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Regulatory Requirements for Vessels Operating in the Eastport Marine Protected Areas

- See **Section 5A - General Regulatory Requirements for all Oceans Act Marine Protected Areas.**

Guidelines for Vessels Operating in the Area (Year Round)

- Boaters are permitted to sail through the Marine Protected Areas, but are asked to take every precaution and exercise due diligence while operating a vessel near these waters.

1.4 Gilbert Bay Marine Protected Area

The Gilbert Bay Marine Protected Area was designated pursuant to the *Oceans Act* on September 26th, 2005. The full text of the regulations may be accessed in the *Canada Gazette Part II, Vol. 139, No. 21, 2291-2308* (<http://canadagazette.gc.ca>).

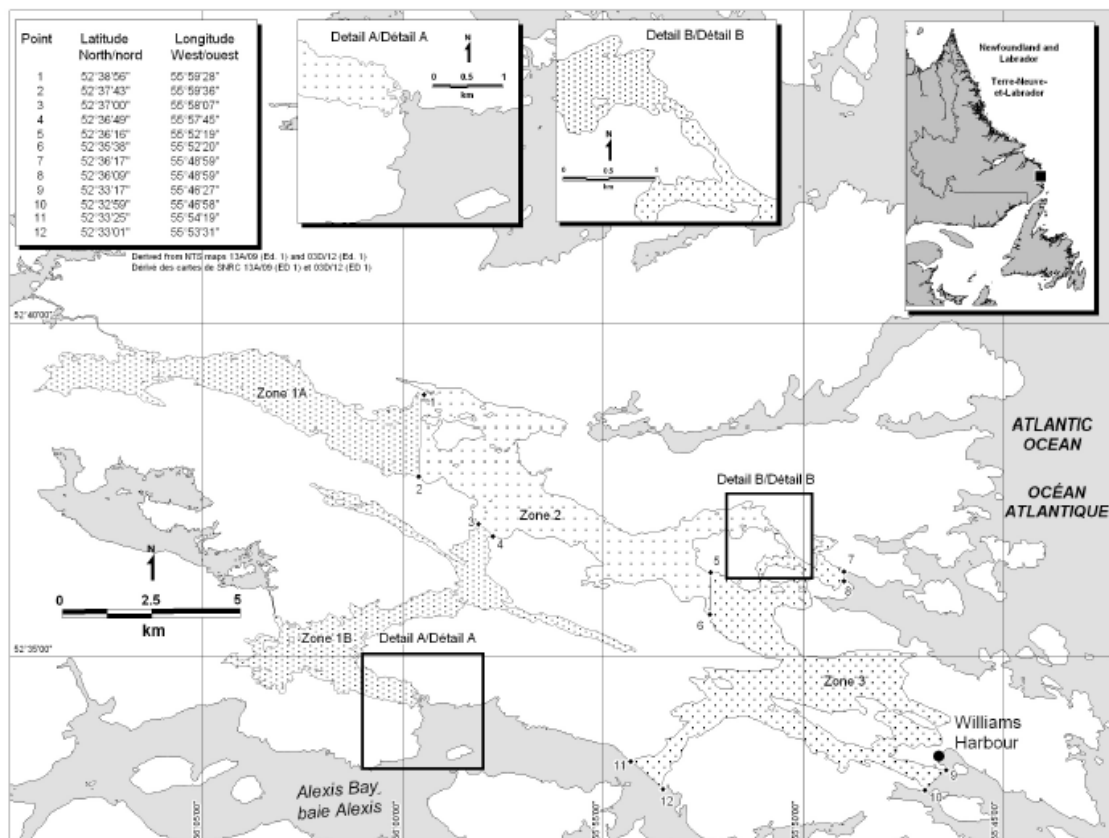
Coordinates

The Gilbert Bay Marine Protected Area comprises the waters, seabed and subsoil below the waters to a depth of 2 metres that are within an area bounded by the island's low water line to the outer limit defined by rhumb lines as defined below. All geographic coordinates (latitude and longitude) are expressed in the North America Datum 1983 (NAD 83) geodetic reference system.

Point	Latitude (North)	Longitude (West)
1	52° 38' 56"	55° 59' 28"
2	52° 37' 43"	55° 59' 36"
3	52° 37' 00"	55° 58' 07"
4	52° 36' 49"	55° 57' 45"
5	52° 36' 16"	55° 52' 19"
6	52° 35' 38"	55° 52' 20"
7	52° 36' 17"	55° 48' 59"
8	52° 36' 09"	55° 48' 59"
9	52° 33' 17"	55° 46' 27"
10	52° 32' 59"	55° 46' 58"
11	52° 33' 25"	55° 54' 19"
12	52° 33' 01"	55° 53' 31"

The Gilbert Bay Marine Protected Area is shown on the following map:

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Regulatory Requirements for Vessels Operating in the Gilbert Bay Marine Protected Area

- See **Section 5A - General Regulatory Requirements for all Oceans Act Marine Protected Areas.**

Guidelines for Vessels Operating in the Area (Year Round)

- Boaters are permitted to sail through the Marine Protected Areas, but are asked to take every precaution and exercise due diligence while operating a vessel near these waters.

1.5 Basin Head Marine Protected Area

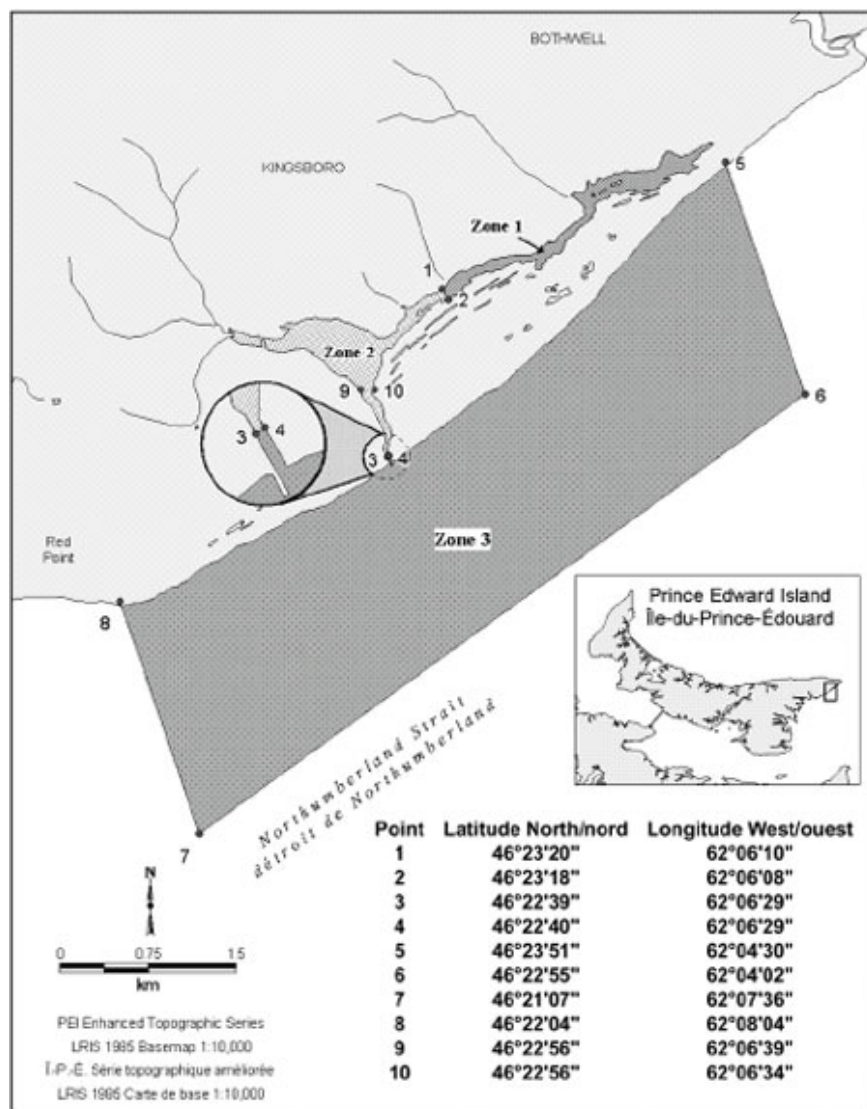
The Basin Head Marine Protected Area was designated pursuant the *Oceans Act* on September 26th, 2005. The full text of regulations can be accessed in the *Canada Gazette Part II* Vol. 139, No. 21, 2264-2276 (<http://www.canadagazette.gc.ca/>).

Coordinates

The Basin Head Marine Protected Area and the management zones coordinates are shown in the following map (geographic coordinates are expressed in the North America Datum 1983 (NAD 83) geodetic reference system).

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Regulatory Requirements for Vessels Operating in the Basin Head Marine Protected Area

- See **Section 5A - General Regulatory Requirements for all Oceans Act Marine Protected Areas.**
- **Specific requirements for the Basin Head Marine Protected Areas**
 - **Zone 1** (The inner channel) – This zone has the highest level of protection. Swimming, diving and use of motorized vessels are not permitted.
 - **Zone 2** (The lagoon) – This zone acts as a buffer zone for the more sensitive Zone 1 area. Swimming and diving is allowed but the use of a motorized vessel is only permitted south of the rhumb line connecting points 9 and 10 (see map above) solely for the purpose of transiting Zone 2 in order to launch a vessel from, or land it at, a boat launch.
 - **Zone 3** (The outer coast) - Swimming, diving, and the use of motorized vessels are permitted in this zone.

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2. Marine Protected Areas in the Pacific Region of Canada

The following section provides information on Marine Protected Areas that have been designated under the *Oceans Act* in Canada's Pacific Region.

2.1 Bowie Seamount Marine Protected Area

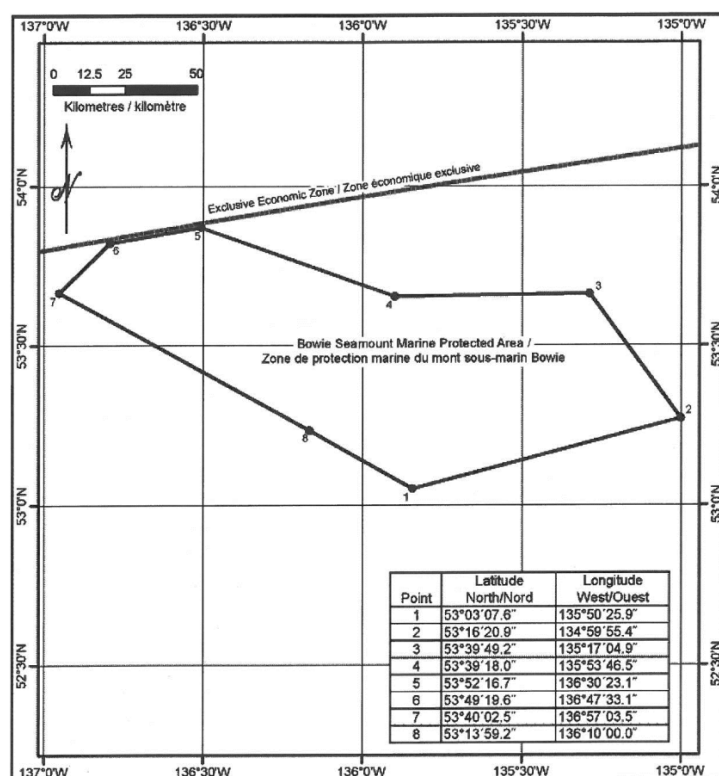
The Bowie Seamount Marine Protected Area was designated pursuant to the *Oceans Act* on April 17th, 2008. The full text of the regulations may be accessed in the *Canada Gazette Part II*, Vol. 142, No. 9, 1037-1055 (<http://canadagazette.gc.ca>).

Coordinates

The Bowie Seamount (SGaan Kinghlas) is located 180 km west of Haida Gwaii (Queen Charlotte Islands) on Canada's Pacific Coast, and is comprised of Bowie, Hodgkins and Davidson Seamounts of the Kodiak-Bowie seamount chain. The Bowie Seamount Marine Protected Area is bounded by rhumb lines connecting the following geographical coordinates. All geographic coordinates (latitude and longitude) are expressed in the North America Datum 1983 (NAD 83) geodetic reference system.

Point	Latitude (North)	Longitude (West)
1	53° 03' 07.6"	135° 50' 25.9"
2	53° 16' 20.9"	134° 59' 55.4"
3	53° 39' 49.2"	135° 17' 04.9"
4	53° 39' 18.0"	135° 53' 46.5"
5	53° 52' 16.7"	136° 30' 23.1"
6	53° 49' 19.6"	136° 47' 33.1"
7	53° 40' 02.5"	136° 57' 03.5"
8	53° 13' 59.2"	136° 10' 00.0"

The Bowie Seamount Marine Protected Area is shown in the map below:



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Regulatory Requirements for Vessels Operating in the Bowie Seamount Marine Protected Area

- See **Section 5A - General Regulatory Requirements for all Oceans Act Marine Protected Areas.**
- **Specific Requirements for the Bowie Seamount Marine Protected Area**
 - Vessels must avoid discharge of ballast water in the Marine Protected Area. Please see the *Ballast Water Control and Management Regulations* for additional guidance (including exceptions) on ballast water management in and around the Marine Protected Area.

2.2 Endeavour Hydrothermal Vents Marine Protected Area

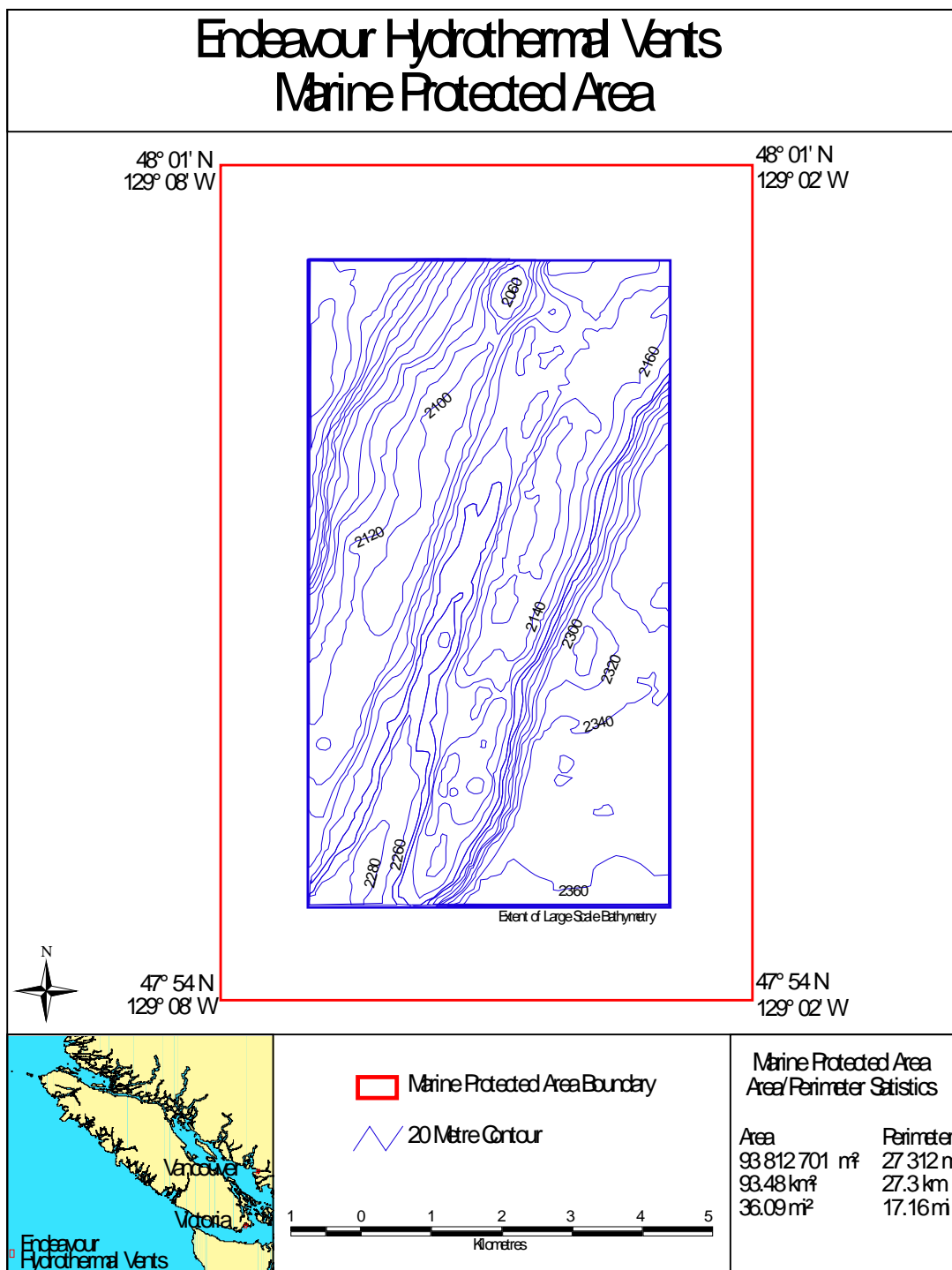
The Endeavour Hydrothermal Vents Marine Protected Area was designated pursuant to the *Oceans Act* on March 4th, 2003. The full text of the regulations may be accessed in the *Canada Gazette Part II*, Vol. 137, No. 6, 944-957 (<http://canadagazette.gc.ca>).

Coordinates

The Endeavour area of the Juan de Fuca Ridge is a seismically active area of seafloor formation and hydrothermal venting. The Endeavour Hydrothermal Vent Marine Protected Area is located 250 km offshore from Vancouver Island. The Marine Protected Area is approximately 94 km² and includes the water, seabed and subsoil. The Marine Protected Area is bounded by rhumb lines connecting the following geographical coordinates. All geographic coordinates (latitude and longitude) are expressed in the North America Datum 1983 (NAD 83) geodetic reference system.

Point	Latitude (North)	Longitude (West)
1	47° 54'	129° 02'
2	47° 54'	129° 08'
3	48° 01'	129° 08'
4	48° 01'	129° 02'

The Endeavour Hydrothermal Vents Marine Protected Area is shown in the map below:



Regulatory Requirements for Vessels Operating in the Endeavour Hydrothermal Vents Marine Protected Area

- See **Section 5A - General Regulatory Requirements for all Oceans Act Marine Protected Areas.**

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3. Marine Protected Areas in the Canadian Arctic

The following section provides information on Marine Protected Areas that have been designated under the *Oceans Act* in the Canadian Arctic.

3.1 The Tarium Nirjutait Marine Protected Areas

The Tarium Nirjutait Marine Protected Areas were designated pursuant to the *Oceans Act* on August 25th, 2010. The full text of the regulations may be accessed in the *Canada Gazette Part II*, Vol. 144, No. 19, 1742-1762 (<http://canadagazette.gc.ca>)

Coordinates

The Tarium Nirjutait Marine Protected Areas consist of three areas of the Mackenzie Bay: Okeevik, Kittigaryuit and Niaqunnaq. The ocean bottom is soft and sediment laden and the waters are fairly shallow. The three areas are bounded by rhumb lines connecting the following geographical coordinates [North America Datum 1983 (NAD 83)/World Geodetic System (WGS 84)].

Okeevik Sub Area

Point	Latitude (North)	Longitude (West)
1	69° 38' 19"	135° 25' 09"
2	69° 38' 03"	135° 25' 11"
3	69° 37' 46"	135° 24' 52"
4	69° 29' 49"	135° 12' 49"
5	69° 30' 45"	135° 16' 56"
6	69° 29' 26"	135° 18' 53"
7	69° 29' 23"	135° 19' 06"
8	69° 28' 07"	135° 20' 25"
9	69° 27' 36"	135° 24' 25"
10	69° 25' 51"	135° 32' 27"
11	69° 26' 32"	135° 34' 54"
12	69° 28' 21"	135° 35' 24"
13	69° 28' 35"	135° 36' 40"
14	69° 28' 39"	135° 37' 58"
15	69° 30' 34"	135° 45' 54"
16	69° 35' 18"	135° 35' 42"
17	69° 36' 00"	135° 22' 10"
18	69° 34' 40"	135° 20' 09"
19	69° 34' 00"	135° 20' 09"
20	69° 34' 00"	135° 27' 39"
21	69° 36' 00"	135° 27' 39"
22	69° 27' 00"	135° 31' 11"
23	69° 27' 00"	135° 34' 45"

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Kittigaruit Sub Area

Point	Latitude (North)	Longitude (West)
1	69° 35' 10"	133° 48' 26"
2	69° 34' 00"	133° 28' 00"
3	69° 23' 37"	133° 26' 40"
4	69° 20' 34"	133° 40' 37"
5	69° 19' 05"	133° 42' 21"
6	69° 19' 01"	133° 42' 31"
7	69° 20' 39"	133° 43' 20"
8	69° 16' 42"	133° 54' 54"
9	69° 15' 20"	134° 06' 53"
10	69° 16' 33"	134° 05' 56"
11	69° 20' 42"	134° 02' 44"
12	69° 24' 00"	133° 59' 10"
13	69° 24' 34"	133° 53' 49"
14	69° 28' 21"	133° 48' 15"
15	69° 28' 02"	133° 50' 59"
16	69° 33' 20"	133° 47' 29"
17	69° 34' 33"	133° 47' 42"
18	69° 32' 55"	133° 51' 09"
19	69° 32' 56"	133° 51' 54"
20	69° 33' 46"	133° 55' 48"
21	69° 33' 46"	133° 55' 31"

Niaqunnaq Sub Area

Point	Latitude (North)	Longitude (West)
1	69° 08' 00"	136° 16' 44"
2	69° 04' 25"	136° 07' 45"
3	69° 03' 43"	136° 07' 08"
4	69° 01' 19"	136° 04' 45"
5	69° 01' 14"	136° 04' 45"
6	69° 00' 57"	136° 05' 42"
7	69° 00' 12"	136° 07' 08"
8	68° 57' 00"	136° 10' 00"
9	68° 55' 00"	136° 15' 00"
10	68° 54' 22"	136° 31' 50"
11	68° 55' 00"	136° 38' 33"
12	68° 56' 15"	137° 00' 41"
13	68° 56' 29"	137° 03' 03"
14	68° 55' 48"	137° 11' 00"
15	68° 57' 50"	137° 16' 40"
16	68° 59' 20"	137° 21' 30"
17	69° 03' 09"	137° 44' 54"

The Tarium Nirjutait Marine Protected Areas are shown in the map below:

SKETCH OF TARIUM NIRYUTAIT MARINE PROTECTED AREAS
CROQUIS DES ZONES DE PROTECTION MARINES DU TARIUM NIRYUTAIT



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Regulatory Requirements for Vessels Operating in the Tarium Nirjutait Marine Protected Areas

- See **Section 5A - General Regulatory Requirements for all Oceans Act Marine Protected Areas.**

Specific Requirements for the Tarium Nirjutait Marine Protected Areas

- The regulations prohibit ship activities to disturb, damage or destroy a marine mammal in the Areas, or remove a marine mammal from the Areas.

Other Requirements for the Tarium Nirjutait Marine Protected Areas

- It is forbidden for ships to approach the traditional marine mammal harvest grounds, or to approach marine mammals unless they are directly associated with the traditional harvest of these animals. Information regarding the traditional harvest can be gained from the Fisheries Joint Management Committee (fjmc-rp@jointsec.nt.ca).

Voluntary Guidelines for Ships Operating in the Areas (Year Round)

The following procedures are recommended in order to safeguard the Marine Protected Areas and its resources.

Vessels should adhere to the following measures for safety reasons and to ensure marine mammal protection:

- It is strongly advised that commercial vessels remain in the community supply routes. These routes are generally marked by Canadian Coast Guard buoys and they should be followed whenever possible.

3.2 The Anguniaqvia niqiqyuam Marine Protected Areas

The Anguniaqvia niqiqyuam Marine Protected Areas were designated pursuant to the *Oceans Act* on November 16th, 2016. The full text of the regulations may be accessed in the *Canada Gazette Part II, Vol. 150, No. 23, 4134-4168* (<http://canadagazette.gc.ca>)

Coordinates

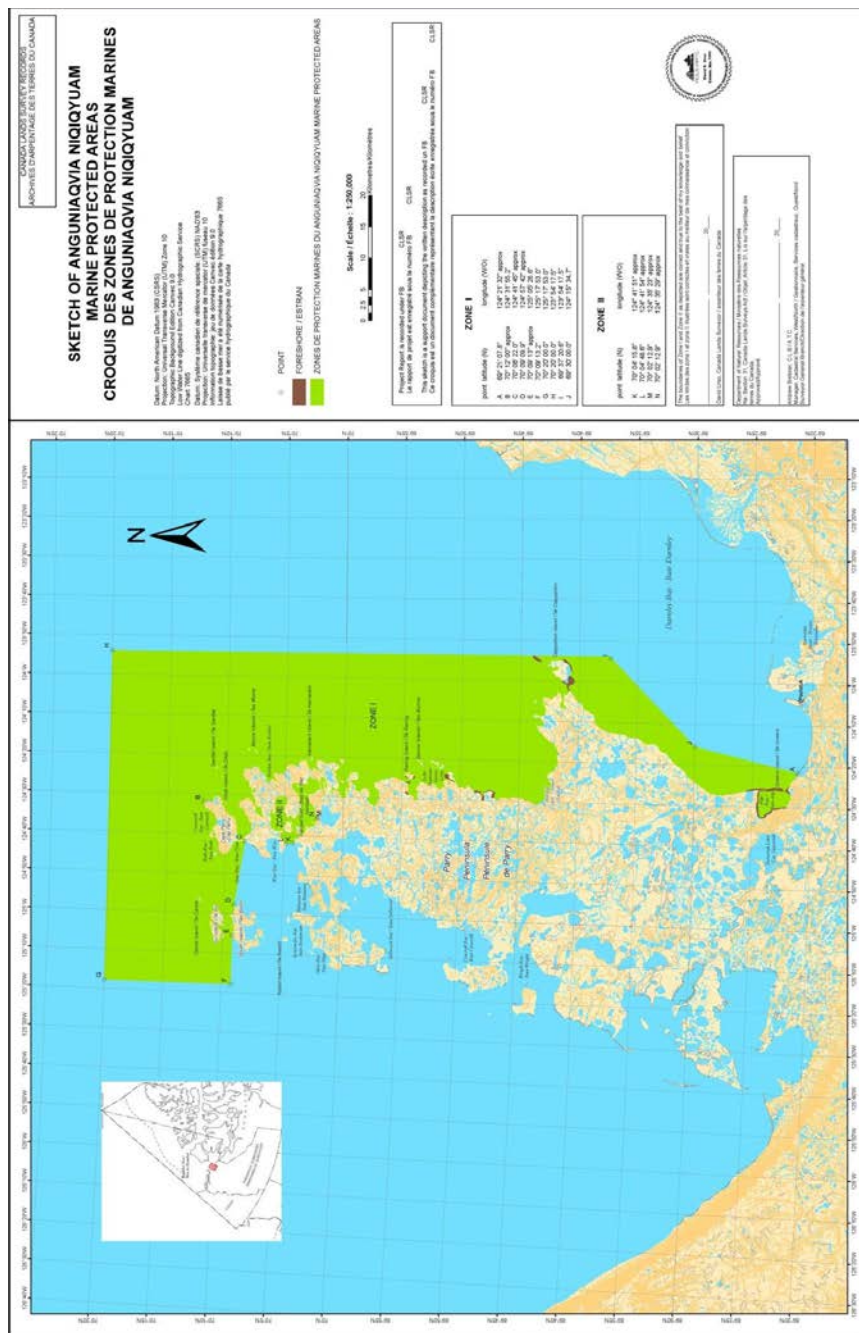
The Anguniaqvia niqiqyuam Marine Protected Areas consist of two areas in Darnley Bay and Amundsen Gulf in the Beaufort Sea: Zone 1 and Zone 2. The areas consist of the seabed, the subsoil to a depth of five metres and the water column, including the sea ice. The two areas are bounded by straight lines connecting the following geographical coordinates [North America Datum 1983 (NAD 83)].

Zone 1

Point	Latitude (North)	Longitude (West)
A	69° 21' 07.8"	124° 21' 32" approx
B	70° 12' 00" approx	124° 31' 55.2"
C	70° 08' 22.0"	124° 41' 45" approx
D	70° 09' 09.9"	124° 57' 42" approx
E	70° 09' 13" approx	125° 05' 28.6"
F	70° 09' 13.2"	125° 17' 53.0"
G	70° 20' 00.0"	125° 17' 53.0"
H	70° 20' 00.0"	123° 54' 17.5"
I	69° 37' 20.6"	123° 54' 17.5"
J	69° 30' 00.0"	124° 15' 34.7"

Zone 2

Point	Latitude (North)	Longitude (West)
K	70° 04' 15.8"	124° 41' 51" approx
L	70° 04' 48.6"	124° 41' 54" approx
M	70° 02' 12.9"	124° 35' 23" approx
N	70° 02' 12.9"	124° 35' 29" approx



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Regulatory Requirements for Vessel Operating in the Anguniaqvia niqiqyuam Marine Protected Areas

- See **Section 5A - General Regulatory Requirements for all Oceans Act Marine Protected Areas.**

Other Requirement for the Anguniaqvia niqiqyuam Marine Protected Areas

- It is forbidden for ships to approach the traditional marine mammal harvest grounds, or to approach marine mammals unless they are directly associated with the traditional harvest of these animals. Information regarding the traditional harvest can be gained from the Fisheries Joint Management Committee (fjmc-rp@jointsec.nt.ca).

Voluntary Guidelines for Ships Operating in the Areas (Year Round)

Vessels should adhere to the following measures for safety reasons and to ensure marine mammal protection:

- It is strongly advised that commercial vessels remain in the community supply routes. These routes are generally marked by Canadian Coast Guard buoys and they should be followed whenever possible.
- Ice breaking activities should be avoided in the Cape Parry polynya whenever possible due to the high level of marine mammal aggregations.

Authority: Department of Fisheries and Oceans (DFO)

5B General Guidelines for National Parks

National Parks of Canada and National Park Reserves of Canada

General guidelines for National Parks and National Park Reserves

Under the *Canada National Parks Act* (S.C. 2000, c. 32), the Parks Canada Agency has the authority to manage national parks (listed under Schedule 1 of the Act) and national park reserves (listed under Schedule 2 of the Act) on behalf of the people of Canada and is responsible for granting permission to enter any lands or waters for which it has jurisdiction. Visitor permits and/or business licenses are required before entering the boundaries of all national parks and national park reserves, and other permitting requirements may exist.

For general information regarding Canada's National Parks and National Park Reserves, please contact the Parks Canada National Information Service at 1-888-773-8888 or information@pc.gc.ca, or visit our website: www.parks canada.gc.ca.

1. Coastal National Parks in Nunavut

With the exception of beneficiaries of the *Nunavut Land Claims Agreement*, anyone entering the boundaries of a national park in Nunavut, including all marine areas, requires authorization from Parks Canada. Authorization normally occurs through a visitor use permit and/or a business licence.

All vessels wishing to enter marine areas of national parks in Nunavut must contact the local park office and register prior to entering. Additional permit requirements and restrictions may apply.

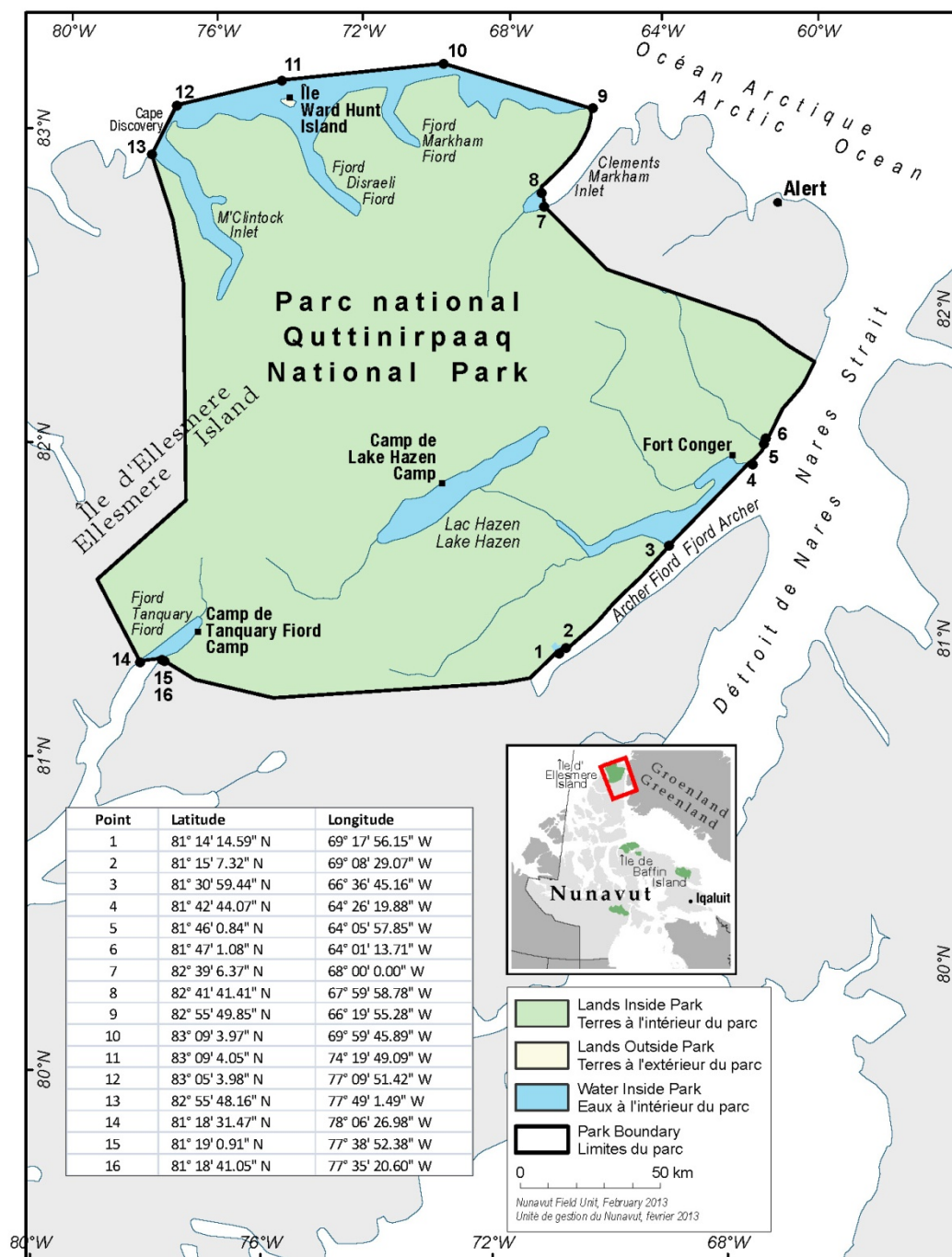
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1.1 Quttinirpaaq National Park of Canada

Coordinates



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Restrictions

All vessels wishing to enter marine areas within Quttinirpaaq National Park must contact the park office prior to entering the park: 867-975-4673.

The following additional restrictions also apply:

- Cruise ship access is only allowed in Tanquary Fiord.
- Private motorized activities are not permitted in the park.
- Recreational fishing is prohibited in all park waters.
- Inuit have the free and unrestricted right of access to the national park for the purpose of harvesting.

Additional Recommendations

Parks Canada recommends that all vessels mooring or transiting adjacent to Quttinirpaaq National Park contact the park office, especially those wishing to disembark onto national park lands as permits, registration, and orientation to the park are required.

Permitting Requirements

Visitor use permits - required for all visitors. A visitor use permit is granted after a mandatory orientation with Parks Canada staff. This permit can be obtained on site at the local park office or in advance of your trip.

Business licences - required for all businesses operating within park boundaries. This licence must be obtained by contacting Parks Canada at least 45 days in advance of your trip.

In addition to visitor use and business licences, all persons wishing to carry out research and collection, aircraft landing, or filming/photography will require additional permitting which requires at least 45 days notice to Parks Canada.

Anyone wishing to enter the park for reasons other than those stated above (e.g. other government departments) should contact Parks Canada at least 60 days in advance of their trip.

Reporting of Incidents

All incidents occurring within Quttinirpaaq National Park must be promptly reported to Parks Canada by calling 1-877-852-3100 or 1-780-852-3100.

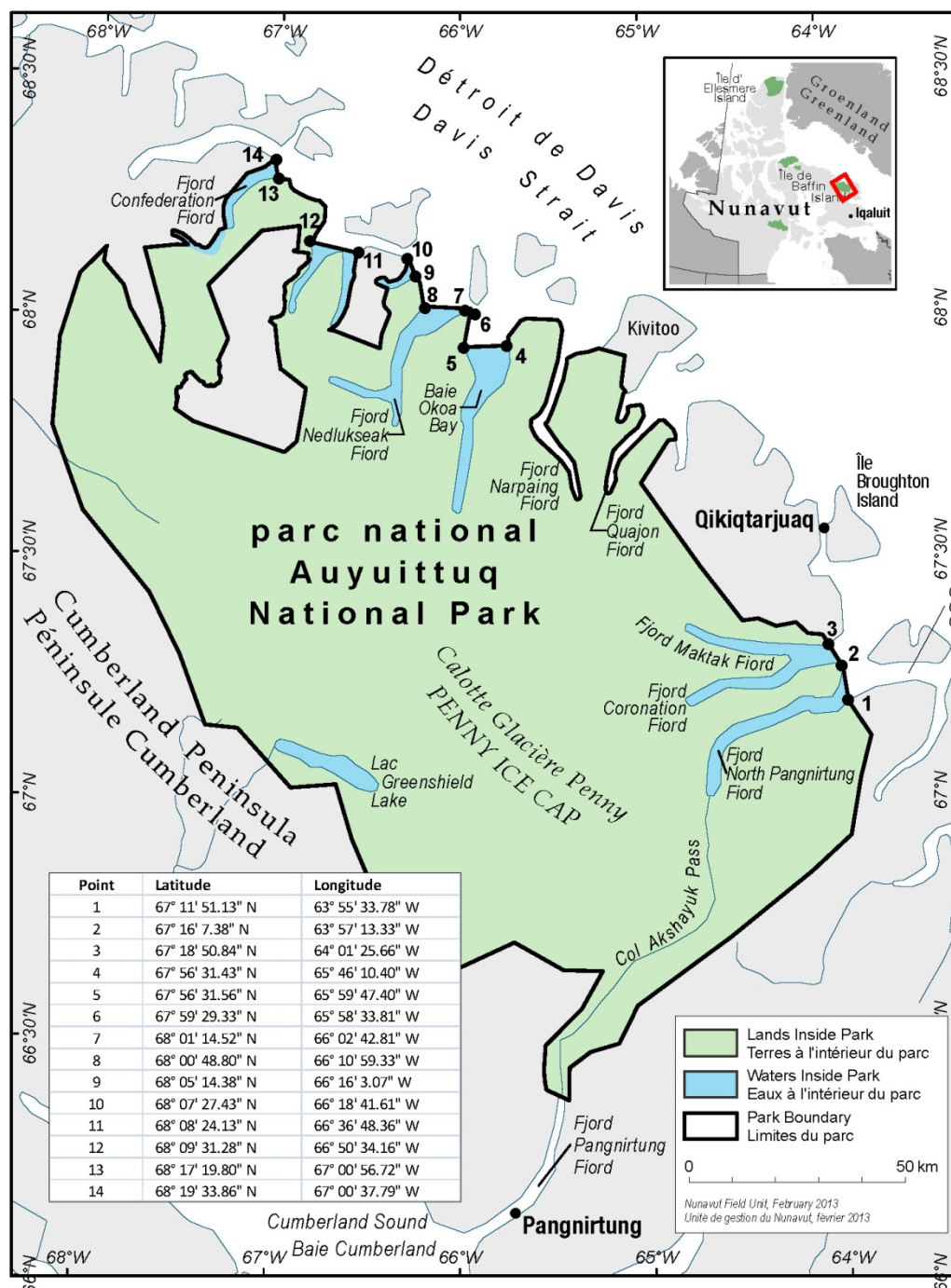
Contact Information

Quttinirpaaq National Park
Parks Canada
PO Box 278
Iqaluit, NU
X0A 0H0
Phone: 867-975-4673
Fax: 867-975-4674
Email: nunavut.info@pc.gc.ca

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1.2 Auyuittuq National Park of Canada

Coordinates



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Restrictions

All vessels wishing to enter marine areas within Auyuittuq National Park must contact the park office prior to entering the park: 867-473-2500.

The following additional restrictions also apply:

- Cruise ships are currently not allowed in the fiords located within the park.
- Only guided boat access is allowed within Coronation, Maktak and North Pangnirtung Fiords. Coronation and Maktak Fiords are closed in late summer and fall to respect narwhal harvesting by Inuit. The exact closing dates are set every year when the first whales are seen and the park must be contacted for details on the timing of this closure. Private motorized activities are not permitted.
- Recreational fishing requires a permit.
- Inuit have the free and unrestricted right of access to the national park for the purpose of harvesting.

Additional Recommendations

Parks Canada recommends that all vessels mooring or transiting adjacent to Auyuittuq National Park contact the local park office, especially those wishing to disembark onto national park lands as permits, registration, and orientation to the park are required.

Permitting Requirements

Visitor use permits - required for all visitors. A visitor use permit is granted after a mandatory orientation with Parks Canada staff. This permit can be obtained on site at the local park office. The park office should be contacted in advance if for any reason a visit to the park office will not be possible.

Business licenses - required for all businesses operating within park boundaries. This license must be obtained by contacting Parks Canada at least 45 days in advance of your trip.

In addition to visitor use and business licenses, all persons wishing to carry out research and collection, aircraft landing, or filming/photography will require additional permitting which requires at least 45 days notice to Parks Canada.

Anyone wishing to enter the park for reasons other than those stated above (e.g. other government departments) should contact Parks Canada at least 60 days in advance of their trip.

Reporting of Incidents

All incidents occurring within Auyuittuq National Park must be promptly reported to Parks Canada by calling 1-877-852-3100 or 1-780-852-3100.

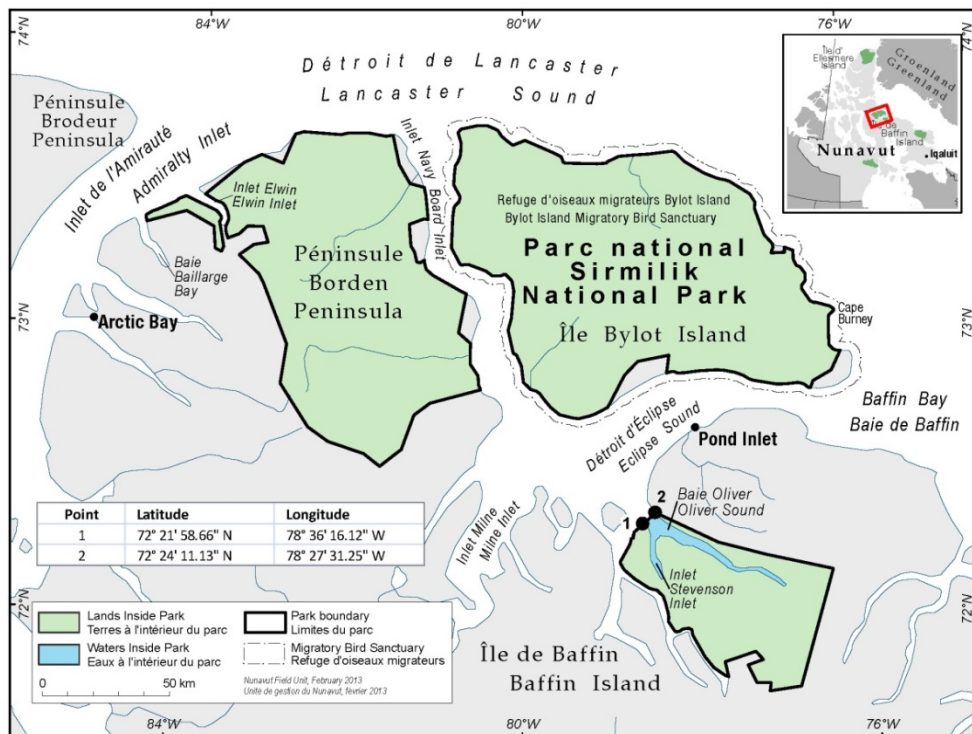
Contact Information

Auyuittuq National Park
Parks Canada
PO Box 353
Pangnirtung, NU
X0A 0R0
Phone: 867-473-2500
Fax: 867-473-8612
Email : nunavut.info@pc.gc.ca

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1.3 Sirmilik National Park of Canada

Coordinates



Restrictions

With the exception of beneficiaries of the *Nunavut Land Claims Agreement*, anyone entering the boundaries of a national park in Nunavut, including all marine areas, requires authorization from Parks Canada. Authorization normally occurs through a visitor use permit and/or a business licence. All vessels wishing to enter marine areas within Sirmilik National Park must contact the park office prior to entering the park: 867-899-8092.

The following additional restrictions also apply:

- Access to Oliver Sound requires a permit and/or business license
- Recreational fishing requires a permit
- Inuit have the free and unrestricted right of access to the national park for the purpose of harvesting.

Additional Recommendations

Parks Canada recommends that all vessels mooring or transiting adjacent to Sirmilik National Park contact the local park office, especially those wishing to disembark onto national park lands as permits, registration, and orientation to the park are required.

For access to waters adjacent to Bylot Island, the Canadian Wildlife Service should also be contacted because it is responsible for the management of the Bylot Island Migratory Bird Sanctuary, which includes a marine component.

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Permitting Requirements

Visitor use permits - required for all visitors. A visitor use permit is granted after a mandatory orientation with Parks Canada staff. This permit can be obtained on site at the local park office or in advance of your trip.

Business licences - required for all businesses operating within park boundaries. This licence must be obtained by contacting Parks Canada at least 45 days in advance of your trip.

In addition to visitor use and business licences, all persons wishing to carry out research and collection, aircraft landing, or filming/photography will require additional permitting which requires at least 45 days notice to Parks Canada.

Anyone wishing to enter the park for reasons other than those stated above (e.g. other government departments) should contact Parks Canada at least 60 days in advance of their trip.

Reporting of Incidents

All incidents occurring within Sirmilik National Park must be promptly reported to Parks Canada by calling 1-877-852-3100 or 1-780-852-3100.

Contact Information

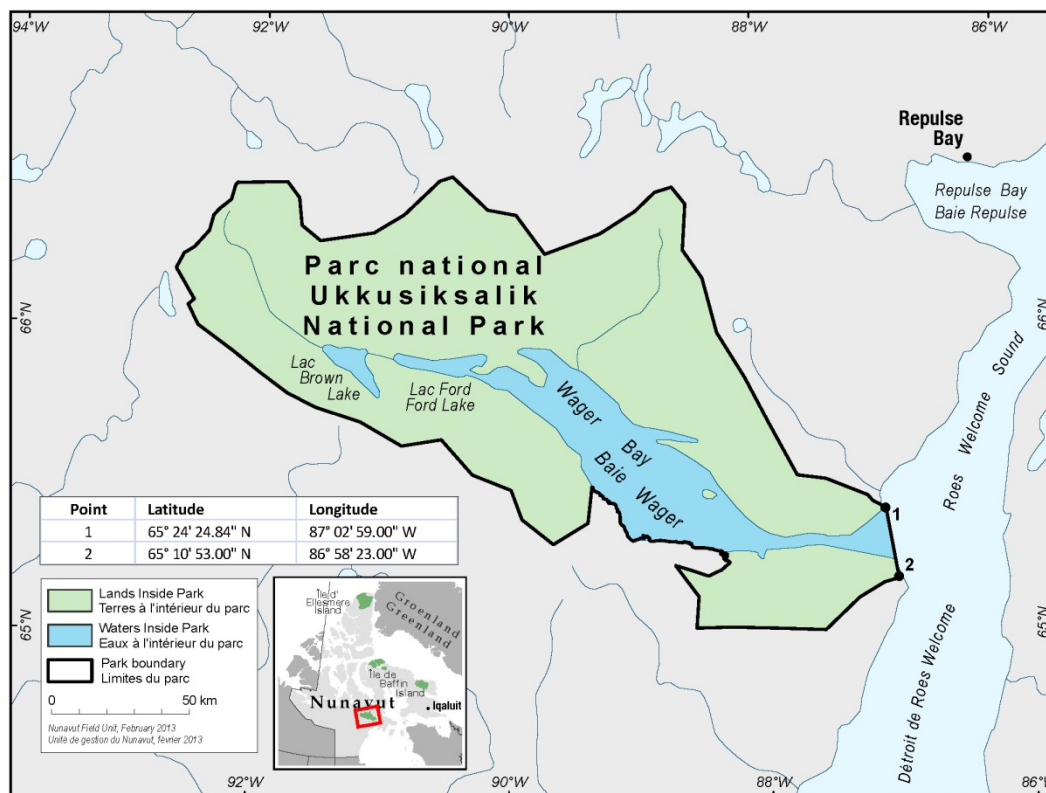
Sirmilik National Park
Parks Canada
PO Box 300
Pond Inlet, NU
X0A 0S0
Phone: 867-899-8092
Fax: 867-899-8104
Email: sirmilik.info@pc.gc.ca

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1.4 Ukkusiksalik National Park of Canada

Coordinates



Restrictions

With the exception of beneficiaries of the Nunavut Land Claims Agreement, anyone entering the boundaries of a national park in Nunavut, including all marine areas, requires authorization from Parks Canada. Authorization normally occurs through a visitor use permit and/or a business licence. All vessels wishing to enter marine areas within Ukkusiksalik National Park must contact the park office prior to entering the park: 867-462-4500.

The following additional restrictions also apply:

- Access to Wager Bay requires a permit and/or business license.
- Recreational fishing requires a permit.
- Inuit have the free and unrestricted right of access to the national park for the purpose of harvesting.

Additional Recommendations

Parks Canada recommends that all vessels mooring or transiting adjacent to Ukkusiksalik National Park contact the local park office, especially those wishing to disembark onto national park lands as permits, registration, and orientation to the park are required.

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Permitting Requirements

Visitor use permits - required for all visitors. A visitor use permit is granted after a mandatory orientation with Parks Canada staff. This permit can be obtained on site at the local park office or in advance of your trip.

Business licences - required for all businesses operating within park boundaries. This licence must be obtained by contacting Parks Canada at least 45 days in advance of your trip.

In addition to visitor use and business licences, all persons wishing to carry out research and collection, aircraft landing, or filming/photography will require additional permitting which requires at least 45 days notice to Parks Canada.

Anyone wishing to enter the park for reasons other than those stated above (e.g. other government departments) should contact Parks Canada at least 60 days in advance of their trip.

Reporting of Incidents

All incidents occurring within Ukkusiksalik National Park should be promptly reported to Parks Canada by calling 1-877-852-3100 or 1-780-852-3100.

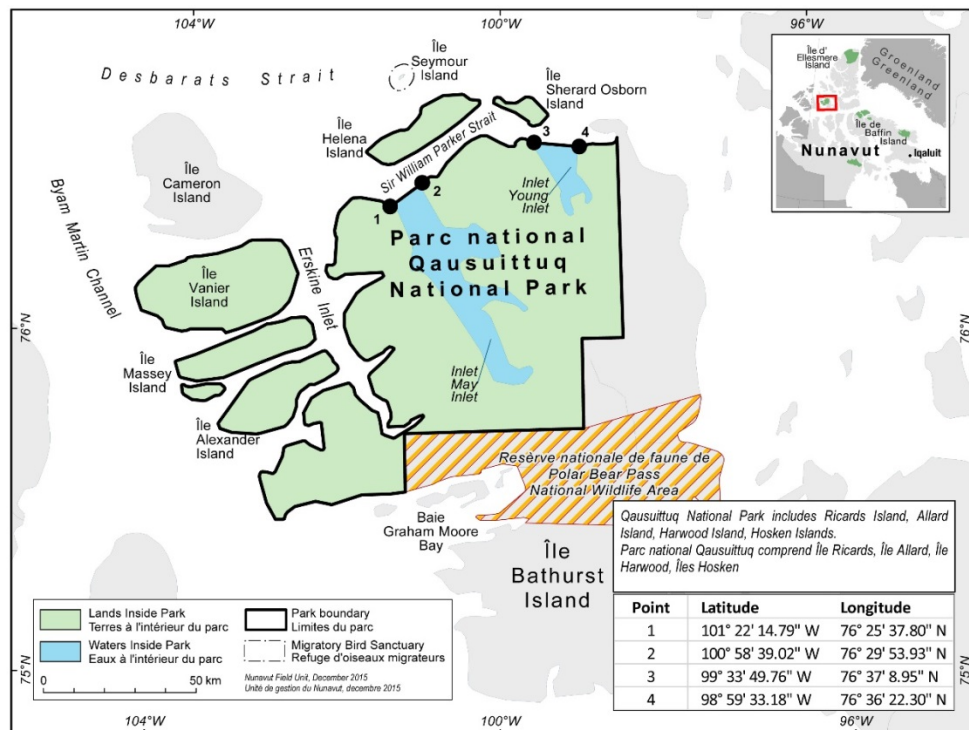
Contact Information

Ukkusiksalik National Park
Parks Canada
P.O. Box 220
Repulse Bay, NU
X0C 0H0
Phone: 867-462-4500
Fax: 867-462-4095
Email: ukkusiksalik.info@pc.gc.ca

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1.5 Qausuittuq National Park of Canada

Coordinates



Restrictions

Inuit have the free and unrestricted right of access to the national park for the purpose of harvesting as provided in the Nunavut Land Claims Agreement (NLCA).

Additional Recommendations

Parks Canada recommends:

- All vessels wishing to enter Qausuittuq National Park waters should contact the park office prior to doing so at: 867-975-4673.
- All vessels mooring or transiting adjacent to Qausuittuq National Park should contact the local park office, especially those wishing to disembark onto national park lands as permits, registration, and orientation to the park may be required.

Reporting of Incidents

All incidents occurring within Qausuittuq National Park should be promptly reported to Parks Canada by calling 1-877-852-3100 or 1-780-852-3100.

Contact Information

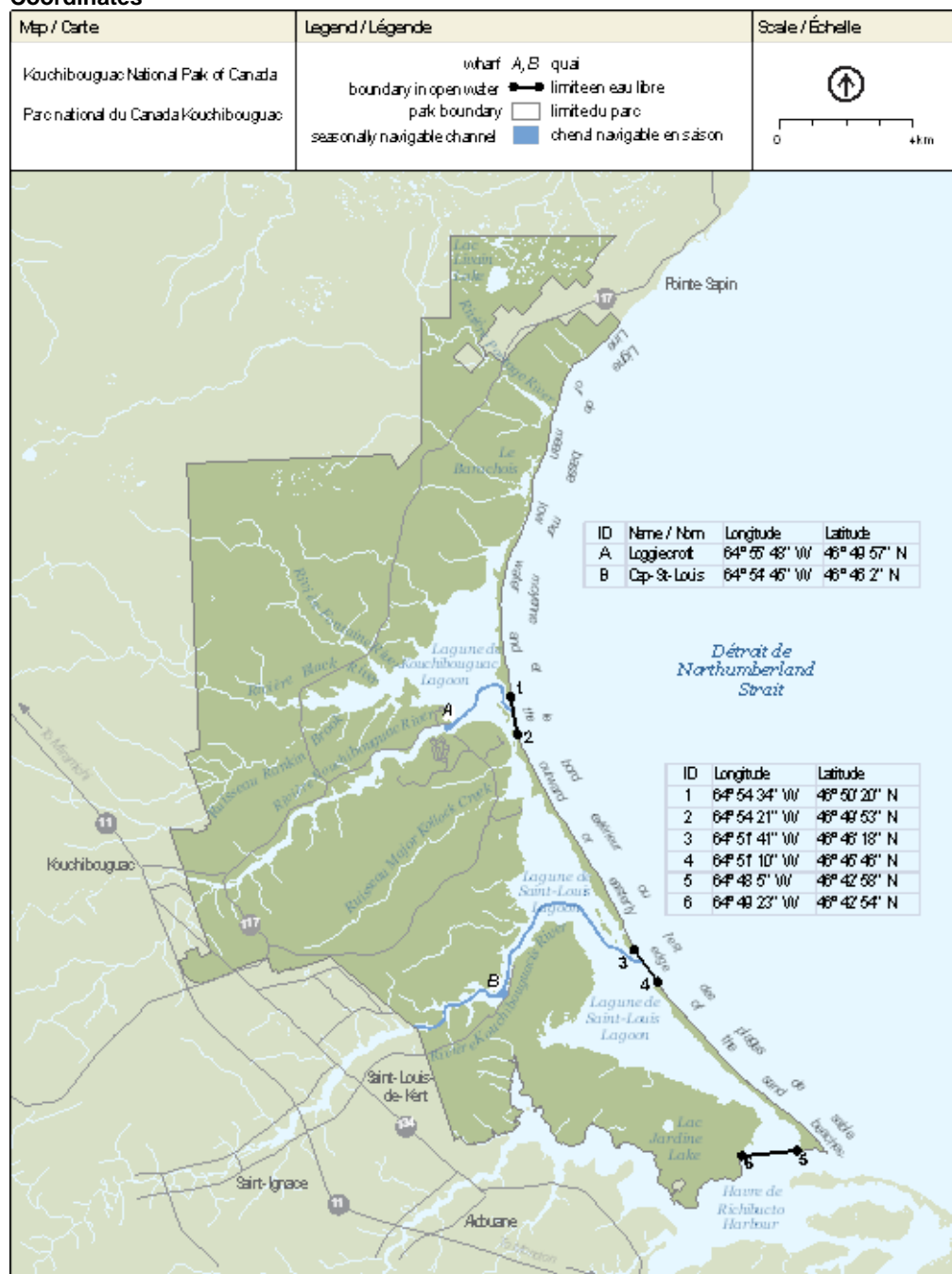
Qausuittuq National Park
Parks Canada
P.O. Box 278
Iqaluit, NU, X0C 0H0
Phone: 867-975-4673
Fax: 867-975-4674
Email: nunavut.info@pc.gc.ca

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2. Coastal National Parks in Eastern Canada

2.1 Kouchibouguac National Park of Canada

Coordinates



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Coordinates marking boundary segments passing through open water are given in the table below. These locations are approximate since sand can shift from year to year and during extreme weather events.

ID	Longitude	Latitude
1	64° 54' 34" W	46° 50' 20" N
2	64° 54' 21" W	46° 49' 53" N
3	64° 51' 41" W	46° 46' 18" N
4	64° 51' 10" W	46° 45' 46" N
5	64° 48' 05" W	46° 42' 58" N
6	64° 49' 23" W	46° 42' 54" N

Two wharves operate within Kouchibouguac National Park for the purpose of supporting commercial fishing operations as well as recreational boating.

Coordinates of the wharves are:

ID	Name / Nom	Longitude	Latitude
A	Loggiecroft	64° 55' 48" W	46° 49' 57" N
B	Cap-St-Louis	64° 54' 45" W	46° 46' 2" N

Notes:

Mariners are advised that there may be unmarked rocks in the Kouchibouguac River channel. A submerged rock pile is located in the channel near Loggiecroft Wharf at the following geographical coordinates: 64° 55' 32" W / 46° 50' 8" N. Exercise extreme caution when navigating in this area.

Boundary of outward (or easterly) edge of sand beaches can change from year to year and with extreme weather events which cause sand to shift.

Navigable water channels on the Kouchibouguac River from Loggiecroft Wharf to the Northumberland Strait and on the Kouchibouguacis River from the westerly park boundary to the Northumberland Strait, including the wharf at Cap St-Louis, are marked from April 20 to October 30 subject to ice conditions and fishing seasons.

Coordinates are derived using the NAD83 datum.

Restrictions

Navigation by motorized watercraft in park waters after sunset is prohibited.

Contact Information

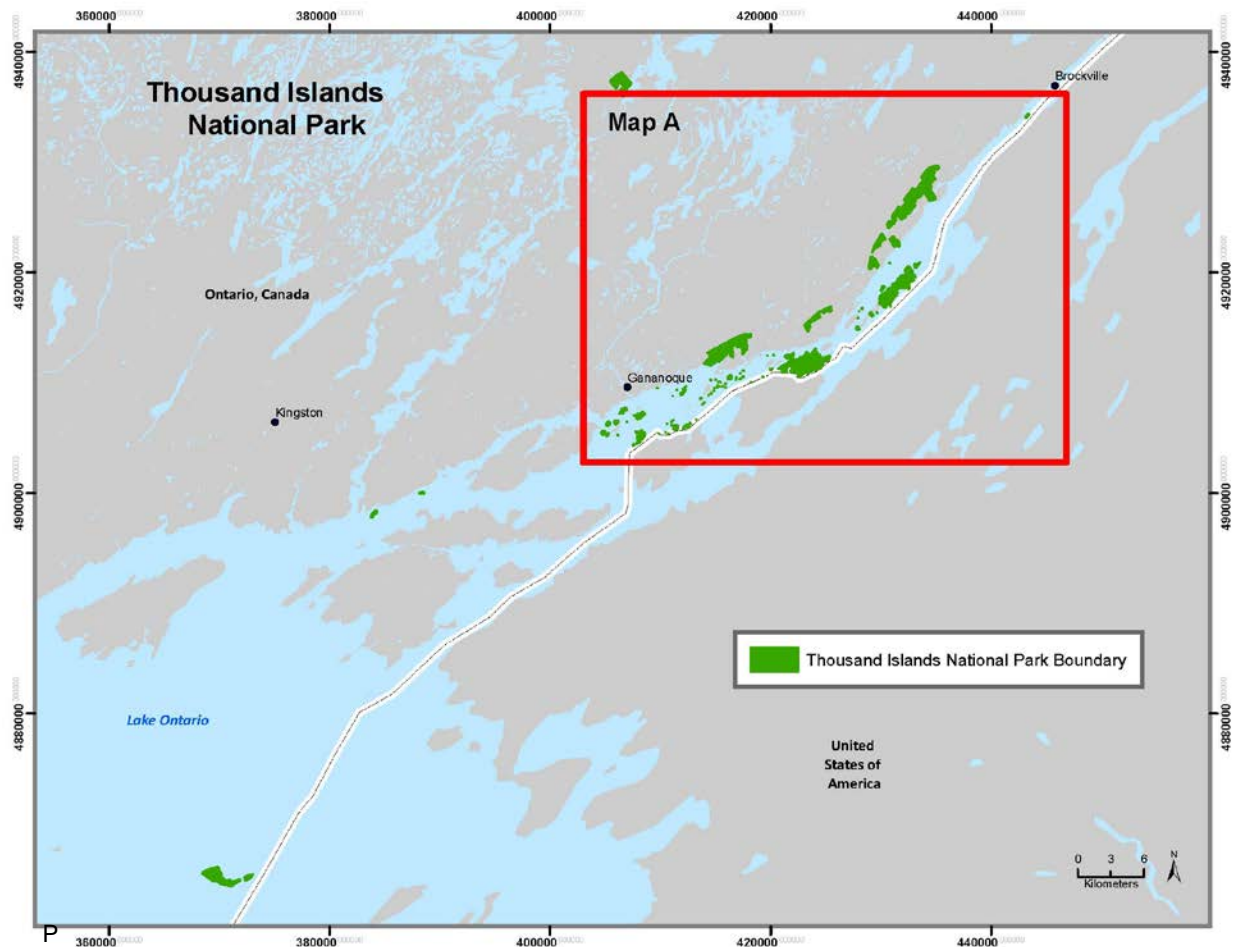
Kouchibouguac National Park
Parks Canada
186, Route 117
Kouchibouguac National Park, New Brunswick
E4X 2P1
Phone: 506-876-2443
Fax: 506-876-4802
Email: kouch.info@pc.gc.ca

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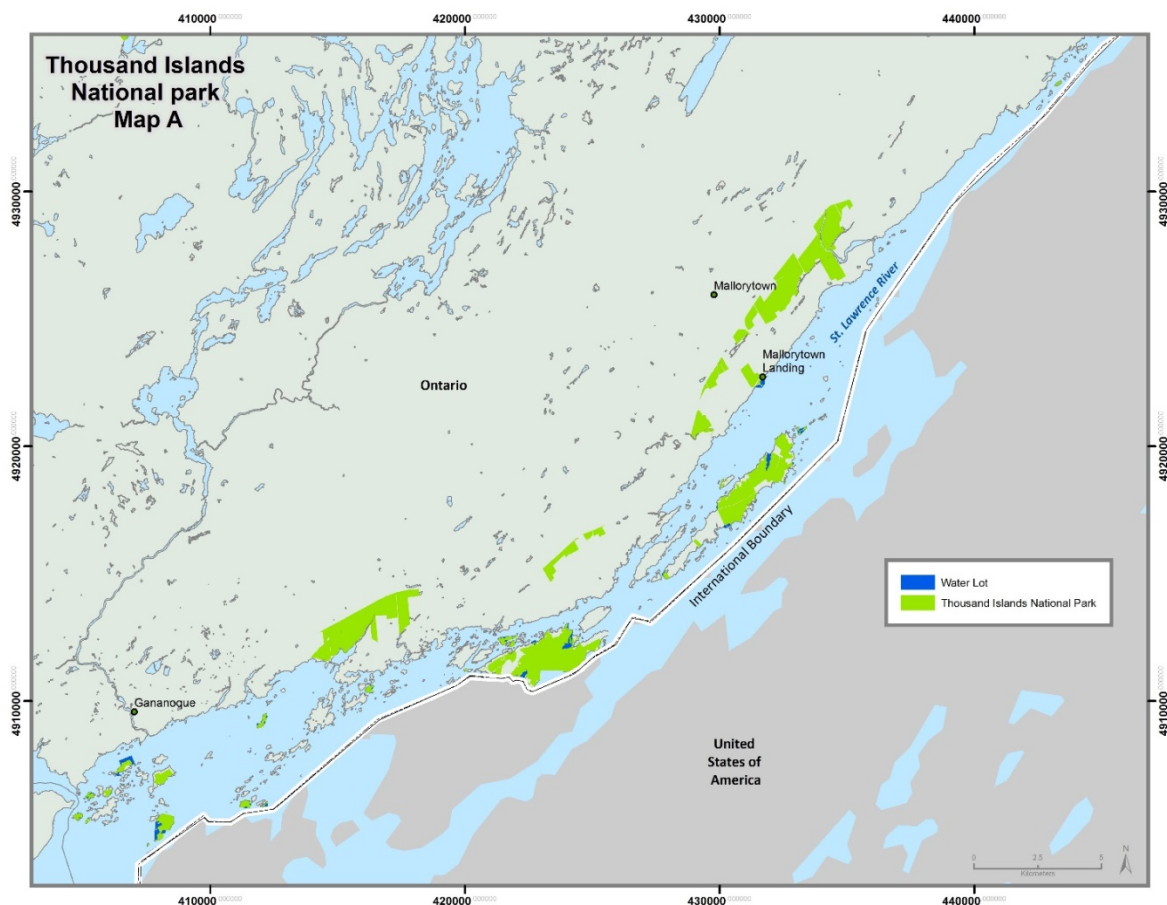
3. National Parks in Central Canada

3.1 Thousand Islands National Park of Canada

Coordinates



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Thousand Islands National Park consists of several ecologically important mainland properties and more than 20 islands between Kingston and Brockville. Established in 1904 as the first Canadian national park east of the Rockies, Thousand Islands celebrated its centennial in 2004. The park islands and mainland properties are protected under the Canada National Park Act (S.C. 2000, c.32).

Restrictions

Thousand Islands manages sixty-two water lots along the park's shoreline (see Map A below). Most water lots have public access docks or mooring cans which require permits for daily or overnight use. The water lot in front of Central Grenadier Island contains a quiet zone marked by water spars.

Contact

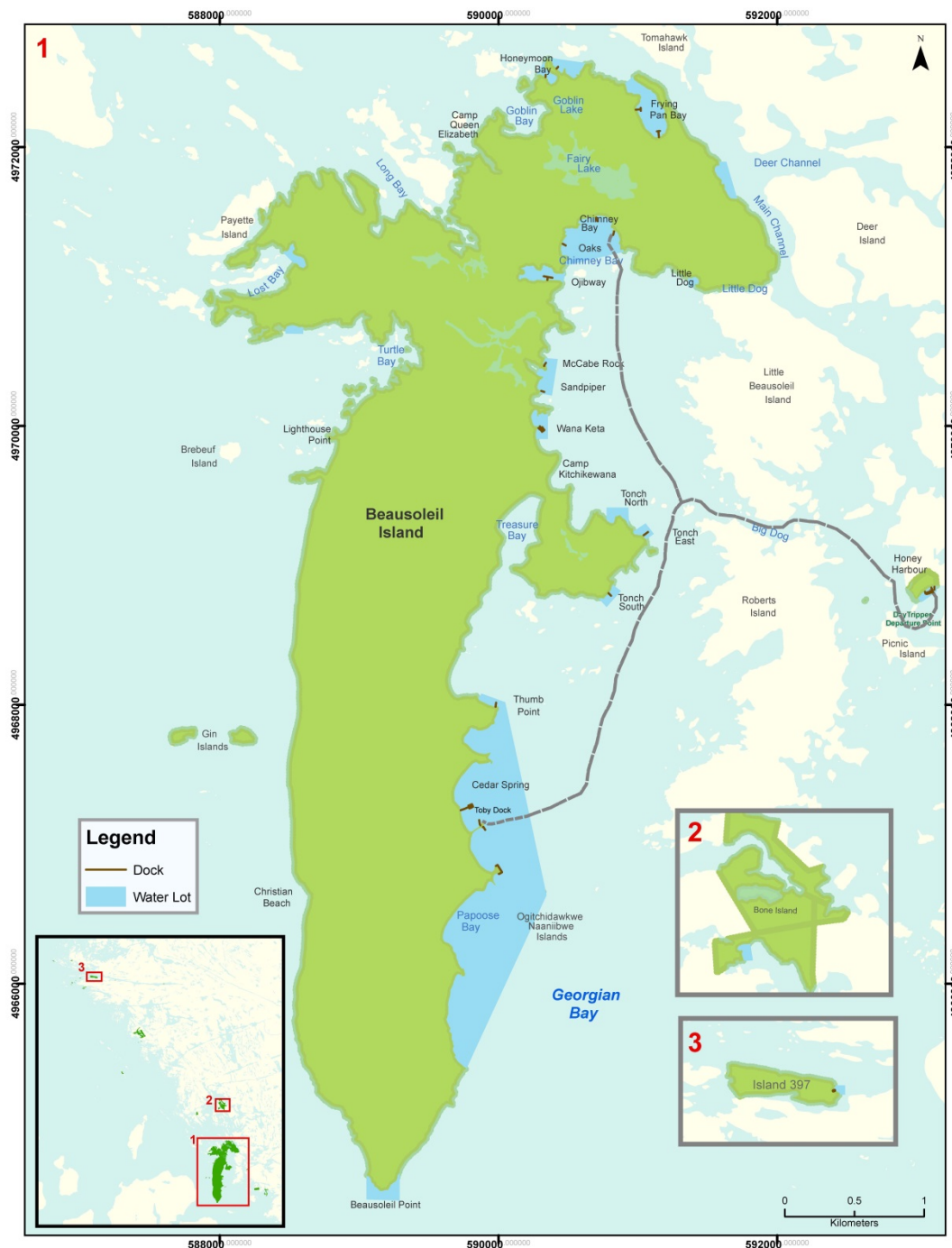
To purchase permits or for further questions concerning Thousand Islands National Park, contact us at:
Thousand Islands National Park

Parks Canada
2 County Rd 5
Mallorytown, ON
K0E 1R0
Phone: 613-923-5261
Email: ont-ti@pc.gc.ca
Web: www.parksCanada.gc.ca/sli

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3.2 Georgian Bay Islands National Park of Canada

Coordinates



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Georgian Bay Islands National Park of Canada

Georgian Bay Islands National Park is made up of 48 islands that are strewn along 50 km of eastern Georgian Bay from Honey Harbour to Twelve Mile Bay and are part of the world famous 30,000 Islands. Beausoleil Island is the largest park island and is the hub for activities.

Established in 1929, Georgian Bay Islands National Park straddles an area of St. Lawrence lowlands and pure Canadian Shield and forms a core part of the Georgian Bay Biosphere Reserve. The park islands are protected under the Canada National Park Act (S.C. 2000, c.32).

Restrictions

Georgian Bay Islands manages several water lots along the park's shoreline (see map below). Several water lots have public access docks which require mooring permits.

The water lot in front of Cedar Spring contains a quiet zone marked by water spars and a designated swimming area. The Tobey dock within this water lot is also monitored for length of stay restrictions.

Contact

To purchase permits or for further questions concerning Georgian Bay Islands National Park, contact us at:

Georgian Bay Islands National Park

Parks Canada

901 Wye Valley Rd, Box 9

Midland, ON

L4R 4K6

Phone: 705-527-7200

Fax: 705-526-5939

Email: info.gbi@pc.gc.ca

Web: www.parkscanada.gc.ca/gbi

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NOTICE TO MARINERS

General guidelines for National Historic Sites

Under the *Canada National Parks Act* (S.C. 2000, c. 32), the Parks Canada Agency has the authority to manage national historic sites under its administration on behalf of the people of Canada and is responsible for granting permission to enter any lands or waters for which it has jurisdiction. Visitor permits and/or business licenses may be required to enter a national historic site, and other permitting requirements may exist.

For general information regarding Canada's National Historic Sites, please contact the Parks Canada National Information Service at 1-888-773-8888 or information@pc.gc.ca, or visit our website: www.parkscanada.gc.ca.

Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site of Canada

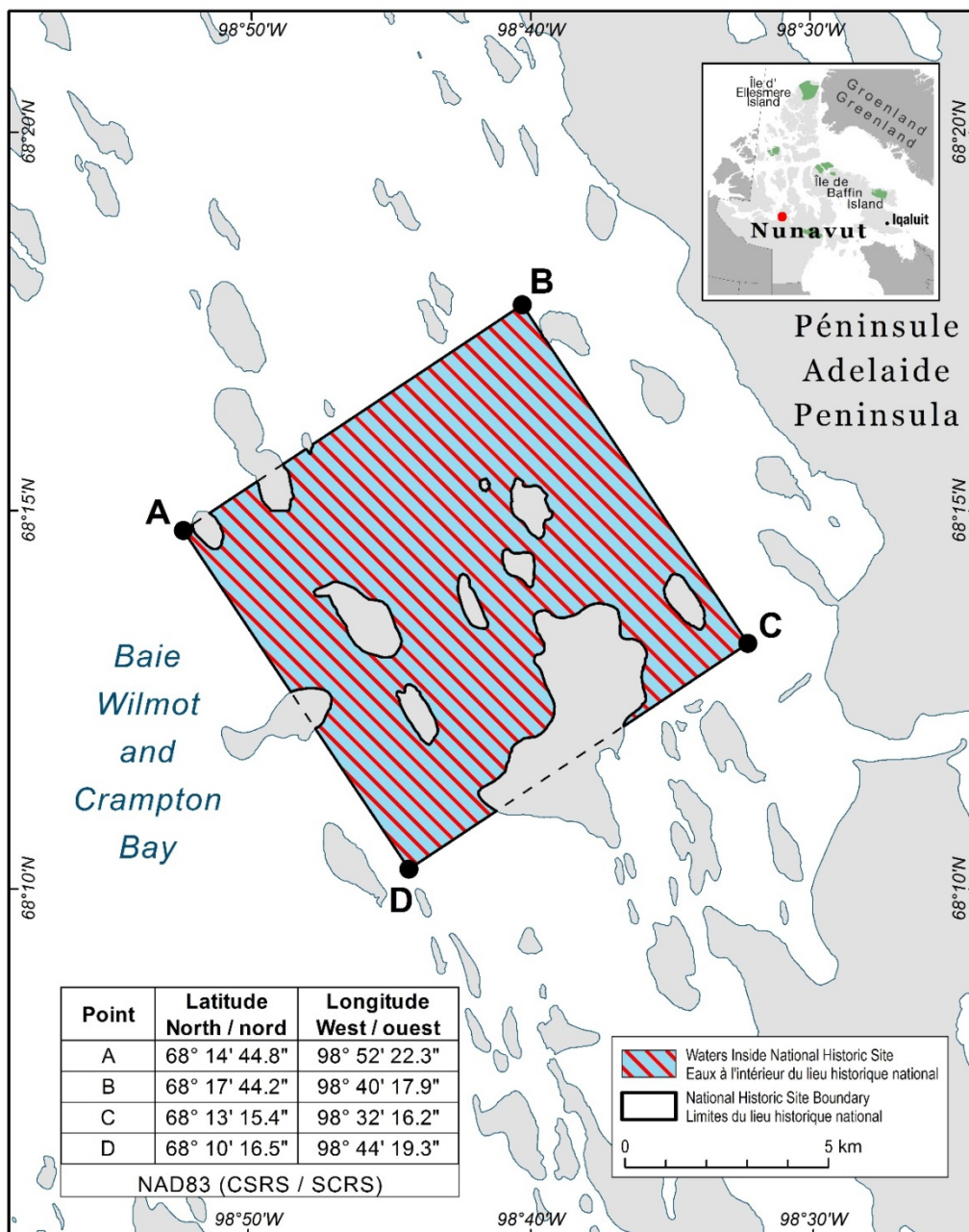
In 1992, the wrecks HMS *Erebus* and HMS *Terror* were designated as a national historic site under the *Historic Sites and Monuments Act*, despite the locations of both wrecks being unknown at that time. The wrecks were designated for their direct association with Sir John Franklin's last expedition. The initial discovery of a shipwreck belonging to the Franklin expedition was confirmed on September 7, 2014. On October 1, 2014, it was announced that the shipwreck had been identified as HMS *Erebus*.

In April 2015, a 10 km by 10 km area of seabed surrounding HMS *Erebus* was added to the *National Historic Sites of Canada Order*. The site now benefits from legal protection under the *Canada National Parks Act* (S.C. 2000, c. 32) and relevant regulations, which prohibit the removal of artifacts and allow for control of access and activities that may damage the wreck. This is the 168th national historic site administered by Parks Canada.

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Coordinates

WRECKS OF HMS *EREBUS* AND HMS *TERROR* NATIONAL HISTORIC SITE OF CANADA
LIEU HISTORIQUE NATIONAL DU CANADA DES ÉPAVES-DU-HMS-*EREBUS*-ET-HMS-*TERROR*



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Restrictions and Permitting Requirements

1. No person shall enter the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site of Canada without written authorization from the Field Unit Superintendent, except where a person is a beneficiary accessing the site for harvesting as provided in the *Nunavut Land Claims Agreement* (NLCA). Cruise ships and other vessels are currently not allowed in the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site of Canada.

Anyone wishing to enter the national historic site for official reasons (e.g., other government departments) should contact Parks Canada at least 60 days in advance of their trip.

2. No person shall conduct the following restricted activities without written authorization from the Field Unit Superintendent:
 - a. engaging in activities for the purpose of discovering, surveying or documenting archaeological, historical or cultural resources, including wreck that has heritage value;
 - b. engaging in activities that may physically disturb or damage archaeological, historical or cultural resources, including wreck that has heritage value;
 - c. removing archaeological, historical or cultural resources, including wreck that has heritage value;
 - d. anchoring, except when undertaken by a beneficiary under the NLCA for purposes of harvesting; and
 - e. diving, except when undertaken by a beneficiary under the NLCA for purposes of harvesting.

Reporting of Incidents

All incidents occurring within the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site of Canada must be promptly reported to the Marine Communications and Traffic Services Centre in Iqaluit using the available Canadian Coast Guard marine radio channel or by calling 1-867-979-5269.

Contact Information

Nunavut Field Unit
Parks Canada
PO Box 278
Iqaluit, NU
X0A 0H0
Phone: 867-975-4673
Fax: 867-975-4674
Email: nunavut.info@pc.gc.ca

Authority: Parks Canada

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5C National Marine Conservation Areas

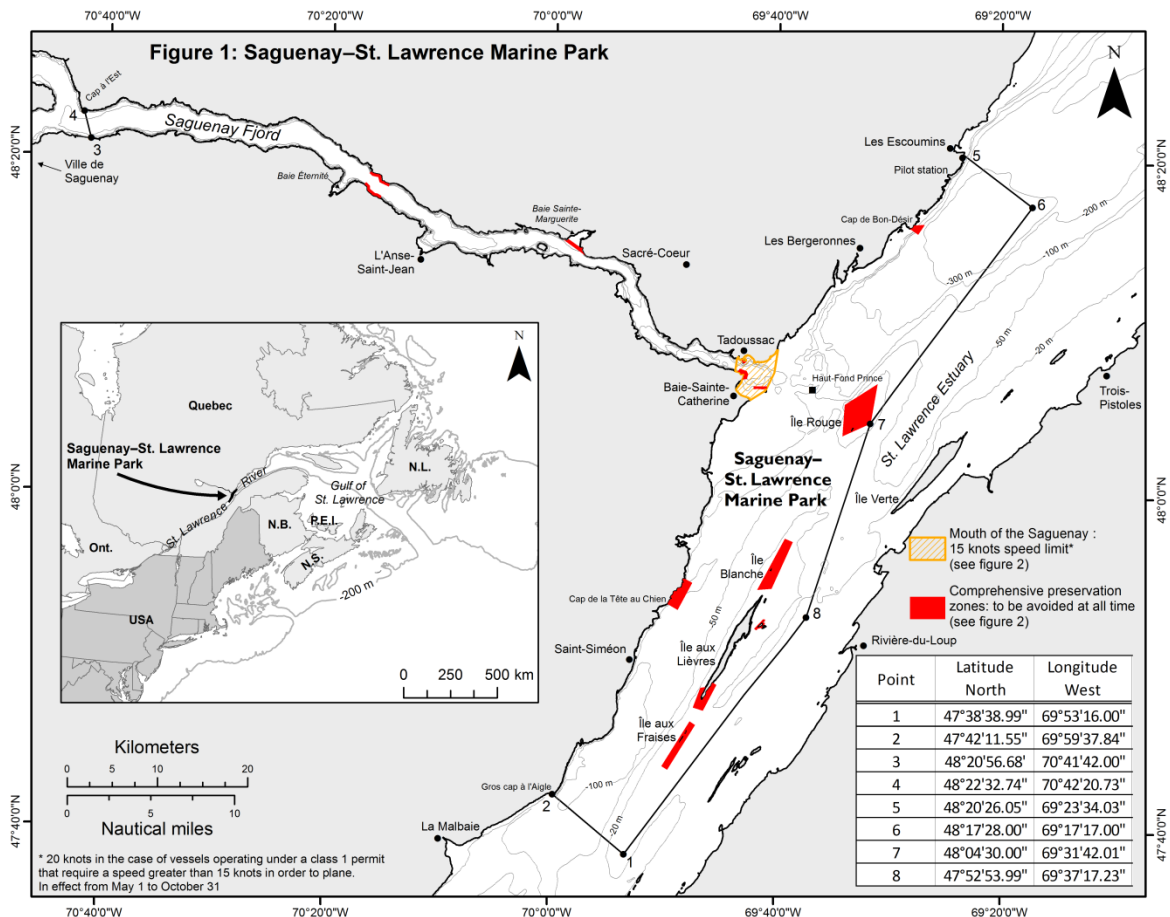
1. National Marine Conservation Areas in Eastern Canada

1.1 The Saguenay – St. Lawrence Marine Park, Quebec

The Saguenay – St. Lawrence Marine Park exists by virtue of two acts, one from the Government of Canada and the other from the Government of Quebec (*Saguenay-St. Lawrence Marine Park Act*, S.C. 1997, c. 37 and *Loi sur le parc marin du Saguenay—Saint-Laurent*, R.S.Q. c. P-8.1). The Marine Park includes the Saguenay Fjord, downstream from Cap à l'Est, and the northern portion of the St. Lawrence Estuary between Gros Cap à l'Aigle upstream to Les Escoumins downstream (Figure 1). The Marine Park covers approximately 1,245 km², includes the water column and seabed, and extends to the normal high-tide line. It protects representative portions of St. Lawrence Estuary and Saguenay Fjord ecosystems.

The Marine Park and surrounding waters are well known for the resident St. Lawrence beluga whale population and the wide diversity of marine mammals that migrate here, mainly to feed, between the months of April and November. Whales involved in feeding behaviour may suddenly surface unexpectedly. Heightened awareness on the mariner's part is necessary in order to prevent collisions with whales.

Oceanographic conditions in the area produce very strong currents and periodical fog in summer. The presence of numerous ports and marinas, as well as an important whale-watching industry, generates intense navigational activity, particularly between Tadoussac and Les Escoumins.



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Marine Mammal Protection

A. Marine Activities in the Saguenay–St. Lawrence Marine Park Regulations

Marine Activities in the Saguenay–St. Lawrence Marine Park Regulations (SOR/2002-76) regulate activities at sea, notably whale watching. The regulations indicate the maximum navigation speed permitted throughout the park, as well as the distances and speeds to be respected when whales are present. These distances vary depending on the risk status of a given species.

A permit is required in order to operate a marine tour business, to carry out scientific activities and for film productions. For more information on the Regulations, consult <http://laws-lois.justice.gc.ca/eng/regulations/SOR-2002-76/index.html>.

The main prescribed behaviours include:

1. General prohibitions

No person shall engage in behaviour that may disturb, kill or injure a marine mammal. Any collision with a marine mammal must immediately be reported to a park warden by dialling 1-866-508-9888.

2. Distance requirements

A minimum distance of 400 meters from all endangered marine mammals (blue whale and beluga whale) must be respected.

No person shall approach within 200 meters of any other whale species.

3. Speed limits

The maximum navigational speed within the Marine Park is 25 knots.

From May 1st to Oct 31st, it is prohibited for a vessel's pilot to navigate at a speed greater than 15 knots in the mouth of the Saguenay, whose limits are defined in Figures 1 and 2.

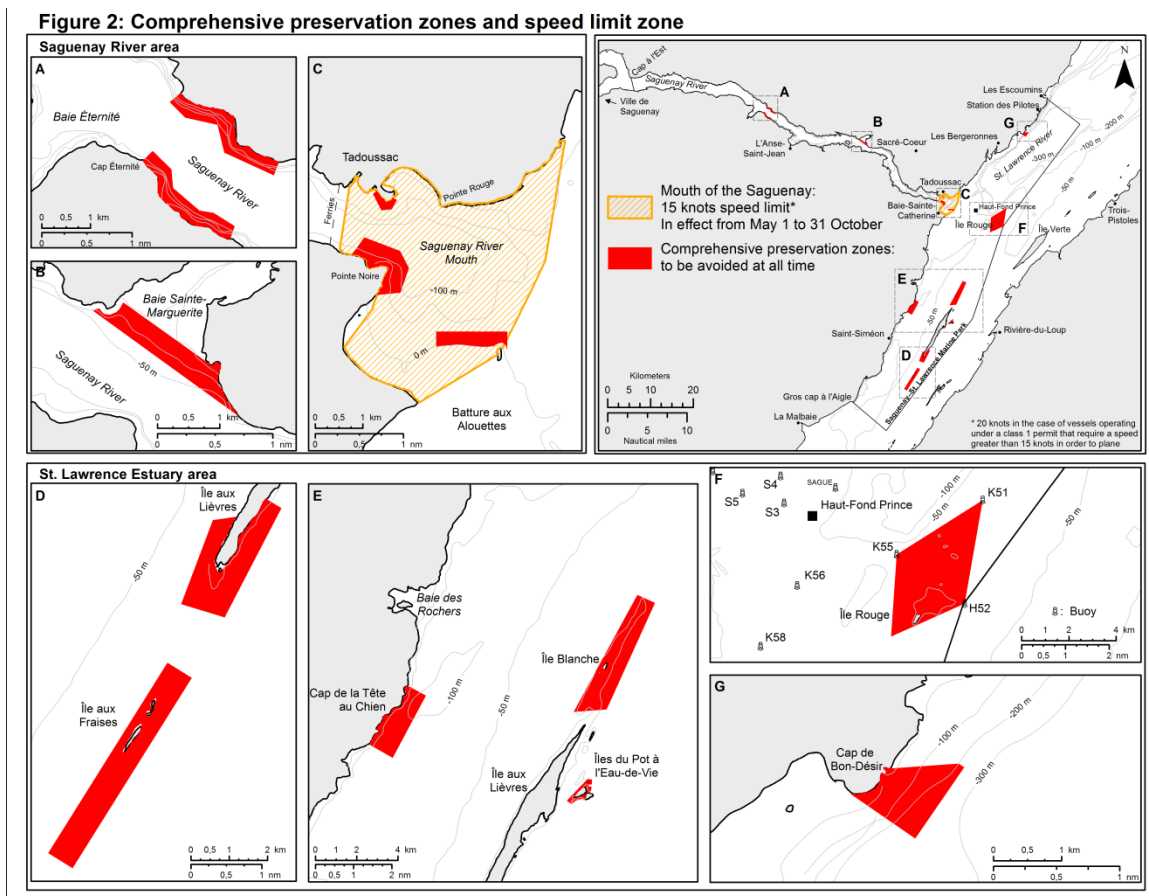
If a vessel unexpectedly encounters a threatened or endangered whale species (ex. blue whale) at a distance of less than 400 meters, the captain must reduce the speed of the vessel to a speed no greater than the minimum speed required to maneuver the vessel and move away to a distance greater than 400 meters.

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B. Zoning

The zoning of the Marine Park is designed to protect specific habitats and the species that live within them while promoting ecologically sustainable use of the Marine Park and quality visitor experiences. *Comprehensive preservation zones* were created to protect especially sensitive habitat (Figure 2). These zones cover 3% of the Marine Park's surface area and include sectors that are particularly important to marine mammals and seabirds caring for their young and for resting. All mariners are requested to avoid these zones.



C. Marine Mammal Emergency

To report a marine mammal that is either in trouble or dead, call 1-877-722-5346.

Information

For questions concerning the Saguenay–St. Lawrence Marine Park, contact Parks Canada at 418-235-4703 or info.parcmarin@pc.gc.ca, or visit www.marinepark.qc.ca.

For general information regarding Parks Canada's National Marine Conservation Areas, National Parks or National Historic Sites, please contact our National Information Service at 1-888-773-8888 or information@pc.gc.ca, or visit Parks Canada website at www.parks canada.gc.ca.

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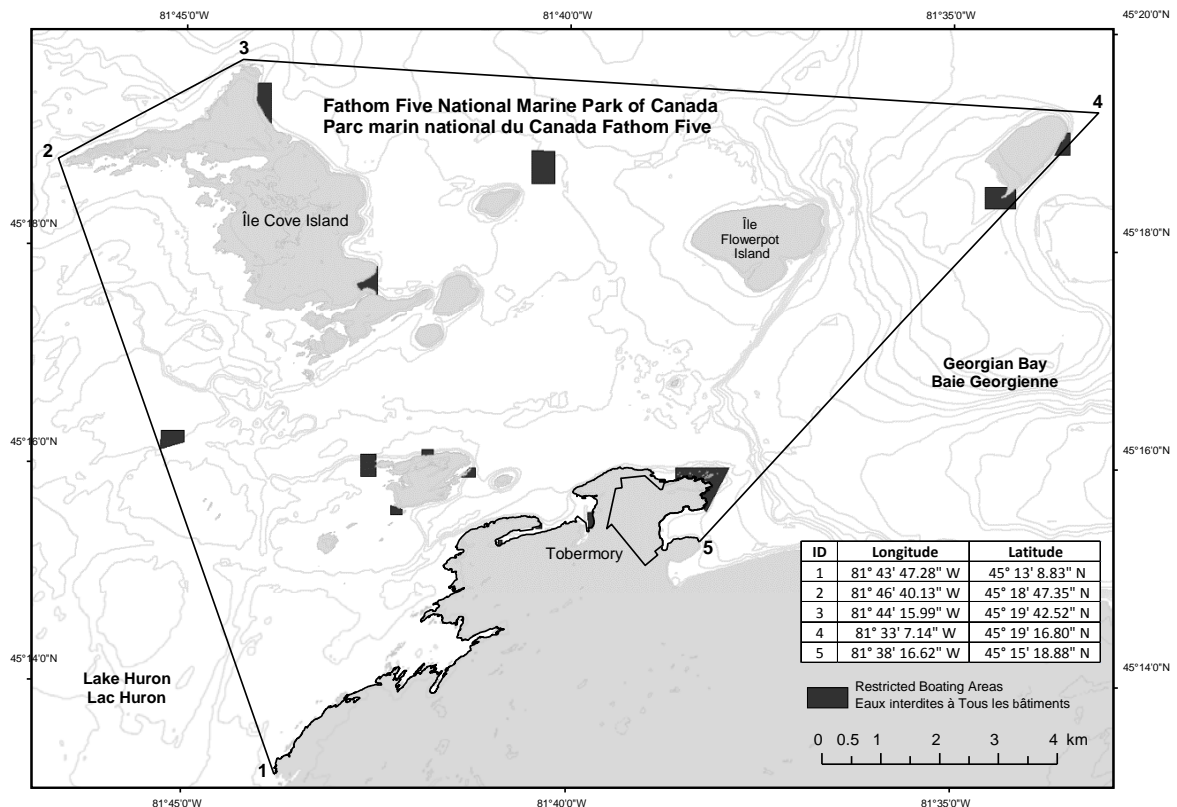
2. National Marine Conservation Areas in the Great Lakes

2.1 Fathom Five National Marine Park, Ontario

Fathom Five National Marine Park is a 114 km² protected area located on Lake Huron near Tobermory, Ontario. Many of the islands within the park are protected under the *Canada National Parks Act* (S.C. 2000, c. 32). The waters are managed in the "spirit" of the *Canada National Marine Conservation Areas Act* (S.C. 2002, c. 18) using a variety of provincial and federal legislation.

Fathom Five was first established in 1972 as a provincial park and later in 1987 became the first site to be under the stewardship of Parks Canada's national marine conservation area program. The park is renowned for its shipwrecks and diving opportunities.

Coordinates



Restrictions

Restricted boating areas within Fathom Five National Marine Park are described in the *Vessel Operation Restriction Regulations* (SOR/2008-120; Schedule 1, Part 2, items 4 to 17) and are indicated on the map above.

Moorings are maintained within many of the restricted boating areas to facilitate diving and protect the shipwrecks. Coordinates are listed in the table below.

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Shipwreck Name	Easting	Northing	Latitude	Longitude
Arabia	447220	5017855	45° 18' 43.975" N	81° 40' 24.002" W
	447220	5017775	45° 18' 41.383" N	81° 40' 23.972" W
Boat Harbour	442860	5018575	45° 19' 06.075" N	81° 43' 44.525" W
Dunk's Point	450337	5012792	45° 16' 00.736" N	81° 37' 59.032" W
Forest City	456178	5018358	45° 19' 02.493" N	81° 33' 32.774" W
John Walters	444840	5012060	45° 15' 35.541" N	81° 42' 10.979" W
James C. King	444389	5012931	45° 16' 03.636" N	81° 42' 32.022" W
	444323	5012906	45° 16' 02.808" N	81° 42' 35.041" W
Minch	444281	5015922	45° 17' 40.523" N	81° 42' 38.187" W
	444543	5015795	45° 17' 36.482" N	81° 42' 26.108" W
Newaygo	441074	5013316	45° 16' 15.139" N	81° 45' 04.301" W
	441058	5013253	45° 16' 13.093" N	81° 45' 05.009" W
	440978	5013114	45° 16' 08.565" N	81° 45' 08.620" W
Points West	442737	5014998	45° 17' 10.135" N	81° 43' 48.686" W
Philo Scoville	445300	5013057	45° 16' 07.977" N	81° 41' 50.269" W
Sweepstakes	446607	5011556	45° 15' 19.701" N	81° 40' 49.712" W
	446617	5011536	45° 15' 19.056" N	81° 40' 49.245" W
Truellen	444992	5015115	45° 17' 14.575" N	81° 42' 05.224" W
Tugs	448066	5011973	45° 15' 33.607" N	81° 39' 42.933" W
W.L. Wetmore	444297	5012669	45° 15' 55.121" N	81° 42' 36.138" W
	444364	5012641	45° 15' 54.232" N	81° 42' 33.052" W

Note: Easting and Northing coordinates are Universal Transverse Mercator Projection Zone 17 North. All projected and geographic coordinates are North American Datum 1983.

Permit Requirements

- A park permit is required to enter the restricted boating areas.
- A park permit is required to dive in the park.

Both permits are available from the Parks Canada Visitor Centre in Tobermory.

Information

For questions concerning Fathom Five National Marine Park, contact Parks Canada at 519-596-2233 or bruce-fathomfive@pc.gc.ca, or visit www.parkscanada.gc.ca/fathomfive.

For general information regarding Parks Canada's National Marine Conservation Areas, National Parks or National Historic Sites, please contact our National Information Service at 1-888-773-8888 or information@pc.gc.ca, or visit Parks Canada website at www.parkscanada.gc.ca.

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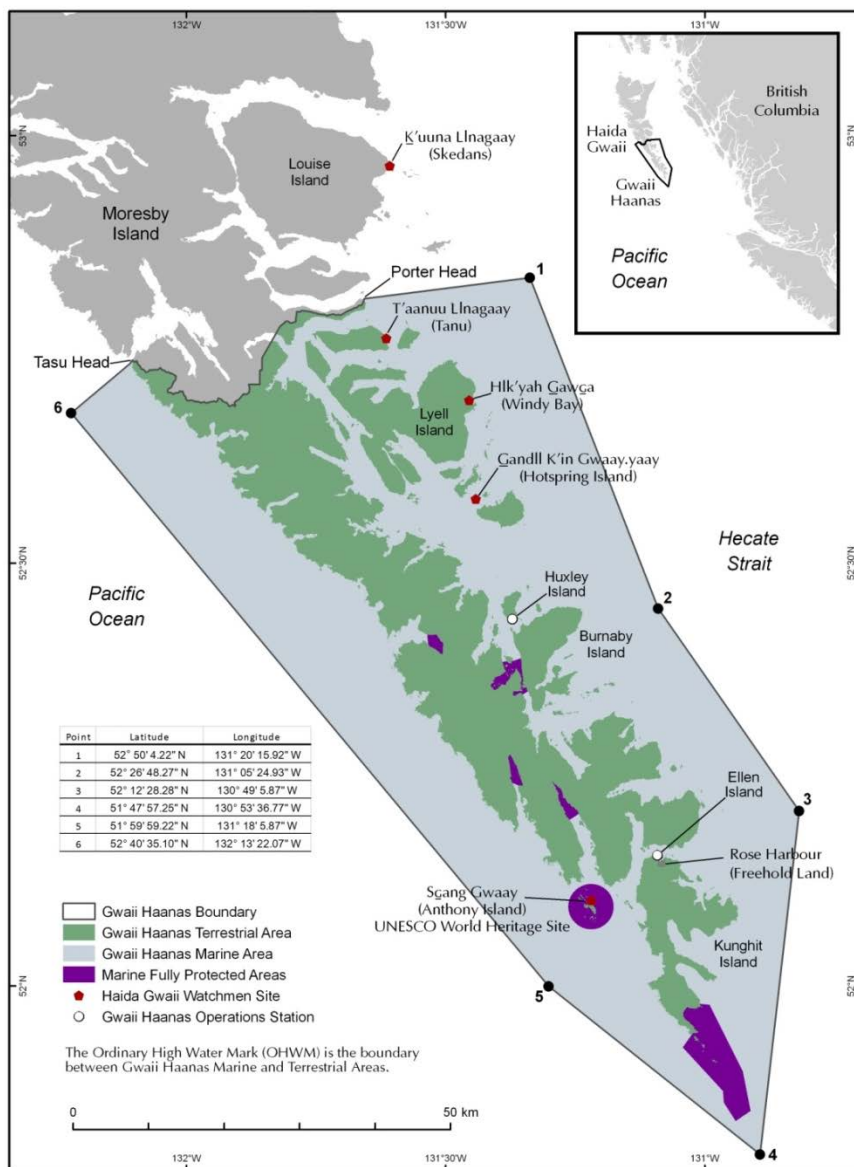
SECTION A – AIDS TO NAVIGATION AND MARINE SAFETY

3. National Marine Conservation Areas in Western Canada

3.1 Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site, British-Columbia

Gwaii Haanas is a 5000 km² land-and-sea protected area located at Haida Gwaii (formerly the Queen Charlotte Islands) in British Columbia. It is cooperatively managed by the Government of Canada and the Council of the Haida Nation. The terrestrial portion is protected under the *Canada National Parks Act* (S.C. 2000, c. 32) and the adjacent marine area is protected under the *Canada National Marine Conservation Areas Act* (S.C. 2002, c. 18).

Coordinates



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Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site is one of the first National Marine Conservation Areas (NMCA) established in Canada. NMCAs are intended to protect and conserve representative marine areas for the benefit, education and enjoyment of the people of Canada and the world. The fully protected areas in the Gwaii Haanas Marine Area (see map) protect key areas of biodiversity, rare and sensitive ecosystem elements, and important cultural sites.

Permit requirements

Those who would like to visit the Gwaii Haanas Terrestrial Area must obtain a permit at the Gwaii Haanas office in Skidegate or by calling 877-559-8818. Visitors are also required to receive an orientation prior to going ashore. These requirements do not apply to people of Haida ancestry.

Visitors are welcome at the Haida Gwaii Watchmen Sites including K'uuna Llnagaay (Skedans), T'aanuu Llnagaay (Tanu), Hlk'yah GawGa (Windy Bay), Gandl K'in Gwaay.yaay (Hot Spring Island), and SGang Gwaay (Anthony Island). Between May and September, please contact the on-site Haida Gwaii Watchmen by radio (marine channel 6) before coming ashore.

Restrictions

- Commercial and recreational extraction of all types (e.g., fishing, plant harvesting) are prohibited within the fully protected areas of the Gwaii Haanas Marine Area.
- Removal of any items from above the high tide line in Gwaii Haanas (i.e. within the Gwaii Haanas Terrestrial Area) is strictly prohibited.

Information

For questions concerning Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site, contact Parks Canada at 877-559-8818 or gwaii.haanas@pc.gc.ca, or visit www.parkscanada.gc.ca/gwaiihaanas.

For general information regarding Parks Canada's National Marine Conservation Areas, National Parks or National Historic Sites, please contact our National Information Service at 1-888-773-8888 or information@pc.gc.ca, or visit Parks Canada website at www.parkscanada.gc.ca.

Authority: Parks Canada Agency

5D General Guidelines for National Wildlife Areas

National Wildlife Areas of Canada

National Wildlife Areas (NWAs) are protected and managed according to the [Wildlife Area Regulations](#) under the [Canada Wildlife Act](#). The primary purpose of most NWAs is the protection and conservation of wildlife and their habitat. For this purpose, and according to the legislation, activities that could interfere with the conservation of wildlife are prohibited in an NWA. Consequently, a few NWAs are not accessible to the public and there are prohibited activities in all of them. Nonetheless, the Minister of the Environment has the ability to authorize most of the activities, whether through public notice or the issuance of permits. Those activities benefiting wildlife and their habitat, or are not inconsistent with the purpose for which the NWA was established and are consistent with the management plan goals for the NWA may be permitted.

For general information regarding Canada's National Wildlife Areas, please contact Environment and Climate Change Canada at 1-800-668-6767 (in Canada only) or ec.enviroinfo.ec@canada.ca, or visit our website: www.ec.gc.ca.

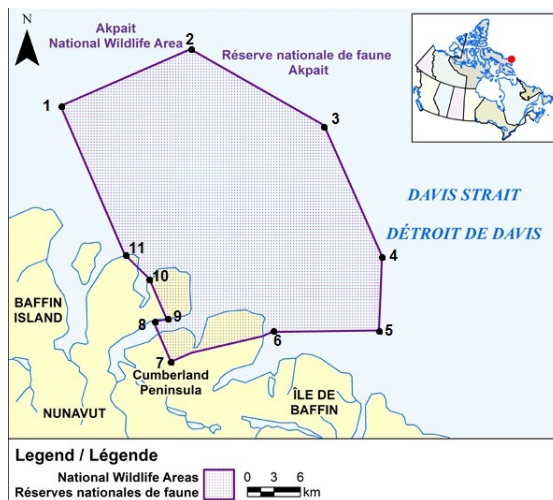
General Guidelines for National Wildlife Areas in Nunavut

Canadian and foreign ships are not allowed to enter these protected areas without a permit. Any foreign ship captain who is planning to enter in any of these protected areas without a permit, claiming a right of innocent passage, is strongly advised to communicate with Environment and Climate Change Canada (Canadian Wildlife Service) at least two weeks in advance.

In the Nunavut territory, Inuit have certain rights as per the Nunavut Land Claims Agreement (NLCA) and the Inuit Impact and Benefit Agreement (IIBA).

Akpait National Wildlife Area

Coordinates



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All geographic coordinates (latitude and longitude) are expressed in the North American Datum 1983 (NAD 83) geodetic reference system.

Point	Latitude	Longitude
1	67°08'00" N	61°51'00" W
2	67°08'00" N	61°29'06" W
3	67°00'35" N	61°15'00" W
4	66°52'00" N	61°15'00" W
5	66°48'00" N	61°20'00" W
6	66°50'30" N	61°35'00" W
7	66°51'17" N	61°51'00" W
8	66°53'55" N	61°51'00" W
9	66°53'43" N	61°49'00" W
10	66°56'21" N	61°49'00" W
11	66°58'17" N	61°51'00" W

Prohibitions

Navigating within Akpait National Wildlife Area without a permit is prohibited except for Inuit exercising their rights as per the Nunavut Land Claims Agreement or the Inuit Impact and Benefit Agreement.

Permitting Requirements

A permit must be obtained to either navigate within or conduct any type of activity in the National Wildlife Area. Activities that may be permitted will be in accordance with the conservation objectives of the National Wildlife Area management plan. A permit is not required for Inuit exercising their rights as per the Nunavut Land Claims Agreement or the Inuit Impact and Benefit Agreement within the National Wildlife Area. More information on access and permitting for Akpait National Wildlife Area can be obtained by contacting the [Environment and Climate Change Canada regional office](#).

Contact Information

Environment and Climate Change Canada – Prairie Northern Region
Canadian Wildlife Service
Protected Areas and Stewardship
P. O. Box 1714
Iqaluit, Nunavut
X0A 0H0
Toll Free: 1-800-668-6767 (in Canada only)
Email: ec.enviroinfo.ec@canada.ca

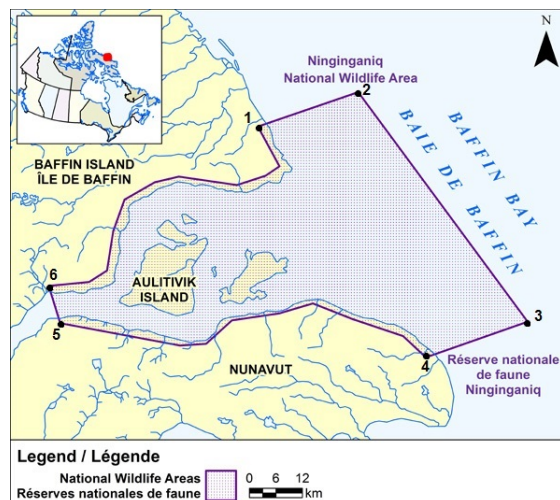
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Ninginganiq National Wildlife Area

Coordinates



All latitudes and longitudes hereinafter are referred to the North American Datum of 1983, Canadian Spatial Reference System (NAD83(CSRS))

Point	Latitude	Longitude
1	69°50'00" N	67°13'16.87" W
2	69°50'00" N	66°36'03" W
3	69°17'00" N	66°07'13" W
4	69°17'00" N	66°44'03.04" W
5	69°34'43.78" N	68°40'00" W
6	69°39'27.57" N	68°40'00" W

Prohibitions

Navigating within Ninginganiq National Wildlife Area without a permit is prohibited except for Inuit exercising their rights as per the Nunavut Land Claims Agreement or the Inuit Impact and Benefit Agreement.

Permitting Requirements

A permit must be obtained to either navigate within or conduct any type of activity in the National Wildlife Area. Activities that may be permitted will be in accordance with the conservation objectives of the National Wildlife Area management plan. A permit is not required for Inuit exercising their rights as per the Nunavut Land Claims Agreement or the Inuit Impact and Benefit Agreement within the National Wildlife Area. More information on access and permitting for Ninginganiq National Wildlife Area can be obtained by contacting the [Environment and Climate Change Canada regional office](#).

Contact Information

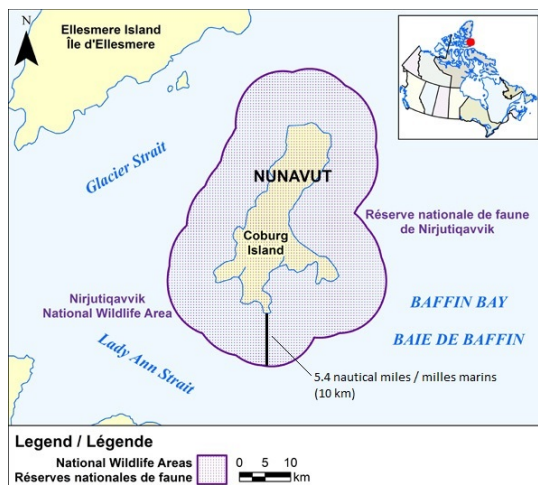
Environment and Climate Change Canada – Prairie Northern Region
 Canadian Wildlife Service
 Protected Areas and Stewardship
 P. O. Box 1714
 Iqaluit, Nunavut
 X0A 0H0
 Toll Free: 1-800-668-6767 (in Canada only)
 Email: ec.enviroinfo.ec@canada.ca

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Nirjutiqavvik National Wildlife Area

Coordinates



All latitudes and longitudes hereinafter described refer to the 1927 North American Datum.

All of the island known as Coburg Island, the centre of which having approximate latitude 75°57'50" and approximate longitude 79°19'30"; and also all that land covered by water immediately adjacent to said Coburg Island and extending 10 km (5.4 Nautical Miles) from the ordinary high-water mark thereof.

Prohibitions

Navigating within Nirjutiqavvik National Wildlife Area without a permit is prohibited except for Inuit exercising their rights as per the Nunavut Land Claims Agreement or the Inuit Impact and Benefit Agreement.

Permitting Requirements

A permit must be obtained to either navigate within or conduct any type of activity in the National Wildlife Area. Activities that may be permitted will be in accordance with the conservation objectives of the National Wildlife Area management plan. A permit is not required for Inuit exercising their rights as per the Nunavut Land Claims Agreement or the Inuit Impact and Benefit Agreement within the National Wildlife Area.

More information on access and permitting for Nirjutiqavvik National Wildlife Area can be obtained by contacting the [Environment and Climate Change Canada regional office](http://ec.gc.ca/EnvironmentCanada/regions/nunavut).

Contact Information

Environment and Climate Change Canada – Prairie Northern Region
Canadian Wildlife Service
Protected Areas and Stewardship
P. O. Box 1714
Iqaluit, Nunavut
X0A 0H0
Toll Free: 1-800-668-6767 (in Canada only)
Email: ec.enviroinfo.ec@canada.ca

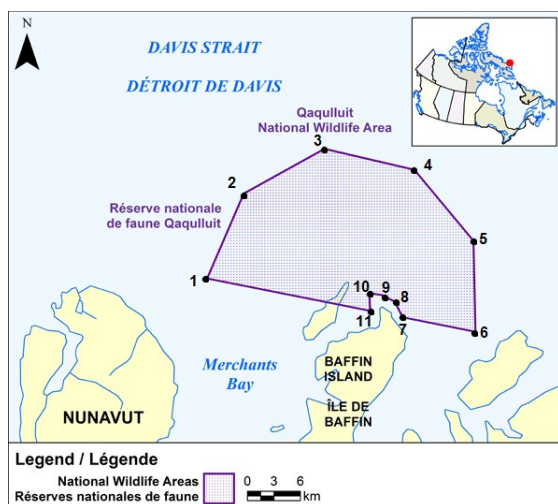
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Qaulluit National Wildlife Area

Coordinates



All latitudes and longitudes hereinafter are referred to the North American Datum of 1983, Canadian Spatial Reference System (NAD83(CSRS));

Point	Latitude	Longitude
1	67°17'13.53" N	62°47'28.04" W
2	67°21'05.00" N	62°37'07.13" W
3	67°21'40.56" N	62°22'47.50" W
4	67°18'24.40" N	62°11'09.29" W
5	67°13'05.16" N	62°07'02.76" W
6	67°08'01.14" N	62°12'15.74" W
7	67°10'31.73" N	62°21'46.00" W
8	67°11'35.41" N	62°21'58.76" W
9	67°12'15.21" N	62°23'25.39" W
10	67°12'38.43" N	62°25'04.87" W
11	67°11'38.90" N	62°26'01.70" W

Prohibitions

Navigating within Qaulluit National Wildlife Area without a permit is prohibited except for Inuit exercising their rights as per the Nunavut Land Claims Agreement or the Inuit Impact and Benefit Agreement.

Permitting Requirements

A permit must be obtained to either navigate within or conduct any type of activity in the National Wildlife Area. Activities that may be permitted will be in accordance with the conservation objectives of the National Wildlife Area management plan. A permit is not required for Inuit exercising their rights as per the Nunavut Land Claims Agreement or the Inuit Impact and Benefit Agreement within the National Wildlife Area.

More information on access and permitting for Qaulluit National Wildlife Area can be obtained by contacting the [Environment and Climate Change Canada regional office](#).

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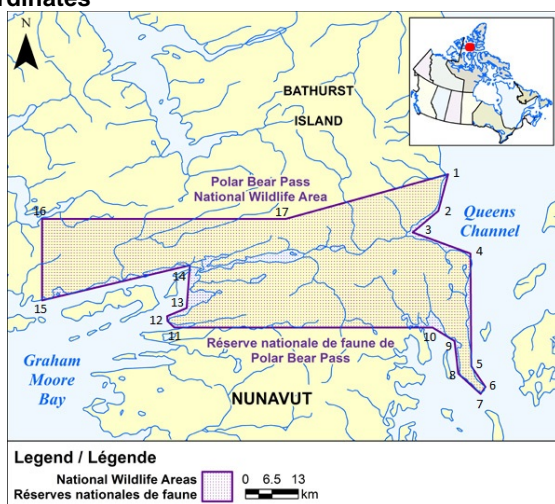
SECTION A – AIDS TO NAVIGATION AND MARINE SAFETY

Contact Information

Environment and Climate Change Canada – Prairie Northern Region
 Canadian Wildlife Service
 Protected Areas and Stewardship
 P. O. Box 1714
 Iqaluit, Nunavut
 X0A 0H0
 Toll Free: 1-800-668-6767 (in Canada only)
 Email: ec.enviroinfo.ec@canada.ca

Polar Bear Pass National Wildlife Area

Coordinates



All coordinates quoted herein being Universal Transverse Mercator coordinates in Zone 14;

Point	Northing	Easting
1	8 421 000	540 000
2	8 412 000	537 600
3	8 406 700	531 300
4	8 401 500	545 500
5	8 373 800	545 700
6	8 368 700	549 200
7	8 367 000	548 000
8	8 372 000	542 500
9	8 380 000	541 600
10	8 383 300	536 200
11	8 383 300	472 600
12	8 384 900	470 900
13	8 386 100	470 800
14	8 388 100	475 600
15	8 398 600	476 400
16	8 390 000	440 000
17	8 410 000	500 000

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Prohibitions

Navigating within Polar Bear Pass National Wildlife Area without a permit is prohibited except for Inuit exercising their rights as per the Nunavut Land Claims Agreement or the Inuit Impact and Benefit Agreement.

Permitting Requirements

A permit must be obtained to either navigate within or conduct any type of activity in the National Wildlife Area. Activities that may be permitted will be in accordance with the conservation objectives of the National Wildlife Area management plan. A permit is not required for Inuit exercising their rights as per the Nunavut Land Claims Agreement or the Inuit Impact and Benefit Agreement within the National Wildlife Area.

More information on access and permitting for Polar Bear Pass National Wildlife Area can be obtained by contacting the [Environment and Climate Change Canada regional office](#).

Contact Information

Environment and Climate Change Canada – Prairie Northern Region
Canadian Wildlife Service
Protected Areas and Stewardship
P. O. Box 1714
Iqaluit, Nunavut
X0A 0H0
Toll Free: 1-800-668-6767 (in Canada only)
Email: ec.enviroinfo.ec@canada.ca

Authority: Environment and Climate Canada

A3 ICE NAVIGATION

6 Ice Navigation, Routeing and Requests for Icebreaker Assistance

1 Hudson Strait and Canadian Arctic

Northern Canada Vessel Traffic Services (NORDREG) Zone

Mariners should be aware of the existence of the Northern Canada Vessel Traffic Services Zone established by the *Northern Canada Vessel Traffic Services Zone Regulations*. These regulations require certain vessels to report information to NORDREG before entering the NORDREG Zone and while navigating within it. In general, the NORDREG zone covers the waters of Ungava Bay, Hudson Bay and James Bay and Canada's coastal northern waters within the area enclosed by the 60th parallel of north latitude, the 141st meridian of west longitude and the outer limit of the exclusive economic zone; however, where the international boundary between Canada and Greenland is less than 200 nautical miles from the baselines of the territorial sea of Canada, the international boundary shall be substituted for that outer limit.

Ice operations support in NORDREG waterways is provided by the Canadian Coast Guard. Icebreaker assistance as well as ice information and ice routing should be requested through NORDREG. For more detailed information on this VTS system, the definition of waters it covers and the requirements to make certain reports and obtain clearance, mariners should refer to Part 3 of the Radio Aids to Marine Navigation (Atlantic, St. Lawrence, Great Lakes, Lake Winnipeg and Eastern Arctic).

(a) For general information on ice conditions:

Address: NORDREG CANADA,
P.O. Box 189,
Iqaluit (NU)
X0A 0H0
Telephone: (867) 979-5724 or 979-5269
Facsimile: (867) 979-4264

1.1 Ice Regime Routeing Message

When the Arctic Ice Regime Shipping System is used, the *Arctic Shipping Pollution Prevention Regulations (ASPPR)* requires that an Ice Regime Routing Message be sent to the NORDREG. This message can be brief, however, if the vessel's route includes areas on ice analysis charts with ice concentrations that may have negative Ice Numerals, the message should include additional pertinent information explaining the voyage plan e.g. expectations of changes in conditions and/or other considerations. This message should be updated if the plan and/or ice conditions change significantly.

Ice Regime Routing Message

- (a) the ship's name,
- (b) the ship's call sign and IMO number
- (c) the ice strengthening of the ship (Type / CAC / Arctic Class / etc.),
- (d) the date and UTC time,
- (e) the ship's current position, course and speed,
- (f) the anticipated destination,
- (g) the intended route,
- (h) a listing of the ice regimes and their associated Ice Numerals,
- (i) the source(s) of ice information,
- (j) any other pertinent information / comments,
- (k) the name of any escorting vessel, and
- (l) the name(s) of the Ice Navigator(s) on board

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1.2 After Action Report

When the Arctic Ice Regime Shipping System is used, in accordance with ASPPR, an After Action Report is to be submitted. The report can be brief; however, in cases where the voyage has involved difficulties or unexpected occurrences, it will be valuable to include additional information. Unlike the routing message, the After Action Report is to be sent to Transport Canada.

Transport Canada
Prairie and Northern Region, Marine
344 Edmonton St.
PO Box 8550
Winnipeg, MB, R3C 0P6
Tel.: (204) 983-7498
Fax: (204) 984-8417

After Action Report

- (a) the ship's name,
- (b) the ice strengthening of the ship (Type / CAC / Arctic Class / etc.),
- (c) a description of the actual route, including the; ice regimes encountered, transit speeds and the Ice Numerals for each,
- (d) copies of the ice information used,
- (e) escort information, if applicable
 - 1) duration of the escort,
 - 2) the ice regime under escort, and
 - 3) the characteristics of the track,
- (f) weather conditions and visibility, and
- (g) any other important information.

2 East Coast, Estuary and Gulf of St. Lawrence

During the winter navigation season a similar service is provided to ships intending to transit or to operate in the East Coast and Gulf of St. Lawrence waters. Access to this service can be obtained by contacting the Eastern Canada Traffic System (ECAREG CANADA). ECAREG communications procedures are specified in the current Radio Aids to Navigation publications.

- (a) For general information on ice conditions and icebreaker assistance along the main shipping route in the Gulf of St. Lawrence:

Address: Canadian Coast Guard,
Central & Arctic Region,
Regional Operations Centre,
105 McGill Street,
Montréal, QC, H2Y 2E7
Telephone: (514) 283-1746 or (855) 209-1976
Facsimile: (514) 283-1798
E-mail: DFO.IceOpsStLawrence.GlacesOpsStLaurent.MPO@dfo-mpo.gc.ca
Radiogram: ESCOUMINS TRAFFIC
QUÉBEC TRAFFIC

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- (b) For general information on ice conditions and icebreaker assistance in Chaleur Bay, New Brunswick, Prince Edward Island, Nova Scotia and Newfoundland and Labrador waters:

Address: ECAREG CANADA,
10 Hudson Way
Dartmouth, NS
B2Y 3Z8
E-mail: Hlxecareg1@innav.gc.ca
Telephone: 902-426-4956
Telex: 019-22510
Facsimile: 902-426-4483
Ice E-mail: Iceatl@dfo-mpo.gc.ca
Ice Telephone: (709) 772-2078
1-800-565-1633

3 St. Lawrence River

In the St. Lawrence River west of longitude 66°00'W to Montréal, ship movement is under the general control of the Vessel Traffic Services (VTS) system. During the winter navigation season, the ice operation centre will provide, via "Escoumins Traffic", "Québec Traffic", or "Montréal Traffic", the recommended ice routes to be used.

For general information on ice conditions and icebreaker assistance:

Address: Canadian Coast Guard,
Central & Arctic Region,
Regional Operations Centre,
105 McGill Street,
Montréal, QC, H2Y 2E7
Telephone: (514) 283-1746 or (855) 209-1976
Facsimile: (514) 283-1798
E-mail: DFO.IceOpsStLawrence.GlacesOpsStLaurent.MPO@dfo-mpo.gc.ca
Radiogram: ESCOUMINS TRAFFIC
QUÉBEC TRAFFIC

4 Canadian Great Lakes

Vessels entering Canadian waters of the Great Lakes may obtain ice information, routing advice and request icebreaker assistance by contacting the following address:

Address: Canadian Coast Guard,
Central & Arctic Region,
Regional Operations Centre,
105 McGill Street,
Montréal, QC, H2Y 2E7
Telephone: (514) 283-2784 or (855) 209-1976
Facsimile: (514) 283-1798
E-mail: DFO.IceOpsGreatLakes.GlacesOpsGrandsLacs.MPO.gc.ca
Radiogram: SARNIA TRAFFIC

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5 General Remarks

A limited number of icebreakers are available for the support of shipping and these are heavily committed. It is emphasized, therefore, that it may not be possible to provide icebreaker support at short notice. In order to make the most efficient use of all available resources, it is important that the MCTS Centre's are kept informed of the position and projected movements of vessels in Canadian waters.

MARINFO WEB SITE: <http://www.marinfo.gc.ca/en/glaces/index.asp>

ICEBREAKING WEB SITE: <http://www.ccg-gcc.gc.ca/Icebreaking/home>

GENERAL INFORMATION: ice-glace@dfo-mpo.gc.ca

Authority: Canadian Coast Guard

7 Information about Navigation in Ice

The Canadian Coast Guard publication "Ice Navigation in Canadian Waters" indicates the necessary precautions to be taken by ships navigating in ice in all Canadian waters, including the Arctic. This document provides Masters and watch keeping crew of vessels transiting Canadian ice-covered waters with the necessary information to achieve an understanding of the hazards, navigation techniques, and response of the vessel.

The nautical publication is available to download, free-of-charge, from http://www.ccg-gcc.gc.ca/ice_home/ice_Publications/Ice-Navigation-in-Canadian-Waters.

It is important to note that the paper version of the document is no longer available.

7.1 General

Ice is an obstacle to any ship, even an icebreaker. The first principle of successful ice navigation is to maintain freedom of manoeuvre. Once a ship becomes trapped, the vessel goes wherever the ice goes. Ice navigation requires great patience and can be a tiring business with or without icebreaker escort. The long way round a difficult ice area whose limits are known is often the fastest and safest way to port, or to the open sea.

Experience has proven that in ice of higher concentrations, three basic ship handling rules apply:

- keep moving - even very slowly, but keep moving;
- try to work with the ice movement, and not against it; and
- excessive speed means ice damage.

7.2 Requirements for Ships Operating in Ice

The propulsion plant and steering gear of any ship intending to operate in ice must be reliable and must be capable of a fast response to maneuvering orders. The navigational and communications equipment must be equally reliable and particular attention should be paid to maintaining radar at peak performance.

Light and partly loaded ships should be ballasted as deeply as possible, but excessive stern trim is not recommended, as it cuts down maneuverability and increases the possibility of ice damage to the more vulnerable lower area. Suction strainers should be able to be removed easily and to be cleared of ice and snow. Good searchlights should be available to aid in visibility in the event of night navigation with or without icebreaker support.

Ships navigating in ice-covered waters may experience delays and, therefore, should be stored with sufficient fresh-water supplies and maneuvering fuel.

7.3 Superstructure Icing

Ships and their equipment at sea in Canadian winters and in high latitudes are affected by the following:

- low surface temperatures
- high winds
- low sea-water injection temperatures
- low humidity
- ice conditions ranging from slush ice to solid pack
- snow, sleet, and freezing rain
- fog and overcast, especially at the ice/water interface
- superstructure icing when there is the great and dangerous possibility of heavy and rapid icing with consequent loss of stability.

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Superstructure icing is a complicated process that depends upon meteorological conditions, condition of loading, and behavior of the vessel in stormy weather, as well as on the size and location of superstructure and rigging. The more common cause of ice formation is the deposit of water droplets on the vessel's structure. These droplets come from spray driven from wave crests and from ship-generated spray. Ice formation may also occur in conditions of snowfall, sea fog, (including Arctic sea smoke) a drastic fall in

ambient temperature, and from the freezing of raindrops on contact with the vessel's structure. Ice formation may sometimes be caused or accentuated by water shipped on board and retained on deck.

Vessel icing is a function of the ship's course relative to the wind and seas and generally is most severe in the following areas: stem, bulwark and bulwark rail, windward side of the superstructure and deckhouses, hawse pipes, anchors, deck gear, forecastle deck and upper deck, freeing ports, aerials, stays, shrouds, masts, spars, and associated rigging. **It is important to maintain the anchor windlass free of ice so that the anchor may be dropped in case of emergency.**

Superstructure icing is possible whenever air temperatures are -2.2°C or less and winds are 17 knots or more, and when these conditions occur simultaneously. Generally speaking, winds of Beaufort Force 5 may produce slight icing; winds of Force 7, moderate icing; and winds of above Force 8, severe icing. Under these conditions, the most intensive ice formation takes place when wind and sea come from ahead. In beam and quartering winds, ice accumulates more quickly on the windward side of the vessel, thus leading to a constant list which is extremely dangerous. **Vessel icing may impair the stability and safety of a ship.**

7.4 Ship-handling in Ice

The route recommended by the Ice Operations Officer is based on the latest available ice information and Masters are advised to adjust their course accordingly. The following notes on ship-handling in ice have proven helpful:

- a) Do not enter ice if an alternative, although longer, route is available.
- b) It is very easy and extremely dangerous to underestimate the hardness of the ice.
- c) Enter the ice at low speed to receive the initial impact; once into the pack, increase speed to maintain headway and control of the ship.
- d) Be prepared to go "Full Astern" at any time.
- e) Navigation in pack ice after dark should not be attempted without high-power searchlights which can be controlled easily from the bridge. If poor visibility precludes progress, heave to and keep the propeller turning slowly as it is less susceptible to ice damage than if it were completely stopped.
- f) Propellers and rudders are the most vulnerable parts of the ship; ships should go astern in ice with extreme care - always with the rudder amidships.
- g) All forms of glacial ice (icebergs, bergy bits, growlers) in the pack should be given a wide berth, as they are current-driven whereas the pack is wind-driven.
- h) Wherever possible, pressure ridges should be avoided and a passage through pack ice under pressure should not be attempted.
- i) When a ship navigating independently becomes beset, it usually requires icebreaker assistance to free it. However, ships in ballast can sometimes free themselves by pumping and transferring ballast from side to side, and it may require very little change in trim or list to release the ship.

Masters who are inexperienced in ice often find it useful to employ the services of an ice pilot/advisor for transiting the Gulf of St. Lawrence in winter or an Ice Navigator for voyages into the Arctic in the summer.

7.5 Main Engine Cooling Systems

There is potential for ice and slush to enter sea bays or sea inlet boxes, blocking sea-water flow to the cooling system. This problem is encountered by a majority of ships entering ice-covered waters.

If water cannot be obtained for the cooling system, the main engines will not perform properly and may overheat causing the engines to shut down, or to be seriously damaged. The design of ships which operate in ice must prevent the cooling system from becoming blocked by ice.

Warning: Blockage of the sea boxes can cause the main engine cooling system to overheat, requiring reduced power to be used or the engine to be shut down completely.

Means must be provided to clear the sea bays if they do become blocked by ice. There are several design features which can ease or eliminate these problems:

- a) High and low inlet grilles can be provided as far apart as possible.
- b) Weir-type sea inlet boxes will overcome the problem of suction pipe clogging. The principal is commonly used in Baltic icebreakers. The suction is separated from the sea inlet grilles by a vertical plate weir. Any ice entering the box can float to the top and is unlikely to be drawn back down to the suction level.
- c) De-icing return(s) can be arranged to feed steam or hot water to the sea inlet box top, where frazil ice may have accumulated, or directly to the cooling system suction where a blockage may have occurred.
- d) Ballast water recirculation through the cooling water system allows ballast tanks to be used as coolers, alleviating any need to use blocked sea inlet boxes. It should be noted that, while this solution is effective, it is usually a short-term solution unless vast quantities of ballast water are available or if the ship is fitted with shell circulation coolers because the recirculated ballast water will become too warm for effective cooling.
- e) Means should be provided to clear the systems manually of blockage by ice.

The navigators and engineers should be aware of these potential problems and the solutions available to them on their ship.

7.6 Hull Fractures

Over the last several winter seasons, a number of bulk carriers and tankers developed fractures in their hulls while navigating in ice, off the East Coast of Canada or in the Gulf of St. Lawrence. The Load Line Regulations require that the master of every ship be supplied with a loading manual to enable him to arrange for the loading and ballasting of his ship in such a way as to avoid the creation of any unacceptable stresses.

Masters should be aware, while navigating in Canadian East Coast Waters and in the Gulf of St. Lawrence during the winter season, that low temperatures increase the brittleness of steel. This fact may be aggravated by wind force, sea conditions, and load distribution, temperatures of heated cargoes or oil fuels and length/beam ratio of vessels. Therefore, when there is a combination of:

- (a) gale force winds;
- (b) short, steep seas;
- (c) very cold temperatures, and
- (d) high length/beam ratio in vessels in ballast or in part-loaded condition.

Masters should minimize longitudinal stresses by reducing speed and maintaining the most advantageous ballast distribution as long as is necessary.

Authority: Canadian Coast Guard

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7A Voyage Planning for Vessels Intending to Navigate in Canada's Northern Waters

1 Purpose

This notice is intended to assist mariners, owners and operators of vessels intending on navigating in Canada's northern waters in preparing for, and executing, a safe voyage.

The recommendations and information provided in this notice are complementary to any other legal obligation of the owner, operator, master and all who have an interest in the vessel, and to the exercise of due diligence and good seamanship practices that are required from the master of a vessel.

2 Background

The Canadian Arctic is full of challenges to maritime navigation due to its climatic conditions, low temperatures, hazardous and variable ice conditions and geography. The region is remote and vast, making repair, rescue or clean-up operations difficult. Roads, airstrips and ports, are few and far between and search and rescue resources are limited. Emergencies can draw resources from other needed services such as icebreaking and community re-supply. In addition, the Arctic is environmentally sensitive and slow to recover from damage, so the impact of a pollution incident could have heavy consequences. The mariner must also keep in mind that most of Canada's Arctic waters have not been surveyed to modern standards.

Consequently, Arctic navigation requires ship crews with specialized knowledge. A safe Arctic voyage starts with a detailed voyage plan that takes into account the Arctic's unique conditions, navigational challenges and hazards along with the ship's capabilities and operational limitations.

The IMO Resolution A.1024(26), *Guidelines for ships operating in polar waters* recognizes that ships operating in the polar environments are exposed to unique risks. The guidelines are intended to address the additional provisions deemed necessary to take into account the climatic conditions of polar waters. As such it is recommended that these guidelines are considered when planning a voyage to Canadian Arctic waters.

3 Voyage Planning

Regulations¹ require the master of a ship, before proceeding to sea, ensure that the intended voyage has been planned using the most recent editions of the charts, documents and publications and take into account International Maritime Organization (IMO) Resolution A.893(21), *Guidelines for Voyage Planning*.² Particularly relevant to Arctic navigation, the voyage plan shall, among other things, anticipate all known navigational hazards and adverse weather conditions; and avoid, as far as possible, actions and activities that could cause damage to the environment. Passenger vessels should also take into account IMO Resolution A.999(25) *Guidelines on voyage planning for passenger ships operating in remote areas* and Transport Canada's *Guidelines for the Operation of Passenger Vessels in Canadian Arctic Waters*. (TP 13670)"

The following highlights some of the issues and sources of information that should be considered when planning a voyage in Canada's northern waters.

4 Charts and Notices

At present, less than 10% of Arctic waters are surveyed to modern standards. In addition, the mariner must be aware of the horizontal datum used for the chart. GPS positions can only be plotted directly on NAD 83 (equivalent to WGS 84) charts. For charts with other datums, the appropriate correction must be applied. Some Arctic charts do not have a reference datum and therefore no available corrections. In such cases, alternative sources of positional information should be used such as radar and visual lines of position when possible. It is always recommended that more than one means be used to fix a position.

¹ [CSA 2001, Charts and Nautical Publications Regulations, 1995 and SOLAS Regulation V/34](#)

² <http://www.tc.gc.ca/media/documents/marinesafety/a2res893.pdf>

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As always, mariners must use up-to-date nautical charts and nautical publications to plan each voyage.³ This includes making use of annual and monthly Notices to Mariners⁴ and northern Canada Sailing Directions⁵. Of particular note, given the challenges in Canada's northern waters of charting, confirming chart anomalies, and servicing aids to navigation, mariners must ensure that all Notices to Shipping (broadcast and written) and NAVAREA warnings that are in force in the area are taken into account. Further information can be obtained from the Canadian Coast Guard (CCG)⁶.

5 Ice Advisory Service, NORDREG Reporting, and Sails Plans

The CCG operates an ice advisory service for the support of vessels navigating in Canada's northern waters during the navigation season. Vessels can obtain up-to-date information on ice conditions, advice on routes, aids to navigation and icebreaker support, when available and considered necessary, by contacting NORDREG CANADA. Weather, ice advisories, forecasts and synoptic ice charts are also broadcasted daily. Vessels subject to the *Northern Canada Vessel Traffic Services Zone Regulations* must report to NORDREG as required by the regulations.

Vessels not required to report to NORDREG should, as a minimum, file a Sail Plan with a responsible person. This person should be instructed to call the Joint Rescue Coordination Centre if the vessel becomes overdue. In circumstances where it is not possible to file a Sail Plan with a responsible person, a Sail Plan may be filed by telephone, radio or in person, with an MCTS Centre. While at sea, masters and operators who have filed a sail plan are encouraged to file a daily position report during long trips. After completion of the voyage, the vessel must close (or deactivate) their sail plan. Forgetting to do so can result in an unwarranted search.

The CCG publication "Radio Aids to Marine Navigation"⁷ should be consulted for further information including details on the NORDREG Zone, reporting, radio frequencies and times for ship/shore communications and broadcasts.

6 Ice Navigation in Canadian Waters

The CCG publication "Ice Navigation in Canadian Waters"⁸ indicates the necessary precautions to be taken by ships navigating in Canadian ice-covered waters. The document provides masters and watchkeeping officers with the necessary information to achieve an understanding of the hazards, navigation techniques, and response of the vessel. It includes information on passage planning for routes in ice-covered waters and principles of high latitude navigation. Every ship of 100 tons gross tonnage, or over, navigating in Canadian waters in which ice may be encountered, is required to carry and make use of this publication.

7 Contingency Planning

Two groundings in the 2010 Arctic shipping season served as a reminder on the importance of contingency planning and risk assessment. As stated in the IMO Guidelines for Voyage Planning (A.893(21)), the detailed voyage plan should include, among other things, "contingency plans for alternative action to place the vessel in deep water or proceed to a port of refuge or safe anchorage in the event of any emergency necessitating abandonment of the plan, taking into account existing shore-based emergency response arrangements and equipment and the nature of the cargo and of the emergency itself." Access to emergency support services is very limited in Canadian Arctic waters. The shipowner may want to prearrange for emergency support prior to the voyage.

³ <http://www.charts.gc.ca/publications/sd-in/north-nord-eng.asp>

⁴ <http://www.notmar.gc.ca/go.php?doc=eng/index>

⁵ <http://www.cartes.gc.ca/publications/sd-in/north-nord-eng.asp>

⁶ <http://www.ccg-gcc.gc.ca/eng/CCG/Notship>

⁷ <http://www.ccg-gcc.gc.ca/Marine-Communications/Home>

⁸ http://www.ccg-gcc.gc.ca/Ice_home/Ice_Publications/Ice-Navigation-in-Canadian-Waters

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8 Arctic Waters Pollution Prevention Act

Canada has a specific legislative and regulatory regime in place for its Arctic waters to address the unique risks and hazards of Arctic navigation and prevent pollution. The *Arctic Shipping Pollution Prevention Regulations* (ASPPR) deal with construction and operational aspects of navigating in the Arctic, including the need for Ice Navigators. When voyage planning, it is essential that a ship's ice class be assessed against the ice conditions that will or may be encountered on the voyage. The ASPPR contains the Zone/Date System (Z/DS), which is a system dividing the Arctic into 16 Safety Control Zones, each with fixed opening and closing dates for ships of various ice capabilities (Polar Ice Classes). The Arctic Ice Regime Shipping System (AIRSS) was introduced as a more flexible system that uses the actual ice conditions to determine whether entry is allowed in an ice regime. Details of Canada's requirements and additional guidance for ships operating in its Arctic waters can be found on Transport Canada's website.⁹

9 Ice Navigator

It is important to note (and plan for) the need for an Ice Navigator when navigating inside a zone beyond the dates allowed under the ASPPR. While an Ice Navigator is required to be on board a vessel in some cases¹⁰ and the Zone Date or Arctic Ice Regime navigation control schemes observed, it is always recommended that persons experienced in ice navigation be on board all vessels operating in Arctic ice-covered waters.

Authority: Transport Canada

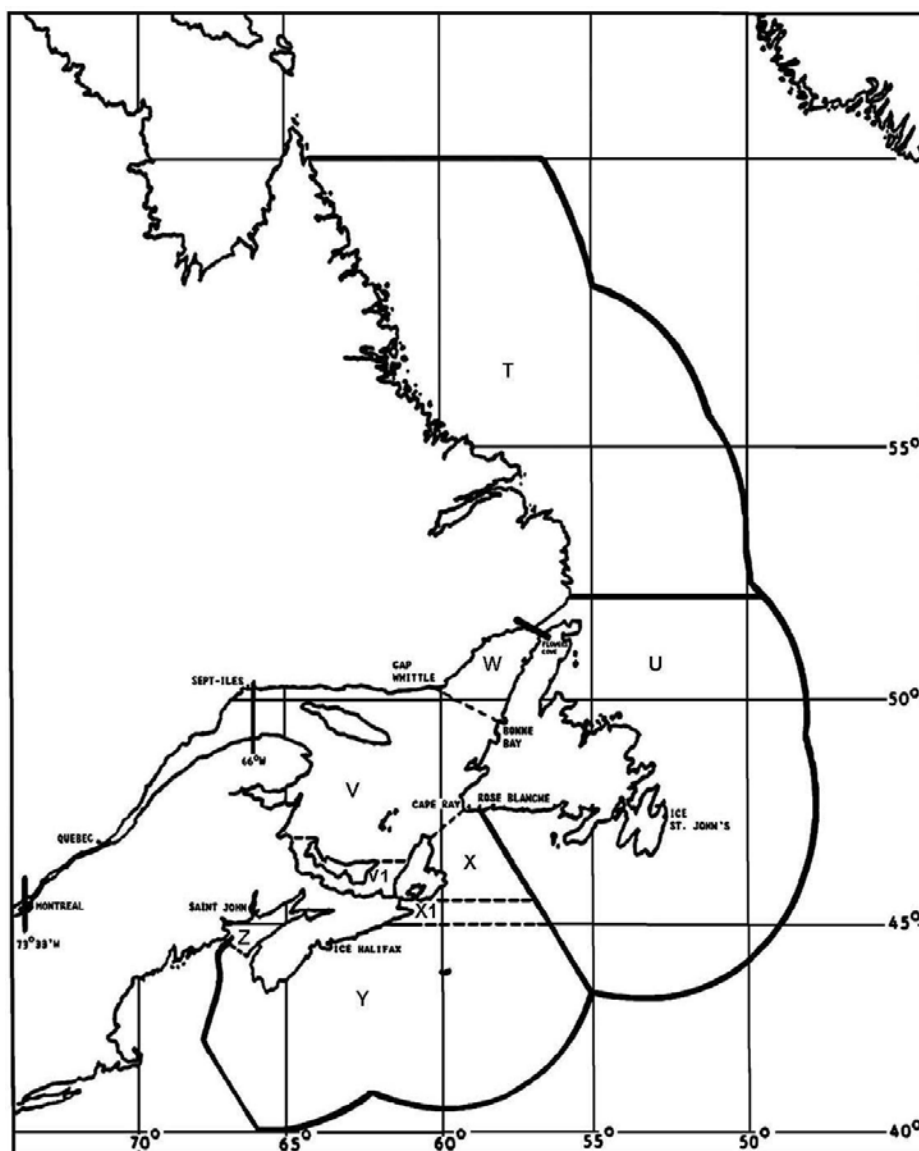
⁹ <http://www.tc.gc.ca/eng/marinesafety/menu.htm>

¹⁰ <http://www.tc.gc.ca/eng/marinesafety/menu.htm>

7B Joint Industry - Government Guidelines for the control of Oil Tankers and Bulk Chemical Carriers in the Ice Control Zones of Eastern Canada (JIGs) TP15163

These Guidelines apply to all laden oil tankers and to tankers carrying liquid chemicals in bulk when proceeding through an active Ice Control Zone in Eastern Canadian waters and fishing zones south of 60° North. The Canadian Coast Guard may declare any ice control zone to be an active Ice Control Zone and promulgate this information via Notice to Shipping and Notices to Mariners. When proceeding through an active Ice Control Zone, all ships to which the Guidelines apply should, have on board at least one "Ice Advisor", who meets the requirements as prescribed in JIGs. <http://www.tc.gc.ca/eng/marinesafety/tp-tp15163-menu-4025.htm>

Figure: Eastern Canada Ice Control Zones



Authority: Canadian Coast Guard and Transport Canada

A4 FISHING ACTIVITY

8 Information Concerning Fishing Vessels on the East and West Coasts of Canada

1 General

- 1.1 When navigating in coastal waters, mariners should exercise caution in areas where large concentrations of fishing vessels may operate. Many of these fishing vessels use nets which frequently extend to a considerable distance from the vessel and may be difficult to see.

WEST COAST

2 Georgia Strait - Fraser River

- 2.1 Many fishing vessels using gill nets operate, both by day and night, in the Fraser River and its approaches. The period of operation is approximately from July 1 to November 1, and sporadically throughout the year.
- 2.2 Mariners are advised to navigate with caution in this area since gill nets can be up to 375 meters in length.

3 Approaches to Juan de Fuca Strait - La Pérouse Bank - Swiftsure Bank - Estevan Point

- 3.1 Mariners are warned that during the period from approximately April 15 to September 30, numerous fishing vessels may be encountered inside the 50 fathom line off Estevan Point, La Pérouse, Swiftsure Bank and in the approaches to Juan de Fuca Strait. These vessels may be trolling or towing nets. At night, such vessels may frequently be at anchor. Vessels approaching these areas from any direction are advised to pass to seaward and clear of the banks due to the prevalence of restricted visibility in this vicinity. Vessels which are obligated to cross these banks should navigate with caution to avoid risk of collision with fishing vessels. Mariners can receive radar derived information concerning the locations of large concentrations of fishing vessels by contacting the Marine Communications and Traffic Services (MCTS) Centre at Prince Rupert Traffic.

4 Juan de Fuca Strait

- 4.1 Numerous fishing vessels using drift nets or purse seine nets may be encountered, both day and night, in the Juan de Fuca Strait. The period of operation is approximately from July 1 to November 1. Drift nets can extend up to 552 meters in length from the end that is attached to the operating vessel. The free end is marked by a white light.

5 West Coast of Vancouver Island

- 5.1 Large fishing/factory ships may operate off the West Coast of Vancouver Island between Cape Flattery and Estevan Point from June to November. These ships may be fishing, working cargo or drifting.

6 Fishing Vessel Advisory Notice

Commercial ships and fishing vessels using the inside passage waters of British Columbia during the commercial fishing season.

- 6.1 Fishing vessels when in transit (not fishing) are advised to monitor the VESSEL TRAFFIC SERVICES CHANNEL for the VTS Sector they are in.
- 6.2 All commercial vessels transiting an open fishing ground are advised to monitor VHF Channel 78A (156.925 MHz) in addition to the Vessel Traffic Services Channel for the VTS Sector they are in. Vessels while in transit through the grounds should broadcast their intended track at frequent intervals (every ½ hour) on VHF Channel 78A, and more frequently under reduced visibility conditions.
- 6.3 Fishing vessels and other vessels when underway are required by regulation to travel with high intensity deck lights extinguished. Vessels in contravention are subject to severe penalties.

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- 6.4 All vessels, including vessels engaged in a commercial fishery, are advised that it is imperative that correct lights and shapes are exhibited in accordance with the *International Regulations for Preventing Collisions at Sea, 1972* as amended.
- 6.5 Gill Net fishing vessels should remain on the end of their net to enable transiting vessels, when known to be in transit in an active fisheries area, to identify where the fishing vessel is in relation to her net. In addition, at night, it is recommended that the Gill Net fishing vessel indicate the lie of her net to transiting vessels by directing the beam of her searchlight in the direction of the danger.
- 6.6 All vessels when transiting or crossing a Traffic Separation Scheme (Lanes) are required to observe Rule 10 of the International Regulations for preventing *Collisions at Sea, 1972* (with Canadian modifications) as amended.

Refer to Part 3 of the Radio Aids to Marine Navigation publication, for information on zones, sectors and VHF frequencies.

7 Use of Radiotelephone

- 7.1 Vessels to seaward of Juan de Fuca Strait and within waters under Canadian jurisdiction are required to maintain a continuous listening watch on the bridge-to-bridge VHF radiotelephone channel in accordance with the provisions of the VHF *Radiotelephone Practices and Procedures Regulations*.
- 7.2 Mariners can communicate with Fisheries patrol vessels or "Prince Rupert Traffic" to exchange information or assist in making a safe passage. These patrol vessels can initially be contacted on VHF Channel 16 (156.8 MHz).
- 7.3 The Vessel Traffic Services (VTS) for the coastal waters of southern British Columbia designates VHF channels for specific sectors. Refer to Part 3 of the Radio Aids to Marine Navigation publication, for details.
- 7.4 Mariners are recommended to refer to the appropriate US sources for radiotelephone procedures when navigating in US waters.

EAST COAST

8 Bay of Fundy and Grand Manan Basin

- 8.1 Mariners may encounter large concentrations of fishing vessels throughout the year in the southern approaches to the Bay of Fundy and within the area of Grand Manan Basin.
- 8.2 Vessels proceeding through these areas should navigate with caution to avoid risk of collision with vessels engaged in fishing, and maintain a continuous radio watch on VHF Channel 16.
- 8.3 Use of the traffic separation scheme in the Bay of Fundy is compulsory.
- 8.4 The MCTS Centre at Saint John "Fundy Traffic" may be contacted for detailed information concerning fishing vessel concentrations. Refer to Part 3 of the Radio Aids to Marine Navigation publication for details.

9 Grand Banks of Newfoundland

- 9.1 Mariners are advised that large concentrations of fishing vessels may be encountered in all areas on the Grand Banks of Newfoundland.
- 9.2 Vessels proceeding through areas of the Grand Banks are advised to navigate with caution to avoid risk of collision with vessels engaged in fishing, and to maintain a continuous radio watch on VHF Channel 16.
- 9.3 Rule 10(s) of the Collision Regulations states that "a vessel making a transatlantic voyage shall, as far as practicable, avoid crossing the Grand Banks of Newfoundland and Labrador north of latitude 43° north".

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10 Strait of Belle Isle and Approaches

- 10.1 Mariners may encounter large concentrations of fishing vessels throughout the navigation season in the Strait of Belle Isle and approaches.
- 10.2 Vessels transiting through this area should navigate with caution to avoid risk of collision with vessels engaged in fishing, and maintain a continuous radio watch on VHF Channel 16.
- 10.3 The MCTS Centre at St. Anthony, St. Anthony Coast Guard Radio, may be contacted for information concerning fishing activity.

11 Use of Radiotelephone

- 11.1 Mariners are reminded of the requirement to maintain a continuous listening watch on the appropriate bridge-to-bridge VHF radiotelephone channel in accordance with the *VHF Radiotelephone Practices and Procedures Regulations* while navigating in waters under Canadian jurisdiction.

Authority: Canadian Coast Guard
Transport Canada

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9 Marking of Fishing Gear

In order to carry out their duties, Government vessels must operate wherever necessary and cannot be confined to customary commercial routes. Government vessels are instructed to exercise reasonable care to avoid damage to fish nets, traps and trawl lines. Similarly, fishermen should exercise reasonable precautions for protection of their nets when setting their equipment. Accordingly, fishermen are warned that they cannot expect favorable consideration of claims for damage to their nets, traps and trawls, attributed to Government vessels, unless they are marked in a manner so that, under prevailing conditions, the markers are visible to a ship's lookout in sufficient time to avoid fouling their gear.

Authority: Canadian Coast Guard (Fleet)

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9A Closure to Crab Fishing: Deltaport and Tsawwassen Ferry Terminal

The Vancouver Fraser Port Authority (VFPA), doing business as Port of Vancouver, is an organization established and governed by the *Canada Marine Act*, as well as the *Port Authorities Management Regulations* and Letters Patent issued pursuant to the Act. VFPA is responsible for maintaining safe navigation in the waters within its jurisdiction.

The Department of Fisheries & Oceans (DFO) is the federal agency that delivers programs and services that support sustainable use and development of Canada's waterways and aquatic resources. Section 24 of the *Fisheries Act* states that fishing apparatus "shall not be set or used in such manner or in such place as to obstruct [...] navigation."

VFPA and DFO have jointly determined that safety of navigation in the area described below under 'Description of "Navigational Closure Area"' requires closure to commercial crab fishing.

Purpose

The purpose of this closure is to maintain a safe approach for deep sea vessels, berthing tugs and ferries transiting in and out of Deltaport and Tsawwassen Ferry Terminal.

Fishing Gear: "Crab Floats & Traps"

Crab floats and traps must remain at all times outside of the closure area described below and shown in the attached map. **This area is reserved for navigation only.** Any crab floats and traps placed in the closure area will be removed under the authority of VFPA/DFO. Crab fishers are reminded to consider the impact on navigation when placing gear outside the closure area.

Information on the "Navigational Closure Area" for Deltaport & Tsawwassen Ferry Terminal

Description of the "Navigational Closure Area"

The Navigational Closure Area includes the turning basin adjacent to the container terminal, approaches to the Coal berth and Tsawwassen Ferry Terminal as shown on the attached map* and defined below. Coordinates are shown in chart datum (NAD 83).

Restricted Area Coordinates: Starting from the in-shore end of turning basin

49° 01' 34"N - 123° 08' 47"W
49° 01' 28"N - 123° 08' 32"W
49° 00' 57"N - 123° 08' 27"W
49° 00' 56"N - 123° 08' 11"W
49° 00' 36"N - 123° 07' 46"W
49° 00' 26"N - 123° 07' 59"W
49° 00' 22"N - 123° 07' 50"W
49° 00' 28"N - 123° 07' 35"W
49° 00' 07"N - 123° 07' 07"W
49° 00' 07"N - 123° 11' 16"W
49° 00' 55"N - 123° 11' 16"W
49° 00' 46"N - 123° 10' 35"W
49° 01' 05"N - 123° 10' 19"W
49° 00' 49"N - 123° 09' 32"W, then following the shoreline of Deltaport to the beginning point.

Contact List

In the case of a "Marine Emergency," contact the Canadian Coast Guard radio on VHF 16, or for non-emergencies, contact the Marine Communications and Traffic Services at 250-363-6333.

For Navigational issues, contact VFPA's Operations Center at 604-665-9086

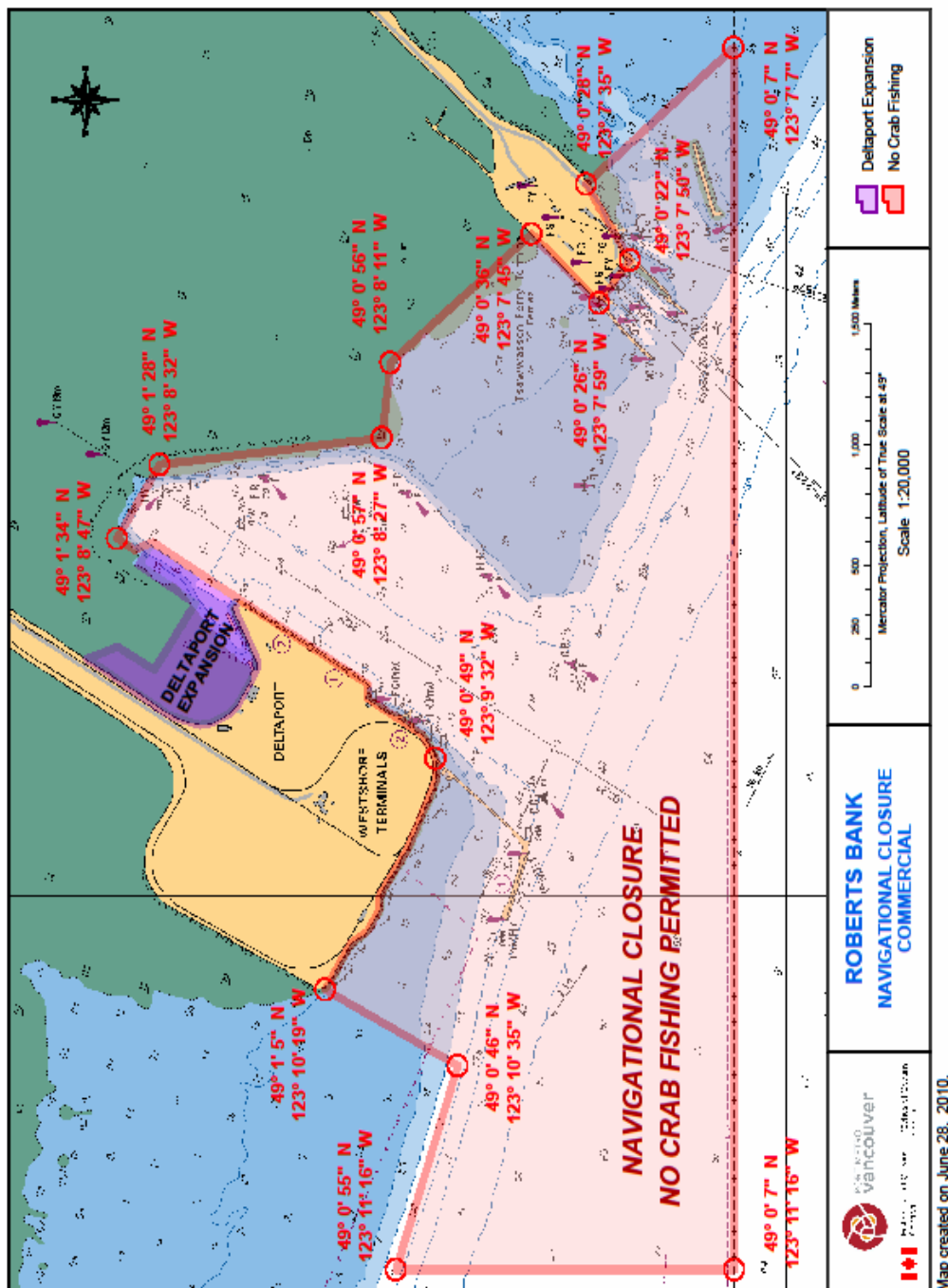
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For Fisheries issues and violations, contact the local office of Fisheries and Oceans Canada, the Steveston Field Office at 604-664-9250 during normal business hours or the DFO Observe Record Report (ORR) after-hours line at 1-800-465-4336.

For Boating Safety issues, contact Transport Canada, Office of Boating Safety at 250-480-2792.



Authority: Vancouver Fraser Port Authority

A5 NAVIGATION SAFETY

10 Routing of Ships

1 GENERAL

- 1.1 Rule 10 of the *Collision Regulations* applies to all ships navigating in or near a routing system.
- 1.2 The information on ships' routing in this Notice was up-to-date at the time of printing. Monthly editions of the Notices to Mariners must be consulted for additions and amendments. (<http://www.notmar.gc.ca>)
- 1.3 Ships which depart from these routes and meet with collisions may involve themselves in legal liability. Admiralty courts have held that, where traffic routing systems are observed for the common safety of ships and are recognized on official charts, "it is negligent navigation to leave them without reason."
- 1.4 The Canadian compulsory routing systems are modified by the provisions that fall under the heading "Canadian Modifications" to Rule 10 of the *Collision Regulations* as follows:
 - .1 In Canadian waters and fishing zones, a vessel engaged in fishing may fish in any direction in or near a traffic separation scheme, but shall not impede the passage of any vessel following a traffic lane.
 - .2 Every power-driven vessel of more than 20 metres in length is required to use the route within a traffic separation scheme or routing system by which it can safely proceed to its destination.
 - .3 Conditional exemptions are also made for special purpose vessels.
- 1.5 Detailed information on the routing of ships, which includes traffic separation schemes, deep water routes, areas to be avoided and other routing measures, can be found in the appropriate *Sailing Directions* and in the International Maritime Organization (IMO) publication titled "*Ships' Routing*".

2 CANADIAN ROUTING MEASURES

2.1 Compulsory Canadian Routing Systems

- **In the Approaches to Chedabucto Bay (also adopted by IMO)(amended in 2007)**
Reference charts: 4013, 4321, 4335 and 4374 (Canada)
- **In the Bay of Fundy and Approaches (also adopted by IMO)(amended in 2002)R**
Reference charts: 4011, 4012 (Canada)
- **In the Strait of Juan de Fuca and its Approaches (also adopted by IMO) (amended in 2005)**
Reference charts: 3440, 3461, 3462, 3602 and 3606 (Canada) 18400, 18421, 18440, 18460, 18465, 18480 and 18485 (United States)
- **In Haro Strait and Boundary Pass (also adopted by IMO)**
Reference charts: 3461, 3462, 3440, and 3601 (Canada), 18421, 18423, 18431, 18432 and 18433 (United States).
- **In the Strait of Georgia (also adopted by IMO)(amended in 2004)**
Reference charts: 3462, 3463, 3492 and 3601 (Canada), 18421, 18431 and 18423 (United States).

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2.2 Recommended Canadian Routeing Systems

- **Johnstone Strait - Race and Current Passages Traffic Separation Scheme**

Reference chart: 3544 (Canada)

Mariners using this traffic separation scheme should be aware of the following recommendation and caution:

"Mariners are recommended to use their radiotelephone to provide information of their presence and warnings to other ships.

CAUTION

In some instances a large vessel proceeding westbound on an ebb tide may have difficulty in making the turn to starboard into Current Passage and clearing Ripple Shoal. Under such circumstances the master may decide to proceed against the traffic flow through Race Passage and should make every effort to warn other traffic in the area."

- **Broughton Strait - Haddington Island Traffic Separation Scheme**

Reference chart: 3546 (Canada)

Mariners using this traffic separation scheme should be aware of the following recommendation and caution:

"Mariners are recommended to use their radiotelephone to provide information of their presence and warnings to other ships.

CAUTION

In some instances large vessels and tugs with long tows proceeding eastbound may have difficulty in making the turn to starboard to pass south of Haddington Island. Under such circumstances the master may decide to proceed against the traffic flow through Haddington Passage but should make every effort to warn other traffic in the area."

- **Vancouver and Approaches Traffic Separation Scheme**

Reference charts: 3463, 3481 and 3526

- **Gulf and River St. Lawrence Routeing System**

Reference charts: 1203, 1220, 1221, 1236, 1320, 4002, 4020, 4021, 4022, 4024, 4025, 4026 and 4731 (Canada)

System revised and in effect July 1st, 1992.

- **Halifax and Approaches Routeing System**

Reference chart: 4320 (Canada)

- **Placentia Bay Routeing System**

Reference charts: 4839, 4841, 4622, 4624, 4016 and 4047 (Canada)

- **Bull Arm Routeing System**

Reference chart: 4851 (Canada)

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2.3 Recommended Great Lakes Routing Measures

- .1 The Great Lakes routing measures consist of a system of recommended courses on Lakes Ontario, Erie, Huron, Michigan and Superior.
- .2 These courses are delineated on both Canadian and the United States general charts of the Great Lakes, and are described in the appropriate *Sailing Directions*.
- .3 In the interest of navigational safety and environmental protection, mariners are advised to observe these courses.
- .4 The person in charge of the navigation of the ships may exercise discretion in departing from the recommended courses whenever weather or ice conditions render it necessary.

2.4 Ice Routing

Refer to Notice to Mariners No. 6 for ice routing in Canadian waters.

2.5 Tanker Exclusion Zone - Pacific Coast

- .1 A tanker exclusion zone (TEZ) has been established off the Pacific coast of Canada as a result of the discontinuance of the Trans Alaska Pipeline Tanker Routes.
- .2 The purpose of the TEZ is to keep laden tankers west of the zone boundary in an effort to protect the shoreline and coastal waters from a potential risk of pollution.
- .3 The zone boundary follows the Canada/Alaska border to a point approximately 115 miles west of Langara Island, thence southward to approximately 73 miles southwest of Cape St. James, thence to 40 miles southwest of Amphitrite Point and thence due east to just off Cape Flattery.
- .4 The TEZ is defined as follows:

a line from	54°00'00"N	136°17'00"W
thence to	51°05'00"N	132°30'00"W
thence to	48°32'00"N	126°30'00"W
thence to	48°32'00"N	125°09'00"W
- .5 Loaded TAPS crude oil tankers transiting along the Pacific coast are requested to remain seaward of this zone boundary.

2.6 Precautionary Area

- **Terra Nova Floating Production Storage and Offloading (FPSO) (Grand Banks of Newfoundland)**
Ships should navigate with particular caution in the area having a 10 nm radius centered on 46°28'.53N ad 048°28'.86W. Any ship planning to transit the precautionary area is advised to contact the FPSO vessel on VHF channel 16 and to comply with the instructions given while transiting the area. Ship movement in the area is monitored on a 24 hour basis.

Reference Charts: 4000, 4001, 8011 and 8012 (Canada)

2.7 Area to be avoided (ATBA)

- **Roseway Basin Seasonal ATBA (June through December) (South of Nova Scotia)**
Charts 4003, 4012 and 4230 (Canada)

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3 International Routeing Measures

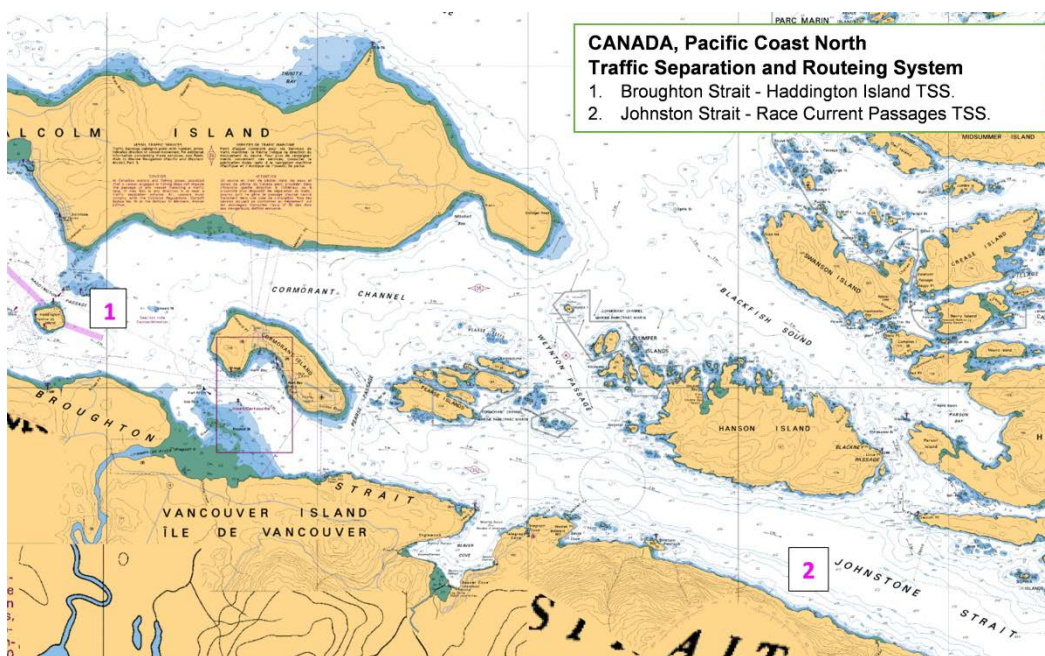
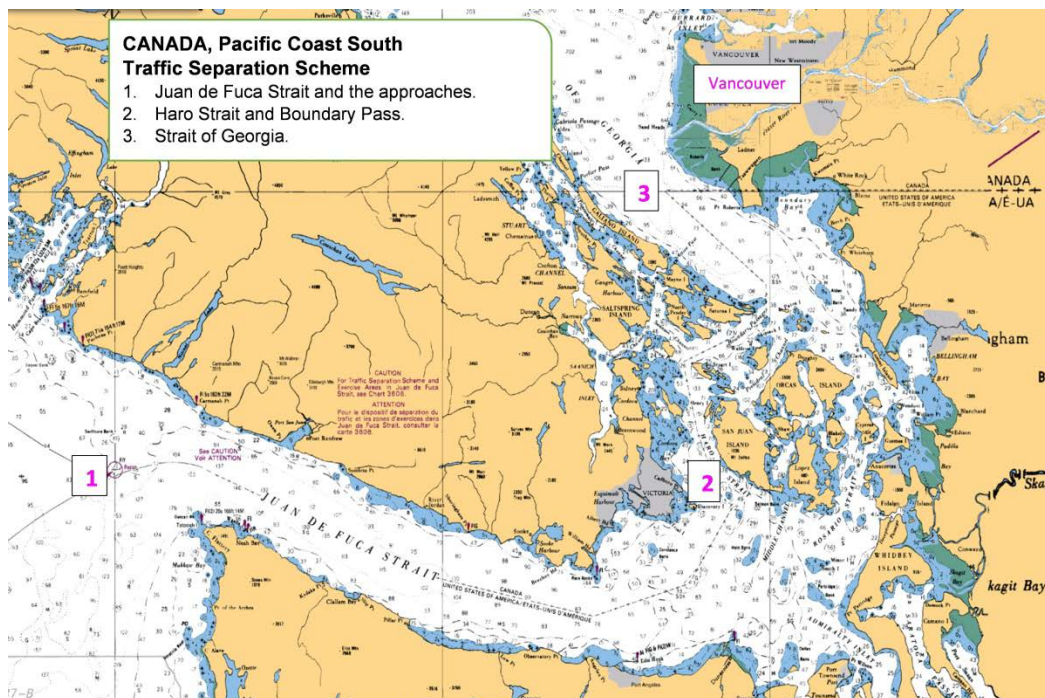
- 3.1 The IMO publication entitled "*Ships' Routeing*" contains the full details and coordinates of all IMO routeing measures and *Associated Rules and Recommendations on Navigation*. Details for obtaining this IMO publication can be found in Notice to Mariners No. 14. The appropriate *Sailing Directions* should also be referred to for additional information.

4 Use of Routeing Systems

- 4.1 Routeing systems are intended for use by day and by night in all weather, in ice free waters or under light ice conditions where no extraordinary maneuvers or icebreaker assistance are required.
- 4.2 Routeing systems are recommended for use by all ships unless stated otherwise. Bearing in mind the need for adequate under-keel clearance, a decision to use a routeing system must take into account the charted depth, the possibility of changes in the sea-bed since the time of the last survey, and the effects of meteorological and tidal conditions on water depths.
- 4.3 A ship navigating in or near a traffic separation scheme shall in particular comply with Rule 10 of the Collision Regulations to minimize the development of risk of collision with another ship. The other rules of the Collision Regulations apply in all respects, and particularly the rules of part B, sections II and III, if risk of collision with another ship is deemed to exist.
- 4.4 At junction points where traffic from various directions meet, a true separation of traffic is not really possible, as ships may need to cross routes or change to another route. Ships should therefore navigate with great caution in such areas and be aware that the mere fact that a ship is proceeding along a through-going route gives that ship no special privilege or right of way.
- 4.5 A deep-water route is primarily intended for use by ships which, because of their draught in relation to the available depth of water in the area concerned, require the use of such a route. Through traffic to which the above consideration does not apply should, as far as practicable, avoid using deep-water routes. A deep-water route is a route within defined limits which has been surveyed for clearance of sea bottom and submerged obstacles as indicated on a chart.
- 4.6 A precautionary area should be avoided, if practicable, by passing ships not making use of the associated traffic separation schemes or deep-water routes, or entering or leaving adjacent ports. A precautionary area is an area within defined limits where ships must navigate with particular caution and within which the direction of traffic flow may be recommended.
- 4.7 In a two-way route, including two-way deep-water route, ships should as far as practicable keep to the starboard side. A two-way route is a route within defined limits inside which two-way traffic is established. The aim is to provide safe passage of ships through waters where navigation is difficult or dangerous.

Authority: Transport Canada

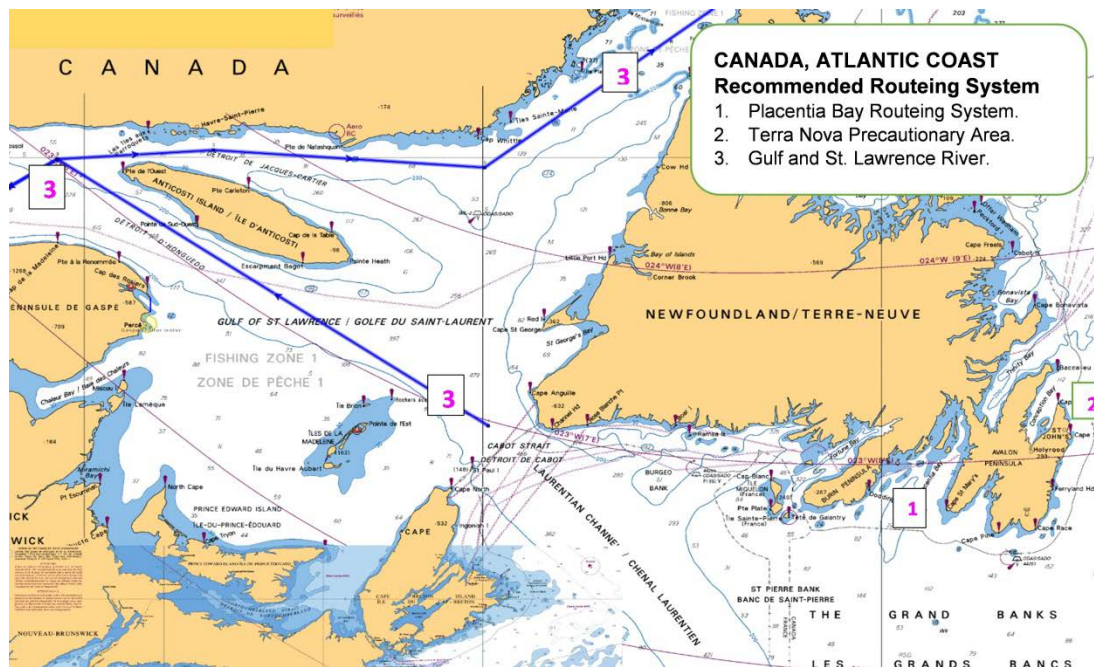
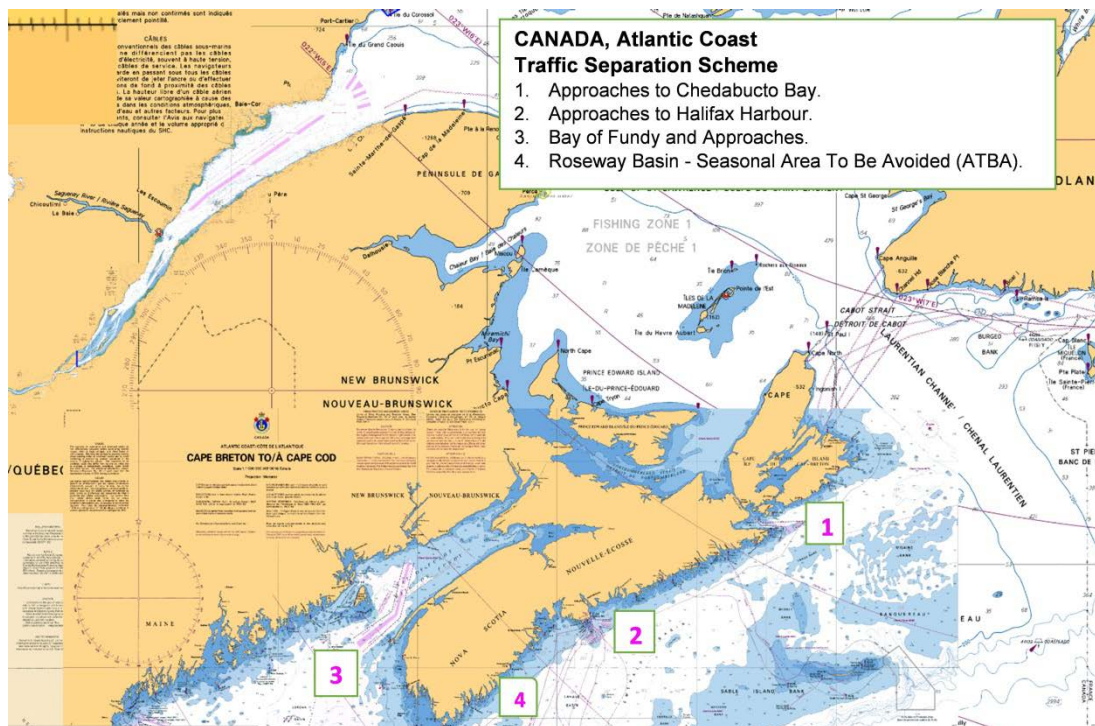
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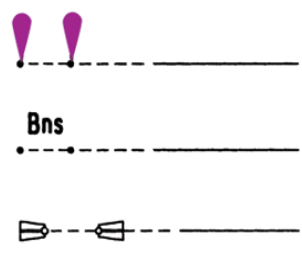
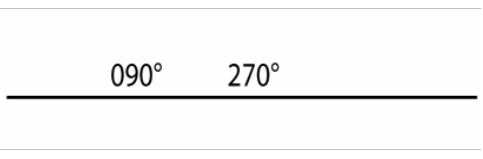
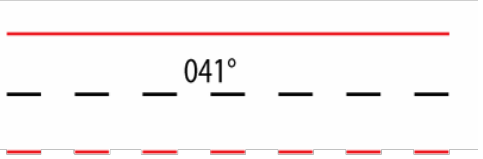
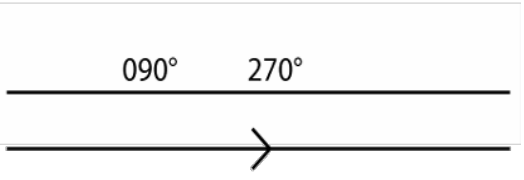
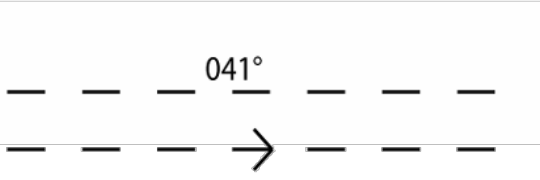
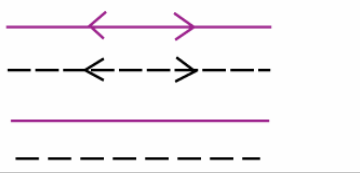
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Symbol for basic element of routeing measures

Unless otherwise specified symbols are printed on charts in colour, usually magenta.

Tracks

Ref.	Description	CHS Symbology
1	Leading line (solid line is the track to be followed; ∇ means "in line")	
3	Recommended track based on a system of fixed marks	
4	Recommended track not based on a system of fixed marks	
5.1	One-way track (and DW track) based on a system of fixed marks	
5.2	One-way track (and DW track) not based on a system of fixed marks	
a	Two-way track	

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Routing Measures








Ref.	Description	CHS Symbology
10	Established (mandatory) direction of traffic flow	
11	Recommended direction of traffic flow	
12	Separation line (large-scale, smaller scale)	
13	Separation zone	
14	Limit of restricted routeing measure	
15	Limit of routeing measure	
16	Precautionary area	

Chart 1 provides explanations of the symbols, abbreviations and terms used in CHS nautical charts. HTML and PDF versions of Chart 1 are maintained for update. <http://www.charts.gc.ca/publications/chart1-carte1/index-eng.asp>

NOTES

1. Arrows dispersed over width of route. Arrows may be curved. Where the traffic lane is converging, arrows should be oriented to the approximate average directions of the side boundaries.
2. Arrow omitted at intersections (other than roundabouts) to avoid implying priority of one lane.
3. Separation line 3 mm wide where chart scale permits.
4. Tint light enough not to obscure detail beneath it.
5. If traffic lanes are separated by natural obstacles, may be replaced by the symbol for general maritime limits at the boundaries of the lanes.
6. Stems of dashes pointing towards the area in question.
7. Symbol intended for tracks to be followed closely through inadequately surveyed areas.

10A Mandatory Ship Reporting System (Non-Canadian Waters)

1. Généralités

- 1.1 Le chapitre V de la Convention pour la sauvegarde de la vie humaine en mer (SOLAS) rend obligatoire l'utilisation de système de comptes rendus de navires approuvés par l'Organisation maritime internationale (OMI).
- 1.2 Les navires canadiens sont tenus d'utiliser tout système obligatoire de comptes rendus de navires approuvés par l'OMI pouvant s'appliquer à eux et devraient se mettre en rapport sans délai avec les autorités côtières lorsqu'ils pénètrent dans la zone visée par le système et, au besoin, lorsqu'ils la quittent.
- 1.3 Ces systèmes se trouvent dans des eaux ne relevant pas du Canada. De plus amples détails figurent dans les publications sur les aides radio à la navigation des administrations compétentes ou dans les sections pertinentes de la Liste des signaux radio de l'Amirauté (Admiralty List of Radio Signals) publiée par le Royaume-Uni.

2. Systèmes internationaux

- 2.1 Les systèmes de comptes rendus approuvés actuellement par l'OMI figurent ci-après et sont suivis des administrations compétentes :
 - **Région du détroit de Torres et de la route intérieure de la Grande Barrière** (Australie)
 - **Au large d'Ushant** (France)
 - **Dans la région maritime de Great Belt** (Danemark)
 - **Dans le détroit de Gibraltar** (Espagne, Maroc)
 - **Au large de Finisterre** (Espagne)
 - **Dans les détroits de Malacca et de Singapour** (Malaisie, Singapour)
 - **Dans le détroit de Bonifacio** (Italie, France)
 - **Pas de Calais**
 - **Zones pour la protection des baleines noires de l'Atlantique Nord dans les secteurs au large des côtes Nord-Est et Sud-Est des États-Unis.**

Autorité : Transports Canada

11 Collision Regulations

The "*Collision Regulations*" are the *International Regulations for Preventing Collisions at Sea, 1972* with Canadian modifications. The *Collision Regulations* are amended from time to time to give effect to international and Canadian amendments as necessary.. These regulations may be accessed through the Transport Canada website at <http://www.tc.gc.ca> or <http://laws-lois.justice.gc.ca/eng/> .

1 Special rules and provisions of a local nature

- 1.1 Special rules or provisions, where applicable, are shown as "Canadian Modifications" and immediately follow the appropriate international rule to which they apply.
- 1.2 Other provisions regulating navigational conduct in Canadian waters may be found in the following:
 - .1 Vessel Operation Restriction *Regulations*,
 - .2 *St. Clair and Detroit River Navigation Safety Regulations*,
 - .3 *Anchorage Regulations*, and
 - .4 *Special regulations made by port and harbour authorities*.

2 Non-displacement craft

- 2.1 Non-displacement vessels including air cushion vessels (ACVs) may be encountered in all waters.
- 2.2 ACVs are very maneuverable and create minimum wake. When operating at high speed in the non-displacement mode these vessels are capable of making rapid course alterations and only require a short stopping distance. Conversely, when maneuvering at relatively low speed similar to a conventional vessel, they have poor directional control and create considerable wake.
- 2.3 At present, all ACVs operating in Canadian waters are fully amphibious and are propelled and steered by airscrews, rudders and controllable air ducts. Having virtually no contact with the surface over which they operate, they create no wake when traveling at high speed, but when the wind is on the beam or when turning, they have considerable drift or yaw angles. The direction of their bows, and the aspect of their navigation lights, which are identical to those of a similar sized conventional vessel, may not provide a true indication of their direction of motion. To indicate this, all ACVs when operating in the non-displacement mode are required to display an all-round flashing yellow light, flashing at 120 flashes or more per minute.
- 2.4 Mariners on conventional vessels in the vicinity of an ACV should take due note of the true track of the ACV when interpreting apparent collision situations and executing avoiding action.
- 2.5 Amphibious ACVs generate high noise levels, consequently sound signals made by other vessels may not be heard by the operator on the ACV.
- 2.6 Since amphibious ACVs operate with zero draught, they frequently navigate outside normal shipping channels. Unless displaying distress signals, no action should be taken to warn them, report them or follow them.
- 2.7 With the exception of the *Collision Regulations*, amphibious ACVs under Canadian jurisdiction are generally not required to comply with regulations made under the *Canada Shipping Act, 2001* (CSA 2001).

Alternative means of ensuring at least an equivalent level of safety to that of a conventional vessel engaged in similar operations are administered under the *Aeronautics Act*, conforming to the IMO "Code of Safety for Dynamically Supported Craft".

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4 Signals for dredging or underwater operations

- 4.1 Vessels engaged in dredging or underwater operations, when restricted in their ability to maneuver, are required to display the lights and shapes as described in Rule 27(b) and (d).
- 4.2 A rigid replica of the International Code Flag "A" is an acceptable alternative to the shapes specified in Rule 27 (d). This provision only applies to small vessels restricted in their ability to maneuver and that are engaged in diving operations. Vessels engaged in dredging and underwater operations, other than diving, are not permitted to use this signal.
- 4.3 This rigid replica is to be displayed on board the vessel to ensure its all-round visibility and is to be not less than 1 metre in height to ensure that mariners in the vicinity can clearly see it and take appropriate action.
- 4.4 In waters where small vessels frequently operate, mariners will often see the "Diver Down" flag on floats or buoys. This flag is red with a diagonal white stripe running from the top of the hoist to the bottom of the fly and indicates an area where scuba diving or other diving activity is in progress. Vessels should keep well clear and proceed at slow speed.
- 4.5 Despite its general use, the "Diver Down" flag is not a substitute for the "A" flag, required by these regulations.

5 Improper use of searchlights and floodlights at sea

- 5.1 Mariners navigating in coastal waters have frequently reported the improper use of searchlights and floodlights. These reports are most common from mariners navigating the inner passage of British Columbia.
- 5.2 The improper use of these lights could affect the safe navigation of vessels and be construed as a violation of the *Collision Regulations* because the glare of such lights may:
 - .1 interferes with the night vision of mariners in the vicinity and prevents the keeping of a proper look-out - Rules 5 and 20(b)
 - .2 mask the navigation lights of the vessel using these lights, thereby making the determination of its heading and its type of operation impossible for other mariners - Rule 20 (impair distinctive character of navigation lights), and
 - .3 make it difficult for mariners to identify aids to navigation and their geographical location in the vicinity of the vessel using these lights - Rule 36 (mistaken for any aid to navigation or embarrass another vessel).
- 5.3 Several reports have also been made where a vessel using sodium vapor floodlights has mistakenly been reported as a vessel on fire. Such reports have alerted the Rescue Coordination Centre (RRC) or the Marine Rescue Sub-centre (MRSC) and rescue units have been dispatched in response to a false alarm. The use of these floodlights will ultimately tend to reduce the level of vigilance on the part of other mariners. This could result in an actual distress situation not being reported. Sodium vapor floodlights could also be mistaken for "flames on a vessel (as from a burning tar barrel, oil barrel, etc)", which is a distress signal prescribed in Annex IV of the *Collision Regulations*.
- 5.4 Mariners are therefore warned that when using all types of searchlights and floodlights they must be properly directed or adequately screened to ensure that, under any conditions, such lights will not embarrass another vessel, show beyond the immediate vicinity of the vessel or be misinterpreted.
- 5.5 This notice does not prohibit a vessel from using any lights provided they cannot be mistaken for the lights specified in the *Collision Regulations*, or interfere with the keeping of a proper look-out. Similarly any vessel may fit or carry a searchlight or floodlight provided it is used in such a way as not to embarrass another vessel.

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- 5.6 Small boat operators are reminded that night vision impairment can last for several minutes, even after the searchlight has been turned off. Operators using searchlights for search and identification purposes should reduce their speed so that action to avoid collision can be taken within the range of vision of the searchlight.

The speed of the boat should not be increased until after the searchlight has been extinguished and the night vision of the operator has fully recovered.

6 Special lights and markings

- 6.1 The lights and markings described in this paragraph are not required by the *Collision Regulations*. Mariners, however, should be aware of their existence and purpose.

6.2 Night signal for vessels requiring health clearance

The International Code of Signals states that a vessel requiring "Health Clearance", may by night carry a red light over a white light in a vertical line about 2.0 m apart and visible all round the horizon. Such lights should only be exhibited within the vicinity of a port.

6.3 Boats servicing navigational aids

- .1 Small outboard motor boats are used in servicing navigational aids from Grondines-Est to Sarnia. These vessels have red hulls and are appropriately marked "CCG".
- .2 Mariners are cautioned to proceed at a safe speed when passing buoys being serviced by these boats.

6.4 Marking of fishing gear in all waters of the Pacific Coast under Canadian jurisdiction

- .1 A gill net operated from a commercial fishing vessel has attached to each end of it:
 - 1) by day, a buoy painted iridescent or plain orange and not less than 125 cm in circumference.
 - 2) by night, a lantern showing a white light.
- .2 A long line used in fishing is marked by a buoy attached to each end of the line.
- .3 A crab, shrimp or prawn trap set singly is marked by a buoy.

7 Radar Reflectors on Small Vessels

- 7.1 Small vessel owners/operators are reminded that their vessels can be very difficult to detect on radar and this can result in their being run-down or swamped by larger vessels.
- 7.2 Rule 40 of the *Collision Regulations* requires small vessels of less than 20 metres in length, or vessels constructed primarily of non-metallic materials, to fit or carry a radar reflector. These vessels offer very poor radar targets. An efficient radar reflector, if properly fitted, can effectively increase the echoing area of a vessel's corresponding radar target and greatly improve its chances of being detected.
- 7.3 Ship Safety Bulletin 07/2008 describes the safety features of using this device.

Authority: Transport Canada

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12 Damage Caused by Excessive Speed

1 Caution

- 1.1 During recent years there has been a marked increase in damage to wharves, boat-houses, small boats, moored ships, and erosion of the shoreline caused by draw-off and wave disturbance created by the passage of ships and boats.
- 1.2 Additionally, there is a risk of causing serious bodily harm to persons in, on or near the shore. Children are particularly vulnerable to this hazard.
- 1.3 The amount of draw-off and the size and intensity of the waves at any given speed varies with the hull form and draft of each vessel. Other factors include the vessel's proximity to the shore and the configuration of the channel.
- 1.4 High water levels will increase and extend the damaging effects of a vessel's passage, and must be taken into account.
- 1.5 Masters, pilots, operators and owners of vessels may be subject to court action for damages sustained by injured parties as a result of damage or injury caused by the passage of their vessels.
- 1.6 Regulations designed to control this type of damage would require speed limits to be set sufficiently low to prevent damage by any type of vessel. This might impose unrealistic speed restrictions on some vessels, thereby making navigation unsafe by reducing their ability to maintain steerageway, or cause undue economic and recreational restraints.
- 1.7 Regulatory control of vessels' speed can be avoided if each person in charge of navigating a vessel, who best knows its characteristics, exercises restraint and reduces speed as necessary. Due consideration must be given to all the factors that may contribute to damage.

2 Special speed restrictions

- 2.1 Speed restrictions are described in:
 - .1 *Collision Regulations*,
 - .2 Sailing directions,
 - .3 The Seaway Handbook,
 - .4 *Vessel Operation Restriction Regulations*,
 - .5 *St. Clair and Detroit River Navigation Safety Regulations*,
 - .6 Various Notices to Mariners and Seaway Notices, and
 - .7 Various harbour regulations and acts.
- 2.2 Those in charge of navigating vessels should refer to current Notices to Mariners and Notices to Shipping for information about temporary or amended speed restrictions. Temporary speed restrictions may be established for the purpose of safe navigation or for the protection of persons or property at or near the shore.

Authority: Transport Canada

A6 CHARTS AND PUBLICATIONS

13 Charts and Nautical Publications Regulations 1995, and Provisional List of Charts

The *Charts and Nautical Publications Regulations, 1995* require all ships in waters under Canadian jurisdiction, to have on board, maintain and use appropriate charts, tide tables, lists of lights and other nautical publications issued by or on the authority of the Canadian Hydrographic Service. An up-to-date list of Canadian charts and nautical publications is available online in the Monthly Edition of *Notices to Mariners* at www.notmar.gc.ca or www.charts.gc.ca.

ACCEPTANCE OF NAUTICAL PUBLICATIONS IN ELECTRONIC FORM IN CANADA

- The *Charts and Nautical Publication Regulations, 1995* (CNPR) require the carriage and use of charts and nautical publications. Many nautical publications in Canada are now available in electronic form and can be downloaded from the Internet in PDF (*Chart 1 – Symbols, Terms and Abbreviations*, chart catalogues, *Notices to Mariners* (NOTMAR), *List of Lights, Buoys and Fog Signals*, *Annual Edition of Notices to Mariners*, *Radio Aids to Marine Navigation*, *CCG Ice Navigation in Canadian Waters*). Some vessels may carry publications in electronic form issued by another Administration (i.e., Admiralty Digital Publications) as per CNPR subsection 6(3).
- IMO circular entitled *IMO requirements on carriage of publications on board ships* (MSC-MEPC.2/Circ.2) allows electronic publications provided they have been issued by the IMO, an Administration or an organization authorized by an Administration. The electronic document should also “be treated in accordance with the document control procedures in the ship’s SMS including procedures for timely update.” However, as an exception, IMO does require the International Code of Signals and the IAMSAR - Volume III must be always available in hard copy to ensure accessibility and portability for emergency use.
- Under SOLAS, charts and nautical publications in electronic form can be used to meet SOLAS V carriage requirements provided suitable back-up arrangements are in place.
- The CNPRs provide detailed requirements for nautical publications. Electronic nautical publications must meet the same requirements as the hard copies.

For example:

- The publication must be published, or issued, by the appropriate authority,
- The publication must be complete for the area to be navigated and up to date.

The electronic publication shall be readily available to the Officer of the Watch (OOW) at all times and viewable on the navigation bridge.

There should be an appropriate back-up onboard. The primary system should have an emergency source of power.

Updates should be applied to both the primary and back-up system as soon as practical. When in port, they should be applied prior to passage planning and commencement of the voyage.

As the publications required by the CNPR must be on board, simply being able to access the publications through the internet would not be considered on board and therefore not acceptable. However, publications downloaded and saved on board or hard copies printed from official internet sources would be acceptable.

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IMPORTANT SAFETY NOTICE ABOUT THE RELIABLE OPERATION OF ALL ECDIS

The Maritime Safety Committee (MSC) of the International Maritime Organization (IMO) approved a consolidated guidance circular MSC.1/Circ.1503, the ECDIS - Guidance for Good Practice, concerning maintenance and potential display anomalies in ECDIS systems. An electronic copy of this circular can be downloaded from the Organization's website at <http://www.imo.org/OurWork/Circulars/Pages/Home.aspx>.

The International Hydrographic Organization (IHO) issued an ENC Data Presentation and Performance Check in October 2011. This check is intended to assist mariners and to help determine the extent of the issues. Reports from sea received by the IHO confirm that a number of manufacturers' ECDIS fail to display some significant underwater features in the "Standard" display mode. In order that all significant objects are visible to the mariner, these ECDIS must be operated in "Full display" or "All display" mode until a software upgrade is made available by the manufacturer. Mariners are strongly recommended to use the IHO ENC Data Presentation and Performance Check issued through ENC service providers and also available directly from the IHO website (<http://www.iho.int>) to check the operation of their ECDIS and to determine whether their system is affected.

PROVISIONAL LIST OF CHARTS

- 1 This list is issued for reference in conjunction with the *Charts and Nautical Publications Regulations, 1995* to assist mariners navigating Canadian waters or Fishing Zones when proceeding to or from the ports indicated. It is also used by Transport Canada, Marine Safety and Security Inspectors in enforcing primarily by spot checks the *Charts and Nautical Publications Regulations 1995* and when conducting Port State control inspections.
- 2 The list is based on the latest information available at the time of publication. The national chart catalogues available at www.charts.gc.ca or at an authorized CHS chart dealer, and *Notices to Mariners* at www.notmar.gc.ca must be consulted for information on the latest chart editions, new charts, and chart cancellations. Charts must be corrected from all pertinent information available before being used in the navigation of a ship.
- 3 Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the Regulations.
- 4 The list will be published yearly and updated by *Notices to Mariners*.

Authority: Transport Canada
Canadian Hydrographic Service (CHS)

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LIST No.	INDEX TITLE
1	Belle Isle to Montréal via Jacques Cartier Passage
2	Strait of Canso to Montréal via East Point, Prince Edward Island (Includes arriving Point Tupper, NS)
3	Cabot Strait to Montréal via Gaspé Passage
4	Arriving Corner Brook, Nfld., by Routes in Lists 1, 2 or 3
5	Arriving Newcastle, N.B., by Routes in Lists 1, 2 or 3
6	Arriving Dalhousie, N.B., by Routes in Lists 1, 2 or 3
7	Arriving Sept-Îles, Qué., by Routes in Lists 1, 2 or 3
8	Arriving Port Cartier, Qué., by Routes in Lists 1, 2 or 3
9	Arriving Baie-Comeau, Qué., by Routes in Lists 1, 2 or 3
10	Arriving Port Alfred, Qué., by Routes in Lists 1, 2 or 3
11	Arriving Holyrood, Newfoundland
12	Arriving St. John's, Newfoundland
13	Arriving Lewisporte or Botwood, Nfld., via St. John's and Hamilton Sound
14	Arriving Lewisporte or Botwood, Nfld., via Notre Dame Bay
15	Arriving Come by Chance, Newfoundland
16	Arriving Sydney, Nova Scotia
17	Arriving Halifax, Nova Scotia
18	Arriving Saint John, New Brunswick
19	Arriving Hantsport, Nova Scotia
20	Arriving in Canadian Arctic
21	Arriving Churchill, Manitoba, via Labrador Coast
22	Arriving Churchill, Manitoba, via Labrador Sea
23	Arriving Nain (Voisey Bay) Newfoundland and Labrador, via Labrador Sea
24	Montréal to Thunder Bay
25	Arriving Vancouver, British Columbia
26	Arriving New Westminster, British Columbia
27	Arriving Roberts Bank, British Columbia
28	Arriving Esquimalt or Victoria, British Columbia
29	Arriving Port Alberni, British Columbia
30	Arriving Prince Rupert, British Columbia, via Hecate Strait
31	Arriving Prince Rupert, British Columbia, via Dixon Entrance
32	Arriving Kitimat, British Columbia, via Dixon Entrance
33	Inner Passages, British Columbia, Vancouver to Portland Canal
34	Other accepted charts
35	Canadian Hydrographic Service – Current chart editions

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1. Belle Isle to Montréal via Jacques-Cartier Passage

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
8049(1)	N/A	St. Michael Bay to/à Gray Islands	500,000	324(1)
4731	N/A	Forteau Bay to/à Domino Run	250,000	4735 & 324 REFERENCE
4020	CA376094	Strait of Belle Isle/Détroit de Belle Isle	150,000	4735
4021	CA276138	Pointe Amour à/to Cape Whittle et/ and Cape George	350,000	4731
4002(1)	CA179245	Golfe du Saint-Laurent/ Gulf of St. Lawrence	750,000	4762(1)
4025	CA279043	Cap Whittle à/to Havre-Saint-Pierre et/ and Île d'Anticosti	300,000	4767
4026	CA279044	Havre Saint-Pierre et/and Cap des Rosiers à/to Pointe des Monts	300,000	4774
1236	CA279037	Pointe des Monts aux/to Escoumins	200,000	4777
	CA579040	Matane	20,000	
	CA579041	Rimouski, Pointe au Père	20,000	
	CA579039	Forestville	20,000	
	CA579038	Godbout	5,000	
1320	CA379232	Île du Bic au/to Cap de la Tête au Chien	80,000	4782
	CA579233	Les Escoumins	20,000	
	CA579234	Port de Gros-Cacouna	10,000	
1234	CA379029	Cap de la Tête au Chien à/ to Cap aux Oies	80,000	4783
	CA579031	Pointe de la Rivière du Loup	5,000	
	CA579033	Saint Siméon	5,000	
	CA579032	Pointe-au-Pic	5,000	
	CA579034	Cap à l'Aigle	5,000	
1233	CA479021	Cap aux Oies à/to Sault-au-Cochon	50,000	4784
	CA579024	Saint-Jean-Port-Joli	5,000	
	CA579022	Saint-Joseph-de-la-Rive	5,000	
	CA579023	Île aux Coudres	5,000	
1317	CA479025 CA479082	Sault-au-Cochon à/to Québec	50,000	4785
1316	CA579003 CA579081	Port de Québec - Quai Irving à/to Courville	15,000	4786
1315	CA479020	Québec à/to Donnacona	40,000	4787
	CA579224	Mouillage Saint-Nicolas	20,000	
1314	CA479017	Donnacona à/to Batiscau	40,000	4788
	CA579019	Portneuf	5,000	

(1) Optional, because charts of larger scale must be carried.

Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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1. Belle Isle to Montréal via Jacques-Cartier Passage (continued)

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
1313	CA479014	Batiscan au/to Lac Saint-Pierre	40,000	4789
	CA479016	Port de Bécancour	15,000	
	CA479015	Port de Trois-Rivières	15,000	
1312	CA479129	Lac Saint-Pierre	40,000	4790
	CA579130	Port de Sorel-Tracy	10,000	
1311	CA479155	Sorel à/to Varennes	40,000	4791
	CA579156	Terminal de Contrecoeur	10,000	
	CA579246	Terminal pétrolier	10,000	
1310	CA579001	Port de Montréal	15,000	4792
	CA579080			

2. Strait of Canso to Montréal, via East Point, Prince Edward Island includes arriving Point Tupper, N.S.

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4013	CA276204	Halifax to/à Sydney	350,000	4748
4321(2)	CA376230	Cape Canso to Liscomb Island	108,836	4748(2) REFERENCE
4335	N/A	Strait of Canso and Approaches/ et les approches	75,000	4756
4307	CA476277	Canso Harbour to/au Strait of Canso	37,500	4756 REFERENCE
4302	CA476678	Strait of Canso	30,000	4758
	CA576680	Point Tupper to/à Ship Point	15,000	
	CA576679	Canso Lock and Causeway/Écluse et Chaussée Surélevée de Canso	10,000	
4462	CA376242	St. George's Bay	75,200	4757
4023	CA276286	Northumberland Strait / Déroit de Northumberland	300,000	4765
4024	CA279075	Baie des Chaleurs/Chaleur Bay aux/ to Îles de la Madeleine	350,000	4766

Then, charts in List 1 from 4026 to 1310 inclusive

(2) If entering Canadian waters not covered by chart 4335.

Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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3. Cabot Strait to Montréal via Gaspé Passage

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4022	CA276271	Cabot Strait and approaches / Détroit de Cabot et les approches, Scatarie Island to/à Anticosti Island / Île D'Anticosti	350,000	4764
4450(3)	N/A	St. Paul Island	24,300	4764(3) REFERENCE
	N/A	Atlantic Cove	12,150	
	N/A	MacDougall and Powers Cove	12,150	
	N/A	Trinity Cove	12,150	
4024	CA279075	Baie des Chaleurs/Chaleur Bay aux/ to Îles de la Madeleine	350,000	4766

Then charts in List 1 from 4026 to 1310 inclusive.

(3) If passing less than 5 miles from charted hazard to the ship.

4. Arriving Corner Brook, Nfld., by Routes in Lists 1, 2 or 3

Charts in List 3, or List 1 up to 4002, or List 2 up to 4023 plus 4022, and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4661	N/A	Bear Head to/à Cow Head	147,300	4731 REFERENCE
	N/A	Green Cove	36,500	
	N/A	Trout River Bay	36,490	
4653	CA476190	Bay of Islands	50,000	4740
	N/A	Little Port	6,000	
	N/A	The Narrows	6,000	
4652	CA576185	Humber Arm, Meadows Point to/ à Humber River	14,600	4741
	CA576186	Corner Brook	7,200	

5. Arriving Newcastle, N.B., by Routes in Lists 1, 2 or 3

Charts from List 3 or List 2 up to 4023, or List 1 up to 4025 plus 4022 and 4024, and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4023	CA276286	Northumberland Strait / Détroit de Northumberland	300,000	4765
4906	CA376062	West Point à/to Baie de Tracadie	100,000	4765 & 4766 REFERENCE
4911	CA476133	Entrée à/Entrance to Miramichi River	25,000	
4912	CA476125	Miramichi	25,000	

Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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6. Arriving Dalhousie, N.B., by Routes in Lists 1, 2 or 3

Charts in Lists 2 or 3, or List 1 up to 4025 plus 4024, and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4486	CA376187	Baie des Chaleurs/Chaleur Bay	150,000	4768
4426	N/A	Rivière Ristigouche/Restigouche River	36,360	4769
	N/A	Dalhousie Harbour	7,200	

7. Arriving Sept-Îles, Qué., by Routes in Lists 1, 2 or 3

Charts in Lists 1, 2 or 3 including 4026, and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
1221	CA379028	Pointe de Moisie à/to Île du Grand Caouis	75,000	4775
1220	CA479006	Baie des Sept-Îles	25,000	4776
	CA579008	Sept-Îles	10,000	
	CA579007	Pointe Noire	10,000	

8. Arriving Port-Cartier, Qué., by Routes in Lists 1, 2 or 3

Charts from Lists 1, 2 or 3 including 4026, and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
1226	N/A	Mouillages et Installations Portuaires/ Anchorage and Harbour Installations – Haute Côté-Nord		4778
	CA579047	Port-Cartier	15,000	
	CA479051	Baie des Homards Mouillages/Anchorage	50,000	
	CA479052	Île aux Oeufs Mouillages/Anchorage	50,000	
	CA579048	Baie-Comeau	20,000	
	CA579048	Quai public/Public Wharf	10,000	
	CA579048	Quais/Wharves Cargill et Alcoa	10,000	

Any chart listed on the same line as the Canadian Chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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9. Arriving Baie-Comeau, Qué., by Routes in Lists 1, 2 or 3

Charts in Lists 1, 2 or 3 including 4026 and 1236, and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
1226	N/A	Mouillages et Installations Portuaires/ Anchorages and Harbour Installations– Haute Côté-Nord		4778
	CA579047	Port-Cartier	15,000	
	CA479051	Baie des Homards Mouillages/Anchorages	50,000	
	CA479052	Île aux Oeufs Mouillages/Anchorages	50,000	
	CA579048	Baie-Comeau	20,000	
	CA579048	Quai public/Public Wharf	10,000	
	CA579048	Quais/Wharves Cargill et Alcoa	10,000	

10. Arriving Port Alfred, Qué., by Routes in Lists 1, 2 or 3

Charts in Lists 1, 2 or 3 including 1320, and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
1203	CA479053	Tadoussac à/to Cap Éternité	37,500	4779
	CA479087	Île Saint-Louis à/to Cap Éternité	37,500	
	CA579054	Tadoussac	5,000	
1202	CA479094	Cap Éternité à/to Saint Fulgence	37,500	4780
	CA579036	Terminal maritime de Grande Anse	15,000	
	CA579235	Baie des Ha! Ha!	15,000	

11. Arriving Holyrood, Newfoundland

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4017	CA276092	Cape Race to/à Cape Freels	350,000	4733
4846	CA376015	Motion Bay to/à Cape St. Francis	60,000	4736
	CA576387	Quidi Vidi	5,000	
	CA576386	St. John's Harbour	5,000	
4847	CA376120	Conception Bay	60,000	4733 REFERENCE
	CA576121	Bell Island	2,500	
	CA576123	Foxtrap	5,000	
	CA576124	Port de Grave	5,000	
	CA576122	Portugal Cove	3,000	
4848	CA576115 CA576114	Holyrood and/et Long Pond	15,000	4733 REFERENCE
	CA576117	Generator Plant (Wharf) / Centrale d'énergie (Quai)	3,000	
	CA576116	Ultramar (Wharf/Quai)	3,000	
	CA576118	Holyrood (Marina)	3,000	

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12. Arriving St. John's, Newfoundland

Chart 4017 in List 11, and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4846	CA376015	Motion Bay to/à Cape St. Francis	60,000	4736
	CA576387	Quidi Vidi	5,000	
	CA576386	St. John's Harbour	5,000	

13. Arriving Lewisporte or Botwood, Nfld., via St. John's and Hamilton Sound

Charts in List 11 up to 4847, and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4850	N/A	Cape St-Francis to/à Baccalieu Island and/et Heart's Content	60,000	4733 REFERENCE
	N/A	Old Perlican	15,000	
	N/A	Heart's Content	20,000	
4853	CA376243	Trinity Bay Northern Portion/ Partie Nord	60,000	
	CA476244	Trinity Harbour	25,000	
	CA576245	Trinity Wharves	2,500	
4854	CA376340	Catalina Harbour to/à Inner Gooseberry Islands	60,000	4733 REFERENCE
4857	CA376371	Indian Bay to/ à Wadham Islands	60,000	4733 REFERENCE
	CA576372	Lumsden Harbour	20,000	
4530	CA476279	Hamilton Sound, Eastern Portion/ Partie Est	40,000	
	CA576280	Carmanville	18,000	
4862	CA476813 CA476814	Carmanville to/à Bacalhao Island and/et Fogo	40,000	
4820	CA376655	Cape Freels to/à Exploits Islands	150,000	
4821	CA376656	White Bay and/et Notre Dame Bay	150,000	
4822	CA376660	Cape St. John to/à St. Anthony	150,000	
4863	CA476802 CA476803 CA476804	Bacalhao Island to/ à Black Island	40,000	
4886	CA576425 CA576426 CA576427	Twillingate Harbours	15,000	

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14. Arriving Lewisporte or Botwood, Nfld., via Notre Dame Bay

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4820	CA376655	Cape Freels to/à Exploits Islands	150,000	
4821	CA376656	White Bay and/et Notre Dame Bay	150,000	
4822	CA376660	Cape St. John to/à St. Anthony	150,000	
4863	CA476802 CA476803 CA476804	Bacalhao Island to/ à Black Island	40,000	
4865(4)	CA476168	Approaches to/à Lewisporte and/et Loon Bay	30,000	
	CA576169	Lewisporte	5,000	
4864	CA476639	Black Island to/à Little Denier Island	40,000	
4596(5)	N/A	Bay of Exploits, Sheet II (Middle/centre)	24,600	
4597(5)	N/A	Bay of Exploits, Sheet III (South/sud)	24,600	
4524(5)	CA576342	Botwood Harbour	9,000	
	CA576343	Botwood Wharves	4,500	

(4) If arriving Lewisporte

(5) If arriving Botwood

15. Arriving Come by Chance, Newfoundland

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4016	CA276274	Saint-Pierre to/à St. John's	350,000	4734
4622	CA376173	Cape St. Mary's to/à Argentia Harbour and/et Jude Island	80,000	4737
4617	CA476300	Red Island to/à Pinchgut Point	40,000	4738
	CA576302	Buffett Harbour	6,000	
	CA576301	Long Harbour, Erco Wharf	6,000	
4839	CA476079	Head of/Fond de Placentia Bay	40,000	4739
	CA576082	Come by Chance and/et Arnold's Cove	20,000	

Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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16. Arriving Sydney, Nova Scotia

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4367	CA376093	Flint Island to/à Cape Smoky	75,185	4764 REFERENCE
4266	CA576095	Sydney Harbour	20,000	4748 & 4764 REFERENCE
	CA576097	North Sydney	6,000	
	CA576096	International Piers	6,000	
	CA576099	Sydney Wharves/Quais	6,000	
	CA576098	Sydney River	6,000	
	CA576100	Sydport	6,000	

17. Arriving Halifax, Nova Scotia

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4320	CA376032	Egg Island to West Ironbound Island	145,000	4751
4237	CA476009	Approaches to/Approches au Halifax Harbour	40,000	4752
	CA576010	Sambro Harbour	20,000	
4203	CA576002	Halifax Harbour - Black Point to/ à Point Pleasant	10,000	4753
4202	CA576003	Halifax Harbour - Point Pleasant to/ à Bedford Basin	10,000	4754
	CA576004	Ocean Terminals	5,000	
4201	CA576001	Halifax Harbour - Bedford Basin	10,000	4755

Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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18. Arriving Saint John, New Brunswick

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4011	CA276206	Approaches to/Approches à Bay of Fundy/Baie de Fundy	300,000	4746
4230(3)	CA376044	Little Hope Island to/à Cape St. Marys	150,000	4746 & 4747 REFERENCE
4118(3)	CA376024	St. Marys Bay	60,000	4746 & 4747 REFERENCE
	CA376309			
	CA476028	Petit Passage	30,000	
	CA576499	Weymouth	10,000	
	CA476027	Grand Passage	30,000	
	CA576026	East Sandy Cove	20,000	
	CA576500	Meteghan	10,000	
	CA576501	Saulnierville	5,000	
4116	CA376011	Approaches to/Approches à Saint John	60,000	4749
	CA576012	Dipper Harbour	20,000	
	CA576013	Musquash Harbour	20,000	
4117	CA576005	Saint John Harbour and Approaches/ et les Approches	15,000	4750

(3) If passing less than 5 miles from charted hazard to the ship.

19. Arriving Hantsport, Nova Scotia

Charts in List 18 up to 4118(3), and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4010	CA276241	Bay of Fundy / Baie de Fundy (Inner portion / partie intérieure)	200,000	4745
4140	N/A	Avon River and Approaches/ et les approches	37,500	4745 REFERENCE
	N/A	Hantsport Wharves	2,400	

20. Arriving in Canadian Arctic

Please go to www.charts.gc.ca to see which charts must be used when navigating in Canadian Arctic waters.

Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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21. Arriving Churchill, Manitoba, via Labrador Coast

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
8049(1)	N/A	St. Michael Bay to/aux Gray Islands	500,000	324(1)
4731	N/A	Forteau Bay to/à Domino Run	250,000	4735 REFERENCE
4732	N/A	Approaches to/Approches à Hamilton Inlet	223,975	324 & 4405 REFERENCE
4730	N/A	Nain to/à Domino Point	588,000	
5300	N/A	Baie D'Ungava / Ungava Bay	500,000	4406 REFERENCE
5450	CA173369	Hudson Strait/Détroit d'Hudson	1,000,000	
	CA173378			
5027	CA276821	Murphy Head to/aux Button Islands	200,000	
5063	CA476682 CA576683	Cap Kakkiviak to/à Duck Islands	40,000	
5064	CA476684	McLelan Strait	40,000	
	CA576686	Port Burwell	15,000	
	CA576685	Bowdoin Harbour	15,000	
	CA576687	Eastern Approach to McLelan Strait	15,000	
5065	CA476688	Gray Strait and/et Button Islands	40,000	
5412(3)	N/A	Erik Cove to/à Nuvuk Harbour including/y compris Digges Islands	75,000	
	N/A	Port de Laperrière	18,000	
	N/A	Nuvuk and Ivugivik Harbours	25,000	
	N/A	Digges Harbour	15,000	
	N/A	Erik Cove	37,500	
5449	N/A	Hudson Bay/Baie d'Hudson Northern Portion/Partie Nord	1,000,000	
5400	N/A	Cape Churchill to/à Egg River	146,200	
5640	CA573227	Churchill Harbour	12,000	

22. Arriving Churchill, Manitoba, via Labrador Sea

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
4700	N/A	Belle Isle to/à Resolution Island	1,000,000	4405 REFERENCE

Then charts in List 20 from 5300 to 5640 inclusive.

- (1) Optional, because charts of larger scale must be carried.
(3) If passing less than 5 miles from charted hazard to the ship.

Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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23. Arriving Nain (Voisey Bay) Newfoundland and Labrador, via Labrador Sea

CANADIAN CATALOGUE			
Chart	ENC	Title	Scale 1:
5024	CA276652	Nunaksaluk Island to/à Cape Kiglapait	200,000
5051	CA376049	Nunaksuk Island to/à Calf, Cow and/et Bull Islands	60,000
5052	CA376050	Seniartlit Islands to/à Nain	60,000
5070	CA576654	Satosaak Island to/à Akuliakatak Peninsula	25,000

24. Montréal to Thunder Bay

Overseas and coastal dealers do not normally stock these charts as they are readily available from Canadian Hydrographic Service chart dealers at Montréal and en route through the Great Lakes.

CANADIAN CATALOGUE				U.S.A CATALOGUE	U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart	Chart
1400(1)		St. Lawrence Seaway/Voie maritime du Saint-Laurent - Montréal to/ à Lake/Lac Ontario	125,000		4793
1429	CA579227	Canal de la Rive Sud	20,000		4793 REFERENCE
1430	CA479228	Lac Saint-Louis	25,000		
	CA579230	Sainte-Anne-de-Bellevue	10,000		
	CA579229	Rapides de Vaudreuil	10,000		
1431	CA473300	Canal de Beauharnois	25,000		
	CA573386	Baie Saint-François	12,000		
	CA573387	Port de Valleyfield	5,000		
1432	CA473233	Lac Saint-François/Lake St. Francis	25,000		
1433	CA473232	Île St. Regis to/à Croil Islands	25,000		
	CA573408	Cornwall	10,000		
1434	CA473111	Croil Islands to/à Cardinal	25,000		
1435	CA473275	Cardinal to/à Whaleback Shoal	25,000		
	CA573388	Brockville Narrows	15,000		
	CA573389	Prescott/Ogdensburg	15,000		
1436	CA473035	Whaleback Shoal to/ au Summerland Group	25,000		
1437	CA473034	Summerland Group to/ à Grindstone Island	25,000		
1438	CA473025 CA573361	Grindstone Island to/à Carleton Island	25,000		
1439	CA473036	Carleton Island to/au Charity Shoal	30,000		
2064	CA373063	Kingston to/à False Ducks Islands	61,500	14802	4794 REFERENCE
2060	CA373071	Main Duck Island to/ à Scotch Bonnet Island	77,700		
2000	CA273096	Lake Ontario/Lac Ontario	400,000	14800	
2077	CA373091	Lake Ontario/Lac Ontario Western Portion/Partie Ouest	100,000	14810	

(1) Optional, because charts of larger scale must be carried.

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24. Montréal to Thunder Bay (continued)

CANADIAN CATALOGUE				U.S.A CATALOGUE	U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart	Chart
2042	CA573010	Welland Canal, St. Catharines to/ à Port Colborne	15,000		4794 REFERENCE
2100	CA273094	Lake Erie/Lac Érié	400,000	14820	
2120	CA373093	Niagara River to/à Long Point	120,000	14823	
2123	CA373089	Pelee Passage to/à la Detroit River	100,000	14830	
14848(US)	US5MI21M	Detroit River	30,000	14848	
14850(US)	US4MI31M	Lake St. Clair	60,000	14850	
14852(US)	US5MI33M	St. Clair River	40,000	14852	
2228	CA373092	Lake Huron/Lac Huron Southern Portion/Partie Sud	120,000	14862	4794 REFERENCE
2200	US2MI60M	Lake Huron/Lac Huron	400,000	14860	
14864(US)	US4MI67M	Harrisville to Forty Mile Pt.	120,000	14864	
2297	N/A	Duck Islands to De Tour Passage	91,100	14880	
14882(US)	US5MI61M	St. Marys River - De Tour Passage to Munuscong Lake	40,000	14882	
14883(US)	US5MI62M	St. Marys River - Munuscong Lake to Sault Ste. Marie	40,000	14883	
14884(US)	US5MI63M	St. Marys River - Head of Lake Nicolet to Whitefish Bay	40,000	14884	
14962(US)	US4MI77M	St. Marys River to Au Sable Point	120,000	14962	
2310	CA373246	Caribou Island to Michipicoten Island	97,300		
2300	US2MI79M	Lake Superior/Lac Supérieur	600,000	14961	
14968(US)	US4MN22M	Grand Portage Bay to Shesheeb Point, Ont.	120,000	14968	
2301	CA373070	Passage Island to/à Thunder Bay	74,500	14968 REFERENCE	
2302	N/A	St. Ignace Island to Passage Island	73,000		
2311	CA373065	Thunder Cape to/à Pigeon River	72,900		
2314	CA573253	Port of Thunder Bay	20,000		
	N/A	North Harbour Facilities/ Installations Portuaires	5,000		
	N/A	Intercity Grain Terminals/Terminaux à Grain de L'inter-cité	5,000		
	N/A	Westfort Turning Basin/ Bassin D'évitage	10,000		
	N/A	Mission River Entrance Grain Terminals/Terminaux à Grain à L'entrée de Mission River	5,000		

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25. Arriving Vancouver, British Columbia

CANADIAN CATALOGUE				U.S.A CATALOGUE	U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart	Chart
3001(1)	CA270389	Vancouver Island/Île de Vancouver Juan de Fuca Strait to/à Queen Charlotte Sound	525,000		4922
3602	CA370203	Approaches to/Approches à Juan de Fuca Strait	150,000	18480	4945
3606	US3WA01 M	Juan de Fuca Strait	110,000	18460 & 18465	4947
3461	US4WA34 M	Juan de Fuca Strait, Eastern Portion/Partie Est	80,000	18465	4950
3440	CA470075	Race Rocks to/à D'Arcy Island	40,000		4953
3441	CA470003	Haro Strait, Boundary Pass and/ et Satellite Channel	40,000	18432 & 18433	4954
3442*	CA470005	North Pender Island to/à Thetis Island	40,000		4955
3473*	N/A	Active Pass, Porlier Pass and/ et Montague Harbour			
	CA570006	Active Pass	12,000		
	CA570007	Porlier Pass	12,000		
	CA570008	Montague Harbour	18,000		
3462	CA370367 CA370368	Juan de Fuca Strait to/ à Strait of Georgia	80,000	18421	4951
3463	CA370145	Strait of Georgia, Southern Portion/ Partie Sud	80,000		4952
3481	CA470072	Approaches to/Approches à Vancouver Harbour	25,000		4962
3493	CA570073	Vancouver Harbour, Western Portion/Partie Ouest	10,000		4963
3494	CA570123	Vancouver Harbour, Central Portion/Partie Centrale	10,000		4964
3495	CA570127	Vancouver Harbour, Eastern Portion/Partie Est	10,000		4965
	CA470194	Indian Arm – Continuation A	30,000		

(1) Optional because charts of larger scale that must be carried.

*** Only required if approaching Vancouver via Swanson Channel or Plumper Sound and then through Active Pass or Trincomali Channel and Porlier Pass**

26 Arriving New Westminster, British Columbia

Charts in List 25 up to and including 3463, and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
3490	CA570015	Fraser River/Fleuve Fraser, Sand Heads to/à Douglas Island	20,000	4961

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27. Arriving Roberts Bank, British Columbia

Charts in List 25 up to and including 3463, and then:

CANADIAN CATALOGUE				U.S.A CATALOGUE	U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart	Chart
3492	CA570297	Roberts Bank	20,000	18421 REFERENCE	4960

28. Arriving Esquimalt or Victoria, British Columbia

Charts in List 25 up to and including 3440, and then:

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
3419	CA570138	Esquimalt Harbour	5,000	4959
3412	CA570562	Victoria Harbour	5,000	
	N/A	Portage Inlet	12,000	

29. Arriving Port Alberni, British Columbia

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
3001(1)	CA270389	Vancouver Island/Île de Vancouver Juan de Fuca Strait to/à Queen Charlotte Sound	525,000	4922
3602	CA370203	Approaches to/Approches à Juan de Fuca Strait	150,000	4945
3671	CA470337 CA470338	Barkley Sound	40,000	4945 REFERENCE
3668	CA470167	Alberni Inlet	40,000	
	CA570168	Port Alberni	10,000	
	CA570170	Entrance to/Entrée à Useless Inlet	10,000	
	CA570169	Robbers Passage	10,000	

(1) Optional because charts of larger scale that must be carried.

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30. Arriving Prince Rupert, British Columbia, via Hecate Strait

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
3002(1)	CA270390	Queen Charlotte Sound to/à Dixon Entrance	525,000	4921
3744	CA270084	Queen Charlotte Sound	365,100	4923
3902	N/A	Hecate Strait	250,000	4928
3927	CA370298 CA370299 CA370300 CA370301	Bonilla Island to/à Edye Passage	77,800	4934
3956	CA470314 CA470315	Malacca Passage to/à Bell Passage	40,000	4935
3957	CA470074	Approaches to/Approches à Prince Rupert Harbour	40,000	4936
3958	CA570125	Prince Rupert Harbour	20,000	4937
	CA570126	Butze Rapids	5,000	
3955(2)		Plans - Prince Rupert Harbour		4938
	CA570066	Venn Passage	12,000	
	CA570067	Porpoise Harbour, Ridley Island and Approaches/et les approches	10,000	
	CA570068	Morse Basin and/et Denise Inlet	20,000	

- (1) Optional because charts of larger scale that must be carried.
(2) If entering Porpoise Harbour

31. Arriving Prince Rupert, British Columbia, via Dixon Entrance

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
3800	CA370190 CA370191	Dixon Entrance	200,000	
3957	CA470074	Approaches to/Approches à Prince Rupert Harbour	40,000	4936
3958	CA570125	Prince Rupert Harbour	20,000	4937
	CA570126	Butze Rapids	5,000	
3955(2)		Plans - Prince Rupert Harbour		4938
	CA570066	Venn Passage	12,000	
	CA570067	Porpoise Harbour, Ridley Island and Approaches/et les approches	10,000	
	CA570068	Morse Basin and/et Denise Inlet	20,000	

- (2) If entering Porpoise Harbour

Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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32. Arriving Kitimat, British Columbia, via Dixon Entrance

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
3800	CA370190 CA370191	Dixon Entrance	200,000	
3902	N/A	Hecate Strait	250,000	4928
3724	N/A	Caamano Sound and Approaches/ et les Approches	71,600	
3742	N/A	Otter Passage to/à McKay Reach	70,900	4929
3945	CA470590	Approaches to/Approches à Douglas Channel	40,000	
	N/A	Tuwartz Narrows	25,000	
	CA570592	Coghlan Anchorage	20,000	
3743	N/A	Douglas Channel	73,000	4930
3908	CA570626	Kitimat Harbour	15,000	4931

33. Inner Passages, British Columbia, Vancouver to Portland Canal

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
3493	CA570070	Vancouver Harbour, Western Portion/Partie Ouest	10,000	4963
3481	CA470072	Approaches to/Approches à Vancouver Harbour	25,000	4962
3512	CA370382	Strait of Georgia, Central Portion/ Partie Centrale	80,000	
3513	CA370016	Strait of Georgia, Northern Portion/Partie Nord	80,000	
3539	CA470017	Discovery Passage	40,000	
	CA470018	Seymour Narrows	20,000	
3540	CA570195	Approaches to/Approches à Campbell River	10,000	
3543	CA470019	Cordero Channel	40,000	
	CA570020	Dent and/et Yuculta Rapids	20,000	
	CA570021	Greene Point Rapids	20,000	
3544	CA470022	Johnstone Strait, Race Passage and/et Current Passage	25,000	
3545	CA470309	Johnstone Strait, Port Neville to/à Robson Bight	40,000	
3546	CA470310 CA470311	Broughton Strait	40,000	
	CA570027	Port McNeil	20,000	
	CA570026	Alert Bay	20,000	

Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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33. Inner Passages, British Columbia, Vancouver to Portland Canal (continued)

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
3547	CA470312	Queen Charlotte Strait	40,000	
	CA470313	Eastern Portion/Partie Est		
	CA570030	Stuart Narrows	20,000	
	CA570029	Kenneth Passage	20,000	
3548	CA470031	Queen Charlotte Strait Central Portion/Partie Centrale	40,000	
	CA470032	Blunden Harbour	15,000	
	CA470033	Port Hardy	15,000	
3549	CA470306	Queen Charlotte Strait	40,000	
	CA470307	Western Portion/Partie Ouest		
	CA570035	Bull Harbour	20,000	
3550	CA470036	Approaches to/Approches à Seymour Inlet and/et Belize Inlet	40,000	
3934	CA470339	Approaches to/Approches à Smith Sound	40,000	
	CA470340	and/et Rivers Inlet		
	CA570132	Darby Channel	15,000	
3935	CA470357	Hakai Passage and Vicinity/et Environs	40,000	
3936	CA470318	Fitz Hugh Sound to/à Lama Passage	40,000	
	CA570319	Namu Harbour	20,000	
3938	CA470322	Queens Sound to/à Seaforth Channel	40,000	
	CA470568			
	CA470569			
	CA570566	Bella Bella	10,000	
	N/A	St. John Harbour	25,000	
3941	CA470577	Channels Vicinity of/Chenaux Proximité de Milbanke Sound	40,000	
	CA570580	Jackson Narrows	12,000	
	CA570579	Nowish Cove	20,000	
3943	CA470584	Finlayson Channel and/et Tolmie Channel	40,000	
	CA570585	Meyers Narrows	12,000	
	CA570586	Hiekish Narrows	18,000	
3944		Princess Royal Channel	40,000	
	CA570589	Butedale	6,000	
3945	CA470590	Approaches to/Approches à Douglas Channel	40,000	
		Tuwartz Narrows	25,000	
	CA570592	Coghlan Anchorage	20,000	

Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which are to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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33. Inner Passages, British Columbia, Vancouver to Portland Canal (continued)

CANADIAN CATALOGUE				U.S.A CATALOGUE	U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart	Chart
3946	CA470593 CA470594	Grenville Channel	40,000		4932
	CA570595	Union Passage	20,000		
	CA570596	Baker Inlet	20,000		
3947	CA470597	Grenville Channel to/ à Chatham Sound	40,000		4940
3957	CA470074	Approaches to/Approches à Prince Rupert Harbour	40,000		4936
3959	CA470369 CA470370	Hudson Bay Passage	40,000		
3960	CA470363 CA470364	Approaches to/Approches à Portland Inlet	40,000		
3994	CA470523	Portland Inlet, Khutzeymateen Inlet and Pearse Canal	40,000	17437 & 17427	
3933	CA370518	Portland Canal and/et Observatory Inlet	80,000	17427 & 17425	
3794	CA570080	Stewart	12,000		

34. Other Accepted Charts

Canada has accepted the following charts as equivalent for use in Canadian waters in the immediate area concerned.

CANADIAN CATALOGUE				U.K. CATALOGUE
Chart	ENC	Title	Scale 1:	Chart
1201	579237	Saint-Fulgence à/to Saguenay	15,000	4795
		Saguenay	5000	
2400	N/A	Great Lakes/Grands Lacs	1,584,000	4794
3000	CA270388	Juan De Fuca Strait to/à Dixon Entrance	1,250,000	4920
3443	CA470070	Thetis Island to/à Nanaimo	40,000	4956
3447	CA570383	Nanaimo Harbour and/et Departure Bay	10,000	4958
3458	N/A	Approaches to/Approches à Nanaimo Harbour	20,000	4957
3603	CA370208	Ucluelet Inlet to/à Nootka Sound	150,000	4944
3604	CA370424	Nootka Sound to/à Quatsino Sound	150,000	4943
3605	CA370165	Quatsino Sound to/à Queen Charlotte Strait	150,000	4942
		Scott Channel	80,000	
4406	N/A	Tryon Shoals to/à Cape Egmont	75,574	4770

Any chart listed on the same line as the Canadian chart may be used as an equivalent in the immediate area concerned except those charts marked REFERENCE, which is to be used for reference purposes only because their chart scale does not comply with that required by the regulations.

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35. CANADIAN HYDROGRAPHIC SERVICE - CURRENT CHART EDITIONS

CHART EDITIONS

The three terms described below are used to indicate the publication status of Canadian charts.

NEW CHART - "NEWCHT"

The first publication of a Canadian chart embracing an area not previously charted to the scale shown, or embracing an area different from any existing Canadian chart.

NEW EDITION - "NEWEDT"

A new issue of an existing chart containing amendments essential to navigation in addition to those issued in Notices to Mariners and making existing editions obsolete.

REPRINTS

A new print of the current edition of a chart incorporating no amendments of navigational significance other than those previously promulgated in Notices to Mariners. It may also contain amendments from other sources provided they are not essential to navigation. Previous printings of the current edition remain in force.

FOR AN UPDATED LIST OF CHARTS, PLEASE REFER TO: www.charts.gc.ca

Authority: Canadian Hydrographic Service (CHS)

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14 Canadian Nautical Charts and Publications and International Publications

Canadian nautical charts and publications are available from authorized Canadian Hydrographic Service (CHS) Chart Dealers. For a complete list of authorized dealers, visit <http://www.cartes.gc.ca/locator-localisateur-eng.asp>. Alternatively, please contact the CHS Sales and Distribution office:

Canadian Hydrographic Service
Client Services
200 Kent Street
Ottawa, ON, K1A 0E6
Telephone: (613) 998-4931 or 1-866-546-3613
Facsimile: (613) 998-1217
E-mail: chsinfo@dfo-mpo.gc.ca
Website: www.charts.gc.ca

CHS Item #	Title	Price
	Nautical Charts	5.00 to 88.00
P231 to P234, and J9	Regional Chart Catalogues and Price List	Free
P240, P241 & P244	Tidal Current Atlases for specific areas	16.50 to 35.00
Chart/Carte 3312	Jervis Inlet & Desolation Sound and Adjacent Waterways/et les voies navigables adjacentes	88.00
Chart/Carte 3313	Jervis Inlet & Desolation Sound and Adjacent Waterways/et les voies navigables adjacentes	88.00
	Sailing Directions	
ARC400E	General Information, Northern Canada, 2009	26.95
ARC400F	Renseignements généraux, Nord canadien, 2009	26.95
ARC401E	Hudson Strait, Hudson Bay and Adjoining Waters, 2009	25.95
ARC401F	Détroit d'Hudson, baie d'Hudson et eaux limitrophes, 2009	25.95
ARC402E	Eastern Arctic, 2014	26.95
ARC402F	Arctique de l'Est, 2014	26.95
ARC403E	Western Arctic, 2011	21.95
ARC403F	Arctique de l'Ouest, 2011	21.95
ARC404E	Great Slave Lake and Mackenzie River, 2012	21.50
ARC404F	Grand lac des Esclaves et fleuve Mackenzie, 2012	21.50
ATL100E	General Information, Atlantic Coast, 2007	14.95
ATL100F	Renseignements généraux, Côte atlantique, 2007	14.95
ATL101E	Newfoundland, Northeast and East Coasts, 2013	14.95
ATL101F	Terre-Neuve, Côtes Nord-Est et Est, 2013	14.95
ATL102E	Newfoundland, East and South Coasts, 2008	14.95
ATL102F	Terre-Neuve, Côtes Est et Sud, 2008	14.95
ATL103E	Newfoundland, Southwest Coast, 2010	13.95
ATL103F	Terre-Neuve, Côte Sud-Ouest, 2010	13.95
ATL104E	Cape North to Cape Canso (including Bras d'Or Lake), 2010	14.95
ATL104F	Cape North à Cape Canso (y compris Bras d'Or Lake), 2010	14.95
ATL105E	Cape Canso to Cape Sable (including Sable Island), 2014	18.95
ATL105F	Cape Canso à Cape Sable (y compris île de Sable), 2014	18.95
ATL106E	Gulf of Maine and Bay of Fundy, 2001	18.95

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CHS Item #	Title	Price
ATL106F	Gulf of Maine et baie de Fundy, 2001	18.95
ATL 107E	Saint John River, 2009	14.95
ATL 107F	Rivière Saint-Jean, 2009	14.95
ATL108E	Gulf of St. Lawrence (Southwest Portion), 2006	20.95
ATL108F	Golfe du Saint-Laurent (partie Sud-Ouest), 2006	20.95
ATL109E	Gulf of St. Lawrence (Northeast Portion), 2006	10.95
ATL109F	Golfe du Saint-Laurent (partie Nord-Est), 2006	10.95
ATL110E	St. Lawrence River, Cap Whittle/Cap Gaspé to Les Escoumins and Anticosti Island, 2011	10.95
ATL110F	Fleuve Saint-Laurent, Cap Whittle / Cap Gaspé aux Escoumins et île d'Anticosti, 2011	10.95
ATL111E	St. Lawrence River, Île Verte to Québec and Fjord du Saguenay, 2007	9.95
ATL111F	Fleuve Saint-Laurent, Île Verte à Québec et fjord du Saguenay , 2007	9.95
ATL112E	St. Lawrence River, Cap-Rouge to Montréal and Rivière Richelieu, 2009	9.95
ATL112F	Fleuve Saint-Laurent, Cap-Rouge à Montréal et rivière Richelieu, 2009	9.95
ATL120E	Labrador, Camp Islands to Hamilton Inlet (including Lake Melville), 2004	18.95
ATL120F	Labrador, Camp Islands à Hamilton Inlet (y compris Lake Melville), 2004	18.95
ATL121E	Labrador, Hamilton Inlet to Cape Chidley (including Button Islands and Gray Strait), 2016	18.95
ATL121F	Labrador, Hamilton Inlet à Cape Chidley (y compris Button Islands et Gray Strait), 2016	18.95
CEN300E	General Information, Great Lakes, 1996	14.95
CEN300F	Renseignements généraux, Grands Lacs, 1996	14.95
CEN301E	St. Lawrence River, Montréal to Kingston, 2010	14.95
CEN301F	Fleuve Saint-Laurent, Montréal à Kingston, 2010	14.95
CEN302E	Lake Ontario, 1996	14.95
CEN302F	Lac Ontario, 1996	14.95
CEN303E	Welland Canal and Lake Erie, 1996	14.95
CEN303F	Welland Canal et Lac Érié, 1996	14.95
CEN304E	Detroit River, Lake St.Clair, St.Clair River, 1996	9.95
CEN304F	Detroit River, Lac Sainte-Claire, St. Clair River, 1996	9.95
CEN305E	Lake Huron, St. Marys River, Lake Superior, 2000	19.95
CEN305F	Lac Huron, St. Marys River, Lac Supérieur, 2000	19.95
CEN306E	Georgian Bay, 2015	19.95
CEN306F	Baie Georgienne, 2015	19.95
CEN307E	North Channel of Lake Huron, 2000	14.95
CEN307F	North Channel (lac Huron), 2000	14.95
CEN308E	Rideau Canal and Ottawa River, 2003	19.95
CEN308F	Canal Rideau et rivière des Outaouais, 2003	19.95
CEN309E	Small Craft Guide, Trent-Severn Waterway, 2016	18.50
CEN309F	Guide nautique, Voie navigable Trent-Severn, 2016	18.50
PAC200E	General Information, Pacific Coast, 2006	19.95
PAC201E	Juan de Fuca Strait and Strait of Georgia, 2012	26.95
PAC205E	Inner Passage - Queen Charlotte Sound to Chatham Sound, 2002	19.95

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CHS Item #	Title	Price
PAC206E	Hecate Strait, Dixon Entrance, Portland Inlet and Adjacent Waters and Haida Gwaii, 2015	19.95
P118	British Columbia Coast (South Portion) Vol. 1, 2004	26.95
P142	Small Craft Guide, Lake Nipissing, 1987	6.00
P143	Guide nautique, Lac Nipissing, 1987	6.00
	Canadian Tide and Current Tables - 2017	
P191	Volume 1 - Atlantic Coast and Bay of Fundy/Côte de l'Atlantique et baie de Fundy	6.50
P192	Volume 2 - Gulf of St. Lawrence/Golfe du Saint-Laurent –	6.50
P193	Volume 3 - St. Lawrence and Saguenay Rivers/Fleuve Saint-Laurent et rivière Saguenay –	6.50
P194	Volume 4 - Arctic and Hudson Bay/l'Arctique et la baie d'Hudson –	6.50
P195	Volume 5 - Juan de Fuca Strait & Strait of Georgia/Détroits de Juan de Fuca et de Georgia –	6.50
P196	Volume 6 - Discovery Passage & West Coast of Vancouver Island/Discovery Passage et côte Ouest de l'île de Vancouver	6.50
P197	Volume 7 - Queen Charlotte Sound to Dixon Entrance/Queen Charlotte Sound à Dixon Entrance	6.50
	Other Publications	
P250	Tides in Canadian Waters	3.00
P251	Les marées dans les eaux du Canada	3.00
P875E	Marine Environmental Handbook Arctic Northwest Passage	50.00
P875F	Manuel sur le milieu marin dans l'Arctique Passage du Nord-Ouest	50.00
P252	Canadian Tidal Manual	20.00
P253	Manuel canadien des marées	20.00

NOTE:

The *List of Lights, Buoys and Fog Signal* publications are available on the Notices to Mariners website at <https://www.notmar.gc.ca/list-livre-en.php>

NOTE:

Acts and Regulations can be accessed through Justice Canada website at <http://laws-lois.justice.gc.ca/eng/>

All regulations are published in bilingual format.

Non-official up-to-date consolidations of the regulations may be accessed through the Transport Canada website at <http://www.tc.gc.ca>

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St. Lawrence Seaway Publications	
<i>The Seaway Handbook</i> (includes Seaway Regulations) / <i>Le Manuel de la Voie maritime</i> (comprenant le Règlement sur la Voie maritime) available in English and French.	Free
<i>Pleasure Craft Guide</i> / <i>Guide des embarcations de plaisance</i> , bilingual edition	Free
Above publications are available from: St. Lawrence Seaway Management Corporation 202 Pitt Street Cornwall, ON, K6J 3P7 Telephone: (613) 932-5170 Facsimile: (613) 932-7286 Website: http://www.greatlakes-seaway.com	
<i>Notices to Mariners</i> (<i>Avis aux navigateurs</i>) are issued on the last Friday of each month, and are available in English and French at http://notmar.gc.ca	Free

¹Denotes that every ship fitted with radiotelegraph or radiotelephone installation must carry these regulations.

International Publications

1. Radio Publications

Compulsorily-fitted ship stations not on Convention voyages are required to carry the publication "*Radio Aids to Marine Navigation*." Additionally, ships making Convention voyages but remaining within Sea Areas A1 or A2 must carry the ITU publication "*List of Ship Stations*" or "*List of Call Signs and Numerical Identities*", as well as a publication that lists the radiocommunication services of the coast stations in the area in which the ship is navigating, such as the U.S. National Imagery and Mapping Agency (NIMA) publication "*Radio Navigational Aids – Pub 117*".

Ships making Convention voyages in Sea Areas A3 or A4 must carry the documents listed in Section VA of the ITU publication "*Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services*" as well as the IMO publication "*Master Plan of the Shore-Based Facilities for the Global Maritime Distress and Safety System (GMDSS Master Plan)*".

ITU publications can be ordered from:

Sales Service
International Telecommunication Union
Place des Nations
CH-1211 Geneva 20
Switzerland
Telephone: +41 22 730 6141 (English)
Telephone: +41 22 730 6142 (French)
Facsimile: +41 22 730 5194
E-mail: sales@itu.int
Website: <http://www.itu.int/>

NIMA publications from:

Superintendent of Documents
P.O. Box 371954
Pittsburgh, PA 15250-7954
USA
Telephone: (202) 512-1800
Facsimile: (202) 512-2250

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List	Title	Price
IV	List of Coast Stations and Special Service Stations, Edition 2015, CD (ITU)	213 CHF (Swiss francs)
V	List of Ship Stations and Maritime Mobile Service Identity Assignments, Edition 2016, CD (ITU)	322 CHF (Swiss francs)
	Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services, Edition 2013 (ITU)	295 CHF (Swiss francs)

2. IMO Publications

The following publications and all other texts issued by IMO, as listed in the IMO Publications Catalogue, which is free, may be ordered through the IMO website at <http://www.imo.org> or from:

IMO Publishing Service
International Maritime Organization
4 Albert Embankment
London, SE1 7SR
United Kingdom
☎: + 44(0)20-7735-7611
☎: + 44(0)20-7587-3241
✉: sales@imo.org

Payment must be made with order in pounds sterling or U.S. dollar equivalent.
(E = English edition, F = French edition)

Canadian distributors who maintain a permanent stock of all IMO publications are:

- 1 **Binnacle Yachting Equipment & Accessories Ltd.**
15 Purcell's Cove Road, Halifax, NS, B3N 1R2
☎: (902) 423-6464
☎: (902) 479-1518
Email: charts@binnacle.com
Website: www.binnacle.com
- 2 **Captain Andrew J. Rae and Sons Ltd.**
68 Lovett Lake Court, Halifax, NS, B3S 1B8
☎: (902) 450-1022
☎: (902) 450-1021
Email: info@nautsci.com
Website: www.nautsci.com
- 3 **Captain Andrew J. Rae Marine Educational Services Ltd.**
68 Thornhill Drive, Halifax, NS, B3S 1B8
☎: (902) 477-4692
☎: (902) 477-2161
Email: info@nautscifags.com
Website: www.nautscifags.com
- 4 **ICC The international Compliance Centre Inc.**
205 Matheson Boulevard East, Mississauga, ON, L4Z 1X8
☎: (905) 890-7227
☎: (905) 890-7070
Email: wheaps@thecompliancecenter.com
Website: www.thecompliancecenter.com

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- 5 **Marine Press of Canada**
640 St. Paul West, Suite 300, Montréal, QC, H3C 1L9
☎: (514) 866-8342
☎: (514) 866-9050
Email: sales@marinepress.com
Website: www.marinepress.com
- 6 **Maritime Services Ltd.**
3440 Bridgeway Street, Vancouver, BC, V5K 1B6
☎: (604) 297-1204 or 1-888-387-8667 (toll free)
☎: (604) 294-0211
Email: sales@maritimeservices.ca
Website: www.maritimeservices.ca
- 7 **McGill Maritime Services Inc.**
369 Place d'Youville, Montréal, QC, H2Y 2B7
☎: (514) 849-1125
☎: (514) 849-5804
Email: mcgill@pubnix.net
Website: www.mcgill-maritime.ca
- 8 **Nautical Mind Bookstore**
249 Queen's Quay West, Toronto, ON, M5J 2N5
☎: (416) 203-0729
☎: (416) 203-0729
Email: books@nauticalmind.com
Website: www.nauticalmind.com

IMO has about 250 titles available with many on CD or diskettes. Details are available from the IMO publications section, or the IMO website at <http://www.imo.org/Publications/Pages/CatalogueAndBookCodeLists.aspx>

Since April 1st, 2013, in an effort to adopt and focus on newer technologies, the Canadian Coast Guard (CCG) ceased the printing of its List of Lights book, Annual Edition of the Notices to Mariners and also the Radio Aids to Marine Navigation Annual Publication. For complete details, please visit the following page: <https://www.notmar.gc.ca/paper-papier-en.php>.

Code	English Publication Title	Price
IB001E	Basic Documents: Volume I, 2010 Edition	£13
IA007E	Basic Documents: Volume II, 2003 Edition	£10
I27E	27th Session 2011 (Res. 1033-1059)	£35
I28E	28th Session 2013 (Res. 1060-1092)	£35
ID100E	IBC Code, 2016 Edition	£45
I104E	IGC Code, 1993 Edition	£14
IA104E	IGC Code, 2016 Edition	£20
I109E	IGF Code, 2016 Edition	£15
IF110E	SOLAS Consolidated Edition, 2014	£90
I114E	Q Addendum: International Medical Guide for Ships	£19
I115E	International Medical Guide for Ships	£66
IA116E	Guide to Maritime Security & ISPS Code, 2012 Ed	£50
IC117E	ISM Code & Guidelines, 2014 Edition	£14
I118E	IMO Member States Audit Scheme, 2015	£20
I128E	Casualty Investigation Code, 2008 Edition	£10
IB155E	Fire Safety Systems (FSS) Code, 2015 Edition	£30

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Code	English Publication Title	Price
IA185E	High Speed Craft (2000 HSC) Code, 2008 Edition	£20
I190E	Ships operating in polar waters guidelines, 2010 Ed	£10
I191E	Polar Code, 2016 Edition	£20
IK200E	IMDG Code, 2016 Edition Amendment 38-16	£125
IJ200E	IMDG Code (inc Amdt 37-14), 2014 Edition	£125
II210E	IMDG Code Supplement, 2014 Edition	£60
IG223E	IMDG Code Labels, Marks & Signs, 2016	£12
I240E	International Grain Code, 1991 Edition	£10
IH260E	IMSBC Code & Supplement, 2016 Edition	£55
IB265E	2011 ESP Code, 2013 Edition	£15
IA266E	BLU Code including BLU Manual, 2011 Edition	£20
IA275E	2011 Timber Deck Cargoes (TDC), 2012 Edition	£15
IC282E	Safe Containers Convention (CSC), 2014 Edition	£12
IC284E	IMO/ILO/UNECE CTU Code, 2014 Edition	£25
I285E	Related information for CTU Code, 2016 Ed	£25
I288E	Carriage of Cargo & Persons by OSV, 2000 Ed	£10
I289E	Guidelines for LHNS by OSV, 2007 Edition	£10
IB290E	Dangerous Goods in Port Areas, 2007 Edition	£15
IB292E	Cargo Stowage & Securing (CSS) Code, 2011 Ed	£20
IC350E	Facilitation Convention (FAL), 2011 Edition	£19
IA360E	Revised IMO Compendium for Facilitation, 2014 Ed	£10
I402E	Intervention Convention, 1977 Edition	£10
I410E	Civil Liability Convention (CLC), 1977 Edition	£10
IA436E	Passengers & Luggage on Ships, 2003 Edition	£10
IB444E	Limitation of Liability for Maritime Claims, 2016 Ed	£10
I450E	International Conference on Salvage, 1989 Edition	£10
IA462E	Suppression of Unlawful Acts (SUA), 2006 Edition	£10
I470E	Nairobi Convention of Wreck Removals, 2008 Ed	£10
I473E	Civil Liability for Oil Pollution Damage, 1996 Edition	£10
IA479E	2010 HNS Convention, 2013 Edition	£25
I490M	International Bunkers Convention, 2004 Edition	£10
I500E	Prevention Pollution (OILPOL), 1981 Edition	£10
I504E	Supplement to OILPOL, 1981 Edition	£10
IA516E	Reporting Incidents under MARPOL, 1999 Edition	£10
ID520E	MARPOL, Consolidated edition 2011	£65
I530E	Condition Assessment Scheme (CAS)	£10
IA531E	Waste Assessment Guidelines, 2014 Edition	£25
IB532E	London Convention & Protocol, 2016 Edition	£15
I533E	London Protocol: What it is and how to implement it	£13
I537E	Sampling & Analysis of Dredged Material, 2005 Ed	£10
I538M	Guidance for Dredged Material, 2009 Edition	£10
I539E	2012 Guidelines for Fish Waste, 2013 Edition	£10
I540E	Guidelines on assessment of dredged materials, 2015	£15
I542E	Field Monitoring Disposal, 2016 Edition	£15
I546E	Carbon dioxide sequestration, 2016 Edition	£12
I550E	International Convention on OPRC, 1991 Edition	£10
I556E	OPRC - HNS Protocol 2000, 2002 Edition	£10
IA557E	Manual on Oil Pollution - Section I, 2011 Edition	£16
I558E	Response to Marine Oil Pollution Incident, 2016	£15

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Code	English Publication Title	Price
IA560E	Manual on Oil Pollution - Section II, 1995 Edition	£10
IA566E	Manual on Oil Pollution - Section III, 1997 Edition	£10
IA569E	Manual on Oil Pollution - Section IV, 2005 Edition	£18
IA572E	Manual on Oil Pollution - Section V, 2009 Edition	£10
IA575E	Oil Spill Dispersant Application Guidelines, 1995 Ed	£10
I578E	Manual on Oil Pollution - Section VI, 1978 Edition	£10
I579E	Oil Spill Risk Evaluation Manual, 2010 Edition	£10
I580E	IMO/UNEP Guidance Manual, 2009 Edition	£13
I581E	Guidance Document on IMS Implementation	£10
I582E	Guideline for Oil Spill Response in fast currents, 2013	£10
I583E	Operational Guidelines on Oil, 2016 Edition	£15
IB586E	Ship Pollution Emergency Plans (SOPEP), 2010 Ed	£10
IB597E	Port Reception Facilities - How to do it, 2016	£22
IA617E	Crude Oil Washing Systems, 2000 Edition	£10
I619E	Dedicated Clean Ballast Tanks, 1982 Edition	£10
I620M	Ballast Water Management (BWM) Convention 2004 Ed	£10
I621E	BWM Convention & Guidelines, 2009 Edition	£10
IA630E	Manual on Chemical Pollution - Section I, 1999 Ed	£10
IA633E	Manual on Chemical Pollution - Section II, 2007 Ed	£10
IB636E	MARPOL - How to do it, 2013 Edition	£24
I637E	Manual on Chemical Pollution - Section 3, 2015 Ed	£15
IA646E	Pollution Prevention Equipment, 2006 Edition	£18
I649E	Oil Response in Tropical Waters, 1997 Edition	£10
IB650E	Procedures for Port State Control, 2012 Edition	£16
I653E	Guidelines for Liquids Transported in Bulk, 1997 Ed	£10
IB656E	Implementation of MARPOL Annex V, 2012 Edition	£10
I659E	Placard: MARPOL Annex V discharge provisions	£10
I661E	Guidelines on Harmful Aquatic Organisms, 1998 Ed	£10
I662E	Control & Management of Ships' Biofouling, 2012 Ed	£10
IB664E	MARPOL Annex VI & NTC 2008, 2013 Edition	£30
I665E	Bunker Sampling Guidelines, 2005 Edition	£10
IA680E	Anti-Fouling Systems (AFS) Convention, 2005 Ed	£12
I683E	Hong Kong Convention, 2013 Edition	£18
I685E	IMO Guidelines on Ship Recycling, 2006 Edition	£10
I686E	Use of sorbents for spill response, 2016 Edition	£13
IB701E	International Conference on Load Lines, 2005 Ed	£22
I713E	Tonnage Measurement of Ships, 1970 Edition	£10
IA749E	Safety Code for Fishermen & F Vessels(A), 2006 Ed	£18
IA755E	Safety Code for Fishermen & F Vessels(B), 2006 Ed	£18
IA761E	Voluntary G'lines for Small Fishing Vessels, 2006 Ed	£15
IC772E	BCH Code, 2008 Edition	£20
I782E	Gas Carrier Code, 1983 Edition	£10
I788E	Gas Carrier Code for Existing Ships, 1976 Edition	£10
I800E	Goal-based ship construction standards, 2013 Ed	£12
IA807E	Offshore Supply Vessels Guidelines, 2006 Edition	£10
I810E	2009 MODU Code, 2010 Edition	£20
IA811E	1989 MODU Code, Cons 2001 Edition	£15
I817E	Code on noise levels on board ships, 2014 Edition	£12
IA820E	Safety Code for Special Purpose Ships, 2008 Ed	£10

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Code	English Publication Title	Price
IC844E	2010 Fire Test Procedures (FTP) Code, 2012 Ed	£25
IA847E	Symbols for Fire Control Plans, 2006 Edition	£10
I860E	Inert Gas Systems, 1990 Edition	£10
IB867E	Code on Alerts and Indicators, 2009, 2010 Edition	£15
IB874E	Code on Intact Stability (IS), 2009 Edition	£16
I877M	Prevention of Corrosion on Ships, 2010 Edition	£20
IB904E	Collision Regulations Convention (COLREGS), 2003	£10
IB908E	International SafetyNET Manual, 2011 Edition	£12
IB910E	MSI Manual, 2015 Edition	£15
I915E	STCW - Fishing 95, 1996 Edition	£10
IF927E	Ships' Routeing, 2015 Edition	£120
IC938E	STCW inc. 2010 Manila Amendments, 2011 Edition	£40
IB946E	Guide to Cold Water Survival, 2012 Edition	£10
IA947E	Pocket Guide to Recovery Techniques, 2014 Ed	£10
ID951E	NAVTEX Manual, 2012 Edition	£12
IB955E	SAR Convention, 2006 Edition	£10
II960E	IAMSAR Manual Volume I, 2016 Edition	£25
IF961E	IAMSAR Manual Volume II, 2016 Edition	£50
II962E	IAMSAR Manual Volume III, 2016 Edition	£50
I966E	IAMSAR Manual Volume III Action Cards	£12
I968E	Guidelines on Fatigue, 2002 Edition	£15
I969E	GMDSS Operating Guidance Card	£10
IG970E	GMDSS Manual, 2015 Edition	£105
I971E	Guidance on GMDSS distress alerts card, 2013 Ed	£10
I973E	IMO/ILO G'lines on Seafarers' Hours, 1999 Edition	£10
IE978E	Performance Standards, 2016 Edition	£65
IB981E	Poster: Life-Saving Appliances Symbols, 2006 Ed	£10
IE982E	Life-Saving Appliances inc LSA Code, 2017 Edition	£30
IA987E	IMO SMCP with CD (pronunciation guide), 2002 Ed	£40
IA994E	International Code of Signals, 2005 Edition	£49

Code	English Model Course Title	Price
TB101E	Training for oil and chemical tanker cargo ops, 2014	£40
TC102E	Adv. training for oil cargo tanker operations, 2015	£40
TA103E	Adv. training for chemical cargo tanker ops, 2016	£50
TC104E	Basic training for LGT cargo operations, 2014	£40
T105E	Adv. Training for liquefied gas tanker cargo ops	£60
TA107E	Radar Navigation at Operational level, 1999 Edition	£12
TB110E	Dangerous, hazardous and harmful cargoes, 2014	£40
TA113E	Elementary First Aid, 2000 Edition	£12
TA114E	Medical First Aid, 2000 Edition	£12
TA115E	Medical Care, 2000 Edition	£30
TA119E	Personal Survival Techniques, 2000 Edition	£16
TA120E	Fire Prevention and Fire Fighting, 2000 Edition	£16
TB121E	Personal Safety & Social Responsibilities, 2016 Ed	£30
TA122E	Ship Simulator & Bridge Teamwork, 2002 Edition	£20
TA123E	Proficiency in Survival Craft & Rescue Boats, 2000	£16
TB125E	General Operator's Certificate for GMDSS, 2015	£40

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Code	English Model Course Title	Price
TB126E	Restricted Operator's Certificate for GMDSS, 2015	£60
TA127E	Operational use of ECDIS, 2012 Edition	£25
T128E	Crowd Management & Passenger Safety, 2000 Ed	£32
T134E	Automatic Identification Systems (AIS), 2006 Ed	£30
T138E	Marine Environmental Awareness, 2011 Edition	£20
T139E	Leadership & Teamwork, 2014 Edition	£20
TA203E	Advanced Training in Fire Fighting, 2000 Edition	£16
TA303E	Survey of Machinery Installations, 2004 Edition	£24
TB311E	Safety Investigation into Casualties & Incidents, 2014	£40
TA312E	Seafarers' Assessment, Exam & Certification, 2000	£80
TB313E	SAR Administration (IAMSAR Vol I), 2014 Ed	£20
T315E	SAR Administration (IAMSAR Vol III), 2014 Ed	£20
TB317E	Maritime English, 2015 Edition	£60
TA319E	Ship Security Officer, 2012 Edition	£25
TA320E	Company Security Officer, 2011 Edition	£25
TB321E	Port Facility Security Officer, 2015 Edition	£30
T323E	Piracy & Armed Robbery Prevention, 2011 Edition	£30
T324E	Sec. Awareness Training for PF Personnel w/DSD	£25
T325E	Sec. Awareness Training for all PF Personnel	£25
T326E	Security Training for Seafarers with DSD, 2012 Ed	£25
T327E	Sec. Awareness Training for all Seafarers, 2012	£25
T405E	Energy Efficient Operation of Ships, 2014 Ed	£20
TA609E	Training Course for Instructors, 2001 Edition	£32
T610E	Train the Simulator Trainer and Assessor, 2012 Edition	£25
TB701E	Master and Chief Mate, 2014 Edition	£60
TB702E	Chief Engineer Officer & 2nd Engineer Officer, 2014	£60
TB703E	Officer in charge of Navigational Watch, 2014	£60
TB704E	Officer in charge of Engineering Watch, 2014	£60
T708E	Electro-technical Officer, 2014 Edition	£30

AUTHORIZED DEALERS - CANADIAN HYDROGRAPHIC SERVICE

The authorized dealers at major Canadian and Foreign seaports stock Canadian charts and publications necessary for commercial shipping in their districts. For a complete list of authorized dealers, visit <http://www.cartes.gc.ca/locator-localisateur-eng.asp>

Canadian Hydrographic Service
Client Services
200 Kent Street
Ottawa, ON, K1A 0E6
Telephone: (613) 998-4931 or 1-866-546-3613
Facsimile: (613) 998-1217
E-mail: chsinfo@dfo-mpo.gc.ca
Website: www.charts.gc.ca

Authority: Canadian Hydrographic Service (CHS)
Transport Canada

A7 OBSTRUCTIONS

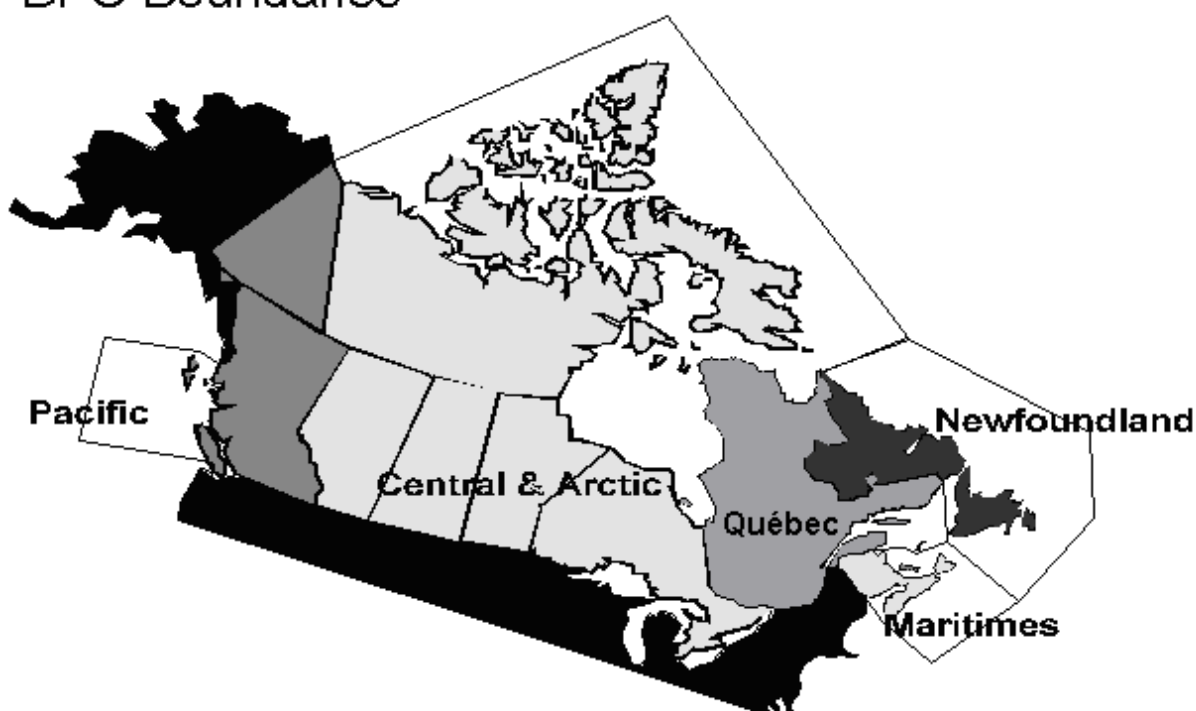
15 Aquaculture Facilities

The placement of aquaculture facilities in Canada's navigable waterways has reached high concentration levels in many areas. Cautionary buoys are deployed to mark the aquaculture work, and information buoys are used to mark the perimeters of the leased sites. Mariners are advised to exercise caution and give wide berth to the buoys. Mariners should not attempt to navigate through aquaculture sites unless it is apparent that navigation channels are properly marked.

Notices to Shipping will be published by the regional authorities of the Canadian Coast Guard in the event of changes to the approved positions of existing aquaculture facilities and when new facilities are approved.

Authority: Transport Canada (Navigation Protection Program)

New DFO Boundaries



Authority: Transport Canada

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16 Submarine and Overhead Cables

Symbols for submarine and overhead cables shown on most Canadian Hydrographic Service charts do not differentiate between cables conducting electric power, often at high voltages, and those that do not (See *Chart No. 1, D26-27 and L30.1-32*).

Because cables are subject to frequent change, those installed, removed or modified since the date of publication of a chart may not be shown. Changes are made through *Notices to Mariners* (<http://www.notmar.gc.ca/>) only as follows:

- a) for new submarine cables - if the cable is located on a chart other than a small-craft chart and if located in an area accessible to commercial shipping where anchoring or trawling may damage the cable
- b) for new overhead cables - if the cable is considered to be a hazard to navigation
- c) for existing overhead cables - if changes of significance to navigation in the vertical clearance occurs, or if the cable is removed.

1. SUBMARINE CABLES

WARNING - Mariners should exercise every caution to avoid anchoring or trawling in cable areas, even though there may be no specific prohibition against doing so. Danger to mariners and serious interference with communications or power supplies may result from damage to submarine cables. Equal care should be taken wherever the symbol for a submarine cable is shown on any chart.

In the event of any vessel fouling a submarine cable, every effort should be made to clear the anchor or gear by normal methods. Should these efforts fail, the anchor or gear should be slipped and abandoned without attempting to cut the cable. **High voltages are fed into some submarine cables and serious risk of loss of life or severe burns exists if any attempt to cut the cable is made.**

- a) Vessels responsible for breaking or damaging a submarine cable could face legal proceedings and could be held liable for the costs and expenses resulting from the damages to that cable.
- b) Vessels shall keep at least one nautical mile from vessels engaged in laying or repairing submarine cables. Fishing gear and nets shall be kept at the same distance. Fishing vessels shall be allowed up to twenty-four hours in order to enable them to obey this notice.
- c) Buoys marking cables shall not be approached within 1/4 nautical mile, and fishing gear and nets shall be kept the same distance from them.
- d) Vessels who can prove that they have sacrificed an anchor, a net or other fishing gear, in order to avoid injury to a submarine cable, may receive compensation from the owner of the cable.

For additional information, consult the International Cable Protection Committee website at <http://www.iscpc.org/>

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2. OVERHEAD CABLES

The vertical clearance of overhead cables is given above Higher High Water, Large Tide in tidal waters. In non-tidal waters, vertical clearance is given above Chart Datum. Therefore, in non-tidal waters, the height of the water level above Chart Datum must be subtracted from the charted clearance to give the actual clearance at a particular time (See *Chart No. 1, D22*).

WARNING - Because of the danger of arcing from overhead cables, mariners are cautioned to ensure an adequate clearance for safety between their vessel and all overhead cables. Be particularly careful with high-voltage cables. If the clearance to avoid a dangerous electrical discharge between a high-voltage cable and a vessel passing under it cannot be obtained from local authorities, then allow at least 7 m less than the vertical clearance.

Mariners are cautioned that the actual clearance of an overhead cable may differ from its charted value due to changes in atmospheric conditions, water levels and other factors. In particular, heavy icing may significantly reduce charted vertical clearances.

Mariners are advised to consult the appropriate volume of CHS *Sailing Directions* to ensure they are familiar with local conditions.

Authority: Canadian Hydrographic Service (CHS)

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17 Reports of Shoal Soundings

- 1** Reports of shoal soundings must provide adequate supportive information in order for the Canadian Hydrographic Service to be able to chart such soundings.
- 2** Shoal depths reported with insufficient supporting information may not be possible to chart or even locate in subsequent searches conducted by hydrographic surveys.
- 3** In order to make full use of reports of shoal soundings, Navigating Officers are requested to note the following essential details:
 - (a) Obtain the position of the shoal depth by taking a position fix over it, as well as on each side of the shoal depth. If this is not practicable, then provide the position of the ship with a bearing and distance to the position of the shoal sounding.
 - (b) Indicate the method used to position the depth, e.g. Radar, GPS, DGPS, etc., and the horizontal datum of the position fix, e.g. NAD83, NAD27, WGS84, etc. It is helpful to mark the details on a chart, which will be promptly replaced by the Canadian Hydrographic Service.
 - (c) Number the position fixes and insert the time (time is important since the height of the Tide must be found in order to obtain the chart depth). Note the time zone, e.g. GMT, UTC, PST, etc.
 - (d) For digital echosounders, chart plotters, integrated sounder/positioning displays:
 - Use your cell phone, smart phone or digital camera to take a picture of the display or displays when observing the shoal position, or remote position of vessel if sitting over the shoal is not safe or possible, and when observing the least depth of the shoal;
 - Be sure the display shows a digital depth readout, the depth units, the date, time and time zone (if available);
 - On the *Marine Information Report and Suggestion Sheet* (MIRSS), indicate the draft of the transducer. If the draft is set into the sounder, so that depths read from water line, then also indicate this on the MIRSS;
 - For chart plotters, or integrated position and depth displays, be sure the position is in latitude and longitude to as many decimal places as the unit will allow.
 - For vessel positions remote from the shoal, indicate the estimated bearing and distance from the location where the picture of the position display was taken.

NOTE: Mariners and shore authorities are reminded of the requirements to inform appropriate Coast Guard agencies whenever potential hazards to navigation are identified. Refer to Part 3 of the Radio Aids to Marine Navigation (RAMN) publication.

Authority: Canadian Hydrographic Service (CHS)

A8 OIL AND GAS – EXPLORATION AND EXPLOITATION OF NATURAL RESOURCES

18 Lighting and Marking of Exploration and Exploitation Vessels and Platforms

Rule 42 of the *Collision Regulations* requires that exploration and exploitation vessels when on station or engaged in drilling or production operations exhibit a white light or series of lights flashing in unison the Morse Code letter U (.-) at intervals of not more than 15 seconds. These lights are in lieu of lights required elsewhere in the Regulations and must be visible all around the horizon at a range of 15 miles.

These vessels are also required to be fitted with sound signal appliances that sound the Morse Code letter U (.-) at 30 second intervals in restricted visibility.

The horizontal and vertical extremities of an exploration or exploitation vessel are lighted and marked in accordance with the requirements set out in the Standard 621-Obstruction Markings and Lighting published under authority of the Aeronautics Act.

The owner or operator of an exploration or exploitation vessel having a derrick extending more than 60 m above the water should inform the appropriate Regional Manager, Marine Safety of its location or movements so action may be initiated to inform low-flying aircraft.

Authority: Transport Canada

19 Lighting and Markings of Structures or Works for the Exploration and Development of Natural Resources

Pursuant to the *Navigable Waters Works Regulations* SOR/70-35, structures or works used for the exploration or development of natural resources, and the transport, removal or handling of such resources from the bed of a navigable water, shall be equipped with the prescribed lights and sound signals. (Ref. paras 8-10 inclusive) (SOR/84-182).

These structures or works may be of a permanent, temporary or floating character, and may be fixed or anchored to the bed of the waterway.

In addition to the foregoing, such works require the approval of the Minister of Transport Canada under the terms of the *Navigation Protection Act*.

Authority: Transport Canada

20 Safety of Offshore Exploration and Exploitation Vessels

1 Offshore exploration and exploitation vessels in waters under Canadian jurisdiction

- 1.1 Some offshore exploration and exploitation work takes place in waters under Canadian jurisdiction (see attached drawing). Such areas of operation have been established on the Grand Banks of Newfoundland, on the Scotian Shelf off Nova Scotia and Sable Island, in the Beaufort Sea off the Mackenzie Delta, in Hudson Bay and the Canadian waters of Lake Erie.
- 1.2 Frequently, complaints are received from these exploration or exploitation vessels stating that dangerous situations have developed because passing ships have come much too close to their areas of operation.
- 1.3 The most common complaint is the lack of any response to safety radiotelephone calls transmitted from these vessels to warn approaching ships. Most of these calls are made on the VHF distress, safety and calling frequency Channel 16, (156.8 MHz).
- 1.4 Other means of attracting attention such as the use of a signaling lamp and/or searchlight, the firing of rockets to draw the attention of the approaching ship, and the dispatching of a stand-by vessel to intercept have not always proved to be effective.
- 1.5 Some passing ships have also been observed using offshore exploration and exploitation vessels as a navigational way- point on a trans-oceanic voyage. This is a dangerous practice because it tends to concentrate passing ships at a place where their presence could adversely affect safe navigation.
- 1.6 Most of these waters are noted for their adverse weather conditions. Icebergs, extended periods of reduced visibility and ice coverage make it all the more difficult for passing ships and exploration and exploitation vessels to identify and make contact with each other.
- 1.7 Mariners are reminded when navigating in areas where exploration or exploitation work takes place to:
 - .1 give all offshore exploration and exploitation vessels a wide berth and if necessary make any course alterations in ample time so that there is no doubt to the personnel on such vessels that they have been seen and will be avoided by a wide margin;
 - .2 maintain a continuous listening watch on the VHF radio- telephone distress, safety and calling frequency (Channel 16, 156.8 MHz) and to respond to navigation safety calls on that frequency in accordance with:
 - .2.1 the appropriate Canadian legislation (see *VHF Radiotelephone Practices and Procedures Regulations* which apply in Canadian waters and fishing zones);
 - .2.2 Regulation 12 of Chapter IV of SOLAS which requires ships fitted with VHF radiotelephone to maintain a continuous listening watch on the navigating bridge on VHF DSC Channel 70 and Channel 16 when practicable; and
 - .3 monitor the bridge-to-bridge VHF Channel 13 in certain areas of the Great Lakes in accordance with the *VHF Radiotelephone Practices and Procedures Regulations*.
 - .4 contact the most convenient Marine Communications and Traffic Services Centre (MCTS) free of charge, to obtain the latest information on the positions of offshore exploration and exploitation vessels by addressing the request to:
 - .4.1 "ECAREG CANADA" for East Coast waters,

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- .4.2 "NORDREG CANADA" for Arctic waters,
- .4.3 "Marine Communications and Traffic Services Centre (MCTS) Sarnia (Sarnia Traffic)" for Canadian Great Lakes waters, and
- .4.4 "VTS OFFSHORE" for West Coast waters; and
- .5 plot the most recent positions of all offshore exploration and exploitation vessels so that a route can be planned to safely avoid such vessels.

2 Notices to Mariners and broadcast Notices to Shipping

2.1 (a) A temporary Notice to Mariners is published quarterly. This gives a complete list of the up-to-date positions of every reported offshore exploration and exploitation vessel in waters under Canadian jurisdiction, except on the Great Lakes. These notices are promulgated in Section I of the monthly Notices to Mariners edition numbers 1, 4, 7 and 10. In the event of changes in the position of such vessel(s) a Notice to Shipping will be issued.

(b) Production Platforms can indicate a permanent offshore structure which significantly affects navigation. These changes are charted by Notice to Mariners or through New Edition of a chart.

2.2 On the Great Lakes (presently only in Lake Erie) exploration and exploitation vessels change positions too frequently to warrant being published as a Notice to Mariners. Subsequently information on their positions is promulgated by Notice to Shipping broadcasts. For the positions of all drill barges and exploration or exploitation vessels operating East of Long Point, mariners may also call Seaway Long Point on VHF Channel 11 for the latest information prior to transiting this area.

2.3 Selected Marine Communications and Traffic Services Centres (MCTS) also broadcast twice daily:

- .1 any new Notices to Shipping (NOTSHIPS) over a 48 hour period; and
- .2 a list of active NOTSHIPS.

These NOTSHIPS and the list contain any revision to the position of every reported exploration and exploitation vessel operating in waters under Canadian jurisdiction.

A list of these stations, the frequencies and times of broadcast can be found in the Radio Aids to Marine Navigation, published by the Canadian Coast Guard and in the List of Coast Radio Stations, published by the International Telecommunication Union.

2.4 The United States also broadcast daily NAVAREA warnings to shipping which include any reported movement and relocation of exploration and exploitation vessels. All such movements are summarized monthly in section III of the Notices to Mariners published by the United States. It also contains a list by number of all NAVAREA warnings still in effect. The quarterly edition summarizes the details of all NAVAREA warnings still in effect and includes the positions of all reported exploration and exploitation vessels.

2.5 Mariners are reminded that *Section 7 of the Canadian Collision Regulations* states that, "Every vessel shall navigate with particular caution where navigation may be difficult or hazardous and, for that purpose, shall comply with any instructions and directions contained in Notices to Mariners and Notices to Shipping".

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3 Safety zones

- 3.1 In Canadian Waters, Rule 43 of the *Collision Regulations* establishes safety zones which are 500 meters in all directions from an exploration or exploitation vessel or 50 meters beyond the boundaries of its anchor pattern, whichever area is greater. Ships are prohibited from Navigating within a Safety Zone unless they are specifically excepted. The Regulations permit under certain circumstances the establishment of a larger safety zone.
- 3.2 In offshore areas, the *Canada Oil and Gas Drilling Regulations* also establish safety zones and prohibit unauthorized ships from entering these zones. These zones may extend (a) for 50 meters beyond the boundaries of the anchor pattern for a drilling unit that is anchored and (b) 500 meters in all directions from any other drilling unit that is on location over a well.
- 3.3 The navigational warning signal may be used by offshore exploration and exploitation vessels in imminent danger of being rammed, or by stations that consider a ship is in imminent danger of running aground. The navigational warning signal is an interrupted tone transmitted by radiotelephone on 2182 kHz in the medium frequency maritime bands for a period of 15 seconds, prior to the broadcast of a vital navigational warning. The power of this transmission should, where practicable, be limited to the minimum necessary for reception by ships in the immediate vicinity of the offshore exploration or exploitation vessel or of the land concerned. The navigational warning signal should be immediately followed by a radiotelephone transmission giving the identity and position of the offshore exploration or exploitation vessel as part of a vital navigational warning to shipping. Stations that consider a ship is in imminent danger of running aground should similarly provide as much identification and position information as possible as part of a vital navigational warning to the endangered vessel.

4 Violations

Persons in charge of exploration or exploitation vessels must ensure that such units exhibit the proper lights and sound the prescribed signals. They should also take all reasonable measures to give early warning to ensure that unauthorized ships keep clear if it appears that these ships may enter the safety zone. Ships that violate safety zones should be reported to the nearest Transport Canada Marine Safety office immediately following the incident for follow-up action. The information required in this report is stated below for the use of all mariners when reporting a near miss incident to the appropriate responsible authority.

- 4.1 Date and time of incident
- 4.2 Location of unit
- 4.3 Name of drilling unit
- 4.4 Name of stand-by vessel
- 4.5 Name(s) of other support vessel(s) used during incident
- 4.6 Offending vessel:
- a) Name
 - b) Port of Registry (or Flag of Registry)
 - c) Course
 - d) Speed
 - e) Estimated size and description
 - f) Bearing and distance of CPA

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4.7 Weather Conditions:

- a) Sea, swell, state and direction
- b) Visibility
- c) Precipitation
- d) Wind speed and direction

4.8 Description of light and sound

4.9 Plotting charts from the drilling unit and the stand-by vessel depicting the incident

4.10 Report of actions taken by unit and all vessels involved in incident

4.11 Copy of radar log

4.12 A summary of all communications exchanged; and/or attempts to communicate that are pertinent to the incident.

5 Before entering an area of exploration and exploitation

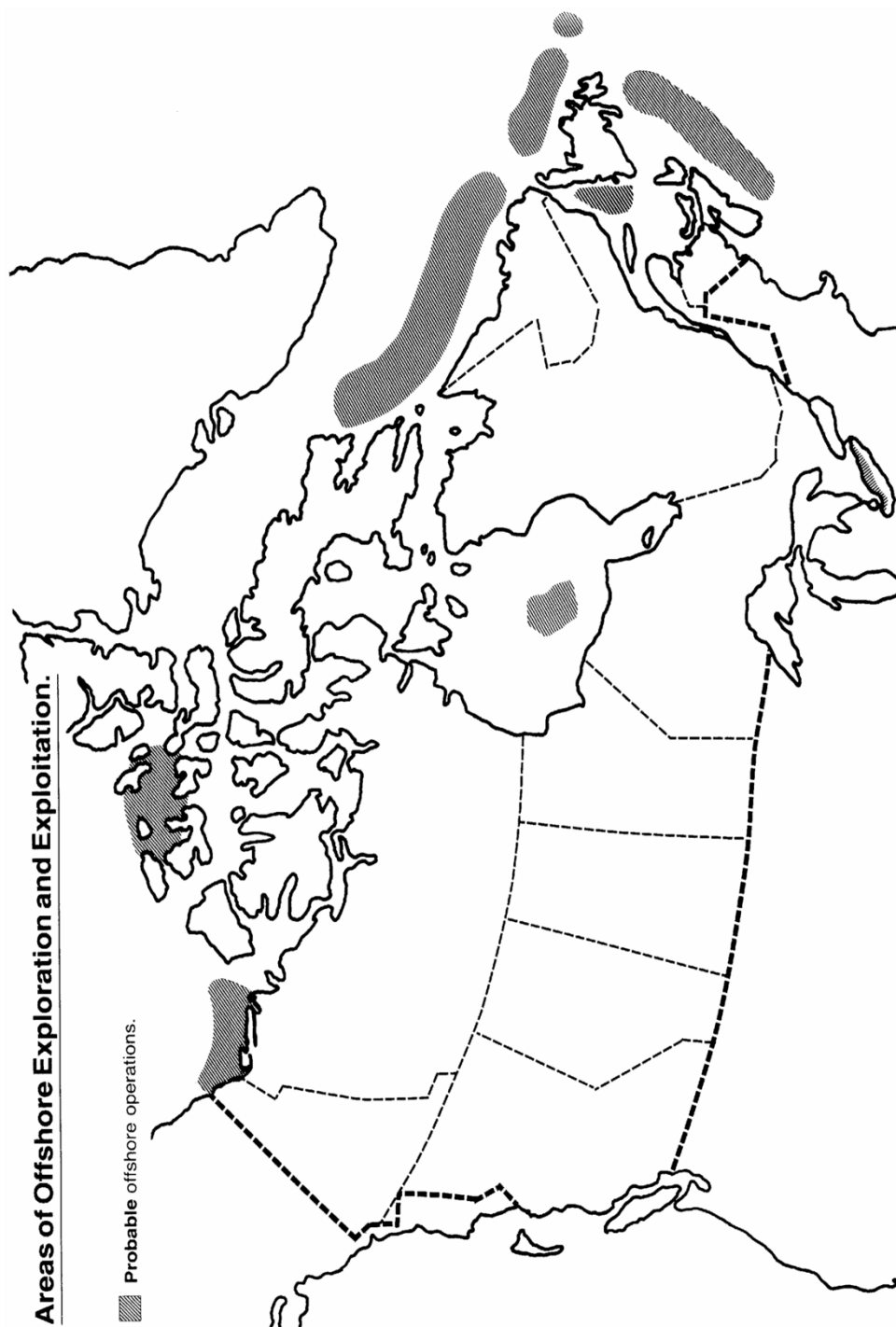
5.1 Mariners are advised to obtain up-to-date position reports on drilling vessels and production installations before entering an area of exploration or exploitation. This information is available by contacting, as appropriate, ECAREG CANADA, NORDREG CANADA or VTS OFFSHORE via any Marine Communications and Traffic Services Centre (MCTS).

5.2 Mariners should make contact with the Marine Communications and Traffic Services Centre (MCTS) described in paragraph 1.7.4 of this notice as soon as possible to ensure receipt of timely information on the current position of each exploration and exploitation vessel as this information may not be contained in the latest Notice to Mariners.

6 Abandoned Artificial Islands

In Arctic waters mariners may encounter artificial islands. These islands, which are man-made structures, are marked on navigation charts. A number of these artificial islands have been abandoned and are marked on the chart by the symbol "Aband". Mariners are warned that abandoned artificial islands tend to wear down below the wave action depth line and continue to be a hazard to shipping.

Authority: Transport Canada



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21 Caution when Anchoring in the Proximity of Underwater Exploitation Facilities in Lake Erie

Before anchoring in the Canadian waters of Lake Erie mariners are cautioned to note the underwater positions of existing exploitation facilities.

Mariners are cautioned that damage to these exploitation facilities can be extremely hazardous because pressurized natural gas is both toxic and flammable. Ships may also be liable for any damage that they may cause to these facilities which supply a very large area of southern Ontario.

The following coordinates designate an area in Long Point Bay that is recommended as a suitable anchorage.

42°36'18" N	80°10'00" W
42°36'18" N	80°11'27" W
42°38'24" N	80°14'40" W
42°42'30" N	80°14'40" W
42°42'30" N	80°10'00" W

Authority: Transport Canada

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22 Seismic Surveys

Seismic surveys for the exploitation of offshore oil and mineral resources are conducted in all Canadian and adjacent waters. Details of these surveys may be broadcast to mariners by coastal Marine Communications and Traffic Services Centers; however, mariners may encounter surveys in progress without prior notice.

In accordance with the requirements of the *Oil and Gas Production and Conservation Act*, operators of seismic surveys are required to obtain authorization to conduct a geological or geophysical survey from the National Energy Board (NEB). When requesting an authorization from NEB, the proponent shall provide information concerning the dates of activity, the proposed location of the survey, and a full description of the vessel(s) and equipment. In addition, NEB requires that operators forward weekly telex reports which describe the progress of the survey, location of the vessel (s) and any significant details.

Seismic survey vessels that are restricted in their ability to maneuver are required to exhibit the lights and signals described in *Rule 27* of the *Collision Regulations*; and sound the appropriate sound signals described in *Rules 34 and 35* of the *Collision Regulations*. Mariners should give such vessels a wide berth.

Survey vessels can operate independently or in company and may tow sensing devices streamed 2.5 to 3.5 miles astern, and if there are multi-streamers, they may be 50 m or 100 m apart. The sensing device is ballasted so that it remains submerged just below the surface or at streamer depths ranging between 10 m and 20 m. An orange float is usually attached to the end of the cable to mark the extent of the streamers. A white light and a radar reflector are fitted on this float. The display of this light is consistent with the intent of *Rule 24(g)* of the *Collision Regulations*.

In the process of surveying, repeated shock waves may be generated at intervals of 5 to 10 seconds by mechanical or electrical energy sources or by using compressed air. Dynamite is rarely employed for this purpose, but if used, large charges of up to 1000 Kgs may be fired. In the course of the survey, the vessel will usually be making way through the water at speeds of 4 to 5 knots; however, vessels may stop for extended periods during the survey while repairs are made to equipment.

If charges are being fired by radio or electrically triggered detonators, survey vessels may suspend radio and radar transmissions in order to avoid accidental firings. Vessels being called by a signaling light should, therefore, answer by the same means and not use their radio.

Explosive charges may be contained in cylinders, canisters, tubes or bags which may not be marked as dangerous. No attempt should be made to recover such items, and any inadvertently taken aboard in trawls, etc., should be jettisoned immediately.

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SECTION B – PILOTAGE SERVICES IN CANADIAN WATERS

B PILOTAGE SERVICES IN CANADIAN WATERS

23 General Information on Pilotage Service

1 Pilotage messages - General

Masters of vessels requiring a pilot are reminded that a request for such service must be submitted in sufficient time to enable the pilot to meet the vessel.

The message should include the following:

- (a) The time in UTC that the pilot is required on board.
- (b) The place the vessel is to be boarded.
- (c) The duty to be performed.
- (d) Whether or not the vessel has been granted radio pratique.

The minimum notice of a vessel's ETA at the pilot stations that is required to avoid delay in obtaining a pilot is shown below for various pilotage districts. ETA's must be revised if necessary prior to arrival at the pilotage station.

2 Pilot messages - Great Lakes

- (a) St. Lambert Lock to Lake Michigan

Masters of vessels requiring pilotage service in the waters of the Great Lakes must give at least 12 hours notice to Pilot Offices to avoid any delay in obtaining a pilot.

This message, giving ship's name, draught, ETA or ETD, and destination must be confirmed at least 4 hours prior to arrival at a pilot station or departure from a port, and can be relayed via any Marine Communications and Traffic Services (MCTS) Centre.

Control Areas

Message addresses

St. Lambert Lock to Lake Ontario	Pilots Cornwall
Lake Ontario - ships east of Cobourg	Pilots Cornwall
Lake Ontario - ships west of Cobourg	Pilots Port Weller
Welland Canal	Pilots Port Weller
Lake Erie - ships east of Cleveland	Pilots Port Weller
Lake Erie - ships west of Cleveland	Pilots Port Huron
St. Clair - Detroit Rivers and Lake Huron	Pilots Port Huron

- (b) Sault Ste. Marie and Lake Superior

Vessels westbound desiring a pilot must give at least 12 hours notice by message addressed to pilots Detour via any MCTS Centre. A confirmation of the ETA and order for a pilot at Detour must be sent by radio at least 4 hours prior to arrival at the pilot station.

Vessels eastbound must give at least 12 hours notice of their ETA at Gros Cap light for pilot requirements, by message addressed to pilots Detour via Thunder Bay MCTS. A confirmation of the ETA and order for a pilot at Gros Cap light must be sent by radio at least 4 hours prior to arrival at the pilot station.

3 Pilot messages - Gulf and River St. Lawrence

(Extract from *the Laurentian Pilotage Authority Regulations*.)

Notices of arrival

- 6(1) The owner, master or agent of a ship that is to arrive in the compulsory pilotage area at the pilot boarding station at Les Escoumins shall

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- (a) if the ship is arriving from any point east of the Strait of Belle Isle, Cabot Strait or the Strait of Canso
 - (i) give a first notice of the estimated time of arrival 24 hours before the estimated time of arrival.
 - (ii) give a second notice of the estimated time of arrival 12 hours before the estimated time of arrival, and
 - (iii) give a final notice confirming or correcting the estimated time of arrival 6 hours before the estimated time of arrival.
- (b) if the ship is arriving from any point west of the Strait of Belle Isle, Cabot Strait or the Strait of Canso
 - (i) give a first notice of the estimated time of arrival 12 hours before the estimated time of arrival, and
 - (ii) give a final notice confirming or correcting the estimated time of arrival 6 hours before the estimated time of arrival.
- (2) The notices referred to in paragraphs (1)(a) and (b) shall be given by calling the pilot dispatch center of the Laurentian Pilotage Authority:
E-Mail: pilote-mtl@apl.gc.ca
Fax number: (514) 283-3647
- 7 The owner, master or agent of a ship that is to arrive in the compulsory pilotage area from any point above the entrance to St. Lambert Lock shall give notice of the immediate and ultimate destinations of the ship in the compulsory pilotage area by calling the St. Lawrence Seaway Radio Control when passing Iroquois Lock and Beauharnois Lock.

Notices of departure

- 8 The owner, master or agent of a ship that is to depart from a berth in the compulsory pilotage area for any purpose, other than making a moveage, shall, by calling the pilot dispatch centre,
 - (a) give a first notice of its estimated time of departure 12 hours before its estimated time of departure, and
 - (b) give a final notice confirming or correcting its estimated time of departure at least 4 hours before the estimated time.

Notices of moveage

- 9(1) The owner, master or agent of a ship that is to make a moveage shall,
 - (a) in any harbour within the compulsory pilotage area other than the Harbour of Montreal or the Harbour of Québec,
 - (i) give a first notice of the estimated time of moveage 12 hours before the estimated time of moveage, and
 - (ii) give a final notice confirming or correcting the estimated time of moveage 4 hours before the estimated time of moveage,
 - (b) in the Harbour of Montreal or the Harbour of Québec, give a notice of moveage 3 hours before the time of moveage.
- (2) The notices referred to in subsection (1) shall be given by calling the pilot dispatch centre.

Optional Notices

- 10(1) Notwithstanding sections 8 and 9, the owner, master or agent of a ship that is to depart or make a moveage may within 8 hours after having given the first notice referred to in paragraph 8(a) or subparagraph 9(1)(a)(i), give a second notice confirming or correcting the estimated time of departure from or moveage in any compulsory pilotage area.
- (2) Where a second notice has been given in respect of a ship pursuant to subsection (1), the time of departure or moveage of that ship shall not be later than 12 hours from the time that notice was given.

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Required Information

- 11 Where the owner, master or agent of a ship gives a notice referred to in subparagraph 6(1)(a)(i) or 6(1)(b)(i), he shall state,
- (a) in the case of the first arrival of the ship in the compulsory pilotage area in any calendar year,
 - (i) the name, nationality, call sign and agent of the ship,
 - (ii) the length, breadth, moulded depth, deepest draft, speed, deadweight tonnage and the largest net registered tonnage of the ship, and
 - (iii) the immediate and ultimate destinations of the ship within the compulsory pilotage area, and
 - (b) in the case of any subsequent arrival, move or departure of the ship in the compulsory pilotage area in any calendar year,
 - (i) the name, call sign, deepest draft, the speed of the ship and any changes in the information provided under paragraph (a), and
 - (ii) the immediate and ultimate destinations of the ship within the compulsory pilotage area.
- 12 Where a ship has on board one or more holders of pilotage certificates who are certificated for the compulsory pilotage area through which the ship is to proceed, the master of the ship shall, each time the ship proceeds through the area, state
- (a) the names of the holders of pilotage certificates and the certificate numbers, and
 - (b) the information specified in subparagraphs 11 (b)(i) and (ii).
- 13 Where in any case referred to in sections 5, 6, 7, 8, 9 or 10, the owner, master or agent of a ship fails without reasonable cause to give the notice required by that section for that case, the Authority is not required to provide that ship with the services of a pilot.

4 Pilot messages – East Coast

Notice to obtain pilots for compulsory and non-compulsory areas – Arrivals and Departures.

The Atlantic Pilotage Authority (APA) has established a central dispatch office in Halifax, N.S. All pilot orders for arrival, departure or moves are placed through the Atlantic Pilotage Authority Dispatch Office (APA DISPATCH). Pilots may still be ordered through any Marine Communications and Traffic Services (MCTS) Centre with a clear request to <<Please forward to Atlantic Pilotage Authority Dispatch, Halifax>>. The name of the port where the pilot is required should be clearly identified.

Only masters, owners or agents may order pilots. To avoid delays in obtaining pilots, the master, owner or agent at the designated ports listed below shall advise APA DISPATCH of the estimated time of arrival (ETA), Universal Coordinated Time (UTC), at the pilot boarding station as indicated in columns 4 and 5. Such notice shall be by one of the following means:

Telephone: 1(877)272-3477 (Toll Free)
Fax: 1(866)774-2477 (Toll Free)(fax to email direct)
Dispatch E-Mail: dispatch@atlanticpilotage.com
Internet address: <http://www.atlanticpilotage.com/agents>

Inmarsat Users to Call:

Telephone: 1(902)426-7610
Fax: 1(902)425-1746(fax to email direct)
Halifax, N.S. VHF Ch 23

With reference to departures and moves, masters, owners or agents should advise APA DISPATCH with the notice as indicated in column 6. .

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Placing Calls to Dispatch

When calling dispatch it is of great help if the Dispatcher knows at the outset what type of call is coming in such as “a new order” or “a change in an existing order”. To place a new/original order please follow the guideline for information needed as below:

For a new/original order

- (1) Port
- (2) Vessel Name and Call Sign
- (3) Date of Assignment (order date)
- (4) Type of Order – e.g. Trip, Move, Trial Trip, etc.
- (5) Draught
- (6) Length/Breadth/Moulded Depth
- (7) GRT
- (8) Air Draught (if applicable)
- (9) Certificate Number (if applicable)
- (10) Agent Name
- (11) Caller's Name
- (12) Taxes: Refer to page 1.5
- (13) Special Instructions
- (14) Hazards/Dangerous Cargo. e.g. H₂S gas concentrations present for tanker vessels.

For a confirmation of order

- (1) Port
- (2) Vessel Name
- (3) Date and Time of Assignment
- (4) Dispatcher will reconfirm original order information
- (5) Caller's name

For a change of order

- (1) Port
- (2) Vessel Call Sign
- (3) Date of Original Assignment
- (4) Agent
- (5) Caller's Name
- (6) Information to be Changed

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FACSIMILE / E-MAIL

A facsimile form will be provided to all agents for the convenience of faxing information correctly. This form can also be used to place an order via E-Mail. Please refer to APA web page for a copy of the form.

Non-Compulsory Pilot Orders

NON-COMPULSORY PORTS

COASTAL PILOTAGE

To order pilots for the above categories, please contact the Dispatch Centre with as **much notice of Arrival as possible.**

TAX DECLARATION DOCUMENT

(SAMPLE LETTER)

Atlantic Pilotage Authority
Cogswell Tower, Suite 910
2000 Barrington Street
Halifax, Nova Scotia B3J 3K1

Dear Sir/Madam:

Please be advised we, _____ act in the capacity of shipping agents and hereby declare all our Principals for which we request services as Agents only, are non-resident, non-registrants. We, therefore, respectfully request all charges for all services rendered to the vessels of our Principals be zero rated. Should the status of any of our Principals change in the future, we undertake to inform you of the same so the appropriate tax rate may be applied.

Yours truly,

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Atlantic Pilotage
Authority

Administration de Pilotage
de l'Atlantique



Pilot Order Form

To: ATLANTIC PILOTAGE AUTHORITY

From:

EMAIL: dispatch@atlanticpilotage.com

Date:

Fax to email: 1-866-774-2477

Fax: 1-877-745-3477

Dispatch Phone direct: 1-877-272-3477

Web Site: <https://www.atlanticpilotage.com>

Port: _____

Reason for pilot order: Arrival: _____

Departure: _____

Move: _____

Date required: _____

Time required: _____

Vessel Name: _____

Number of Tugs: _____

IMO number: _____

Draft: _____

Air Draft: _____

Masters Name: _____

Hazards to Report:

H2S or other hazardous gases: _____ PPM: _____

Mechanical Issues: _____

Illnesses/ Quarantines: _____

Other: _____

Vessel Specs:

Length Overall: _____

Breadth: _____

Moulded Depth: _____

Docking Orders:

Agent Information:

Agent representing vessel: _____

Phone: _____

Local representative: _____

Agent to receive Invoicing / Billing: _____

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	NEW BRUNSWICK Compulsory areas						
1.	Miramichi Apr. 16-Dec. 10	Pilots Miramichi	47 07 30 N 64 47 00 W	12	4	4	16
1(a)	Miramichi Dec. 11-Apr. 15	Pilots Miramichi	45 24 00 N 61 01 00 W	24	12	4	14
2.	Restigouche (a) Dalhousie (b) Campbellton	Pilots Dalhousie	48 03 12 N 66 15 00 W	12	4	4	16
3.	Saint John For Tankers and Liquid Natural Gas Carriers, the Compulsory Pilotage Area is extended :	Pilots Saint John Inbound Outbound	45 10 48 N 66 03 42 W 45 09.5 N 66 05.8W 45 10 48 N 66 03 42 W	12	4	4	16 12
	Non-compulsory areas						
1.	Bathurst	Pilots Bathurst	47 43 45 N 65 33 48 W	12	4	4	16
2.	Belledune	Pilots Belledune	47 56 00 N 65 48 00 W	12	4	4	16
3.	Caraquet	Pilots Caraquet	47 54 24 N 64 48 30 W	12	4	4	16

	NEWFOUNDLAND Compulsory areas						
1.	Bay of Exploits (a) Botwood May 15 - Jan 1 Depending on ice conditions	Pilots Bay of Exploits	49 19 44 N 55 12 49 W	12	4	4	16
	(b) Lewisporte May 15 - Jan 1 Depending on ice conditions	Pilots Bay of Exploits	49 20 45 N 54 56 31.5 W	12	4	4	16
	(c) Botwood/ Lewisporte Jan 2 - May 14 Depending on ice conditions	Pilots Bay of Exploits	Off St. John's 47 33 42 N 52 37 54 W	24	12	6	16 11
2.	Holyrood	Pilots St. John's	Off St. John's 47 33 42 N 52 37 54 W Off Holyrood 47 27 48 N 53 07 30 W	12 12	3 3	4 Tentative 3 Confirm -	16 11 16 11
3.	Humber Arm	Pilots Corner Brook	49 04 08 N 58 09 18 W	12	4	4	16
4.	Placentia Bay	Pilots Placentia Bay	Off Argentina 47 20 00 N 54 06 30 W	12	4	12 Tentative 2 Confirm	16 12

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5.	St. John's	Pilots St. John's	47 33 42 N 52 37 54 W	12	3	4 Tentative 3 Confirm	16 11
6.	Stephenville	Pilots Stephenville	48 29 40 N 58 33 00 W	12	4	4	16 11

NEWFOUNDLAND Non-compulsory areas							
1.	Baie Verte May 31 - Dec. 14 approximately	Pilots Bay of Exploits	50 02 48 N 56 01 54 W	24	6	12	16
1(a)	Baie Verte Dec. 15 - May 30 approximately	Pilots St. John's	Off St. John's 47 33 42 N 52 37 54 W	24	6	12	16 11
2.	Clareville	Pilots St. John's	Off Clareville 48 04 30 N 53 35 00 W	12	4	9 Tentative 4 Confirm	16 11
			Off St. John's 47 33 42 N 52 37 54 W	12	1	4 Tentative 3 Confirm	16 11
3.	Goose Bay	Pilots	54 13 30 N 58 21 06 W	24	6	As arranged Refer to note	51 16
4.	Port Aux Basques	Pilots , Port aux Basques	47 33 00 N 59 07 00 W	12	4	4 Refer to note	16
5.	Any Other Port Area Coastal and Ice Pilotage	Pilots St. John's	Off St. John's 47 33 42 N 52 37 54 W (or as arranged)	12	1	As arranged Refer to note	16 11

Nova Scotia Compulsory areas							
1.	Cape Breton						
	(a) Sydney Harbour	Pilots Cape Breton	Sydney and Bras d'Or Lakes 46 20 30 N 60 07 00 W	12	6	12 Tentative 4 Confirm	16 12
	(b) Bras d'Or Lakes		46 22 00 N 60 17 30 W	12	6	12 Tentative 4 Confirm	16 11
	(c) Strait of Canso		Northern Approach 45 41 42 N 61 28 18 W	12	6	12 Tentative 4 Confirm	14

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	Chedabucto Bay Vessels < 225.5 m (Less than 740 ft LOA)		Inner Approach 45 29 30 N 61 11 06 W	12	6	12 Tentative 4 Confirm	14
	Vessels > 225.5 m (Greater than 740 ft LOA)		Southern Approach 45 24 00 N 61 01 00 W	12	6	12 Tentative 4 Confirm	14
	(d) St. Peters Locks		Inner Approach 45 32 00 N 60 46 00 W or Southern Approach 45 24 00 N 61 01 00 W	12	6	12 Tentative 4 Confirm	14 14
2.	Halifax	Pilots Halifax	44 30 4 N 63 29 5 W	12	3	Estimate – 12 Tentative – 5 Confirm – 1.5	12
3.	Pugwash	Pilots Pugwash	45 54 30 N 63 40 42	12	4	4	17/7A/77 (See note)
NOTE: The pilot dispatch station and pilot boat servicing Pugwash operate on channel 77 VHF (156.875 MHz) and standby on channel 17 VHF (156.850 MHz) and channel 7A VHF (156.350 MHz) respectively.							

	Non-compulsory areas						
1.	Eastern Shore Halifax to Cape Canso	Pilots Halifax	Off Halifax 44 30 4 N 63 29 5 W (or local boarding by previous arrangement)	24	6	6	12
	Country Harbour	Pilots Halifax	45 02 00 N 61 33 00 W		6	6	16
	Sheet Harbour	Pilots Halifax	44 30 4 N 62 29 5 W (or local boarding by previous arrangement)		6	6	16
2.	LaHave River	Pilots Halifax	44 15 00 N 64 19 00 W	24	6	4	16
3.	Liverpool	Pilots Halifax	44 01 34 N 64 38 55 W	24	6	4	10

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4.	Lunenburg	Pilots Halifax	Off Halifax 44 30 4 N 63 29 5 W or La Have River 44 15 00 N 64 19 00 W (as arranged)	24	6	4	12 16
5.	Mahone Bay/ St. Margarets	Pilots Halifax	Off Halifax 44 30 4 N 63 29 5 W or La Have River 44 15 00 N 64 19 00 W (as arranged)	24	3	4	12 16
6.	Pictou	Pilots Pictou	45 42 30 N 62 34 00 W	12	4	4	16
7.	Shelburne	Pilots Halifax	43 39 00 N 65 16 00 W	24	6	6	16

	PRINCE EDWARD ISLAND Compulsory areas						
1.	Charlottetown	Pilots Charlottetown	46 00 00 N 63 08 00 W	12	6	6	-
2.	Confederation Bridge	Pilots Confederation Bridge	Northwest Station 46 15 12 N 63 49 12 W Southeast Station 46 10 30 N 63 41 30 W	24	6	6	16
	Non-compulsory areas						
1.	Georgetown	Pilots Georgetown	46 08 30 N 62 20 30 W	12	6	6	-
2.	Souris	Pilots Souris	46 19 00 N 62 13 30 W	12	6	6	-
3.	Summerside	Pilots Summerside	46 19 00 N 63 53 00 W	12	6	6	-

	QUÉBEC Non compulsory areas						
1.	Chandler	Pilots Chandler c/o La Compagnie Gaspésia Ltée	48 19 00 N 64 38 00 W	12	4	4	16 11
2.	Gulf of St. Lawrence	Pilots Cape Breton	As arranged	24	6	-	14 12

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Note: Requests for pilotage services for ports where it is non-compulsory, in any province, should be made as early as possible to allow time for the verification and the availability of a licensed pilot.

5 Pilotage messages West Coast, British Columbia

Pilot boarding stations

- 1 There shall be a pilot boarding station
- (a) off Victoria, B.C., adjacent to the VH buoy off Brotchie Ledge;
 - (b) off Cape Beale, at the entrance to Trevor Channel in Barkely Sound (no pilot boat, helicopter by arrangement);
 - (c) off Triple Island, near Prince Rupert;
 - (d) off Pine Island, near Port Hardy,
 - (e) off Sand Heads, at the mouth of the Fraser River, for Area 1 pilot transfers; and
 - (f) at any other point or place in the region that the Authority considers necessary to ensure a safe and efficient pilotage service.

Notice to obtain pilots - Arrivals

- 2(1) The master, owner or agent of a ship that is to arrive in a compulsory pilotage area shall notify the Authority of the estimated time of arrival, universal co-ordinated time (UTC), of the ship at the pilot boarding station
- (a) referred to in paragraph 1(a) at least 12 hours prior to arrival, and shall confirm or correct the estimated time of arrival not less than 4 hours prior to arrival;
 - (b) referred to in paragraph 1(b) at least 48 hours prior to arrival, and shall confirm or correct the estimated time of arrival not less than 12 hours prior to arrival;
 - (c) referred to in paragraph 1(c) at least 48 hours prior to arrival, and shall confirm or correct the estimated time of arrival not less than 12 hours prior to arrival; and
 - (d) designated pursuant to paragraph 1(d) at least 48 hours prior to arrival, and shall confirm or correct the estimated time of arrival not less than 12 hours prior to arrival.
 - (e) referred to in paragraph (e) at least 48 hours prior to arrival, and shall confirm or correct the estimated time of arrival not less than 12 hours prior to arrival.

Notice to obtain pilots - Departures and movages

- (2) The master, owner or agent of a ship that is subject to compulsory pilotage - shall notify the Authority in advance of the local time that a pilot is required to be on board the ship that is to go:
- (a) from one place in a compulsory pilotage area to any other place in a compulsory pilotage area;
 - (b) from one place in a compulsory pilotage area to a place outside a compulsory pilotage area; or
 - (c) from a place outside a compulsory pilotage area to any other place within a compulsory pilotage area.
- 3(1) The notices referred to in sub-section 2(1) shall be addressed *Pilots Victoria*, including the required information sent via any coast station by radiotelephone or other appropriate means or shall be given by calling a pilot dispatch centre.

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- (2) The notice referred to in paragraph 2(2)(a) shall be given by calling a pilot dispatch centre as follows:
- (a) The master, owner or agent of a ship departing from a place where pilotage service is required shall place a Notice of Requirement in Local Time with the Pilotage Authority at least 12 hours before the pilot or pilots are required to be on board the transportation to the ship specified in the Pilotage Order, or, at least 12 hours before the pilot or pilots are required to be on board the ship, if berthed at a place where pilots are based.
 - (b) The Pilot Order time specified in a Notice of Requirement may be delayed once, and/or cancelled, without payment of cancellation fees if prior notice of delay or cancellation is received by the Authority not less than:
 - (i) 6 hours prior to transportation in the case of long jobs, i.e. pilotage assignments involving ports, places or harbours on the West Coast of Vancouver Island, and ports, places or harbours north of 50° North Latitude, excluding Port Alberni, Campbell River, Duncan Bay, Prince Rupert and Kitimat;
 - (ii) 4 hours in the case of Roberts Bank, English Bay, Fraser River Ports, all anchorages and berths east of Berry Point and airports at Vancouver, Victoria and Cassidy.
 - (iii) 3 hours in all other cases.
 - (3) The Authority may agree to waive the 12 hour Notice of Requirement providing the master, owner or agent gives reasonable cause for not complying.
 - (4) (a) All Notices of Requirement scheduled between the hours of 1200 and 1700 shall be confirmed, delayed or cancelled by 0900 hours daily - any subsequent delays or cancellations will incur the appropriate detention or cancellation fees.
(b) All Notices of Requirement scheduled between the hours of 1700 and 2100 shall be confirmed, delayed or cancelled by 1200 hours daily - any subsequent delays or cancellations will incur the appropriate detention or cancellation fees.
(c) Agents are requested to make their best efforts to ensure that orders scheduled to commence during the period from 2000 hrs to 1059 hrs the following morning shall be placed prior to 1730 hrs daily.
 - (5) In cases of emergency involving danger to life, limb or property, the Authority shall waive any Notice of Requirement and dispatch the first available pilot to cover the emergency.

Required information in Notice

- 4 A notice under section 2 may be verbal or, when required by the Authority, shall be in writing and shall state
- (a) the pilotage service to be performed; and
 - (b) the name, nationality, length, breadth, gross tonnage and deepest draft of the ship.

6 Pilot boarding facilities - Pertaining to foreign flag vessels - Canadian territorial waters

- East Coast Pilot Boarding Stations
- St. Lawrence River (Les Escoumins to St. Lambert) Pilot Boarding Stations
- Great Lakes Pilot Boarding Stations from St. Lambert Westward
- West Coast Pilot Boarding Stations

Under the Section 74 of Navigation Safety Regulations, ships using stations pilot boarding within the above regions are required to comply with Regulation 23 of Chapter V of the International Convention for the Safety of Life at Sea (SOLAS), 1974 and as amended periodically. IMO Resolution A.889 (21) has been replaced by Resolution A.1045 (27).

Authority: Transport Canada

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SECTION B – PILOTAGE SERVICES IN CANADIAN WATERS

24 Navigation Safety Regulations

Pilot Transfer Equipment and Arrangements

74. (1) Every ship engaged on a voyage in the course of which a pilot is likely to be employed shall be provided with pilot transfer equipment and arrangements in accordance with Regulation 23 of Chapter V of the Safety Convention.
- (2) Pilot transfer equipment and arrangements with which a ship is provided shall meet the requirements of the annex to IMO Resolution A1045(27) as amended time to time, *Pilot Transfer Arrangements*.
- (3) Despite subsection (1), in the case of a Canadian ship in the waters of the Great Lakes or St. Lawrence River, if the distance from the water to the point of access of the ship is more than five metres, the ship shall provide an accommodation ladder, or other equipment that provides equally safe and convenient access to and egress from the ship, so that the climb on the pilot ladder does not exceed five metres.

SOLAS – Chapter V

REGULATION 23, Pilot transfer arrangements

1 Application

- 1.1 Ships engaged on voyages in the course of which pilots are likely to be employed shall be provided with pilot transfer arrangements.
- 1.2 Equipment and arrangements for pilot transfer which are installed¹ on or after 1 July 2012 shall comply with the requirements of this regulation, and due regard shall be paid to the standards adopted by the Organization².
- 1.3 Except as provided otherwise, equipment and arrangements for pilot transfer which are provided on ships before 1 July 2012 shall at least comply with the requirements of regulation 17³ or 23, as applicable, of the Convention in force prior to that date, and due regard shall be paid to the standards adopted by the Organization prior to that date.
- 1.4 Equipment and arrangements installed on or after 1 July 2012, which are a replacement of equipment and arrangements provided on ships before 1 July 2012, shall, in so far as is reasonable and practicable, comply with the requirements of this regulation.
- 1.5 With respect to ships constructed before 1 January 1994, paragraph 5 shall apply not later than the first survey⁴ on or after 1 July 2012.
- 1.6 Paragraph 6 applies to all ships.

1 Refer to the Unified interpretation of SOLAS regulation V/23 (MSC.1/Circ.1375).

2 Refer to the Pilot transfer arrangements (resolution,1045(27)).

3 Refer to resolution MSC.99(73), renumbering previous regulation 17 as regulation 23, which entered into force on 1 July 2002.

4 Refer to the Unified interpretation of the term "first survey" referred to in SOLAS regulations (MSC.1/Circ.1290).

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SECTION B – PILOTAGE SERVICES IN CANADIAN WATERS

2 General

- 2.1 All arrangements used for pilot transfer shall efficiently fulfil their purpose of enabling pilots to embark and disembark safely. The appliances shall be kept clean, properly maintained and stowed and shall be regularly inspected to ensure that they are safe to use. They shall be used solely for the embarkation and disembarkation of personnel.
- 2.2 The rigging of the pilot transfer arrangements and the embarkation of a pilot shall be supervised by a responsible officer having means of communication with the navigation bridge who shall also arrange for the escort of the pilot by a safe route to and from the navigation bridge. Personnel engaged in rigging and operating any mechanical equipment shall be instructed in the safe procedures to be adopted and the equipment shall be tested prior to use.
- 2.3 A pilot ladder shall be certified by the manufacturer as complying with this regulation or with an international standard acceptable to the Organization⁵. Ladders shall be inspected in accordance with regulations I/6, 7 and 8.
- 2.4 All pilot ladders used for pilot transfer shall be clearly identified with tags or other permanent marking so as to enable identification of each appliance for the purposes of survey, inspection and record keeping. A record shall be kept on the ship as to the date the identified ladder is placed into service and any repairs effected.
- 2.5 Reference in this regulation to an accommodation ladder includes a sloping ladder used as part of the pilot transfer arrangements.

3 Transfer arrangements

- 3.1 Arrangements shall be provided to enable the pilot to embark and disembark safely on either side of the ship.
- 3.2 In all ships where the distance from sea level to the point of access to, or egress from, the ship exceeds 9 m, and when it is intended to embark and disembark pilots by means of the accommodation ladder⁶, or other equally safe and convenient means in conjunction with a pilot ladder, the ship shall carry such equipment on each side, unless the equipment is capable of being transferred for use on either side.
- 3.3 Safe and convenient access to, and egress from, the ship shall be provided by either:
 - .1 a pilot ladder requiring a climb of not less than 1.5 m and not more than 9 m above the surface of the water so positioned and secured that:
 - .1.1 it is clear of any possible discharges from the ship;
 - .1.2 it is within the parallel body length of the ship and, as far as is practicable, within the mid-ship half length of the ship;
 - .1.3 each step rests firmly against the ship's side; where constructional features, such as rubbing bands, would prevent the implementation of this provision, special arrangements shall, to the satisfaction of the Administration, be made to ensure that persons are able to embark and disembark safely;
 - .1.4 the single length of pilot ladder is capable of reaching the water from the point of access to, or egress from, the ship and due allowance is made for all conditions of loading and trim of the ship, and for an adverse list of 15°; the securing strongpoints, shackles and securing ropes shall be at least as strong as the side ropes; or

5 Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799:2004, *Ships and marine technology – Pilot ladders*.

6 Refer to regulation II-1/3-9 on Means of embarkation on and disembarkation from ships, adopted by resolution MSC.256 (84), together with the associated Guidelines (MSC.1/Circ.1331).

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- .2 an accommodation ladder in conjunction with the pilot ladder (i.e. a combination arrangement), or other equally safe and convenient means, whenever the distance from the surface of the water to the point of access to the ship is more than 9 m. The accommodation ladder shall be sited leading aft. When in use, means shall be provided to secure the lower platform of the accommodation ladder to the ship's side, so as to ensure that the lower end of the accommodation ladder and the lower platform are held firmly against the ship's side within the parallel body length of the ship and, as far as is practicable, within the mid-ship half length and clear of all discharges;
- .2.1 when a combination arrangement is used for pilot access, means shall be provided to secure the pilot ladder and manropes to the ship's side at a point of nominally 1.5 m above the bottom platform of the accommodation ladder. In the case of a combination arrangement using an accommodation ladder with a trapdoor in the bottom platform (i.e. embarkation platform), the pilot ladder and man ropes shall be rigged through the trapdoor extending above the platform to the height of the handrail.

4 Access to the ship's deck

Means shall be provided to ensure safe, convenient and unobstructed passage for any person embarking on, or disembarking from, the ship between the head of the pilot ladder, or of any accommodation ladder or other appliance, and the ship's deck. Where such passage is by means of:

- .1 a gateway in the rails of bulwark, adequate handholds shall be provided;
- .2 a bulwark ladder, two handhold stanchions rigidly secured to the ship's structure at or near their bases and at higher points shall be fitted. The bulwark ladder shall be securely attached to the ship to prevent overturning.

5 Shipside doors

Shipside doors used for pilot transfer shall not open outwards.

6 Mechanical pilot hoists

Mechanical pilot hoists shall not be used

7 Associated equipment

7.1 The following associated equipment shall be kept at hand ready for immediate use when persons are being transferred:

- .1 two man-ropes of not less than 28 mm and not more than 32 mm in diameter properly secured to the ship if required by the pilot; man-ropes shall be fixed at the rope end to the ring plate fixed on deck and shall be ready for use when the pilot disembarks, or upon request from a pilot approaching to board (the manropes shall reach the height of the stanchions or bulwarks at the point of access to the deck before terminating at the ring plate on deck);
- .2 a lifebuoy equipped with a self-igniting light;
- .3 a heaving line.

7.2 When required by paragraph 4 above, stanchions and bulwark ladders shall be provided.

8 Lighting

Adequate lighting shall be provided to illuminate the transfer arrangements overside, and the position on deck where a person embarks or disembarks.

Authority: Transport Canada

SECTION B – PILOTAGE SERVICES IN CANADIAN WATERS

REQUIRED BOARDING ARRANGEMENTS FOR PILOT

In accordance with SOLAS Regulation V/23 & IMO Resolution A.1045(27)

INTERNATIONAL MARITIME PILOTS' ASSOCIATION

H.Q.S. "Wellington" Temple Stairs, Victoria Embankment, London WC2R 2PN Tel: +44 (0)20 7240 3973 Fax: +44 (0)20 7210 3518 Email: office@impaq.org

This document and all IMO Pilot-related documents are available for download at: <http://www.impaq.org>

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SECTION B – PILOTAGE SERVICES IN CANADIAN WATERS

25 Information Concerning Pilot Transfer Arrangements on the St. Lawrence River

All ships must have pilot transfer equipment and arrangements that are compliant and deployed in accordance with the regulations, regardless of sea and swell conditions.

Pilot transfer is the responsibility of the transferring ship.

On the St. Lawrence River, between Les Escoumins and Saint-Lambert, the pilots would like ships to deploy their accommodation ladder in addition to a pilot ladder, regardless of the distance between the water and the point of access to the ship. However, this method will be considered only if the equipment is available on board.¹¹

In order to minimize the vertical distance to be climbed on the pilot ladder, and where this is possible, the position of the pilot ladder will be adjusted in such a way as to lower the point at which the pilot moves between the pilot ladder and the accommodation ladder (Figure 1).

As requested by the pilots and after consultations,¹² it was determined that, alternatively, under certain conditions, it would be safe to lower the accommodation ladder to allow the pilot to move directly onto or off the pilot boat, provided the ship has the requisite equipment (Figure 2). Transport Canada, Marine Safety and Security, recognizes this as equipment that is “equally safe and convenient” as set out in the Regulations, provided that the following conditions are met:

1. Embarkation from the pilot ladder must be possible at all times.
2. When the pilot boat approaches the ship, the accommodation ladder is raised so that there is no risk or obstacle for personnel on the deck or for the superstructures of the pilot boat.
3. Once the pilot boat is in position, and under the supervision of personnel on the deck of the pilot boat and the ship's officer in charge of the transfer, the accommodation ladder is moved to its final position:
 - a) at the place where the pilot will move between the accommodation ladder and the pilot ladder, depending on sea and swell conditions, or
 - b) if there are no waves or swell, at a minimum distance of about 350 mm (the distance between two rungs of the ladder according to SOLAS) so that the pilot can embark directly from the deck or from the platform of the pilot boat.
4. The pilot(s) remain(s) inside the pilot boat or on the deck of the ship until all equipment is in final position and supported against the side of the ship.

The above transfer procedure also applies under winter conditions.

Lowering the point of transition between the accommodation ladder and the pilot ladder is thought to be an effective way of reducing the risks involved when transferring pilots in winter. Direct embarkation from the accommodation ladder will also be considered when a tug is being used instead of a pilot boat for transferring pilots in winter.

¹¹ Note that ships are not required to have accommodation ladders installed for this purpose if the distance between the water and the point of access is 5 metres or less in the case of Canadian ships, or 9 metres or less in the case of other ships.

¹² Working Group on Pilots' Transfer during winter.

FIGURE 1: LOWERING THE POINT OF TRANSITION BETWEEN THE PILOT LADDER AND THE ACCOMMODATION LADDER

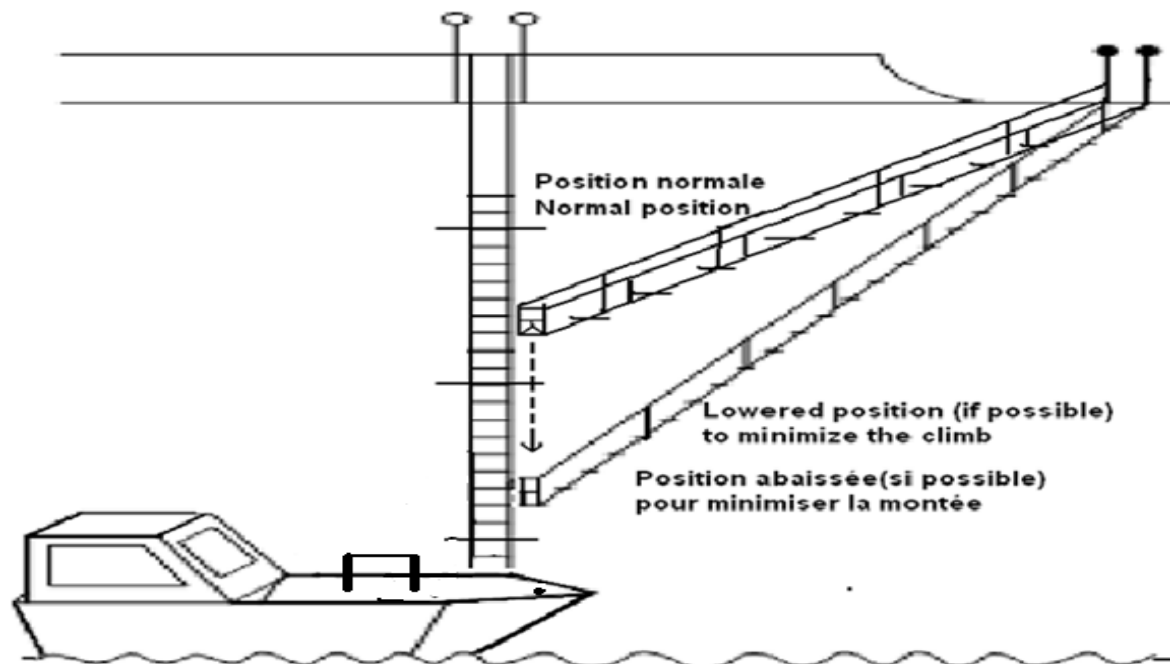
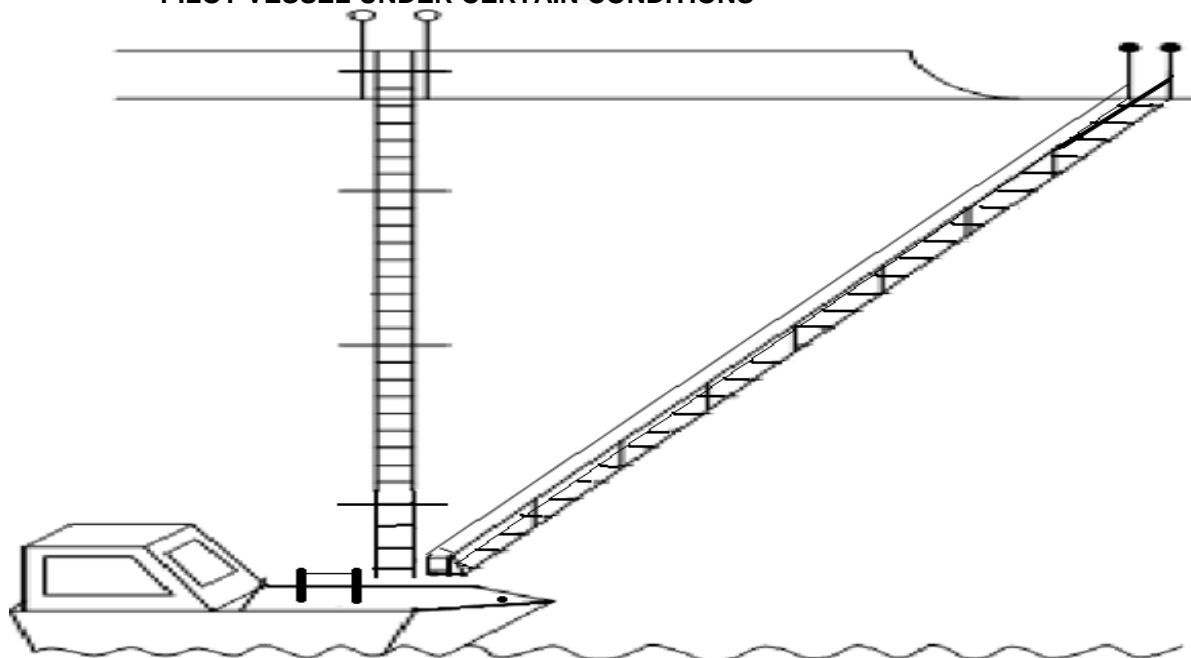


FIGURE 2: ACCOMMODATION LADDER LOWERED TO ALLOW DIRECT BOARDING FROM THE PILOT VESSEL UNDER CERTAIN CONDITIONS



Authority: Transport Canada

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26 Additional Guidance on Pilot Transfer Arrangements Concerning Requirements for Canadian Vessels

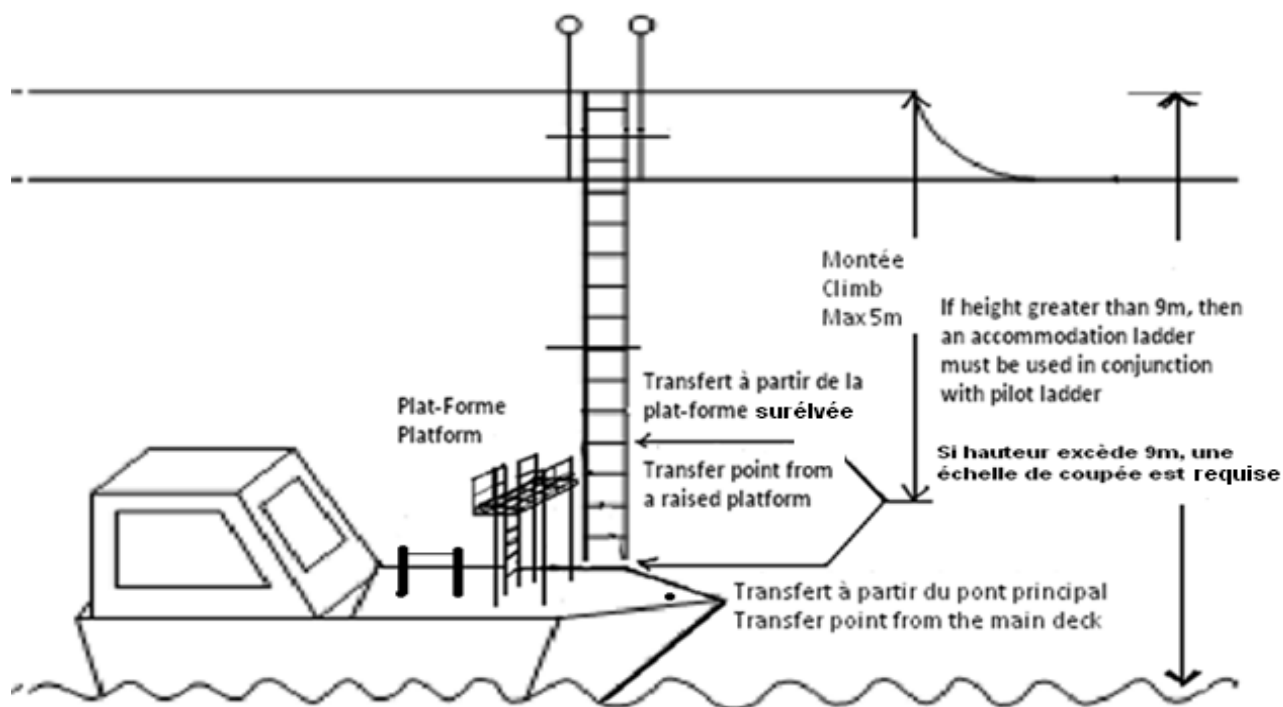
This notice provides clarifications on subsection 74.(4) of the *Navigation Safety Regulations*.

- 74.(4)** *Despite subsection (1), in the case of a Canadian ship in the waters of the Great Lakes or St. Lawrence River, if the distance from the water to the point of access of the ship is more than five metres, the ship shall provide an accommodation ladder, or other equipment that provides equally safe and convenient access to and egress from the ship, so that the climb on the pilot ladder does not exceed five metres.*

The purpose of subsection 74.(4) is to ensure that the distance to be climbed on the pilot ladder does not exceed 5 metres. The “transfer point,” where the pilot moves between the pilot boat and the pilot ladder, may be considered as the lower point of the climb. This transfer point will be unique to each pilot boat and may be the main deck of the pilot boat or a raised position on a platform or on the structure of the pilot boat that is specifically designed to allow pilots to embark more easily. The height of the transfer point above the water for a particular pilot boat may be obtained in advance from the pilot station when the services of a pilot are requested. If the distance from this transfer point to the point of access to or egress from the ship does not exceed 5 metres, an accommodation ladder may not be provided.

Notwithstanding the above, the regulations do not allow the use of a pilot ladder where the climb of the ladder would exceed a height of 9m above the water.

FIGURE 3: CLIMB ON THE PILOT LADDER MUST NOT EXCEED 5 METRES



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SECTION C – MARINE COMMUNICATIONS AND TRAFFIC SERVICES

C MARINE COMMUNICATIONS AND TRAFFIC SERVICES

Note: Information concerning Pre-Arrival Information Report (PAIR) made pursuant to the Marine Transportation Security Regulations, can be found in Part 3 and 4 of the publication Radio Aids to Marine Navigation (RAMN). <http://www.ccg-gcc.gc.ca/Marine-Communications/Home>

27A Guidelines for the Transit of Wide-Beam Vessels and Long Vessels

TRANSIT OF WIDE-BEAM VESSELS AND LONG VESSELS IN THE QUÉBEC-MONTRÉAL SEGMENT.

Definitions:

In the Québec-Montréal segment

Wide-beam vessel means a vessel whose overall length does not exceed 300.0 metres and whose breadth* is equal to or greater than 32.5 metres, but not exceeding 44.0 metres.

Long vessel means a vessel whose overall length is between 270.0 and 300.0 metres and whose breadth* does not exceed 44.0 metres

* Breadth means the "greatest breadth" of the vessel as stated in the COLREG Convention 1972 Part A, Rule 3 j). It's the maximum distance (in metres and centimetres) between the outside edges of the shell plating of the ship, including fenders and bridge wing, etc...

Effective date: Spring 2013.

This notice authorizes **wide-beam** and **long** vessels to safely navigate the St. Lawrence waterway between Québec and Montréal.

Mariners are requested to refer to the Notices to Mariners monthly edition at www.notmar.gc.ca - Edition 4 and chart VN-301. These documents explain which segments pose a risk.

This notice describes vessel transit conditions for:

- 1) Ice navigation (**G**);
- 2) Meeting in risk areas (**R**);
- 3) Overtaking in risk areas (**D**);
- 4) Anchorage areas (**M**).
- 5) Under keel Clearance
- 6) Double pilotage

1) Ice navigation (G)

G-1) The Corporation of Mid St. Lawrence Pilots (CMSLP) must appoint a liaison officer to work with the Ice Operations Centre in coordinating information on any ice-related risks that may be present during the transit of a **wide-beam** or **long** vessel.

G-2) **Wide-beam** and **long** vessels must wait for favorable conditions before proceeding through the waterway between Québec and Montréal, in accordance with the CCG Ice Operations Centre notices or directives. Accordingly, vessels must comply with the following conditions:

- a)** For an up bound vessel destined for the Québec-Montréal segment: At Île Blanche, the CMSLP pilot will notify the CCG Ice Operations Centre of the vessel's estimated time of arrival (ETA) at the Québec pilot station, as well as report on how the vessel is handling in the ice. The CCG Ice Operations Centre will then contact the CMSLP liaison officer and together they will assess the ice conditions, including weakened or unstable fast ice, with a view to determining whether dislodged ice floes could pose problems to shipping during the vessel's transit between Québec and Montréal;

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b) Before a vessel leaves her berth, bound for the Québec–Montréal segment: the CMSLP liaison officer must contact the CCG Ice Operations Centre so that they together may assess the ice conditions, including any weakened or unstable fast ice, with a view to determining whether dislodged ice floes could pose problems to shipping during the vessel's transit in the Québec–Montréal segment.

G-3) **Wide-beam** and **long** vessels which, given their operational conditions, appear unable to overcome the forces exerted by the ice, whether due to:

- mechanical problems;
- problems with the propulsion system;
- limitations resulting from the types of propulsion system programming;
- or other,

shall not proceed upriver from Québec before the systems in question are re-established, in order to ensure safe passage at confined areas of the river.

G-4) **When** there is ice under pressure, as determined by the CCG Ice Operations Centre and the CMSLP liaison officer, **wide-beam** and **long** vessels must proceed under the Québec bridges with the tidal currents.

G-5) In the Lac St-Pierre sector, pilots must give preference to the meeting of vessels during daylight and under good visibility in order to clearly perceive vessel movement, the ice conditions and whether wake from passing vessels could result in the risk of fast ice breaking off.

2) Directives concerning the meeting of vessels in medium- and high-risk areas (R)

Any time, wide beam vessels will have to favor day transit in the section Quebec-Montreal.

R-1) Meetings are prohibited in high-risk areas. The high-risk areas between Québec and Montréal for vessels with a combined nominal breadth of between 65 and 72.6 metres and between 72.61 metres and 88 metres are identified on chart VN-301.

Specific sector: Contrecoeur course

- a) The **Contrecoeur course** sector is identified as a study sector for meetings of **wide-beam** vessels of a combined nominal breadth of between 72.6 metres and 88 metres. Though, a priori, meetings are prohibited, pilots will be able to meet other **wide-beam** vessels under favourable conditions. Before their vessels meet, the pilots must notify MCTS of the manoeuvres they have agreed on.
- b) Within 10 days following the meeting, the CMSLP must provide CCG and TC authorities with a report describing the vessels' condition, the passage conditions, the environmental factors, the manoeuvring conditions and all relevant comments on how the vessels handled when they met.
- R-2) Medium-risk areas are assessed by pilots to determine whether vessels may be able to safely meet where one or more of the factors listed below apply:
- a) The medium-risk areas between Québec and Montréal for vessels with a combined nominal breadth of between 65 metres and 72.6 metres and between 72.61 metres and 88 metres are identified on chart VN-301. Before their vessels meet, the pilots must notify MCTS of the manoeuvres they have agreed on.
- b) Within 10 days following the meeting, the CMSLP must provide CCG and TC authorities with a report describing the vessels' condition, the passage conditions, the environmental factors, the manoeuvring conditions and all relevant comments on how the vessels handled when they met.
- c) In assessing the risks associated with the meeting of vessels, pilots must take the following factors into consideration:

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SECTION C – MARINE COMMUNICATIONS AND TRAFFIC SERVICES

- 1) **Nighttime navigation:** Darkness makes it more difficult to evaluate distances, background light can be confused with ship's navigation lights and aids to navigation, beacons are fewer and unlit in winter and the effect of wave action from passing vessels on shorelines is difficult to observe;
- 2) **Visibility:** When vessels meet, the visibility must be sufficient for the pilots to visually assess the approach between the two vessels. Pilots must take into consideration that aids to navigation have a theoretical availability (75% availability) of 4.3 nm and that buoys can be hidden under the ice cover;
- 3) **Wind velocity and direction:** Under certain vessel load conditions, wind direction and velocity (above 35 knots) can influence vessel manoeuvrability;
- 4) **Manoeuvring distance:** The pilot must ensure that he/she has sufficient distance to complete the manoeuvre and re-establish the course before the next medium- or high-risk area;
- 5) **Marine traffic:** The pilot must ensure that there are no other vessels manoeuvring to overtake or meet in the sector and must also consider recreational boating and other nautical activities. All manoeuvre agreements made between vessels that contradict these directives must be communicated to the sector's MCTS;
- 6) **Vessel characteristics:** The pilot must ensure that the vessel's manoeuvring characteristics and the distance separating the vessels are sufficient to counter the interaction effects between them;
- 7) **Passage under overhead cables and bridges:** In order to ensure safe passage, the pilot must make certain that he/she has the exact data on the vessel's draught and on the vertical clearance of any electrical lines and bridges at the place of passage;
- 8) **Towing and dredging operations:** MCTS must provide pilots with information on towing and dredging operations being carried out so that the pilot may adequately assess the situation and plan the vessel's passage;
- 9) **Channel characteristics:** The pilot must take into consideration the channel configuration, type of bottom, currents and tides.

Specific sectors: Portneuf Bend, Sorel-Tracy Bend and Pointe à la Citrouille

In the context of a meeting with a tanker, the pilot must ensure that the angle of incidence on the tanker's longitudinal axis is under 30° in order to increase the likelihood (in the event of a collision) of a ricochet effect on the broadside of the vessel instead of perforating her double hull.

- R-3)** Speed control: In the context of a meeting of vessels that are subject to speed controls because of their draught, the pilots must adjust the prescribed speed so as to increase the safety margin by 50% more than that prescribed in the CCG under keel clearance table, without, however, exceeding a speed over water (SOW) of 9 knots.
- R-4)** Meetings with **long** vessels are prohibited in the following areas (chart VN-301):
- Sainte-Croix Bend
 - Barre à Boulard
 - Cap Charles Bend
 - Cap-à-la-roche Bend
 - Champlain Bend
 - Bécancour Bend
 - Île de Grâce Bend
 - Belmouth Bend
 - The segment between Cap Saint-Michel and Île aux Vaches
 - The downstream sector of Tétreauville

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SECTION C – MARINE COMMUNICATIONS AND TRAFFIC SERVICES

3) Directives on overtaking in medium- and high-risk (D)

Any time, wide beam vessels will have to favor day transit in the section Quebec-Montreal.

D-1) Overtaking is prohibited in high-risk areas. The high-risk areas between Québec and Montréal for vessels with a combined nominal breadth of between 65 metres and 72.6 metres and between 72.61 metres and 88 metres are identified on chart VN-301.

D-2) Medium-risk areas are assessed by pilots to determine whether a vessel may be able to safely overtake another where one or more of the factors listed below apply:

- a) The medium-risk areas between Québec and Montréal for vessels with a combined nominal breadth of between 65 metres and 72.6 metres and between 72.61 metres and 88 metres are identified on chart VN-301. Before a vessel overtakes another, the pilots must notify MCTS of the manoeuvres they have agreed on;
- b) Within 10 days following the meeting, the CMSLP must provide CCG and TC authorities with a report describing the vessels' condition, the passage conditions, the environmental factors, the manoeuvring conditions and all relevant comments on how the vessels handled when they met;
- c) In assessing the risks associated with overtaking a vessel, pilots must take the following factors into consideration:
 - 1) **Nighttime navigation:** Darkness makes it more difficult to evaluate distances, background light can be confused with ship's navigation lights and aids to navigation, beacons are fewer and unlit in winter and the effect of wave action from passing vessels on shorelines is difficult to observe;
 - 2) **Visibility:** When a vessel overtakes another, the visibility must be sufficient for the pilots to visually assess the approach between the two vessels. Pilots must take into consideration that aids to navigation have a theoretical availability (75% availability) of 4.3 nm and that buoys can be hidden under the ice cover;
 - 3) **Wind velocity and direction:** Under certain vessel load conditions, wind direction and velocity (above 35 knots) can influence vessel manoeuvrability;
 - 4) **Manoeuvring distance:** The pilot must ensure that he/she has sufficient distance to complete the manoeuvre before the next medium- or high-risk area;
 - 5) **Marine traffic:** The pilot must ensure that there are no other vessels manoeuvring to overtake or meet in the sector and must also consider recreational boating and other nautical activities. All manoeuvre agreements made between vessels that contradict these directives must be communicated to the sector's MCTS;
 - 6) **Vessel characteristics:** The pilot must ensure that the vessel's manoeuvring characteristics and the distance separating the vessels are sufficient to counter the interaction effects between them;
 - 7) **Passage under overhead cables and bridges:** In order to ensure safe passage, the pilot must make certain that he/she has the exact data on the vessel's draught and on the vertical clearance of any electrical lines and bridges at the place of passage;
 - 8) **Towing and dredging operations:** MCTS must provide pilots with information on towing and dredging operations being carried out so that the pilot may adequately assess the situation and plan the vessel's passage;
 - 9) **Channel characteristics:** The pilot must take into consideration the channel configuration, type of bottom, currents and tides.

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- D-3)** Speed control: When planning to overtake another vessel, the pilot must obtain the authorization of the vessel to be overtaken. The vessels will adjust their speeds to obtain, ideally, a ratio of 2:1 (twice the speed) in order to minimize the interaction effects between the vessels. However, the overtaking vessel must not maintain a speed that could lead to accelerated shoreline erosion or cause shoreline property damage.
- D-4)** Overtaking **long** vessels is prohibited in the following areas (chart VN-301):
- Sainte-Croix Bend
 - Barre à Boulard
 - Cap Charles Bend
 - Cap-à-la-roche Bend
 - Champlain Bend
 - Bécancour Bend
 - Île de Grâces Bend
 - Belmouth Bend
 - The segment between Cap Saint-Michel and Île aux Vaches
 - The downstream sector Tétreauville

4) Directives concerning anchorage areas(M)

- M-1)** No anchoring of **wide-beam** or **long** vessels at the Pointe-aux-Trembles (PAT) anchorage, except under exceptional circumstances.
- M-2)** No **wide-beam** or **long** vessels may use the long-term anchorage areas¹³ in the sector of the waterway between Québec and Montréal.
- M-3)** The holding anchorage areas¹⁴ authorized for **wide-beam** or **long** vessels are the following: Québec/Saint-Nicolas, Trois-Rivières and Sorel/Lanoraie.
- M-4)** If **wide-beam** or **long** vessels use an authorized holding anchorage area, the avoidance radius of the anchorage point must not adversely affect traffic or make it deviate.

5) Directives concerning Under Keel Clearance

In order to maximize the loading, operators and captains of wide-beam vessels and long vessels determine the minimum under keel clearance (UKC) by using the minimal authorized speed established at 7 knots in the UKC table. That constrains up bound vessels in Quebec-Montreal sector to transit during a long period with at minimum speed because of window passages restrictions. The speed between Quebec and Trois-Rivières can be influenced by the tide and the passage can be completed in 7 hours. But, Trois-Rivières and Montreal sector depends only on water levels; the vessel, not being able to go faster than 7 or 8 knots over the water (SOW) , corresponding to a speed of 5 knots over the ground (SOG) it will take 12 hours to complete the transit. Thus the vessel will cause a congestion of the system for a long period, that makes difficult to coordinate passages and safe meetings because they have to favor transits mainly during daylight and can anchor only in short time anchorages.

The hydraulic pressure on these very wide ships is important, at low speed they are less manoeuvrable and the response time is slower. When we need to push the ship to increase the pressure of water on the rudder to thwart a yaw, the ship inertia is so heavy it takes several minutes to have the wished effect. The operators and the captains should thus plan their transits at a minimum speed of 10 knots SOW , in order to reduce the transit time and allow the ship to be in the system for an acceptable and plannable time while favoring daylight passages and by ensuring a good maneuverability.

¹³ Long-term anchorage area: Where the ship may wait several days before going alongside.

¹⁴ Holding anchorage area: Where the ship may wait few hours before going alongside or continue her route. The reasons are diverse (e.g.: wait for a water level window, wait for favorable weather conditions, wait for a favorable traffic window in a restricted sector, availability of tug boats, availability of quays, movement of ships during urgent measures alongside the quay, etc.).

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SECTION C – MARINE COMMUNICATIONS AND TRAFFIC SERVICES

In order to ensure a safe conduct and allow the coordination of the transits in opposite directions of vessels in the Saint-Lawrence between Quebec City and Montreal, vessels with beam greater than 32.50 meters (Post-Panamax) shall:

- Conform with the under keel clearance calculation table as per notice to mariners 27C.
- When up bound to a destination upstream Quebec City, ensure to have an under keel clearance permitting a transit at a minimum speed of 10 knots on the water.
- When down bound from a locality upstream Quebec City ensure to have an under keel clearance permitting a transit at a minimum speed of 7 knots on the water

Notwithstanding the preceding, all vessels should be capable to reduce their speed if necessary in order to allow the coordination of the meetings between ships and conform to the voluntary measures of speed reduction.

Cancels notships Q801 and Q828
Cancels notship Q0545/2012.
Cancels Notice to Mariners 617(T).

NOTE: You can preview the segment by following these links:

http://www.marinfo.gc.ca/documents/Post-Panamax/VN-301_mtl-3r_novembre_2016.png

http://www.marinfo.gc.ca/documents/Post-Panamax/VN-301_3r-gc_novembre_2016.png

Transit of Vessels with Combined Breadth Equal to or Higher than 81.3 metres in the Traverse du Nord Sector of Île d'Orléans

Background/Context:

As a result of the recent passage of post-Panamax vessels en route to ports located upstream from the Traverse du Nord Sector of Île d'Orléans, the Canadian Coast Guard proceeded with a review of Marine Traffic Management Rules applicable to that segment of the St. Lawrence Waterway.

The rules described hereafter are mainly based on the Canadian Coast Guard Guidelines for the Safe Design, Maintenance and Usage of Navigation Channels and on consultations with concerned marine stakeholders.

Effective December 1, 2009, the following measures shall apply to vessels with a combined breadth equal to or higher than 81.3 metres..

1. Passage (encounter) and overtaking of two (2) vessels, each with a combined breadth equal to or higher than 81.3 metres, shall not be authorized in the dredged channel of Traverse du Nord, between Buoys K-136 and K-92.
2. Should a vessel be required to slow down or stop to avoid encountering within the limits of the dredged channel, the vessel with a following current (stern) shall have priority to maintain course (ref. Collision Regulations, Rule 9, Section K).
3. The Marine Communications and Traffic Services Officer (MCTSO) shall inform the vessels concerned sufficiently in advance in order for the vessels to make appropriate arrangements to abide by these measures.
4. The vessels concerned shall inform the MCTS Officers of their agreed arrangements in order for MCTS to advise relevant traffic accordingly.

SECTION C – MARINE COMMUNICATIONS AND TRAFFIC SERVICES

Note: In applying the above measures, it is understood that the bridge crew shall consider all hazards to navigation, risks of collision and any specific circumstances, such as limitations of the concerned vessels, and may therefore have no alternative but to deviate from the prescribed measures in order to avoid an immediate danger. Should there be sufficient reasons to derogate from these prescribed rules, the Pilot shall inform the MCTS Officer who will immediately relay the relevant information to other waterway users.

6) Double pilotage

Vessels, whose breadth is equal to or greater than 32.5 metres transiting in the portion between Quebec and Montreal, are subject to double pilotage by Laurentian Pilotage Authority.

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Information concerning Pre-Arrival Information Report (PAIR) made pursuant to the Marine Transportation Security Regulations, can be found in Part 3 and 4 of the publication Radio Aids to Marine Navigation (RAMN) <http://www.ccg-gcc.gc.ca/Marine-Communications/Home>

27B General Information about Anchorage at Pointe Saint-Jean and Saint-Vallier

1 POINTE SAINT-JEAN ANCHORAGE

Reference: Chart [1317](#)

Conditions of use

Effective December 1st 2012, the following measures shall apply to the anchorage of Saint-Jean (position: 46°54.7'N 70°52.5'W).

- The vessel shall obtain the authorization from the Marine Communications and Traffic Services
- Anchorage will not be authorized in winter when it will be established that the current weather and ice conditions or the short-term forecast will be a threat for the safety of the vessel, the navigation and the environment.
- The Priority will be given to the deep draft vessels
- Short-term anchorage (less than 24 hours)

2 SAINT-VALLIER ANCHORAGE

Reference: Chart [1317](#)

Conditions of use

Effective December 1st 2012, the following measures shall apply to the anchorage of Saint-Vallier (46°55.6'N 70°49.3'W).

- The vessel shall obtain the authorization from the Marine Communications and Traffic Services.
- Anchorage will not be authorized in winter when it will be established that the current weather and ice conditions or the short-term forecast will be a threat for the safety of the vessel, the navigation and the environment.
- The Anchorage is forbidden for 60 000 TDW and more vessels.

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SECTION C – MARINE COMMUNICATIONS AND TRAFFIC SERVICES

27C Under Keel Clearance Table

1. CONTAINER SHIPS

ST. LAWRENCE RIVER, QUEBEC TO MONTREAL

Changing Table: Effective on: 2013-04-01

Information concerning Pre-Arrival Information Report (PAIR) made pursuant to the Marine Transportation Security Regulations, can be found in Part 3 and 4 of the publication Radio Aids to Marine Navigation (RAMN). <http://www.ccg-gcc.gc.ca/Marine-Communications/Home>

The actual amendment establishes new parameters for vessels width between 40.0 m. and 44.0m. To promote safety and efficiency of navigation and environmental protection, the Marine Communications and Traffic Services Officer (MCTSO) has the power to issue, in some cases, directions to a vessel under section 126 of the 2001 Canada Shipping Act. In exercising its powers, the MCTSO will consider the under-keel clearance for vessels transiting the area above Québec. The Marine Communications and Traffic Services will determine the required under-keel clearance of the ship according to the parameters given in the table below:

Vessel Beam not exceeding	Vessel's speed over water not exceeding (Knots)								
	7	8	9	10	11	12	13	14	15
	Required under-keel clearance (metres ; which included estimated squat and the manoeuvrability's safety margin)								
24 m	0,79	0,88	0,96	1,04	1,22	1,41	1,63	1,88	2,17
26	0,83	0,90	0,98	1,07	1,25	1,45	1,68	1,93	2,23
28	0,84	0,91	1,00	1,09	1,28	1,48	1,72	1,98	2,29
30	0,86	0,93	1,01	1,11	1,31	1,52	1,76	2,03	2,34
32	0,87	0,94	1,03	1,14	1,34	1,55	1,80	2,08	2,40
34	0,88	0,96	1,05	1,16	1,36	1,58	1,84	2,12	2,45
36	0,89	0,97	1,07	1,18	1,39	1,62	1,88	2,16	2,50
38	0,90	0,98	1,08	1,20	1,42	1,65	1,92	2,20	2,55
40	0,91	1,00	1,10	1,22	1,44	1,68	1,96	2,24	2,60
42	0,92	1,01	1,12	1,24	1,47	1,71	1,99	2,29	2,65
44	0,93	1,02	1,13	1,26	1,49	1,74	2,03	2,33	2,70
	Estimated squat (metres)								
24 m	0,21	0,27	0,35	0,43	0,53	0,65	0,79	0,97	1,18
26	0,22	0,29	0,37	0,46	0,56	0,69	0,84	1,02	1,24
28	0,23	0,30	0,39	0,48	0,59	0,72	0,88	1,07	1,30
30	0,25	0,32	0,40	0,50	0,62	0,76	0,92	1,12	1,35
32	0,26	0,33	0,42	0,53	0,65	0,79	0,96	1,17	1,41
34	0,27	0,35	0,44	0,55	0,67	0,82	1,00	1,21	1,46
36	0,28	0,36	0,46	0,57	0,70	0,86	1,04	1,25	1,51
38	0,29	0,37	0,47	0,59	0,73	0,89	1,08	1,29	1,56
40	0,30	0,39	0,49	0,61	0,75	0,92	1,12	1,33	1,61
42	0,31	0,40	0,51	0,63	0,78	0,95	1,15	1,38	1,66
44	0,32	0,41	0,52	0,65	0,80	0,98	1,19	1,42	1,71
	Manoeuvrability/safety margin (metres)								
	0,61	0,61	0,61	0,61	0,69	0,76	0,84	0,91	0,99

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*An exception to the margin of safety / manoeuvrability is allowed for a ship with a width not exceeding 24m at a speed of 6 to 7 knots. Only in this case, a margin of 0.58m is accepted instead of 0.61m.

The above parameters are presented on the basis that the vessel's Master or Officer-in-charge has given consideration to other specific elements which may have an impact on under-keel clearance, some of which are: the accurate determination of water level (including tides) during vessel's transit; the vessel's speed; the wind and waves effects and the vessel's response to it; the estimation of the vessel's draught (changes in ballast); any additional squat effects due to passing within close proximity to the bank of the channel or when meeting / overtaking another vessel. The vessel's Master or Officer-in-charge has the ultimate responsibility for the vessel's safety at all times.

Authority: Canadian Coast Guard (TC-L95-133; AMA8035-10-1); Notice to Mariners No. 462 of Edition No. 17 of 1995. Modification: 2013/03/21

2. OTHER SHIPS (Other than container ships)

ST. LAWRENCE RIVER, QUEBEC TO MONTREAL

Changing Table: Effective on: 2013-04-01

The actual amendment establishes new parameters for vessels width between 40.0 m. and 44.0m. To promote safety and efficiency of navigation and environmental protection, the Marine Communications and Traffic Services Officer (MCTSO) has the power to issue, in some cases, directions to a vessel under section 126 of the 2001 Canada Shipping Act. In exercising its powers, the MCTSO will consider the under-keel clearance for vessels transiting the area above Québec. The Marine Communications and Traffic Services will determine the required under-keel clearance of the ship according to the parameters given in the table below:

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Vessel Beam not exceeding	Vessel's speed over water not exceeding (Knots)								
	7	8	9	10	11	12	13	14	15
	Required under-keel clearance (metres ; which included estimated squat and the manoeuvrability's safety margin)								
24 m	0,80	0,90	0,97	1,06	1,24	1,44	1,66	1,92	2,21
26	0,85	0,92	1,00	1,09	1,29	1,49	1,73	1,99	2,29
28	0,86	0,94	1,03	1,13	1,33	1,54	1,79	2,06	2,37
30	0,88	0,96	1,05	1,16	1,37	1,59	1,85	2,13	2,46
32	0,89	0,98	1,08	1,19	1,41	1,64	1,91	2,19	2,53
34	0,91	1,00	1,10	1,23	1,45	1,69	1,97	2,26	2,61
36	0,93	1,02	1,13	1,26	1,49	1,74	2,02	2,32	2,69
38	0,94	1,04	1,16	1,29	1,53	1,78	2,08	2,39	2,77
40	0,96	1,06	1,18	1,32	1,57	1,83	2,13	2,44	2,84
42	0,97	1,08	1,21	1,36	1,61	1,88	2,18	2,51	2,91
44	0,99	1,10	1,23	1,39	1,65	1,93	2,24	2,57	2,98
	Estimated squat (metres)								
24 m	0,22	0,29	0,36	0,45	0,55	0,68	0,82	1,01	1,22
26	0,24	0,31	0,39	0,48	0,60	0,73	0,89	1,08	1,30
28	0,25	0,33	0,42	0,52	0,64	0,78	0,95	1,15	1,38
30	0,27	0,35	0,44	0,55	0,68	0,83	1,01	1,22	1,47
32	0,28	0,37	0,47	0,58	0,72	0,88	1,07	1,28	1,54
34	0,30	0,39	0,49	0,62	0,76	0,93	1,13	1,35	1,62
36	0,32	0,41	0,52	0,65	0,80	0,98	1,18	1,41	1,70
38	0,33	0,43	0,55	0,68	0,84	1,02	1,24	1,48	1,78
40	0,35	0,45	0,57	0,71	0,88	1,07	1,29	1,53	1,85
42	0,36	0,47	0,60	0,75	0,92	1,12	1,34	1,60	1,92
44	0,38	0,49	0,62	0,78	0,96	1,17	1,40	1,66	1,99
	Manoeuvrability/safety margin (metres)								
	0,61	0,61	0,61	0,61	0,69	0,76	0,84	0,91	0,99

*An exception to the margin of safety / manoeuvrability is allowed for a ship with a width not exceeding 24m at a speed of 6 to 7 knots. Only in this case, a margin of 0.58m is accepted instead of 0.61m.

The above parameters are presented on the basis that the vessel's Master or Officer-in-charge has given consideration to other specific elements which may have an impact on under-keel clearance, some of which are: the accurate determination of water level (including tides) during vessel's transit; the vessel's speed; the wind and waves effects and the vessel's response to it; the estimation of the vessel's draught (changes in ballast); any additional squat effects due to passing within close proximity to the bank of the channel or when meeting / overtaking another vessel. The vessel's Master or Officer-in-charge has the ultimate responsibility for the vessel's safety at all times.

Authority: Canadian Coast Guard (TC-L95-133; AMA8035-10-1); Notice to Mariners No. 462 of Edition No. 17 of 1995. Modification: 2013/03/21

D SEARCH AND RESCUE

28 Search and Rescue in Canadian and Adjacent Waters

General Points

- 1 The Canadian Forces (CF) in co-operation with the Canadian Coast Guard (CCG) has overall responsibility for coordination of federal aeronautical and maritime Search and Rescue (SAR) activities in Canada, including Canadian waters and the high seas off the coasts of Canada. The CF provides dedicated SAR aircraft in support to marine SAR incidents. The CCG coordinates maritime SAR activities within this area and provides dedicated maritime SAR vessels in strategic locations. Joint Rescue Coordination Centres (JRCC) are maintained at Victoria, B.C., Trenton, Ont. and Halifax, N.S. These centres are staffed 24 hours a day by Canadian Forces and Canadian Coast Guard personnel. Each JRCC is responsible for an internationally agreed designated area known as a Search and Rescue Region (SRR) (see plate A.1). In addition, a Maritime Rescue Sub Centre (MRSC), staffed by Coast Guard Personnel is located in Québec, Qué., to coordinate local maritime SAR operations. MRSC Québec's Search and Rescue Sub-region (SRS) includes the areas of the St. Lawrence River and the north and central parts of the Gulf of St. Lawrence (See Annex A4).
- 2 The "*Oceans Act*" and the "*Canada Shipping Act, 2001*" (CSA, 2001) provide for the Minister of Fisheries and Oceans to delegate the authority necessary for maritime Search and Rescue coordination. This authority as exercised by JRCCs and MRSCs, empowers the SAR co-ordinator on duty, when he/she has knowledge of an actual distress, or a missing vessel or if signals or other information indicate a distress situation may exist, to order all vessels within a specified area to report their position, to take part in a search, and to carry out such other SAR operations as deemed necessary.

The master or person in charge of the vessel is obligated to comply with such orders except where such compliance would endanger his own vessel, tow or persons on board. It is Government SAR Policy to requisition federal government owned vessels for SAR operations before privately owned ships when the former are readily available and suitable for the operations at hand and to release requisitioned privately owned vessels from SAR operations as they are replaced by government ships.

- 3 The CSA, 2001 also allows the master of a vessel in distress to requisition any vessel or vessels to come to his/her assistance. Even if he/she has done so and the situation appears well in hand, it is advisable for the master to ensure that the JRCC/MRSC concerned is informed and kept up-to-date since the Centre has at its disposal expertise and communication links with resources specialized in SAR and other emergency agencies which may be of use to the master, for treatment and care of survivors (casualties).
- 4 A vessel requisitioned to proceed to the assistance of a vessel in distress is required to comply with the direction from JRCC/MRSC and/or the master of the vessel in distress. The CSA, 2001 sanctions penalties for refusal to give aid. The JRCC/MRSC may delegate its authority to the Commanding Officer of a SAR unit on scene, equipped with specialized Search and Rescue and communications equipment, who then becomes the "On-Scene Co-ordinator (OSC)". In the absence of a dedicated SAR unit, JRCC/MRSC authority may also be delegated to another vessel on scene. The duties of OSC are described in the International Aeronautical and Maritime Search and Rescue Manual (Volume III)(IAMSAR), a joint publication of the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO) which should be referred to.
- 5 The JRCC/MRSC will attempt to inform owners or agents of vessels which have sent a distress signal, of the circumstances and action taken. Where possible, owners or agents of requisitioned ships will also be informed of action taken.

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Distress communications

- 6 The procedures for handling distress messages are international and are described in the International Aeronautical and Maritime Search and Rescue Manual (IAMSAR), and IMO/ICAO publication and also in Canadian Coast Guard publication "Radio Aids to Marine Navigation". The CCG Radio system provides coverage of all maritime distress frequencies, although each station does not necessarily guard each frequency. Details of this system are contained in the relevant CCG Publication "Radio Aids to Marine Navigation" DFO 5470 and DFO 5471.

Marine Communications and Traffic Services standard operating procedures provides for the automatic relay of distress messages to JRCC/MRSC.

- 7 When selecting an appropriate frequency to broadcast distress messages or communicate with assisting vessels, masters should bear in mind that the statutory requirements to carry radio equipment differ from region to region. For instance, only VHF radio telephone equipment is mandatory for vessels when operating on the Great Lakes west of Montreal. Details of the required equipment are contained in the CCG Publication, "Radio Aids to Marine Navigation" (Atlantic and Great Lakes) DFO 5470.
- 8 Mariners are reminded that distress flares/signals as described in Annex IV of the *Collision Regulations* are for the use of a person or persons who are in distress and require immediate assistance. Any other use of distress flares is contrary to the *Canadian Shipping Act, 2001 (CSA, 2001)* and the International Convention for the Safety of Life At Sea (SOLAS). Organizations wishing to conduct training in the use of flares are encouraged to contact the flare manufacturer for information on where/how to obtain training aids.

Ship to air distress signal

- 9 A ship-to-air distress signal for use in Canadian waters has been designed in conjunction with SAR authorities. The signal consists of a cloth painted or impregnated with fluorescent paint showing a disc and square to represent the ball and flag of the well known visual distress signal. Evaluation tests by SAR aircraft indicate that the most suitable colour combination is black symbols on a background of orange-red fluorescent paint. The smallest useful size is 1.8 m (72 in.) by 1.1 m (45 in.) showing symbols which have dimensions of 46 cm (18 in.) and are 46 cm (18 in.) apart. Grommets or loops should be fitted at each corner to take securing lines (see illustration following this Notice).

As the purpose of the signal is to attract the attention of aircraft, it should be secured across a hatch or cabin top. In the event of foundering, it should be displayed by survival craft.

Canadian SAR authorities recognize this signal as a distress signal and will look for it in the course of a search. Any aircraft, on seeing this signal, is requested to make a sighting report to the nearest JRCC/MRSC.

The signal is available commercially but it can be made at home or aboard ship without difficulty. Unbleached calico, or similar material, together with a can of orange-red fluorescent spray paint, are the principal requirements. Recommended minimum dimensions are shown in the illustration following this Notice.

The signal is voluntary equipment, but it is hoped that the masters of tugs, fishing vessels and pleasure craft will take advantage of its usage to increase the effectiveness of SAR operations.

Assistance to Disabled Vessels

- 10** The CSA, 2001 does not authorize the Rescue Co-ordinator to order vessels to undertake salvage but the JRCC/MRSC will attempt to inform the stricken vessel and its owners, of the presence of nearby vessels and will normally issue a radio broadcast requesting if any vessels are available to provide assistance.

The CCG recognizes that the timely provision of towing assistance to disabled vessels can be an effective way of preventing loss of life and injury and expediting the resolution of an emergency situation under certain circumstances. However, the Federal Government or its agents will not directly assist disabled vessels merely on request and will not compete with commercial interest to provide direct assistance. Some incidents involving the use of the SAR system are clearly preventable or unreasonable. The response to these incidents occupies resources that may be needed for more serious incidents and may place responders in unnecessary danger.

Government vessels will undertake property salvage only when salvage is incidental to rescue, or is minor or unobtainable from the private sector or is likely to cause undue hardship through delay.

- 11 Canadian Joint Rescue Coordination Centres / Maritime Rescue Sub-Centres Emergency Contact Information**

JRCC Victoria	1-800-567-5111 (British Columbia and Yukon) +1-250-413-8933 (Satellite, Local, or out of area) # 727 (Cellular) +1-250-413-8932 (fax) jrcvictoria@sarnet.dnd.ca (Email)
JRCC Trenton	1-800-267-7270 (In Canada) +1-613-965-3870 (Satellite, Local, or Out of Area) +1-613-965-7279 (fax) jrcctrenton@sarnet.dnd.ca (email)
MRSC Québec	1-800-463-4393 (Québec Region) +1-418-648-3599 (Satellite, Local, or out of area) +1-418-648-3614 (fax) mrscqbc@dfo-mpo.gc.ca (Email)
JRCC Halifax	1-800-565-1582 (Maritimes Region) 1-800-563-2444 (Newfoundland & Labrador Region) +1-902-427-8200 (Satellite, Local, or out of area) +1-902-427-2114 (fax) jrcchalifax@sarnet.dnd.ca (Email)

***Note:** Though the MRSC St. John's was closed in April 2012 and its responsibilities transferred to Joint Rescue Coordination Centre Halifax, for members of the public the phone numbers they must call in case of a marine emergency remain the same.

Ocean and coastal areas

- 12 Maritime SAR Patrols:**

Specialized SAR vessels conduct patrols in areas of concentrated fishing, commercial, recreational and other maritime activities off both the Atlantic and Pacific Coasts.

13 Shore-based lifeboat stations:

Specialized SAR craft are stationed at the following locations for local operations; and are indicated on marine charts by the symbol CG:

(a) **East Coast:**

Burin, Burgeo, Port-aux-Choix (seasonal), and Lark Harbour (seasonal), Nfld; Louisburg, Clark's Harbour, Bickerton, Sambro and Westport, N.S., Summerside and Souris, P.E.I. (seasonal), Shippegan (seasonal), and St. John, N.B.

(b) **West Coast:**

Tofino, Bamfield, Port Hardy, Vancouver, Powell River, Campbell River, Prince Rupert, Ganges and French Creek. Also one SAR Hovercraft is available at Sea Island, B.C.

14 Inshore Rescue Boat:

Small SAR craft between 5 to 7 metres in length are operated between mid May and early September on the east and west coasts in areas of peak activity. Locations may change due to operational needs and traffic patterns.

Great Lakes and Gulf and St. Lawrence River

15 Marine SAR Patrols

There are no SAR patrol as such on the St-Lawrence Estuary and Gulf. But when the shore-based lifeboat stations terminate their operation because of the winter season, icebreakers may also provide some SAR coverage in the area:

16 Shore-Based lifeboat stations

Specialized lifeboats are stationed on a seasonal basis at the following locations: Cap aux Meules (Îles de la Madeleine), Rivière au Renard, Havre Saint-Pierre, Tadoussac, Kegashka, and Québec City for the St. Lawrence River portion. For the Great Lakes portion, we may find the same type of craft in Kingston, Cobourg, Port Weller, Port Dover, Amhersburg, Goderich, Tobermory, Meaford and Thunder Bay.

17 Inshore Rescue Boat:

SAR small Craft of a similar size and mode of operation to those described in para. 14 above are based at locations throughout the area.

Air facilities

18 The CF maintain aircraft dedicated and equipped for SAR as follows:

(a) **Fixed Wing:**

Greenwood, N.S.; Trenton, Ont.; Winnipeg, Man., and Comox, B.C.

(b) **Helicopters:**

At Gander, Nfld.; Greenwood, N.S.; Trenton, Ont. and Comox, B.C.

Other facilities

- 19 Depending on the anticipated need, government vessels not normally used on routine SAR duties are from time to time tasked to such duties. Additionally all Canadian government owned vessels and aircraft are available when required.

Blue flashing light

- 20 a) Rule 45 of the *Collision Regulations (COLREGS)* identifies the use of a blue flashing light by any government vessel or any vessel that is owned or operated by a harbour, river, county or municipal police force may exhibit as an identification signal a blue flashing light when the vessel:
- (i) is providing assistance in any waters to any vessel or other craft, aircraft or person that is threatened by grave and imminent danger and requires immediate assistance, or
 - (ii) is engaged in law enforcement duties in Canadian waters.

Any vessel operated by the Canadian Coast Guard Auxiliary may exhibit a blue flashing light as an identification signal when the vessel participates, at the request of the Canadian Coast Guard, in search and rescue operations.

A vessel referred to in paragraph (a) or (b) that exhibits a blue flashing light as an identification signal is not relieved from the obligation to comply with the Steering and Sailing Rules set out in Part B.

In the case of a ship owned or operated by a federal, provincial or municipal police force, the law enforcement duties. It is recommended that this light be fitted on as many government ships as possible, particularly the ships which may reasonably be expected to be engaged in search and rescue and law enforcement duties. The blue flashing light does not give a ship any special privileges under steering and sailing rules of the *Collision Regulations*. However, mariners should consider that the vessel exhibiting a blue flashing light is proceeding to carry out search and rescue or law enforcement duties.

- b) The use, characteristics and definition of the blue flashing light are described in Rules 21, 22, 45 and Annex 1, which are the Canadian provisions to the *International Regulations for Prevention of Collision at Sea (COLREGS) - 1972*.

Canadian Coast Guard Auxiliary

- 21 The Canadian Coast Guard Auxiliary (CCGA) is an association of some 5000 dedicated volunteers operating more than 1500 vessels to support the Canadian Coast Guard Maritime Search and Rescue. CCGA units are located on the East and West Coasts, the Gulf and River St. Lawrence, the Great Lakes, Lake Winnipeg, Great Slave Lake, Nunavut and on the Mackenzie River.

References

The following publications are available to the mariner and provide useful guidance in SAR.

- (a) International Aeronautical and Maritime Search and Rescue Manual (IAMSAR) Volume III, IMO/ICAO publication.
- (b) Radio Aids to Marine Navigation (Pacific and Western Arctic) DFO 5471; and Radio Aids to Marine Navigation (Atlantic, St-Lawrence, Great Lakes, Lake Winnipeg and Eastern Arctic) DFO 5470.

Canada Shipping Act:

Selected sections of the *Canada Shipping Act, 2001* (as amended) which relate to SAR are quoted below for guidance.

Answering distress signal

384. (1) *The master of a Canadian ship at sea, on receiving a signal from any source that a ship or aircraft or survival craft thereof is in distress, shall proceed with all speed to the assistance of the persons in distress informing them if possible that he is doing so, but if he is unable or, in the special circumstances of the case, considers it unreasonable or unnecessary to proceed to their assistance, he shall enter in the official log-book of the ship the reason for failing to proceed to the assistance of those persons.*

Ships requisitioned

- (2) *The master of any ship in distress may, after consultation, in so far as possible, with the masters of the ships that answer his distress signal, requisition one or more of those ships that he considers best able to render assistance, and it is the duty of the master of any Canadian ship that is so requisitioned to comply with the requisition by continuing to proceed with all speed to the assistance of the ship in distress.*

Release from obligation

- (3) *The master of a ship shall be released from the obligation imposed by subsection (1) when he learns that one or more ships other than his own have been requisitioned and are complying with the requisition.*

Further release

- (4) *The master of a ship shall be released from the obligation imposed by subsection (1), and, if his ship has been requisitioned, from the obligation imposed by subsection (2), if he is informed by the persons in the ship in distress or by the master of another ship that has reached those persons that assistance is no longer necessary.*

Offence and punishment

- (5) *If the master of a Canadian ship contravenes this section he is guilty of an indictable offence and liable to a fine not exceeding five hundred dollars or to imprisonment for a term not exceeding one year.*

Right to salvage

- (6) *Nothing in this section affects the provisions of section 451 and compliance by the master of a ship with this section does not affect his right, or the right of any other person, to salvage.*

Minister may designate rescue coordinators

- 385.(1) *The Minister may designate persons, to be known as rescue coordinators, to organize search and rescue operations in Canadian waters and on the high seas off the coasts of Canada.*

Power of rescue coordinators

- (2) *On being informed that a vessel or aircraft or survival craft thereof is in distress or is missing in Canadian waters or on the high seas off any of the coasts of Canada under circumstances that indicate it may be in distress, a rescue coordinator may*
- (a) order all vessels within an area specified by him to report their positions to him;*
 - (b) order any vessel to take part in a search for that vessel, aircraft or survival craft or to otherwise render assistance; and*
 - (c) give such other orders as he deems necessary to carry out search and rescue operations for that vessel, aircraft or survival craft.*

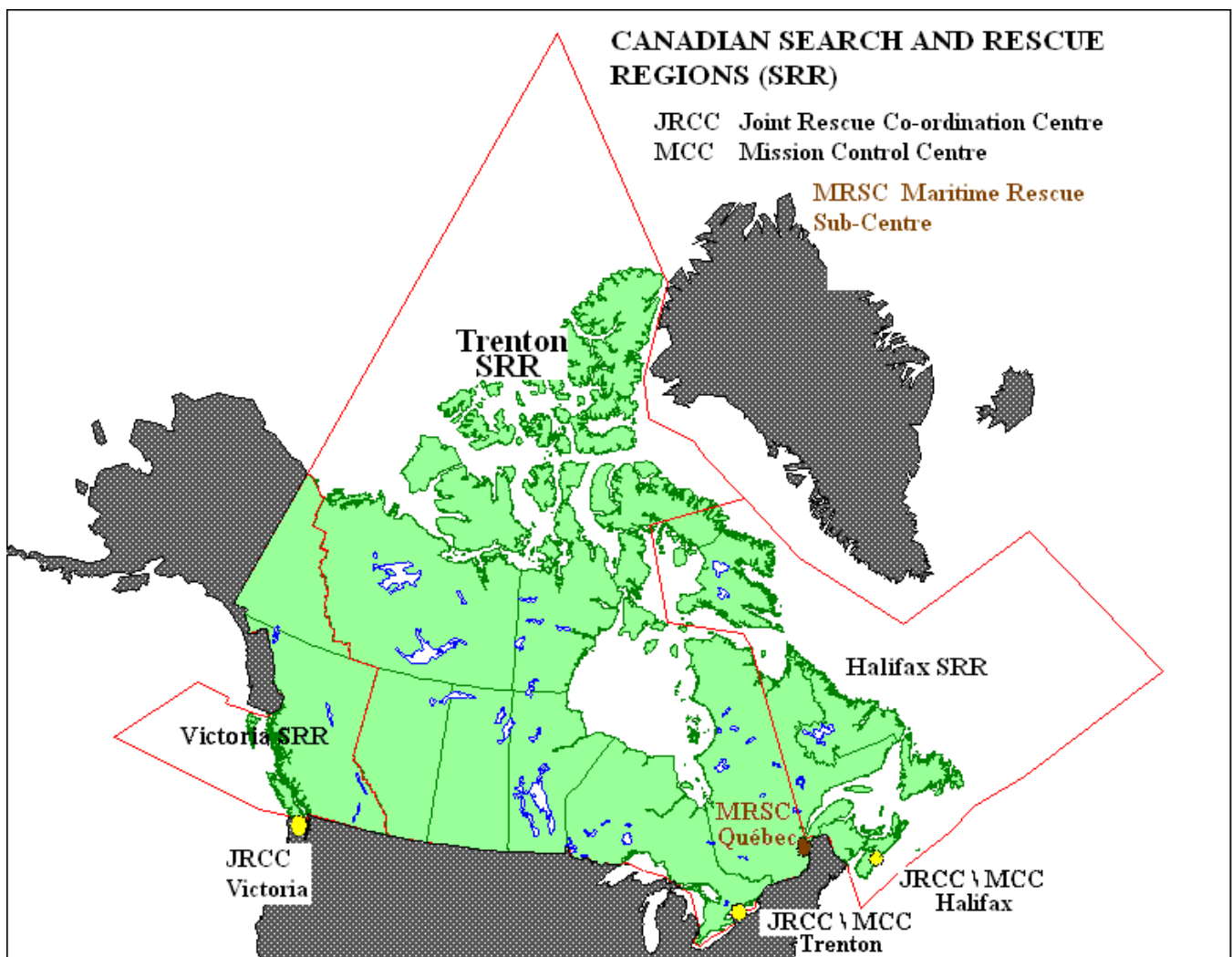
Infraction and punishment

- (3) Every master or person in charge of a vessel in Canadian waters or a Canadian vessel on the high seas off the coasts of Canada who fails to comply with an order given by a rescue coordinator or a person acting under his direction is guilty of an offence and liable on summary conviction to a fine not exceeding five hundred dollars or to imprisonment for a term not exceeding six months, or to both.

Defence

- (4) No master or person in charge of a vessel shall be convicted of an offence under subsection (3) if he establishes that compliance with an order of a rescue coordinator or person acting under the direction thereof would have exposed his vessel or tow or persons on board it to serious danger.

Authority: Canadian Coast Guard (Search and Rescue)



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SECTION D – SEARCH AND RESCUE

FIGURE A.1 – SEARCH AND RESCUE REGIONS (SRR)

Victoria SRR

54°42.5'N 130°36.5'W, along the Alaska – Canada border to the Beaufort Sea, east along the shoreline to the Yukon – North West Territory border, south along the Yukon – North West Territory border to 60°00'N, east along 60°00'N to the British Columbia – Alberta border, south along the British Columbia – Alberta border to the Canada – United States border, west along the Canada – United States border to 48°30'N 124°45'W, 48°30'N 125°00'W, 48°20'N 128°00'W, 48°20'N 145°00'W, 5440'N 140°00'W, 5440'N 136°00'W, 54°00'N 136°00'W, 54°13'N 134°57'W, 54°39.45'N 132°41'W and 54°42.5'N 130°36.5'W.

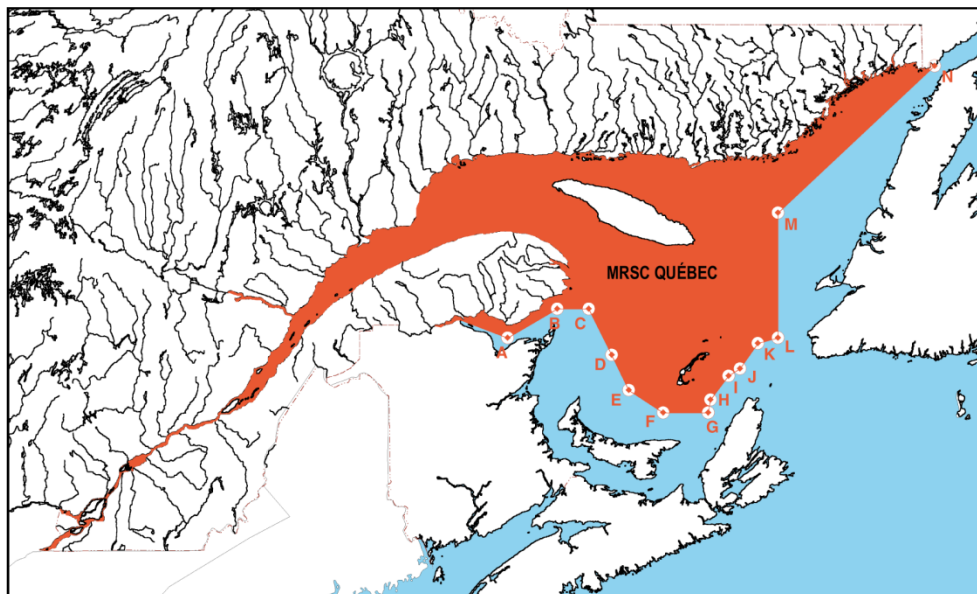
Trenton SRR

70°00'N 080°00'W, 64°00'N 080°00'W, 62°00'N 070°00'W, 46°42'N 070°00'W, westerly along the Canada – United States border to the Alberta – British Columbia border, north along the Alberta – British Columbia border to 60°00'N 120°00'W, westerly to 60°00'N 124°00'W, north along the Yukon – North West Territory border to the Beaufort Sea, westerly along the coast to the Canada – Alaska border, north along 141°00'W to the North Pole, south to 82°00'N 060°00'W, 78°00'N 075°00'W, 76°00'N 076°00'W, 74°00'N 068°18'W, 73°00'N 067°00'W, 70°00'N 063°00'W and west to 70°00'N 080°00'W.

Halifax SRR

64°00'N 080°00'W, 70°00'N 080°00'W, 70°00'N 063°00'W, 65°30'N 058°39'W, 58°30'N 050°00'W, 58°30'N 030°00'W, 45°00'N 030°00'W, 45°00'N 053°00'W, 43°36'N 060°00'W, 41°52'N 067°00'W, 44°30'N 067°00'W, north to the Canada – United States border, westerly along the Canada – United States border to the 70th meridian, north along the 70th meridian to 62°00'N 070°00'W and north west to 64°00'N 080°00'W.

Annex A4 - Search and Rescue Sub-regions



	Latitude	Longitude		Latitude	Longitude
A	47° 50' 00" N	65° 25' 00" W	H	47° 00' 35" N	61° 21' 05" W
B	48° 13' 14" N	64° 25' 22" W	I	47° 19' 46" N	60° 59' 34" W
C	48° 13' 14" N	63° 47' 33" W	J	47° 25' 24" N	60° 45' 49" W
D	47° 36' 21" N	63° 19' 56" W	K	47° 45' 40" N	60° 24' 17" W
E	47° 08' 23" N	62° 59' 14" W	L	47° 50' 00" N	60° 00' 00" W
F	46° 50' 24" N	62° 18' 03" W	M	49° 30' 00" N	60° 00' 00" W
G	46° 50' 24" N	61° 24' 01" W	N	51° 27' 00" N	56° 52' 00" W

Figure A.2 - MRSC Québec Search and Rescue Sub-Region

28A Helicopter Evacuations Procedures by Canadian Forces Search and Rescue Helicopters

Helicopter medical evacuations are a serious matter. Since they can be hazardous to both the patient and the helicopter crew, they should be used only as a last resort to prevent death or permanent injury. If you are out on a fishing boat, for example, and one of the crew members suffers a slight injury, you should NOT request a helicopter medical evacuation so that you might continue fishing.

The Joint Rescue Co-ordination Centre/Maritime Rescue Sub-Centre (JRCC/MRSC), if it is to intelligently evaluate the need for evacuation, must be presented with a clear picture of the situation. You can speed the process by having the following information ready:

- (a) Name of vessel, call sign, position, course and speed.
- (b) Patient's name, age and sex.
- (c) State of consciousness.
- (d) Respiration rate and difficulty or pain associated with breathing.
- (e) Pulse rate, strength and regularity; temperature of patient.
- (f) Nature and specific location of pain. Is pain dull, sharp, continuous, intermittent, confined to a small area or widespread?
- (g) When injury occurred and cause - blow, burn, fall - nature of wound, cuts or bruises. State if patient has been moved.
- (h) Determine amount of bleeding.
- (i) Describe any deformity or abnormal functioning on the part of the patient.
- (j) What treatment has been given and how patient has responded.
- (k) ETA destination/intentions.
- (l) Agent's or owner's name, address.
- (m) Frequency vessel standing by on and other back-up frequencies available.
- (n) If helo is to be involved: position on the ship best suited for helo hoist - clear of obstructions - and frequency for helo to contact vessel on.

NOTE 1: The details on the patient's conditions are necessary because, based on this information, the Regional Surgeon will or will not approve the use of a helo.

NOTE 2: You should advise the Coast Guard immediately if any of this information changes.

NOTE 3: The Coast Guard should be advised immediately if the evacuation by helicopter is no longer required due to alternate arrangements or if the patient expires.

In addition to regular communication methods, Masters of ships may obtain medical advice by addressing a radio-telegram to "Radiomedical" and routing it via the nearest Marine Communications and Traffic Services Centre which will refer to the appropriate regional medical authority and transmit the reply to the ship.

Preparations

Most rescue helicopters can proceed less than 150 miles offshore, and then only if weather conditions permit. If an evacuation is necessary, you must be prepared to proceed within range of a helicopter. If you are beyond helicopter range, you must advise the Coast Guard of your intentions so that a rendez-vous point can be selected.

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Once the decision has been made to evacuate your patient, you should make the following preparations:

- 1 Provide continuous radio guard on 156.8 MHz (Channel 16 VHF-FM), 2182 kHz, Channel 70 VHF DSC or other specified voice frequency.
- 2 Select and clear the most suitable hoist area, preferably aft on the vessel, with a maximum radius of clear deck. (Ideally 16 metres or 50 feet radius). Secure loose gear, the headgear worn by the crew at the hoist area, awnings and antenna wires and trice up running rigging and booms. If hoist is aft, lower the flag staff. The foredeck should be prepared only when the stern and amidships area cannot possibly be used. Be sure to advise the helicopter before it arrives, so that the pilot can make his approach to aft, amidships, or forward, as required. If the bow area is used for the hoist, then the speed should be brought close to 5 knots and alter the course to place the wind 015°-030° off the starboard quarter, (i.e., wind from North, the vessel heading would be between 195° to 210°). If the stern area is used for the hoist, then the speed should be 5-10 knots and alter the course to place the wind + 015° to 030° on port bow, (i.e., wind from North, the vessel heading would be 015°-030°)."
- 3 Point search lights vertically to aid the helicopter crew in locating the ship. Turn them off when the helicopter is on scene.
- 4 If the hoist is to take place at night, light the pickup area as well as possible. *Be sure that you do not shine any lights on the helicopter because they will blind the pilot.* Put lights on any obstructions in the vicinity, so the pilot will be aware of the position. A fixed wing aircraft may also illuminate the area with parachute flares during the hoisting operation.
- 5 Remember that there will be a high noise level under the helicopter and that voice communications on deck will be virtually impossible. Arrange a set of hand signals to be used among the crew members who will assist.
- 6 Leave the patient in a warm dry area. A SAR Tech that will be lowered to the vessel will evaluate the patient's condition and organize the hoisting of the patient to the helicopter.
- 7 Make sure the patient's documentation is available - passport, visa, hospital insurance card, etc. as well as his medical record - should be in an envelope or package, ready for transfer with him.
- 8 Have a life jacket available for the patient but do not put the life jacket on the patient until the SAR Tech has examined him.

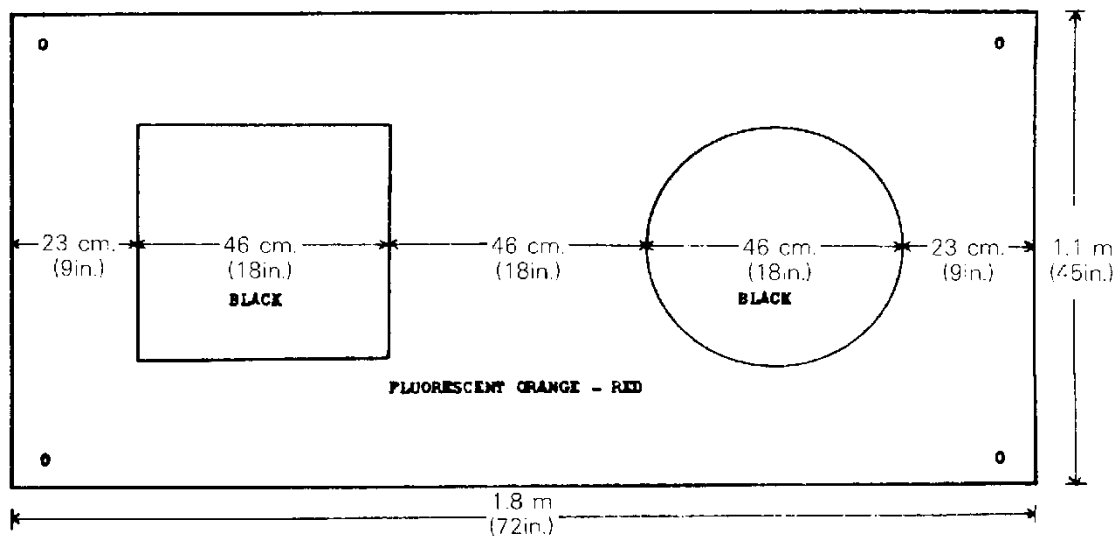
Hoist operations

- 1 Change course to permit the ship to ride as easily as possible, with the wind preferably as referred in paragraph 2 of *Preparations*. Try to choose a course to keep the stack gases clear of the hoist area.
- 2 Reduce speed to ease ship's motion but maintain steerage-way.
- 3 When you are ready for the hoist, signal the helicopter. If you do not have radio contact, signal "come on" with your hand or, at night, use flashlight signals.
- 4 Allow the SAR Tech to touch the deck before assisting him, to avoid static electrical shock. **DO NOT CONNECT ANY LINE LOWERED FROM THE HELICOPTER TO YOUR VESSEL;** merely tend it by keeping a moderate tension on it by hand.
- 5 The SAR Tech will coordinate all subsequent actions with the helicopter. The helicopter will provide all necessary equipment.
- 6 Once the SAR Tech is on board, the helicopter will retract the hoist hook clear. When the litter and patient have been returned to the hoist area, the hoist hook will be lowered for attachment by the SAR Tech.

NEVER ATTACH THE HOOK TO YOUR VESSEL

By following these procedures you can help ensure that a helicopter evacuation, if one is necessary, will be performed safely and as quickly as possible.

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Paint must be fluorescent otherwise reflective properties seriously reduced.

Authority: Canadian Coast Guard (Search and Rescue)

29 Communications from Aircraft: Distress, Urgency and Safety Signals

The following is an extract from *Air Navigation Order*, Series V, No. 6, and other documents:

- 1 None of the provisions in this order shall prevent the use, by an aircraft in distress, of any means at its disposal to attract attention, make known its position and obtain help.

Distress Signals

- 2 The following signals, used either together or separately, mean that grave and imminent danger threatens, and immediate assistance is requested:
 - (a) a signal made by radio/telegraphy or by any other signalling method consisting of the group . . . - - - . . . in Morse Code
 - (b) a signal sent by radio/telephony consisting of the spoken word *Mayday*,
 - (c) rockets or shells throwing red lights, fired one at a time at short intervals,
 - (d) a parachute flare showing a red light,
 - (e) the two-flag signal corresponding to the letters NC of the International Code of Signals,
 - (f) a signal consisting of a square flag having above it or below it a ball or anything resembling a ball,
 - (g) a gun or other explosive signal fired at intervals of about a minute,
 - (h) a smoke signal giving off a volume of orange-coloured smoke.
- 3 The following procedures performed in sequence by an aircraft shall mean that the aircraft is directing a vessel towards an aircraft, ship or person in distress:
 - (a) circling the vessel at least once;
 - (b) crossing the projected course of the vessel close ahead at a low altitude while rocking the wings (opening and closing the throttle or changing the propeller pitch may be used instead but is less effective);
 - (c) heading in the direction in which the vessel is to be directed; and
 - (d) if the vessel does not respond, a, b, and c shall be repeated with the same meaning.
- 4 The following procedure performed by an aircraft shall mean that the assistance of the vessel to which the signal is directed is no longer required: crossing the wake of the surface craft close astern at low altitude while rocking the wings (opening or closing the throttle or changing the propeller pitch may be used instead but is less effective).

Urgency Signals

- 5 (1) The following signals, used either together or separately, mean that an aircraft wishes to give notice of difficulties which compel it to land without requiring immediate assistance:
- (a) the repeated switching on and off of the landing lights,
 - (b) the repeated switching on and off of the navigation lights,
 - (c) a succession of white pyrotechnical lights.
- (2) The following signals, used either together or separately, mean that an aircraft has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, or some person on board or within sight:
- (a) in radio/telegraphy, three repetitions of the group XXX, sent with the letters of each group, and the successive groups clearly separated from each other;
 - (b) in radio/telephony, three repetitions of the expression PAN PAN;
 - (c) a succession of green pyrotechnical lights;
 - (d) a succession of green flashes with signal apparatus.

Safety Signals

- 6 The following signals, used either together or separately, mean that an aircraft is about to transmit a message concerning the safety of navigation or giving important meteorological warnings:
- (a) in radio/telegraphy, three repetitions of the group TTT, sent with the letters of each group and the successive groups clearly separated from each other;
 - (b) in radio/telephony, the word SECURITE pronounced as the French word *SÉCURITÉ*, repeated three times, (to which correspond in English pronunciation the syllables SAYCURE-E-TAY).

Note: Annex IV 1(l) and (m) of Schedule I of the ***Collision Regulations*** provides for a radio signal for use by aircraft in distress for the purpose of actuating the auto-alarms of vessels and thus securing attention to distress calls or messages. The radiotelegraphy alarm signal consists of a series of 12 dashes, sent in 1 minute, the duration of each dash being 4 seconds, and the duration of the interval between 2 consecutive dashes, 1 second. The radiotelephone alarm signal consists of 2 sinusoidal tones (2200 and 1300 Hz) transmitted alternately, with each tone lasting 250 milliseconds, and sent for a period of at least 30 seconds but not exceeding 1 minute. To differentiate between coast stations and ship transmissions, the coast station alarm signal shall end in a continuous tone of 1300 Hz, lasting 10 seconds.

Authority:

Article 36 of the International Telegraphic Union Radio Regulations (Nos. 1463, 1464, 1465).

Authority: Canadian Coast Guard

29A Early Notification of Search and Rescue Authorities of Developing Situations

In the interest of ensuring the highest level of safety, mariners should immediately notify the Canadian Coast Guard, through any Marine Communications and Traffic Services Centre, of any situation which is or may be developing into a more serious situation requiring assistance from the Search and Rescue (SAR) System. The need for the earliest possible alerting of SAR Authorities to potential maritime emergencies cannot be over-emphasized.

This advice is given in accordance with IMO Circular MSC/Circ.892 and similar advice found in the ICAO/IMO International Aeronautical and Maritime SAR (IAMSAR) Manual Volume III. Further, there have been similar recommendations arising from serious SAR cases in the Canadian SAR Region where masters have failed to provide this notice until after the situation deteriorated.

This notification allows SAR authorities to carry out preliminary and contingency planning that could make a critical difference if the situation worsens. Time lost in the initial stages of a SAR mission may be crucial to its eventual outcome.

It is always best to consider the “worst-case scenario” and to alert SAR authorities accordingly. This notification places no obligations upon the master except to advise the Canadian Coast Guard when the situation has been corrected.

Authority: Canadian Coast Guard

30 Emergency Position Indicating Radiobeacons (EPIRBs) on Ships

1 Regulations

- 1.1 *Regulations concerning the carriage of emergency position indicating radiobeacons (EPIRBs) have been in effect since October 25, 1989. The carriage requirements for the Class I (float-free) and Class II (Survival craft) EPIRB are contained in the Ship Station (Radio) Regulations. In addition to the carriage requirements, there are technical requirements that every EPIRB must meet and important testing and inspection requirements. EPIRBs may be either the 406 MHz COSPAS-SARSAT. These requirements are provided by the Ship Station (Radio) Technical Regulations.*

2 Application

- 2.1 A ship that is not a tug shall be equipped with an EPIRB
- (a) in the case of a ship that is 20 m or more in length and engaged on a voyage other than a home-trade voyage, Class IV, or a minor waters voyage;
 - (b) in the case of a ship that has a gross tonnage of 15 tons or more, is less than 20 m in length and is engaged on a home-trade voyage, Class I, a home-trade voyage, Class II, or a foreign voyage; and
 - (c) in the case of a ship that has a gross tonnage of less than 15 tons, is 8 m or more in length and is engaged on a home-trade voyage, Class I, a home-trade voyage, Class II, or a foreign voyage.
- 2.2 A tug that has a gross tonnage of more than five tons shall be equipped with an EPIRB if the tug is engaged on a voyage other than
- (a) a home-trade voyage, Class IV;
 - (b) a minor waters voyage; or
 - (c) in the case of a tug that is less than 20 m in length, a voyage of not more than 50 miles during which the tug remains within either
 - (i) two miles of shore, or
 - (ii) 20 miles of the nearest place of refuge.
- 2.3 An EPIRB required by these Regulations shall be located on board a ship in a manner and in a place that would allow it
- (a) in the case of a ship that has a gross tonnage of 15 tons or more or a tug, to float free should the ship sink;
 - (b) to be readily accessible near the position from which the ship is normally navigated, unless it can be activated by remote control from that position; and
 - (c) to be manually released and carried into a survival craft.

3 Voluntary Carriage

- 3.1 The Canadian Coast Guard encourages the voluntary carriage of approved Class I EPIRB on all vessels that are not required to carry this equipment.

4 Type Approvals

- 4.1 406 MHz COSPAS-SARSAT EPIRBs carried on board Canadian vessels must be type approved. To receive Canadian type approval, 406 MHz COSPAS-SARSAT EPIRBs must comply with the performance standards of the Department of Transport, COSPAS-SARSAT and the radio standards specifications of Industry Canada.

Your EPIRB and SAR services

The International Cospas-Sarsat System will cease satellite processing of 121.5/243 MHz beacons from February 1st, 2009. All beacon owners and users should begin taking steps to replace their 121.5/243 MHz beacons with 406 MHz beacons as soon as possible. A good time to consider purchasing a 406 MHz beacon is when the battery on your 121.5 MHz beacon needs replacing. Typically, batteries need replacing about every five years. The sooner you upgrade, the better the service the Cospas-Sarsat System can provide should your beacon be activated in a distress event.

Beginning in 2009, only 406 MHz beacons will be detected by the Cospas-Sarsat satellite system. This affects all maritime beacons (EPIRBs), all aviation beacons (ELTs) and all personal beacons (PLBs).

You sell or give up your 406 Mhz beacon? Do not forget to amend the Canadian Beacon Registry (CBR), your identity is related to the beacon. Contact CBR at:

Canadian Beacon Registry
CFB Trenton, PO Box 1000 Stn Forces
Astra, ON, K0K 3W0
Telephone: 1-877-406-SOS1 (7671)
Fax: 1-877-406-FAX8 (3298)
Website: https://www.cbr-rcb.ca/cbr/presentation/other_autre/contact_contacter.php?lang=en
E-mail: CBR@sarnet.dnd.ca

Mariners should check with INMARSAT for exchange of any currently held INMARSAT 'E' EPIRBs. Further, mariners should only purchase and fit COSPAS-SARSAT 406 MHz EPIRBs in preparation for the discontinuation of the INMARSAT 'E' EPIRB service.

5 Emergency Beacon Registries

- 5.1 Every 406 MHz COSPAS-SARSAT and EPIRB is required to have a registration card included with the EPIRB, as part of the type approval process. Furthermore, the *Ship Station (Radio) Technical Regulations* require vessel owners to register each beacon.
- 5.2 These registries contain information about the beacon, the vessel it is on and the person who owns the beacon. This information is used for search and rescue purposes and will greatly assist in the speedy resolution of any beacon alarm incident. The responsibility of ensuring the accuracy of registry data rests with the beacon owner. Since lives may depend on this information, it is in the owner's best interests to ensure the initial and continuing accuracy of registered information.
- 5.3 406 MHz COSPAS-SARSAT EPIRBs must be registered with the Canadian Beacon Registry.

6 Safe Transportation

- 6.1 The power source for 406 MHz COSPAS-SARSAT EPIRBs is a long-life lithium battery. There are federal and provincial regulations governing the transportation of equipment containing these batteries, by land, sea or air.
- 6.2 Users should consult an EPIRB agent, a transportation company or the appropriate government transportation authority for guidance prior to the shipment of an EPIRB for any purpose other than normal use.

7 Warning

- 7.1 Investigations by the Canadian Coast Guard have determined that the Class 1 float-free, 406 MHz COSPAS-SARSAT EPIRB on board some vessels have not been properly installed or armed in accordance with the manufacturer's instructions. Such equipment would therefore not function automatically in an emergency situation. It is imperative that mariners ensure that this float-free EPIRB is properly installed on board their vessel and set for automatic operation.

8 Maintenance

- 8.1 Users should ensure that EPIRBs are tested every six months in accordance with the *Ship Station (Radio) Technical Regulations*.
- 8.2 Users should read all instructions carefully and refer to the user manual for the manufacturer's recommendations on periodic maintenance.

9 False Alarms

- 9.1 In order to minimize the impact on SAR resources, in the event of accidental activation of an EPIRB, SAR authorities request that users:
 - .1 deactivate the beacon by turning the switch from ON to ARMED (or SAFE) position in certain models; and,
 - .2 call the Canadian Mission Control Centre at 1-800-211-8107 or (613) 965-7265 or the nearest JRCC/MRSC office to report the situation.

Authority: Canadian Coast Guard (Search and Rescue, Ottawa)

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E MARINE OCCURRENCES AND POLLUTION

31 Reporting Marine Occurrences

The *Transportation Safety Board (TSB) Regulations*, made pursuant to the *Canadian Transportation Accident Investigation and Safety Board Act*, require that the person responsible for the ship (e.g. owner, operator, charterer, master, pilot, crew member) in Canadian waters, or a Canadian ship in any waters, report an occurrence (accident or incident) as soon as possible and by the quickest means available.

The information is to be reported to the TSB and this can be accomplished by reporting it via a marine radio station, a Marine Communications and Traffic Services (MCTS) Centre, a vessel traffic services station, a marine radio station operated by the St. Lawrence Seaway Management Corporation, a Canadian harbour radio station, or by calling the following appropriate TSB Regional Standby number directly at:

Atlantic Region: 902-471-0820
Central Region: 418-580-3510
Pacific Region: 604-219-2414

Persons responsible for ships are reminded that penalties may be incurred by failing to report a marine occurrence. The occurrence shall also be reported in writing, within 30 days following the occurrence, by completing the appropriate form. **Please note that workplace injuries on board vessels must also be reported directly to Transport Canada.**

The reporting form "REPORT OF A MARINE OCCURRENCE / HAZARDOUS OCCURRENCE REPORT" (form TSB 1808 (09-2014)) is bilingual, back-to-back. Mariners required to report occurrences are advised that TSB forms can be downloaded either from the TSB web site at <http://www.tsb.gc.ca/eng/incidents-occurrence/marine/index.asp> or by requesting a copy at any TSB office.

The original TSB form is to be forwarded by mail, fax or email to the following appropriate TSB Regional office address:

Atlantic Region

Address: 150 Thorne Avenue
Dartmouth, NS, B3B 1Z2
Phone: 902-426-2348
Facsimile: 902-426-5143
E-mail: MarineNotifications.Atlantic@tbs-bst.gc.ca

Central Region

Address: Place de la Cité / Tour Belle Cour
2590, boul. Laurier, bureau 700
Québec, QC, G1V 4M6
Phone: 418-648-3576
Facsimile: 418-648-3656
E-mail: MarineNotifications.Central@tsb-bst.gc.ca

Pacific Region

Address: # 4-3071 Number Five Road
Richmond, BC, V6X 2T4
Phone: 604-666-5826
Facsimile: 604-666-7230
E-mail: MarineNotifications.Pacific@tsb-bst.gc.ca

Should further information be required, please contact any of the offices listed on the reporting form.

Authority: Transportation Safety Board of Canada - Marine
(TSB - Marine)

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SECTION E – MARINE OCCURRENCES AND POLLUTION

32 Pollution – Compliance with Canadian Regulations

The attention of shipmasters is drawn to the –

Vessel Pollution and Dangerous Chemicals Regulations,

Ballast Water Control and Management Regulations,

Arctic Shipping Pollution Prevention Regulations,

Response Organizations and Oil Handling Facilities Regulations,

Environmental Response Arrangements Regulations

Canada is responsible for the *Vessel Pollution and Dangerous Chemicals Regulations* and Masters of vessels should note that these regulations contain specific provisions for oil, noxious liquid substances and dangerous chemicals, pollutant substances, sewage, garbage, air, and anti-fouling systems. The regulations incorporate the provisions of MARPOL and the Anti-fouling Systems Convention. Canada has acceded to both these conventions, including all Annexes of MARPOL. However, stricter discharge provisions apply in internal and inland waters. Canada is committed to protecting its marine wildlife and ocean environment and will not tolerate the illegal discharge of oil, oily substances or other toxic substances in Canadian waters.

The North American Emission Control Area is in force and applies south of 60°N in waters under Canadian jurisdiction, including the 200-mile Exclusive Economic Zone. This measure also applies in waters of French territories of St Pierre and Miquelon and the United States. As of January 1, 2015, all vessels in North American Emission Control Area must use fuel with a sulphur content of no more than 0.10%.

All crew members must be made aware of the consequences of illegally releasing oil or other toxic substances into Canadian waters, including the devastating effects on marine wildlife, the possibility of stiff fines and imprisonment, and the publication of the names of vessels and individual crew members that have been successfully prosecuted.

Vessels entering Canadian waters, including the 200-mile Exclusive Economic Zone, are closely monitored by aerial surveillance, patrol vessels, satellite imaging and port state control inspections.

Vessels suspected of illegally releasing oil, or other toxic substances into the marine environment, can be detained for investigation and can be prosecuted under Canadian laws. Owners, operators or individual crew members who are found guilty under Canadian laws can be fined up to \$1 million.

Any discharge, or the danger of a discharge, of any pollutant must be reported by the quickest means available and in the manner prescribed in the *Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants* (TP 9834) or *International Maritime Organization Resolution A.851(20)* as amended. If a vessel has been unable to obtain compliant fuel for North American Emission Control Area, it must report to in accordance with procedures set out the Ship Safety Bulletin 04/2013, [Reporting when compliant fuel is unavailable](#).

Masters of oil tankers should note that applicable tankers must carry either a Canadian Oil Pollution Prevention Certificate or an International Oil Pollution Prevention Certificate as prescribed by the Regulations and a Certificate of Insurance or Other Financial Responsibility issued in accordance with the provisions of the *International Convention of Civil Liability for Oil Pollution Damage, 1992*.

Master of laden oil and chemical tanker, operating in ice control zones of Eastern Canada, should refer to the Transport Canada publication *Joint Industry - Government Guidelines for the Control of Oil Tankers and Bulk Chemical Carriers in Ice Control Zones of Eastern Canada* (TP 15163) for guidance in the operation of their vessels while in ice control zones. A copy of the guidelines should be carried on board all applicable vessels.

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Masters of vessels entering Canada's exclusive economic zone from seaward are advised to consult the [Ballast Water Control and Management Regulations](#) (the Regulations) and [A Guide to Canada's Ballast Water Control and Management Regulations](#) (TP 13617) to ensure compliance. With the exception of vessels specifically exempted from the provision of the Regulations, all vessels are expected to exchange or treat their ballast prior to ballast discharge in waters under Canadian jurisdiction. This requirement also extends to vessels carrying only residual quantities of ballast water, if local water is to be added to the tanks and discharged before leaving waters under Canadian jurisdiction. The Master of a vessel, whether or not they are carrying ballast onboard, must ensure the vessel complies with the regulations and submits a completed ballast water reporting form as outlined in TP 13617. In cases where Transport Canada determines that a vessel did not comply with the Regulations, the vessel may be subject to inspection and detention in accordance with subsection 222(1) of the *Canada Shipping Act, 2001*.

Transport Canada is the lead agency responsible for Canada's Marine Oil Spill Preparedness and Response Regime. The regime was established in 1995 to enable industry to respond to its own oil spills of up to 10,000 tonnes within the prescribed time standards and operating environments, for Canadian waters south of 60 degrees north latitude. The regime is built upon a partnership between government and industry. It sets rigorous standards for response organizations and oil handling facilities, and establishes the requirements for national preparedness capacity. Please refer to the end of this Notice for Transport Canada contact information.

The Canadian Coast Guard is the lead federal agency responsible for ensuring an appropriate response to all ship-source spills and will place the onus of response on the polluter. The Canadian Coast Guard monitors the overall response to ensure that it is effective, timely, and appropriate to the incident. As the Canadian Coast Guard will be notified of all ship-source spill occurrences, polluters are encouraged to discuss their intentions with the appropriate Canadian Coast Guard representative. Please refer to the end of this Notice for regional Canadian Coast Guard contact information.

Pursuant to Part 8 of the *Canada Shipping Act, 2001*, all oil tankers of 150 or more tonnes gross tonnage, all other vessels of 400 or more tonnes gross tonnage that carry oil as fuel or as cargo and groups of vessels that are towed or pushed, are of 150 gross tonnage or more and carry oil as cargo in Canadian waters south of the 60th parallel of latitude are required to enter into an arrangement with a Transport Canada certified response organization.

This does not apply to a non-Canadian vessel that is only transiting the territorial sea of Canada or the exclusive economic zone of Canada, and is not engaged in the loading or unloading of oil during transit.

The following is a list of Transport Canada certified response organizations and their Geographic Areas of Responsibility:

Western Canada Marine Response Corporation's (WCMRC) geographic area of response covers the waters bordering the Province of British Columbia (including the shorelines associated with such waters) and extending throughout the Exclusive Economic Zone (200 nautical miles offshore) and including, but not limited to, the inland waters of the Province.

Eastern Canada Response Corporation (ECRC)'s geographic area of response covers all the Canadian waters south of 60°N latitude in the provinces of Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and Alberta, excluding the waters in the primary areas of response associated with the designated ports of Saint John, N.B. and Point Tupper, N.S.

Point Tupper Marine Services Ltd. (PTMS)'s geographic area of response comprises all the waters between an arc having a 50 nautical mile radius about Bear Head light, 45°33' North, 61°17' West, but not extending north of the Canso Causeway into St. George's Bay and the contiguous land mass and, for greater certainty, not to include the waters of the Bras d'Or Lakes, St. Andrews Channel, St. Patrick's Channel, Great Bras d'Or and other waters internal to Cape Breton Island.

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SECTION E – MARINE OCCURRENCES AND POLLUTION

Atlantic Emergency Response Team (ALERT) Inc.'s geographic area of response covers all the Canadian waters between the western boundary consisting of an arc having a 50 nautical mile radius about the point 45°08'03"N, 66°17'12"W, and the eastern boundary consisting of an arc having a 50 nautical mile radius about a point, centered on Cape Spencer Light. Please refer to the end of this Notice for Response Organizations contact information.

CANADIAN COAST GUARD (Superintendent, Environmental Response) <u>Western Region</u> 604-270-3273 <u>Central and Arctic Region</u> 519-383-1954 418-648-4557 <u>Atlantic Region</u> 902-426-3699	RESPONSE ORGANIZATIONS Western Canada Marine Response Corporation (WCMRC) 604-294-6001 604-294-9116 (24 hours) <hr/> Eastern Canada Response Corporation Ltd. (ECRC) 613-230-7369 <u>Quebec Region</u> 418-692-8989 <u>Atlantic Region</u> 902-461-9170 <hr/> Atlantic Emergency Response Team (ALERT) Inc. 506-202-4499 Point Tupper Marine Services Ltd. (PTMS) 902-625-1711
TRANSPORT CANADA Marine Safety and Security, Navigation Safety, and Environmental Programs 330 Sparks Street, 10 th floor, K1A 0N5 613-991-3135	

Authority: Canadian Coast Guard
Transport Canada

F NATIONAL DEFENCE – MILITARY NOTICES

33 Caution when Approaching Canadian Ports

PART 1

Closing of ports; Stopping of movement in ports

- 1 Mariners are informed that, if it is necessary for the Department of National Defence to take control of certain Canadian Ports the following signals will be displayed from a conspicuous position at or near the ports concerned or by an Examination or Traffic Control Vessel.
- 2 The signals and their meanings are:
 - (a) *Entrance to the port prohibited.*
 - (i) By day - Three red balls disposed vertically
 - (ii) By night - Three flashing red lights disposed vertically and visible all round the horizon.
 - (b) *Entrance to the port permitted.*

By night - Three green lights disposed vertically and visible all round the horizon.
 - (c) *Movement of shipping within the port or anchorage prohibited.*
 - (i) By day - A blue flag.
 - (ii) By night - Red light, green light, red light disposed vertically and visible all round the horizon.

The lights described above will be carried in addition to the ordinary navigation lights of Examination Vessels.

- 3 Masters of vessels are warned that should they approach the entrance to a port which is being controlled by the Department of National Defence they should not enter a declared *Dangerous Area* or approach boom defences without permission, nor should they anchor or stop in a dangerous area or prohibited anchorage unless instructed to do so. Masters are advised therefore to communicate with any Government or Port Authority vessel found patrolling in the area to ascertain the recommended approach route to the port.

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PART 2

Examination service

- 4 In certain circumstances it may be necessary to take special measures to examine, or to establish the identity of, individual vessels desiring to enter ports and to control their entry. This is the function of the Examination Service, whose officers will be afloat in Examination Vessels or Traffic Control Vessels. These Vessels will wear the distinguishing flags of the Examination Service which are:

- (a) The examination service special flag and



- (b) The Canadian National Flag.

- 5 If ordered to anchor in an Examination Anchorage, Masters are warned that it is forbidden, except for the purpose of avoiding accident, to do any of the following without prior permission being obtained from the Examining Officer.

- (a) To lower a boat.
- (b) To communicate with the shore or with any other ship.
- (c) To move the ship.
- (d) To work cables.
- (e) To allow any person or thing to leave the ship.

- 6 Any passenger or member of the crew who has embarked outside of Canada must be examined by a Canadian Immigration Officer before effecting admission to Canada.

PART 3

Other regulations in force

- 7 Nothing in this precautionary Notice is to be taken as overruling any regulations issued by local authorities at particular ports or by routing authorities of the Department of National Defence.

Authority: Department of National Defence (NDHQ)

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34 Information Concerning Submarines

1. Introduction

The Canadian Forces, Maritime Command, operates four VICTORIA Class submarines. Mariners are warned that they may encounter these submarines anywhere off the Canadian coast particularly in the vicinity of the Halifax and Victoria approaches, the Juan de Fuca Strait and in naval operating areas south of Halifax. United States Navy submarines are also frequently encountered off the east and west coasts of Canada. Submarines may be surfaced or submerged, operating independently, or with surface ships and/or aircraft.

2. Submarine Presence Indicators

(a) Visual Signals Exhibited by Surface Ships Operating with Submarines

When a surface ship is operating with a submarine the surface ship will fly the International Code Group "NE Pennant 2" meaning *Submarines are exercising in this vicinity, you should proceed with great caution*. Vessels should steer so as to give a wide berth to any ship flying this signal. If from any cause it is necessary to approach her, vessels should proceed at slow speed until warning is given of the danger zone by VHF bridge-to-bridge radio, flags or signal lamp. At all times a good lookout should be kept for submarines whose presence may only be indicated by a periscope or snorkel showing above the water.

(b) Pyrotechnic Signals Released by Submarines

A submarine, when operating at depth, either independently or with a surface ship or aircraft, may indicate its position by releasing a *smoke candle* or a *flare*. (See para. 7)

(c) Navigation Warnings

Under certain circumstances warnings that submarines are exercising in specified areas may be issued as *CANHYDROLANT* and *CANHYDROPAC* messages on standard navigational warning broadcasts.

3. Navigation Lights

(a) On many occasions, the overall arrangement of submarine lights and their small silhouettes, both while underway and at anchor, have led to submarines being mistaken for much smaller vessels. For instance, submarines at anchor by night have been confused with two separate vessels of less than 50 m (164 ft.) in length. The masthead and sidelights of submarines are placed well forward and very low over the water in proportion to the length and tonnage of these vessels. In particular, the masthead steaming light may be well forward of the midpoint of the submarine's length. The stern light is placed very low and may at times be partially obscured by spray and wash but is invariably lower than the sidelights. Some submarines may be encountered which do not carry a forward steaming light and on which the stern light may be situated on the after end of the fin. In addition, if a submarine is sighted on, or shortly after, surfacing (or shortly before diving), it may not be displaying sidelights as these are stowed whilst a submarine is submerged. Victoria Class submarine navigation lights are normally positioned as follows:

- I. Masthead Steaming Light - above the fin about 9.27 m above the surface.
- II. Stern Light - at the back of the fin about 6.84 m above the surface.
- III. Side Lights - are below and forward of the masthead light about 3.0 m apart and 7.63 m above the surface.
- IV. Forward Anchor Light - in the bows about 5.5 m above the surface; and
- V. After Anchor Light - at the stern about 3.3 m above the surface.

(b) In addition to displaying the prescribed navigation lights for such vessels, some submarines may show a yellow coloured light, producing 90 flashes per minute, visible all round the horizon for a distance of at least three nautical miles. The light is located over the fin about 10.16 m above the surface.

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- (c) Submerged submarines at periscope depth may show an all round or quick flashing red or yellow light to indicate their presence to exercising aircraft.

Note: In restricted waters submarines should be passed with caution observing their limited manoeuvrability on the surface, deep draught and their vulnerability to collision.

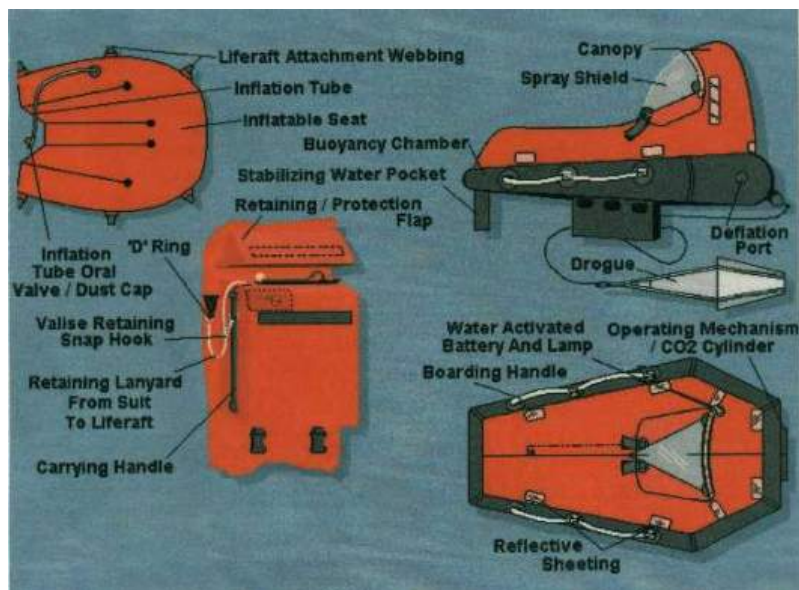
4. Indications of a Submerged Submarine in Distress

A disabled submarine, which is unable to surface, will try to indicate its position by the following methods:

- (a) Releasing distress buoys described in para 6 of this notice as soon as the accident occurs;
- (b) Firing red pyrotechnic signals described in para 7 of this notice. While the submarine may fire these signals at any time, the signals are most likely to be released on the approach of surface vessels and in response to sound signals in para (5) (e). These are special message carrying smoke candles, which also release dye. Every effort should be made to obtain this message, which will be in a tubular container attached to the top of the smoke candle;
- (c) Pumping out fuel or lubricating oil;
- (d) Releasing air bubbles;
- (e) Personnel or debris floating on the surface. The personnel may be unconscious or incoherent due to decompression sickness (DCS) problems and unable to explain their position. They may or may not be wearing a Submarine Escape Suit or a Submarine Surface Abandonment Suit.



Mk10 Submarine Escape Suit with MK 18 One Man Life Raft



Mk 18 One Man Life Raft which comes with Submarine Escape Suit

5. Submarine Surface Abandonment

- a. There are a myriad of reasons that may force a crew of a submarine to abandon their vessel. In most cases, these will include damage sustained as a result from a fire, flood, atmosphere contamination, or reactor emergency. Circumstances leading to the crew abandoning a submarine will develop rapidly and very likely result in a swift evacuation with little preparation time.
- b. Surface abandonment from a submarine is accomplished by evacuating the submarine using the main deck hatches or sail/ fin hatches. This is an extremely difficult evolution, particularly in higher sea states and unlike surface ships; submarines offer no freeboard protection and are usually not fitted with large life rafts and/ or ready-use provisions to support and sustain the crew.
- c. Once the crew has successfully abandoned the submarine, survivors face numerous challenges and adverse conditions while waiting for rescue forces. Survivors from an abandoned submarine are unlikely to have experienced DCS however; there may be casualties or major injuries from smoke inhalation, radiation, or hypothermia.
- d. Survivors are likely to be in an Escape Suit or in some instances, a Submarine Surface Abandonment Suit and may be tethered together or in portable or fixed life rafts.

Submarine Surface Abandonment Suit

The Submarine Surface Abandonment Suit (SSAS) is a high performance one – piece, one – size fits – all immersion suit designed to provide an exceptional level of thermal protection and floatation to personnel immersed in colder waters for a period of up to 12 hours.



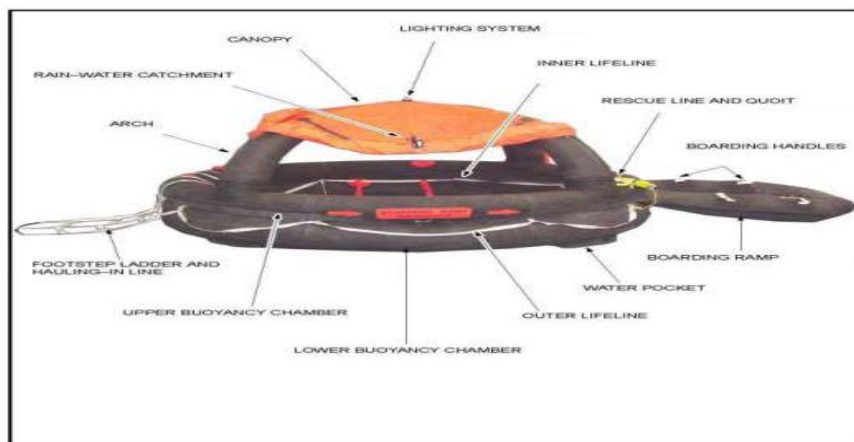
Submarine Surface Abandonment Suit

Portable Six-Person Submarine Inflatable Life Raft

Victoria Class submarines carry ten portable six-person submarine inflatable life rafts. These life rafts are designed for use in the event personnel are forced to abandon ship and are to be deployed in conjunction with the SSAS.

The portable six-person submarine inflatable life raft is manufactured of two-ply, polyisoprene-coated nylon fabric. The design construction comprises twin superimposed circular buoyancy chambers; each chamber is capable of supporting the fully laden life raft in adverse weather conditions; an inflatable boarding ramp; additional boarding facility in the form of a footstep ladder and hauling-in-line arrangement; an inflatable floor; and an automatically erected canopy supported by an inflatable arch structure. Water stabilizing ballast pockets, a righting strap and a sea anchor are also standard features of the life raft. The canopy sides are adjustable to allow total or partial closure; a means of rain-water catchment is also provided on the canopy. Interior and exterior illumination is provided by water-activated lighting system assemblies.

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6. Submarine Disaster Actions

- (a) In any submarine accident, time is the most vital factor affecting the chances of rescue of survivors. At the first indication that a submarine accident has occurred - by sighting the indications noted in para 4 of this notice or actually being in collision with a submarine - *an immediate report should be made by the quickest available means to the Headquarters of Maritime Forces Atlantic in Halifax NS, Phone (902) 427-2501 or the Headquarters of Maritime Forces Pacific in Esquimalt BC (250) 363-2425 as appropriate, or to the nearest Marine Communications and Traffic Services Centre.*
- (b) The aim of a submarine rescue operation is to save lives and will have to achieve the following:
- (i) Fixing the exact position of the submarine;
 - (ii) To get a ship standing by to pick up survivors, if practicable with boats already lowered;
 - (iii) To inform the trapped personnel that help is at hand;
 - (iv) To get medical assistance to recovered survivors;
 - (v) To get a recompression chamber to the scene; and
 - (vi) To get divers, rescue equipment, etc. on the scene to assist the submarine personnel.
- (c) There are Maritime Forces Atlantic and Pacific organizations designed to respond to a submarine search and rescue event, which are kept at an immediate readiness for action. It is clear, however, that any ship may at any time find evidence of a submarine disaster, and if it takes prompt and correct action as described above may be in a position to play a vital role. There should be no reluctance to make a report of a suspected submarine accident because the observer has been unable to establish beyond any reasonable doubt that a submarine accident has occurred. The Canadian Maritime Forces Atlantic and Pacific are prepared to react appropriately.
- (d) At any time after a submarine accident survivors may start attempting to escape. Conditions inside are likely to deteriorate rapidly and postponement of escape will only be made in order to allow rescue ships time to reach the scene. Any ship finding a submarine indicator buoy should not therefore, leave the position but should remain in the area, well clear, ready to pick up survivors. The survivors will ascend nearly vertical and it is important that plenty of sea room is given to enable them to do so in safety. On arrival at the surface, personnel may be exhausted or ill, and if circumstances are favourable, the presence of a boat already lowered is very desirable. Some personnel may require recompression and it will be the aim of the Commander of either Maritime Forces Atlantic or Pacific as appropriate to get personnel to a recompression chamber without delay.
- (e) In order that those trapped in the submarine are aware that help is at hand, Canadian Maritime Forces will drop up to 12 small explosive charges (individually at five second intervals) into the sea. There is no objection to the use of small charges for this purpose but it is vital that they are not dropped too close since men in the process of making ascents are particularly vulnerable to underwater explosions and may easily receive fatal injuries. A distance of a quarter of a nautical

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mile is considered to be safe. If no small charges are available, the running of an echo sounder or rapping on the ship's hull with a hammer from a position below the waterline is likely to be heard in the submarine. These signalling methods will reassure trapped survivors and therefore should be done at regular intervals.

7. Canadian Submarine Distress Buoys

- (a) Canadian Victoria Class submarines are fitted with two indicator buoys, which are tethered to the submarine by a mooring line. These buoys are marked either FORWARD or AFT to indicate the end of the submarine from which they were released and are marked with the submarine's identification number. They can be released from inside the vessel in case of emergency or if for any reason the submarine is not able to surface. These buoys do not contain a telephone and there is, therefore, no requirement to approach it. Great care should be taken to avoid damage to the buoy and its mooring line and it should only be touched if it shows signs of sinking. In this case, a boat should endeavour to support the buoy while putting minimum possible strain on the nylon line. Attaching a life raft to the buoy may be the best means of achieving adequate support. There is a great danger of parting the mooring line and losing the location of the distressed submarine
- (b) Victoria Class submarine indicator buoys are Type 639 model 060 buoys. These buoys, with Scotch-lite orange and silver reflective tape wrapped alternately around the upper half of the body have a white light which flashes every two seconds. The buoy has a visual three-digit identifier in accordance with ATP 57 – NATO Submarine Search and Rescue Manual. There is a mooring bolt on the bottom from which is suspended 1000 m of 1.3 cm (circumference) nylon mooring line. The buoys float with a freeboard of about 15.2 cm. The buoy has an extending vertical whip antenna, which extends to a height of 1.77 meters above the buoy. A white light which flashes approximately twice every second for at least 40 hours is mounted in the centre of the top surface. In darkness, and during good weather, the visibility of the light without binoculars is 3.2 kilometres. For identification purposes, the following inscription is carried on each buoy around the top surface.

IN ENGLISH - S.O.S. *identification number*). *Finder inform Navy, Coastguard or Police. Do not secure to or touch*

IN FRENCH - S.O.S. *numéro d'identification*)*Prévenir immédiatement autorités maritimes. Défense de toucher.*

Each of the four Canadian submarines has two buoys. One is located forward of the fin and the other aft. Each is labelled with a different three digit identification number.

The buoys are fitted with an automatic transmitting radio unit operating on 243.0 MHz, and the Global Maritime Distress and Safety System (GMDSS) frequency 406.025 MHz. The signals are transmitted automatically when the indicator buoy is released. On frequency 243 MHz, the sound is a high-pitched tone dropping to a low-pitched tone, then a break. This is repeated and these repeating tones will trigger automatic receiving SAR equipment. On the GMDSS frequency, a 15-digit code is transmitted in digitalized format. This code is received by satellite, which will correspond to the specific indicator buoy. The code is identified by the Rescue Coordination Centres. Ships hearing these signals should immediately report their position and depth of water and, if possible, an indication of signal strength. If sighted in depths of water greater than 1000 m it is certain to be adrift and this fact should also be reported as soon as possible.



639 Indicator Buoy

Submarine Emergency Positioning Indicating Radio Beacon (SEPIRB) is a (GMDSS) that is approved for use on submarines.

The SEPIRB has the following features:

- COSPAS-SARSAT approved 406 MHz/121.5 MHz (homing)
- Global Positioning System (GPS) position data supplied in (COSPAS-SARSAT) message
- Capable of both submarine launch and manually by hand
- Lithium Battery Safety

Two are carried on board and can be fired from the submerged signal ejectors.

The SEPIRB is designed for launch from submarines or by hand over the side. The SEPIRB is a 3 inch diameter device with a maximum overall length of 41.285 inches and a maximum weight of 8.2 lbs.

The SEPIRB has a minimum operational life of 48 hours.

The SEPIRB is activated after the launch tab is bent back during submarine launch or manually by hand.

Once on the surface, the SEPIRB immediately begins to obtain a GPS fix and begins transmitting a 406.025 MHz digital message to COSPAS-SARSAT system containing its initial GPS fix (default value until GPS fix is obtained), elapsed time from activation, and unique ID number. No further updates of position are performed.

Six hours after activation the SEPIRB will begin transmission of a 121.5 MHz homing beacon signal to assist in the location of the buoy. Operation continues until deactivation or end of battery life (min. of 48 hrs).



SEPIRB

(d) *Distress Radio Transmitting Buoys*

The Victoria class carries expendable communications buoys Type ECB 680. This is a silver coloured, radio rescue spar buoy approximately 10 cm in diameter by 60cm in length powered by a lithium cell (See plate 4). The buoys are designed for launch from the signal ejector of a submerged submarine. Upon reaching the surface, the buoy transmits a sabre tone radio distress signal 243.0 MHz for approximately 8 hours. The buoy is free-floating and not attached to the submarine.

8. Submarine Pyrotechnics

There is a possibility that submarine pyrotechnics may be confused with aircraft marine markers, floats, sonobuoys, etc. Therefore, when making identification, reference should also be made to paragraph 8.

(a) *Smoke Candles* - These are fired from submarines to indicate their position. The white candles can burn for up to 15 minutes emitting smoke and flame and can thus be seen by day or night. (See plate 5). There are also yellow, red, and rarely used green and black smoke candles. These emit smoke for a shorter period and do not have a marked flame and are difficult to see at night.

(b) *Flares and Stars* - These may be fired from submarines to indicate their position.

Flares (See plate 6) - A canister floats to the surface and a small explosive hurls a container about 150 m (450 ft.) into the air. The container then disintegrates and a flare very similar to a *Very's* light is visible for about 15 - 45 seconds. The flares are red, green or yellow.

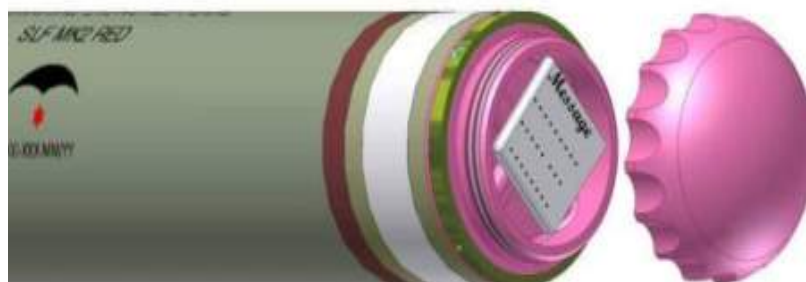
Stars (See plate TBA) operate in a manner similar to flares except the container is hurled to a height of about 151 m (450 ft.) and when the container disintegrates the red, green or yellow star descends suspended from a parachute. At the same time the star canister in the water emits smoke of a colour similar to the star for about 15-45 seconds.

(c) *Dye Markers* - Are attached the top red para flare candles and when released from the submarine float to the surface and give off white smoke for up to 15 minutes. At the same time they release green fluorescent dye in the water.

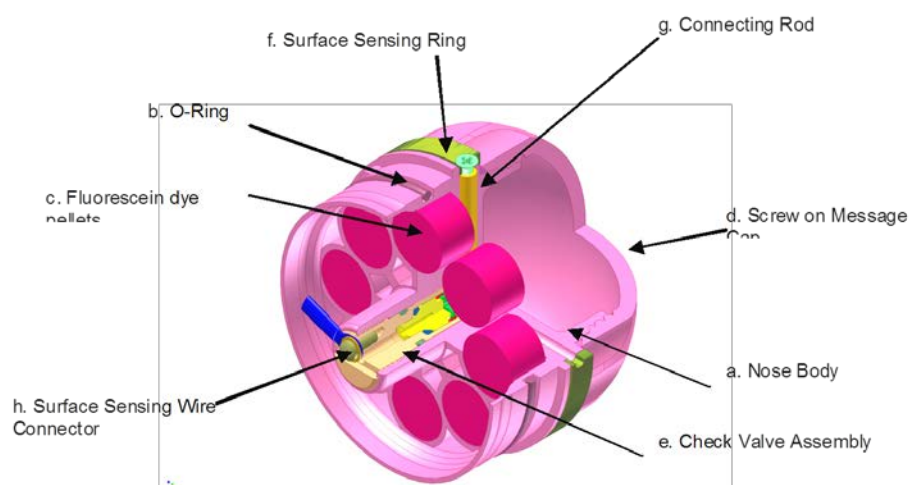
(d) *Message Carrier* - Message carriers (See plate 8) are curved tubular containers, which may be secured to the top of red para flare. A message carrier is normally found on the body of a candle, which also gives off fluorescent dye markings. Every effort should be made to obtain the message.



SUBMARINE LAUNCHED FLARE (SLF) MK2



Message Carrier Area of Nose Assembly SLF MK2



SLF MK2 (R) – Nose Assembly showing Dye Package



Submarine Launched Red Para Flare deployed

9. Marine Markers

The following may be dropped by aircraft or ships and unless closely examined, may be mistaken for submarine pyrotechnics:

(a) Sonobuoys

All sonobuoys currently in use by the Canadian Forces are cylindrical in shape prior to deployment and have the following dimensions:

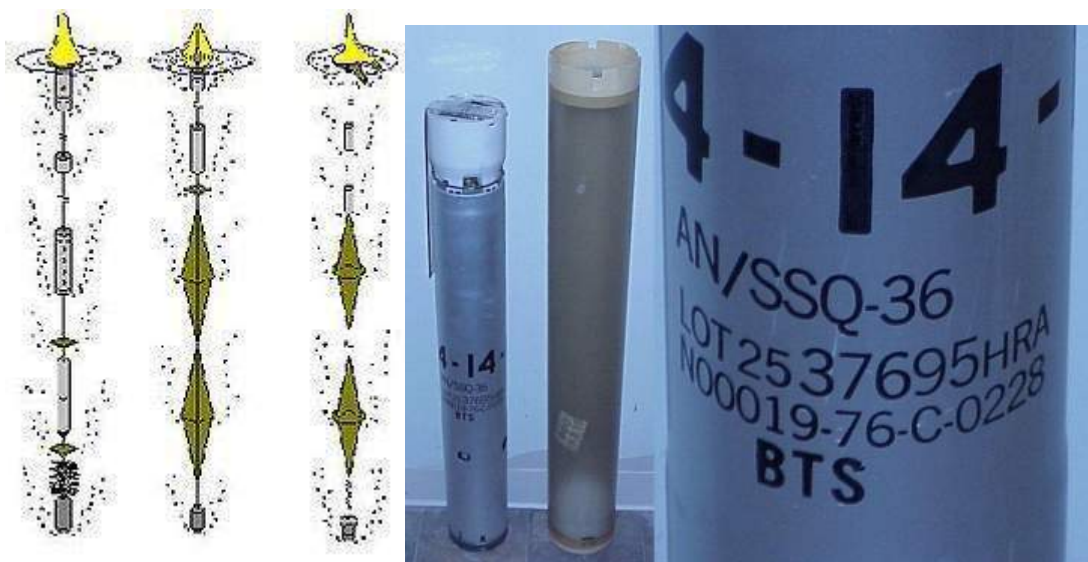
Diameter - 120.7 mm to 123.8 mm

Length - 909.6 mm to 917.6 mm

Once deployed, however, the physical characteristics of the sonobuoys vary considerably, depending on purpose and manufacturer.

Warning - Some sonobuoys contain lithium batteries, which are potentially hazardous. Improper handling of the lithium power supply could result in extreme battery temperatures, venting of toxic gases, fire and explosion. Most sonobuoys employ CO₂ gas bottles to inflate the surface float and may be hazardous if accidental activation occurs during handling.

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Marine Location Markers

(b) Warning - Markers contain pyrotechnic composition (red phosphorous) and, if not completely burned out, are very dangerous and may cause severe burns if handled.



Marine Location Marker C2A2

Authority: Department of National Defence (NDHQ)

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35 Firing Practice and Exercise Areas

Explanatory Notes

- 1 Firing and bombing practices, and defence exercises, take place in a number of areas off the coasts of Canada.

The principal types of practices carried out are:
- 2 Bombing practice from aircraft.
 - (a) Air to air, and air to sea or ground firing. The former is carried out by aircraft at a large white or red sleeve, a winged target, or flag towed by another aircraft moving on a steady course. The latter are carried out from aircraft at towed or stationary targets on sea or land, the firing taking place to seaward in the case of those on land. All marine craft operating as range safety craft, target towers or control launches for radio controlled targets will display, for identification purposes, while in or in the vicinity of the danger area, the following markings:
 - (i) A large red flag at the masthead;
 - (ii) A painted canvas strip, 1.8 m (6 ft.) by .9 m (3 ft.) with red and white chequers in .3 m (1 ft.) squares, on the fore deck or cabin roof.
 - (c) Anti-aircraft firing.

This may be from guns, missiles or machine guns at a target towed by aircraft as in (b) above, a pilotless target aircraft, or at balloons or kites. Practice may take place from shore batteries or ships. Warning signals as a rule are shown from shore batteries; ships fly a red flag.
 - (d) Firing from shore batteries or ships at sea at fixed or floating targets. Warning signals usually shown as in (c).
 - (e) Firing at remote-controlled craft.

These craft are approximately 20.7 m (68 ft.) in length and carry not under command shapes and lights, as well as normal navigation lights. Exercises consisting of surface firing by ships, practice bombing, air to sea firing and rocket firing will be carried out against these craft or targets towed by them. A control craft will keep visual and radar watch up to approximately 8 nautical miles and there will be cover from the air over a much greater range to ensure that other shipping will not be endangered.
- 3 Warning signals, when given, usually consist of red flags by day and red fixed or red flashing lights at night. The absence of any such signal cannot, however, be accepted as evidence that a practice area does not exist. Warning signals are shown from shortly before practice commences until it ceases. Ships and aircraft carrying out night exercises may illuminate with bright red or orange flares.
- 4 CAUTION. A vessel may be aware of the existence of a practice area from Local Notices to Mariners or similar method of promulgation and by observing the warning signals of the practice. The Range Authorities are responsible for ensuring that there should be no risk of damage from falling shell-splinters, bullets, etc., to any vessel which may be in a practice area.

Except where stated under Employment, areas are only in use intermittently or over limited periods, and when it is intended that a firing practice and exercise area be used, this information *will* be promulgated by local Canadian Coast Guard *Marine Radio Broadcasts* and may also be advertised in local newspapers. Maritime Command vessels are informed by Navigational Warning Messages *CANHYDROLANT* or *CANHYDROPAC*.
- 5 (a) The DND Sea area alphabetical identification designators in this Notice are used for marine purposes and are quoted in marine warning messages advertising the reservation of sea space for armed forces exercises. They are also shown in areas displayed on marine charts, however, not all areas are so displayed. Designators for marine areas on the West Coast are prefixed W ; those for areas in the Great Lakes are prefixed L ; those for the East Coast are not prefixed.

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(b) **Area descriptions**

All bearings are true and those relating to arcs are from seaward. Miles are in nautical miles. Unless otherwise specified coordinates are based on North American Datum 1983 (NAD 83) which is equivalent to WGS 84.

(c) **Employment abbreviations**

The following abbreviations are used to indicate the employment of DND Exercise Areas:

A/A	Anti-Aircraft Firing
Missile	Surface to Air Missile Firing
S	Surface Firing
S.ht	Surface Firing High Trajectory
T	Torpedo Firing
NF	Non-Firing area for general purpose type exercise
A to A	Air to Air Firing
A to S	Air to Sea Firing
B	Bombing
R	Rocket Firing
A	Non-Firing area for general purpose type air exercises
A/S.he	Exercices anti-sous-marins comprenant l'emploi de projectiles explosifs
A/S	Anti-Submarine Exercise including high explosive projectiles
SS	Subsurface Exercises

- 6 The airspace identification numbers used in this Notice conform to the International Civil Aviation Organization (ICAO) Standards for airspace designations.

The identification system consists of a three-part code as follows:

- (a) The assigned national identification letters - Canada is *CY*; and
- (b) The letter *R* for a restricted area or the letter *D* for a danger area; and
- (c) A three-digit number which will identify the airspace. This number will also indicate the region of Canada within which the area is located according to the following criteria:

101 to 199	British Columbia
201 to 299	Alberta
301 to 399	Saskatchewan
401 to 499	Manitoba
501 to 599	Ontario
601 to 699	Québec
701 to 799	New Brunswick; Nova Scotia; Prince Edward Island; Newfoundland
801 to 899	Yukon Territory
901 to 999	Northwest Territories; Arctic Islands

EXAMPLE: *CYD401*

CY	CY indicates Canada,
D	Indicates Danger Area,
401	Indicates the assigned number of the area in Manitoba

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7 WARNING

The portion of WG (Diagram 14) enclosed by pecked lines is an active surface, sub-surface, air and torpedo firing/operations area which may also include use of active sonar. Operations are generally (though not exclusively) conducted from 0700-1730 Monday to Saturday during which times area WG is considered extremely hazardous to marine traffic. Additionally, any number of lit and unlit Mooring Buoys may be within Area WG at various locations throughout the year to be used for military purposes. These buoys may be placed, moved and/or removed without notice. Mariners are to exercise caution whenever transiting this area, and vessels are required to remain clear whenever WG is active. Area WG constitutes a defence establishment as defined in the *National Defence Act* to which the *Defence Controlled Access Area Regulations* apply

EAST COAST

Nova Scotia Area					
Sea Areas	Air Space	Location	Coordinates	Employment	Diagram
*ALPHA		Charts 4001, 4003, 4012, 4320 and 8007	44°42'N 63°00'W 44°19'N 63°00'W 44°19'N 63°40'W 44°28'N 63°40'W	Sub surface operations area. * Does not include Halifax Hbr. Extends to harbour limits only.	1
		Chart 4013	44°42'N 63°00'W 44°19'N 63°00'W 44°19'N 63°40'W		
BRAVO		Charts 4001, 4003, 4012 and 4320	44°28'N 63°40'W 44°19'N 63°40'W 44°19'N 64°00'W 44°28'N 64°05'W	Sub surface operations area.	1
CHARLIE ONE		Charts 4001, 4003, And 4012	44°28'N 64°05'W 44°19'N 64°00'W 44°00'N 64°00'W 44°00'N 64°40'W	Sub surface operations area.	
		Chart 4320	44°28'N 64°05'W 44°19'N 64°00'W 44°00'N 64°00'W 44°00'N 64°25'W		
CHARLIE TWO		Charts 4001, 4003, And 4012	44°00'N 64°40'W 44°00'N 64°00'W 43°30'N 64°00'W 43°30'N 65°24'W	Sub surface operations area.	1
		Chart 4320	44°00'N 64°00'W 44°00'N 64°25'W 43°55'N 64°00'W 43°55'N 64°25'W		
		Chart 8006	43°30.0'N 65°24.5'W 43°30.0'N 64°00.0'W 43°33.0'N 64°00.0'W		
CHARLIE THREE		Charts 4001, 4003, 4012 and 8006	43°30'N 65°00'W 43°30'N 64°00'W 43°00'N 64°00'W 43°00'N 65°00'W	Sub surface operations area.	1
DELTA ONE	To 20,000 feet	Charts 4001, 4003, 4012 and 4320	44°19'N 64°00'W 44°19'N 63°45'W 44°10'N 63°45'W 44°10'N 64°00'W	Sub surface operations area. Firing Exercise (FIREX)	1

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Nova Scotia Area					
Sea Areas	Air Space	Location	Coordinates	Employment	Diagram
DELTA TWO	To 20,000 feet	Charts 4001, 4003, 4012 and 4320	44°19'N 63°45'W 44°19'N 63°30'W 44°10'N 63°30'W 44°10'N 63°45'W	Sub surface operations area.	1
		Charts 4013 and 8007	44°19'N 63°40'W 44°19'N 63°30'W 44°10'N 63°30'W 44°10'N 63°40'W	Firing Exercise (FIREX)	
DELTA THREE	To 20,000 feet	Charts 4001, 4003, 4012 and 4320	44°10'N 63°45'W 44°10'N 63°30'W 44°00'N 63°30'W 44°00'N 63°45'W	Sub surface operations area.	1
		Charts 4013 and 8007	44°10'N 63°40'W 44°10'N 63°30'W 44°00'N 63°30'W 44°00'N 63°40'W	Firing Exercise (FIREX)	
DELTA FOUR	To 20,000 feet	Charts 4001, 4003, 4012 and 4320	44°10'N 64°00'W 44°10'N 63°45'W 44°00'N 63°45'W 44°00'N 64°00'W	Sub surface operations area. Firing Exercise (FIREX)	1
ECHO ONE		Charts 4001, 4003 And 4013	44°59'N 62°00'W 44°00'N 62°00'W 44°00'N 63°00'W 44°42'N 63°00'W	Sub surface operations area.	1
		Chart 4012	44°42'N 63°00'W 44°00'N 63°00'W 44°00'N 62°40'W		
		Chart 4320	44°42'N 63°00'W 44°00'N 63°00'W 44°00'N 62°45'W		
		Chart 8007	44°42'N 63°00'W 44°00'N 63°00'W 44°00'N 62°00'W 44°52'N 62°00'W		
ECHO TWO	To 20,000 feet	Charts 4001, 4003 4012, 4013, 4320 and 8007	44°19'N 63°30'W 44°19'N 63°00'W 44°00'N 63°00'W 44°00'N 63°30'W	Sub surface operations area. Firing Exercise (FIREX)	1
FOXTROT ONE		Charts 4001, 4003 and 4011	45°03'N 66°46'W 44°48'N 66°46'W and 44°36'N 66°54'W 44°00'N 66°54'W 44°00'N 66°09'W	Sub surface operations area.	1
		Chart 4012	Southern limit at 44°00'N 66°40'W 44°00'N 66°09'W		
FOXTROT TWO		Charts 4001, 4003 And 4011	43°43'N 66°00'W 43°00'N 66°00'W 43°00'N 66°54'W 44°00'N 66°54'W 44°00'N 66°09'W	Sub surface operations area.	1

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Nova Scotia Area					
Sea Areas	Air Space	Location	Coordinates	Employment	Diagram
		Chart 4012	44°00'N 66°40'W 44°00'N 66°09'W 43°43'N 66°00'W 43°00'N 66°00'W 43°00'N 66°40'W		
		Chart 8006	43°33'N 66°00'W 43°00'N 66°00'W 43°00'N 66°36'W		
FOXTROT THREE		Charts 4001, 4003 And 4012	43°30'N 65°24'W 43°30'N 65°00'W 43°00'N 65°00'W 43°00'N 66°00'W 43°43'N 66°00'W	Sub surface operations area.	1
		Chart 4011	43°00'N 65°30'W 43°00'N 66°00'W 43°43'N 66°00'W		
FOXTROT THREE		Chart 8006	43°33.0'N 66°00.0'W 43°00.0'N 66°00.0'W 43°00.0'N 65°00.0'W 43°30.0'N 65°00.0'W 43°30.0'N 65°24.5'W		
FOXTROT FOUR		Charts 4001, 4003 And 8006	43°00'N 66°00'W 43°00'N 65°00'W 42°00'N 65°00'W 42°00'N 66°00'W	Sub surface operations area.	1
		Chart 4011	43°00'N 66°00'W 43°00'N 65°30'W 42°27'N 66°00'W		
		Chart 4012	43°00'N 66°00'W 43°00'N 65°00'W 42°40'N 65°00'W 42°40'N 66°00'W		
FOXTROT FIVE		Charts 4001 and 4003	43°00'N 66°54'W 43°00'N 66°00'W 42°00'N 66°00'W 42°00'N 66°54'W	Sub surface operations area.	1
		Chart 4011	43°00'N 66°54'W 43°00'N 66°00'W 42°27'N 66°00'W 42°27'N 66°54'W		
		Chart 4012	43°00'N 66°40'W 43°00'N 66°00'W 42°40'N 66°00'W 42°40'N 66°40'W		
		Chart 8006	43°00'N 66°36'W 43°00'N 66°00'W 42°00'N 66°00'W 42°00'N 66°36'W		
GOLF ONE	To 30,000 feet	Charts 4001, 4003 And 4012	44°00'N 64°00'W 44°00'N 63°30'W 43°30'N 63°30'W 43°30'N 64°00'W	Sub surface operations area. Firing Exercise (FIREX)	1

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Nova Scotia Area					
Sea Areas	Air Space	Location	Coordinates	Employment	Diagram
		Charts 4013 and 8007	44°00'N 63°40'W 44°00'N 63°30'W 43°30'N 63°30'W 43°30'N 63°40'W		
		Chart 4320	44°00'N 64°00'W 44°00'N 63°30'W 43°55'N 63°30'W 43°55'N 64°00'W		
		Chart 8006	43°33'N 64°00'W 43°30'N 64°00'W 43°30'N 63°30'W 43°33'N 63°30'W		
GOLF TWO	To 30,000 feet	Charts 4001, 4003, 4012 and 8007	44°00'N 63°30'W 44°00'N 63°00'W 43°30'N 63°00'W 43°30'N 63°30'W	Sub surface operations area. Firing Exercise (FIREX)	1
		Chart 4013	44°00'N 63°30'W 44°00'N 63°00'W 43°52'N 63°00'W 43°52'N 63°30'W		
		Chart 4320	44°00'N 63°30'W 44°00'N 63°00'W 43°55'N 63°00'W 43°55'N 63°30'W		
		Chart 8006	43°33'N 63°30'W 43°30'N 63°30'W 43°30'N 63°00'W 43°33'N 63°00'W		
GOLF THREE	To 30,000 feet	Charts 4001, 4003, 4012, 8006 and 8007	43°30'N 63°30'W 43°30'N 63°00'W 43°00'N 63°00'W 43°00'N 63°30'W	Sub surface operations area. Firing Exercise (FIREX)	1
GOLF FOUR	To 30,000 feet	Charts 4001, 4003, 4012 and 8006	43°30'N 64°00'W 43°30'N 63°30'W 43°00'N 63°30'W 43°00'N 64°00'W	Sub surface operations area. Firing Exercise (FIREX)	1
		Chart 8007	43°30'N 63°40'W 43°30'N 63°30'W 43°00'N 63°30'W 43°00'N 63°40'W		
HOTEL ONE	To 30,000 feet	Charts 4001, 4003 And 8007	44°00'N 63°00'W 44°00'N 62°30'W 43°30'N 62°30'W 43°30'N 63°00'W	Sub surface operations area. Firing Exercise (FIREX)	1
		Chart 4012	44°00'N 63°00'W 44°00'N 62°40'W 43°30'N 62°40'W 43°30'N 63°00'W		
		Chart 4013	44°00'N 63°00'W 44°00'N 62°30'W 43°52'N 62°30'W 43°52'N 63°00'W		

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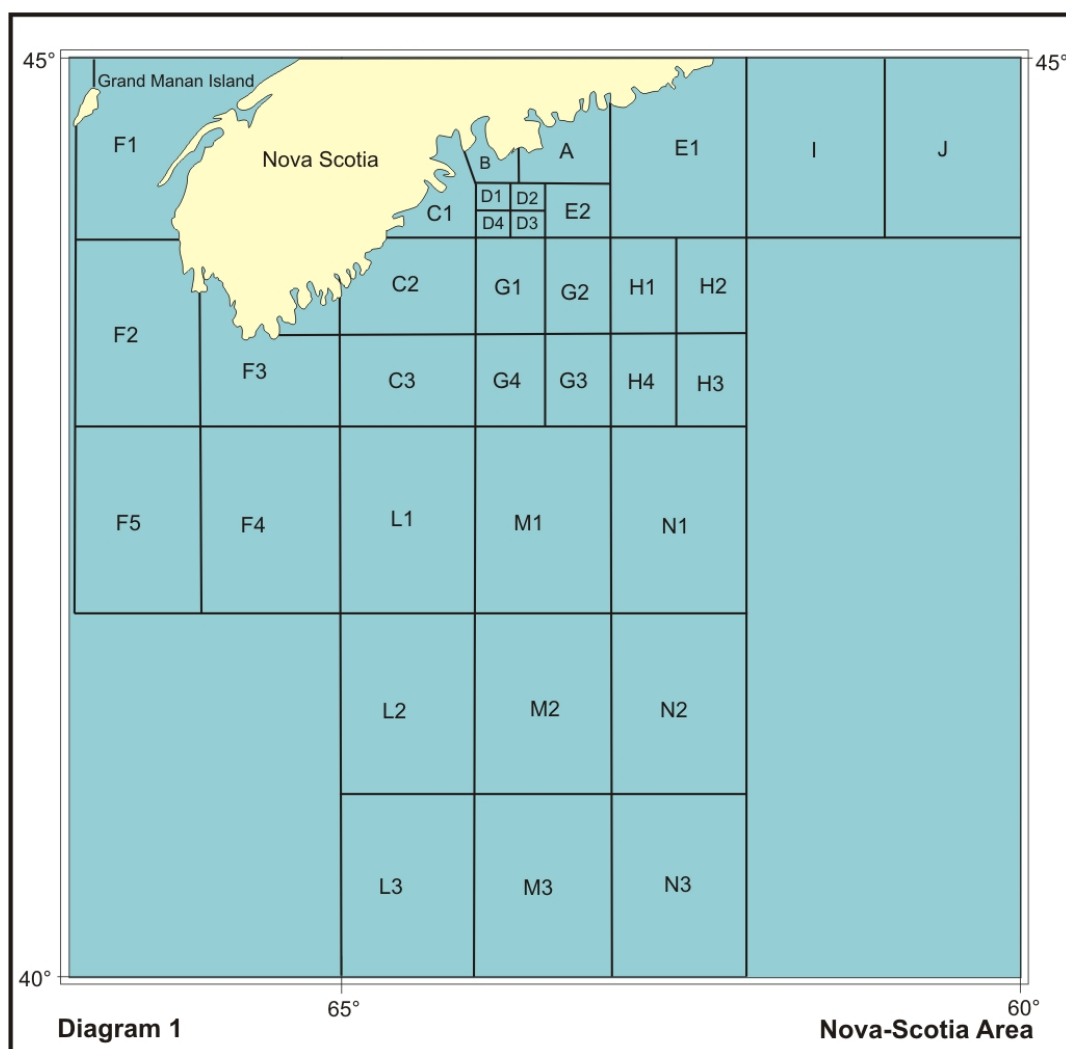
Nova Scotia Area					
Sea Areas	Air Space	Location	Coordinates	Employment	Diagram
		Chart 4320	44°00'N 63°00'W 44°00'N 62°45'W 43°55'N 62°45'W 43°55'N 63°00'W		
		Chart 8006	43°33'N 63°00'W 43°30'N 63°00'W 43°30'N 62°34'W		
HOTEL TWO	To 30,000 feet	Charts 4001, 4003 And 8007	44°00'N 62°30'W 44°00'N 62°00'W 43°30'N 62°00'W 43°30'N 62°30'W	Sub surface operations area. Firing Exercise (FIREX)	1
		Chart 4013	44°00'N 62°30'W 44°00'N 62°00'W 43°52'N 62°00'W 43°52'N 62°30'W		
HOTEL THREE	To 30,000 feet	Charts 4001, 4003 And 8007	43°30'N 62°30'W 43°30'N 62°00'W 43°00'N 62°00'W 43°00'N 62°30'W	Sub surface operations area. Firing Exercise (FIREX)	1
HOTEL FOUR	To 30,000 feet	Charts 4001, 4003 And 8007	43°30'N 63°00'W 43°30'N 62°30'W 43°00'N 62°30'W 43°00'N 63°00'W	Sub surface operations area. Firing Exercise (FIREX)	1
		Chart 4012	43°30'N 63°00'W 43°30'N 62°40'W 43°00'N 62°40'W 43°00'N 63°00'W		
		Chart 8006	43°00'N 62°34'W 43°00'N 63°00'W 43°30'N 63°00'W 43°30'N 62°34'W		
INDIA		Charts 4001, 4003 And 4013	45°16'N 61°00'W 44°00'N 61°00'W 44°00'N 62°00'W 44°59'N 62°00'W	Sub surface operations area.	1
		Chart 8007	44°52'N 62°00'W 44°00'N 62°00'W 44°00'N 61°00'W 44°52'N 61°00'W		
JULIET		Charts 4001, 4003 and 4013	45°53'N 60°00'W 44°00'N 60°00'W 44°00'N 61°00'W 45°16'N 61°00'W	Sub surface operations area.	1
		Chart 8007	44°52'N 61°00'W 44°00'N 61°00'W 44°00'N 60°00'W 44°52'N 60°00'W		
LIMA ONE		Charts 4001, 4003 and 8006	43°00'N 65°00'W 43°00'N 64°00'W 42°00'N 64°00'W 42°00'N 65°00'W	Sub surface operations area.	1

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Nova Scotia Area					
Sea Areas	Air Space	Location	Coordinates	Employment	Diagram
		Chart 4012	43°00'N 65°00'W 43°00'N 64°00'W 42°40'N 64°00'W 42°40'N 65°00'W		
LIMA TWO		Charts 4001 and 4003	42°00'N 65°00'W 42°00'N 64°00'W 41°00'N 64°00'W 41°00'N 65°00'W	Sub surface operations area.	1
		Chart 8006	41°24'N 65°00'W 42°00'N 65°00'W 42°00'N 64°00'W 41°24'N 64°00'W		
LIMA THREE		Charts 4001 and 4003	41°00'N 65°00'W 41°00'N 64°00'W 40°00'N 64°00'W 40°00'N 65°00'W	Sub surface operations area.	1
MIKE ONE		Charts 4001, 4003 And 8006	43°00'N 64°00'W 43°00'N 63°00'W 42°00'N 63°00'W 42°00'N 64°00'W	Sub surface operations area.	1
		Chart 4012	43°00'N 64°00'W 43°00'N 63°00'W 42°40'N 63°00'W 42°40'N 64°00'W		
		Chart 8007	43°00'N 63°40'W 43°00'N 63°00'W 42°44'N 63°00'W		
MIKE TWO		Charts 4001 and 4003	42°00'N 64°00'W 42°00'N 63°00'W 41°00'N 63°00'W 41°00'N 64°00'W	Sub surface operations area.	1
		Chart 8006	41°24'N 64°00'W 42°00'N 64°00'W 42°00'N 63°00'W 41°24'N 63°00'W		
MIKE THREE		Charts 4001 and 4003	41°00'N 64°00'W 41°00'N 63°00'W 40°00'N 63°00'W 40°00'N 64°00'W	Sub surface operations area.	1
NOVEMBER ONE		Charts 4001 and 4003	43°00'N 63°00'W 43°00'N 62°00'W 42°00'N 62°00'W 42°00'N 63°00'W	Sub surface operations area.	1
		Chart 4012	43°00'N 63°00'W 43°00'N 62°40'W 42°40'N 62°40'W 42°40'N 63°00'W		
		Chart 8006	42°00'N 62°34'W 42°00'N 63°00'W 43°00'N 63°00'W 43°00'N 62°34'W		

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Nova Scotia Area					
Sea Areas	Air Space	Location	Coordinates	Employment	Diagram
		Chart 8007	42°44'N 63°00'W 43°00'N 63°00'W 43°00'N 62°00'W 42°44'N 62°00'W		
NOVEMBER TWO		Charts 4001 and 4003	42°00'N 63°00'W 42°00'N 62°00'W 41°00'N 62°00'W 41°00'N 63°00'W	Sub surface operations area.	1
		Chart 8006	41°24'N 63°00'W 42°00'N 63°00'W 42°00'N 62°34'W		
NOVEMBER THREE		Charts 4001 and 4003	41°00'N 63°00'W 41°00'N 62°00'W 40°00'N 62°00'W 40°00'N 63°00'W	Sub surface operations area.	1

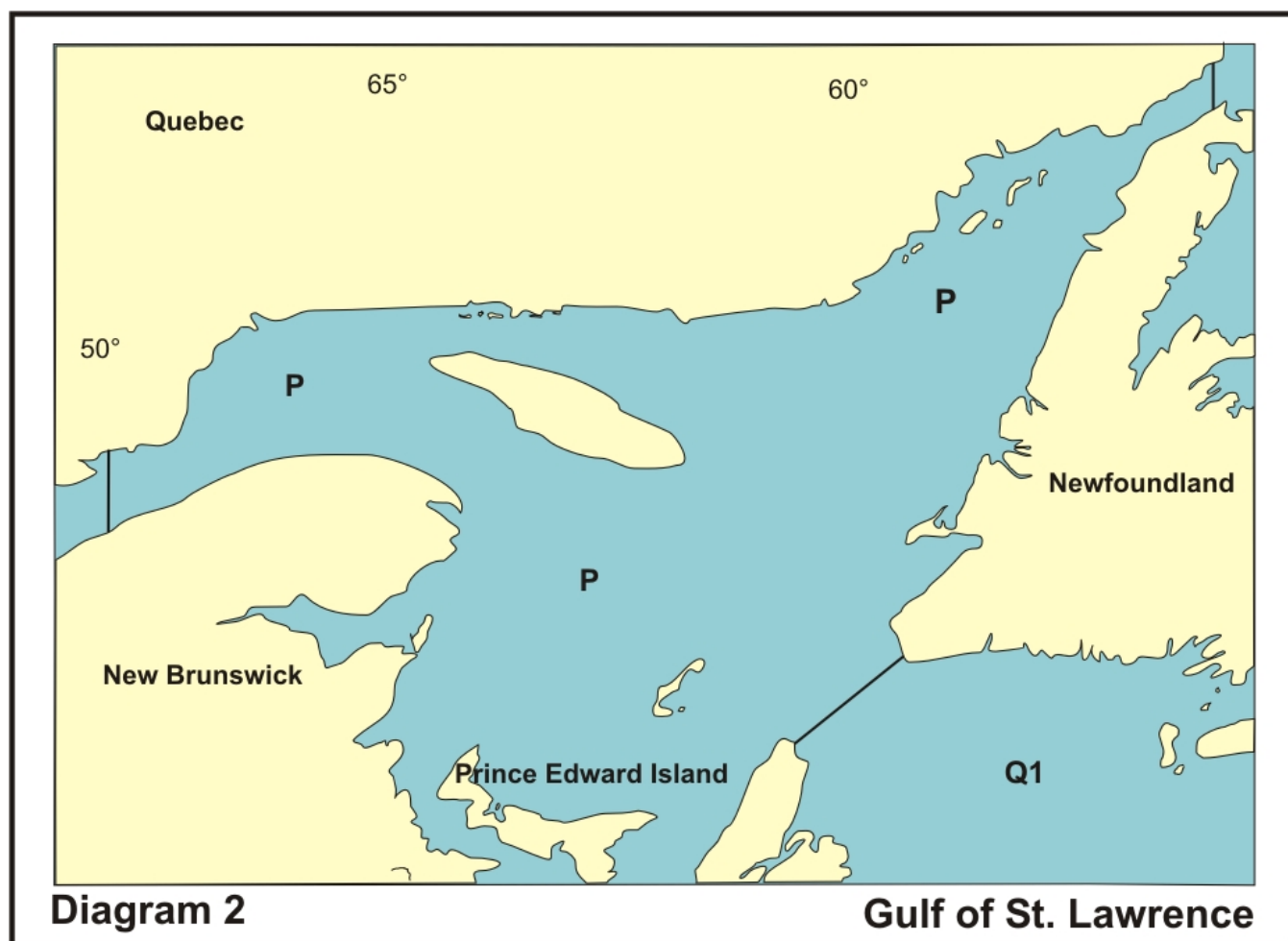


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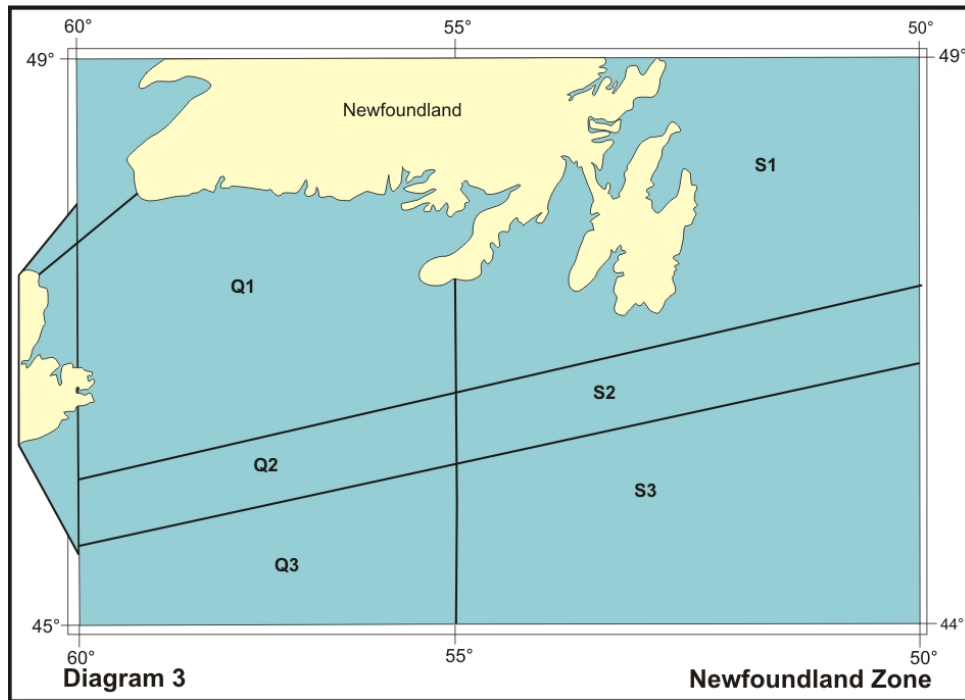
Gulf of St. Lawrence Area					
Sea Area	Airspace	Location	Coordinates	Employment	Diagram
PAPA		Chart 4001	Gulf of St Lawrence bounded by lines joining: 47°00'N 60°25'W 47°37'17.1"N 59°18'16.8"W 51°35'N 56°00'W 51°54'N 56°00'W 49°18'N 68°00'W 48°41'N 68°00'W	Sub surface operations area.	2
QUÉBEC ONE		Chart 4001	46°56'N 55°30'W 46°00'N 55°30'W 45°17'N 60°00'W 45°53'N 60°00'W and 47°00'N 60°25'W to 47°37'17.1"N 59°18'16.8"W	Sub surface operations area. *Does not include the French territorial waters of Saint-Pierre et Miquelon.	2 & 3
		Chart 4003	45°53'N 60°00'W 45°17'N 60°00'W 45°35'N 58°15'W		
		Chart 4013	45°53'N 60°00'W 45°17'N 60°00'W 45°27'N 59°00'W		
QUÉBEC TWO		Chart 4001	45°17'N 60°00'W 46°00'N 55°30'W 45°20'N 55°30'W 44°45'N 60°00'W	Sub surface operations area. *Does not include the French Territorial waters of Saint-Pierre et Miquelon.	3
		Chart 4003	45°17'N 60°00'W 45°35'N 58°15'W 45°02'N 58°15'W 44°45'N 60°00'W		
		Chart 4013	45°17'N 60°00'W 45°27'N 59°00'W 44°55'N 59°00'W 44°45'N 60°00'W		
		Chart 8007	44°52.0'N 60°00.0'W 44°45.0'N 60°00.0'W 44°47.5'N 59°45.0'W		
QUÉBEC THREE		Chart 4001	44°45'N 60°00'W 45°20'N 55°30'W 44°00'N 55°30'W 44°00'N 60°00'W	Sub surface operations area. *Does not include the French territorial waters of Saint-Pierre et Miquelon.	3
		Chart 4003	44°45'N 60°00'W 45°02'N 58°15'W 44°00'N 58°15'W 44°00'N 60°00'W		
		Chart 4013	44°45'N 60°00'W 44°55'N 59°00'W 44°00'N 59°00'W 44°00'N 60°00'W		
		Chart 8007	44°00.0'N 59°45.0'W 44°00.0'N 60°00.0'W 44°45.0'N 60°00.0'W 44°47.5'N 59°45.0'W		

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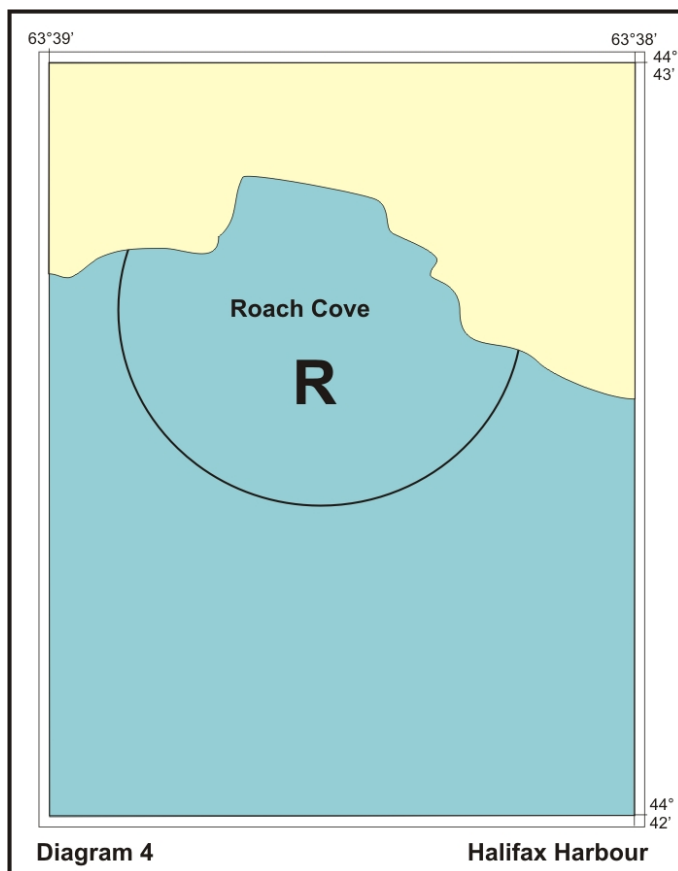
Gulf of St. Lawrence Area					
Sea Area	Airspace	Location	Coordinates	Employment	Diagram
ROMEO		Chart 4201 (Halifax Harbour)	An arc from shoreline to shoreline centred on 44°42'43"N 63°38'40"W with radius of 365 metres	Underwater demolition training (Maximum explosive weight 10 Kilograms)	4
SIERRA ONE		Chart 4001	48°40'N 53°05'W 48°40'N 50°00'W 46°47'N 50°00'W 46°00'N 55°30'W 46°56'N 55°30'W	Sub surface operations area.	3
SIERRA TWO		Chart 4001	46°00'N 55°30'W 46°47'N 50°00'W 46°10'N 50°00'W 45°20'N 55°30'W	Sub surface operations area.	3
SIERRA THREE		Chart 4001	45°20'N 55°30'W 46°10'N 50°00'W 44°00'N 50°00'W 44°00'N 55°30'W	Sub surface operations area.	3



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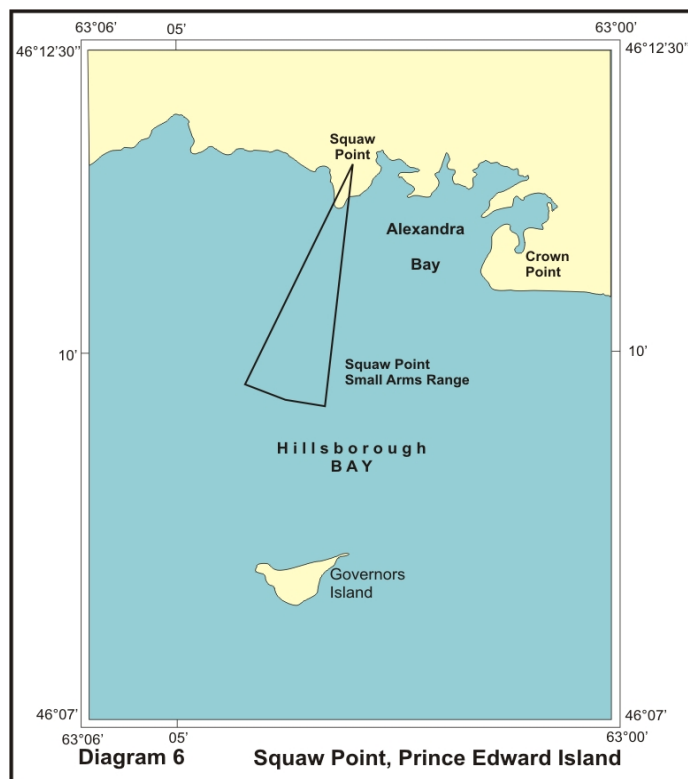
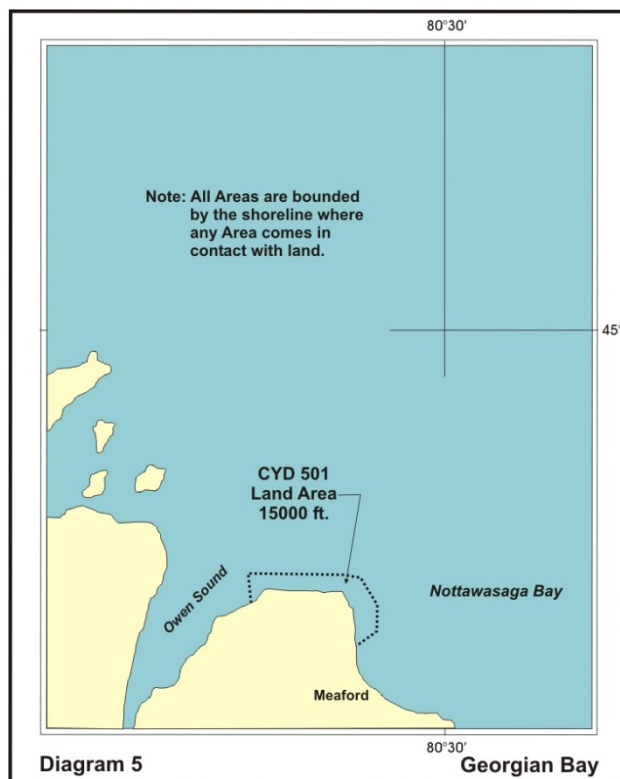


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Squaw Point (PEI) & Georgian Bay firing Area					
DESIGNATORS		LOCATION	CO-ORDINATES		DIAGRAM
DND	DOT				
		Squaw Point, Prince Edward Island, Firing Area (Chart 4466)	From Squaw Point (46°11'25"N 63°02'58"W) extending 1.9 nautical mille limited by an arc of 029°, from 184° to 213°.		6
	CYD501	CYD501 Ontario (Firing Area of Meaford) (Chart 2201)	44°42'48"N 44°44'40"N 44°44'40"N 44°44'25"N 44°42'50"N 44°41'11"N 44°39'45"N	80°46'11"W 80°46'22"W 80°39'32"W 80°37'17"W 80°35'45"W 80°35'35"W 80°37'41"W	1 S 5

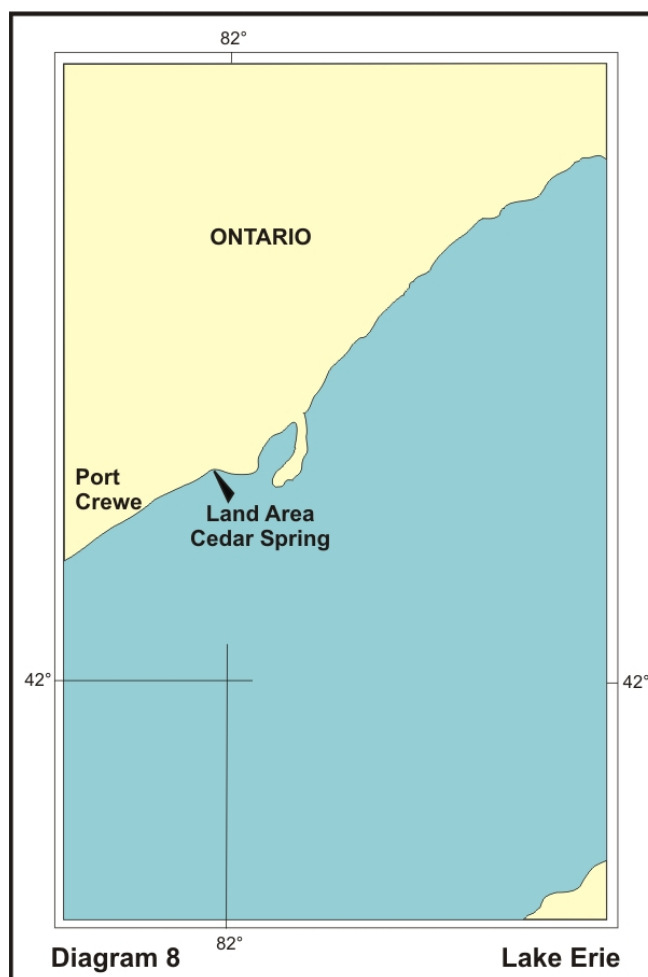
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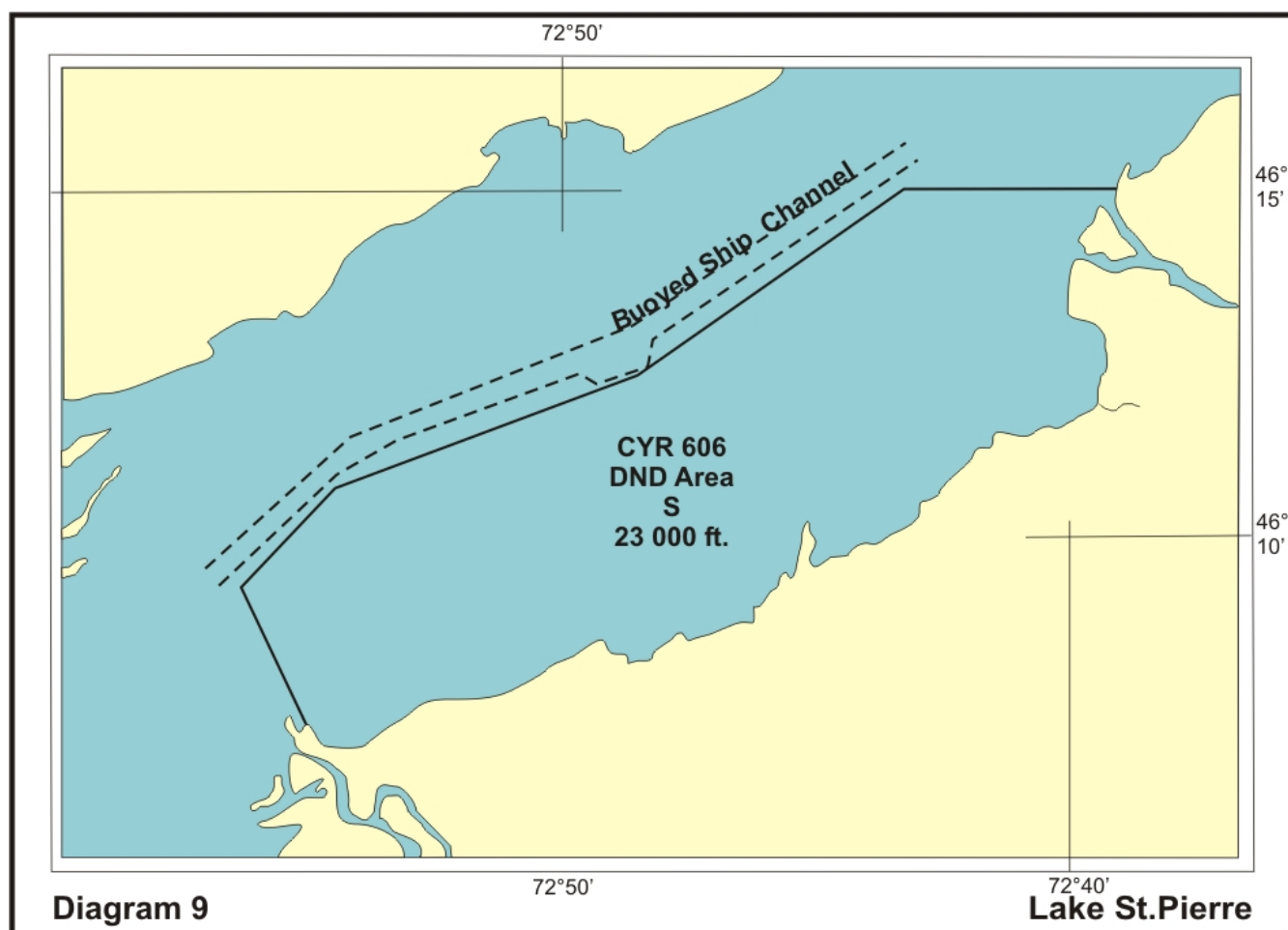
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Lake Ontario & Erie Area Firing Area					
DND	DOT	LOCATION	CO-ORDINATES	EMPLOYMENT	Diagram
		Erie Lake (Cedar Springs, Ontario) (Chart 2100)	Offshore, from 42°16'00"N 82°01'00"W, limited by an arc of 020°; from 308 1/2° to 328 1/2° of 4,000 yards.		8
		Ontario Lake, Grimsby, Firing Area (Chart 2077)	43°13'21"N 79°36'59"W 43°13'28"N 79°36'59"W 43°14'45"N 79°36'13"W 43°14'29"N 79°35'33"W 43°13'18"N 79°36'33"W 43°13'12"N 79°36'47"W		7
		Ontario Lake, Niagara-on-the-Lake Firing Area (Chart 2043)	43°15'31"N 79°06'13"W 43°16'22"N 79°07'43"W 43°16'46"N 79°07'13"W 43°15'45"N 79°05'55"W 43°15'35"N 79°05'53"W		8



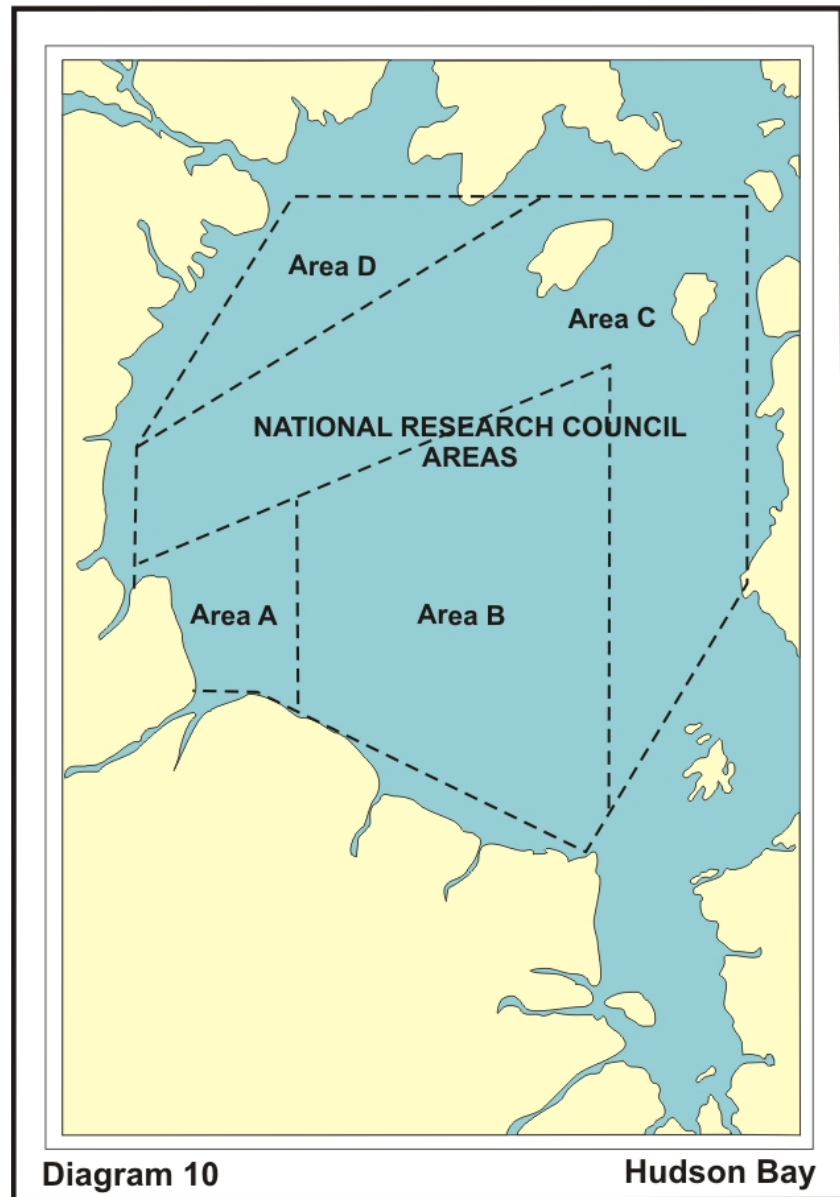
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DND Inspection Services - Lake St. Pierre (Québec) Area					
DND	DOT	Location	CO-ORDINATES	EMPLOYMENT	Diagram
	CYR606	Lac St. Pierre, Quebec (South of Shipping Channel) (Chart 1312)	Marine portion bounded by south shore of Lake St. Pierre and lines joining: 46°15'00"N 72°39'14"W 46°15'00"N 72°43'20"W 46°12'18"N 72°48'41"W 46°10'54"N 72°54'18"W 46°09'20"N 72°56'20"W 46°07'21"N 72°55'00"W	1 In continuous use 2 S	9



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Rocket Area		Location	Co-Ordinates	Employment	Diagram
DND	DOT				
		Hudson Bay and Strait Churchill, Manitoba (Chart 5000)	<p style="text-align: center;">AREA A</p> <p>58°56'00"N 94°00'00"W 57°18'00"N 94°00'00"W 57°20'00"N 91°08'00"W 57°04'00"N 90°00'00"W 59°46'30"N 90°00'00"W</p> <p style="text-align: center;">AREA B</p> <p>59°46'30"N 90°00'00"W 57°04'00"N 90°00'00"W 55°13'00"N 82°30'00"W 55°28'00"N 82°00'00"W 61°27'00"N 82°00'00"W</p> <p style="text-align: center;">AREA C</p> <p>55°28'00"N 82°00'00"W 58°55'00"N 78°28'00"W 63°15'00"N 78°28'00"W 63°15'00"N 83°00'00"W 60°21'00"N 94°00'00"W 58°56'00"N 94°00'00"W 59°46'30"N 90°00'00"W 61°27'00"N 82°00'00"W</p> <p style="text-align: center;">AREA D</p> <p>63°15'00"N 83°00'00"W 63°15'00"N 90°00'00"W 60°21'00"N 94°00'00"W</p>	<p>1 R</p> <p>2 Dependent on the characteristics of each rocket, the trajectory will cross all altitudes up to approximately 600,000 feet during a period not exceeding 30 minutes the time of launch. It is that majority of rockets launched will impact at a point within Area A (see diagram 10). Radar and other surveillance procedures will be used over the area during the range operations. No rocket will be launched if it is known that an aircraft or ship is likely to be endangered. Further details may be obtained through Thunder Bay MCTS</p> <p>Telephone: Officer in Charge 807-345-4618; MCTS Operations: 807-345-5190; Facsimile: 807-345-2688</p>	10



Authority: Department of National Defence (NDHQ)

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West Coast Area						
Sea Area	Airspace	Location	Coordinates		Employment	Diagram
CHARLIE ALPHA 1		Chart 3000	51°30'00"N 51°30'00"N 51°15'00"N 51°15'00"N	129°20'00"W 129°00'00"W 129°00'00"W 129°20'00"W	Sub surface operations area.	11
CHARLIE ALPHA 2		Chart 3000	51°30'00"N 51°30'00"N 51°15'00"N 51°15'00"N	129°00'00"W 128°40'00"W 128°40'00"W 129°00'00"W	Sub surface operations area.	11
CHARLIE ALPHA 3		Chart 3000	51°30'00"N 51°30'00"N 51°15'00"N 51°15'00"N	128°40'00"W 128°20'00"W 128°20'00"W 128°40'00"W	Sub surface operations area.	11
CHARLIE ALPHA 4		Chart 3000	51°30'00"N 51°30'00"N 51°15'00"N 51°15'00"N	128°20'00"W 128°00'00"W 128°00'00"W 128°20'00"W	Sub surface operations area.	11
CHARLIE ALPHA 5		Chart 3000	51°30'00"N 51°30'00"N 51°15'00"N 51°15'00"N	128°00'00"W 127°40'00"W 127°40'00"W 128°00'00"W	Sub surface operations area.	11
Areas CHARLIE ALPHA 6 to CHARLIE ALPHA 14 inclusive not allocated						
CHARLIE BRAVO 1		Chart 3000	51°15'00"N 51°15'00"N 51°00'00"N 51°00'00"N	129°20'00"W 129°00'00"W 129°00'00"W 129°20'00"W	Sub surface operations area.	11
CHARLIE BRAVO 2		Chart 3000	51°15'00"N 51°15'00"N 51°00'00"N 51°00'00"N	129°00'00"W 128°40'00"W 128°40'00"W 129°00'00"W	Sub surface operations area.	11
CHARLIE BRAVO 3		Chart 3000	51°15'00"N 51°15'00"N 51°00'00"N 51°00'00"N	128°40'00"W 128°20'00"W 128°20'00"W 128°40'00"W	Sub surface operations area.	11
CHARLIE BRAVO 4		Chart 3000	51°15'00"N 51°15'00"N 51°00'00"N 51°00'00"N	128°20'00"W 128°00'00"W 128°00'00"W 128°20'00"W	Sub surface operations area.	11
CHARLIE BRAVO 5		Chart 3000	51°15'00"N 51°15'00"N 51°00'00"N 51°00'00"N	128°00'00"W 127°40'00"W 127°40'00"W 128°00'00"W	Sub surface operations area.	11
Areas CHARLIE BRAVO 6 to CHARLIE BRAVO 14 inclusive not allocated						
CHARLIE CHARLIE 1		Chart 3000	51°00'00"N 51°00'00"N 50°45'00"N 50°45'00"N	129°20'00"W 129°00'00"W 129°00'00"W 129°20'00"W	Sub surface operations area.	11

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West Coast Area						
Sea Area	Airspace	Location	Coordinates		Employment	Diagram
CHARLIE CHARLIE 2		Chart 3000	51°00'00"N	129°00'00"W	Sub surface operations area.	11
			51°00'00"N	128°40'00"W		
			50°45'00"N	128°40'00"W		
			50°45'00"N	129°00'00"W		

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West Coast Area						
Sea Area	Airspace	Location	Coordinates		Employment	Diagram
CHARLIE CHARLIE 3		Chart 3000	51°00'00"N 51°00'00"N 50°45'00"N 50°45'00"N	128°40'00"W 128°20'00"W 128°20'00"W 128°40'00"W	Sub surface operations area.	11
CHARLIE CHARLIE 4		Chart 3000	51°00'00"N 51°00'00"N 50°45'00"N 50°45'00"N	128°20'00"W 128°00'00"W 128°00'00"W 128°20'00"W	Sub surface operations area.	11
CHARLIE CHARLIE 5		Chart 3000	51°00'00"N 51°00'00"N 50°45'00"N 50°45'00"N	128°00'00"W 127°40'00"W 127°40'00"W 128°00'00"W	Sub surface operations area.	11
Areas CHARLIE CHARLIE 6 to CHARLIE CHARLIE 14 inclusive not allocated						
♣ = Only that portion of the area that is within Area WP (Defined at Diagram 11).						
CHARLIE DELTA 1	CYR 106 to 23,000 feet	Chart 3000	50°45'00"N 50°45'00"N 50°30'00"N 50°30'00"N	129°20'00"W 129°00'00"W 129°00'00"W 129°20'00"W	Sub surface operations area.	11 & 12
CHARLIE DELTA 2		Chart 3000	50°45'00"N 50°45'00"N 50°30'00"N 50°30'00"N	129°00'00"W 128°40'00"W 128°40'00"W 129°00'00"W	Sub surface operations area.	11
CHARLIE DELTA 3		Chart 3000	50°45'00"N 50°45'00"N 50°30'00"N 50°30'00"N	128°40'00"W 128°20'00"W 128°20'00"W 128°40'00"W	Sub surface operations area.	11
CHARLIE DELTA 4		Chart 3000	50°45'00"N 50°45'00"N 50°30'00"N 50°30'00"N	128°20'00"W 128°00'00"W 128°00'00"W 128°20'00"W	Sub surface operations area.	11
CHARLIE DELTA 5		Chart 3000	50°45'00"N 50°45'00"N 50°30'00"N 50°30'00"N	128°00'00"W 127°40'00"W 127°40'00"W 128°00'00"W	Sub surface operations area.	11
CHARLIE DELTA 6		Chart 3000	50°45'00"N 50°45'00"N 50°30'00"N 50°30'00"N	127°40'00"W 127°20'00"W 127°20'00"W 127°40'00"W	Sub surface operations area.	11
Areas CHARLIE DELTA 7 to CHARLIE DELTA 14 inclusive not allocated						
♣ = Only that portion of the area that is within Area WP (Defined at Diagram 11).						
CHARLIE ECHO 1	CYR 106 to 23,000 feet	Chart 3000	50°30'00"N 50°30'00"N 50°15'00"N 50°15'00"N	129°20'00"W 129°00'00"W 129°00'00"W 129°20'00"W	Sub surface operations area.	11 & 12
CHARLIE ECHO 2	CYR 106 to 23,000 feet	Chart 3000	50°30'00"N 50°30'00"N 50°15'00"N 50°15'00"N	129°00'00"W 128°40'00"W 128°40'00"W 129°00'00"W	Sub surface operations area.	11 & 12

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West Coast Area						
Sea Area	Airspace	Location	Coordinates		Employment	Diagram
CHARLIE ECHO 3		Chart 3000	50°30'00"N	128°40'00"W	Sub surface operations area.	11
			50°30'00"N	128°20'00"W		
			50°15'00"N	128°20'00"W		
			50°15'00"N	128°40'00"W		
CHARLIE ECHO 4		Chart 3000	50°30'00"N	128°20'00"W	Sub surface operations area.	11
			50°30'00"N	128°00'00"W		
			50°15'00"N	128°00'00"W		
			50°15'00"N	128°20'00"W		
CHARLIE ECHO 5		Chart 3000	50°30'00"N	128°00'00"W	Sub surface operations area.	11
			50°30'00"N	127°40'00"W		
			50°15'00"N	127°40'00"W		
			50°15'00"N	128°00'00"W		
CHARLIE ECHO 6		Chart 3000	50°30'00"N	127°40'00"W	Sub surface operations area.	11
			50°30'00"N	127°20'00"W		
			50°15'00"N	127°20'00"W		
			50°15'00"N	127°40'00"W		
Areas CHARLIE ECHO 7 to CHARLIE ECHO 14 inclusive not allocated						
♣ = Only that portion of the area that is withinArea WP (Defined at Diagram 11).						
CHARLIE FOXTROT 1	CYR 106 to 23,000 feet	Chart 3000	50°15'00"N	129°20'00"W	Sub surface operations area.	11
			50°15'00"N	129°00'00"W		
			50°00'00"N	129°00'00"W		
			50°00'00"N	129°20'00"W		
CHARLIE FOXTROT 2	CYR 106 to 23,000 feet	Chart 3000	50°15'00"N	129°00'00"W	Sub surface operations area.	11
			50°15'00"N	128°40'00"W		
			50°00'00"N	128°40'00"W		
			50°00'00"N	129°00'00"W		
CHARLIE FOXTROT 3	CYR 106 to 23,000 feet	Chart 3000	50°15'00"N	128°40'00"W	Sub surface operations area.	11 & 12
			50°15'00"N	128°20'00"W		
			50°00'00"N	128°20'00"W		
			50°00'00"N	128°40'00"W		
CHARLIE FOXTROT 4	CYR 106 to 23,000 feet	Chart 3000	50°15'00"N	128°20'00"W	Sub surface operations area.	11
			50°15'00"N	128°00'00"W		
			50°00'00"N	128°00'00"W		
			50°00'00"N	128°20'00"W		
CHARLIE FOXTROT 5		Chart 3000	50°15'00"N	128°00'00"W	Sub surface operations area.	11
			50°15'00"N	127°40'00"W		
			50°00'00"N	127°40'00"W		
			50°00'00"N	128°00'00"W		
CHARLIE FOXTROT 6		Chart 3000	50°15'00"N	127°40'00"W	Sub surface operations area.	11
			50°15'00"N	127°20'00"W		
			50°00'00"N	127°20'00"W		
			50°00'00"N	127°40'00"W		
CHARLIE FOXTROT 7		Chart 3000	50°15'00"N	127°20'00"W	Sub surface operations area.	11
			50°15'00"N	127°00'00"W		
			50°00'00"N	127°00'00"W		
			50°00'00"N	127°20'00"W		
Areas CHARLIE FOXTROT 8 to CHARLIE FOXTROT 14 inclusive not allocated						
♣ = Only that portion of the area that is within Area WP (Defined at Diagram 11)						

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West Coast Area						
Sea Area	Airspace	Location	Coordinates		Employment	Diagram
CHARLIE GOLF 1	CYR 106 to 23,000 feet	Chart 3000	50°00'00"N 50°00'00"N 49°45'00"N 49°45'00"N	129°20'00"W 129°00'00"W 129°00'00"W 129°20'00"W	Sub surface operations area.	11 & 12
CHARLIE GOLF 2	CYR 106 to 23,000 feet	Chart 3000	50°00'00"N 50°00'00"N 49°45'00"N 49°45'00"N	129°00'00"W 128°40'00"W 128°40'00"W 129°00'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12
CHARLIE GOLF 3	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	50°00'00"N 50°00'00"N 49°45'00"N 49°45'00"N	128°40'00"W 128°20'00"W 128°20'00"W 128°40'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12
CHARLIE GOLF 4	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	50°00'00"N 50°00'00"N 49°45'00"N 49°45'00"N	128°20'00"W 128°00'00"W 128°00'00"W 128°20'00"W	Sub surface operations area. ♣Firing Exercise Area.	11 & 12
CHARLIE GOLF 5	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	50°00'00"N 50°00'00"N 49°45'00"N 49°45'00"N	128°00'00"W 127°40'00"W 127°40'00"W 128°00'00"W	Sub surface operations area. ♣Firing Exercise Area.	11 & 12
CHARLIE GOLF 6	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	50°00'00"N 50°00'00"N 49°45'00"N 49°45'00"N	127°40'00"W 127°20'00"W 127°20'00"W 127°40'00"W	Sub surface operations area.	11
CHARLIE GOLF 7		Chart 3000	50°00'00"N 50°00'00"N 49°45'00"N 49°45'00"N	127°20'00"W 127°00'00"W 127°00'00"W 127°20'00"W	Sub surface operations area.	11
CHARLIE GOLF 8		Chart 3000	50°00'00"N 50°00'00"N 49°45'00"N 49°45'00"N	127°00'00"W 126°40'00"W 126°40'00"W 127°00'00"W	Sub surface operations area.	11
CHARLIE GOLF 9		Chart 3000	50°00'00"N 50°00'00"N 49°45'00"N 49°45'00"N	126°40'00"W 126°20'00"W 126°20'00"W 126°40'00"W	Sub surface operations area.	11
Areas CHARLIE GOLF 10 to CHARLIE GOLF 14 inclusive not allocated						
CHARLIE HOTEL 1	CYR 106 to 23,000 feet	Chart 3000	49°45'00"N 49°45'00"N 49°30'00"N 49°30'00"N	129°20'00"W 129°00'00"W 129°00'00"W 129°20'00"W	Sub surface operations area.	11
CHARLIE HOTEL 2	CYR 106 to 23,000 feet	Chart 3000	49°45'00"N 49°45'00"N 49°30'00"N 49°30'00"N	129°00'00"W 128°40'00"W 128°40'00"W 129°00'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12

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Sea Area	Airspace	Location	Coordinates		Employment	Diagram
CHARLIE HOTEL 3	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°45'00"N 49°45'00"N 49°30'00"N 49°30'00"N	128°40'00"W 128°20'00"W 128°20'00"W 128°40'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12
CHARLIE HOTEL 4	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°45'00"N 49°45'00"N 49°30'00"N 49°30'00"N	128°20'00"W 128°00'00"W 128°00'00"W 128°20'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12
CHARLIE HOTEL 5	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°45'00"N 49°45'00"N 49°30'00"N 49°30'00"N	128°00'00"W 127°40'00"W 127°40'00"W 128°00'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12
CHARLIE HOTEL 6	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°45'00"N 49°45'00"N 49°30'00"N 49°30'00"N	127°40'00"W 127°20'00"W 127°20'00"W 127°40'00"W	Sub surface operations area. ♣Firing Exercise Area.	11 & 12
CHARLIE HOTEL 7	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°45'00"N 49°45'00"N 49°30'00"N 49°30'00"N	127°20'00"W 127°00'00"W 127°00'00"W 127°20'00"W	Sub surface operations area. ♣Firing Exercise Area	11 & 12
CHARLIE HOTEL 8	CYR 106 to 23,000 feet	Chart 3000	49°45'00"N 49°45'00"N 49°30'00"N 49°30'00"N	127°00'00"W 126°40'00"W 126°40'00"W 127°00'00"W	Sub surface operations area.	11
♣ = Only that portion of the area that is within Area WP (Defined at Diagram 11)						
CHARLIE HOTEL 9		Chart 3000	49°45'00"N 49°45'00"N 49°30'00"N 49°30'00"N	126°40'00"W 126°20'00"W 126°20'00"W 126°40'00"W	Sub surface operations area.	11
CHARLIE HOTEL 10		Chart 3000	49°45'00"N 49°45'00"N 49°30'00"N 49°30'00"N	126°20'00"W 126°00'00"W 126°00'00"W 126°20'00"W	Sub surface operations area.	11
Areas CHARLIE HOTEL 11 to CHARLIE HOTEL 14 inclusive not allocated						
CHARLIE INDIA 1	CYR 106 to 23,000 feet	Chart 3000	49°30'00"N 49°30'00"N 49°15'00"N 49°15'00"N	129°20'00"W 129°00'00"W 129°00'00"W 129°20'00"W	Sub surface operations area.	11
CHARLIE INDIA 2	CYR 106 to 23,000 feet	Chart 3000	49°30'00"N 49°30'00"N 49°15'00"N 49°15'00"N	129°00'00"W 128°40'00"W 128°40'00"W 129°00'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12
CHARLIE INDIA 3	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°30'00"N 49°30'00"N 49°15'00"N 49°15'00"N	128°40'00"W 128°20'00"W 128°20'00"W 128°40'00"W	Sub surface operations area. ♦Firing Exercise Area.	11 & 12

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West Coast Area						
Sea Area	Airspace	Location	Coordinates		Employment	Diagram
CHARLIE INDIA 4	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°30'00"N 49°30'00"N 49°15'00"N 49°15'00"N	128°20'00"W 128°00'00"W 128°00'00"W 128°20'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12
CHARLIE INDIA 5	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°30'00"N 49°30'00"N 49°15'00"N 49°15'00"N	128°00'00"W 127°40'00"W 127°40'00"W 128°00'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12
CHARLIE INDIA 6	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°30'00"N 49°30'00"N 49°15'00"N 49°15'00"N	127°40'00"W 127°20'00"W 127°20'00"W 127°40'00"W	Sub surface operations area. Primary Firing Exercise Area.	11 & 12
CHARLIE INDIA 7	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°30'00"N 49°30'00"N 49°15'00"N 49°15'00"N	127°20'00"W 127°00'00"W 127°00'00"W 127°20'00"W	Sub surface operations area. ♣ Primary Firing Exercise Area.	11 & 12
CHARLIE INDIA 8	CYR 106 to 23,000 feet	Chart 3000	49°30'00"N 49°30'00"N 49°15'00"N 49°15'00"N	127°00'00"W 126°40'00"W 126°40'00"W 127°00'00"W	Sub surface operations area.	11
♣ = Only that portion of the area that is within Area WP (Defined at Diagram 11)						
CHARLIE INDIA 9	CYR 106 to 23,000 feet	Chart 3000	49°30'00"N 49°30'00"N 49°15'00"N 49°15'00"N	126°40'00"W 126°20'00"W 126°20'00"W 126°40'00"W	Sub surface operations area.	11
CHARLIE INDIA 10		Chart 3000	49°30'00"N 49°30'00"N 49°15'00"N 49°15'00"N	126°20'00"W 126°00'00"W 126°00'00"W 126°20'00"W	Sub surface operations area.	11
CHARLIE INDIA 11		Chart 3000	49°30'00"N 49°30'00"N 49°15'00"N 49°15'00"N	126°00'00"W 125°40'00"W 125°40'00"W 126°00'00"W	Sub surface operations area.	11
Areas CHARLIE INDIA 12 to CHARLIE INDIA 14 inclusive not allocated						
CHARLIE JULIET 1	CYR 106 to 23,000 feet	Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	129°20'00"W 129°00'00"W 129°00'00"W 129°20'00"W	Sub surface operations area.	11
CHARLIE JULIET 2	CYR 106 to 23,000 feet	Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	129°00'00"W 128°40'00"W 128°40'00"W 129°00'00"W	Sub surface operations area. ♣ Firing Exercise Area.	11 & 12
CHARLIE JULIET 3	CYR 106 to 23,000 feet	Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	128°40'00"W 128°20'00"W 128°20'00"W 128°40'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12

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West Coast Area						
Sea Area	Airspace	Location	Coordinates		Employment	Diagram
CHARLIE JULIET 4	CYR 106 to 23,000 feet	Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	128°20'00"W 128°00'00"W 128°00'00"W 128°20'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12
CHARLIE JULIET 5	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	128°00'00"W 127°40'00"W 127°40'00"W 128°00'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12
CHARLIE JULIET 6	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	127°40'00"W 127°20'00"W 127°20'00"W 127°40'00"W	Sub surface operations area. Primary Firing Exercise Area Surface.	11 & 12
CHARLIE JULIET 7	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	127°20'00"W 127°00'00"W 127°00'00"W 127°20'00"W	Sub surface operations area. ♣ Primary Firing Exercise Area Surface.	11 & 12
♣ = Only that portion of the area that is within Area WP (Defined at Diagram 11)						
CHARLIE JULIET 8	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	127°00'00"W 126°40'00"W 126°40'00"W 127°00'00"W	Sub surface operations area. ♣ Firing Exercise Area.	11 & 12
CHARLIE JULIET 9	CYR 106 to 23,000 feet CYR 101 23,000 to 60,000 feet	Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	126°40'00"W 126°20'00"W 126°20'00"W 126°40'00"W	Sub surface operations area.	11
CHARLIE JULIET 10		Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	126°20'00"W 126°00'00"W 126°00'00"W 126°20'00"W	Sub surface operations area.	11
CHARLIE JULIET 11		Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	126°00'00"W 125°40'00"W 125°40'00"W 126°00'00"W	Sub surface operations area.	11
CHARLIE JULIET 12		Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	125°40'00"W 125°20'00"W 125°20'00"W 125°40'00"W	Sub surface operations area.	11
CHARLIE JULIET 13		Chart 3000	49°15'00"N 49°15'00"N 49°00'00"N 49°00'00"N	125°20'00"W 125°00'00"W 125°00'00"W 125°20'00"W	Sub surface operations area.	11
Area CHARLIE JULIET 14 not allocated						
CHARLIE KILO 1	CYR 106 to 23,000 feet	Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	129°20'00"W 129°00'00"W 129°00'00"W 129°20'00"W	Sub surface operations area.	11

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West Coast Area						
Sea Area	Airspace	Location	Coordinates		Employment	Diagram
CHARLIE KILO 2	CYR 106 to 23,000 feet	Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	129°00'00"W 128°40'00"W 128°40'00"W 129°00'00"W	Sub surface operations area.	11
CHARLIE KILO 3	CYR 106 To 23,000 feet	Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	128°40'00"W 128°20'00"W 128°20'00"W 128°40'00"W	Sub surface operations area. ♣ Firing Exercise Area.	11 & 12
CHARLIE KILO 4	CYR 106 To 23,000 feet	Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	128°20'00"W 128°00'00"W 128°00'00"W 128°20'00"W	Sub surface operations area. ♣ Firing Exercise Area	11 & 12
♣ = Only that portion of the area that is within Area WP (Defined at Diagram 11)						
CHARLIE KILO 5	CYR 106 To 23,000 feet	Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	128°00'00"W 127°40'00"W 127°40'00"W 128°00'00"W	Sub surface operations area. Firing Exercise Area	11 & 12
CHARLIE KILO 6	CYR 106 To 23,000 feet	Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	127°40'00"W 127°20'00"W 127°20'00"W 127°40'00"W	Sub surface operations area. Firing Exercise Area	11 & 12
CHARLIE KILO 7	CYR 106 To 23,000 feet	Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	127°20'00"W 127°00'00"W 127°00'00"W 127°20'00"W	Sub surface operations area. Firing Exercise Area.	11 & 12
CHARLIE KILO 8	CYR 106 To 23,000 feet	Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	127°00'00"W 126°40'00"W 126°40'00"W 127°00'00"W	Sub surface operations area. ♣ Firing Exercise Area.	11 & 12
CHARLIE KILO 9	CYR 106 To 23,000 feet	Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	126°40'00"W 126°20'00"W 126°20'00"W 126°40'00"W	Sub surface operations area.	11
CHARLIE KILO 10		Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	126°20'00"W 126°00'00"W 126°00'00"W 126°20'00"W	Sub surface operations area.	11
CHARLIE KILO 11		Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	126°00'00"W 125°40'00"W 125°40'00"W 126°00'00"W	Sub surface operations area.	11
CHARLIE KILO 12		Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	125°40'00"W 125°20'00"W 125°20'00"W 125°40'00"W	Sub surface operations area.	11
CHARLIE KILO 13		Chart 3000	49°00'00"N 49°00'00"N 48°45'00"N 48°45'00"N	125°20'00"W 125°00'00"W 125°00'00"W 125°20'00"W	Sub surface operations area.	11

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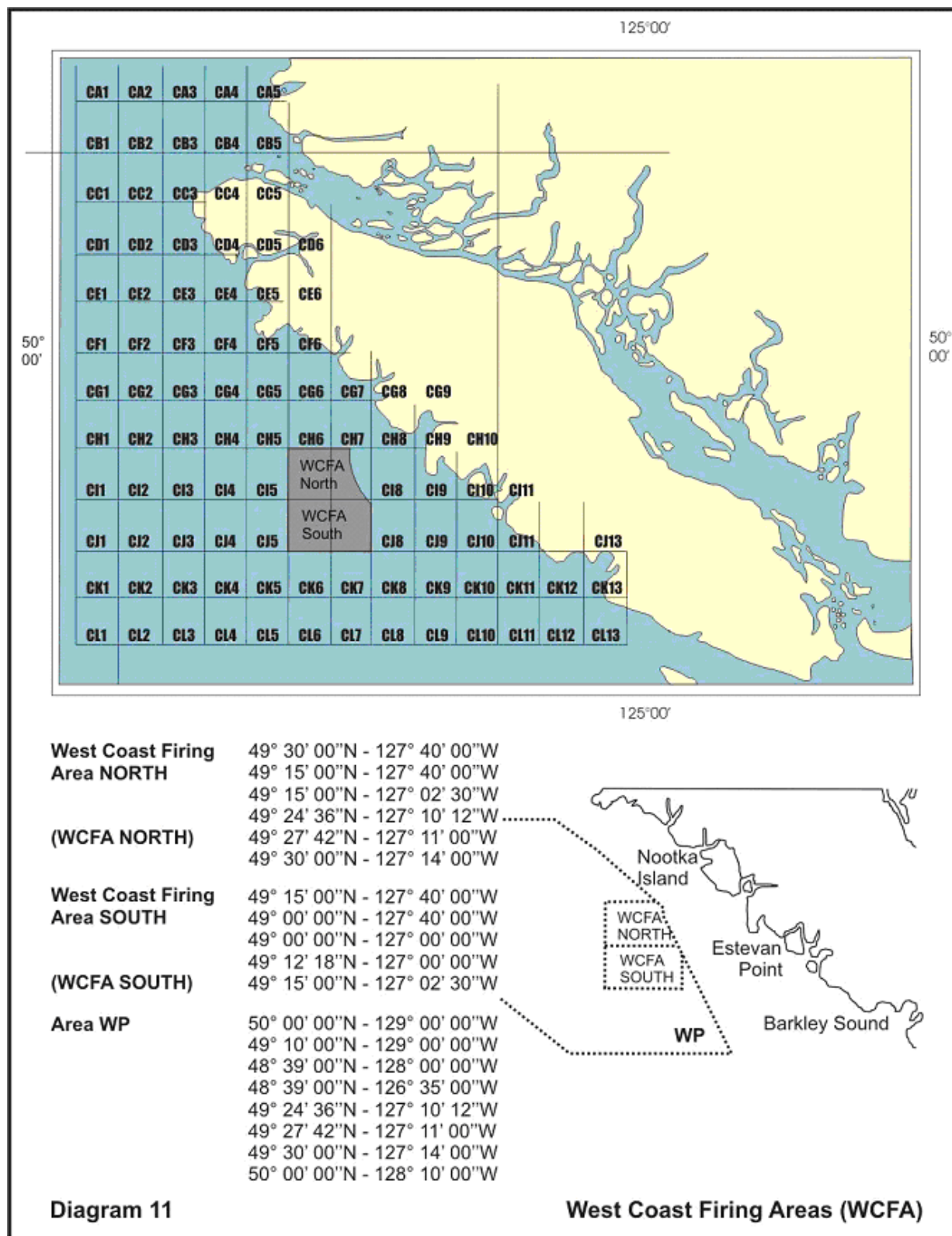
West Coast Area						
Sea Area	Airspace	Location	Coordinates		Employment	Diagram
Area CHARLIE KILO 14 not allocated						
CHARLIE LIMA 1		Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	129°20'00"W 129°00'00"W 129°00'00"W 129°20'00"W	Sub surface operations area.	11
♣ = Only that portion of the area that is within Area WP (Defined at Diagram 11)						
CHARLIE LIMA 2	CYR 106 To 23,000 feet	Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	129°00'00"W 128°40'00"W 128°40'00"W 129°00'00"W	Sub surface operations area.	11
CHARLIE LIMA 3	CYR 106 To 23,000 feet	Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	128°40'00"W 128°20'00"W 128°20'00"W 128°40'00"W	Sub surface operations area.	11
CHARLIE LIMA 4	CYR 106 To 23,000 feet	Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	128°20'00"W 128°00'00"W 128°00'00"W 128°20'00"W	Sub surface operations area. ♣ Firing Exercise Area.	11 & 12
CHARLIE LIMA 5	CYR 106 To 23,000 feet	Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	128°00'00"W 127°40'00"W 127°40'00"W 128°00'00"W	Sub surface operations area. ♣ Firing Exercise Area.	11 & 12
CHARLIE LIMA 6	CYR 106 To 23,000 feet	Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	127°40'00"W 127°20'00"W 127°20'00"W 127°40'00"W	Sub surface operations area. ♣ Firing Exercise Area.	11 & 12
CHARLIE LIMA 7	CYR 106 To 23,000 feet	Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	127°20'00"W 127°00'00"W 127°00'00"W 127°20'00"W	Sub surface operations area. ♣ Firing Exercise Area.	11 & 12
CHARLIE LIMA 8	CYR 106 To 23,000 feet	Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	127°00'00"W 126°40'00"W 126°40'00"W 127°00'00"W	Sub surface operations area. ♣ Firing Exercise Area.	11 & 12
CHARLIE LIMA 9	CYR 106 To 23,000 feet	Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	126°40'00"W 126°20'00"W 126°20'00"W 126°40'00"W	Sub surface operations area. ♣ Firing Exercise Area.	11 & 12
CHARLIE LIMA 10		Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	126°20'00"W 126°00'00"W 126°00'00"W 126°20'00"W	Sub surface operations area.	11
CHARLIE LIMA 11		Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	126°00'00"W 125°40'00"W 125°40'00"W 126°00'00"W	Sub surface operations area.	11
CHARLIE LIMA 12		Chart 3000	48°45'00"N 48°45'00"N 48°30'00"N 48°30'00"N	125°40'00"W 125°20'00"W 125°20'00"W 125°40'00"W	Sub surface operations area.	11

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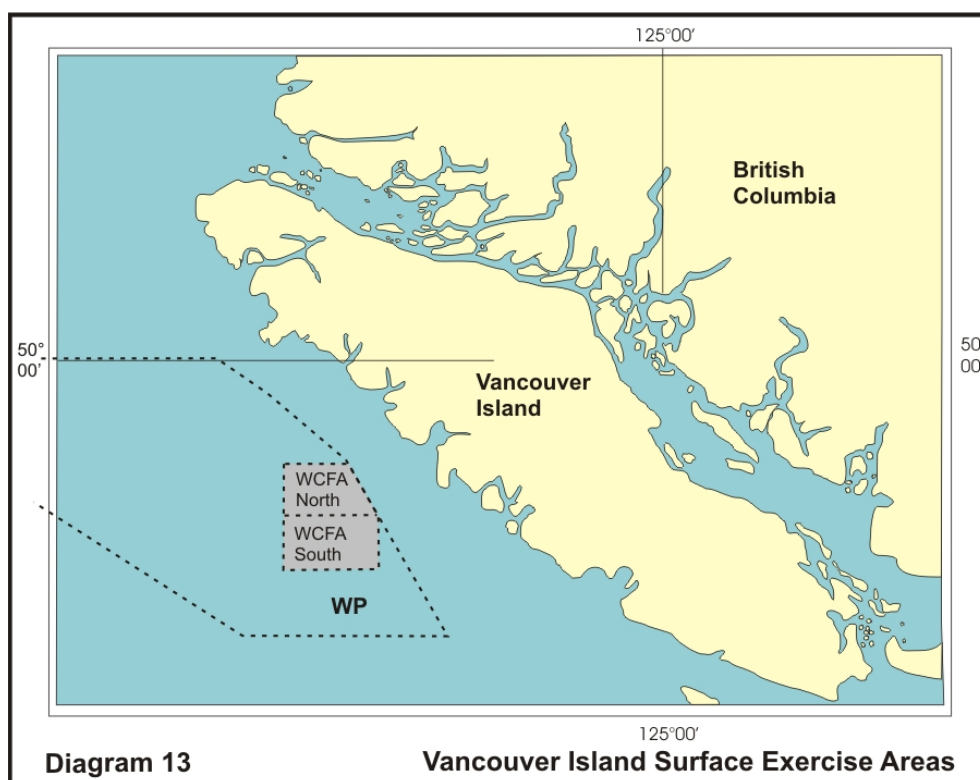
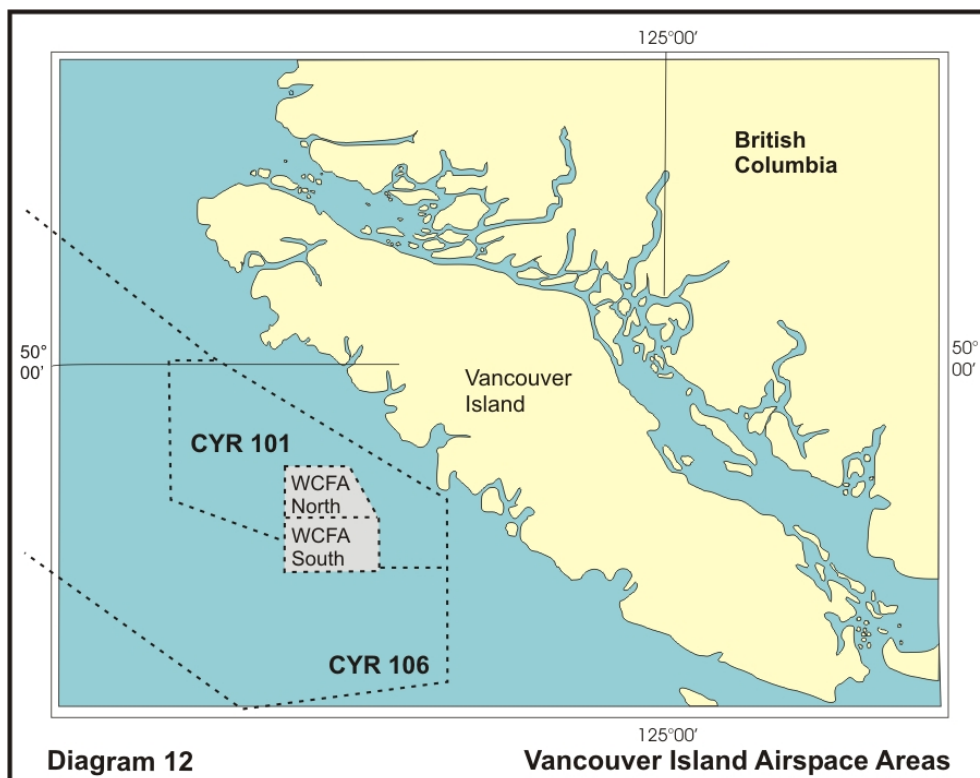
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West Coast Area						
Sea Area	Airspace	Location	Coordinates		Employment	Diagram
CHARLIE LIMA 13		Chart 3000	48°45'00"N	125°20'00"W	Sub surface operations area.	11
			48°45'00"N	125°00'00"W		
			48°30'00"N	125°00'00"W		
			48°30'00"N	125°20'00"W		
Note: All Vancouver Island (VI) Areas are bounded by the shoreline where any area comes in contact with land.						

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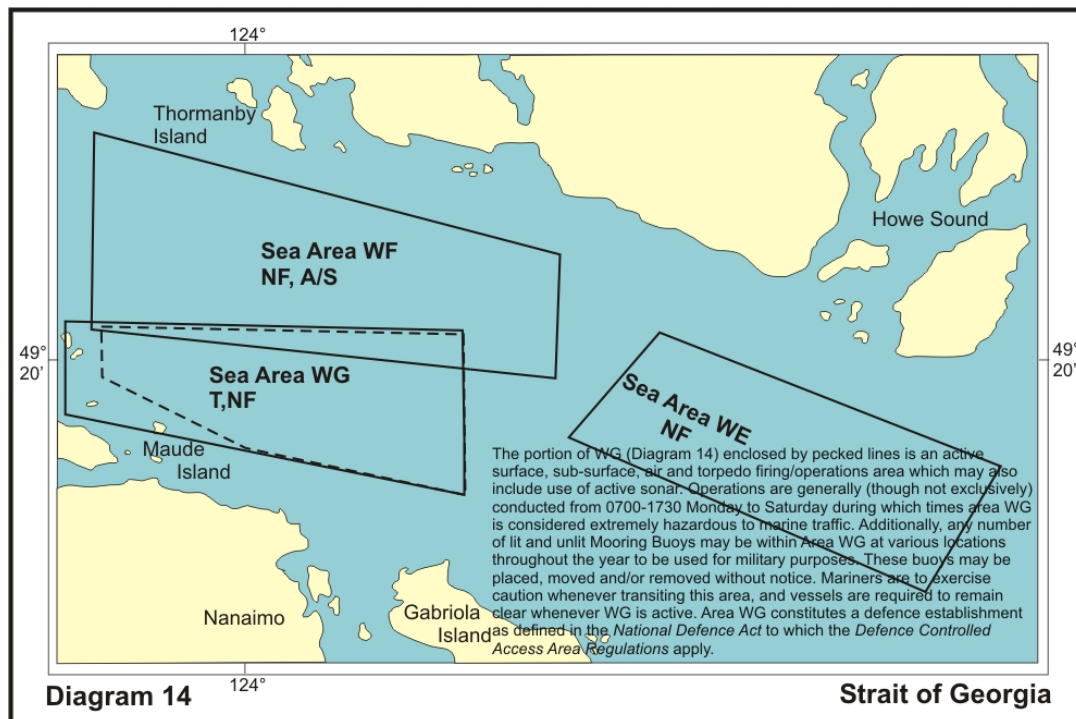


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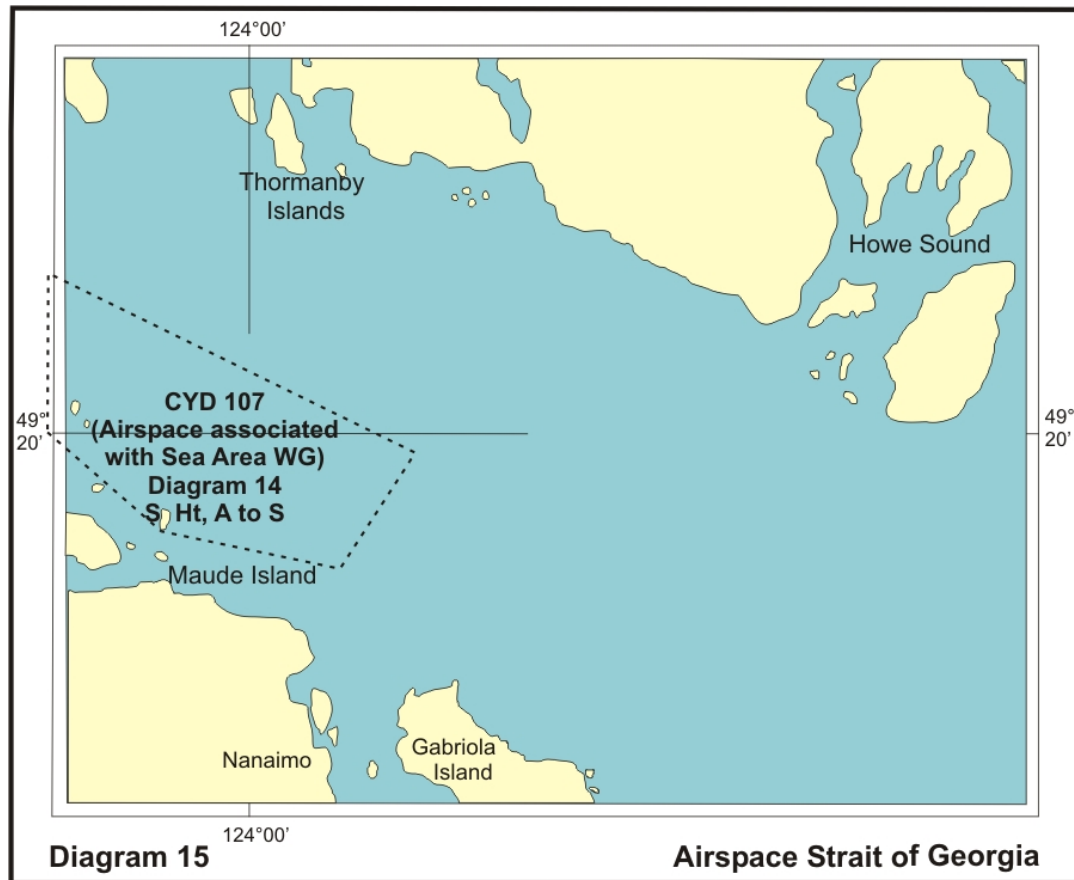
Strait of Georgia (Area SOG)					
Sea Area	Airspace	Location	Coordinates	Employment	Diagram
Strait of Georgia (AREA SOG)		Charts 3513, 3512, 3463	Area bounded to the West by Vancouver Island East by British Columbia mainland North by lat. 50°10'00"N; and South by lat. 49°00'00"N.	Sub surface operations area.	18
WC		Chart 3462	48°35'25"N 123°22'18"W 48°35'25"N 123°21'48"W 48°31'57"N 123°19'42"W 48°31'57"N 123°21'59"W	Firing Exercise (Torpedo) (TORPEX) Sub surface operations area.	16
WD	To 5,000 feet	Chart 3441	48°38'48"N 123°30'45"W 48°38'48"N 123°29'15"W 48°37'48"N 123°29'15"W 48°37'48"N 123°30'45"W	Surface and Sub surface general operations area.	16
WE		Chart 3463	49°11'00"N 123°24'00"W 49°17'00"N 123°43'00"W 49°21'00"N 123°38'00"W 49°16'00"N 123°20'00"W	Non-firing exercises. Sub surface operations area.	14
WF		Chart 3512	49°19'18"N 123°43'30"W 49°21'18"N 124°08'00"W 49°28'42"N 124°08'00"W 49°24'18"N 123°43'30"W	Air, Sub surface and surface operations area.	14
WG	To 13,500 feet CYR 107	Chart 3512	49°21'28"N 124°09'30"W 49°21'00"N 123°48'24"W 49°14'50"N 123°48'24"W 49°18'02"N 124°09'30"W	Air, Sub surface and surface operations area. Firing Exercise (Torpedo) (TORPEX)	14 & 15
WI	To 1,000 feet CYA 124	Chart 3513	49°46'30"N 124°50'00"W 49°46'30"N 124°40'00"W 49°43'30"N 124°40'00"W 49°31'30"N 124°16'00"W 49°33'00"N 124°28'00"W	Air and Sub surface exercise area. Firing Exercise (Air Dropped Explosives) (EEREX)	17
WN	To 1,000 feet	Chart 3514	49°50'06"N 124°02'12"W 49°48'21"N 124°05'06"W 49°47'51"N 124°05'26"W 49°46'40"N 124°03'16"W 49°46'41"N 123°59'50"W 49°46'54"N 123°59'32"W 49°47'22"N 123°58'54"W 49°48'30"N 123°57'30"W 49°49'23"N 124°00'03"W	Surface and Sub surface general operations area. Surface to Bottom	19

Note: All of SOG Area is bounded by the shoreline where the area comes in contact with land

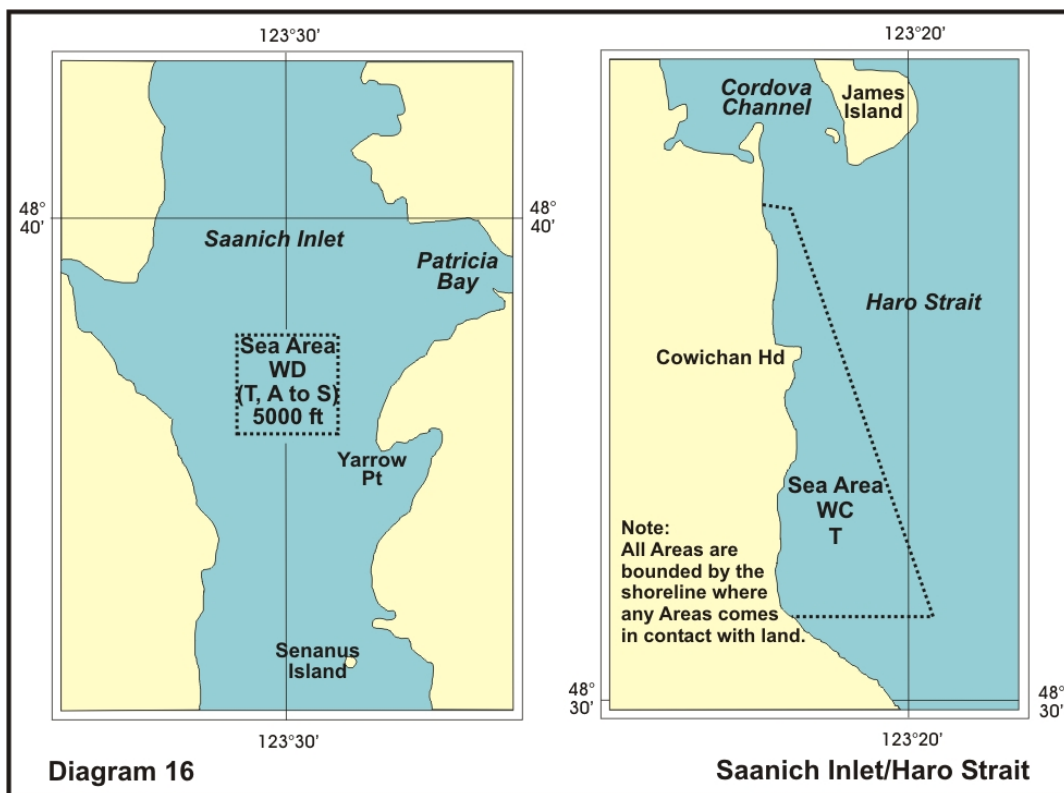
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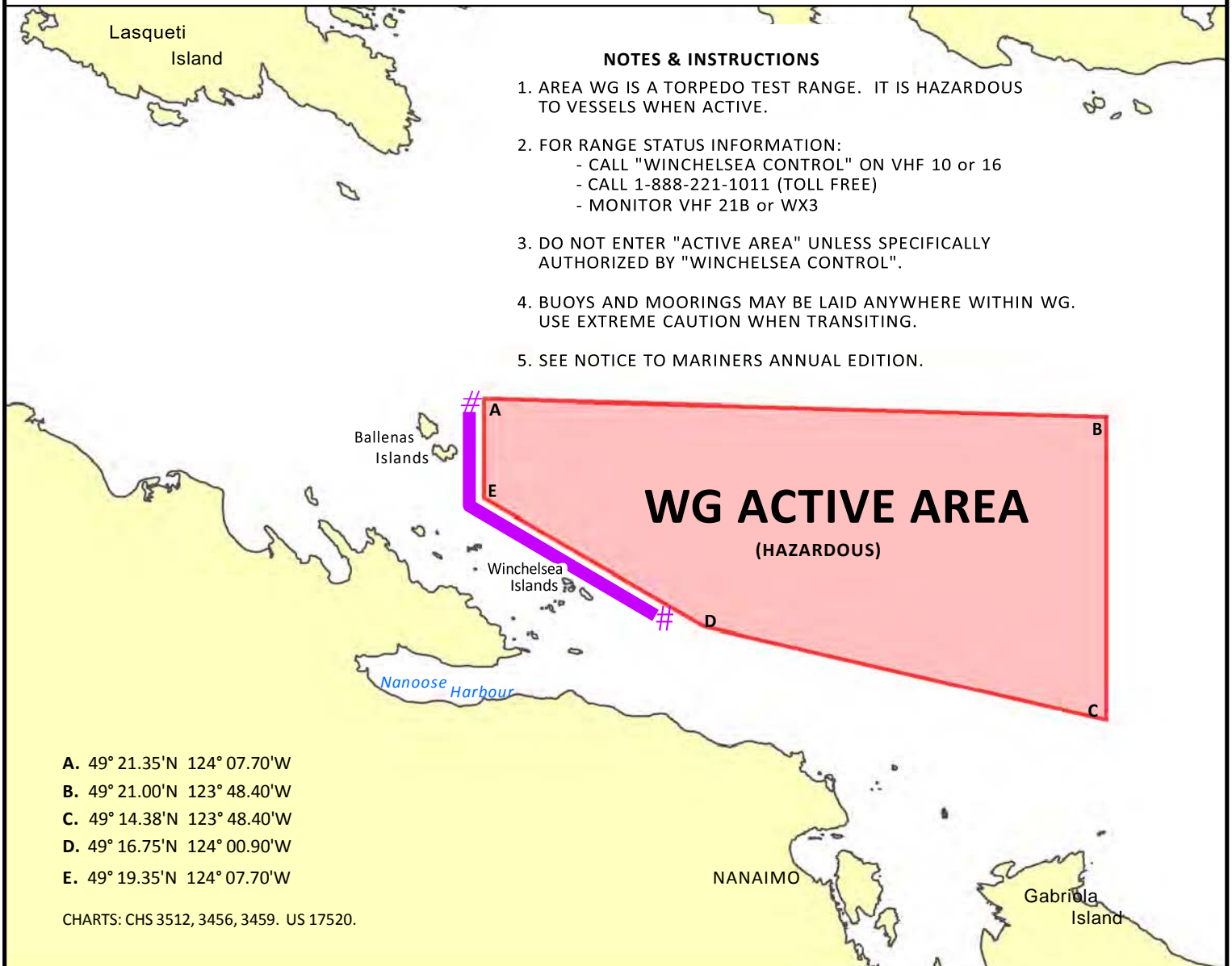


NOTICE OF HAZARDOUS AREA DEPARTMENT OF NATIONAL DEFENCE TORPEDO TEST RANGE



NOTES & INSTRUCTIONS

1. AREA WG IS A TORPEDO TEST RANGE. IT IS HAZARDOUS TO VESSELS WHEN ACTIVE.
2. FOR RANGE STATUS INFORMATION:
 - CALL "WINCHELSEA CONTROL" ON VHF 10 or 16
 - CALL 1-888-221-1011 (TOLL FREE)
 - MONITOR VHF 21B or WX3
3. DO NOT ENTER "ACTIVE AREA" UNLESS SPECIFICALLY AUTHORIZED BY "WINCHELSEA CONTROL".
4. BUOYS AND MOORINGS MAY BE LAID ANYWHERE WITHIN WG. USE EXTREME CAUTION WHEN TRANSITING.
5. SEE NOTICE TO MARINERS ANNUAL EDITION.



Canadian Forces Maritime Experimental and Test Ranges (CFMETR) - Nanoose Bay, BC

The Canadian Forces Maritime Experimental and Test Ranges tests ship and aircraft systems and torpedoes launched by surface vessels, submarines, or aircraft. No explosives are used; however, a hazard exists due to the possibility of the torpedo homing on vessels and then the vessel being struck by the torpedo on its way to the surface.

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Testing is usually carried out during daylight hours Monday to Saturday. During testing, area "WG" is "Active". Any vessel within the area will be required to clear or stop on demand from the "Winchelsea Island Control" or any of the range vessels or range helicopter. The positions of these coordinates are clearly marked on the diagram above.

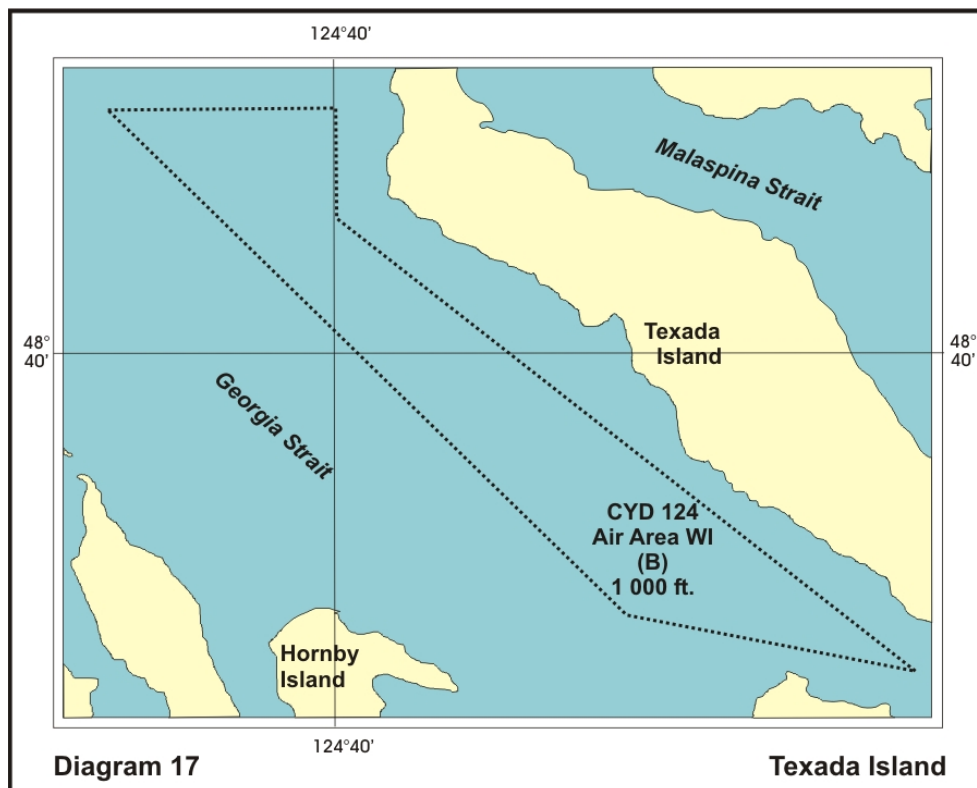
A transit area 1,000 yards north of Winchelsea Island and 1,000 yards east of South Ballenas Island is recommended to enable mariners to transit safely around the active area. It also facilitates unimpeded access to marina facilities in Schooner Cove and Nanoose Bay. The active range area is clearly depicted on CHS charts 3512, 3456 and 3459 by means of pecked lines.

Additional information on active range hours or for safe transit through the area may be obtained from:

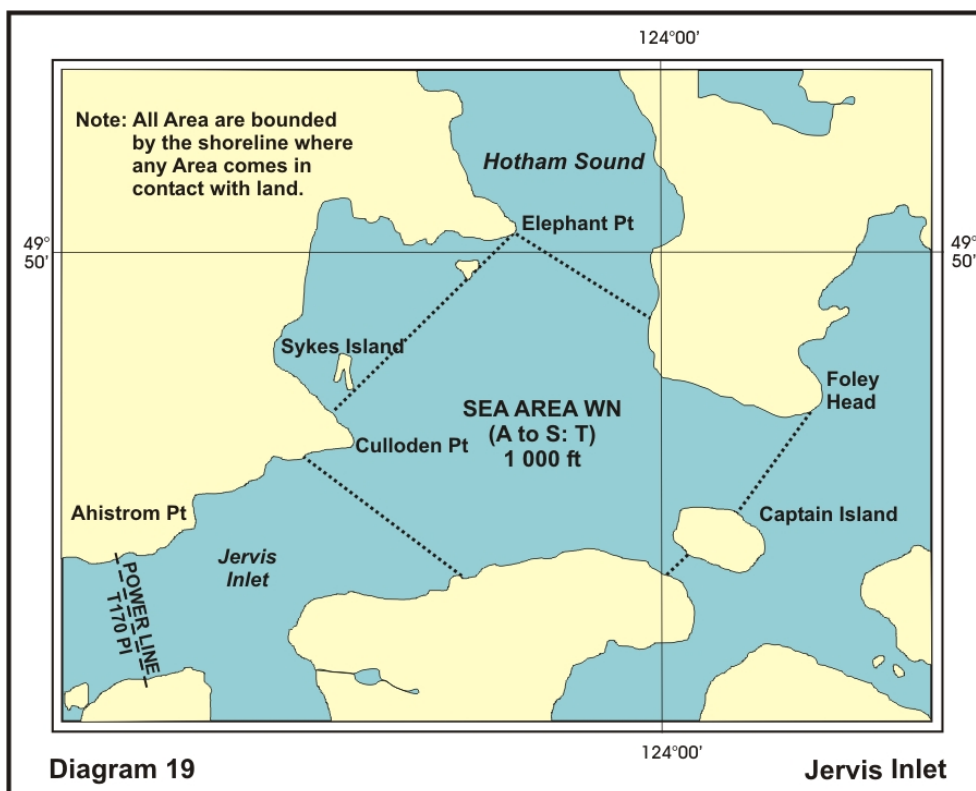
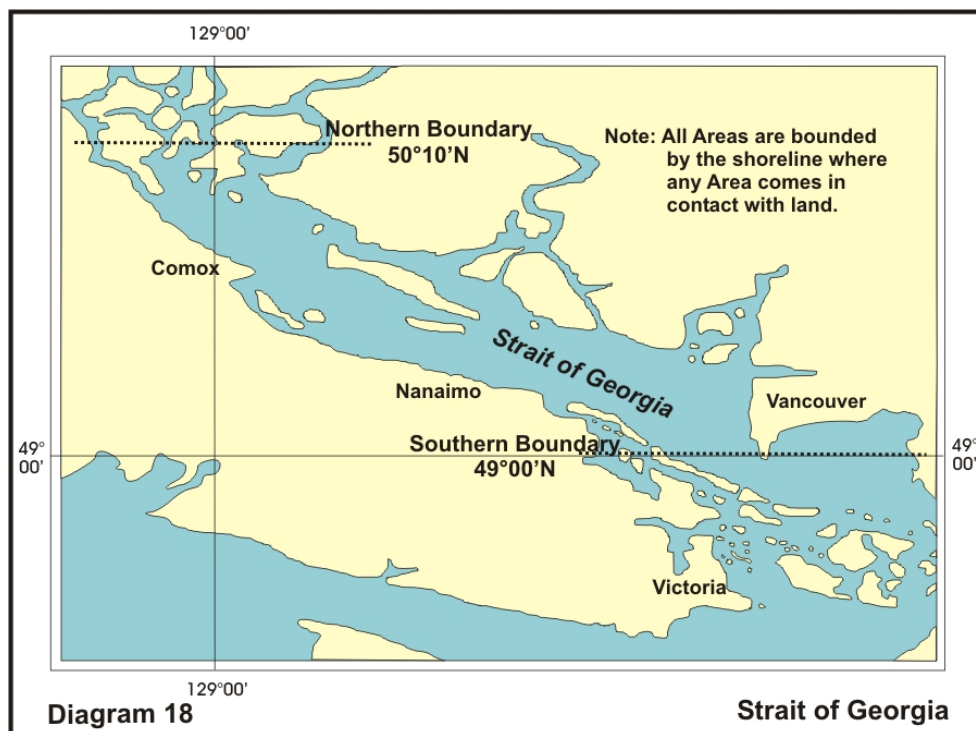
- a. Winchelsea Island Control at 1-888-221-1011 (next day's activity only);
- b. CFMETR Range Officer at 250-468-5002 (long range planning);
- c. Winchelsea Island Control VHF CH 10 or 16 (for safe transit area information when approaching Area "WG"). or
- d. CMB VHF 21B or Weather 3 (listen only, for active times).
- e. Notice to Shipping, Victoria MCTS Centre, at 250-363-8904; email: [mailto:mcts@pac.dfo-mpo.gc.ca](mailto:mcto:mcts@pac.dfo-mpo.gc.ca)

Area "WG" constitutes a "Defence Establishment" as defined in the National Defence Act to which the Defence Controlled Access Area Regulations apply. Vessels which do not comply with direction from either Winchelsea control or Range Patrol Vessels may be charged for trespassing.

Range vessels exhibit a flashing red light in addition to the prescribed lights and shapes. These vessels may operate outside of scheduled hours and should not be approached within 3,000 yards because they may be in a three-point moor with mooring lines extending to buoys 1,500 yards away. Additionally, lighted and unlighted mooring buoys are randomly located within the area. Mariners are advised to use caution when transiting this area during non-active range periods to avoid mooring buoys and lines.



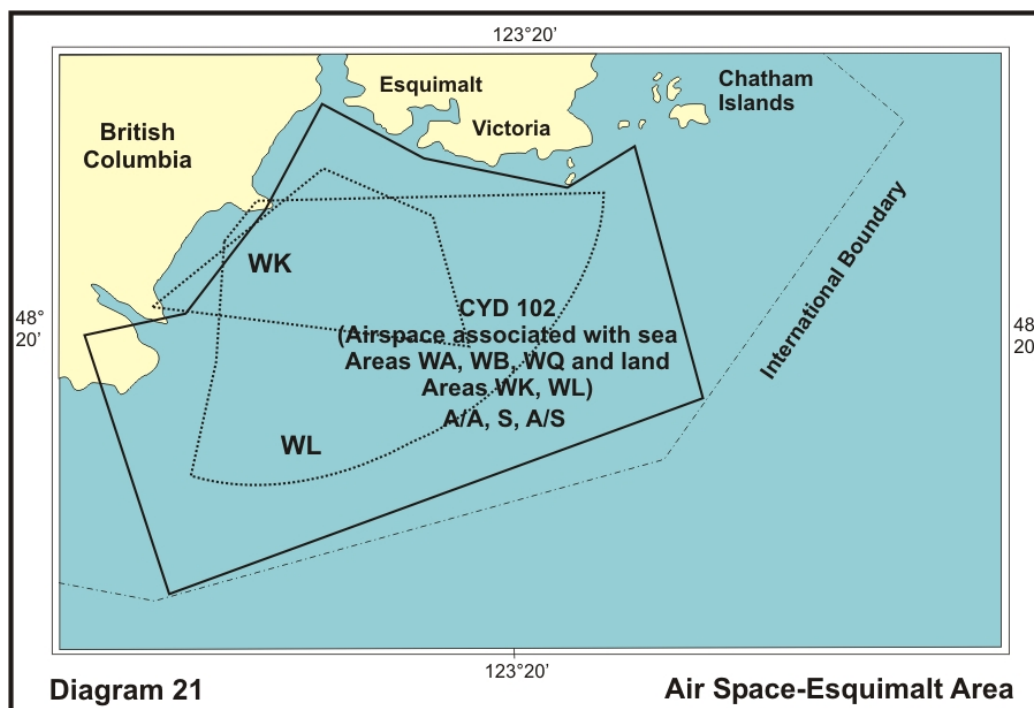
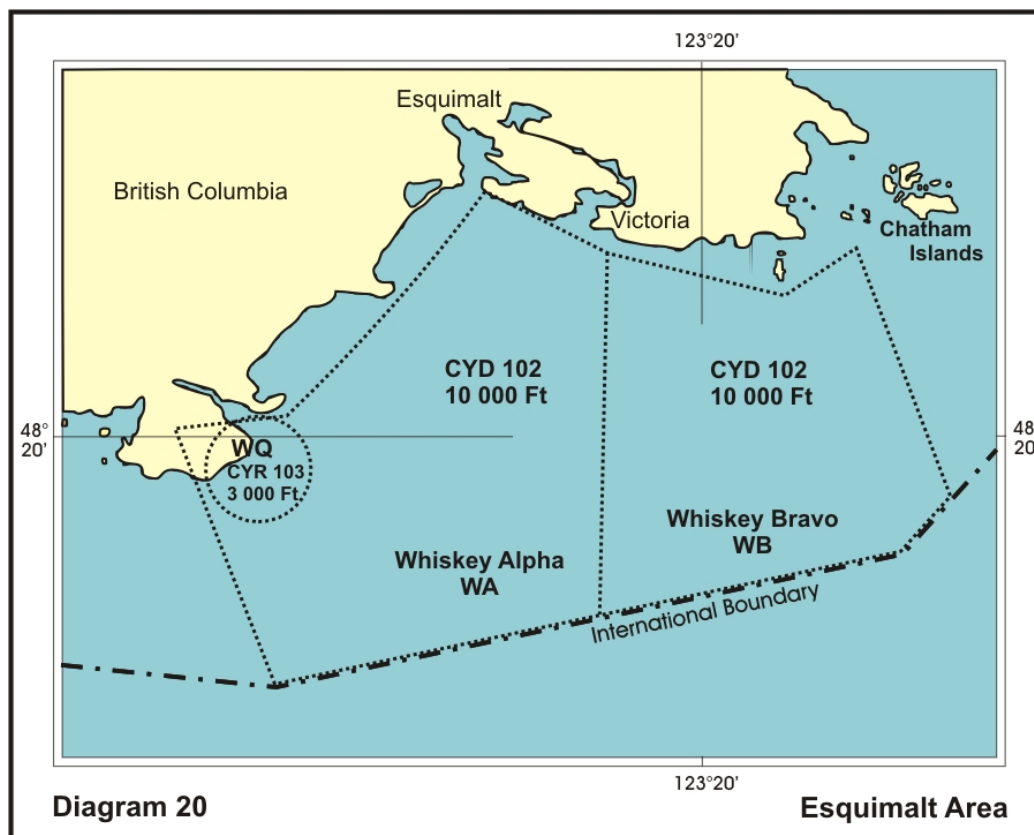
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Esquimalt Harbour Approaches Areas				
Sea Area	Airspace	Location	Coordinates	Employment
BANKS 1		Charts 3461 3440	48° 24' 28" N 123° 18' 30" W (INTERSECTION OF LAND) 48° 16' 00" N 123° 18' 30" W 48° 16' 00" N 123° 35' 00" W 48° 18' 38" N 123° 35' 00" W (INTERSECTION OF LAND) THE COASTLINE BACK TO ORIGIN	Sub surface operations area. Surface to Bottom.
BANKS 2		Charts 3461 3440	48° 27' 00" N 123° 17' 22" W (INTERSECTION OF LAND) 48° 27' 00" N 123° 09' 18" W (INTERNATIONAL BORDER) 48° 25' 22" N 123° 06' 54.5" W (INTERNATIONAL BORDER) 48° 25' 00" N 123° 00' 00" W 48° 14' 30" N 123° 00' 00" W 48° 14' 30" N 123° 18' 30" W 48° 24' 28" N 123° 18' 30" W (INTERSECTION OF LAND)	Sub surface operations area. Surface to Bottom.
BANKS 3		Charts 3461 3440	48° 14' 30" N 123° 18-30W 48° 14' 30" N 123° 00-00W 48° 25' 00" N 123° 00-00W 48° 25' 00" N 122° 50-00W 48° 08' 04" N 122° 50-00W (INTERSECTION OF LAND)	Sub surface operations area. Surface to Bottom.
WA	To 10,000 feet CYD 102	Chart 3461	48° 20' 36" N 123° 31' 34" W 48° 23' 15" N 123° 28' 36" W 48° 25' 50" N 123° 26' 45" W 48° 24' 25" N 123° 23' 15" W 48° 15' 21" N 123° 23' 15" W 48° 13' 36" N 123° 31' 48" W 48° 20' 00" N 123° 34' 30" W	General surface and air operations area. Firing Exercise (Pyrotechnics) (PYROEX)
WB	To 10,000 feet CYD 102	Chart 3461	48° 24' 25" N 123° 23' 15" W 48° 23' 47" N 123° 18' 12" W 48° 24' 45" N 123° 16' 00" W 48° 18' 30" N 123° 13' 28" W 48° 17' 03" N 123° 14' 48" W 48° 15' 21" N 123° 23' 15" W	General surface and air operations area. Firing Exercise (Pyrotechnics) (PYROEX)
WK	To 10,000 feet CYD 102	Chart 3461		General surface and air operations area. Inactive
WL	To 10,000 feet CYD 102	Chart 3461		General surface and air operations area. Inactive
WQ	To 3,000 feet CYD 103	Chart 3641	Bentinck Island demolition Range A circle with 1 mile radius centered on 48° 18' 42" N 123° 32' 36"	Demolition exercise (DEMOEX)
Note: All of JDF Strait Area is bounded by the shoreline where the area comes in contact with land				

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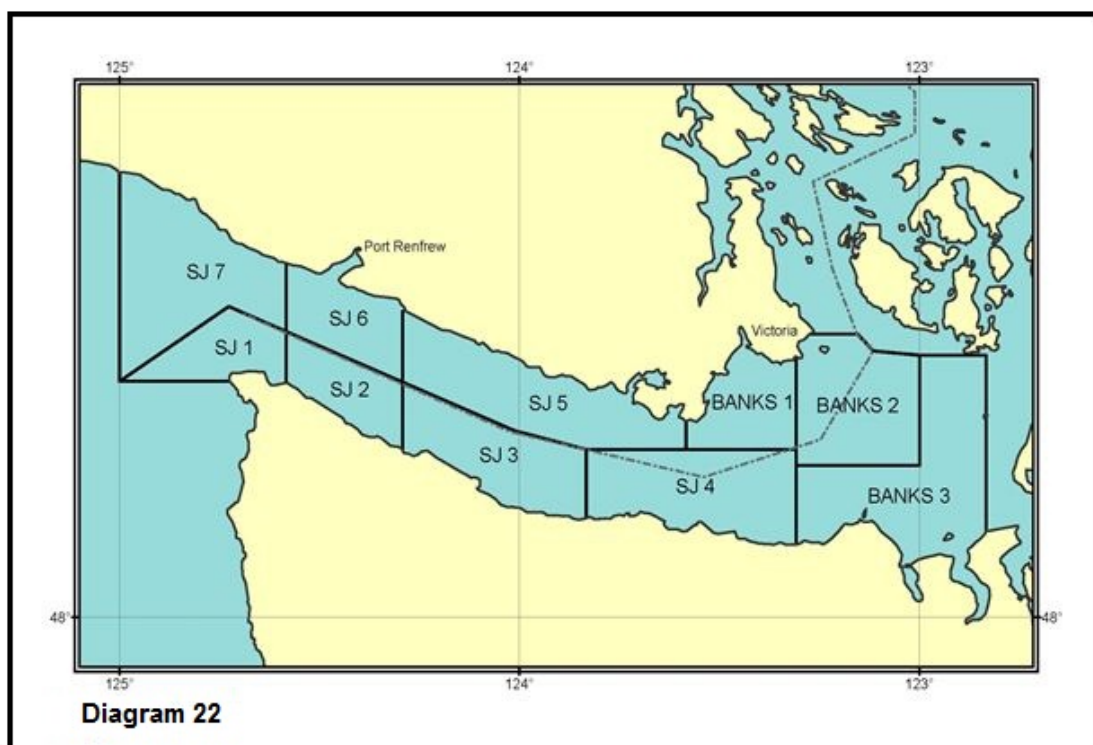


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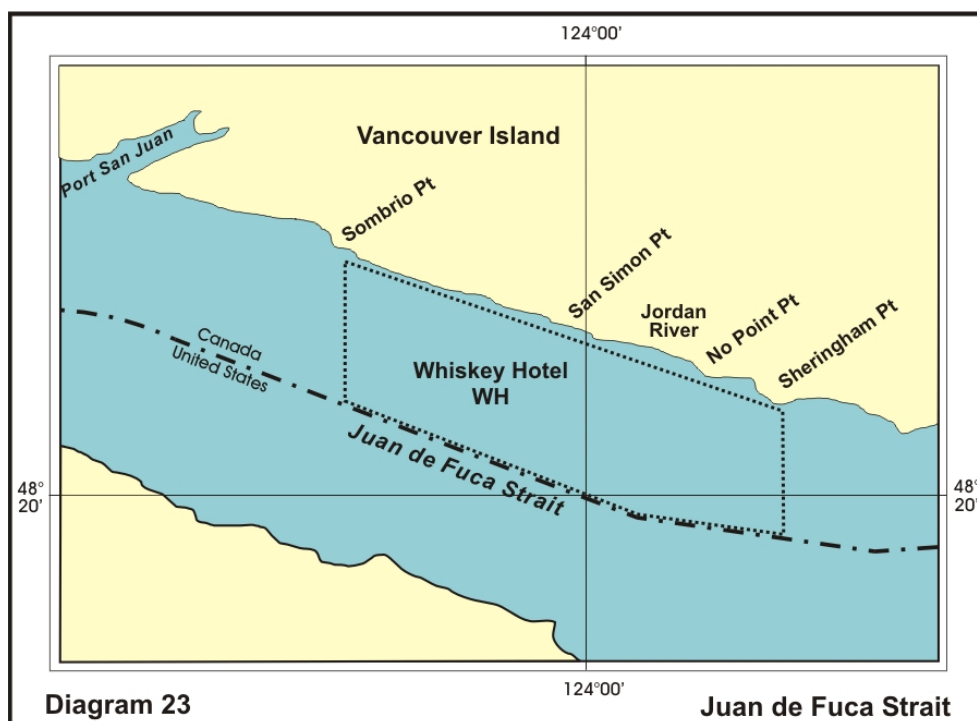
Strait of Juan de Fuca (Area SJDF)					
Sea Area	Airspace	Location	Coordinates	Employment	Diagram
Juan De Fuca Strait (SJ 1)		Chart 3606	48° 27' 14" N 124° 35' 00" W 48° 29' 36" N 124° 43' 38" W 48° 22' 30" N 125° 00' 00" W 48° 22' 30" N 124° 35' 00" W	Sub surface operations area. Surface to Bottom.	
Juan De Fuca Strait (SJ 2)		Chart 3606	NORTHERN BOUNDARY ALONG A LINE FOLLOWING THE US/CANADIAN INTERNATIONAL BOUNDARY WESTERN BOUNDARY OF 124°35' 00" W EASTERN BOUNDARY OF 124°17' 35" W COAST OF THE STATE OF WASHINGTON TO THE SOUTH	Sub surface operations area. Surface to Bottom.	
Juan De Fuca Strait (SJ 3)		Chart 3606	NORTHERN BOUNDARY ALONG A LINE FOLLOWING THE US/CANADIAN INTERNATIONAL BOUNDARY WESTERN BOUNDARY OF 124°17' 35" W EASTERN BOUNDARY OF 123°50' 00" W COAST OF THE STATE OF WASHINGTON TO THE SOUTH	Sub surface operations area. Surface to Bottom.	
Juan De Fuca Strait (SJ 4)		Chart 3606	48°06' 48" N 123° 18' 30" W (INTERSECTION OF LAND) 48°16' 00" N 123° 18' 30" W 48°16' 00" N 123° 50' 00" W 48°09' 20" N 123° 50' 00" W (INTERSECTION OF LAND) THE COASTLINE BACK TO ORIGIN	Sub surface operations area. Surface to Bottom.	
Juan De Fuca Strait (SJ 5)		Chart 3606	COAST OF VANCOUVER ISLAND TO THE NORTH WESTERN BOUNDARY OF 124°35' 00" W EASTERN BOUNDARY OF 124°17' 35" W SOUTHERN BOUNDARY ALONG A LINE FOLLOWING THE US/CANADIAN INTERNATIONAL BOUNDARY	Sub surface operations area. Surface to Bottom.	
Juan De Fuca Strait (SJ 6)		Chart 3606	COAST OF VANCOUVER ISLAND TO THE NORTH WESTERN BOUNDARY OF 124° 17' 35" W EASTERN BOUNDARY OF 123° 35' 00" W SOUTHERN BOUNDARY ALONG A LINE FOLLOWING THE US/CANADIAN INTERNATIONAL BOUNDARY	Sub surface operations area. Surface to Bottom.	

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Strait of Juan de Fuca (Area SJDF)					
Sea Area	Airspace	Location	Coordinates	Employment	Diagram
Juan De Fuca Strait (SJ 7)		Chart 3606	COAST OF VANCOUVER ISLAND TO THE NORTH WESTERN BOUNDARY OF 125°00' 00" W EASTERN BOUNDARY OF 124°35' 00" W SOUTHERN BOUNDARY ALONG A LINE CONNECTING THE FOLLOWING POINTS: 48° 27' 14" N 124° 35' 00" W, 48° 29' 36" N 124° 43' 38" W, 48° 22' 30" N 125° 00' 00" W	Sub surface operations area. Surface to Bottom.	
WH	To Unlimited CYD 109	Chart 3606	48° 22' 00" N 123° 55' 05" W 48° 16' 51" N 123° 55' 05" W 48° 17' 54" N 124° 00' 43" W 48° 22' 29" N 124° 17' 35" W 48° 28' 18" N 124° 17' 35" W	Firing Exercise (Surface) (FIREX)	
Note: All of JDF Area is bounded by the shoreline where the area comes in contact with land					

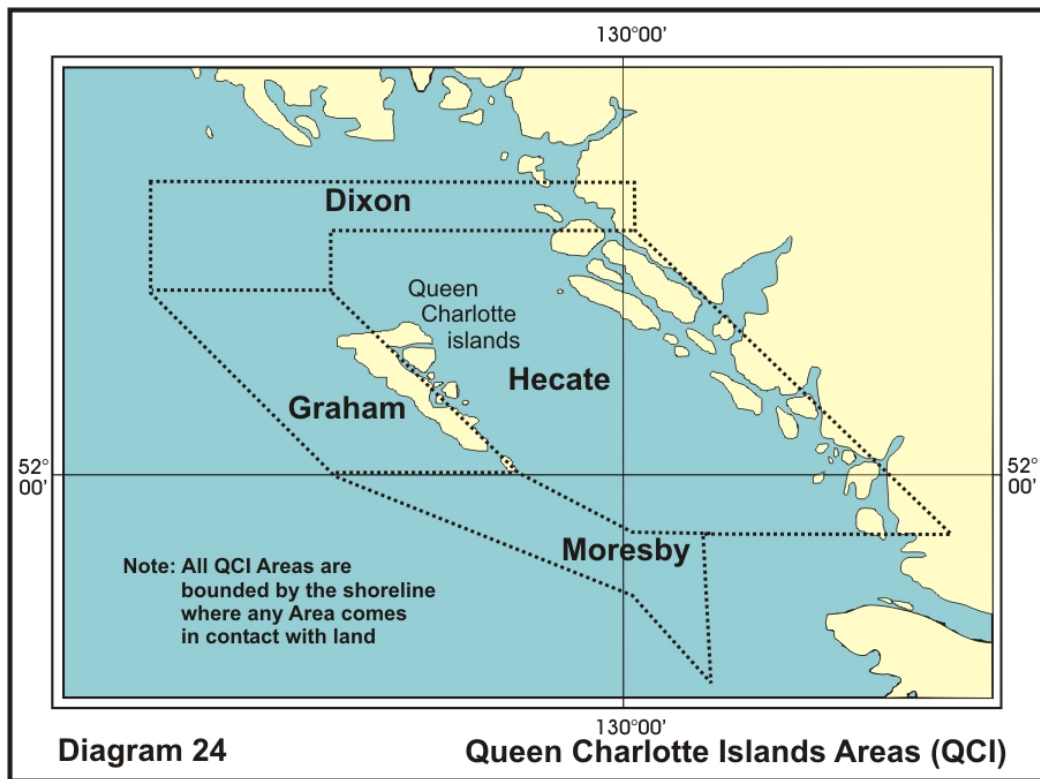


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Queen Charlotte Island (QCI) Areas					
Sea Area	Airspace	Location	Coordinates	Employment	Diagram
DIXON		Chart 3002	54°25'00"N 134°00'00"W 54°25'00"N 130°00'00"W 54°00'00"N 130°00'00"W 54°00'00"N 132°30'00"W 53°30'00"N 132°30'00"W 53°30'00"N 134°00'00"W	Sub surface operations area.	24
HECATE		Chart 3002	54°00'00"N 130°00'00"W 54°00'00"N 132°30'00"W 53°30'00"N 132°30'00"W 52°00'00"N 131°00'00"W 51°30'00"N 130°00'00"W 51°30'00"N 127°20'00"W	Sub surface operations area.	24
MORESBY		Chart 3002	52°00'00"N 132°30'00"W 52°00'00"N 131°00'00"W 51°30'00"N 130°00'00"W 51°30'00"N 129°20'00"W 50°15'00"N 129°20'00"W 51°00'00"N 130°00'00"W	Sub surface operations area.	24
GRAHAM		Chart 3002	53°30'00"N 134°00'00"W 53°30'00"N 132°30'00"W 52°00'00"N 131°00'00"W 52°00'00"N 132°30'00"W	Sub surface operations area.	24
Note: All Queen Charlotte Island (QCI) Areas are bounded by the shoreline where any area comes in contact with land					

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36 Vital Intelligence Sightings – MERINT Reporting Procedures

- 1 In order to extend the early warning coverage for the defence of the North American continent a plan is now in existence for the reporting of vital intelligence sightings during peacetime. Reports originating from ships will be known as MERINT (pronounced *MUR-ENT*) messages.
- 2 All Canadian vessels should originate MERINT reports as and when applicable. Types of reports shall be as follows:
 - (a) MERINT report - initial sighting.
 - (b) AMPLIFYING report - a report giving additional significant information that becomes available.
 - (c) CANCELLATION report - a report cancelling an initial sighting or amplifying report.
- 3 MERINT reports should be made under the following circumstances:
 - (a) Immediately upon a vital intelligence sighting, except when the vessel is within territorial waters of a country other than Canada, the U.S.A. or Greenland.
 - (b) When a situation previously reported changes sufficiently to warrant an amplifying report.
 - (c) When subsequent observation nullifies an initial sighting or amplifying report so as to warrant a cancellation report.

Note: In the event a report cannot be made by radio, the master should report the details of the MERINT sighting to the appropriate Canadian or U.S. consular or military authority immediately upon arrival in port. Such reports should be made by the quickest available means.
- 4 MERINT messages should be transmitted to the nearest or most convenient Canadian or U.S. Government coast station. No address is necessary for such messages as coast stations hold detailed instructions for the delivery of MERINT messages.
- 5 All airborne and waterborne objects which appear to be hostile, suspicious or unidentified should be reported.
 - (a) The following are examples:
 - (i) Guided missiles.
 - (ii) Unidentified flying objects.
 - (iii) Submarines.
 - (iv) Surface warship positively identified as not Canadian or U.S.
 - (v) Aircraft or contrails (vapour trails made by high flying aircraft) which appear to be directed against Canada, the U.S., their territories or possessions.
 - (b) Reports should not be made on the following objects:
 - (i) Surface craft or aircraft in normal passage.
 - (ii) Known Canadian or U.S. military ships and submarines.
 - (iii) Known Canadian or U.S. Government ships.
 - (iv) Known Canadian or U.S. military aircraft.

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6 MERINT reports shall contain the following data, as applicable, in the order listed:

- (a) The word MERINT as the first word of the message.
- (b) The name and call sign of the reporting ship.
- (c) The object sighted. A brief description containing the following items should be given.
 - (i) Number of aircraft, vessels, missiles, etc.
 - (ii) Category of object, general description, etc. i.e. size, shape, type of propulsion, etc.
- (d) Reporting ship's position at time of sighting.
- (e) Date and time of sighting in G.M.T.
- (f) Altitude of object (if applicable) expressed as low, medium or high.
- (g) Direction of travel of object.
- (h) Estimated speed of object.
- (i) Any observed identification, insignia or other significant information.

Note: MERINT reports should not be withheld or delayed due to lack of data for any of the above items.

7 When calling a coast station to deliver a MERINT message the call should be preceded by the word *MERINT* transmitted three times as a priority indicator. If this priority indicator does not produce satisfactory precedence the International Urgency Signal may be used.

Example:

MERINT MERINT MERINT - HALIFAX COAST GUARD RADIO HALIFAX RADIO HALIFAX COAST GUARD RADIO - THIS IS KINGFISH KINGFISH KINGFISH - OVER.

8 The following are examples of MERINT messages:

- (a) INITIAL report.

MERINT PACIFIC LOGGER VICTOR GOLF ROMEO XRAY SIX JET BOMBERS FIVE ONE NORTH ONE THREE FIVE WEST ONE FOUR ONE FIVE ZERO TWO ZULU HEADED SOUTHEAST HIGH WITH CONTRAILS SPEED ABOUT FIVE ZERO ZERO MILES PER HOUR NO IDENTIFICATION BROKEN CLOUDS - OVER.

- (b) AMPLIFYING report.

MERINT AMPLIFY PACIFIC LOGGER VICTOR GOLF ROMEO XRAY ONE FOUR ONE FIVE ZERO TWO ZULU TWO ADDITIONAL JET BOMBERS SIGHTED CIRCLING TO SOUTH - WEST ONE FOUR ONE FIVE ZERO EIGHT ZULU - OVER.

- (c) CANCELLATION report.

MERINT CANCEL PACIFIC LOGGER VICTOR GOLF ROMEO XRAY ONE FOUR ONE FIVE ZERO TWO ZULU IDENTIFIED AS UNITED STATES AIRCRAFT - OVER.

Authority: Department of National Defence (NDHQ)

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37 Handling of Unexploded Ordnance

The following information, of concern mainly to fishing vessels, is being published for the benefit of any other vessels which may have occasion to draw nets or trawls:

- 1 Fishermen operating off the coasts of Canada are warned that both non-explosive and explosive ordnance may be discovered in normal fishing areas. These ordnance items may be brought to the surface in nets or trawls.
- 2 Non-explosive ordnance such as practice torpedoes will normally be painted bright orange, smaller non-explosive ordnance will normally be a dark or light blue. Any item which cannot be readily identified by sight as non-explosive ordnance should be treated as explosive in character. Explosive ordnance small or large will normally be painted or marked in yellow, red or green. If there is any doubt about the identity of any object brought up by nets or trawls it should be considered as an explosive.

Practice ammunition still dangerous:

- a. Orange torpedo could have some Otto Fuel left in it;
 - b. The dark blue was the old marking for dummy ammunition now it is bronze;
 - c. Colour Codes Above 20mm
 - i. Yellow High Explosive
 - ii. Brown Low Explosive
 - iii. Grey Chemical
 - iv. Black Armour Defeating
 - v. Light Green Smoke
 - vi. Light Red Incendiary
 - vii. Orange Recoverable
 - d. When a colour for a primary role does not in itself indicate the presence of an explosive or other hazardous material, the presence of these materials may be indicated by narrow bands or by letters applied in an appropriate colour of the code.
- 3 Explosive ordnance may still be dangerous even if they have been in the water for many years. Suspected explosive ordnance should be treated with great care, and if observed in the net or trawl while still outboard, no attempt should be made to bring it alongside or aboard. The trawl should be lowered and where possible, towed clear of regular fishing grounds before cutting away the net as necessary.
 - 4 In the event that a suspected explosive ordnance item cannot be released or freed by cutting the net or line, the following actions are advised:
 - (i) Stream the object as far aft as possible.
 - (ii) Notify nearest Joint Rescue Coordination Centre (JRCC) and stand by for instructions or help.
 - (iii) Position the crew at forward end of vessel keeping the deck house between themselves and the object astern.
 - (iv) Maintain steerageway as necessary to stay in the area until help or instructions arrive.

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- 5 In the event of a suspected ordnance item not being detected until the contents of the trawl have been discharged on deck, the following action should be taken:
- (i) Great care should be taken to avoid bumping the object.
 - (ii) It should be stowed on deck away from heat and vibration.
 - (iii) It should be firmly chocked up and well secured to prevent movement.
 - (iv) It should be kept covered up and dampened down. (This is important because any explosive which may have become exposed to the atmosphere is liable to become very sensitive to shock if allowed to dry out).
 - (v) Notify nearest Joint Rescue Coordination Centre (JRCC) and stand by for instructions. The JRCC will contact the nearest EOD team for direction.
- 6 A ship with a suspected explosive item on board or in her gear, should warn other ships in the vicinity giving her position.
- Note:** The accompanying plates showing ordnance used currently and in the past by DND ships and aircraft, will assist in identifying explosive ordnance that may be recovered from the sea.

NAVAL UNDERWATER CHARGE



Signal Underwater Sound
MK411 (Reduced Charge)
(SUS)
Signal Underwater Sound
MK 410 (High Explosive)



Depth Charge High
Explosive DM211
Anti-Frogman



Signal Sound Marine MK
NC 1 Mod 1

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NAVAL DECOY



82 mm Rocket Practice
MASS Decoy



MK 234 Electronic Decoy
Cartridge (Nulka)



Cartridge 5.125 Inch Chaff



Rocket 100mm Radar
Echo Practice C20

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NAVAL PYROTECHNICS



Signal Smoke Aircraft
Orange Drift Indicator C8



Marker Location marine
C2A1



Marker Man Over Board
(MMOB)



38mm Hand Held
Illuminating Signal Flare
(Radaflare)



Signal Smoke and
Illumination Marine
Mk 66 Mod 2



Signal Smoke Marine
MK3 Orange



Marker Man Overboard
Smoke and Light

Length 500 mm
Diameter 190 mm
(including the float)



Signal Illum
Marine Red Pinpoint
Mk7

Length 247 mm
Diameter 35 mm

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NAVAL PYROTECHNICS



Rocket 100 mm
Radar echo P8

Length 1700 mm
Diameter 102 mm



100 mm Infra red
Decoy P6

Length 1600 mm
Diameter 103.2 mm



Flare Aircraft
Parachute
LUU 2AB/2BB

Length 91.4 cm
Diameter 12.4 cm



Signal Underwater
Sound Mk411

Length 38.1 cm
Diameter 7.62 cm



Signal sound Marine

Height 8.89 cm
Diameter 7.62 cm



Signal Illum A-C
Single star 1.5 inch

Length 82.6 mm
Diameter 38 mm

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Marker Location
Marine
C1A1 or C1A2

Length 47 cm
Diameter 7.56 cm



5.125 inch chaff
Mk 182

Length 1206.5 mm
Diameter 130 mm

NAVAL PYROTECHNICS



Marker Location
Marine
Mk 58

Length 21.5 inches
Diameter 4.9 inches



Signal Distress
Day and Night

Length 135 mm
Diameter 42 mm



Marker Man Overboard,
Light And Smoke,
Series III

NAVAL SHELLS

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40 mm



57 mm



76 mm



20 mm

NAVAL SHELLS



Mk46 torpedo



Mk48 Torpedo



Cart 57mm Pre-
Fragmented
High Explosive



Cartridge 40mm
High Explosive-
tracer (HE-T)

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Cartridge 57mm Non-Frag Brown Band Low Explosives



Both are inert
Dummy 40mm
Drill 40mm



Cartridges 40mm Practice (BL/P)

Projectile inert but could have live primer and propellant in cartridge case

OTHER POSSIBLE ORDNANCE



Depth Charge
HE DM211
Anti-Frogman

Length 268 mm
Diameter 60 mm



Practice bomb



2.75 inch rocket motor



2.75 inch warhead

Authority: Department of National Defence (NDHQ)

38 Cautions with Regard to Ships Approaching Formations, Convoys, Aircraft Carriers and other Warships at Sea and Aircraft Carriers at Anchor

Formations and Convoys

- 1 The attention of shipowners and mariners is called to the danger to all concerned which is caused by single vessels approaching a formation of warships or merchant vessels in convoy, so closely as to involve risk of collision, attempting to pass ahead of, or through such a formation or convoy.
- 2 Mariners are therefore warned that single vessels should adopt early measures to keep out of the way of a formation or convoy.
- 3 Although a single vessel is advised to keep out of the way of a formation or convoy, this does not entitle vessels sailing in company to proceed without regard to the movements of the single vessel.

Vessels sailing in a formation or convoy should accordingly keep a careful watch on the movements of any single vessel approaching the formation or convoy and should be ready, in case the single vessel does not keep out of the way; to take such action as will best aid to avert collision.

Aircraft carriers

- 4 Attention is drawn to the uncertainty of the movements of aircraft carriers, which must usually turn into the wind when aircraft are taking off or landing. While operating aircraft, aircraft carriers will show the lights or shapes as prescribed by Rule 27(b) of Schedule I of the *Collision Regulations*. Aircraft carriers may display red or white flight deck lighting during night flying operations.
- 5 Mariners are warned that by night, aircraft carriers have:
 - (a) their steaming lights placed permanently off the centre line of the ship and at considerably reduced horizontal separation.
 - (b) Alternative positions for their side lights:
 - (i) on either side of the hull,
 - (ii) on either side of the island structure, in which case the port bow light may be as much as 30.5 m (100 ft.) from the port side of the ship.
- 6 Certain aircraft carriers exhibit anchor lights as follows:

Four *white* lights located in the following manner: -

In the forward part of the vessel at a distance of not more than 1.5 m (5 ft.) below the flight deck, two lights in the same horizontal plane, one on the port side and one on the starboard side.

In the after part of the vessel at a height of not less than 4.6 m (15 ft.) lower than the forward lights, two lights in the same horizontal plane, one on the port side and one on the starboard side.

Each light is visible over an arc of at least 180°. The forward lights visible over a minimum arc from one point on the opposite bow to one point from right astern on their own side, and the after lights from one point on the opposite quarter to one point from right ahead on their own side.

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Ships which operate helicopters

- 7** Mariners are warned that certain ships of the Maritime Command operate helicopters and cannot manoeuvre freely when helicopters are taking off or landing. Such ships are fitted with hangars and landing platforms, and when operating at night use red or white flood lighting.
- 8** By night, such ships in addition to the lights prescribed in Rule 27(b) of Schedule I of the *Collision Regulations* may exhibit the following lights:
- (a) Red aircraft warning lights on the foremast, visible 360°. The lights will be on continuously when a helicopter is in the vicinity of the ship.
 - (b) A cluster of six red, green, or yellow lights, mounted on the after side of the helicopter hangar, visible from red 090° to green 090° through the stern. These lights will be used intermittently as required when helicopters are landing.
 - (c) Subdued white flight-deck illumination lights. These lights will present a general white glow to other ships.
 - (d) White, high intensity, flight deck flood lights, fitted on the after side of the hangar, visible from red 090° to green 090° through the stern may be used after the helicopter has landed.
(Red deck lights and flood lights may be used instead of white.)
 - (e) Lighting associated with Helicopter Operation may be shown in addition to masthead lights, side lights and overtaking light, at the discretion of the officer in tactical command (OTC).

Replenishment-at-Sea

- 9** Canadian and Allied Warships in conjunction with auxiliaries frequently exercise Replenishment-at-Sea. While doing so the two or more ships taking part are connected by jack-stays and hoses. They display the signals prescribed by Rule 27(b) of Schedule I of the *Collision Regulations*.
- 10** Mariners are warned that while carrying out these exercises the ships are restricted both in manoeuvrability and speed. Other vessels are to keep well clear in accordance with Rules 2 and 18 of the above Regulations.
- 11** Lights and shapes carried by North Atlantic Treaty Organization Mine Countermeasures Vehicles.

Mariners are warned that Canadian, Allied Warships and Helicopters engaged in mine countermeasure activities, cannot manoeuvre freely whilst so engaged. These ships/aircraft may be encountered singly or in formation. Attention is directed to the lights and shapes displayed during these operations:

a. Minehunters

Ships engaged in minehunting will show the lights or shapes prescribed in Rule 27(f) of Schedule I of the *Collision Regulations*. Minehunters normally work in conjunction with small boats and inflatable rubber dinghies from which diving or mine disposal operations are conducted. These may be up to 1,000 metres from the minehunter. When showing the lights or shapes prescribed in Rule 27 (f) of Schedule I of the *Collision Regulations*, other vessels should not approach closer than 1,000 metres of the minehunter. When a dinghy is being used to operate divers or conduct mine disposal operations, the minehunters in addition to the lights and shapes prescribed above will:

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(1) By Day:

Display Flag 'A' or Flag 'B' of the International Code of Signals as appropriate.

(2) By night:

- (a) Signal the letter 'U' by flashing light when approached by other vessels.
- (b) Make a warning signal in accordance with Rule 36 of Schedule I of the *Collision Regulations* if approaching vessels do not take avoiding action.

b. Diving Dinghies

When operating divers or conducting mine disposal operations, the dinghy will be required to:

(1) By day:

Display/be prepared to display Flag 'A' or Flag 'B' of the International Code of Signals as appropriate when approached by other vessels.

(2) By night:

- (a) Display/be prepared to display an all-round white light in accordance with Rule 23(c) of Schedule I of the *Collision Regulations*.
- (b) Be prepared to show a signal to attract attention in accordance with Rule 36 of Schedule I of the *Collision Regulations*.

c. Minesweepers

- (1) Ships engaged in minesweeping will show the lights or shapes prescribed in Rule 27(f) of Schedule I of the *Collision Regulations*. Other vessels should not approach closer than 1,000 metres from the minesweeper.

- (2) In addition, the minesweepers may carry the following Station-Keeping Lights:

Two vertical white lights, dimmer controlled, visible from 020° before the beam on either side to right astern. In smaller minesweepers, where the lower light may not be visible through the whole area, it may be necessary to carry two lower lights, one on each side, visible from 020° before the beam to right astern.

d. Helicopters

The helicopter shall be equipped with a quick flashing amber light to indicate that gear is being towed.

Authority: Department of National Defence (NDHQ)

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39 Naval Messages to Canadian Merchant Ships Including Small Craft and Fishing Vessels

- 1 IT IS IMPORTANT THAT MASTERS ENSURE THAT THIS NOTICE IS AVAILABLE TO AND UNDERSTOOD BY THEIR RADIO OFFICERS AND OTHER MEMBERS OF THE CREW RESPONSIBLE FOR OPERATING SHIP'S RADIO EQUIPMENT.
- 2 Canada subscribes to the Commonwealth GBMS organization by which NAVAL MESSAGES are passed to Commonwealth Merchant Ships.
- 3 The procedures for passing NAVAL MESSAGES to Canadian and Commonwealth ships in Canadian areas are described hereunder. Such messages will be important and may be vital to your ship's safety and welfare.
 - I *Ships fitted with Radiotelegraph Equipment* (Ocean Shipping) will comply with the procedure outlined for the GBMS Organization in Admiralty Annual Notice to Mariners No. 3A. THIS PROCEDURE WILL BE BROUGHT INTO FORCE BY CANADIAN MESSAGE A.
 - II Other vessels, primarily those fitted with *Radiotelephone Equipment* (Coastal Shipping) will be informed of the commencement of emergency procedures by a special message from National Defence Headquarters. This will be on the normal working frequency of each MCTS Centre making scheduled weather broadcasts and repeated at intervals until sufficiently promulgated. Such broadcasts will be preceded by a general call to all stations on the calling frequency. The following points concerning transmissions after emergency procedures have been brought into force are to be noted and observed:
 - (a) Ships are to continue to receive messages from MCTS Centres serving the waters in which they are operating.
 - (b) Naval messages will be broadcasted immediately following scheduled weather broadcasts.
 - (c) The text of each naval message will indicate the Naval Authority which has originated it and will contain if necessary, details of the locality to which it refers. The last group in the text will consist of a six figure date-time group to indicate the date and time the message was originated.

Example:

All Canadian Merchant Ships, this is St. John's Coast Guard Radio. Here is a message from National Defence Headquarters (or Maritime Command Headquarters, or Maritime Headquarters Pacific) begins ... (text). I say again... (repetition of text) ends. This is St. John's Coast Guard Radio. OUT.

- (d) Messages are not to be acknowledged unless ships are specifically directed in the text to make acknowledgement.
- (e) Ships are to maintain radio silence *EXCEPT* to transmit:
 - (i) reports of distress or enemy activity;
 - (ii) essential commercial traffic which is ship's business. In certain circumstances restrictions will be imposed on this traffic. Information and instructions for this will be given in a naval message. No private or personal messages will be permitted in any circumstances.

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- 4 Tests of these procedures may be conducted from time to time in conjunction with Naval Exercises. The texts of test messages will always begin and end with the words, This is a test message. Masters of ships receiving a test message are required to forward brief reports by mail through their owners to National Defence Headquarters, Ottawa, Canada, stating the time and the approximate position at which the message was received.
- 5 Radio Officers and others concerned should note that in peace time Canadian Naval Messages and Admiralty Messages will be transmitted through Canadian Coast Guard Marine Communications and Traffic Services Centres only.

Authority: Department of National Defence (NDHQ)

40 Contamination Prediction System for Merchant Ships at Sea and the MERWARN System

Ref: NATO ATP-45

1 Introduction

Radioactive fallout from nuclear explosions and chemical and biological contamination (hereafter collectively referred to as contamination) on sea and land targets, particularly from the latter, may affect large areas of adjacent waters. The areas affected will depend upon the prevailing wind conditions, and any ship close to or approaching these areas will be in grave danger. It is therefore essential that shipping should be warned of the fallout hazards and contamination in order that:

- (a) Passive defence measures, such as switching on washdown systems, may be taken.
- (b) Course may be altered, if necessary, to avoid the dangerous zones.

2 Danger zones

All shipping in waters out to 200 nautical miles from any coast at the outset of nuclear release must be regarded as being in an area of possible fallout danger from that release on shore.

3 Ground zero (GZ)

The point on the surface of the earth at, or vertically below or above, the centre of a planned or actual nuclear detonation (GZ).

4 The MERWARN System - Warnings to Merchant Ships at Sea.

A simplified contamination warning system has been established throughout NATO for broadcasting, via MERCOMMS and coastal radio stations, warnings of contamination dangerous to merchant shipping. This system calls for the origination, by NATO naval authorities, of five types of messages:

- (a) MERWARN NBC Effective Downwind Message (MERWARN NBC EDM). The MERWARN NBC EDM is a prediction, for a specified sea area and time interval, of the fallout, which will result from a one megaton (1 MT) nuclear surface explosion. It will give the master of a ship, observing a nuclear explosion, an immediate indication of the area likely to be affected by fallout.
- (b) MERWARN NBC 3 NUC. The MERWARN NBC 3 NUC will be issued after a nuclear attack and gives fallout data for a specific nuclear explosion or series of explosions, which will be identified in the message.
- (c) MERWARN NBC Chemical Downwind Message, (MERWARN NBC CDM). This contains a forecast of the meteorological data needed for the chemical hazard area prediction procedure.
- (d) MERWARN NBC 3 CHEM. This message is issued to pass immediate warning of a predicted chemical contamination and hazard area.
- (e) MERWARN DIVERSION ORDER. This is a general diversion order, based upon the fallout threat, whereby merchant ships proceeding independently are passed evasive routing instructions of a general nature.

Note: In some cases it may be better to provide warning of contamination by means of general plain language messages rather than by the formats above. The messages in a., b. and c. above are explained in more detail in the following paragraphs. Biological procedures for shipping are the same as for land and are described in Chapter 9 to the NATO ATP-45.

5 MERWARN Originating and Diversion Authorities.

MERWARN Originating and Diversion authorities will be designated by national or NATO commanders before commencement of operations.

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6 Precedence of NBC Messages.

All MERWARN NBC messages should be given the precedence FLASH (Z) to ensure rapid handling on any military circuit between the originating authority and the MERCOMMS and/or coastal radio stations. This precedence should not be used where the rules for the use of the International Safety Signal (TTT for CW and Security for voice circuits) apply. (See para 7).

7 Method of Promulgation.

All MERWARN NBC EDM, MERWARN NBC CDM, MERWARN NBC 3 CHEM and NBC 3 NUC messages will be transmitted in plain language, using GMT, preceded by the International Safety Signal (TTT for CW and Security for voice circuits) from the appropriate MERCOMMS station and from all the coastal radio stations of the area concerned. Thus masters need not concern themselves with the identity of the MERWARN originators, but only with the sea areas covered by each message.

8 Relay Responsibilities.

Originating authorities are responsible for relaying to:

- (a) The appropriate Coast Earth Station (INMARSAT) (CES), Coast Radio Station (CRS) under their control and/or other CRS in their geographic area.
- (b) Their own national authorities (for transmission to merchant ships not yet copying MERCOMMS).
- (c) Adjacent MERWARN originators and shipping diverting authorities within the geographical area affected by each MERWARN NBC 3 NUC message.

Note: Adjacent MERWARN originators are responsible for relaying to CES/CRS under their control as necessary.

9 MERWARN EDM

MERWARN NBC EDM is a prediction, for a specified sea area and time interval, of the fallout, which will result from a one megaton (1 MT) nuclear surface explosion. It will give the master of a ship, observing a nuclear explosion, an immediate indication of the area likely to be affected by fallout. MERWARN NBC EDM will be issued at 12 hour intervals from the time of activation of the MERCOMMS system, and will be valid 12 hours ahead from the date and time given in the first line of the message (A). In the event of changing meteorological conditions it may be necessary for the originating authorities to issue MERWARN NBC EDM more frequently. The original MERWARN NBC EDM will automatically be overruled by the latest MERWARN EDM issued. The following standard format will be used:

- (a) Message identifier (MERWARN NBC EDM) and date-time-group (GMT) from which valid for 12 hours ahead.
- (b) Specified sea area for which valid.
- (c) Effective downwind direction (degrees, 3 digits) and effective downwind speed (knots, 3 digits).
- (d) Downwind distance of Zone I (nautical miles, 3 digits).
- (e) Additional information.

Example:

- (a) MERWARN NBC EDM 180600ZSEP1999
- (b) Baltic Sea west of 15° 00'E
- (c) 045 - 020
- (d) 078
- (e) NIL.

Note: Sets (b)., (c). and (d). may be repeated for different sea areas should this be considered necessary.

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10 MERWARN NBC 3 NUC, Standard Format

MERWARN NBC 3 NUC will be issued after a nuclear attack producing fallout, and gives fallout data for a specific explosion or series of explosions, which will be identified in the message. MERWARN NBC 3 NUC messages are issued as soon as possible after the attack, and at six hour intervals (to the nearest hour) thereafter, for as long as the fallout danger exists. They contain information, which enables the master of a ship to plot the danger area. The standard format of MERWARN NBC 3 NUC contains the sets ALFA, DELTA, FOXTROT and PAPAB of the military NBC 3 NUC message (see ATP-45, Chapter 2). The MERWARN NBC 3 NUC has the following structure:

MERWARN NBC 3 NUC (Message identifier)

ALFA: Strike Serial Number (as defined by the naval authority)
DELTA: Date-time Group of detonation (GMT)
FOXTROT: Location of attack (latitude and longitude, or geographical place name) and qualifier (2 digits as to refer in ATP-45, Annex C, para C.17).
PAPAB: Effective wind speed (3 digits and unit of measurement), downwind distance of Zone I (3 digits and unit of measurement), cloud radius (2 digits and unit of measurement), left and right radial line of the predicted fallout hazard area (3 digits and unit of measurement each).

Example:

MERWARN NBC 3 NUC

ALFA/UK/NBCC/02-001/N//
DELTA/021405ZSEP1999//
FOXTROT/451230N014312E/AA//
PAPAB/012KTS/028NM/02NM/272DGT/312DGT//

11 MERWARN NBC 3 NUC, Plain Language Format.

The MERWARN NBC 3 NUC standard format may not be suitable after a multiple nuclear attack, which produces fallout from several bursts in a large or complex target area. In such cases warnings will be plain language statements of a more general nature, indicating area affected and expected movement of the fallout.

Example 1:

MERWARN NBC 3 NUC

ALFA/UK/02-001/N//
DELTA/021405ZSEP1999//

Fallout extends from Glasgow area to eastern Ireland at 021405Z and is spreading westwards with 12 Knots. Irish Sea is likely to be affected within an area of 60 nautical miles of the British coast.

Example 2:

MERWARN NBC 3 NUC

ALFA/IT/15-001/N//
DELTA/150630ZFEB1999//

Fallout is estimated to be occurring at 150830Z over Adriatic Sea east of the coast line Bari/Brindisi up to a distance of 30 nautical miles. Fallout is moving south-eastwards with 016 Knots, getting weaker. It is not expected to be dangerous after 151000Z.

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12 MERWARN NBC CDM.

The MERWARN NBC CDM message contains information needed for CHEM/BIO hazard prediction by the master of a merchant ship. The MERWARN NBC CDM will be issued as required via the MERCOMMS and will be valid as specified. In the event of changes in the meteorological conditions, the MERWARN NBC CDM will be updated as required.

(a) The following standard format will be used:

ALFA: Message identifier (MERWARN NBC CDM), date/time group (GMT) from which valid 6 hours ahead.
BRAVO: Specified sea area for which valid.
CHARLIE: Representative downwind direction (degrees, 3 digits) and representative downwind speed (knots, 3 digits).
DELTA: Maximum downwind hazard distance (nautical miles, 3 digits).
ECHO: Additional information.

Example:

ALFA MERWARN NBC CDM 180600ZSEP1999//
BRAVO BALTIC SEA WEST OF 15°00'E//
CHARLIE 045/020//
DELTA 010//
ECHO NIL//

13 MERWARN NBC 3 CHEM.

MERWARN NBC 3 CHEM. This message is issued to pass immediate warning of a predicted chemical contamination and hazard area. MERWARN NBC 3 CHEM reports are issued as soon as possible after each attack. They contain sufficient information to enable the master of a ship to plot the downwind hazard area.

(a) The following standard format will be used for MERWARN NBC 3 CHEM:

MERWARN NBC 3 CHEM (Message identifier)

ALFA: Strike serial number (as defined by naval authority).
DELTA: Date/time group (Z) of start and end of attack.
FOXTROT: Location of event.
GOLF: Delivery Means.
INDIA: Release Information.
PAPAA: Predicted attack and hazard area.

Note: If representative downwind speed is 5 knots or less, or variable, this letter item will consist of three (3) digits instead of coordinates, representing the radius of a circle in nautical miles centred on the location of the attack contained in set FOXTROT.

YANKEE: The representative downwind direction and speed.
ZULU: Information on actual weather conditions.
GENTEXT: Remarks

Note: Some of the letter items above may not be completed in the report that is received, but there will be sufficient information for a Downwind Hazard plot to be carried out.

(b) The MERWARN NBC 3 CHEM standard format may not be suitable after a multiple chemical attack, which produces a hazard from several attacks or depositions in a large or complex target area. In such cases warnings will be plain language statements of a more general nature, indicating areas affected and expected movement of the hazard.

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Example 1:

MERWARN NBC 3 CHEM

ALFA/DA/NBCCC-4/003/C//

DELTA/020300ZSEP1999//

GENTEXT/PERSISTENT NERVE AGENT VAPOUR HAZARD EXISTS FROM NORFOLK TO HATTERAS AT 020300Z SEP 1999 AND IS SPREADING SOUTH-EASTWARDS AT 017 KNOTS. SEA AREA OUT TO 100 NAUTICAL MILES FROM COAST LIKELY TO BE AFFECTED BY 020600ZSEP1999//

Example 2:

MERWARN NBC 3 CHEM

ALFA/DA/NBCC-3/003/C//

DELTA/020300ZSEP1999//

GENTEXT/PERSISTENT NERVE AGENT VAPOUR HAZARD AT 020600 SEP 99 IS ESTIMATED TO BE OCCURRING OVER MOST OF THE SEA AREAS OUT TO 40 MILES EAST OF THE COAST LINE FROM NORFOLK TO HATTERAS. HAZARD IS EXPECTED TO HAVE DISPERSED BY 021000Z SEP1999//

14 MERWARN DIVERSION ORDER.

In addition to the origination of MERWARN NBC EDM and MERWARN NBC 3 NUC messages, naval authorities may, if circumstances dictate, broadcast general diversion orders, based upon the fallout threat, whereby merchant ships proceeding independently will be passed evasive routing instructions of a more general nature, using the standard Naval Control of Shipping (NCS) identifier MERWARN DIVERSION ORDER.

(a) MERWARN DIVERSION ORDER

(b) English Channel closed. All shipping in North Sea remain north of 052 degrees N until 031500ZSEP1999.

15 Other Warnings.

ATP-2, VOL II, gives instructions for the display of signals by ships, which have received a MERWARN NBC 3 NUC message, which affects their area. Ships arriving from sea but remaining beyond visual/aural range of shore stations should continue to keep radio watch in order to receive MERWARN Messages.

APPENDIX "A"

MERWARN Fall-out Plotting - Action by Masters

1 Effective Downwind Direction and Downwind Speed.

Winds in the atmosphere vary considerably with height, both in direction and speed, and have a major influence on the distribution of radioactive fallout from a nuclear cloud. The worst contamination will fall to the surface along a path represented by the average wind between the surface and the middle of the nuclear cloud. Based upon meteorological information on the wind conditions in the air space between the surface and the height of the nuclear cloud, NBC Collection Centres will compute the average direction and speed of the radioactive particles' path from the nuclear cloud to the surface. The results of this computation make the fallout prediction, expressed in the terms of effective downwind direction and wind speed. It should be noted that the direction of the effective downwind is the direction towards which the wind blows. This direction is also known as the fallout axis. The surface wind will usually be considerably different from the effective downwind, both in direction and speed, and the surface wind should never be used to estimate the drift of fallout.

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2 The fall-out pattern criteria

The predicted fallout area consists of two zones, Zone I and II, the criteria of which are:

- (a) Zone I is the zone of immediate concern. Within this zone there will be areas where exposed, unprotected personnel may receive doses of 150 cGy or greater, within 4 hours. Casualties among personnel may occur within portions of this zone.
- (b) Zone II is the zone of secondary hazard. Within this zone the total dose received by exposed, unprotected personnel is not expected to reach 150 cGy within a period of 4 hours after the actual arrival of fallout, not even when the radioactive fallout remains on the deck of the ship.
- (c) Outside the two zones the risk will be less. This radiation risk considers the total dose received by exposed, unprotected personnel, not to exceed 75 cGy.

WARNING

At all time consideration must be given to both external and internal radiation doses. Potential residence times in specified contaminated areas could allow exposure to equal the maximum dose allowed by any of the zones mentioned above. In addition, this is a maximum permissible dose approach that requires diligent application of ALARA.

3 Ship's fall-out template

To simplify the plotting and presentation of fallout information in ships, while preserving a reasonable accuracy, a "Fallout Template" is required. A "Ship's Fallout Template" is shown in Figure G40-I, designed for use in naval ships as well as in merchant ships. The table containing cloud radii and safety distances at the bottom of the template is for use in naval ships only, and should not be used by merchant ships. For the purpose of further simplification, merchant ships are to use cloud radii and safety distance as follows:

- (a) Plotting from MERWARN NBC EDM: Use cloud radius 10 nautical miles and safety distance 15 nautical miles in all cases.
- (b) Plotting from MERWARN NBC 3 NUC: Use the cloud radius given in the MERWARN NBC 3 NUC and, in all cases, a safety distance of 15 nautical miles.

4 Fall-out plotting in merchant ships

When a nuclear explosion is reported in a MERWARN NBC 3 NUC message, the master of a merchant ship should immediately plot the fallout area, using the information contained in the message. When a MERWARN NBC 3 NUC is not available, e.g. when a nuclear detonation is observed from the ship, the data contained in the current MERWARN NBC EDM should be used. The plotting procedures are almost identical in the two cases. The transparent Ship's Fallout Template is used, and the plotting should be made in the following order:

- (a) Look up fourth and fifth field of set PAPAB (left and right radial line of the fallout area) and calculate the bisector. This line is the equivalent to the downwind direction. Draw the grid north (GN) line from the centre of the inverted compass rose (GZ) through the number of degrees on the compass rose equal to the above calculated downwind direction.
- (b) Using the scale of the chart on which the plot is to be used and with GZ as centre and the downwind distance of Zone I (set PAPAB, field two) as radius, draw an arc between the two radial lines printed on the template on each side of the downwind axis. Using double the distance of Zone I as radius, draw another arc, representing the Zone II downwind distance.
- (c) Using the chart scale, with GZ as centre draw a semicircle upwind of GZ, the radius of the circle being the radius given in the MERWARN NBC 3 NUC, (set PAPAB, field three). The pre-printed semi circles may be helpful.

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- (d) From the intersections of the Zone I arc with the two radial lines, draw lines to the ends of the cloud radius semi circle.
- (e) Determine the area in which fallout deposition is predicted to occur at any given time after the detonation:
 - (1) Multiply the effective downwind speed (from MERWARN NBC 3 NUC, set PAPAB, first field) by the time after burst (in hours), the result being a distance in nautical miles.
 - (2) To and from this distance add and subtract a safety distance of 15 nautical miles (see para 4.b.) to allow for finite cloud size, diffusion and wind fluctuations. The result is two distances.
 - (3) With GZ as centre and the two distances obtained in (2) as radii, draw arcs across the plotted fallout area.
 - (4) The area enclosed between the two arcs will contain, in most cases, the area of deposition of fallout at this particular time after the burst. (See the worked example in para 5).

5 Plotting from MERWARN NBC 3 NUC

Example :

- (a) Given:

MERWARN NBC 3 NUC

ALFA/UK/NBCC/09-001/N//
DELTA/091715ZSEP1999//
FOXTROT/PLYMOUTH/AA//
PAPAB/018KTS/040NM/05NM/275DGT/315DGT//

- (b) Problem:

Determine the predicted fallout area and the area within which fallout is predicted to deposit at the surface at 091845ZSEP1999.

- (c) Solution:

See Figure 11-II.

- (1) Calculate the downwind direction 295 degrees as bisector from left and right radial line from set PAPAB, fourth and fifth field. Draw the GN line from GZ through 295 degrees of the inverted compass rose on the template.
- (2) From set PAPAB, the downwind distance of Zone I is 040 nautical miles. Therefore the Zone II downwind distance is $2 \times 40 = 80$ nautical miles. Using the appropriate chart scale, with GZ as centre and 40 and 80 nautical miles as radii, draw arcs between the two radial lines.
- (3) From set PAPAB, third field, the cloud radius is 05 nautical miles. With GZ as centre and 5 nautical miles as radius draw the cloud radius semicircle upwind of GZ. The pre-printed semi circles may be helpful.
- (4) Connect the ends of the cloud radius semi circles with the intersection of the left and right radial lines and the Zone I arc.
- (5) 091845Z is $1\frac{1}{2}$ hours after the burst. From set PAPAB, first field, obtain the speed of the effective downwind, i.e. 018 knots.

018 knots * $1\frac{1}{2}$ h = 27 nautical miles.
The safety distance is always 15 nautical miles.
 $27 + 15 = 42$ nautical miles, and
 $27 - 15 = 12$ nautical miles.

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- (6) With GZ as centre and 42 and 12 nautical miles as radii draw arcs across the fallout pattern. The area enclosed by the two arcs and the contour of the pattern is the area within which fallout is predicted to deposit at the surface at 091845ZSEP 1999.

6 Contamination Plotting in Merchant Ships.

When a chemical attack is reported in a MERWARN NBC 3 CHEM message, the following procedure should be followed:

- (a) Plot the location of the attack from the details in set FOXTROT.
- (b) Plot the coordinates or radius of the circle contained in set PAPAA.

7 Observations without MERWARN NBC 3 CHEM.

If a MERWARN NBC 3 CHEM is not received but either observations of an attack, or a local report of an attack is received, then the following procedure should be carried out:

- (a) Mark the actual or suspected location of the attack on the chart.
- (b) Draw a circle, radius 0.5 NM, centred on the attack location. From the centre of the attack area draw the representative downwind direction, which is contained in set CHARLIE of the MERWARN NBC CDM.
- (c) Place the centre of the ship's chemical template on the centre of the attack area. Position the centre line of the template on the representative downwind direction line.
- (d) Keeping the centre line of the template on the representative downwind direction, move the template upwind until the 20° lines of the template make tangents with the circle around the attack area.
- (e) Mark the tangent lines using the holes in the template. Join these marks with the attack area circle.
- (f) If the chemical agent is identified as nerve agent, take the downwind hazard distance for the miosis level from ATP-45, Annex E for the agent. Measure this distance from the centre of the attack area on the downwind direction line and mark it. Through this point draw a line perpendicular to the representative direction line until it meets the 2 tangents.
- (g) If the agent is unknown then use the downwind hazard distance of 44 NM as this will be the worst case.
- (h) The hazard area is now defined as the area bounded by:
 - (1) The upwind radius of the attack area.
 - (2) The 20° tangents.
 - (3) The downwind hazard distance line.
- (i) Adjustments to the downwind hazard distance can be made as and when the agent is identified.

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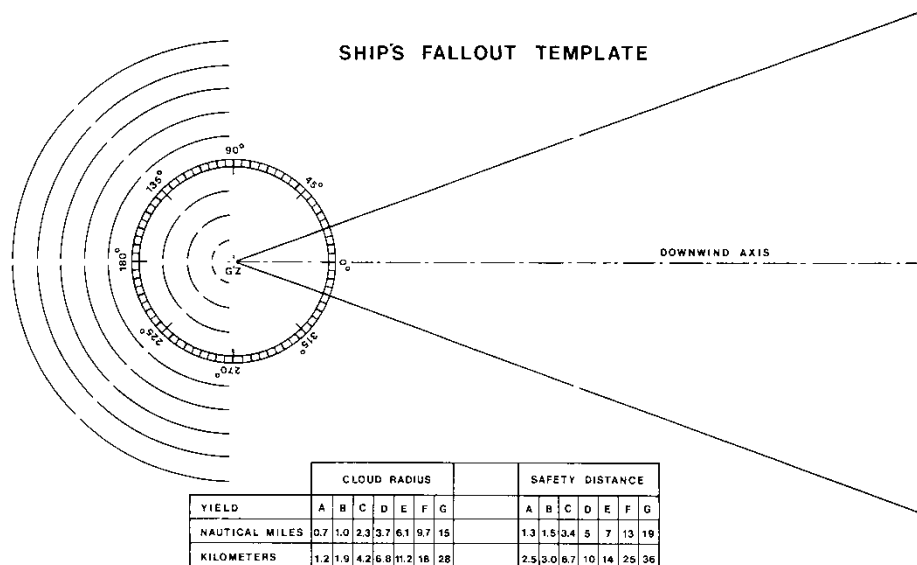


Figure G40-I, Ship's Fallout Template.

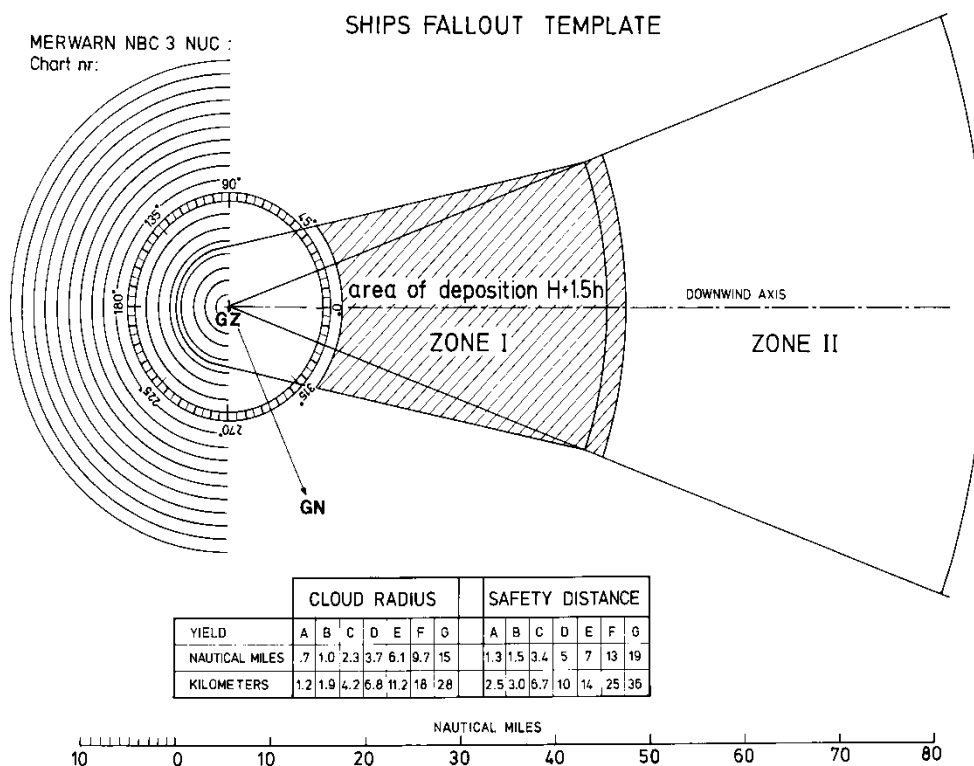


Figure 40-II, Fallout Plotting, using Ship's Template.

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APPENDIX "B"

Instructions to Masters in an EMERGENCY on defence against Nuclear fall-out

- 1 Attacks with nuclear weapons may be expected on land targets adjacent to your route. Such attacks are likely to result in radioactive fall-out being deposited over large sea areas, through which you may have to pass. It may be possible to issue a general warning to indicate which areas are likely to be dangerous at any particular time.
- 2 As fall-out will probably be in the form of fine dust, which may well be invisible, you should observe the following precautions during nuclear fall-out.
- 3 If your ship is equipped with the necessary instruments to detect fall-out, these precautions may be relaxed accordingly.

Precautions to be taken

- 4 If your ship has a pre-arranged radioactive counter-measure plan prepared, ensure that all the measures laid down in that plan are carried out. If no such plan is in existence, improvise measures as indicated below:
 - (a) Select a group, or groups, of compartments as low down in the ship and as far removed from the ship's sides as possible within which the crew can take shelter. These spaces should be equipped with washing and lavatory facilities, and sufficient food should be stowed there to last for the passage through the dangerous area. Spaces selected should be capable of being completely shut down with all ventilation and other openings secured.
 - (b) Strike below, or cover, as much weather deck gear as possible, particularly absorbent materials such as rope, awnings, etc. Ensure that food stores and galleys are closed down with all openings closed. Stop all ventilation fans and close or cover all ventilation and other openings, which are not essential for running machinery and continued steaming. In the absence of suitable closures, the use of canvas covers, adhesive tape, etc., is recommended.
 - (c) Rig all available fire-fighting/wash-deck hoses and nozzles to spray water continuously over as much of the weather decks and superstructure as possible, to prevent contamination settling. If complete coverage is impossible, concentrate effort on the navigating position, over the top of the shelter position(s) and above the machinery spaces.
 - (d) If a continued spraying of the upper-works is impracticable, organize working parties at frequent intervals to wash down the weather decks and superstructure to reduce the build-up of contamination.
 - (e) Reduce the number of your crew who must remain on the weather decks or in positions near the weather decks, or in machinery spaces, to the bare minimum required for safe steaming, and keep the remainder in the selected shelter position(s).
 - (f) Ensure that all men who must remain in exposed positions (including machinery spaces, unless ventilation can be stopped) are fully clothed, preferably in "foul weather" clothing, with all the skin covered so far as practicable.
 - (g) During your passage, so far as the numbers of appropriately skilled personnel allow, change round those manning exposed or relatively unsheltered positions (including the machinery spaces) as often as possible, in order to spread the radiation dosage. Remember that this advice also applies to YOU; take as much shelter as the safe navigation of your ship will permit.
 - (h) Ensure that all men who have been exposed remove at least their outer clothing on returning to shelter, wash thoroughly their exposed skin, especially the hands, face and neck, as soon as possible, and in any case before drinking or eating.

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- (i) Restrict unnecessary movement throughout the ship, to minimize the possible spread of contamination.
- (j) Unless essential, do not distil water for drinking while in the dangerous areas.
- (k) As soon as possible after clearing the dangerous area, carry out a thorough hosing down of the entire weather decks and superstructure.

Authority: Department of National Defence (DND)

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41 General Warning Regarding Steaming and Anchor Lights Exhibited by H.M.C. Ships

Mariners, Shipowners and others concerned are advised that H.M.C. and H.M. Ships by virtue of their special construction, may be unable to comply with the following regulations: *Collision Regulations* - Rule 23 (a)(ii) of Schedule I. H.M.C. Ships have been exempted from carrying the second steaming light.

Authority: Canada Shipping Act, 2001
Department of National Defence (NDHQ)

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**42 Agreement Between the Government of Canada and the Government of the Union
of Soviet Socialist Republics Concerning the Prevention of Incidents at Sea**

Note: This notice has been eliminated from the annual edition of notices to mariners.

43 Caution with Regard to Ships Approaching Controlled Access Zones Surrounding Her Majesty's Canadian Naval Facilities, Warships and Allied Warships while Underway, at Anchor or Stationary

- 1 The attention of ship owners and mariners is called to understand that a "controlled access zone" means a zone, designated by the Minister of National Defence that includes all corresponding airspace above, and water and land below, the zone.
- 2 Attention is drawn to the following definition: A "ship" means an Her Majesty's Canadian Ship as defined in subsection 2(1) of the National Defence Act or a ship under the control of a visiting force that is legally in Canada by virtue of the Visiting Forces Act or otherwise.
- 3 Mariners are therefore warned that the Coordinates of the Controlled Access Zones will be reflected in the next available update to the affected nautical charts.
- 4 Mariners are warned that the MND has designated as controlled access zones certain areas or parts of areas of water described in the Controlled Access Zone Order (Halifax, Esquimalt and Nanoose Harbours). The areas of water described below are hereby designated as controlled access zones for an indeterminate period.

ACCESS TO CONTROLLED ACCESS ZONES

- 5 The Chief of the Defence Staff may, having regard to safety or security may:
 - a. permit persons or classes of persons to have access to a controlled access zone without conditions;
 - b. permit persons or classes of persons to have access to a controlled access zone on such conditions as the Chief of the Defence Staff considers appropriate in the circumstances; or
 - c. prohibit persons or classes of persons from having access to a controlled access zone.
- 6 DND will give notice as soon as possible that access to a controlled access zone is permitted or prohibited and of the conditions of access to the zone, and of any changes to that permission or prohibition or to those conditions, to all persons who may be affected by them via Annual Edition of Notice to Mariners, Monthly Notice to Mariners and through the local VTMS. Mariners are encouraged to contact the local Queens Harbour master if it is deemed that their navigational passage will transit through a designated Control Zone.
- 7 Mariners are cautioned that every person on entering or exiting a controlled access zone shall, on the demand of a security guard, submit to a search of their person or any property or thing under their control. Should a person refuse to submit to a search, then
 - a. if the person is seeking entry to the controlled access zone, they may be refused entry; or
 - b. if the person is exiting the zone, the person or any property or thing under their control may be searched by a security guard, which search shall be carried out with only such force as is necessary for that purpose.
- 8 A security guard may without a warrant search any property or thing in a controlled access zone if the security guard has reasonable grounds to believe that the property or thing is, or may contain anything that is, likely to endanger the safety or security of HMCS Ship's, DND personnel, Visiting Forces and DND facilities.
- 9 Every person who is in a controlled access zone with permission shall comply with every condition of access established for the zone and every direction given under this Order by a security guard and the person, or any property or thing under the person's control, may be removed from the zone by a security guard if the person fails to comply with any of those conditions or directions.

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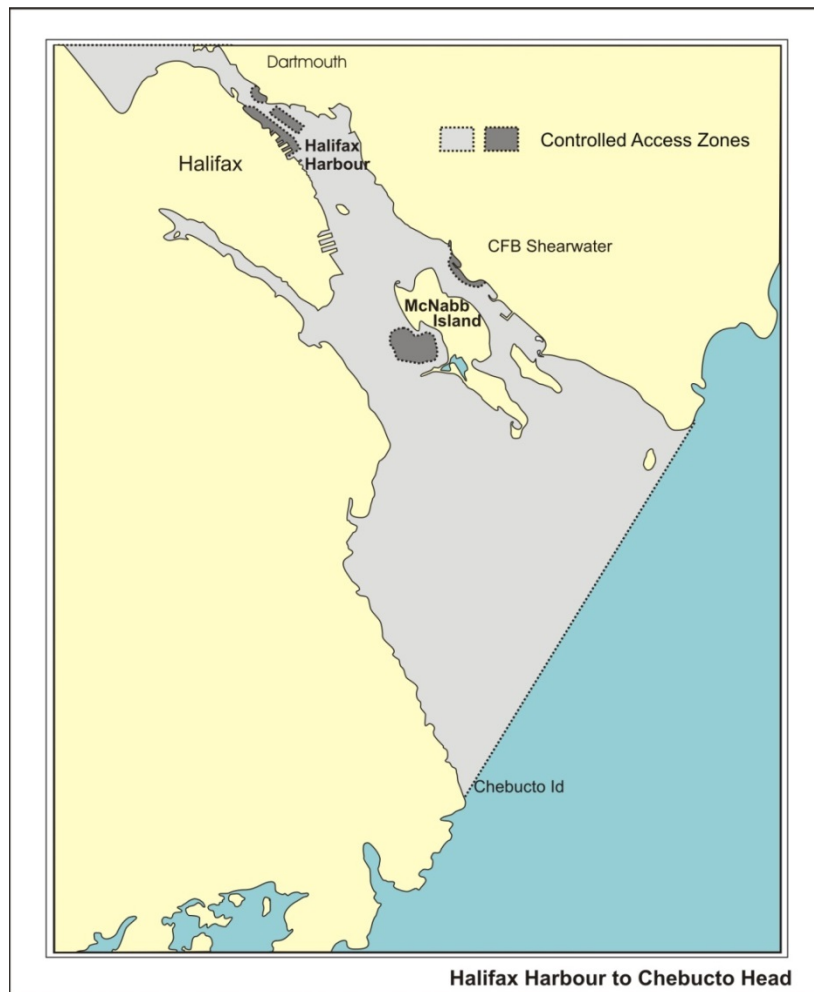
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- 10 Every person who is in a controlled access zone without permission shall comply with every direction given under this Order by a security guard and the person, or any property or thing under the person's control, may be removed from the zone by a security guard if the person fails to comply with any of those directions.

CONTROLLED ACCESS ZONES FOR HALIFAX, NS., ESQUIMALT AND NANOOSE HARBOURS BC

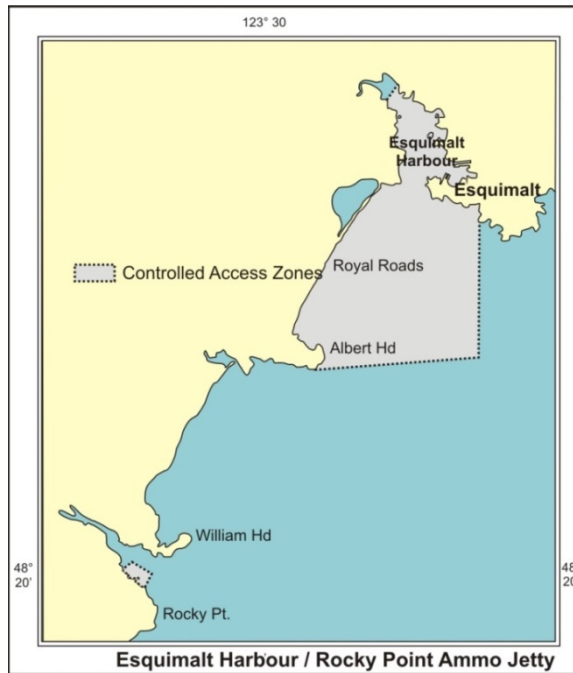
- 11 a. Halifax, Nova Scotia: The area of water in Halifax Harbour and the contiguous area of water bounded by a straight line joining the following coordinates:
- (1) 44°30.19'N, 63°31.19'W
 - (2) 44°35.55'N, 63°26.61'W
- b. Esquimalt, British Columbia:
- (1) The area of water in Esquimalt Harbour bounded on the northwest by a straight line joining coordinates 48°27.13'N, 123°27.23'W and 48°27.36'N, 123°27.01'W, and the contiguous area of water bounded by straight lines joining the following coordinates:
 - (a) 48°25.31'N, 123°25.21'W
 - (b) 48°23.21'N, 123°25.21'W
 - (c) 48°23.03'N, 123°28.79'W
 - (2) The area of water contiguous to the naval jetty at Canadian Forces Ammunition Depot Rocky Point, Canadian Forces Base Esquimalt, bounded by straight lines joining the following coordinates:
 - (a) 48°20.04'N, 123°33.20'W
 - (b) 48°20.16'N, 123°32.98'W
 - (c) 48°20.12'N, 123°32.70'W
 - (d) 48°19.98'N, 123°32.56'W
 - (e) 48°19.78'N, 123°32.69'W
- c. NanOOSE Bay, British Columbia: The area of water in NanOOSE Harbour and the contiguous area of water bounded by straight lines joining the following coordinates:
- (a) 49°16.38'N, 124°07.05'W
 - (b) 49°16.38'N, 124°06.05'W
 - (c) 49°15.96'N, 124°06.05'W
 - (d) 49°15.94'N, 124°06.32'W
 - (e) 49°15.28'N, 124°06.30'W

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DESIGNATED CONTROLLED ACCESS ZONES WITHIN HARBOURS

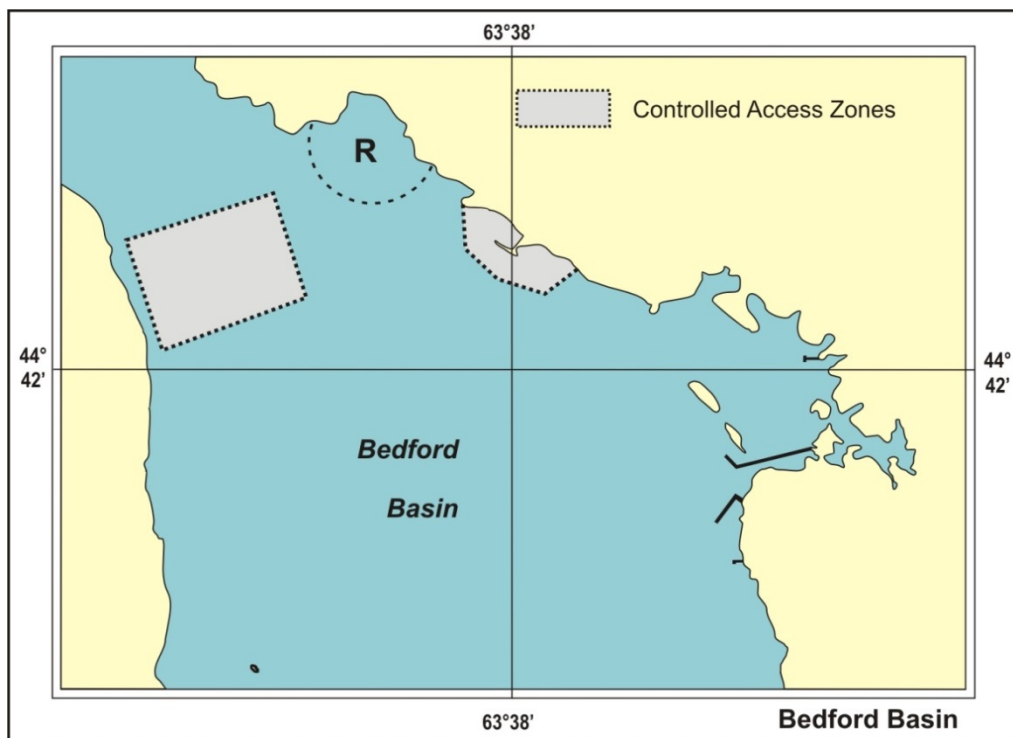
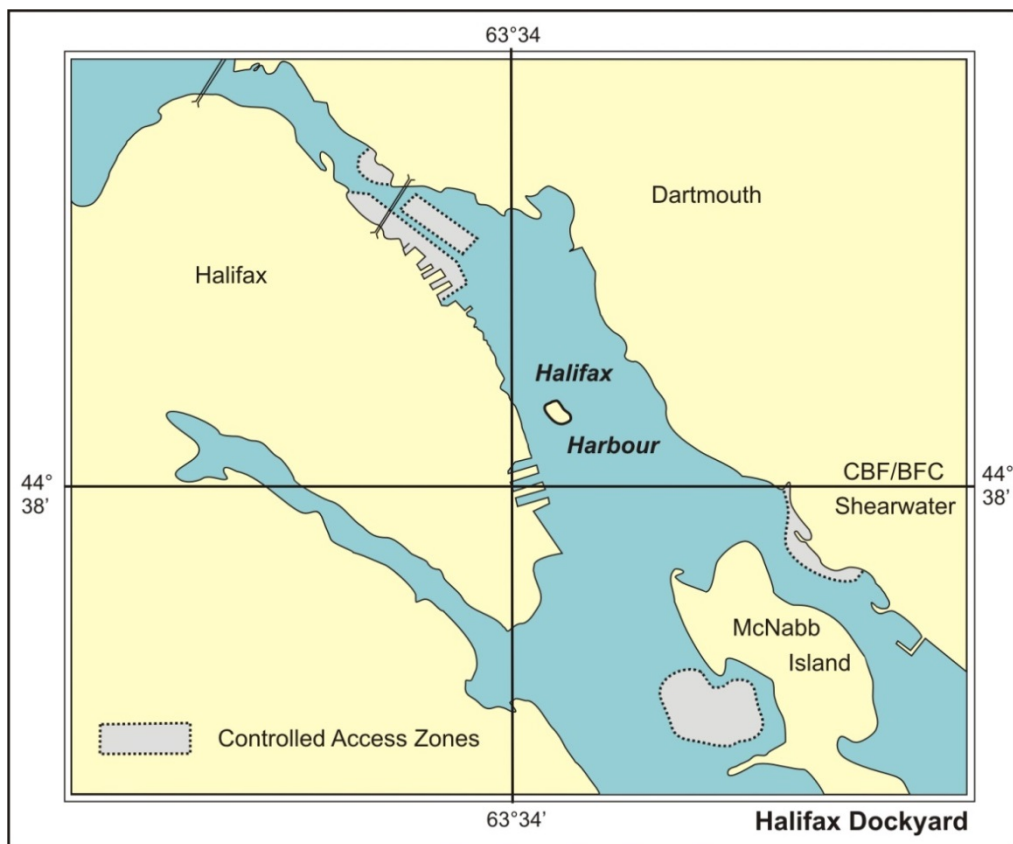
- d. The area of water in Halifax Harbour contiguous to naval jetty NA1 at Canadian Forces Base Halifax, bounded by straight lines joining the following coordinates:
- (a) 44°37.98'N, 63°31.50'W
 - (b) 44°37.86'N, 63°31.48'W
 - (c) 44°37.81'N, 63°31.42'W
 - (d) 44°37.73'N, 63°31.55'W
 - (e) 44°37.58'N, 63°31.43'W
 - (f) 44°37.45'N, 63°31.22'W
 - (g) 44°37.38'N, 63°30.93'W
 - (h) 44°37.45'N, 63°30.75'W
- e. The area of water in Halifax Harbour contiguous to naval jetties NB, NC, ND, NE, NF, NG, NH, NI, NJ and NK2 at Canadian Forces Base Halifax, bounded by straight lines joining the following coordinates:
- (a) 44°39.87'N, 63°35.52'W
 - (b) 44°39.93'N, 63°35.40'W
 - (c) 44°39.78'N, 63°35.12'W
 - (d) 44°39.49'N, 63°34.55'W
 - (e) 44°39.33'N, 63°34.43'W
 - (f) 44°39.20'N, 63°34.64'W
- f. The area of water in Halifax Harbour contiguous to naval jetty NL3 at Canadian Forces Base Halifax, bounded by straight lines joining the following coordinates:
- (a) 44°40.22'N, 63°35.27'W
 - (b) 44°40.14'N, 63°35.42'W
 - (c) 44°40.03'N, 63°35.35'W
 - (d) 44°39.96'N, 63°35.19'W
 - (e) 44°39.98'N, 63°35.09'W

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- g. The area of water in Halifax Harbour contiguous to naval jetty NN3 at Canadian Forces Base Halifax, bounded by straight lines joining the following coordinates:
- (a) 44°42.52'N, 63°38.23'W
 - (b) 44°42.38'N, 63°38.22'W
 - (c) 44°42.29'N, 63°38.08'W
 - (d) 44°42.24'N, 63°37.87'W
 - (e) 44°42.32'N, 63°37.73'W
- h. The area of water in Halifax Harbour in the Bedford Basin, bounded by straight lines joining the following coordinates:
- (a) 44°42.06'N, 63°39.55'W
 - (b) 44°42.23'N, 63°38.92'W
 - (c) 44°42.55'N, 63°39.06'W
 - (d) 44°42.41'N, 63°39.71'W
 - (e) 44°42.06'N, 63°39.55'W
- i. The area of water in Halifax Harbour south of the MacDonald Bridge, bounded by straight lines joining the following coordinates:
- (a) 44°39.92'N, 63°34.91'W
 - (b) 44°39.63'N, 63°34.34'W
 - (c) 44°39.51'N, 63°34.48'W
 - (d) 44°39.77'N, 63°35.05'W
 - (e) 44°39.92'N, 63°34.91'W
- j. The area of water in Halifax Harbour near McNabb Island, bounded by straight lines joining the following coordinates:
- (a) 44°36.34'N, 63°32.45'W
 - (b) 44°36.32'N, 63°32.05'W
 - (c) 44°36.37'N, 63°31.85'W
 - (d) 44°36.39'N, 63°31.72'W
 - (e) 44°36.65'N, 63°31.76'W
 - (f) 44°36.74'N, 63°31.92'W
 - (g) 44°36.69'N, 63°32.14'W
 - (h) 44°36.80'N, 63°32.30'W
 - (i) 44°36.73'N, 63°32.66'W
 - (j) 44°36.34'N, 63°32.45'W
- k. The area of water the perimeter of which is 200 metres from the perimeter of a ship that is moving within Halifax Harbour or the contiguous water, bounded by a straight line joining coordinates 44°30.19'N, 63°31.19'W and 44°35.55'N, 63°26.61'W
- l. The area of water the perimeter of which is 500 metres from the perimeter of a ship that is stationary, including a ship that is at anchor, within Halifax Harbour

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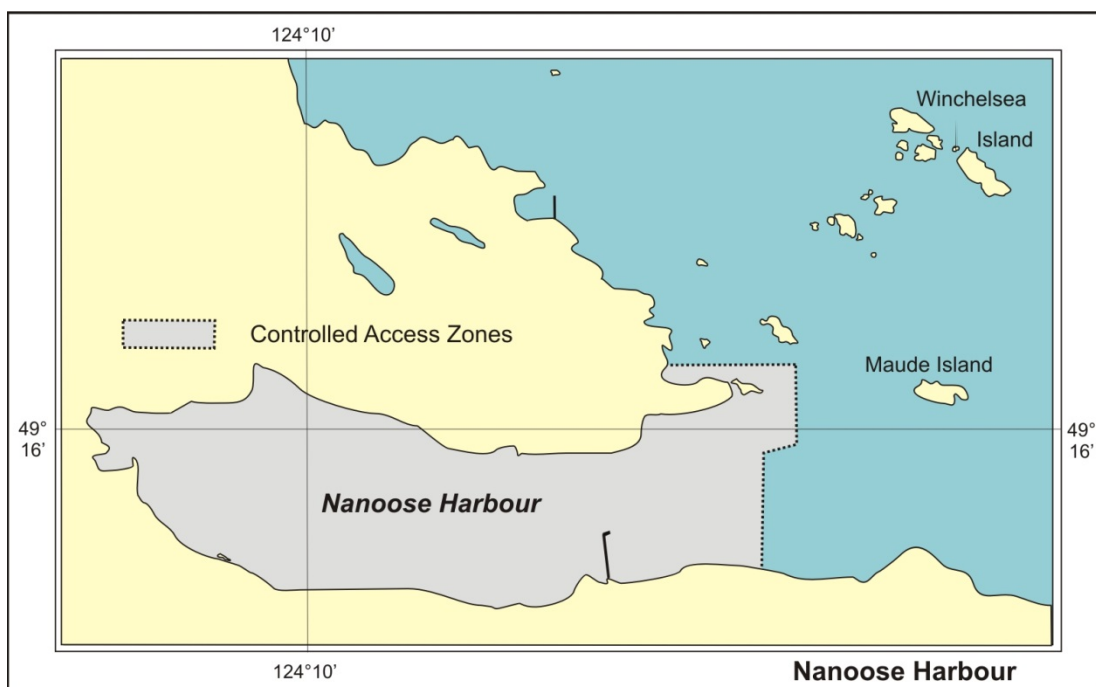
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- m. The area of water in Esquimalt Harbour contiguous to the naval jetties at Canadian Forces Base Esquimalt, bounded by straight lines joining the following coordinates:
- (a) 48°25.73'N, 123°26.25'W
 - (b) 48°25.90'N, 123°26.53'W
 - (c) 48°26.15'N, 123°26.44'W
 - (d) 48°26.21'N, 123°26.05'W
 - (e) 48°26.12'N, 123°25.72'W
- n. The area of water in Esquimalt Harbour contiguous to the naval jetties at Canadian Forces Base Esquimalt, bounded by straight lines joining the following coordinates:
- (a) 48°26.91'N, 123°26.99'W
 - (b) 48°26.88'N, 123°26.65'W
 - (c) 48°26.31'N, 123°26.52'W
 - (d) 48°26.13'N, 123°26.61'W
 - (e) 48°26.18'N, 123°26.90'W
- o. The area of water the perimeter of which is 200 metres from the perimeter of a ship that is moving within Esquimalt Harbour, bounded on the northwest by a straight line joining coordinates 48°27.13'N, 123°27.23'W and 48°27.36'N, 123°27.01'W, or within the contiguous area of water bounded by straight lines joining the following coordinates:
- (a) 48°25.31'N, 123°25.21'W
 - (b) 48°23.21'N, 123°25.21'W
 - (c) 48°23.03'N, 123°28.79'W
- p. The area of water the perimeter of which is 500 metres from the perimeter of a ship that is stationary, including a ship that is at anchor, within Esquimalt Harbour, bounded on the northwest by a straight line joining coordinates 48°27.13'N, 123°27.23'W and 48°27.36'N, 123°27.01'W, or within the contiguous area of water bounded by straight lines joining the following coordinates:
- (a) 48°25.31'N, 123°25.21'W
 - (b) 48°23.21'N, 123°25.21'W
 - (c) 48°23.03'N, 123°28.79'W
- q. The area of water contiguous to the naval jetty at Canadian Forces Ammunition Depot Rocky Point, Canadian Forces Base Esquimalt, bounded by straight lines joining the following coordinates:
- (a) 48°20.04'N, 123°33.20'W
 - (b) 48°20.16'N, 123°32.98'W
 - (c) 48°20.12'N, 123°32.70'W
 - (d) 48°19.98'N, 123°32.56'W
 - (e) 48°19.78'N, 123°32.69'W
- r. The area of water in Nanoose Harbour contiguous to the naval jetties at Canadian Forces Maritime Experimental and Test Ranges, bounded by straight lines joining the following coordinates:
- (a) 49°15.93'N, 124° 08.10'W
 - (b) 49°15.83'N, 124° 08.10'W
 - (c) 49°15.82'N, 124° 09.01'W
 - (d) 49°15.93'N, 124° 09.46'W
 - (e) 49°16.15'N, 124° 09.50'W

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- s. The area of water the perimeter of which is 200 metres from the perimeter of a ship that is moving within Nanoose Harbour or the contiguous area of water, bounded by straight lines joining the following coordinates:
- (a) 49°16.38'N, 124°07.05'W
 - (b) 49°16.38'N, 124°06.05'W
 - (c) 49°15.96'N, 124°06.05'W
 - (d) 49°15.94'N, 124°06.32'W
 - (e) 49°15.28'N, 124°06.30'W
- t. The area of water, which is 500 metres from the perimeter of a ship that is stationary, including a ship that is at anchor, within Nanoose Harbour or the contiguous area of water, bounded by straight lines joining the following coordinates:
- (a) 49°16.38'N, 124°07.05'W
 - (b) 49°16.38'N, 124°06.05'W
 - (c) 49°15.96'N, 124°06.05'W
 - (d) 49°15.94'N, 124°06.32'W
 - (e) 49°15.28'N, 124°06.30'W



Authority: Department of National Defence (NDHQ)

G GENERAL INFORMATION

44 The International Hydrographic Organization

The International Hydrographic Bureau was established as a result of international conferences which had the following objectives:

To consider the advisability of all maritime nations adopting similar methods in the preparation, construction and production of their charts and hydrographic publications; of rendering the results in the most convenient form to enable them to be readily used; of instituting a prompt system of mutual exchange of hydrographic information between all countries and of providing an opportunity for consultations and discussions to be carried out on hydrographic subjects generally, by the hydrographic experts of the world.

While specific statutes now clearly state the objectives of the Bureau, the objective of the early conferences still generally applies.

Four international conferences were held. The first of these was the International Marine Conference (Washington, 1889); the second and third were the International Congress of Navigation (St. Petersburg, 1908 and 1912); and the fourth was the First International Hydrographic Conference, sponsored by Great Britain and France, held at London in 1919.

The Bureau began its activities in 1921 with nineteen Member countries. Over the years, this membership has increased and eighty-one nations are now Member Governments.

The Principality of Monaco was selected as the seat of the Bureau, partly because of its central position, but largely because of the generous offer of Prince Albert I of Monaco - who was deeply interested in Oceanography - to provide accommodation for the Bureau in his Principality. The reigning Prince Albert II has graciously extended the use of this accommodation indefinitely.

The administration of the Bureau is carried out by a Committee of three Directors, each of a different nationality, who are elected to serve for a period of five years. The present directors are Robert Ward (Australia) (President), Mustafa Iptes (Turkey) and Gilles Bessero (France).

The Bureau is a non-political international organization working solely for the good of seafarers of all nations. It enforces no rules or regulations, but rather sets forth Hydrographic Standards as they are agreed upon by the Member Governments. Thus, it is hoped to obtain uniformity, as far as possible, in the charts and hydrographic publications produced by the world's hydrographic offices.

In order that this work may be reviewed and developed, regular conferences are held at 5 year intervals. These are attended by delegates from each Member Government together with observers from international scientific organizations and non-members.

At the 9th International Hydrographic Conference at Monaco in May 1967, a Convention was adopted with the aim of establishing the Bureau as an inter-governmental organization. This Convention came into force on September 22nd, 1970, from which date the new title of International Hydrographic Organization came into effect. The title International Hydrographic Bureau now only refers to the administrative headquarters at Monaco. The next International Hydrographic Conference will take place in 2017 in Monaco.

Visit the International Hydrographic Organization's website at <http://www.iho.int/>

Authority: Canadian Hydrographic Service (CHS)

45 Horizontal Datum of Charts

The Canadian Hydrographic Service (CHS) produces nautical charts referenced to various horizontal datums, such as North American Datum 1983 (NAD83), North American Datum 1927 (NAD27), Local Astronomic Datums and others. The exact placement of lines of latitude and longitude on a nautical chart is dependent on the horizontal reference datum.

Through the use of satellites and other modern surveying techniques, it is now possible to establish global reference systems. As a result, NAD83, which for charting purposes is equivalent to the World Geodetic System 1984 (WGS84), was chosen to replace the various datums used in the past. While charted features will not move relative to adjacent features when horizontal reference datums change, the latitude and longitude of each feature will change.

Most CHS charts that have been printed after 1986 have a note indicating the horizontal datum upon which the chart is based. The note also contains sufficient information to inform the mariner if any correction must be made to the latitude and longitude when transferring geographic positions from NAD83 (WGS84) to the horizontal datum of the chart.

Mariners are cautioned that direct readout navigation systems provide latitude and longitude referenced to a specific horizontal datum.

When satellite navigation systems (e.g. GPS) are referenced to NAD83 (WGS84), positions obtained from these systems can be plotted directly on CHS charts that are published on NAD83.

A navigation receiver referenced to NAD83 will produce a position that must be adjusted by the average shift value published on the chart before it can be accurately plotted on a chart that is referenced to NAD27 or another horizontal datum. This is the most accurate method for plotting positions computed on NAD83 (WGS84) onto a chart that is referenced to NAD27 or to another horizontal datum. This procedure will produce more accurate results than using the positions obtained directly from satellite navigation systems where the mariner has selected NAD27 as the horizontal reference datum. The reason is that the satellite navigation system calculates the geographic position using NAD83, then transforms the position to NAD27. Differences in the accuracies of the transformation processes used in different navigation systems can result in significant differences in geographic positions.

If mariners coming from overseas ports set a horizontal reference datum other than NAD83, WGS84 or NAD27 on their navigation systems, then serious errors in position could occur.

Authority: Canadian Hydrographic Service (CHS)

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46 Canadian Coast Guard Regional Offices

Mariners or other persons wishing to communicate with the Canadian Coast Guard concerning aids to navigation may do so at the following offices:

<p style="text-align: center;">ATLANTIC REGION</p> <p>St. John's, NL P.O. Box 5667 St. John's, NL A1C 5X1</p> <p>Superintendent Aids to Navigation and Waterways 1-709-772-2800 (B)</p> <p>Supervisor Operations Aids to Navigation 1-709-772-6131 (E)</p> <p>MCTS Refer to RAMN (H/N)</p> <p>Maritime Provinces P.O. Box 1236 NS, PEI, NB Charlottetown, PE C1A 7M8</p> <p>Supervisor Operations Aids to Navigation 1-902-566-7936 (B)</p> <p>Notices to Shipping Telephone : 1-709-695-2168 (B) 1-902-564-7751 (B) 1-800-686-8676 (B)(TF)</p> <p>Email : notshippax@dfo-mpo.gc.ca notshipsyd@dfo-mpo.gc.ca</p>	<p style="text-align: center;">WESTERN REGION</p> <p>Victoria, BC Superintendent Aids to Navigation and Waterways 25 Huron Street Victoria, BC V8V 4V9</p> <p>Telephone: 1-250-480-2602 (E) 1-800-667-2179 (TF)</p> <p>Email: CCGBaseVICMNS@pac.dfo-mpo.gc.ca</p>		
<p style="text-align: center;">CENTRAL AND ARCTIC REGION</p> <p>CCG Regional Headquarters 105, rue McGill, 5th floor Montréal, QC H2Y 2E7</p> <p>Operations Centre 1-514-283-1753 (B) 1-855-209-1976 (B) (H/N) (TF)</p> <p>Email : XCA-MontrealOps@dfo-mpo.gc.ca</p> <hr/> <p>Québec, QC Superintendent Aids to Navigation and Waterways 101, boul. Champlain Québec, QC G1K 7Y7</p> <p>Telephone: 1-418-648-3574 (B)</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p style="text-align: center;">ST. LAWRENCE SECTOR</p> <p>Québec, QC Supervisor Aids to Navigation 101, boul. Champlain Québec, QC G1K 7Y7</p> <p>Telephone: 1-418-649-6999 (B) Facsimile: 1-418-649-5169 (B) Email: Aides-nav-quebec.XLAU@dfo-mpo.gc.ca</p> <p>Notices to Shipping 1-418-233-2308 (B)(H/N)</p> <p>Alert network Telephone : 1-418-648-4366 (B)(H/N) 1-800-363-4735 (B)(H/N)(TF)</p> </td><td style="width: 50%; vertical-align: top;"> <p style="text-align: center;">GREAT LAKES SECTOR</p> <p>Parry Sound, ON Supervisor Aids to Navigation 28 Waubeek Street Parry Sound, ON P2A 1B9</p> <p>Telephone: 1-705-773-4322 (E)</p> <p>Notices to Shipping 1-613-925-0666 (B)</p> </td></tr> </table>		<p style="text-align: center;">ST. LAWRENCE SECTOR</p> <p>Québec, QC Supervisor Aids to Navigation 101, boul. Champlain Québec, QC G1K 7Y7</p> <p>Telephone: 1-418-649-6999 (B) Facsimile: 1-418-649-5169 (B) Email: Aides-nav-quebec.XLAU@dfo-mpo.gc.ca</p> <p>Notices to Shipping 1-418-233-2308 (B)(H/N)</p> <p>Alert network Telephone : 1-418-648-4366 (B)(H/N) 1-800-363-4735 (B)(H/N)(TF)</p>	<p style="text-align: center;">GREAT LAKES SECTOR</p> <p>Parry Sound, ON Supervisor Aids to Navigation 28 Waubeek Street Parry Sound, ON P2A 1B9</p> <p>Telephone: 1-705-773-4322 (E)</p> <p>Notices to Shipping 1-613-925-0666 (B)</p>
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(B) Bilingual Service			
(E) English Only Service			
(TF) Toll Free			
(H/N) Holidays and Nights			