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Canadian Coast Guard | Garde côtière canadienne

RADIO AIDS TO MARINE NAVIGATION (Atlantic, St. Lawrence, Great Lakes, Lake Winnipeg and Eastern Arctic)

CANADIAN COAST GUARD

Marine Communications and Traffic Services

Annual Edition 2009

IMPORTANT

This publication is revised on a monthly basis (when required) through Notices to Mariners Part III

Canada

DFO 5470

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NOTICE: RAMN Website: http://www.ccg-gcc.gc.ca/mcts-sctm/ramn/docs/index_e.htm

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THIS ISSUE HAS BEEN REVISED TO JANUARY 9, 2009 AND CANCELS AND REPLACES ALL PREVIOUS ISSUES.

Any inquiries as to the contents of this publication or reports of errors or omissions should be directed to the nearest regional office as indicated at the end of Part 1 of this publication.

The information in this volume is grouped in six parts:

1.	**Foreword (includes Advance Notices, Legend, Frequencies listing and MCTS telephone and address information)**
2.	**Atlantic Coast, Gulf and St. Lawrence River to Montreal, Eastern Arctic (including Hudson Bay and Strait), Great Lakes (including St. Lawrence River to Montreal) and Lake Winnipeg**
3.	**Vessel Traffic Services**
4.	**General**
5.	**Environment Canada**
6.	**Loran-C Navigation System**

Part 1 provides mariners with advance information on proposed changes to Fisheries and Oceans Canada, Canadian Coast Guard, Marine Communications and Traffic Services (MCTS) Centres. In addition, it includes the Canadian Maritime Mobile Safety and Public Correspondence Communication Frequencies, a Legend for Centre Listings, and the telephone/facsimile/telex directory of MCTS Centres along with the Regional offices' addresses.

Part 2 lists, in tabular form, detailed operational information about individual facilities in each of the areas covered. Marine Communications and Traffic Services Centres are providing continuous year round communications and special services except as noted.

Part 3 provides consolidated information concerning Vessel Traffic Services.

Part 4 gives descriptions of the various Procedures, Services and Systems available, together with general observations or directions for their use. This section also refers to radiotelephone procedures for the benefit of vessels equipped with radiotelephone but not carrying radio operators. The proper use of radio frequencies and procedures is essential to minimize congestion and delays on the channels available for communication.

Part 5 provides all relative information concerning Environment Canada's services in marine meteorology that are delivered by the Canadian Coast Guard.

Part 6 provides information, figures, tables and chartlets on the Loran-C Navigation System.

The main purpose of this publication is to present information in a convenient form on radio communications and radio navigational aids services provided in Canada by Fisheries and Oceans Canada. Also included are radio facilities of other government agencies that contribute to the safety of ships in Canadian waters.

It is published in two volumes: one for the Atlantic Coast, Gulf and St. Lawrence River to Montreal, Eastern Arctic (including Hudson Bay and Strait) the Great Lakes (including St. Lawrence River to Montreal) and Lake Winnipeg; the other for the Pacific Coast, Western Arctic and the Athabasca-Mackenzie Watershed area. Both editions are also available in French.

Issues are published in April each year. Amendments to the publication, if necessary between issues, will be made known by radio broadcasts (Notices to Shipping) and/or in section III of the monthly edition of "Notices to Mariners".

Every ship station fitted on a Canadian ship or on a non-Canadian ship engaged in the coasting trade of Canada, pursuant to the *Ship Station (Radio) Regulations 1999*, and all ships in waters under Canadian Jurisdiction, pursuant to the *Charts and Nautical Publications Regulations, 1995*, are required to carry the most recent applicable edition of Radio Aids to Marine Navigation.

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RECORD OF CORRECTIONS TO
RADIO AIDS TO MARINE NAVIGATION
FROM MONTHLY NOTICES TO MARINERS (PART III)

NOTICE TO MARINERS NO.	INSERTED BY	DATE INSERTED

PART 1

FOREWORD

ADVANCE NOTICES

In order that mariners may have advance knowledge of proposed changes to existing facilities to be provided, additions, deletions and changes to such facilities under the jurisdiction of the Fisheries and Oceans Canada are listed hereunder. Effective dates of changes and dates for the commissioning of new facilities are, however, extremely hard to forecast owing to difficulties in obtaining materials and subject to the provision of necessary funds. Every effort will be made to amend dates as far in advance as possible. In every case of changes to facilities and commissioning new facilities, an appropriate Notice to Mariners will be issued.

1) ***Tsunami Warning Bulletin Broadcasts***

Tsunami Warning Bulletins will be broadcast when necessary at MCTS Centres along the Atlantic Coast, in the Quebec, Maritimes and Newfoundland and Labrador Regions. **Tsunami Warnings** received from Environment Canada for a given area will be broadcast upon receipt and re-broadcast every 30 minutes thereafter until cancelled. The two-tone Radiotelephone Alarm Signal will be transmitted prior to the initial call to announce the Tsunami.

Vessels sighting or becoming aware of any Tsunami conditions are requested to forward this information to the nearest MCTS Centre as they occur.

2) ***Global Maritime Distress and Safety System (GMDSS)***

GMDSS service availability has been noted on the individual MCTS Centre listings, Part 2. Canadian Coast Guard MCTS Centres will continue to monitor VHF Ch 16 for distress, urgency, safety and calling purposes for the foreseeable future.

3) ***Important Safety Notice concerning VHF/DSC***

Upon receipt of a distress, urgency or safety broadcast announcement on VHF/DSC Ch 70 the VHF/DSC equipment will automatically switch the DSC radio to VHF Ch 16 for the subsequent voice announcements. Mariners who are required by the *VHF Practices and Procedures Regulations* to monitor a specific VTS sector frequency should return the radio to the appropriate working frequency after determining the impact of the VHF/DSC alert broadcast announcement on their vessel's operations.

It has been determined that vessels maintaining a listening watch on a VTS sector frequency, per the requirements of the *VTS Zones Regulations* may, if navigating in congested waters, temporarily discontinue DSC watchkeeping on VHF/DSC Ch 70 until the required manoeuvre has been completed.

➔Vessels inadvertently or accidentally transmitting a distress/urgency/safety broadcast on VHF/DSC must cancel the distress/urgency/safety broadcast on VHF Ch 16 (page 4-21 refers). Intentionally sending a false distress alert carries penalties under the *Radiocommunication Act*.

VHF/DSC equipment must be programmed with the correct Maritime Mobile Service Identity (MMSI) numbers (reference Radio Station licensing and MMSI numbers section in Part 4; also reference page 1-7 for the MCTS Centres' MMSI numbers).

4) ***The Commercial Public Correspondence Service***

The cessation of the Canadian Coast Guard commercial public correspondence service has commenced as of December 31, 1999, in **selected areas**, based upon the demand for the service and the availability of alternate service delivery methods.

The Canadian Coast Guard discontinued the provision of the commercial radiotelegram service as of December 31, 2007. Provision of the commercial marine telephone service is no longer offered from MCTS Centres in Montreal and Quebec.

5) ➔***Automatic Identification System (AIS)*** **- Installation of AIS equipment at MCTS Centres in Eastern Canada**

In 2009, the Canadian Coast Guard will be commencing the installation of its AIS system. Installation should be completed by the end of March, 2010.

The CCG AIS system will cover most of Eastern Canada from the Strait of Belle Isle to the Bay of Fundy, most of the Gulf of St. Lawrence, the St. Lawrence River and the Canadian Great Lakes. AIS equipment will be installed at the following MCTS Centres:

NL: St. Anthony; St. John's; Placentia; Port-aux-Basques.
NS: Sydney; Halifax.
NB: Saint John.
QC: Rivière-au-Renard; Les Escoumins; Quebec; Montreal.
ON: Prescott; Sarnia; Thunder Bay.

During the installation period, MCTS Centres will be able to receive dynamic information (position, heading and speed), static information (vessel description) and voyage information as transmitted by the vessel's AIS. The CCG AIS system will be on 'Initial Operational Condition' (IOC) until further advice. 'Full Operational Condition' (FOC) of the system will be promulgated by means of a Notice to Shipping and a Notice to Mariners.

Safety and binary messages services will not be provided until a decision has been made.

6) ***Discontinuation of 121.5/243 MHz Distress Beacon Monitoring by the COSPAS-SARSAT Satellite Constellation***

COSPAS-SARSAT is the international organization that operates a series of satellites in low altitude and geostationary orbits for search and rescue. In response to recommendations from the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO), the Council of COSPAS-SARSAT announced at its October 2000 meeting in Laval, Quebec that it will be phasing out satellite processing of distress beacons operating in the 121.5/243 MHz range and encouraging users to **adopt 406 MHz beacons by 2009** at the latest, as this is when the switch-over will be completed.

Three types of distress beacons are in use: Emergency Locator Transmitters (ELTs), used on aircraft; Emergency Positioning Indicator Radio Beacons (EPIRBs), used on vessels; and Personal Locator Beacons (PLBs), used by land-based personnel.

The impact of this change should be negligible aboard Canadian vessels as there are no 121.5 MHz marine EPIRBs that have a valid technical acceptance certificate (TAC) under the *Radiocommunication Act.* Therefore, it is illegal for anyone to sell or fit such an EPIRB in Canada or aboard a Canadian vessel. Only those COSPAS-SARSAT EPIRBs transmitting on 406 MHz are approved for use in Canada and these units will not be impacted by this change in satellite detection.

The use of 406 MHz distress beacons over the 121.5/243 MHz distress beacons will minimize the problems with false alerts being received by rescue coordination centres. Since its inception in 1982 the COSPAS-SARSAT System has provided distress alert information which has assisted in the rescue of over 18,865 persons in 5,317 distress situations.

Mariners are encouraged to fit float-free EPIRBs and **register** their COSPAS-SARSAT 406 MHz EPIRBs free-of-charge with the Canadian Beacon Database by telephone 1-800-727-9414 by facsimile 613-996-3746 or, on the Website at http://www.nss.gc.ca/site/cospas-sarsat/emergencyBeacon_e.asp.

IMPORTANT !
DON'T FORGET TO REGISTER YOUR EPIRB
IT COULD SAVE YOUR LIFE

Discontinuation of INMARSAT 'E' EPIRB monitoring service as of December 1, 2006

INMARSAT has discontinued their monitoring service of INMARSAT ' E ' EPIRB distress alerts as of **December 1, 2006**. 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 from now on.

7) ***AVOID Collision with Right Whales***

North Atlantic Right Whales are the most endangered large whale in the world; about 350 remain. They are slow swimmers, seldom moving faster than 3-5 knots. They may stay submerged for 10 to 20 minutes and are seen alone or in small groups. If you spot one Right Whale, there may be more in the area. Please report all sightings of Right Whales in Canada to the Canadian Coast Guard via VHF Ch 16 and in the Bay of Fundy contact Fundy Traffic VHF Ch 14. They are difficult to see and might be oblivious to vessels – please avoid approaching them closely. For more details, visit: http://www.especesenperil.gc.ca/search/speciesDetails_e.cfm?SpeciesID=780

➔Note: Roseway Basin Seasonal Area to be avoided. In order to significantly reduce the risk of ship strikes of the highly endangered North Atlantic Right Whale, it is recommended that ships of 300 gross tonnage and upwards solely in transit during the period of June 1st through December 31st should avoid this area.

CANADIAN MARITIME MOBILE SAFETY & PUBLIC CORRESPONDENCE COMMUNICATION FREQUENCIES

The frequencies listed on the next few pages are those in general use by ships in Canadian waters for inter-ship communications and for ship/shore communications with MCTS Centres operated by the Canadian Coast Guard.

Part 2 of this publication contains individual listings for MCTS Centres operated by the Canadian Coast Guard, giving details of the communication and special services provided to ships.

In this frequencies list, the geographical areas of use are as follows:

(1) Newfoundland and Labrador;
(2) Atlantic Coast, Gulf and St. Lawrence River up to and including Montreal;
(3) Great Lakes (including St. Lawrence above Montreal);
(4) Eastern Arctic.

Frequencies		Channel	Class of Emission	Areas Used	Remarks
Ship kHz	Coast kHz				
	490		F1B	1, 2, 3, 4	NAVTEX Service (French)
	518		F1B	1, 2, 3, 4	NAVTEX Service (English)
2003			J3E	2	Inter-ship (Lower St. Lawrence River to West Point, Anticosti Island)
2118	2514		J3E	1, 2, 4	Public correspondence
2134			J3E	1, 2	Inter-ship (fishing vessels only)
2158	2550		J3E		Public correspondence (U.S. vessels only)
2182	2182		J3E	1, 2, 4	International distress and calling
2187.5	2187.5		G2B		Distress, safety & Calling (DSC)
2206	2582		J3E	1, 2, 4	Public correspondence
2237			J3E	1, 2	Inter-ship (other than fishing vessels)
	2598		J3E	1, 2	Weather and NOTSHIP broadcasts
2638			J3E	1, 2	Inter-ship (shared with U.S. vessels)
2738			J3E	1, 2	Inter-ship (shared with U.S. vessels)
2815	2530		J3E	2	Public correspondence
	2749		J3E	2	Weather and NOTSHIP broadcasts
	3253		J3C	4	Radio facsimile (Iqaluit)
3023	3023		J3E	1, 2, 3, 4	International SAR On-Scene (aircraft/vessels)
4071	4363	403	J3E	4	Public correspondence
4083	4375	407	J3E	1, 2, 4	Public correspondence
4084.7	4379.1	408	J3E	1, 2	Public correspondence
4100.2	4394.6	413	J3E	1, 2	Public correspondence
4116	4408	418	J3E	1, 2	Public correspondence
4125	4125		J3E	1, 2, 3, 4	Distress and Safety including Search and Rescue

Frequencies		Channel	Class of Emission	Areas Used	Remarks
Ship kHz	Coast kHz				
					(aircraft/vessels)
4175.5	4213.5		F1B	2	Radioteletype
4177.5	4177.5		F1B	4	Narrow Band Direct Printing (NBDP)
4207.5	4207.5		F1B	4	Alerting frequency (DSC)
	4416		J3C	2	Radio facsimile (Sydney)
5680	5680		J3E	1, 2, 3, 4	International SAR On-Scene (Aircraft/Vessels)
6206	6507	603	J3E	1, 2, 4	Public correspondence
6212	6513	605	J3E	1, 2, 4	Public correspondence
6215	6215		J3E	4	International distress and calling
6266	6317.5		F1B	2	Radioteletype
6268	6268		F1B	4	Narrow Band Direct Printing (NBDP)
6312	6312		F1B	4	Alerting frequency (DSC)
	7710		J3C	4	Radiofacsimile (Iqaluit)
8228	8752	812	J3E	1, 2, 4	Public correspondence
8261	8785	823	J3E	1, 2	Public correspondence
8267	8791	825	J3E	1, 2, 4	Public correspondence
8291	8291		J3E	4	International distress and calling
8355.5	8716.5		F1B	2	Radioteletype
8376.5	8376.5		F1B	4	Narrow Band Direct Printing (NBDP)
8379.5	8419.5		F1B	1, 2	Radioteletype
8414.5	8414.5		F1B	4	Alerting frequency (DSC)
12230	13077	1201	J3E	1, 2, 4	Public correspondence
12266	13113	1213	J3E	1, 2	Public correspondence
12290	12290		J3E	4	International distress and calling
12496	12598.5		F1B	2	Radioteletype
12520	12520		F1B	4	Narrow Band Direct Printing (NBDP)
12577	12577		F1B	4	Alerting frequency (DSC)
16369	17251	1604	J3E	1, 2	Public correspondence
16420	16420		J3E	4	International distress and calling
16562.3	17335.2	1634	J3E	1, 2	Public correspondence
16695	16695		F1B	4	Narrow Band Direct Printing (NBDP)
16698.5	16821.5		F1B	2	Radioteletype
16804.5	16804.5		F1B	4	Alerting frequency (DSC)
22037.2	22633.2	2213	J3E	2	Public correspondence
22313	22405		F1B	2	Radioteletype

Frequencies		Channel	Class of Emission	Areas Used	Remarks
Ship MHz	**Coast MHz**				
156.300		06	F3E	1, 2, 3, 4	Inter-ship, Safety, International SAR On-Scene (aircraft/vessels)
156.400		08	F3E	1, 2, 3, 4	Inter-ship, Safety (2nd choice)
156.450	156.450	09	F3E	2	➔Vessel Traffic Services & Inter-ship
156.500	156.500	10	F3E	2	➔Vessel Traffic Services & Inter-ship
156.525	156.525	70	G2B	1, 2, 3, 4	Exclusively for digital selective calling (DSC) for distress, safety and calling
156.550	156.550	11	F3E	2, 3	Vessel Traffic Services & Pilotage
156.575	156.575	71	F3E	2	Vessel Traffic Services
156.600	156.600	12	F3E	2, 3	VTS / Port Operations/Pilotage
156.650	156.650	13	F3E	2, 3	➔VTS / Bridge to Bridge navigational traffic
156.700	156.700	14	F3E	2, 3	VTS/Port Operations/Pilotage
156.800	156.800	16	F3E	1, 2, 3, 4	International distress, safety and calling
	161.650	21B	F3E	1, 2, 3	Weather and NOTSHIP broadcasts
156.925	156.925	78A	F3E	1, 2, 3, 4	Inter-ship for Fishing vessels
157.100	157.100	22A	F3E	1, 2, 3	Ship and Canadian Coast Guard liaison
	161.750	23B	F3E	1, 3	Weather and NOTSHIP broadcasts
157.200	161.800	24	F3E	2, 3	Public correspondence
157.275	161.875	85	F3E	2, 3	Public correspondence
157.300	161.900	26	F3E	1, 2, 3, 4	Public correspondence
157.350	161.950	27	F3E	2, 3	Public correspondence
157.375	157.375	87	F3E	1, 2, 3	Port operations/Ship movement
157.425	157.425	88	F3E	1, 2, 3	Port operations/Ship movement
	161.775	83B	F3E	3	Weather and NOTSHIP broadcasts
	161.850	25B	F3E	3	Weather and NOTSHIP broadcasts
161.975	161.975	87B	G2B	1, 2, 3	AIS-1
	162.000	28B	F3E	3	Weather and NOTSHIP broadcasts
162.025	162.025	88B	G2B	1, 2, 3	AIS-2

Notes Reference VHF:

(a) "A" following a channel number means Simplex Operation on the ship station transmitting frequency.
(b) "B" following a channel number means ship stations receive only on the higher coast station transmission frequency.

GENERAL INFORMATION ON MCTS CENTRE LISTINGS

(1) Transmit and receive frequencies are listed in kHz.

(2) **Receiving frequencies printed in bold type are continuously monitored by MCTS Centres.**

(3) The numbered areas mentioned in the remarks column of centres providing communications and special services are shown on the marine weather forecasts maps, and are listed in detail under the heading "Weather Forecast Areas" in Part 5.

(4) Frequencies for which the J3E single sideband modes of emission are shown in the MCTS Centre listings are designated by the carrier frequencies. The assigned frequencies are 1.4 kHz higher than the carrier frequencies listed. (This note also applies to the medium and high radiotelephone frequencies listed in the "Canadian Maritime Mobile Safety and Public Correspondence Communication Frequencies" section.)

Legend for MCTS Centre Listings

AIS	Automatic Identification System
BC	Broadcast
C	Continuously Operating Radiobeacon
CMB	Continuous Marine Broadcast
DF	Direction Finding
➔DSC	Digital Selective Calling
F1B	Radioteletype
F3E	Radiotelephony, Frequency Modulation
G2B	Phase modulation, digital information, automatic reception
H+	This symbol followed by a number indicates minutes past the hour
J3C	Facsimile – Single-sideband, Suppressed Carrier
J3E	Radiotelephony – Single-sideband, Suppressed Carrier
MCTS	Marine Communications and Traffic Services
MMSI	Maritime Mobile Service Identity Numbers
NAVTEX	Automated Narrow Band Direct Printing Telegraphy Service
NBDP	Narrow Band Direct Printing
SC	Ship Control (Canal and Locks operations)
SS	Ship/Shore – is an indicator for ship to shore communication and shore to ship communication
TS	Time Signals
UTC	Indicates Coordinated Universal Time. (For practical purposes, UTC is equivalent to GMT)
*	Indicates that on this frequency, facilities are available for connecting ships directly to the commercial telephone system on shore
#	Indicates that broadcasts are made simultaneously on these frequencies
♦	VHF Direction-Finding service is available
➔	Indicates change or addition since last complete Edition

TELEPHONE / FACSIMILE / TELEX DIRECTORY

SERVICE	*TELEPHONE NUMBER*	*FACSIMILE NUMBER*	*TELEX NUMBER*	*ANSWER BACK CODE*	*MMSI NUMBER*
MCTS CENTRE (call sign)					
HALIFAX, NS (VCS)	902-426-9750	902-426-4483	019-22510	CCG MRHQ DRT	00 316 0016
IQALUIT*, NU (VFF)	867-979-5269	867-979-4264			00 316 0023
LABRADOR, (Goose Bay) NL(VOK)	709-896-2252	709-896-8455			00 316 0022
LES ESCOUMINS*, QC (VCF)	418-233-2194	418-233-3299			00 316 0026
MONTREAL*, QC (VFN)	450-928-4544	450-928-4547			00 316 0028
PLACENTIA, NL (VCP)	709-227-2181 709-227-2182	709-227-5637	016-4530	CCGTC SNF	00 316 0019
PORT AUX BASQUES*, NL (VOJ)	709- 695-2167	709-695-7784			00 316 0018
PRESCOTT*, ON (VBR)	613-925-4471	613-925-4519			00 316 0029
QUÉBEC*, QC (VCC)	418-648-4427	418-648-7244			00 316 0027
RIVIÈRE-AU-RENARD*, QC (VCG)	418-269-5686	418-269-5514			00 316 0025
SAINT JOHN*, (Fundy) NB (VAR)	506-636-4696 1 888 528-6444	506-636-5000	019-22510	CCG MRHQ DRT	00 316 0015
SARNIA, ON (VBE)	519-336-4003	519-336-0229			00 316 0030
ST. ANTHONY, NL (VCM)	709-454-3852	709-454-3716			00 316 0021
ST. JOHN'S, NL (VON)	709-772-2106 709-772-2106	709-772-5369	016-4530	CCGTC SNF	00 316 0020
SYDNEY*, NS (VCO)	902-564-7751 1-800-686 8676	902-564-7662	01922510	CCG MRHQ DRT	00 316 0017
THUNDER BAY, ON (VBA)	807-345-5190	807-345-2688			00 316 0031
ECAREG CANADA					
DARTMOUTH, NS	902-426-4956	902-426-4483	019-22510	CCG MRHQ DRT	
RIVIÈRE-AU-RENARD*, QC	418-269-3843	418-269-5514			
ST. JOHN'S, NL	709-772-2106 709-772-2083	709-772-5369	016-4530	CCGTC SNF	
NORDREG CANADA					
IQALUIT, NU	867-979-5724	867-979-4264	063-15529	NORDREG CDA	

JOINT RESCUE COORDINATION CENTRE (JRCC) / MARITIME RESCUE SUB-CENTRE (MRSC)				
SERVICE	*TELEPHONE NUMBER*	*FACSIMILE NUMBER*	*TELEX NUMBER*	*ANSWER BACK CODE*
HALIFAX, NS (JRCC)	902-427-8200 1-800-565-1582	902-427-2114	584331699943 VIA INMARSAT B AOR-W	
QUÉBEC*, QC (MRSC)	418-648-3599 1-800-463-4393	418-648-3614		
ST. JOHN'S, NL (MRSC)	709-772-5151 1-800-563-2444	709-772-5369	581-331600063 (Telex–INMARSAT B – AOR East)	MRSC SNF
TRENTON, ON (JRCC)	613-965-3870 1-800-267-7270	613-965-7190	066-2282	
ICE				
DARTMOUTH, NS	902-426-5664	902-426-6073	019-22510	MOT ICE DRT
IQALUIT, NU	867-979-5724	867-979-4264	063-15529	NORDREG CDA
QUÉBEC, QC	418-648-7290 418-648-2214	418-648-3614		
SARNIA, ON	519-383-1855	519-337-2498		
ST. JOHN'S, NL	709-772-2078	709-772-5369		

***Services provided in English and French**

REGIONAL OFFICE ADDRESSES (covering the East Coast, Eastern Arctic and Central Canada)

Regional Superintendent
Marine Communications and Traffic Services
Fisheries and Oceans Canada,
Canadian Coast Guard,
P.O. Box 5667
ST. JOHN'S, NL A1C 5X1
Telephone: 709-772-5119
Facsimile: 709-772-5666

*Regional Superintendent
Marine Communications and Traffic Services
Fisheries and Oceans Canada,
Canadian Coast Guard,
P.O. Box 1000, Parker Street
DARTMOUTH, NS B2Y 3Z8
Telephone: 902-426-3797
Facsimile: 902-426-6765

*Regional Superintendent
Marine Communications and Traffic Services
Fisheries and Oceans Canada,
Canadian Coast Guard,
101 Champlain Boulevard
QUEBEC, QC G1K 7Y7
Telephone: 418-648-5522
Facsimile: 418-648-4877

*Regional Superintendent
Marine Communications and Traffic Services
Fisheries and Oceans Canada,
Canadian Coast Guard,
520 Exmouth Street
SARNIA, ON N7T 8B1
Telephone: 519-383-1937
Facsimile: 519-383-1991

REGIONAL NOTICES TO SHIPPING (NOTSHIP) ISSUING AUTHORITIES

Fisheries and Oceans Canada
Canadian Coast Guard
St. John's MCTS Centre
P.O. Box 5667
ST. JOHN'S, NL A1C 5X1
Telephone: 709-772-2083 / 2106
Facsimile: 709-772-5369

*Fisheries and Oceans Canada
Canadian Coast Guard
Sydney MCTS Centre
P.O. Box 8630
SYDNEY, NS B1P 6K7
Telephone: 902-564-7751 or 1-800-686-8676
Facsimile: 902-564-2446
Email: notshipssyd@mar.dfo-mpo.gc.ca

*Fisheries and Oceans Canada
Canadian Coast Guard
Regional Operations Centre (ROC)
101 Champlain Boulevard
QUEBEC, QC G1K 7Y7
Telephone: 418-648-5410 / 4427
Facsimile: 418-648-7244

*****Fisheries and Oceans Canada
Canadian Coast Guard
Sarnia MCTS Centre
215 - 105 Christina Street
SARNIA, ON N7T 7W1
Telephone: 519-337-6360 or 1-800-265-0237
Facsimile: 519-337-2498

*Fisheries and Oceans Canada
Canadian Coast Guard
Iqaluit MCTS Centre
P.O. Box 189
IQALUIT, NU X0A 0H0
Telephone: 867-979-5269
Facsimile: 867-979-4264

***Services provided in English and French**

PART 2

HALIFAX, NOVA SCOTIA

Marine Communications and Traffic Services Centre

MMSI: 00 316 0016 **Call Sign: VCS**

Hours: H24

For Radio Service call Halifax Coast Guard Radio.

For Vessel Traffic Services call Halifax Traffic – refer to section 3.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Halifax MCTS Centre
2nd Floor, Shannon Hill
P.O. Box 1000
DARTMOUTH, NS B2Y 3Z8

Telephone Numbers:	902-426-9738	Officer-in-Charge
	902-426-9750	MCTS Operations
	902-426 4956	ECAREG
Facsimile:	902-426-4483	
Telex Number:	019-22510	CCG MRHQ DRT
Electronic Mail:	CCGOPS@ELSMAIL.NET	
	HLXECAREG1@INNAV.GC.CA	ECAREG Canada

♦ Halifax MCTS Centre VHF/DF Advisory Service

A VHF/DF Advisory Service is available to vessels within range of the receiver sites located at Kingsburg, Sambro, Ecum Secum and Fox Island. Information concerning position, bearing and distance may be provided for use at the discretion of the user.

MCTS Halifax / VCS – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Sambro ♦ 44°28'21"N 63°37'13"W	**Ch16** Ch26* Ch27* **Ch70**			
		2182J3E 2514J3E 2582J3E		
Ecum Secum ♦ 44°57'53"N 62°08'56"W	**Ch16** Ch24* Ch26* **Ch70**			
Kingsburg ♦ 44°16'32"N 64°17'15"W	**Ch16** Ch24* Ch26* **Ch70**			

MCTS Halifax / VCS – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
			2182 2118* 2206*	
Fox Island ♦ 45°19'47"N 61°04'46"W	**Ch16** **Ch24*** **Ch26*** **Ch70**			
			➔2182 ➔2118* ➔2206*	
Halifax 44°41'03"N 63°36'35"W	**Ch12** **Ch14** **Ch16** **Ch70**			
Chebucto Head 44°30'26"N 63°31'24"W	**Ch12** **Ch14** **Ch16**			
Sable Island (NAD 27) 43°55'55"N 60°01'24"W				

MCTS Halifax / VCS – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0240	2749J3E Ch21B Sambro Fox Island Ch83B Ecum Secum Sable Island	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 203 to 214. • Notices to Shipping in South Coast Nova Scotia area. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel.
0810	2749J3E	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 203 to 214. • Notices to Fishermen (when available).
1110	Ch21B Sambro Fox Island Ch83B Ecum Secum Sable Island	**RADIOTELEPHONY:** • Notices to Shipping in South Coast Nova Scotia area. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel.
1540	2749J3E Ch21B Sambro Fox Island Ch83B Ecum Secum Sable Island	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 203 to 214. • Notices to Shipping in South Coast Nova Scotia area. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel.
1940	2749J3E	**RADIOTELEPHONY:** • Technical synopsis, forecast and wave height forecasts for marine areas 203 to 214. • Notices to Fishermen (when available).

MCTS Halifax / VCS – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
Continuous	Ch21B Sambro Fox Island Ch83B Ecum Secum Sable Island	**RADIOTELEPHONY:** • Technical synopsis, forecast and wave height forecasts for marine areas 203 to 214. • Notices to Fishermen (when available).

Note: The Continuous Marine Broadcast is interrupted three times daily (0240, 1110 and 1540) for Notice to Shipping Broadcasts

IQALUIT, NUNAVUT

Marine Communications and Traffic Services Centre

MMSI: 00 316 0023 **Call Sign: VFF**

Hours: H24

Open only from approximately mid-June until late-November.
Opening and closing will be announced by Notice to Shipping.
For Radio Services call Iqaluit Coast Guard Radio.
Services provided in English and French.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge
Iqaluit MCTS Centre / NORDREG Canada
P.O. Box 189
IQALUIT, NU X0A 0H0

Telephone Numbers:
867-979-5260 Officer-in-Charge
867-979-5269 MCTS Operations
867-979-5724 NORDREG Operations

Facsimile: 867-979-4264 MCTS/NORDREG Operations

Telex Number (Telefax): 063-15529 NORDREG CDA

Electronic Mail: IQANORDREG@INNAV.GC.CA

MCTS Iqaluit / VFF – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Iqaluit 63°43'42"N 68°33'00"W	**Ch16** **Ch26***			Iqaluit site operational approximately mid-June to late November
	403* 603* 812* 1201*	2182J3E 2582J3E 4363J3E 6507J3E 8752J3E 13077J3E	**2182** 2206* **4071*** 6206* 8228* 12230*	
		4207.5F1B 6312.0F1B 8414.5F1B 12577.0F1B 16804.5F1B	**4207.5** **6312.0** **8414.5** **12577.0** **16804.5**	These frequencies are used exclusively for distress and safety calls using Digital Selective Calling (DSC)
		4177.5F1B 6268F1B 8376.5F1B 12520F1B 16695F1B	4177.5 6268 8376.5 12520 16695	These frequencies are used exclusively for distress and safety communications using Narrow Band Direct Printing (NBDP) telegraphy
		4125J3E 6215J3E 8291J3E 12290J3E 16420J3E	➔4125 ➔6215 ➔8291 ➔12290 ➔16420	These frequencies are used for distress and safety communications by radiotelephony

MCTS Iqaluit / VFF – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Killinek 60°25'27"N 64°50'30"W	 **403***	2182J3E 2514J3E 2582J3E 4363J3E	**2182** 2118* 2206* **4071***	➔Killinek site operational approximately early-July to late-October
Coral Harbour 64°08'58"N 83°22'22"W	 **403*** 605* ➔ 825* ➔ 1201*	2182J3E 2514J3E 2582J3E 4363J3E 6513J3E 8791J3E 13077J3E	**2182** 2118* 2206* **4071*** 6212* 8267* 12230*	➔Coral Harbour site operational approximately mid-July to late-October
Resolute 74°45'14"N 94°58'09"W	**Ch16** **Ch26***			➔Resolute site operational approximately mid-July to late-October
	  403* 825*	2182J3E 2582J3E 4363J3E 8791J3E	**2182** 2206* **4071*** 8267*	
			4207.5 **6312.0** **8414.5** **12577.0** **16804.5**	There frequencies are used exclusively for distress and safety calls using Digital Selective Calling (DSC)
			4177.5 6268 8376.5 12520 16695	These frequencies are used exclusively for distress and safety communications using Narrow Band Direct Printing (NBDP) telegraphy
			➔4125 ➔6215 ➔8291 ➔12290 ➔16420	These frequencies are used for distress and safety communications by radiotelephony

MCTS Iqaluit / VFF Broadcasts

TIME UTC	FREQUENCY	CONTENTS
➔0100	3253J3C (Resolute) 7710J3C (Iqaluit)	➔**RADIOFACSIMILE: Weather Charts** • Marine Surface Analysis (Arctic). • Marine Wind Prognosis (Arctic)(experimental product). • Regional Marine Wind Prognosis (on request). .
0110	2514J3E (Coral Harbour) 6513J3E (Coral Harbour)	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas: 150, 155, 156, 162, 311 and 312. • Following areas on request: 151, 152, 153, 154, 159, 160, 161, 163, 164 and 310. • Notices to Shipping for all NORDREG waters east of 106W and along the Labrador coast southward to 58N.

MCTS Iqaluit / VFF Broadcasts

TIME UTC	FREQUENCY	CONTENTS
➔0200	3253J3C (Resolute) 7710J3C (Iqaluit)	**➔RADIOFACSIMILE: Ice Charts** Transmitted from Resolute: Ice analysis Baffin Bay, Approaches to Resolute, Resolute-Byam, Eureka Sound, McClure Strait, Parry Channel and Queen Maud. Transmitted from Iqaluit: Ice analysis Hudson Bay south, Hudson Bay north, Hudson Strait, Foxe Basin, Labrador Coast, Davis Strait, Baffin Bay.
0300	490F1B	**➔NAVTEX: (S) French** • Weather forecasts for marine areas: 143, 144, 145, 147, 148, 149 and 150.
0310	518F1B	**➔NAVTEX: (T) English** • Weather forecasts for marine areas: 143, 144, 145, 147, 148, 149 and 150.
0600	3253J3C (Iqaluit) 7710J3C (Resolute)	**RADIOFACSIMILE: Weather Charts** • Marine Surface Analysis (Arctic). • Marine wind prognosis (Arctic) (experimental product). • Regional Marine Wind Prognosis (on request).
0700	3253J3C (Iqaluit) 7710J3C (Resolute)	**RADIOFACSIMILE: Ice Charts** Transmitted from Resolute: Ice analysis Baffin Bay, Approaches to Resolute, Resolute-Byam, Eureka Sound, McClure Strait, Parry Channel and Queen Maud. Transmitted from Iqaluit: Ice analysis Hudson Bay south, Hudson Bay north, Hudson Strait, Foxe Basin, Labrador Coast, Davis Strait, Baffin Bay.
0700	490F1B	**➔NAVTEX: (S) French** • Weather forecasts for marine areas: 143, 144, 145, 147, 148, 149 and 150.
0710	518F1B	**➔NAVTEX: (T) English** • Weather forecasts for marine areas: 143, 144, 145, 147, 148, 149 and 150.
➔1000	3253J3C (Resolute) 7710J3C (Iqaluit)	**RADIOFACSIMILE: Weather Charts** • Marine Surface Analysis (Arctic). • Marine wind prognosis (Arctic) (experimental product). • Regional Marine Wind Prognosis (on request).
➔1100	3253J3C (Resolute) 7710J3C (Iqaluit)	**RADIOFACSIMILE: Ice Charts** Transmitted from Resolute: Ice analysis Baffin Bay, Approaches to Resolute, Resolute-Byam, Eureka Sound, McClure Strait, Parry Channel and Queen Maud. Transmitted from Iqaluit: Ice analysis Hudson Bay south, Hudson Bay north, Hudson Strait, Foxe Basin, Labrador Coast, Davis Strait, Baffin Bay.
1100	490F1B	**NAVTEX: (S) French** • Safety Notices to Shipping for NORDREG waters east of 106W and Labrador coast southward to 58N. • Ice hazard bulletin for eastern Arctic waters.
1110	518F1B	**NAVTEX: (T) English** • Safety Notices to Shipping for NORDREG waters east of 106W and Labrador coast southward to 58N. • Ice hazard bulletin for eastern Arctic waters.

MCTS Iqaluit / VFF Broadcasts

TIME UTC	FREQUENCY	CONTENTS
1240	2582J3E (Resolute) 4363J3E (Resolute)	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 125, 135, 136, 137 and 138. • Notices to Shipping for all NORDREG waters east of 106W and along the Labrador coast southward to 58N. ***Weather forecasts and summaries are available on request for other areas**
1320	2514J3E (Coral Harbour) 6513J3E (Coral Harbour)	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 150, 155, 156, 162, 311 and 312. • Following areas on request: 151, 152, 153, 154, 159, 160, 161, 163, 164 and 310. • Notices to Shipping for all NORDREG waters east of 106W and along the Labrador coast southward to 58N.
1340	2514J3E (Killinek) 2582J3E (Iqaluit) 4363J3E (Iqaluit) 6507J3E (Iqaluit)	**RADIOTELEPHONY:** • Technical synopsis and forecasts for areas 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 228, 229 and 230. • Following areas on request: 137, 138 and 150. • Notices to Shipping for all NORDREG waters east of 106W and along the Labrador coast southward to 58N. • Notices to Fishermen (when available).
1500	490F1B	**➔NAVTEX: (S) French** Weather forecasts for marine areas: 143, 144, 145, 147, 148, 149 and 150.
1510	518F1B	**➔NAVTEX: (T) English** Weather forecasts for marine areas: 143, 144, 145, 147, 148, 149 and 150.
1705	2514J3E (Killinek) 2582J3E (Iqaluit/Resolute) 4363J3E (Iqaluit/Resolute) 6507J3E (Iqaluit) 2514J3E (Coral Harbour) 6513J3E (Coral Harbour)	**RADIOTELEPHONY:** • Ice boundary information. ***Other bulletins on request**
1900	490F1B	**➔NAVTEX: (S) French** Weather forecasts for marine areas: 143, 144, 145, 147, 148, 149 and 150.
1910	518F1B	**➔NAVTEX: (T) English** Weather forecasts for marine areas: 143, 144, 145, 147, 148, 149 and 150.
2100	3253J3C (Iqaluit) 7710J3C (Resolute)	**RADIOFACSIMILE: Weather Charts** • Marine Surface Analysis (Arctic). • Marine Wind Prognosis (Arctic)(experimental product). • Regional Marine Wind Prognosis (on request).
➔2200	3253J3C (Iqaluit) 7710J3C (Resolute)	**RADIOFACSIMILE: Ice Charts** Transmitted from Resolute: Ice analysis Baffin Bay, Approaches to Resolute, Resolute-Byam, Eureka Sound, McClure Strait, Parry Channel and Queen Maud. Transmitted from Iqaluit: Ice analysis Hudson Bay south, Hudson Bay north, Hudson Strait, Foxe Basin, Labrador Coast, Davis Strait, Baffin Bay.

MCTS Iqaluit / VFF Broadcasts

TIME UTC	FREQUENCY	CONTENTS
2235	2514J3E (Killinek) 2582J3E (Iqaluit) 4363J3E (Iqaluit) 6507J3E (Iqaluit)	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas: 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 228, 229 and 230. • Following areas on request: 137,138 and 150. • Notices to Shipping for all NORDREG waters east of 106W and along the Labrador coast southward to 58N. • Notices to Fishermen (when available).
2300	490F1B	**NAVTEX: (S) French** • Safety Notices to Shipping for NORDREG waters east of 106W and Labrador coast southward to 58N. • Ice hazard bulletin for eastern Arctic waters.
2310	518F1B	**NAVTEX: (T) English** • Safety Notices to Shipping for NORDREG waters east of 106W and Labrador coast southward to 58N. • Ice hazard bulletin for eastern Arctic waters.
2310	2582J3E (Resolute) 4363J3E (Resolute)	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 125, 135, 136, 137 and 138. • Notices to Shipping for all NORDREG waters east of 106W and along the Labrador coast southward to 58N. *** Weather forecasts and summaries are available on request for other areas**

MCTS Iqaluit / VFF – Radiofacsimile Transmission Details

Modulation: J3C (FM) Index of cooperation: 576 Power: 5 KW
Drum speed: 120 rpm Frequencies: 3251.1 kHz, 7708.1 kHz (USB)
Frequencies: 3253 kHz, 7710 kHz (FSK)

For correct reception of this broadcast on WMO standard facsimile recorders requiring 2300 Hz for White and 1500 Hz for Black, 1900 Hz Centre frequency, radio receivers should be tuned in the UPPER SIDEBAND MODE to the ABOVE frequencies.

LABRADOR (GOOSE BAY), NEWFOUNDLAND AND LABRADOR

Marine Communications and Traffic Services Centre

MMSI: 00 316 0022 **Call Sign: VOK**

Hours: H24

For Radio Services call Labrador Coast Guard Radio.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Labrador MCTS Centre
P.O. Box 720 Station C
GOOSE BAY, NL A0P 1C0

Telephone Numbers: 709-896-5817 Officer-in-Charge
709-896-2252 MCTS Operations

Facsimile: 709-896-8455

Electronic Mail: ECAREGSNF@INNAV.GC.CA

MCTS Labrador / VOK – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
➔Cartwright 53°42'30"N 57°01'17"W	 407*	2182J3E 2514J3E 2538J3E 2582J3E 4375.0J3E	**2182** 2118* 2142* 2206* 4083.0*	
➔Hopedale 55°27'24"N 60°12'30"W	 407* 605* **Ch16** **Ch26*** **Ch70**	2182J3E 2514J3E 2538J3E 2582J3E 4375.0J3E 6513J3E	**2182** 2118* 2142* 2206* 4083.0* 6212*	
➔Cartwright 53°43'38"N 56°58'06"W	**Ch16** **Ch24*** **Ch70**			
➔Goose Bay 53°18'12"N 60°31'27"W	**Ch16** **Ch26*** **Ch70**			
➔Nain 56°32'49"N 61°42'49"W	**Ch16** **Ch24*** **Ch70**			

MCTS Labrador / VOK – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0137	2598J3E (Cartwright) 2598J3E (Hopedale)	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 222, 223, 224, 225, 226, 227, 228, 229 and 230. • Ice Edge & Conditions for Labrador Coast.

MCTS Labrador / VOK – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0350	518FIB	**NAVTEX: (X)** • Weather.
0750	518FIB	**NAVTEX: (X)** • Weather.
0910	518FIB	**NAVTEX: (X)** • Arctic Weather for areas 141, 142, 144, and 145.
1007	2598J3E (Cartwright) 2598J3E (Hopedale)	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 222, 223, 224, 225, 226, 227, 228, 229 and 230 • Ice conditions and forecast for Labrador Coast.
1107	2598J3E (Cartwright) 2598J3E (Hopedale)	**RADIOTELEPHONY:** • Notices to Shipping: Nearshore - Belle Isle to Cape Chidley. Offshore - North Atlantic, Cape Bauld to Cape Chidley. • Notices to Fishermen (when available). • Loran C NOTSHIP for chains 5930 and 7270.
1150	518FIB	**NAVTEX: (X)** • Notices to Shipping.
1437	2598J3E (Cartwright) 2598J3E (Hopedale)	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 222, 223, 224, 225, 226, 227, 228, 229 and 230. • Ice conditions and forecast for Labrador Coast.
1550	518FIB	**NAVTEX: (X)** • Weather.
1950	518FIB	**NAVTEX: (X)** • Weather.
2037	2598J3E (Cartwright) 2598J3E (Hopedale)	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 222, 223, 224, 225, 226, 227, 228, 229 and 230. • Ice Edge & Conditions for Labrador Coast. • Notices to Fishermen (when available).
2110	518F1B	**NAVTEX: (X)** • Arctic Weather for areas 141, 142, 144, and 145.
2307	2598J3E (Cartwright) 2598J3E (Hopedale)	**RADIOTELEPHONY:** • Notices to Shipping: Nearshore - Belle Isle to Cape Chidley. Offshore - North Atlantic, Cape Bauld to Cape Chidley. • Loran-C NOTSHIP for chains 5930 and 7270.
2350	518FIB	**NAVTEX: (X)** • NOTSHIPs (summer) Ice (winter).
Continuous	Ch83B Cartwright Nain Ch21B Goose Bay Hopedale	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 222, 223, 224, 225, 226, 227 and 228. • Actual weather observations (when available) for the following sites: 1. Goose Bay 3. Makkovik 5. Nain 2. Cartwright 4. Hopedale 6. Mary's Harbour • Ice Edge & Conditions for Labrador Coast. • Notices to Shipping: Belle Isle to Cape Chidley. • Loran C NOTSHIP for chains 5930 and 7270. • Notices to Fishermen (when available).

LES ESCOUMINS, QUEBEC

Marine Communications and Traffic Services Centre

MMSI: 00 316 0026 **Call Sign: VCF**

Hours: H24
For Radio Services call Les Escoumins Coast Guard Radio.
For Vessel Traffic Services call Les Escoumins Traffic – refer to section 3.
Services Provided in English and French.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Les Escoumins MCTS Centre
➔5 Otis Street
LES ESCOUMINS, QC G0T 1K0

Telephone Numbers: 418-233-2854 Officer-in-Charge
418-233-2194 MCTS Operations

Facsimile: 418-233-3299

Electronic Mail: ➔LesSector1@innav.gc.ca

♦ Les Escoumins MCTS Centre VHF Direction Finding Advisory Service:

A VHF/DF advisory service is available to vessels in difficulty within range of the receiver sites located at Mont-Louis, Lac Daigle (Sept-Iles) and Grosse-Roche. Information concerning position, bearing and distance may be provided for use at the discretion of the user.

MCTS Les Escoumins / VCF – Ship/Shore Communications

COMMUNICATIONS SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Mont-Louis ♦ 49°12'48"N 65°46'27"W	**Ch14** **Ch16** Ch26* **Ch70**			
Lac D'aigle ♦ 50°17'21"N 66°18'43"W	**Ch14** **Ch16** Ch26* **Ch70**			
Grosses-Roches ♦ 48°54'51"N 67°06'38"W	**Ch14** **Ch16** Ch84* **Ch70**			
Mont-Joli 48°36'30"N 68°13'45"W	**Ch 9** **Ch16** Ch26* **Ch70**			
Les Escoumins 48°19'03"N 69°25'13"W	**Ch 9** **Ch16** Ch24* **Ch70**			
Rivière-du-Loup 47°45'26"N 69°36'14"W	**Ch 9** **Ch16** Ch26*			

MCTS Les Escoumins / VCF – Ship/Shore Communications

COMMUNICATIONS SITES LOCATED AT:	CHANNEL	TRANSMIT	RECEIVE	REMARKS
		FREQUENCIES	FREQUENCIES	
Sacré-Coeur 48°12'45"N 69°52'15"W	**Ch 9** **Ch16** Ch26* **Ch70**			
Cap Est 48°22'55"N 70°41'25"W	**Ch9** **Ch16** Ch26* **Ch70**			

MCTS Les Escoumins / VCF – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
Continuous	Ch21B Lac D'aigle Grosses-Roches Cap-Est Ch83B Mont-Louis Mont-Joli Sacré Coeur	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 219, 301, 302, 303, 304 and 305. • ➔Notices to Shipping from l'Île aux Coudres to a line from Mingan to Cap Gaspe including Port Meunier and the western point of Anticosti Island and the Saguenay River and from Les Escoumins to Cabot Strait. • Ice information for the St. Lawrence and the Saguenay River. • Notices to Fishermen (when available).

Hourly weather observations for specific locations are available upon request

MONTREAL, QUEBEC

Marine Communications and Traffic Services Centre

MMSI: 003160028 **Call Sign: VFN**

Hours: H24
For Radio Services call Montreal Coast Guard Radio.
For Vessel Traffic Services call Montreal Traffic - refer to section 3.
Services provided in English and French.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Montreal MCTS Centre
101 Rolland Therrien Boulevard
5th Floor
LONGUEUIL, QC J4H 4B9

Telephone Numbers: 450-928-4543 Officer-in-Charge
450-928-4544 MCTS Operations

Facsimile: 450-928-4547

Electronic Mail: ➔mtlsup@innav.gc.ca

Public correspondence services are no longer available as of November 1, 2003.

MCTS Montreal / VFN – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT :	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Longueuil 45°32'57"N 73°29'47"W	**Ch10** **Ch16**			
Mont Saint-Bruno 45°33'25"N 73°19'33"W	**Ch10** **Ch16** Ch24 **Ch70** Ch85			
Mont Rigaud 45°27'00"N 74°17'48"W	**Ch16** **Ch70** Ch84			Operational from mid March until the end of December
Sorel 46°02'45"N 73°06'52"W	**Ch10** **Ch16** Ch26 **Ch70**			
L'Acadie 45°19'17"N 73°18'34"W	**Ch16** Ch24 **Ch70**			Operational May 1 to October 31

MCTS Montreal / VFN – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
Continuous	Ch21B Mont Saint-Bruno Ch25B Mont Rigaud	**RADIOTELEPHONY:** • Technical synopsis and forecasts for areas 308 and 309. • Water level Montreal, Sorel, Trois-Rivières, Pointe Claire, Ste Anne de Bellevue. • Notices to Shipping from Cornwall to buoy S-2 and from the entrance of the Outaouais River to buoy H-331. • Ice Reports. • Seaway Message.
Continuous	Ch25B Sorel	**RADIOTELEPHONY:** • Technical synopsis and forecasts for areas 308 and 309. • Water level Montreal, Sorel, Trois-Rivières. • Notices to Shipping. • Ice Reports. • Seaway message.
Continuous	Ch83B L'Acadie	**RADIOTELEPHONY:** • Technical synopsis and forecasts for areas 308 and 309. • Water level Montreal, Sorel, Trois-Rivières. • Notices to Shipping from the entrance of the Richelieu River to the US border including Missisquoi Bay. • Seaway Message.

Hourly weather observations for specific locations are available upon request

PLACENTIA, NEWFOUNDLAND AND LABRADOR

Marine Communications and Traffic Services Centre

MMSI: 00 316 0019 **Call Sign: VCP**

Hours: H24
For Radio Service call Placentia Coast Guard Radio.
For Vessel Traffic Services call Placentia Traffic - refer to section 3.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Placentia MCTS Centre
P.O. Box 389
PLACENTIA, NL A0B 2Y0

Telephone Numbers: 709-227-5731 Officer-in-Charge
709-227-2181/2182 MCTS Operations

Facsimile: 709-227-5637

Telex Number: 016-4530 CCGTC SNF

Electronic Mail: ECAREGSNF@INNAV.GC.CA

♦ Placentia MCTS Centre VHF/DF Advisory Service:

A VHF/DF Advisory Service is available to vessels in difficulty within range of the Fortune Head VHF peripheral site controlled from Placentia MCTS Centre. Bearing information to/from Fortune Head can be provided for use at the discretion of the user.

MCTS Placentia / VCP – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
➔St. Lawrence 46°55'09"N 55°22'45"W	**Ch16** **Ch26*** **Ch70**			
➔St. Lawrence 46°55'06"N 55°22'45"W		2182J3E 2514J3E 2538J3E 2582J3E	**2182** 2118* 2142 2206*	
➔Cape Pine 46°37'00"N 53°31'58"W	**Ch16** **Ch24*** **Ch70**			
➔Fortune Head ♦ 47°04'02"N 55°50'52"W	**Ch16** **Ch24*** **Ch70**			
➔Hermitage 47°33'34"N 55°56'19"W	**Ch16** **Ch70** **Ch85**			
➔Bay L'Argent 47°32'00"N 54°51'46"W	**Ch16** **Ch27** **Ch70**			
➔Arnold's Cove 47°46'23"N 53°59'59"W	**Ch12** **Ch16** **Ch70**			

MCTS Placentia / VCP – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
➔Freshwater 47°15'44"N 53°59'03"W	**Ch12 Ch14 Ch16 Ch70 Ch85**			
➔Cuslett 46°58'28"N 54°09'15"W	**Ch14 Ch16 Ch70**			

MCTS Placentia / VCP – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0048	2598J3E	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 231, 232, 233, 234, 235 and 236. • Weather and Wave height forecasts for marine areas 213 and 215.
0737	2598J3E	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 231, 232, 233, 234, 235 and 236. • Weather forecasts for marine areas 213 and 215. • Ice Edge and Conditions South Coast east of Penguin Island, East Coast to Cape Freels. • Notices to Fishermen (when available).
1137	2598J3E	**RADIOTELEPHONY:** • Notices to Shipping Ramea Island to Cape Ballard. • Loran C Notices to Shipping for chains 5930 and 7270. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel.
1607	2598J3E	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 231, 232, 233, 234, 235 and 236. • Weather and Wave height forecasts for marine areas 213 and 215.
1807	2598J3E	**RADIOTELEPHONY:** • Notices to Shipping Ramea Island to Cape Ballard. • Loran C Notices to Shipping for chains 5930 and 7270. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel.
2137	2598J3E	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 231, 232, 233, 234, 235 and 236. • Weather forecasts for marine areas 213 and 215. • Ice Edge and Conditions South Coast east of Penguin Island, East Coast to Cape Freels. • Notices to Fishermen (when available).

MCTS Placentia / VCP – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
Continuous	Ch21B St. Lawrence Bay L'Argent Ch23B Freshwater Ch28B Hermitage Ch83B Cape Pine Fortune Head	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 231, 232, 233, 234, 235 and 236. • Weather and wave height forecasts for marine areas 213 and 215. • Actual weather observations (when available) for the following sites: 1. Cape Race 4. Marticot 2. Argentia 5. Sagona 3. St. Pierre 6. St. Lawrence • Ice Edge and Conditions South Coast east of Penguin Island, East Coast to Cape Freels. • Notices to Shipping Ramea Island to Cape Ballard. • Loran C Notices to Shipping for chains 5930 and 7270. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel. • Notices to Fishermen (when available). • Notices to Shipping Placentia Bay and Approaches, Ferryland Head to Cape St. Mary's on Ch23B only.

PORT AUX BASQUES, NEWFOUNDLAND AND LABRADOR

Marine Communications and Traffic Services Centre

MMSI: 00 316 0018 **Call Sign: VOJ**

Hours: H24
For Radio Services call Port aux Basques Coast Guard Radio.
For Vessel Traffic Services call Port aux Basques Traffic - refer to section 3.
Radio Services provided in French and in English.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Port aux Basques MCTS Centre
P.O. Box 99
PORT AUX BASQUES, NL A0M 1C0

Telephone Numbers: 709-695-2133 Officer-in-Charge
709-695-2167 MCTS Operations

Facsimile: 709-695-7784

Electronic Mail: PAXTFC@INNAV.GC.CA

MCTS Port aux Basques / VOJ – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
➔Table Mountain 47°41'14"N 59°16'26"W	**Ch11** **Ch12** **Ch16** **Ch27*** **Ch70**			
➔Stephenville 48°33'17"N 58°45'32"W		2182J3E 2514J3E 2582J3E	**2182** 2118* 2206*	
➔Pine Tree 48°35'20"N 58°39'54"W	**Ch16** **Ch24*** **Ch70**			
➔Bonne Bay 49°36'10"N 57°57'28"W	**Ch16** **Ch24*** **Ch70**			
➔Mount Moriah 48°58'07"N 58°02'49"W	**Ch16** **Ch24*** **Ch70**			
➔Ramea Island 47°30'45"N 57°24'31"W	**Ch16** **Ch26*** **Ch70**			
➔Pointe Riche 50°41'59"N 57°24'19"W	**Ch16** **Ch26*** **Ch70**			

MCTS Port aux Basques / VOJ – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0207	2598J3E	**RADIOTELEPHONY: (English followed by French)** • Technical synopsis, forecasts and wave height forecasts for marine areas 220, 221, 222, 231, 232 and 235. • Weather forecast and wave height forecast for marine areas 215, 217 and 219.
0807	2598J3E	**RADIOTELEPHONY: (English followed by French)** • Technical synopsis and forecasts for marine areas 220, 221, 222 231, 232 and 235. • Weather forecast for marine areas 215, 217 and 219. • Ice Edge & Conditions for marine areas Northeast Gulf, Gulf Port au Port, Southwest Coast, Cabot Strait, Gulf-Magdalen and Anticosti.
1207	2598J3E	**RADIOTELEPHONY: (English followed by French)** • Notices to Shipping from Penguin Island to Cape Norman including Labrador Coast between West Point (Red Bay) and the Quebec/Labrador border. • Loran C Notices to Shipping for chains 5930 and 7270. • Notices to Fishermen (when available).
1507	2598J3E	**RADIOTELEPHONY: (English followed by French)** • Technical synopsis, forecasts and wave height forecasts for marine areas 220, 221, 222 231, 232 and 235. • Weather forecast and wave height forecast for marine areas 215, 217 and 219.
1837	2598J3E	**RADIOTELEPHONY: (English followed by French)** • Notices to Shipping from Penguin Island to Cape Norman including Labrador Coast between West Point (Red Bay) and the Quebec/Labrador border. • Loran C Notices to Shipping for chains 5930 and 7270. • Ice Edge & Conditions for marine areas Northeast Gulf, Gulf Port au Port, Southwest Coast, South Coast, East Coast south of Cape St. Francis, Cabot Strait, Gulf-Magdalen and Anticosti.
2107	2598J3E	**RADIOTELEPHONY: (English followed by French)** • Technical synopsis and forecasts for marine areas 220, 221, 222, 231, 232 and 235. • Weather forecast for marine areas 215, 217 and 219. • Notices to Fishermen (when available).

MCTS Port aux Basques / VOJ – Broadcasts:

TIME UTC	FREQUENCY	CONTENTS
Continuous	Ch21B Ramea Island Pointe Riche Ch 28B Table Mountain Pine Tree Mount Moriah Ch83B Bonne Bay	**RADIOTELEPHONY: (English)** • Technical synopsis, forecasts and wave height forecasts for marine areas 220, 221, 222, 231, 232 and 235. • Weather forecast and wave height forecast for marine areas 215, 217 and 219. • **Actual weather observations (when available) for the following sites:** 1. St. Paul Island 7. Rocky Harbour • 2. Burgeo 8. Daniel's Harbour • 3. Port aux Basques 9. Ferolle Point • 4. Wreckhouse 10. Blanc Sablon • 5. Stephenville 11. Burgeo Bank ODAS • 6. Corner Brook 12. Nickerson Bank ODAS • Notices to Shipping from Penguin Island to Cape Norman including Labrador between West Point (Red Bay) and the Quebec/Labrador border. • Loran C Notices to Shipping for Chains 5930 and 7270. • Ice Edge & Conditions for marine areas Northeast Gulf, Gulf Port au Port, Southwest Coast, South Coast, East Coast south of Cape St. Francis, Cabot Strait, Gulf-Magdalen and Anticosti. • Notices to Fishermen (when available).
Continuous	Ch23B Pointe Riche ➔Ch21B Bonne Bay Ch83B Pine Tree Mount Moriah	**RADIOTELEPHONY: (French)** • Technical synopsis, forecasts and wave height forecasts for marine areas 220, 221, 222, 231, 232 and 235. • Weather forecast and wave height forecast for marine areas 215, 217 and 219. • **Actual weather observations (when available) for the following sites**: 1. St. Paul Island 7. Rocky Harbour • 2. Burgeo 8. Daniel's Harbour • 3. Port aux Basques 9. Ferolle Point • 4. Wreckhouse 10. Blanc Sablon • 5. Stephenville 11. Burgeo Bank ODAS • 6. Corner Brook 12. Nickerson Bank ODAS • Notices to Shipping from Penguin Island to Cape Norman including Labrador between West Point (Red Bay) and the Quebec/Labrador border. • Loran C Notices to Shipping for Chains 5930 and 7270. • Ice Edge & Conditions for marine areas Northeast Gulf, Gulf Port au Port, Southwest Coast, South Coast, East Coast south of Cape St. Francis, Cabot Strait, Gulf-Magdalen and Anticosti. • Notices to Fishermen (when available).

PRESCOTT, ONTARIO

Marine Communications and Traffic Services Centre

MMSI: 00 316 0029 Call Sign: VBR

Hours: H24
For Radio Service call Prescott Coast Guard Radio.
Services available in French and English along the St. Lawrence River.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Prescott MCTS Centre
P.O. Box 1000
401 King Street West
PRESCOTT, ON K0E 1T0

Telephone Numbers: 613-925-0618 Officer-in-Charge
613-925-4471 MCTS Operations

Facsimile: 613-925-4519

♦ Prescott MCTS Centre VHF Direction Finding Advisory Service:

A VHF/DF advisory service is available for vessels in difficulty in western Lake Ontario within range of the receiver sites located at Brougham, Cobourg and Trafalgar. Information concerning position, bearing and distance may be provided for use at the discretion of the user. (Operational April 1 – December 31)

MCTS Prescott / VBR – Ship/Shore Communications

COMMUNICATIONS SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Cornwall 45°01'06"N 74°43'47"W	**Ch16** **Ch70** **Ch85***			Operational March 15 to December 31
Cardinal 44°47'28"N 75°25'28"W	**Ch16** **Ch26*** **Ch27*** **Ch70**			Operational March 15 to December 31
Gananoque 44°23'59"N 75°58'26"W	**Ch16** Ch85			Operational March 15 to December 31
Kingston 44°15'43"N 76°40'34"W	**Ch16** **Ch24*** **Ch26*** **Ch70**			
Cobourg ♦ 44°04'02"N 78°12'38"W	**Ch16** **Ch27*** **Ch70** **Ch85***			
Trafalgar ♦ 43°29'41"N 79°43'47"W	**Ch16** **Ch24*** **Ch70**			

MCTS Prescott / VBR – Ship/Shore Communications

COMMUNICATIONS SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Fonthill 43°03'10"N 79°18'44"W	**Ch16** **Ch26*** **Ch27*** **Ch70**			
Orillia 44°34'40"N 79°17'40"W	**Ch16** **Ch26*** **Ch70**			

MCTS Prescott / VBR – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0110	518F1B	**NAVTEX: (H)** • Notices to Shipping. • Ice (during ice season).
0510	518F1B	**NAVTEX: (H)** • Weather.
0910	518F1B	**NAVTEX: (H)** • Weather.
1310	518F1B	**NAVTEX: (H)** • Notices to Shipping. • Ice (during ice season).
1710	518F1B	**NAVTEX: (H)** • Weather.
2110	518F1B	**NAVTEX: (H)** • Weather.
Continuous CMB EAST	Ch21B Cardinal Ch83B Cornwall Kingston	**RADIOTELEPHONY: (English)** • ➔Localized Weather Warnings/Watches, Marine Weather Statements, Technical Marine Synopsis, Regular Marine Forecasts and MAFOR code, Wave Height Forecast and Extended Marine Forecasts for St. Lawrence River from Kingston to Montreal and Lake Ontario (Areas 309, 401 and 402). • Great Lakes Weather Bulletin (LAWEB) broadcast for reporting points from Point Petrie to Montreal. • Current ship observations. • Notices to Shipping in St. Lawrence River west of 73 53 W, Lake Ontario east of 77 40 W Trent River and portions of the Rideau waterway system receiving coverage from the Kingston facilities. • Water level reading for Montreal Harbour, and Lake Ontario. • Ice hazard bulletin for Lake Ontario and Lake Erie.

MCTS Prescott / VBR – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
Continuous CMB WEST	Ch21B Cobourg Ch83B Fonthill	**RADIOTELEPHONY: (English)** • ➔Localized Weather Warnings/Watches, Marine Weather Statements, Technical Marine Synopsis, Regular Marine Forecasts and MAFOR code, Wave Height Forecast and Extended Marine Forecasts for Lake Ontario and Lake Erie (Areas 402 and 403). • LAWEB Broadcast for reporting points for Lake Erie from Long Point to Port Colborne and for Lake Ontario from Port Weller to Kingston. • Current ship observations • Notices to Shipping in Lake Ontario and Lake Erie east of 80 20 W and portions of the Trent-Severn waterway system receiving coverage from the Cobourg facilities. • Water level readings for Toronto Harbour, Lake Ontario and Lake Erie. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel. • Ice hazard bulletin for Lake Ontario and Lake Erie.
Continuous	Ch28B Cardinal Ch23B Cornwall Kingston	**RADIOTELEPHONY: (French)** • ➔Localized Weather Warnings/Watches, Marine Weather Statements, Technical Marine Synopsis, Regular Marine Forecasts and MAFOR code, Wave Height Forecast and Extended Marine Forecasts for St. Lawrence River from Kingston to Montreal (Areas 309 and 401.) • LAWEB broadcast for reporting points Kingston to Montreal. • Current ship weather observations. • Notices to Shipping in the St Lawrence River west of 73 53 W. • Water levels readings for Montreal Harbour.
Continuous	Ch21B Orillia	**RADIOTELEPHONY: (English)** • ➔Localized Weather Warnings/Watches, Marine Weather Statements, Technical Marine Synopsis, Regular Marine Forecasts and MAFOR code, Wave Height Forecast and Extended Marine Forecasts for Georgian Bay (Area 406). • Recreational Boating Forecast for Lake Simcoe (Area 481). • LAWEB broadcast for Lake Simcoe. • Current small craft weather reports. • Notices to Shipping for the Trent-Severn waterway system.

➔**Prescott MCTS Centre Marine Facsimile Package:** A Great Lakes Marine weather package is available by facsimile from Prescott MCTS Centre. Data is provided by the Ontario Weather Centre and consists of:

- marine forecasts for the Great Lakes and St. Lawrence River (eastward to Cornwall only);
- marine weather warnings;
- charts of marine observations issued 4 times a day at 0200, 0800, 1400 and 2000 UTC;
- 12-hour prognostic chart issued twice a day at 0100 and 1300 local time; and
- ice charts and reports (reference Part 5 Canadian Ice Services section).

The facsimile package may be obtained by calling 613-925-0666 and operating the POLL function on your facsimile machine. Mariners are cautioned that information may not be the latest issue.

QUEBEC, QUEBEC

Marine Communications and Traffic Services Centre

MMSI: 00 316 0027 **Call Sign: VCC**

Hours: H24
For Radio Services call Quebec Coast Guard Radio.
For Vessel Traffic Services call Quebec Traffic - refer to section 3.
Services provided in French and English.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Quebec MCTS Centre
101 Champlain Boulevard
QUEBEC, QC G1K 7Y7

Telephone Numbers: 418-648-7459 Officer-in-Charge
418-648-4427 MCTS Operations

Facsimile: 418-648-7244

Electronic Mail: QBCSUP@INNAV.GC.CA

♦ Québec MCTS Centre VHF Direction Finding Advisory Service:

A VHF/DF advisory service is available to vessels in difficulty within range of the receiver sites located at Montmagny and Rivière-du-Loup. Information concerning position, bearing and distance may be provided for use at the discretion of the user.

Public correspondence services are no longer available as of November 1, 2003.

MCTS Quebec / VCC – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Lauzon 46°48'45"N 71°09'33"W	**Ch12** **Ch16** Ch26 **Ch70**			
Trois-Rivières 46°23'50"N 72°27'17"W	**Ch13** **Ch16** Ch24 **Ch70**			
Mont Bélair 46°49'22"N 71°29'45"W	**Ch13** **Ch16** Ch85 **Ch70**			
Montmagny ♦ 46°55'42"N 70°30'45"W	**Ch12** **Ch16** Ch24 **Ch70**			
Rivière du Loup ♦ 47°45'26"N 69°36'14"W	**Ch12** **Ch16** **Ch70** Ch85			

MCTS Quebec / VCC – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Sorel 46°02'45"N 73°06'52"W	**Ch13** **Ch16**			

MCTS Quebec / VCC – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
Continuous	Ch21B Lauzon Rivière-du-Loup Ch83B Montmagny Trois-Rivières	**RADIOTELEPHONY:** • Technical synopsis and forecasts for areas 305, 306, 307 and 308 • Notices to Shipping from Lac St. Pierre up to Les Escoumins-Trois Pistoles. • Ice information for the St. Lawrence. • Seaway Radio Message.

Hourly weather observations for specific locations are available upon request

RIVIÈRE-AU-RENARD, QUEBEC

Marine Communications and Traffic Services Centre

MMSI: 00 316 0025 **Call Sign: VCG**

Hours: H24

For Radio Services call Rivière-au-Renard Coast Guard Radio.

Services provided in French and English.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Rivière-au-Renard MCTS Centre
P.O. Box 100
RIVIÈRE-AU-RENARD, QC G4X 5A5

Telephone Numbers:
418-269-7188 Officer-in-Charge
418-269-5686 MCTS Operations
418-269-3843 ECAREG Operations

Facsimile: 418-269-5514

Electronic Mail: RARECAREG@INNAV.GC.CA

♦ Rivière-au-Renard MCTS Centre VHF Direction Finding Advisory Service:

A VHF/DF advisory service is available to vessels in difficulty within range of the receiver sites located at Rivière-au-Renard, Cap-aux-Meules, Havre St-Pierre, Natashquan, Newport and Heath-Point. Information concerning position, bearing and distance may be provided for use at the discretion of the user.

MCTS Rivière-au-Renard / VCG - Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Rivière-au-Renard ♦ 49°00'29"N 64°24'00"W	**Ch16** Ch27*			
			2182 2118* 2206*	
Cap des Rosiers 48°51'40"N 64°12'53"W		2182J3E 2514J3E 2582J3E		
Cap-aux-Meules ♦ 47°23'14"N 61°51'40"W	**Ch16** Ch26* **Ch70**			
			2182 2118* 2206	
La Vernière 47°21'26"N 61°55'36"W		2182J3E 2514J3E 2582J3E		
Havre St- Pierre ♦ 50°16'15"N 63°40'44"W	**Ch16** Ch26* **Ch70**			

MCTS Rivière-au-Renard / VCG - Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Natashquan ♦ 50°08'40"N 61°48'00"W	**Ch16** Ch26* **Ch70**			
Natashquan 50°08'40"N 61°48'00"W		2182J3E 2582J3E	**2182** 2206	
Harrington Harbour 50°30'00"N 59°29'17"W	**Ch16** Ch26* **Ch70**			Operational April 1- December 31
La Romaine 50°12'57"N 60°41'13"W	**Ch16** Ch26* **Ch70**			Operational April 1 -December 31
Forillon 48°50'02"N 64°15'30"W	**Ch16** Ch24* **Ch70**			
Carleton 48°08'00"N 66°07'20"W	**Ch16** **Ch70** ➔Ch85*			
Newport ♦ 48°13'37"N 64°47'33"W	**Ch16** Ch27* **Ch70**			
Heath Point ♦ 49°05'05"N 61°42'09"W	**Ch16** Ch84* **Ch70**			

MCTS Rivière-au-Renard / VCG – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0020	518F1B	**NAVTEX: (C) English** • ➔Marine forecasts for areas 215, 217 to 222, 301 to 304. Note: Marine forecasts are replaced by ice information during ice season only.
0035	490F1B	**NAVTEX: (D) French** • ➔Marine forecasts for areas 215, 217 to 222, 301 to 304. Note: Marine forecasts are replaced by ice information during ice season only.
0420	518F1B	**NAVTEX: (C) English** • Notices to Shipping.
0435	490F1B	**NAVTEX: (D) French** • Notices to Shipping.
0437	2749J3E 2598J3E	**RADIOTELEPHONY:** • Technical synopsis and forecast for marine areas 215 to 221, 301 and 302. • Wave height forecasts for marine areas 215, 217, 219, 220, 221, 301 and 302. • Notice to Fishermen (when available).
0820	518F1B	**NAVTEX: (C) English** • ➔Weather forecasts for marine areas 215, 217 to 222, 301 to 304.
0835	490F1B	**NAVTEX: (D) French** • ➔Weather forecasts for marine areas: 215, 217 to 222, 301 to 304.
0847	2598J3E 2749J3E	**RADIOTELEPHONY:** • Technical synopsis and forecast for marine areas 215 to 221, 301 and 302. • Wave height forecasts for marine areas 215, 217, 219, 220, 221, 301 and 302.

MCTS Rivière-au-Renard / VCG – Broadcasts		
0937	2749J3E 2598J3E	**RADIOTELEPHONY:** • Notices to Shipping. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel. • Notice to Fishermen (when available). • Ice Information.
1220	518F1B	**NAVTEX: (C) English** • ➔Weather forecasts for marine areas 215, 217 to 222, 301 to 304
1235	490F1B	**NAVTEX: (D) French** • ➔Weather forecasts for marine areas 215, 217 to 222, 301 to 304
1407	2749J3E 2598J3E	**RADIOTELEPHONY:** • Technical synopsis and forecast for marine areas 215 to 221, 301 and 302. • Wave height forecast for marine areas 215, 217, 219, 220, 221, 301 and 302.
1620	518F1B	**NAVTEX: (C) English** • Notices to Shipping.
1635	490F1B	**NAVTEX: (D) French** • Notices to Shipping.
1737	2598J3E 2749J3E	**RADIOTELEPHONY**: • Notices to Fishermen when available. • Ice reports. • Notices to Shipping. • Notices to Shipping revising the position of every reported offshore exploration and operation vessel.
2020	518F1B	**NAVTEX: (C) English** • ➔Marine forecasts for marine areas 215, 217 to 222, 301 to 304.
2035	490F1B	**NAVTEX: (D) French** • ➔Marine forecasts for marine areas 215, 217 to 222, 301 to 304.
2317	2598J3E 2749J3E	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 215 to 221, 301 and 302. • Wave height forecast for marine areas 215, 217, 219, 220, 221, 301 and 302. • Notice to Fishermen (when available).
Continuous	Ch21B Forillon Carleton Natashquan Cap-aux-Meules Ch25B Pointe Heath Harrington Harbour Ch83B Newport Havre St-Pierre La Romaine	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 215, 216, 217, 218, 219, 220, 221, 301 and 302. • Notices to Shipping for the Gulf of St Lawrence including the Magdalene Islands, northern coast of Prince Edward Island, the coast between Sept-Iles and Blanc Sablon, the southern shore of 66W eastward including the Baie des Chaleurs up to Miramichi beach. • Ice Reports. • Notices to Fishermen (when available). • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel. • Wave height forecasts for marine areas 215, 217, 219, 220, 221, 301 and 302.

Hourly weather observations for specific locations are available upon request

SAINT JOHN, NEW BRUNSWICK

Marine Communications and Traffic Services Centre

MMSI: 00 316 0015 **Call Sign: VAR**

Hours: H24
For Radio Services call Fundy Coast Guard Radio.
For Vessel Traffic Services call Fundy Traffic – refer to section 3.
Services provided in English and French.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Saint John MCTS Centre
P.O. Box 700
SAINT JOHN, NB E2L 4B3

Telephone Numbers:
506-636-4269 Officer-in-Charge
506-636-4696 MCTS Operations
1-888-528-6444 MCTS Operations, Toll Free

Facsimile: 506-636-5000

Telex Number: 019 22510 CCG MRHQ DRT

Electronic Mail: CCGOPS@ELSMAIL.NET
HLXECAREG1@INNAV.GC.CA ECAREG Canada

♦ **Saint John MCTS Centre VHF/DF Advisory Service:**

➔A VHF/DF Advisory Service is available to vessels in difficulty within range of the receiver sites located at Cape Blomidon, Saint John, Tiverton, Yarmouth and Lockeport. Information concerning position, bearing and distance may be provided for use at the discretion of the user.

MCTS Saint John / VAR Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
➔Yarmouth, NS ♦ 43°44'39"N 66°07'21"W	**Ch16** Ch24* **Ch26*** **Ch70**			
		2182J3E 2538J3E 2582J3E		
Lockeport, NS ♦ 43°39'49"N 65°07'47"W	**Ch16** Ch24* **Ch26*** **Ch70**			
			2182 2142* 2206*	

MCTS Saint John / VAR Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
➔Saint John NB ♦ 45°14 01"N 65°59'05"W	**Ch12** **Ch14** **Ch16** Ch24* **Ch26*** **Ch70** Ch71			
Cape Blomidon, NS ♦ 45°13'55"N 64°24'05"W	**Ch16** Ch24* **Ch26*** **Ch70** **Ch71**			
Grand Manan NB 44°36'03"N 66°54'22"W	**Ch14** **Ch16** Ch24* **Ch26*** **Ch70**			
Scotch Mountain NB **(NAD 27)** 45°45'48"N 65°47'36"W	**Ch16** **Ch27*** **Ch70**			Operational mid-June approximately to mid-October approximately
Letite NB 45°02'20"N 66°53'33"W	**Ch14**			
Tiverton NS ♦ 44°23'40"N 66°13'36"W	**Ch12** **Ch14** **Ch16** **Ch70**			

MCTS Saint John / VAR Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0140	2749J3E Ch21B Lockeport Saint John Ch83B Yarmouth Cape Blomidon	**RADIOTELEPHONY: (English followed by French)** • Technical synopsis, forecasts and wave height forecasts for marine areas 201, 202, 203, 204, 205, 206, 207 and 208. • Weather forecasts for Eastport to Stonington, Maine and Gulf of Maine areas. • Notices to Shipping in areas Bay of Fundy, South and West Coast Nova Scotia.
0320	518F1B	**NAVTEX: (U) (English)** • Notices to Shipping.
0335	490F1B	**NAVTEX: (V) (French)** • Notices to Shipping.
0720	518F1B	**NAVTEX: (U) (English)** • Weather and seastate forecasts.
0735	490F1B	**NAVTEX: (V) (French)** • Weather and seastate forecasts.
1040	2749J3E	**RADIOTELEPHONY: (English followed by French)** • Technical synopsis, forecasts and wave height forecasts for marine areas 201, 202, 203, 204, 205, 206, 207 and 208. • Weather forecasts for Eastport to Stonington, Maine and Gulf of Maine areas. • Notices to Fishermen (when available).
1120	518F1B	**NAVTEX: (U) (English)** • Weather and seastate forecasts.

MCTS Saint John / VAR Broadcasts

TIME UTC	FREQUENCY	CONTENTS
1135	490F1B	**NAVTEX: (V) (French)** • Weather and seastate forecasts.
1240	Ch21B Lockeport Saint John Ch83B Yarmouth Cape Blomidon	**RADIOTELEPHONY: (English followed by French)** • Notices to Shipping in areas Bay of Fundy, South and West Coast Nova Scotia.
1520	518F1B	**NAVTEX: (U) (English)** • Notices to Shipping.
1535	490F1B	**NAVTEX: (V) (French)** • Notices to Shipping.
1640	2749J3E Ch83B Yarmouth Cape Blomidon Ch21B Lockeport Saint John	**RADIOTELEPHONY: (English followed by French)** • Technical synopsis, forecasts and wave height forecasts for marine areas 201, 202, 203, 204, 205, 206, 207 and 208. • Weather forecasts for Eastport to Stonington, Maine and Gulf of Maine areas. • Notices to Shipping for areas Bay of Fundy, South and West Coast Nova Scotia.
1920	518F1B	**NAVTEX: (U) (English)** • Weather and seastate forecasts.
1935	490F1B	**NAVTEX: (V) (French)** • Weather and seastate forecasts.
2040	2749J3E	**RADIOTELEPHONY: (English followed by French)** • Technical synopsis, forecasts and wave height forecasts for marine areas 201, 202, 203, 204, 205, 206, 207 and 208. • Weather forecasts for Eastport to Stonington, Maine and Gulf of Maine areas. • Notices to Fishermen (when available).
2320	518F1B	**NAVTEX: (U) (English)** • Weather and seastate forecasts.
2335	490F1B	**NAVTEX: (V) (French)** • Weather and seastate forecasts.
Continuous	Ch21B Lockeport Saint John Ch83B Yarmouth Cape Blomidon	**RADIOTELEPHONY: (English followed by French)** • Technical synopsis, forecasts and wave height forecasts for marine areas 201, 202, 203, 204, 205, 206, 207 and 208. • Weather forecasts for Eastport to Stonington, Maine and Gulf of Maine areas. • Notices to Fishermen (when available).

Note: The Continuous Marine Broadcast is interrupted three times daily (0140, 1240 and 1640) for Notice to Shipping Broadcasts

SARNIA, ONTARIO

Marine Communications and Traffic Services Centre

MMSI: 00 316 0030 **Call Sign: VBE**

Hours: H24

For Radio Services call Sarnia Coast Guard Radio.

For Vessel Traffic Services call Sarnia Traffic – refer to section 3.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge - MCTS Operations
Sarnia MCTS Centre
P.O. Box 2778
SARNIA, ON N7T 7W1

Telephone Numbers: 519-337-6572 Officer-in-Charge
519-336-4003 MCTS Operations

Facsimile: 519-336-0229

MCTS Sarnia / VBE – Ship/Shore Communications

COMMUNICATIONS SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Sarnia 43°01'45"N 82°11'08"W	**Ch11** **Ch16** **Ch24*** **Ch70** **Ch85***			
Kincardine 44°07'00"N 81°41'41"W	**Ch11** **Ch16** **Ch27*** **Ch70** **Ch85***			
Leamington 42°04'10"N 82°39'55"W	**Ch12** **Ch16** **Ch27*** **Ch70** **Ch85***			
Port Burwell 42°34'54"N 80°36'15"W	**Ch12** **Ch16** **Ch24*** **Ch70** **Ch85***			
Grande Pointe 42°23'26"N 82°24'16"W	**Ch11** **Ch12** **Ch16** **Ch70** **Ch85***			
Rondeau 42°25'22"N 81°50'43"W	**Ch12** **Ch16** **Ch70** **Ch85***			

MCTS Sarnia / VBE – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
Continuous **(CMB NORTH)**	Ch21B Sarnia Ch83B Kincardine	**RADIOTELEPHONY:** • ➔Localized Weather Warnings/Watches, Marine Weather Statements, Technical Marine Synopsis, Regular Marine Forecasts and MAFOR code, Wave Height Forecast and Extended Marine Forecasts for Lakes Huron, St. Clair and Erie (Areas 403, 404 and 405). • LAWEB broadcast for reporting points from Great Duck Island to Windsor. • Current ship weather observations. • Notices to Shipping Lake Huron South of 45 10N, St. Clair River, Lake St. Clair and Detroit River. • Water Levels for Lake Huron, Lake St. Clair and Lake Erie. • Ice hazard bulletin for Lakes Erie, St. Clair and Huron.
Continuous **(CMB SOUTH)**	Ch21B Port Burwell Ch83B Leamington	**RADIOTELEPHONY:** • ➔Localized Weather Warnings/Watches, Marine Weather Statements, Technical Marine Synopsis, Regular Marine Forecasts and MAFOR code, Wave Height Forecast and Extended Marine Forecasts for Lakes Huron, St. Clair and Erie (Areas 403, 404 and 405). • LAWEB broadcast for reporting points from Sarnia to Port Colborne. • Current ship weather observations. • Notices to Shipping in St. Clair River, Lake St. Clair, Detroit River and Lake Erie West of 79 40W. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel. • Water Levels for Lake Huron, Lake St. Clair and Lake Erie. • Ice hazard bulletin for Lakes Erie, St. Clair and Huron.

ST. ANTHONY, NEWFOUNDLAND AND LABRADOR

Marine Communications and Traffic Services Centre

MMSI: 00 316 0021 **Call Sign: VCM**

Hours: H24

For Radio Services call St. Anthony Coast Guard Radio.

For Vessel Traffic Services call Belle Isle Traffic (voluntary) – refer to section 3.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
St. Anthony MCTS Centre
P.O. Box 693
ST. ANTHONY, NL A0K 4S0

Telephone Numbers: 709-454-3523 Officer-in-Charge
709-454-3852 MCTS Operations

Facsimile: 709-454-3716

Electronic Mail: ECAREGSNF@INNAV.GC.CA

♦ St. Anthony MCTS Centre VHF/DF Advisory Service:

A VHF/DF Advisory Service is available to vessels in difficulty within range of the Twillingate VHF peripheral site controlled by St. Anthony MCTS Centre. Bearing in formation to/from Twillingate can be provided for use at the discretion of the user.

MCTS St. Anthony / VCM – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
➔St. Anthony 51°30'00"N 55°49'26"W		2182J3E 2514J3E 2582J3E	**2182** 2118* 2206*	
➔Comfort Cove 49°16'26"N 54°52'32"W	**Ch16** **Ch26*** **Ch70**			
➔Twillingate ♦ 49°41'10"N 54°48'00"W	**Ch16** **Ch24*** **Ch70**			
➔L'Anse aux Meadows 51°34'20"N 55°29'27"W	**Ch14** **Ch16** **Ch24*** **Ch70**			
➔Conche 50°53'41"N 55°53'03"W	**Ch16** **Ch26*** **Ch70**			
➔Fox Harbour (Labrador) 52°22'10"N 55°39'42"W	**Ch16** **Ch26*** **Ch70**			

MCTS St. Anthony / VCM – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0107	2598J3E	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 220, 221, 222, 223, 224, 226, 227, 235, 237 and 238. • Ice conditions and forecast for the East Coast of Newfoundland, and the Labrador Coast, south of 54N. • Iceberg Bulletin - Newfoundland Coast and Strait of Belle Isle.
0907	2598J3E	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 220, 221, 222, 223, 224, 226, 227, 235, 237 and 238. • Ice conditions and forecast for the East Coast of Newfoundland and the Labrador Coast, south of 54N. • Iceberg Bulletin - Newfoundland East Coast and Strait of Belle Isle.
1237	2598J3E	**RADIOTELEPHONY:** • Notices to Shipping for an area bounded by Flower's Cove to the west, Cartwright to the north and Cape Freels to the southeast. • Loran-C Notices to Shipping for chains 5930 and 7270. • Notices to Fishermen (when available).
1337	2598J3E	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 220, 221, 222, 223, 224, 226, 227, 235, 237 and 238.
1907	2598J3E	**RADIOTELEPHONY:** • Notices to Shipping for an area bounded by Flower's Cove to the west, Cartwright to the north and Cape Freels to the southeast. • Loran-C Notices to Shipping for chains 5930 and 7270. • Ice conditions and forecast for the East Coast of Newfoundland, and the Labrador Coast, south of 54N. • Iceberg Bulletin – Newfoundland East Coast and Strait of Belle Isle. • Notices to Fishermen (when available).
1937	2598J3E	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 220, 221, 222, 223, 224, 226, 227, 235, 237 and 238.
Continuous	Ch21B Conche Fox Harbour Comfort Cove Ch83B L'Anse aux Meadows Twillingate	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 220, 221, 222, 223, 224, 226, 227, 235, 237 and 238. • **Actual weather observations (when available) for the following sites:** 1. St. Anthony Airport 2. Englee 3. La Scie 4. Blanc Sablon 5. Mary's Harbour 6. Twillingate 7. Pool's Island 8. St. Anthony's Harbour • Notices to Shipping for an area bounded by Flower's Cove to the west, Cartwright to the north and Cape Freels to the southeast. • Loran-C NOTSHIP for chains 5930 and 7270. • Ice conditions and forecast for the East Coast of Newfoundland, and the Labrador Coast, south of 54N. • Iceberg Bulletin - Newfoundland East Coast and Strait of Belle Isle. • Notices to Fishermen (when available).

ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

Marine Communications and Traffic Services Centre

MMSI: 00 316 0020 **Call Sign: VON**

Hours: H24

For Radio Services call St. John's Coast Guard Radio.

For Vessel Traffic Services call St. John's Traffic – refer to section 3.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
St. John's MCTS Centre
P.O. Box 5667
ST. JOHN'S, NL A1C 5X1

Telephone Numbers: 709-772-5149 Officer-in-Charge
709-772-2106/2083 MCTS Operations

Facsimile: 709-772-5369

Telex Number: 016-4530 CCGTC SNF

Electronic Mail: ECAREGSNF@INNAV.GC.CA

MCTS St. John's / VON – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
➔St. John's 47°36'40"N 52°40'01"W	**Ch11** Ch12 **Ch16** **Ch26*** **Ch70**			
		2182J3E 2514J3E 2582J3E	**2182** 2118* 2206*	
➔Cape Bonavista 48°41'48"N 53°05'18"W	**Ch16** **Ch26*** **Ch70**			
➔Victoria 47°49'54"N 53°18'05"W	**Ch16** **Ch24*** **Ch70**			
➔Lumsden 49°17'14"N 53°35'05"W	**Ch16** **Ch26*** **Ch70**			

MCTS St. John's / VON – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0007	2598J3E	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 232, 233, 234, 235, 236, 237 and 238. • Ice Edge and Conditions East Newfoundland Coast south of Strait of Belle Isle and approaches.
0220	518F1B	**NAVTEX: (O)** • Weather.

MCTS St. John's / VON – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0620	518F1B	**NAVTEX: (O)** • Weather (Notices to Shipping only in winter).
0837	2598J3E	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 232, 233, 234, 235, 236, 237 and 238. • Ice Edge and Conditions East Newfoundland Coast south of Strait of Belle Isle and approaches. • Notices to Fishermen (when available).
1020	518F1B	**NAVTEX: (O)** • Weather (Notices to Shipping only in summer).
1307	2598J3E	**RADIOTELEPHONY:** • Notice to Shipping: Nearshore - Cape Pine to Twillingate. Offshore - North Atlantic to Cape Bauld. • Loran C Notices to Shipping for chains 5930 and 7270. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel.
1420	518F1B	**NAVTEX: (O)** • Weather.
1637	2598J3E	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 232, 233, 234, 235, 236, 237 and 238. • Ice Edge and Conditions East Newfoundland Coast south of Strait of Belle Isle and approaches.
1820	518F1B	**NAVTEX: (O)** • Weather (summer) Ice (winter).
➔2007	➔2598J3E	**➔RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 232, 233, 234, 235, 236, 237 and 238. • Ice Edge and Conditions East Newfoundland Coast south of Strait of Belle Isle and approaches.
➔2207	➔2598J3E	**➔RADIOTELEPHONY:** • Notices to Shipping: Nearshore - Cape Pine to Twillingate. Offshore - North Atlantic to Cape Bauld. • Loran C Notices to Shipping for chains 5930 and 7270. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel. • Notices to Fishermen (when available).
2220	518F1B	**NAVTEX: (O)** • Weather (winter) Notices to Shipping/Ice (summer).
Continuous	Ch21B St. John's Cape Bonavista Ch83B Victoria Ch28B Lumsden	**RADIOTELEPHONY:** • Technical synopsis, forecasts and wave height forecasts for marine areas 232, 233, 234, 235, 236, 237 and 238. • Actual weather observations (when available) for the following sites: 1. Pool's Island 4. St. John's 2. Bonavista 5. Cape Race 3. Grates Cove 6. Argentia • Ice Edge and Conditions East Newfoundland Coast south of Strait of Belle Isle and approaches. • Notices to Shipping Cape Pine to Twillingate. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel. • Notices to Fishermen (when available). • Loran C Notices to Shipping for chains 5930 and 7270.

SYDNEY, NOVA SCOTIA

Marine Communications and Traffic Services Centre

MMSI: 00 316 0017 **Call Sign: VCO**

Hours: H24
For Radio Services call Sydney Coast Guard Radio.
For Vessel Traffic Services call Canso Traffic – refer to section 3.
For Vessel Traffic Services call Northumberland Traffic – refer to section 3.
Services provided in French and English.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Sydney MCTS Centre
P.O. Box 8630
SYDNEY, NS B1P 6K7

Telephone Numbers:

902-564-7752	Officer-in-Charge	
902-564-7751	MCTS Operations	
1-800 686-8676	MCTS Operations	Toll Free

Facsimile: 902-564-7662

Telex Number: 019-22510 CCG MRHQ DRT

Electronic Mail: CCGOPS@ELSMAIL.NET
HLXECAREG1@INNAV.GC.CA ECAREG Canada

♦ Sydney MCTS Centre VHF/DF Advisory Service:

A VHF/DF Advisory Service is available to vessels in difficulty within range of the receiver sites located at Port Caledonia, Cape North, Montague, North Cape and Cape Egmont. Information concerning position, bearing and distance may be provided for use at the discretion of the user.

MCTS Sydney / VCO – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Port Caledonia ♦ 46°11'14"N 59°53'59"W	**Ch16** Ch24* **Ch26*** **Ch70**			
		2182J3E 2530J3E 2582J3E		
Cape North ♦ 47°00'38"N 60°25'41"W	**Ch16** Ch24* **Ch26*** **Ch70**			
Kilkenny Lake 46°13'29"N 60°10'06"W	**Ch16** Ch24* **Ch26*** **Ch70**			
			2182 2815* 2206*	

MCTS Sydney / VCO – Ship/Shore Communications

COMMUNICATION SITES LOCATED AT:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
St. Columba 45°59'17"N 60°51'36"W	**Ch16** Ch24* **Ch26*** **Ch70**			
Cheticamp (NAD 27) 46°34'39"N 60°59'10"W	**Ch16** **Ch26*** **Ch70**			
Montague, PEI ♦ 46°11'40"N 62°39'35"W	**Ch16** Ch24* **Ch26*** **Ch70**			
Cape Egmont, PEI ♦ 46°24'08"N 64°08'02"W	Ch12 **Ch16** Ch24* **Ch26*** **Ch70**			
Point Escuminac NB 47°04'25"N 64°47'53"W	**Ch16** **Ch26*** Ch27* **Ch70**			
North Cape, PEI ♦ 47°03'27"N 63°59'55"W	**Ch16** Ch24* **Ch26*** **Ch70**			
Eddy Point 45°30'52"N 61°15'15"W	Ch06 Ch11 **Ch14**			

MCTS Sydney / VCO – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0040	2749J3E Ch21B Port Caledonia Point Escuminac Montague Ch83B Cape North Cape Egmont	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas: 209, 213, 214, 215, 216, 217, 218, 231 and 232. • Wave height forecast for marine areas 209, 213, 214, 215 and 217. • Notices to Shipping in areas Cape Breton Shore (covering Cabot Strait to Banquereau Bank), Gulf of St. Lawrence, Newfoundland South Coast, P.E.I. and Miramichi Bay. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel.
0240	518F1B	**NAVTEX (Q) (English):** • Notices to Shipping.
0255	490F1B	**NAVTEX: (J) (French)** • Notices to Shipping.
0640	518F1B	**NAVTEX: (Q) (English)** • Weather.
0655	490F1B	**NAVTEX: (J) (French)** • Weather.
0740	2749J3E	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas: 209, 213, 214, 215, 216, 217, 218, 231 and 232. • Wave height forecast for marine areas 209, 213, 214, 215 and 217. • Notices to Fishermen (when available).

MCTS Sydney / VCO – Broadcasts

TIME UTC	FREQUENCY	CONTENTS
1010	Ch21B Port Caledonia Point Escuminac Montague Ch83B Cape North Cape Egmont	**RADIOTELEPHONY:** • Notices to Shipping in areas Cape Breton Shore (covering Cabot Strait to Banquereau Bank), Gulf of St. Lawrence, Newfoundland South Coast, P.E.I. and Miramichi Bay. • Notices to Shipping revising the position of every reported offshore exploration and exploitation vessel.
1040	518F1B	**NAVTEX: (Q) (English)** • Weather.
1055	490F1B	**NAVTEX: (J) (French)** • Weather.
1121	6915.10J3C	**RADIOFACSIMILE – Ice Charts** • Ice Analysis Gulf of St. Lawrence.
1142	6915.10J3C	**RADIOFACSIMILE – Ice Charts** • Ice Analysis East or Southeast Newfoundland waters.
1440	2749J3E Ch21B Port Caledonia Point Escuminac Montague Ch83B Cape North Cape Egmont	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas: 209, 213, 214, 215, 216, 217, 218, 231 and 232. • Wave height forecast for marine areas 209, 213, 214, 215 and 217. • Notices to Shipping in areas Cape Breton Shore (covering Cabot Strait to Banquereau Bank), Gulf of St. Lawrence, Newfoundland South Coast, P.E.I. and Miramichi Bay. • Notice to Shipping revising the position of every reported offshore exploration and exploitation vessel
1440	518F1B	**NAVTEX: (Q) (English)** • Notices to Shipping.
1455	490F1B	**NAVTEX: (J) (French)** • Notices to Shipping.
1741	6915.10J3C	**RADIOFACSIMILE – Ice Charts** • Ice Analysis Iceberg limit.
1840	518F1B	**NAVTEX: (Q) (English)** • Weather.
1855	490F1B	**NAVTEX: (J) (French)** • Weather.
2010	2749J3E	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas: 209, 213, 214, 215, 216, 217, 218, 231 and 232. • Wave height forecast for marine areas 209, 213, 214, 215 and 217. • Notices to Fishermen (when available).
2200	4416J3C	**RADIOFACSIMILE – Ice Charts** • Ice Analysis Gulf of St. Lawrence.
2240	518F1B	**NAVTEX: (Q) (English)** • Weather (Ice only in winter).
2255	490F1B	**NAVTEX: (J) (French)** • Weather (Ice only in winter).
2331	4416J3C	**RADIOFACSIMILE – Ice Charts** • Ice Analysis East or Southeast Newfoundland waters.
Continuous	Ch21B Port Caledonia Point Escuminac Montague Ch83B Cape North Cape Egmont	**RADIOTELEPHONY:** • Technical synopsis and forecasts for marine areas 209, 213, 214, 215, 216, 217, 218, 231 and 232. • Wave height forecast for marine areas 209, 213, 214, 215 and 217. • Notices to Fishermen (when available). • Ice forecasts for P.E.I. fishermen.

Note: The Continuous Marine Broadcast is interrupted three times daily (0040, 1010 and 1440) for Notice to Shipping Broadcasts

THUNDER BAY, ONTARIO

Marine Communications and Traffic Services Centre

MMSI: 00 316 0031 **Call Sign: VBA**

Hours: H24

For Radio Service call Thunder Bay Coast Guard Radio.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Thunder Bay MCTS Centre
Suite 400 – 100 Main Street
THUNDER BAY, ON P7B 6R9

Telephone Numbers: 807-345-4618 Officer in Charge
807-345-5190 MCTS Operations

Facsimile: 807-345-2688

♦ Thunder Bay MCTS Centre VHF Direction Finding Advisory Service:

A VHF/DF advisory service is available for vessels in difficulty in Georgian Bay within range of receiver sites located at Tobermory, Cape Croker, Banks and Pointe au Baril. Position and/or bearing and distance information may be provided for use at the discretion of the recipient (operational April 1 to December 31).

MCTS Thunder Bay / VBA – Ship/Shore Communications serving the Great Lakes

COMMUNICATIONS SITES SERVING THE GREAT LAKES:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Thunder Bay 48°26'02"N 89°18'06"W	**Ch12** **Ch16** **Ch70** **Ch85***			Commercial vessels entering the Port of Thunder Bay are requested to contact Thunder Bay MCTS Centre on Ch12 when abeam of Welcome Islands and also when shifting berths or departing the harbour
Horn 48°49'08"N 87°21'20"W	**Ch16** **Ch24*** **Ch70**			
Bald Head 47°39'54"N 84°47'36"W	**Ch16** **Ch27*** **Ch70**			
Sault Ste. Marie (Gros Cap) 46°32'11"N 84°35'00"W	**Ch11** **Ch16** **Ch24*** **Ch70**			
Silver Water, (Manitoulin Island) 45°54'05"N 82°54'55"W	**Ch11** **Ch16** **Ch27*** **Ch70**			
Wiarton 44°44'50"N 81°06'44"W	**Ch16** **Ch26*** **Ch70**			
Meaford 44°30'56"N 80°34'00"W	**Ch16** **Ch70** **Ch85***			

MCTS Thunder Bay / VBA – Ship/Shore Communications serving the Great Lakes

COMMUNICATIONS SITES SERVING THE GREAT LAKES:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Tobermory ♦ 45°09'42"N 81°29'55"W	**Ch16** **Ch26*** **Ch70**			
Killarney 45°58'05"N 81°29'22"W	**Ch16** **Ch24*** **Ch70**			
Pointe au Baril ♦ 45°33'50"N 80°19'18"W	**Ch16** **Ch26*** **Ch70**			

MCTS Thunder Bay / VBA – Ship/Shore Communications serving Lake Winnipeg

SITES SERVING LAKE WINNIPEG:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Beaver Creek 51°23'22"N 96°54'49"W	**Ch16** **Ch26**			Operational May 15 to October 31
Fraserwood 50°34'19"N 97°13'54"W	**Ch16** **Ch19**			Operational May 15 to October 31
Jackhead 51°52'55"N 97°18'50"W	**Ch16** **Ch26**			Operational May 15 to October 31
Long Point 52°55'46"N 98°57'52"W	**Ch16** **Ch26**			Operational May 15 to October 31

MCTS Thunder Bay / VBA – Ship/Shore Communications serving Hudson Bay

COMMUNICATIONS SITES SERVING HUDSON BAY:	CHANNEL	TRANSMIT FREQUENCIES	RECEIVE FREQUENCIES	REMARKS
Churchill (Manitoba) 58°45'42"N 93°56'39"W	**Ch16** **Ch26***			
	407*	2182J3E 2582J3E 4375J3E	**2182** 2206* **4083***	Operational only during navigation season. July 1 to October 31, approximately

MCTS Thunder Bay / VBA – Great Lakes Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0230	518F1B	**NAVTEX: (P)** • Weather.
0630	518F1B	**NAVTEX: (P)** • Notices to Shipping. • Ice (during ice season).
1030	518F1B	**NAVTEX: (P)** • Weather.
1430	518F1B	**NAVTEX: (P)** • Weather.
1830	518F1B	**NAVTEX: (P)** • Notices to Shipping. • Ice (during ice season).
2230	518F1B	**NAVTEX: (P)** • Weather.

MCTS Thunder Bay / VBA – Great Lakes Broadcasts

TIME UTC	FREQUENCY	CONTENTS
Continuous **(CMB WEST)**	Ch21B Horn Sault Ste. Marie Ch83B Thunder Bay Bald Head	**RADIOTELEPHONY**: • ➔Localized Weather Warnings/Watches, Marine Weather Statements, Technical Marine Synopsis, Regular Marine Forecasts and MAFOR code, Wave Height Forecast and Extended Marine Forecasts for Lakes Superior and Huron, Georgian Bay (areas 405, 406, 407 and 408). • LAWEB broadcast for reporting points from Duluth (Lake Superior) to Detour Reef (Lake Huron). • Current ship weather observations. • Notices to Shipping for Lake Superior and the St. Mary's River. • Water levels for Lakes Superior and Huron. • Ice hazard bulletin for Lakes Superior and Huron.
Continuous **(CMB EAST)**	Ch21B Tobermory Killarney Pointe au Baril Ch83B Silver Water Meaford	**RADIOTELEPHONY**: • ➔Localized Weather Warnings/Watches, Marine Weather Statements, Technical Marine Synopsis, Regular Marine Forecasts and MAFOR code, Wave Height Forecast and Extended Marine Forecasts for Lakes Superior and Huron, Georgian Bay (areas 405, 406, 407 and 408). • Recreational boating forecast for the North Channel (May 15 to October 31). • LAWEB broadcast for reporting points from Sault Ste Marie to Sarnia and Georgian Bay. • Current ship weather observations. • Notices to Shipping for Lake Huron north of latitude 44 00N, Georgian Bay (including Port Severn Lock), the North Channel and the St. Mary's River. • Water levels for Lakes Superior and Huron. • Ice hazard bulletin for Lakes Superior and Huron.

MCTS Thunder Bay / VBA – Lake Winnipeg Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0140 0840 1240 1640 2140	Ch26 Jackhead Long Point Beaver Creek Ch19 Fraserwood	**RADIOTELEPHONY:** • ➔Localized Weather Warnings/Watches, Marine Weather Statements, Technical Marine Synopsis, Regular Marine Forecasts and MAFOR code, Wave Height Forecast and Extended Marine Forecasts for Lake Winnipeg. • Ship Weather Reports. • Weather observations for: Gimli, Grand Rapids, George Island, Norway House, Berens River, Victoria Beach and ODAS buoys. • Notices to Shipping.

MCTS Thunder Bay / VBA – Hudson Bay Broadcasts

TIME UTC	FREQUENCY	CONTENTS
0040	Ch26 2582J3E Churchill	**RADIOTELEPHONY:** • ➔Localized Weather Warnings/Watches, Marine Weather Statements, Technical Marine Synopsis, Regular Marine Forecasts and MAFOR code, Wave Height Forecast and Extended Marine Forecasts for marine areas 156, 157, 158, 159, 162 and 163. Following areas on request; 160 and 161. • Ice hazard bulletin for areas 155, 156, 157, 158, 159, 160 and 162. • Notices to Shipping for waters south of 70 N between 75 W and 96 W, including James Bay, Hudson Bay and Foxe Basin.
1410	Ch26 2582J3E Churchill	**RADIOTELEPHONY:** • ➔Localized Weather Warnings/Watches, Marine Weather Statements, Technical Marine Synopsis, Regular Marine Forecasts and MAFOR code, Wave Height Forecast and Extended Marine Forecasts for marine areas 156, 157, 158, 159, 162 and 163. Following areas on request; 160 and 161 • Notices to Shipping for waters south of 70 N between 75 W and 96 W, including James Bay, Hudson Bay and Foxe Basin.

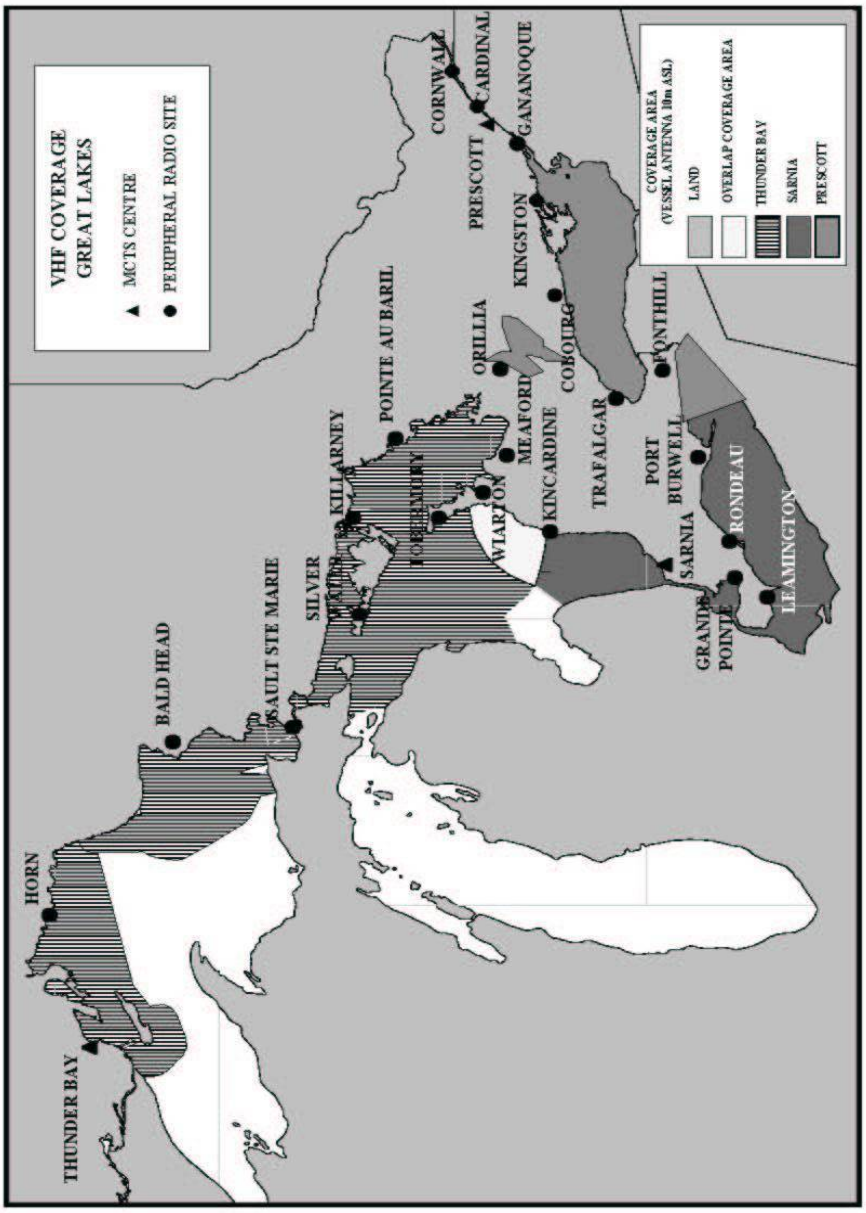
MCTS Thunder Bay / VBA – Hudson Bay Broadcasts

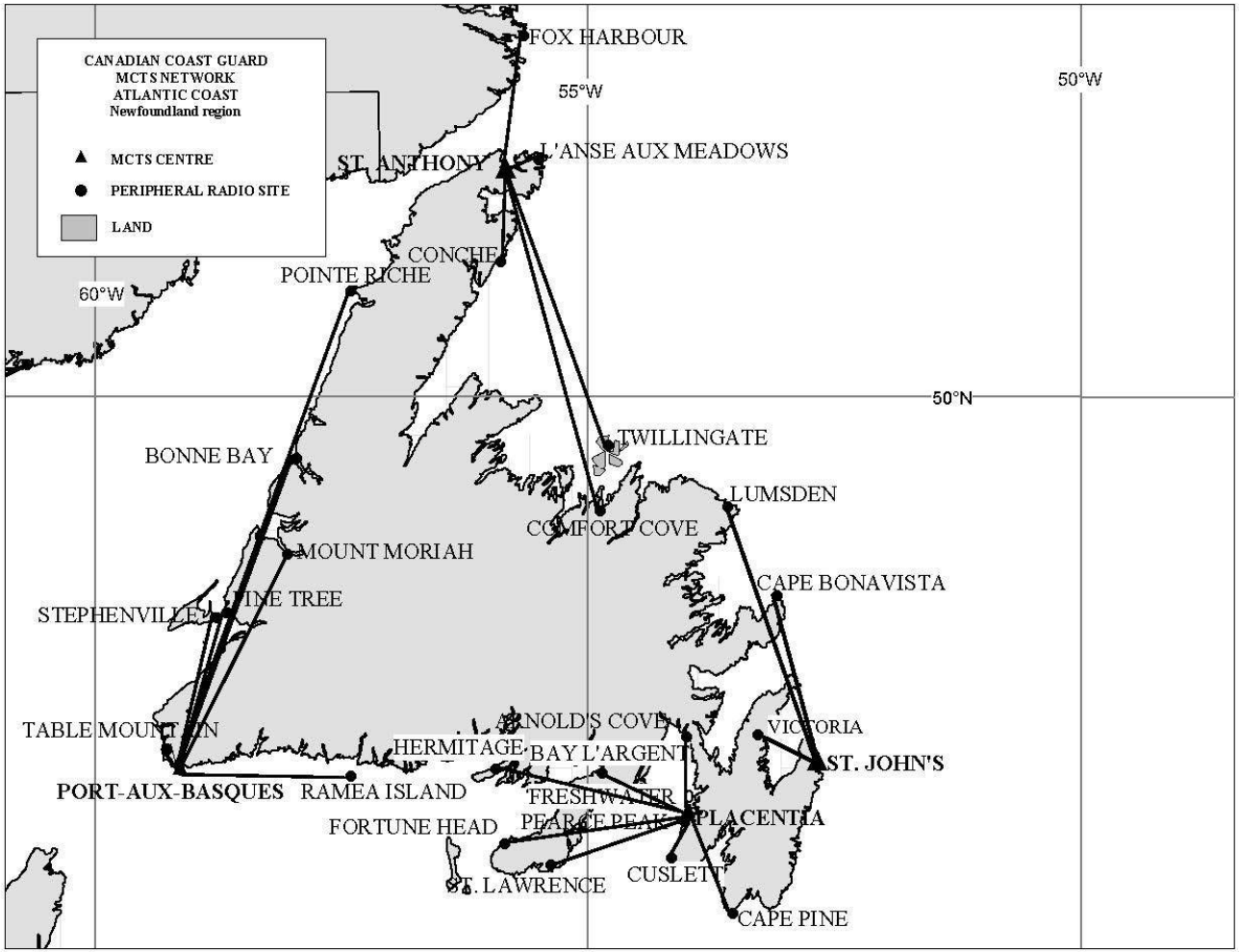
TIME UTC	FREQUENCY	CONTENTS
1520	Ch26 2582J3E Churchill	**RADIOTELEPHONY:** • Ice hazard bulletin for areas 155, 156, 157, 158, 159, 160 and 162.

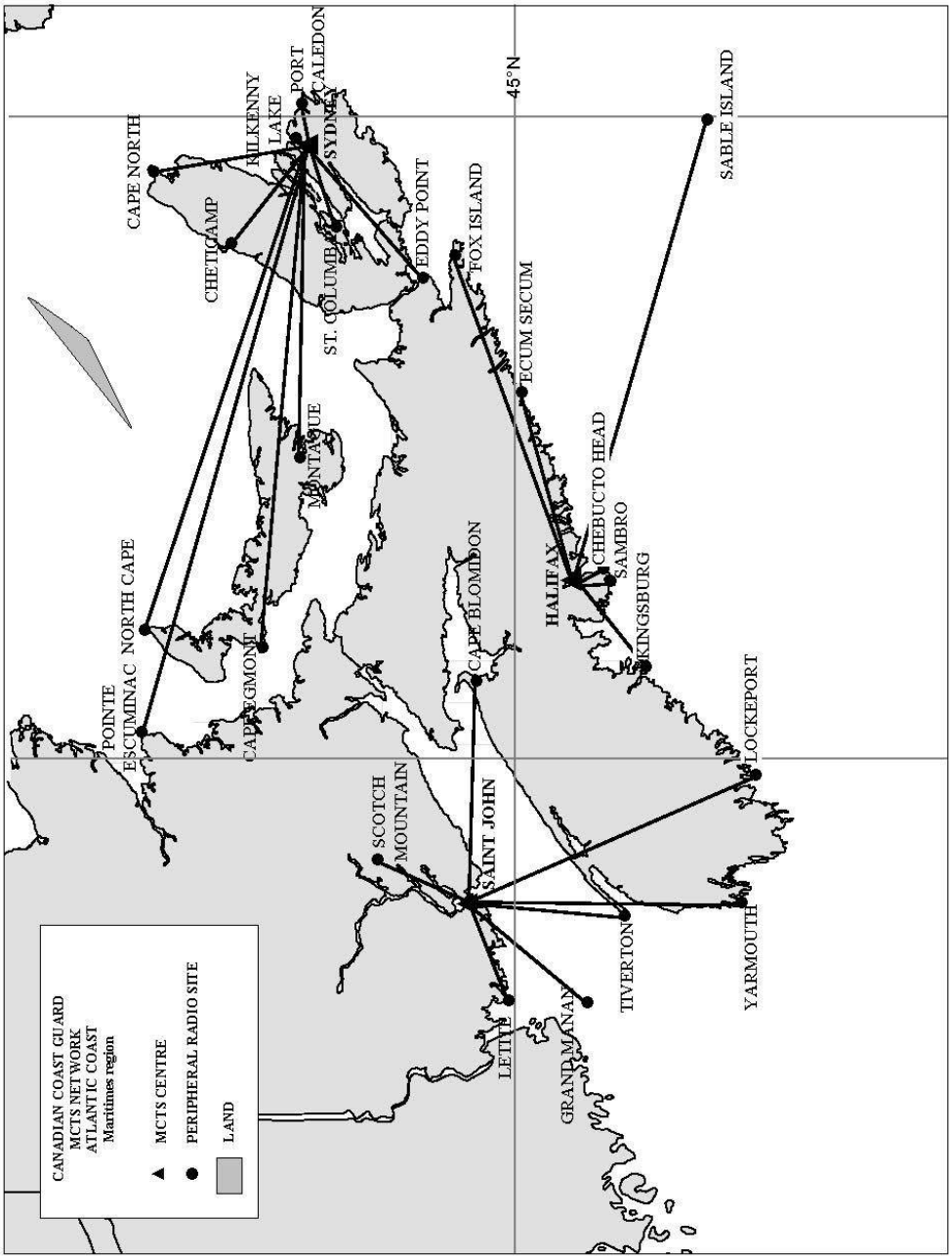
CANAL AND LOCKS OPERATIONS ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC			
NAME COORDINATES CALL SIGN	CLASS OF SERVICE	CHANNEL	REMARKS
CANSO LOCK, NS 45º38'04"N 61º24'30"W VAZ3	SC	16 11	Operated by Fisheries and Oceans Canada. Canal traffic only. Continuous during navigation season.

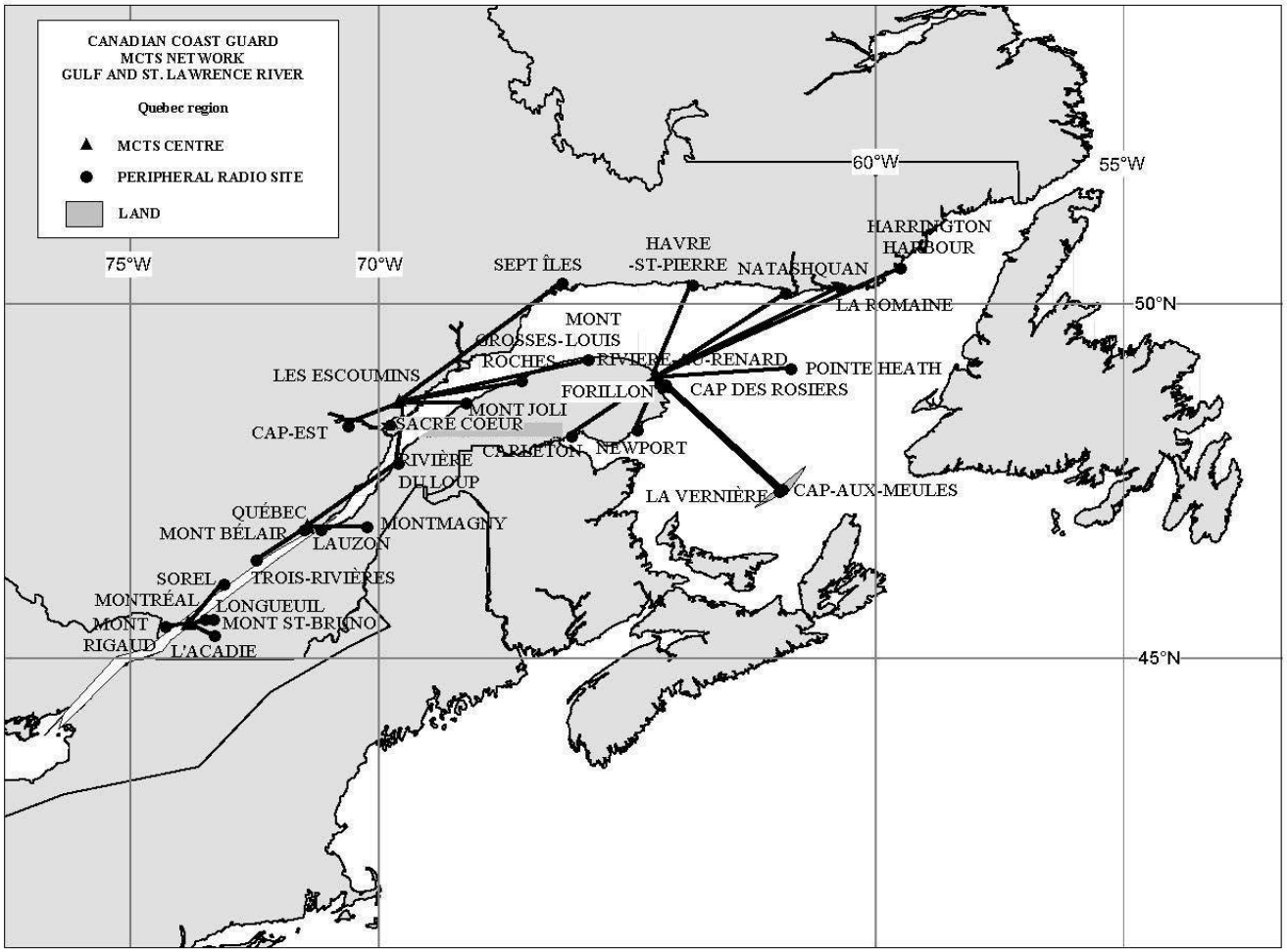
CANAL AND LOCKS OPERATIONS GREAT LAKES (includes St. Lawrence River to Montreal)			
NAME COORDINATES CALL SIGN	CLASS OF SERVICE	CHANNEL	REMARKS
BURLINGTON CANAL BRIDGE, ON 43º17'48"N 79º47'42"W XL146	SC	16 12	Operated by Department of Public Works. Ship traffic control only.
HAMILTON, ON 43º17'N 79º50'W XJF496		16 12	All vessels, excepting small craft, entering, leaving or intending to move within the harbour should contact the Hamilton Harbour Master directly on Ch12. Ship traffic control only.
SAULT STE. MARIE, ON CANAL LOCK 46º30'48"N 84º21'03"W VDX23	SC	16 14	Operated by Parks Canada. This station is not continuously attended to enable it to receive communications from vessels. Vessels intending to enter the Canadian Sault Ste. Marie Canal will be directed to the Canal by arrangement with the lockmaster at the United States St. Mary's Falls Canal, normally by means of visual signals. Ship traffic control only.
SEAWAY BEAUHARNOIS MELOCHEVILLE, QC 45º18'15"N 73º55'42"W VDX20	SC	16 14	Operated by Seaway Authority. Ship traffic control only.
SEAWAY IROQUOIS IROQUOIS, ON 44º49'50"N 75º18'46"W VDX21	SC	16 11	Operated by Seaway Authority. Ship traffic control only.
SEAWAY LONG POINT PORT COLBORNE, ON 42º53'15"N 79º14'57"W VDX 68	SC	16 11	Operated by Seaway Authority. Ship traffic control only.
SEAWAY NEWCASTLE PORT HOPE, ON 43º57'38"N 78º16'04"W VDX72	SC	16 11	Operated by Seaway Authority. Ship Reports respecting dangers to navigation as required. Ship traffic control only.

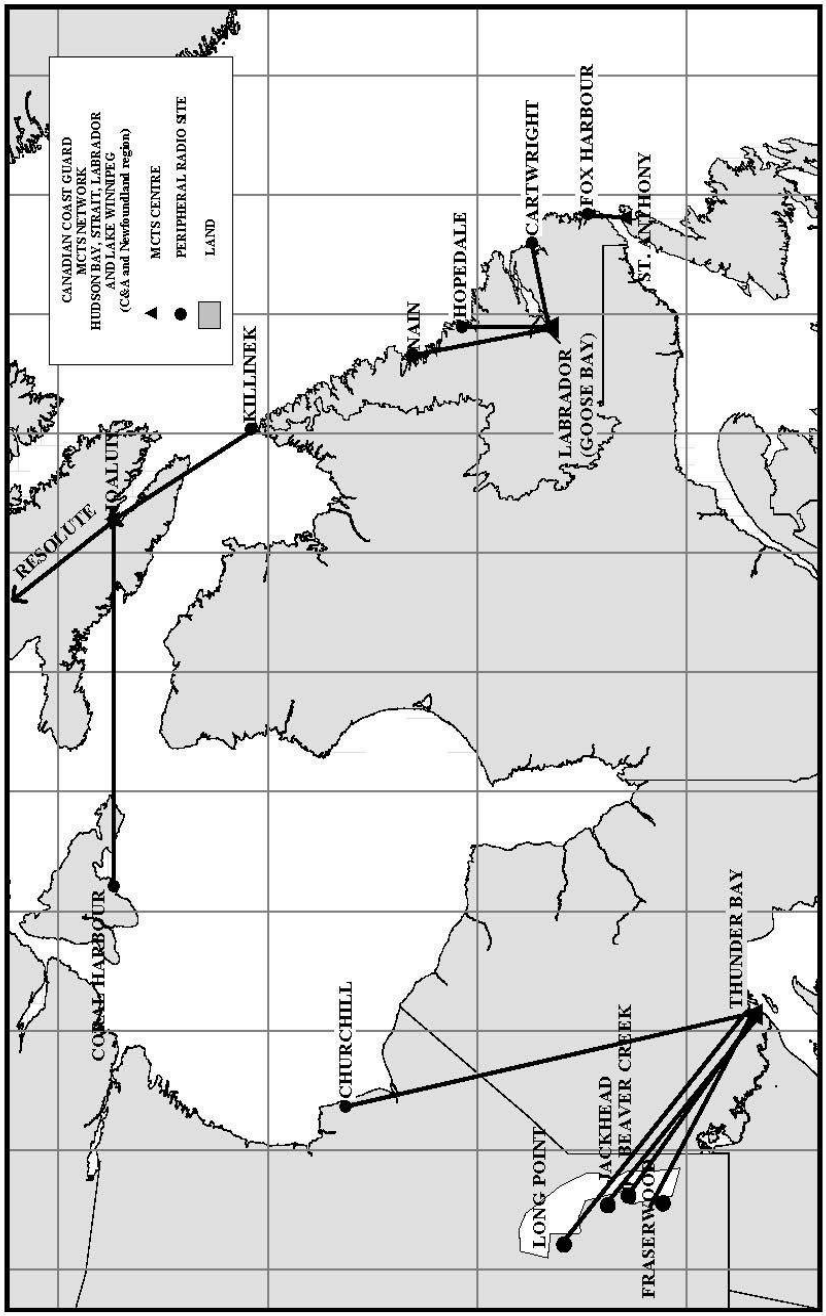
CANAL AND LOCKS OPERATIONS GREAT LAKES (includes St. Lawrence River to Montreal)			
NAME **COORDINATES** **CALL SIGN**	**CLASS OF SERVICE**	**CHANNEL**	**REMARKS**
SEAWAY NEWCASTLE **ST. CATHARINES, ON** 43º13'01"N 79º12'53"W VDX 70	SC	16 11	Operated by Seaway Authority. Ship Reports respecting dangers to navigation as required. Ship traffic control only.
SEAWAY WELLAND **ST. CATHARINES, ON** 43º49'20"N 79º11'45"W VDX 22	SC	16 14	Operated by Seaway Authority. Ship traffic control only.
TORONTO, ON 43º38'31"N 79º22'44"W XJF495	SC	16 12 14	All vessels, excepting small craft, entering, leaving or changing berths within the port of Toronto are requested to contact the Toronto Harbour Communications Centre (call sign XJF 495) directly on VHF Ch12 between the hours of 0800 to 1600 Monday through Friday. At all other times initial calls to the Harbour authority should be made on Ch16. Station operated by the Toronto Harbour Commission for ship traffic control only.
WINDSOR, ON 42º19'00"N 83º04'00"W XJP56	SC	16 12 14	Operated by the Windsor Harbour Commission for ship traffic control only. Vessels should make initial calls directly on Ch14.

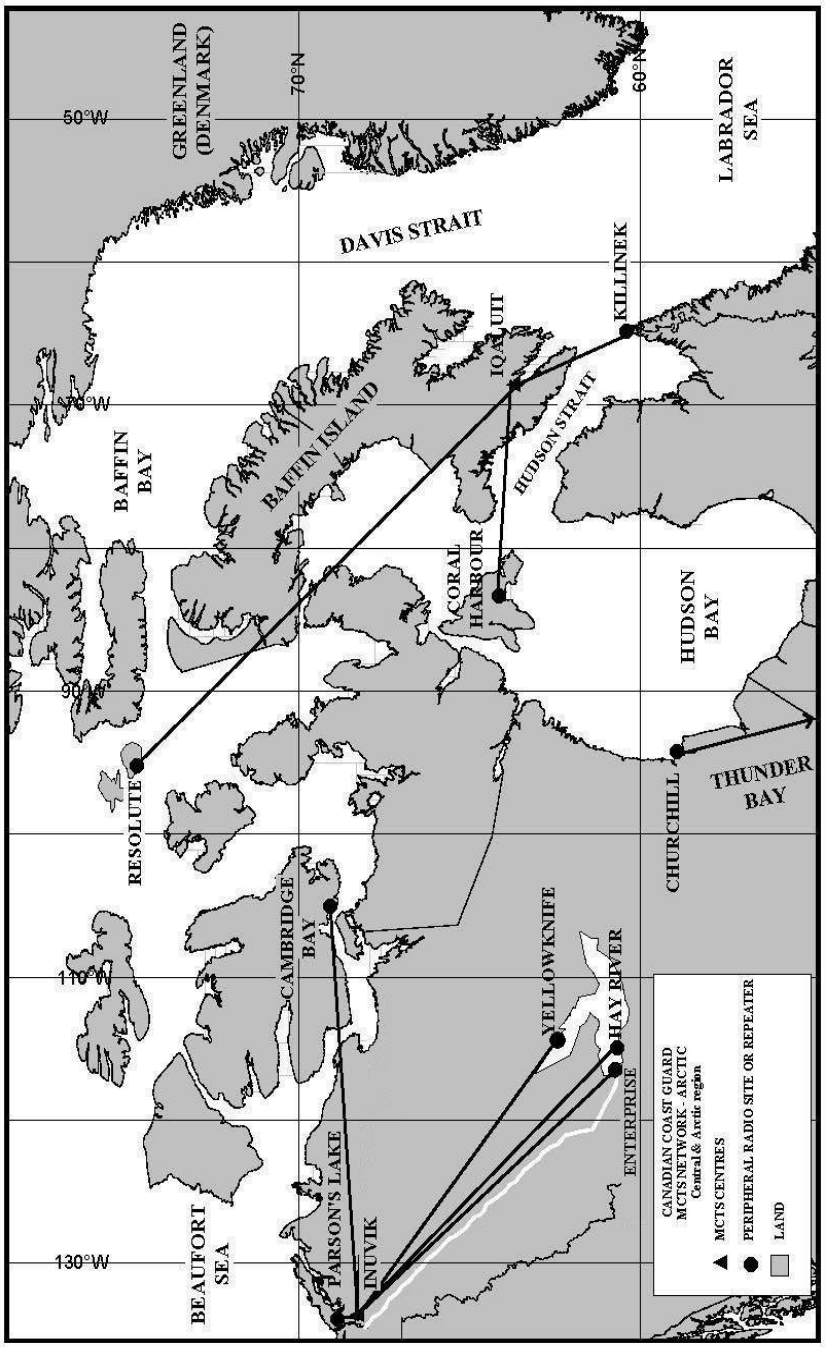

VHF COVERAGE
GREAT LAKES
MCTS CENTRE
PERIPHERAL RADIO SITE
COVERAGE AREA
(VESSEL ANTENNA 10m ASL)
LAND
OVERLAP COVERAGE AREA
THUNDER BAY
SARNIA
PRESCOTT
THUNDER BAY
HORN
BALD HEAD
SAULT STE MARIE
SILVER
KILLARNEY
POINTE AU BARIL
ORILLIA
MEAFORD
KINCARDINE
WIARTON
TRAFALGAR
PORT
BURWELL
SARNIA
GRANDE
POINTE
RONDEAU
LEAMINGTON
MONTHILL
COBOURG
KINGSTON
PRESCOTT
CARDINAL
GANANOQUE
CORNWALL


CANADIAN COAST GUARD
MCTS NETWORK
ATLANTIC COAST
Newfoundland region
MCTS CENTRE
PERIPHERAL RADIO SITE
LAND
FOX HARBOUR
55°W
50°W
ST. ANTHONY
L'ANSE AUX MEADOWS
CONCHE
POINTE RICHE
60°W
50°N
TWILLINGATE
BONNE BAY
LUMSDEN
COMFORT COVE
MOUNT MORIAH
CAPE BONAVISTA
PINE TREE
STEPHENVILLE
TABLE MOUNTAIN
ARNOLD'S COVE
VICTORIA
HERMITAGE
BAY L'ARGENT
ST. JOHN'S
PORT-AUX-BASQUES
RAMEA ISLAND
FRESHWATER
PLACENTIA
FORTUNE HEAD
PEARCE PEAK
CUSLETT
ST. LAWRENCE
CAPE PINE


CANADIAN COAST GUARD
MCTS NETWORK
ATLANTIC COAST
Maritimes region
MCTS CENTRE
PERIPHERAL RADIO SITE
LAND
45°N
CAPE NORTH
CHETICAMP
KILKENNY LAKE
PORT CALEDON
SYDNEY
ST. COLUMBA
EDDY POINT
FOX ISLAND
ECUM SECUM
SABLE ISLAND
CHEBUCTO HEAD
SAMBRO
HALIFAX
KINGSBURG
LOCKEPORT
NORTH CAPE
POINTE ESCUMINAC
CAPE EGMONT
CAPE BLOMIDON
SCOTCH MOUNTAIN
SAINT JOHN
TIVERTON
YARMOUTH
LETETE
GRAND MANAN


CANADIAN COAST GUARD
MCTS NETWORK
GULF AND ST. LAWRENCE RIVER
Quebec region
MCTS CENTRE
PERIPHERAL RADIO SITE
LAND
75°W
70°W
60°W
55°W
50°N
45°N
SEPT ÎLES
HAVRE
-ST-PIERRE
NATASHQUAN
HARRINGTON
HARBOUR
LA ROMAINE
MONT
GROSSES-LOUIS
ROCHES
RIVIERE AU-RENARD
POINTE HEATH
LES ESCOUMINS
FORILLON
CAP DES ROSIERS
MONT JOLI
SACRÉ COEUR
CAP-EST
CARLETON
NEWPORT
RIVIÈRE
DU LOUP
LA VERNIÈRE
CAP-AUX-MEULES
QUÉBEC
MONT BÉLAIR
MONTMAGNY
LAUZON
SOREL
TROIS-RIVIÈRES
MONTRÉAL
LONGUEUIL
MONT
MONT ST-BRUNO
RIGAUD
L'ACADIE


CANADIAN COAST GUARD
MCTS NETWORK
HUDSON BAY, STRAIT, LABRADOR
AND LAKE WINNIPEG
(C&A and Newfoundland region)
MCTS CENTRE
PERIPHERAL RADIO SITE
LAND
RESOLUTE
QAUTU
KILLINEK
NAIN
HOPEDALE
CARTWRIGHT
FOX HARBOUR
ST. ANTHONY
LABRADOR
(GOOSE BAY)
CORAL HARBOUR
CHURCHILL
THUNDER BAY
LONG POINT
JACKHEAD
BEAVER CREEK
FRASERWOOD


GREENLAND (DENMARK)
70°N
60°N
50°W
LABRADOR SEA
DAVIS STRAIT
KILLINEK
IQALUIT
BAFFIN ISLAND
HUDSON STRAIT
BAFFIN BAY
CORAL HARBOUR
HUDSON BAY
90°W
RESOLUTE
THUNDER BAY
CHURCHILL
CAMBRIDGE BAY
YELLOWKNIFE
HAY RIVER
110°W
ENTERPRISE
PARSON'S LAKE
INUVIK
130°W
BEAUFORT SEA
CANADIAN COAST GUARD
MCTS NETWORK - ARCTIC
Central & Arctic region
MCTS CENTRES
PERIPHERAL RADIO SITE OR REPEATER
LAND

RADIO BEACON STATIONS CONTINUOUSLY OPERATING RADIO BEACONS ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC				
NAME AND LOCATION	FREQUENCY kHz	RANGE NAUTICAL MILES	IDENTIFIER	REMARKS
ST. PIERRE & MIQUELON (France) 46º45'45"N 56º10'10"W	386	100	… .--. (S) (P)	Open year round.

RADAR BEACON (RACONS) ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC (located in Newfoundland)				
NAME AND LOCATION	RANGE NAUTICAL MILES	ARC DEGREES	IDENTIFIER	REMARKS
CAPE HARRIGAN LIGHT 55º50'34"N 60º18'56.8"W	10	160-315	-.- (K)	Navigation season only.
CHANNEL HEAD LIGHTSTATION 47º33'57"N 59º07'24.6"W	10	360	-.-. (C)	Open year round.
COME BY CHANCE LIGHT AND WHISTLE BUOY "PCC" 47º19'29.4"N 54º07'26.3"W	8	360	.- (A)	Open year round.
DOMINO POINT 53º27'42.4"N 55º44'31"W	10	360	-.-- (Y)	Navigation season only.
GRAPPLING ISLAND LIGHT 54º27'22.2"N 56º52'52.3"W	10	360	--. (G)	Navigation season only.
HENS AND CHICKENS 56º30'39.5"N 60º38'37.5"W	10	360	.-- (W)	Open year round.
QUAKER HAT 54º44'12.5"N 57º20'37.7"W	10	360	--.- (Q)	Open year round.
WHITE BEAR ISLAND (NANUAKTOK) 55º26'00.7"N 59º30'40.9"W	10	360	-. (N)	Navigation season only.
NEGRO ISLAND LIGHT 55º21'06"N 60º32'41"W	6	360	--.. (Z)	Open year round

RADAR BEACON (RACONS) ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC (located in Nova Scotia)				
NAME AND LOCATION	RANGE NAUTICAL MILES	ARC DEGREES	IDENTIFIER	REMARKS
BEAR COVE LIGHT AND BELL BUOY "H6" 44º32'36.3"N 63º31'19.6"W	8	360	-. (N)	Open year round.
CAPE FORCHU 43º47'38.8"N 66º09'19.3"W	10	360	-… (B)	Open year round.

RADAR BEACON (RACONS) ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC (located in Nova Scotia)				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
CAPE SABLE 43º23’24”N 65º37’16.9”W	10	360	-.-. (C)	Open year round.
CARIBOU HARBOUR LIGHT & BELL BUOY “SS1” 45º45’08”N 62º39’44”W	10	360	--. (G)	Navigation season only.
CHEBUCTO HEAD LIGHT 44º30’26.6”N 63º31’21.8”W	10	360	--.. (Z)	Open year round.
CRANBERRY ISLANDS LIGHT 45º19’29.6”N 60º55’38.2”W	10	360	-… (B)	Open year round.
LURCHER SHOAL BIFURCATION LIGHT BUOY “NM” 43º49’00.3”N 66º29’58”W	8	360	-.- (K)	Open year round.

RADAR BEACON (RACONS) ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC (located in New Brunswick)				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
GANNET ROCK LIGHT 44º30’37.1”N 66º46’52.9”W	10	360	--. (G)	Open year round.
MISCOU ISLAND LIGHT 48º00’33.7”N 64º29’34.7”W	15.5	300	-.- (K)	Open year round.
PORTAGE ISLAND CHANNEL RANGE REAR LIGHT 47º07’42.3”N 65º02’31.2”W	10	360	--. (G)	Open year round.
SAINT JOHN HARBOUR LIGHT AND WHISTLE BUOY "J" 45º12’55.3”N 66º02’36.9”W	8	360	-. (N)	Open year round.
SHIPPEGAN NORTH CHANNEL LIGHT AND WHISTLE BUOY “EE” 47º53’14.2”N 64º45’47.6”W	10	360	--. (G)	Open year round.

RADAR BEACON (RACONS) ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC (located in P.E.I.)				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
CONFEDERATION BRIDGE PIER, SHAFT 21 46º12'39.9"N 63º45'05.5"W	30	360	- (T)	Open year round.
CONFEDERATION BRIDGE PIER, SHAFT 22 46º12'33.8"N 63º45'13.1"W	30	360	-… (B)	Open year round.

RADAR BEACON (RACONS) ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC (located in Quebec)				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
ANSE AUX BASQUES 48º19'07.5"N 69º24'46.5"W	10	360	-.- (K)	Open year round.
BANC DU BRULE DOWNSTREAM REAR RANGE LIGHT 47º05'22.7"N 70º42'38.9"W	10	360	-.- (K)	Open year round.
GENTILLY FRONT RANGE LIGHT 46º25'48"N 72º15'46.9"W	10	360	-.- (K)	Open year round.
ÎLE AUX RAISINS RANGE REAR LIGHT 46º05'52.7"N 72º57'58.4"W	10	360	-.- (K)	Open year round.
ÎLE RICHELIEU 46º38'33.5"N 71º54'35.2"W	10	360	-- (M)	Open year round.
ÎLE SAINT-OURS SOUTH LIGHT 45º54'20.5"N 73º13'31.5"W	10	360	-- (M)	Open year round.
ÎLES MERMETTES/ RIVIÈRE ST-PAUL 51º19'20.5"N 57º50'34.6"W **(NAD 27)**	10	360	-- (M)	Open year round.
KAHNAWAKE FRONT RANGE 45º24'10.3"N 73º47'45.7"W	4	360	--. (G)	Navigation season only
LAKE ST. PIERRE UPSTREAM (CURVE LOUISEVILLE) REAR RANGE LIGHT 46º11'00.4"N 72º55'38.2"W	10	360	-. (N)	Open year round.

RADAR BEACON (RACONS) ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC (located in Quebec)				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
LAVALTRIE REAR RANGE 45º52’43.1”N 73º16’02.6”W	10	360	-. (N)	Open year round.
NICOLET SECTOR LIGHT 46º15’27.1”N 72º39’03.5”W	10	360	--. (G)	Open year round.
POINTE AUX TREMBLES (NEUVILLE) 46º41’47.4”N 71º34’22.5”W	10	360	--. (G)	Open year round.
POINTE DE MANICOUAGAN 49º06’04.4”N 68º11’37.8”W	10	360	-..- (X)	Open year round.
POINTE DU NORD-EST/ RIVIÈRE ST. AUGUSTIN 51º10’37.4”N 58º25’42.7”W **(NAD 27)**	10	360	-. (N)	Open year round.
POINTE PENOUILLE REAR RANGE 48º51’11.8”N 64º25’36.3”W	10	360	--. (G)	Open year round.
POINTE QIRNIRAUJAQ (CONGARAYA) 58º34’59.4”N 68º00’24.9”W **(NAD 27)**	10	360	-..- (X)	Navigation season only.
PORT DE RIMOUSKI FRONT RANGE LIGHT 48º28’06”N 68º31’06.1”W	10	360	-. (N)	Open year round.
ST. JEAN, ÎLE D’ORLÉANS 46º54’56.5”N 70º53’47”W	10	360	--. (G)	Open year round.
TROIS-RIVIÈRES – WEST (PONT LAVIOLETTE NORTH OF CHANNEL) 46º18’29.1”N 72º33’45.9”W	10	360	- (T)	Open year round.
TROIS-RIVIÈRES – WEST (PONT LAVIOLETTE SOUTH OF CHANNEL) 46º18’24.4”N 72º33’37.7”W	10	360	…. (H)	Open year round.
YAMACHICHE CURVE FRONT RANGE LIGHT/LAC ST-PIERRE 46º12’18.7”N 72º49’49.1”W	10	360	-- (M)	Open year round.

RADAR BEACON (RACONS) ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC (located in Manitoba)				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
CHURCHILL 58º47’00.9”N 94º13’59.2”W	10	360	--. (G)	Navigation season only.

RADAR BEACON (RACONS) ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC (located in Nunavut)				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
BEACON ISLAND 58º54’08”N 66º20’30.5”W	10	360	--. (G)	Navigation season only.
BROOMFIELD ISLAND HUDSON BAY 55º40’24”N 79º14’18”W **(NAD 27)**	10	360	-. (N)	Navigation season only.
COATS ISLAND 62º10’20”N 83º08’00”W **(NAD 27)**	10	360	-.-. (C)	Navigation season only.
KITDLIAT ISLAND 59º58’34.5”N 69º37’30.6”W	10	360	-.- (K)	Navigation season only.
NIPPER ISLAND 59º00’26.5”N 68º53’18”W	10	360	--. (G)	Navigation season only.
NOTTINGHAM ISLAND 63º05’10”N 77º57’00”W **(NAD 27)**	10	360	-. (N)	Navigation season only.
SENTRY ISLAND 61º09’35.6”N 93º52’14.6”W	10	360	-.-. (C)	Navigation season only.
WALRUS ISLAND 61º57’59.4”N 92º28’41.1”W	10	360	-.-- (Y)	Navigation season only.

RADAR BEACON (RACONS) ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC (located in NWT)				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
SWAFFIELD HARBOUR (MANSEL ISLAND) 62º25’00”N 79º36’30”W	10	360	-.- (K)	Navigation season only.

RADAR BEACON (RACONS) ATLANTIC COAST, GULF AND ST. LAWRENCE RIVER TO MONTREAL, EASTERN ARCTIC (located in USA)				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
LIGHT 73 44º55’33.5”N 75º05’43.1”W	6 to 8	360	-- (M)	Navigational season only
LIGHT BUOY 153 44º30’37.2”N 75º46’07.6”W		360	-- (M)	Navigational season only

RADAR BEACON (RACONS) LAKE WINNIPEG				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
EAST BREAKWALL RED RIVER ENTRANCE, 50º24'05"N 96º48'45.7"W	5	360	--. (G)	Navigation season only.

RADAR BEACON (RACONS) GREAT LAKES (includes St. Lawrence River to Montreal) (located in Ontario unless noted)				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
➔CARIBOU ISLAND 47º20'23"N 85º49'32"W	20	not available	-.-. (C)	Navigation season only.
DETROIT RIVER LIGHT, USA 42º00'02.9"N 83º08'28.5"W	10	360	-..- (X)	Operated by USA. Year-round
EAST OUTER CHANNEL (LIGHT 1E), USA 41º54'48.2"N 83º06'24.1"W	12	360	--- (O)	Operated by USA. Mar 15-Jan 15
GEREAUX ISLAND GEORGIAN BAY 45º44'40"N 80º39'32.7"W	10	360	--. (G)	Navigation season only.
GLADMAN ROCK GEORGIAN BAY 45º20'51.9"N 80º18'52.7"W **(NAD 27)**	10	360	--. (G)	Navigation season only.
LONG POINT LAKE ERIE 42º32'55.2"N 80º02'58.1"W	10	360	-- (M)	Open year round.
MAMAINSE HARBOUR LAKE SUPERIOR 47º02'15"N 84º47'11.6"W	10	360	-- (M)	Navigation season only.
PELEE PASSAGE LAKE ERIE 41º51'14.9"N 82º34'54.7"W **(NAD 27)**	10	360	-- (M)	Open year round.
PRESCOTT/ OGDENSBURG BRIDGE PIERS, NORTH SIDE 44º44'11.3"N 75º27'37.4"W	10	360	- (T)	Navigation season only.
PRESCOTT/ OGDENSBURG BRIDGE PIERS, SOUTH SIDE 44º44'01.7"N 75º27'29.9"W	10	360	…. (H)	Navigation season only.

RADAR BEACON (RACONS) GREAT LAKES (includes St. Lawrence River to Montreal) (located in Ontario unless noted)				
NAME AND LOCATION	**RANGE NAUTICAL MILES**	**ARC DEGREES**	**IDENTIFIER**	**REMARKS**
SOUTHEAST SHOAL LAKE ERIE 41º49'34.8"N 82º27'46.1"W **(NAD 27)**	10	360	-.- (K)	Open year round.
TORONTO OUTER HARBOUR EAST HEADLAND 43º36'48.7"N 79º20'36.3"W	10	360	-- (M)	Navigation season only
LAKE ST. CLAIR LIGHT USA 42º27'55.1"N 82º45'15.4"W	6	360	-. (N)	

PART 3

VESSEL TRAFFIC SERVICES (VTS)

ATLANTIC, ST-LAWRENCE, GREAT LAKES AND EASTERN ARCTIC

The purpose of this section is to describe to shipboard personnel the ship reporting procedures to be followed by vessels when within or intending to enter a Vessel Traffic Services Zone.

RESPONSIBILITIES

There is no intention on the part of the CCG to attempt to navigate or manoeuvre ships from a shore station and nothing in this publication overrides the authority of the master of his responsibility for the safe navigation of his ship. Information passed to the master is intended to assist him in the safe conduct of his ship.

A Marine Communications and Traffic Services (MCTS) Officer may, under specific circumstances:

(a) direct the master, pilot or person in charge of the deck watch of the vessel to provide any pertinent information in respect of that vessel that may be specified in the direction;

(b) direct the vessel to use any radio frequencies in communications with coast stations or other vessel that may be specified in the direction; and

(c) direct the vessel at the time, between the times or before or after any event that may be specified in the direction:
- to leave a VTS Zone,
- to leave or refrain from entering any area within a VTS Zone that may be specified in the direction, or
- to proceed to or remain at any location within a VTS Zone that may be specified in the direction.

A vessel, as well as the master, pilot or person in charge of the deck watch of a vessel, shall comply with a direction given to it or them by an MCTS Officer. Notwithstanding, the master, pilot or person in charge of the deck watch may take any action that may be required to ensure the safety of life, the ship or any other ship.

The master of a ship shall ensure that before the ship enters a VTS Zone the ship's radio equipment is capable of receiving and transmitting radio communications on the appropriate VTS sector frequency.

TRAFFIC CLEARANCE

A "Traffic Clearance" is an authorization for a ship to proceed subject to such conditions as may be included in the authorization. The traffic clearance is predicated upon ship report information and known waterway/traffic conditions. A traffic clearance does not eliminate the need for other authorizations required by legislation or by-laws.

Should any factor upon which the traffic clearance is predicated alter to the detriment of safe navigation, the traffic clearance may be delayed or other conditions may be attached to the traffic clearance.

A Traffic Clearance is required prior to:
- entering a VTS zone;
- commencing a departure manoeuvre;
- commencing a manoeuvre that may be detrimental to safe navigation;
- proceeding after being stranded, stopped due to breakdown of main propulsion machinery or steering gear, or involved in a collision.

COMMUNICATIONS

Radiotelephone procedures used in communicating with an MCTS Centre are those specified by the International Telecommunications Union in the *"Manual for Use by the Maritime Mobile and Maritime Mobile Satellite Services".*

A continuous listening watch shall be maintained on the appropriate VTS sector frequency on radio equipment located:

- at any place on board the ship, where the ship is at anchor or moored to a buoy; and
- in the vicinity of the ship's conning position, where the ship is underway.

A continuous listening watch may be suspended if an MCTS Officer directs the ship to communicate with coast stations and/or other ship stations on a different VHF radio frequency.

All times given in local VTS zone reports should be in local time and in accordance with the 24-hour clock system.

Navigation safety calls on designated VTS sector frequencies should be kept to the minimum consistent with the safety requirement of the situation.

Communication Difficulties

Where a ship, for any reason other than ship board radio equipment failure is unable to obtain the required traffic clearance or after receiving a traffic clearance, is unable to maintain direct communication with the appropriate MCTS Centre, the master may nevertheless proceed on his route, but shall take all reasonable measures to communicate with the appropriate MCTS Centre as soon as possible and obtain the specified clearance.

Ship Board Radio Equipment Malfunction

In the event of a ship board radio equipment failure where the ship is unable to obtain the required traffic clearance or after receiving a traffic clearance, is unable to maintain direct communication with the appropriate MCTS Centre, The vessel shall:

(a) if it is in a port or anchorage where repairs can be made, remain in the port until the vessel is able to establish communications in accordance with the *Vessel Traffic Services Zones Regulations* and/or the; *Eastern Canada Vessel Traffic Services Zone Regulations;* or

(b) if it is not in a port or anchorage where repairs can be made, proceed to the nearest reasonably safe port or anchorage on its route and remain there until the vessel is able to establish communications in accordance with the *Vessel Traffic Services Zone Regulations* and/or the *Eastern Canada Vessel Traffic Services Zone Regulations.*

ZONE DESCRIPTION

Eastern Canada

The Eastern Canada VTS Zone consists of the Canadian waters on the east coast of Canada south of the sixtieth parallel of north latitude and in the St. Lawrence River east of 66° 00' west longitude except the waters within Ungava Bay and the waters within the VTS Zones referred to in the *Vessel Traffic Services Zone Regulations.*

Arctic Canada

The Arctic Canada VTS Zone includes those waters of Ungava Bay, Hudson Bay and James Bay south of the parallel of 60° north latitude and the waters to which the *Arctic Waters Pollution Prevention Act* apply.

It excludes MacKenzie Bay and Kugmallit Bay south of the parallel of 70° north latitude and east of the meridian of 139° west longitude.

Local Zones

Local VTS zones are as specified in the *Vessel Traffic Services Zone Regulations* and described in the VTS Zone Schedules of this Part.

ZONE APPLICATION

Eastern Canada VTS Zone (ECAREG)

With respect to the Eastern Canada VTS Zone, the *Eastern Canada Vessel Traffic Services Zone Regulations* apply in respect of:

a) every ship of 500 tons gross tonnage or more;

b) every ship that is engaged in towing or pushing a vessel, where the combined tonnage of the ship and the vessel being towed or pushed is 500 tons gross tonnage or more; or

c) every ship carrying a pollutant or dangerous goods, or engaged in towing or pushing a vessel carrying a pollutant or dangerous goods as prescribed in the;
   i) *Oil Pollution Prevention Regulations,*
   ii) *Pollutant Substances Regulations,*
   iii) *Dangerous Goods Shipping Regulations,*
   iv) *International Maritime Dangerous Goods (IMDG) Code, and*
   v) *Dangerous Chemicals and Noxious Liquid Substances Regulations.*

Participation is mandatory.

Arctic Canada VTS Zone (NORDREG)

With respect to the Arctic Canada VTS Zone (NORDREG) the provisions of this section apply to every ship of 300 tons, gross tonnage, or more. Participation is voluntary; however, mariners are encouraged to participate fully to receive the maximum benefit.

Local VTS Zones

With respect to the VTS Zones specified in the *Vessel Traffic Services Zone Regulations*, these regulations apply in respect of:

a) every ship twenty metres or more in length;

b) every ship engaged in towing or pushing any vessel or object, other than fishing gear, where;

   i) the combined length of the ship and any vessel or object towed or pushed by the ship is forty-five metres or more in length, or

   ii) the length of the vessel or object being towed or pushed by the ship is twenty metres or more in length;

With respect to the VTS Zones specified in the *Vessel Traffic Services Zone Regulations*, these regulations do not apply in respect of:

- a ship engaged in towing or pushing any vessel or object within a log booming ground;
- a pleasure yacht that is less than 30 metres in length; and
- a fishing vessel that is less than 24 metres in length and not more than 150 tons gross tonnage.

REPORTS

Pre-Arrival Information Report (PAIR)

The Canadian *Marine Transportation Security Regulations* (MTSR) require a Pre-Arrival Information Report (PAIR) to be filed prior to entry into Canadian waters. Message format and contact information may be found in Part 4.

Change in information

A report shall be made whenever a significant change occurs in the information previously provided in any report made pursuant to the *Eastern Canada Vessel Traffic Services Zone Regulations* or the *Vessel Traffic Services Zone Regulations* except where the report was made when departing from a VTS Zone.

Non-Routine Reports

Pursuant to the *Eastern Canada Vessel Traffic Services Zone Regulations* and the *Vessel Traffic Services Zone Regulations* a report indicating the vessel's name, position and a description of the incident shall be made prior to the vessel proceeding as soon as the master becomes aware of any of the following conditions:

i) the occurrence on board the ship of any fire;
ii) the involvement of the ship in a collision, grounding or striking;
iii) any defect in the ship's hull, main propulsion systems or steering systems, radars, compasses, radio equipment, anchors or cables;
iv) any discharge or probable discharge of a pollutant from the ship into the water;
v) another ship in apparent difficulty;
vi) any obstruction to navigation;
vii) any aid to navigation that is functioning improperly, damaged, off-position or missing;
viii) the presence of any pollutant in the water;
ix) the presence of a ship that may impede the movement of other ships; and
x) any ice and weather conditions that are detrimental to safe navigation.

Notes:

(1) Items vi), vii) and viii) are not required if the information has been previously promulgated by a Notice to Shipping.
(2) Mariners are encouraged to provide, on a voluntary basis, any information pertaining to charts and publications which may not be on board so that arrangements can be made to embark the necessary items.

ECAREG/NORDREG - Information Requirements

ECAREG/NORDREG zone reports shall be communicated directly to ECAREG/NORDREG or to the nearest Canadian Coast Guard MCTS Centre. All times given in ECAREG/NORDREG zone reports shall be Co-ordinated Universal Time (UTC).

Dependent upon the reporting requirement, various elements of the following may be required to be reported.
(a) the name of the ship;
(b) the radio call sign of the ship;
(c) the name of the master of the ship;
(d) the position of the ship;
(e) the time the ship arrived at the position;
(f) the course of the ship, if any;
(g) the speed of the ship, if any;
(h) the prevailing weather conditions (including ice if applicable);
(i) the estimated time that the ship will enter the Eastern Canada or Arctic Canada VTS Zone;
(j) the estimated time that the ship will depart the berth;
(k) the destination of the ship;
(l) the estimated time of arrival of the ship at the destination;

(m) the route the ship intends to take through the Eastern Canada or Arctic Canada VTS Zone to arrive at the destination;
(n) the name of the last port of call of the ship;
(o) the draft of the ship;
(p) any dangerous goods, listed by class, or pollutant, that is carried on board the ship or a vessel being towed or pushed by the ship;
(q) revoked;
(r) any defect in the ship's hull, main propulsion systems or steering systems, radars, compasses, radio equipment, anchors or cables;
(s) any discharge, or threat of discharge, of a pollutant from the ship into the water, and any damage to the ship that may result in the discharge of a pollutant from the ship into the water;
(t) the name of the Canadian or United States agent of the ship; and
(u) the date of expiration of a certificate referred to in Article VII of the *International Convention on Civil Liability for Oil Pollution Damage, 1969/1992*, the International Oil Pollution Prevention Certificate, the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk, the Certificate of Fitness and the Certificate of Compliance, the ISM Safety Management Certificate and the ISM document of compliance, if any issued to the ship.

ECAREG Zone Reports

Prior to Entering the Zone

A report containing all the required information listed, except item (j), shall be made 24 hours prior to entering the zone, or as soon as practical where the estimated time of arrival of the ship at the zone is less than 24 hours after the time the ship departed for the last port of call.

This report is not required where:
(i) the ship is on a voyage between two ports within the zone; and
(ii) the ship is entering the zone directly from the Arctic Canada Traffic Zone, and is in possession of a valid NORDREG Clearance.

Entering at Zone Boundary

A report containing the required information listed in (a), (b), (d), (h) and (i), shall be made immediately before the ship crosses the zone boundary when entering the zone.

This report is not required when entering directly from a local VTS zone.

Arrival at Berth

A report containing the required information listed in (a) and (b), as well as the following information:
i) port of arrival; and
ii) time of arrival;

shall be made on arrival of the ship at a berth.

Departing Berth

A report containing the required information, except item (i), shall be made two hours before a ship departs a berth.

A traffic clearance to depart a berth is valid for one hour from the estimated time of departure. Where a traffic clearance to depart berth has expired because of a revised time of departure, a new traffic clearance is required. In this case, the report need only contain the ship's name, call-sign, position and revised time of departure.

This report is not required where the ship is proceeding to another berth in the same port.

Exiting the Zone

A report containing the required information listed in (a), (b), (d) and (h), shall be made immediately before the ship crosses the seaward boundary.

In a case where exiting a zone coincides with entering a local VTS zone, this report is not required. Procedures as local VTS Zone reporting requirements shall be followed.

NORDREG Zone Reports

NORDREG reports shall be addressed to NORDREG CANADA and communicated either directly to NORDREG CANADA or to the nearest Canadian Coast Guard MCTS Centre. The master of a ship shall ensure that these reports are made in accordance with the stated requirements.

Prior to Entering the Zone

A report containing the required information listed, except item (j), but also including the following information:

i) ➔category according to the vessel Arctic Pollution Prevention Certificate (APPC), ice class and name of classification society;
ii) amount of oil on board (fuel and cargo), if such amount exceeds 453 m^3 (15,988 ft^3); and
iii) date of issue of Arctic Pollution Prevention Certificate, if carried and name of Classification Society.

shall be made a minimum of 24 hours prior to entering the zone, or as soon as practical where the estimated time of arrival of the ship at the zone is less than 24 hours after the time the ship departed from the last port of call.

If the ship is entering the zone directly from the Eastern Canada VTS Zone, and is in possession of a valid ECAREG Clearance, only items i), ii) and iii) need be reported.

Entering at Zone Boundary

A report containing the required information listed in (a), (b) and (d), shall be made immediately before the ship crosses the zone boundary when entering the zone.

Arrival at Berth

A report containing the required information listed in (a), (b) and (j), as well as the following information shall be made on arrival of the ship at a berth:

i) port of arrival; and
ii) time of arrival.

Departing Berth

This report is not required where the ship is proceeding to another berth in the same port.

A report containing the required information listed in (a), (b), (h), (j), (k), (l), (m) and (p), the amount of oil on board (fuel and cargo), if such amount exceeds 453m^3 (15,988 ft^3) and any change to previously reported items (r), (s), (t) and (u), shall be made not more than two hours and not less than one hour before departing a berth.

If the estimated time of departure changes by more than one hour, a report shall be made containing the revised estimated time of departure. A report shall be made when the ship has departed the berth, giving the actual time of departure.

1600 UTC Report

A report containing the required information listed in (a), (b), (d) and (h) shall be made daily at 1600 UTC.

Exiting the Zone

A report containing the required information listed in (a), (b), (d) and (h), shall be made immediately before the ship crosses the seaward boundary.

ECAREG/NORDREG Report Contacts

ECAREG/NORDREG reports shall be sent to:

St. John's MCTS Centre
P.O. Box 5667
ST. JOHN'S, NL A1C 5X1
Telephone: 709-772-2083
Telex: 016-4530
➔Facsimile: 709-772-5369
Telegraphic Identifier: CCGTC SNF
E-mail: ECAREGSNF@INNAV.GC.CA

Halifax MCTS Centre
P.O. Box 1000
DARTMOUTH, NS B2Y 3Z8
Telephone: 902-426-4956
Telex: 019-22510
Facsimile: 902-426-4483
E-mail: HLXECAREG1@INNAV.GC.CA

*Iqaluit MCTS Centre
P.O. Box 189
IQALUIT, NU X0A 0H0
Telephone: 867-979-5724
Facsimile: 867-979-4264
Telex (Telefax): 063-15529
Telegraphic Identifier: NORDREG CDA
E-mail: IQANORDREG@INNAV.GC.CA

Rivière au Renard MCTS Centre
P.O. Box 100
RIVIÈRE AU RENARD, QC G4X 1S0
Telephone: 418-269-3843
Facsimile : 418-269-5514
Email: RARECAREG@INNAV.GC.CA

***Note:** Operational from approximately mid-June to late November.

Local VTS zone reports

With respect to local VTS Zones as specified in the *Vessel Traffic Services Zone Regulations* the master of a ship shall report to an MCTS Officer in accordance with the following requirements.

Information Required

Dependent upon the reporting requirement the following information may be required to be reported:

(a) the name of the ship;
(b) the radio call sign of the ship;
(c) the position of the ship;
(d) the estimated time that the ship will enter the VTS zone;
(e) the destination of the ship;
(f) the estimated time that the ship will arrive at its destination;
(g) whether any pollutant or dangerous goods cargo is carried on board the ship or any vessel or object being towed or pushed by the ship;
(h) the estimated time that the ship will depart the berth; and
(i) the estimated time at which the ship will next arrive at a location requiring a report.

Entering a Zone

At least 15 minutes before a ship intends to enter a zone, a report shall be made specifying the information listed in (a), (b), (c), (d), (e), (f) and (g).

Exception: Ships already in possession of a valid Traffic Clearance are not required to provide this report.

Arrival at a Calling-In-Point (CIP)

When a ship arrives at a CIP a report shall be made specifying the information listed in (a), (c) and (i).

Arrival at Berth

As soon as practicable after a ship arrives at a berth, a report shall be made specifying the information listed in (a) and (c).

Departure Manoeuvre

Departure manoeuvre is defined as an operation during which a vessel leaves a berth and gets safely underway;

Immediately before commencing a departure manoeuvre, a report shall be made specifying the information listed in (a), (b), (c), (e), (f), (g) and (h).

Immediately after completing the departure manoeuvre, a report shall be made specifying the information listed in (a), (c) and (i).

Manoeuvres

A traffic clearance is required 15 minutes prior to commencing any manoeuvre such as:
(i) a compass adjustment;
(ii) the calibration and servicing of navigational aids;
(iii) a sea trial;
(iv) a dredging operation;
(v) the laying, picking up and servicing of submarine cables; or any other manoeuvre that may be detrimental to safe navigation.

Prior to commencing a manoeuvre a report shall be made specifying the information listed in (a) and (c), plus a description of the intended manoeuvre.

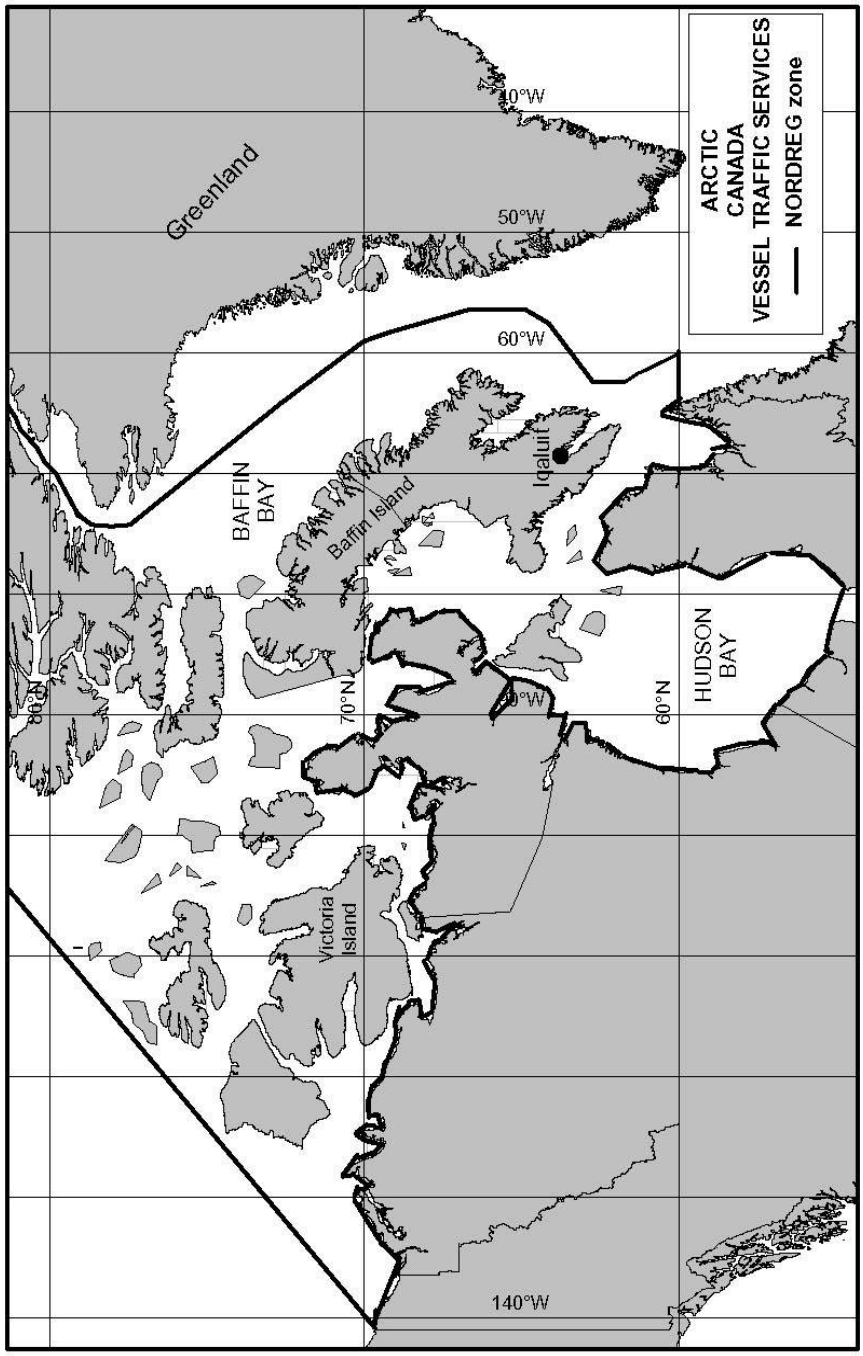
As soon as practical after the manoeuvre is completed, a report describing the manoeuvre just completed shall be made.

Variations

Ferries and other vessels on regularly scheduled voyages may be exempted from making routine reports. Formal variations to reporting procedures will be granted only where alternate arrangements to provide essential information are made and where the equivalent procedure or practice is deemed to be as safe as that required in the regulations.

Formal variations may be obtained by submitting a written request to the appropriate Regional MCTS Superintendent, Canadian Coast Guard. In circumstances other than those described above, informal variations may be granted from time to time on a one time only basis by a MCTS Officer where the procedure or practice requested is deemed to be as safe as that required in the regulations.

Atlantic Coast
CANADA
VESSEL TRAFFIC SERVICES
Arctic Canada Traffic Zone
(NORDREG)
UNGAVA BAY
LABRADOR
ST. LAWRENCE RIVER
Anticosti Island
GULF OF S. LAWRENCE
NEWFOUNDLAND
Port aux Basques Traffic
PORT AUX BASQUES
St. John's Traffic
ST. JOHN'S
Placentia Traffic
PLACENTIA BAY
NEW BRUNSWICK
NORTHUMBERLAND STRAIT
CAPE BRETON ISLAND
STRAIT OF CANSO AND EASTERN APPROACHES
Saint John Fundy Traffic
BAY OF FUNDY
NOVA SCOTIA
Halifax Traffic
HALIFAX
Sable Island


ARCTIC
CANADA
VESSEL TRAFFIC SERVICES
NORDREG zone
Greenland
10°W
50°W
60°W
BAFFIN
BAY
Iqaluit
Baffin Island
HUDSON
BAY
80°N
70°N
60°N
Victoria
Island
140°W

VESSEL TRAFFIC SERVICES ZONE SCHEDULES

BAY OF FUNDY VTS ZONE

NOTE: Latitude and longitude positions given for the Bay of Fundy VTS Zone are in NAD 83.

The Bay of Fundy VTS Zone comprises all Canadian waters contained within the area bounded by a line drawn in a 270° True direction from Chebogue Point in position 43 43 54.3N, 66 07 08.0W; thence through the following positions: 43°43'54.3"N 66°26'28"W, 43°58'45.3"N 66°27'43"W, 44°09'30.3"N 66°47'01"W, 44°11'50.3"N 66°49'31"W, 44°14'57.3"N 66°52'40"W, 44°17'21.2"N 66°55'08"W, 44°22'30.2"N 67°18'58.1"W, 44°29'50.2"N 67°15'08.1"W, 44°35'30.2"N 67°08'13"W, 44°42'00.2"N 66°58'22"W, 44°46'35.6"N 66°54'09.2"W
thence along the Canada/USA boundary line to the shore at 45°11'30.5"N 67°17'00.6"W; thence following the Canadian shores of New Brunswick and Nova Scotia back to the beginning at Chebogue Point, including Fishing Zone 2.

SECTORS AND BOUNDARIES

Sector	Boundaries
1	The outer limit of the zone, and a line joining the following positions: 45°03'29.2"N 66°27'32.8"W, 44°53'14.6"N 66°36'00.1"W, 44°43'08.8"N 66°44'16.6"W, 44°36'38"N 65°56'28.7"W.
2	From the inner boundary of sector 1 eastward to a line joining 45°19'22.5"N 65°32'05.4"W; and 44°56'54.3"N 65°15'49.4"W, and including the waters of Saint John Harbour northward to a line joining Pleasant Point, 45°16'28.7"N 66°05'47.1"W; and Pokiok, 45°16'38.3"N 66°05'34.5"W.
3	All of the waters encompassed by the shores of New Brunswick and Nova Scotia east of a line joining 45°19'22.5"N 65°32'05.4"W; and 44°56'54.3"N 65°15'49.4"W; which is described as the eastern limit of sector 2

IDENTIFICATION AND FREQUENCIES

Sector	Identifier	Channel	Frequency (MHz)
1	*"Fundy Traffic "*	14	156.7
2	*"Fundy Traffic"*	12	156.6
3	*"Fundy Traffic"*	71	156.575

NOTE: Mariners are advised that a revised traffic separation scheme in the Grand Manan Basin and approaches to the Bay of Fundy came into force on 1 July 2003.

CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
1A	1		Southwest entrance to traffic separation scheme Inward	A point at 44°10'40.3"N 66°48'16"W
1B	1		Southwest exit from traffic separation scheme Outward	A point at 44°16'09.3"N 66°53'54"W
2A	1		Inward traffic only	A point at 44°19'11.4"N 66°34'12.4"W
2B	1		Outward traffic only	A point at 44°23'16.9"N 66°39'28"W
3A	1		Inward traffic only	A point at 44°30'09.3"N 66°15'56.5"W
3B	1		Outward traffic only	A point at 44°32'25.8"N 66°20'46"W
4A	1&2		Sector boundary – Inward traffic only	A point at 44°38'53.3"N 66°12'43.9"W
4B	2		Outward traffic only	A point at 44°50'17.8"N 66°14'19.5"W
4C	2		Inward traffic only	A point at 44°44'49.1"N 66°10'32.7"W
4D	1&2		Sector boundary – Outward traffic only	A point at 44°39'38.1"N 66°18'11.2"W
4E	2		Entrance to/exit from traffic separation scheme	A point at 44°49'38.3"N 66°23'40.2"W

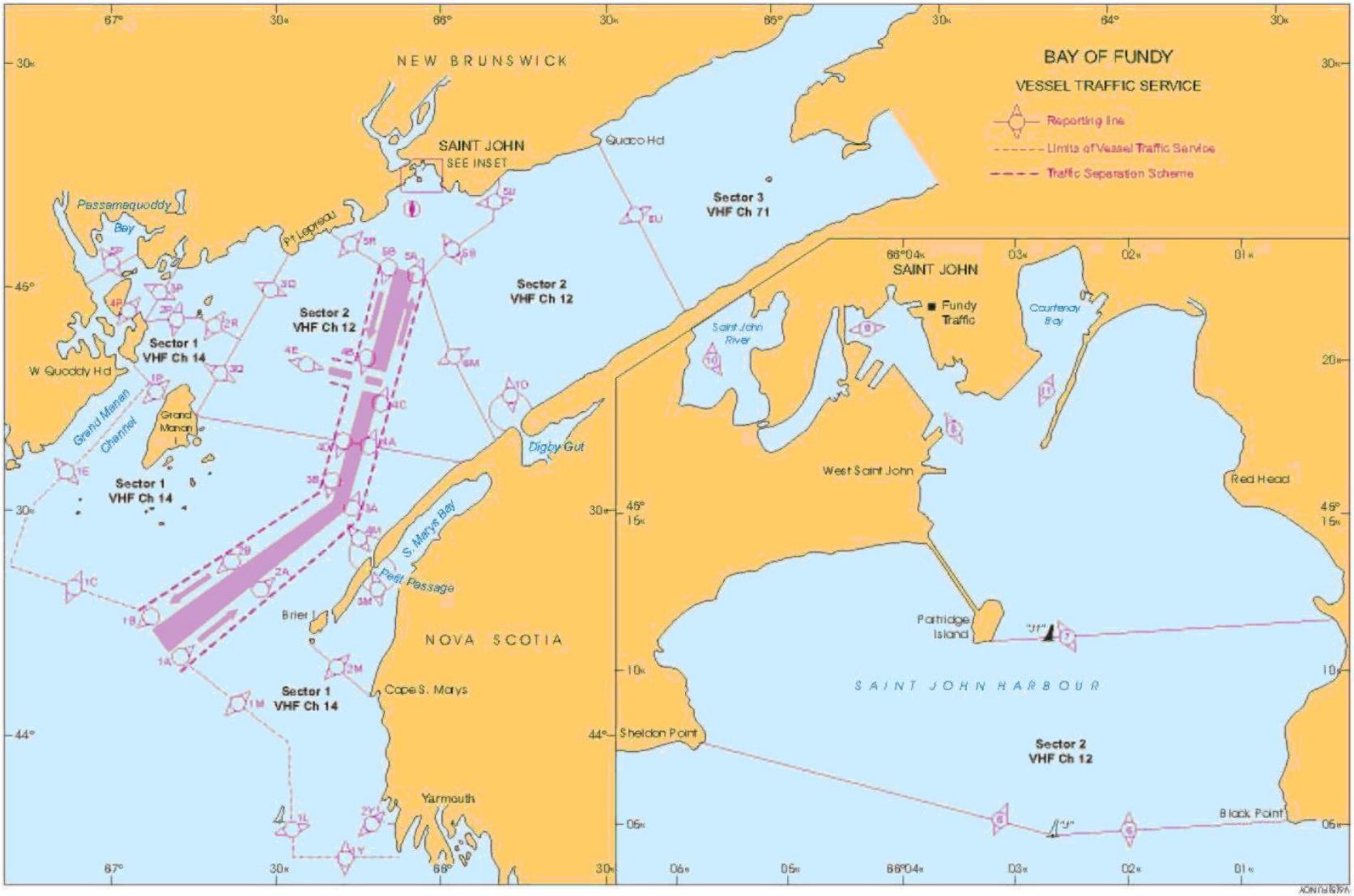
CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
5A	2		North exit from traffic separation scheme - Inward traffic only	A point at 45°01'45.3"N 66°04'08.4"W
5B	2		North entrance to traffic separation scheme –Outward traffic only	A point at 45°02'45.3"N 66°09'35.4"W
6	2	Saint John Harbour light and whistle Buoy J		A line joining 45°13'30.4"N 66°05'45.1"W; & 45°12'55.3"N 66°02'36.9"W; & 45°12'59.3"N 66°00'28.2"W
7	2	Partridge Island		A line joining 45°14'10.3"N 66°03'12.1"W; & 45°14'20.3"N 66°00'07.9"W
8	2			A point at 45°15'30.3"N 66°03'31.3"W
9	2			A point at 45°16'10.9"N 66°04'24.9"W
10	2			A point at 45°16'00.5"N 66°05'39.1"W
11	2			A point at 45°15'51.5"N 66°02'37.6"W
1C	1		Outer boundary – Sector 1	A line joining 44°17'21.2"N 66°55'08"W; & 44°22'30.2"N 67°18'58.1"W
1E	1		Outer boundary – Sector 1 Grand Manan Channel	A line joining 44°22'30.2"N 67°18'58.1"W; 44°29'50.2"N 67°15'08.1"W, 44°35'30.2"N 67°08'13"W; 44°42'00.2"N 66°58'22"W; 44°46'35.6"N 66°54'09.2"W; 44°47'39.1"N 66°53'07.5"W
1P	1		Grand Manan Channel	A line joining 44°45'35.7"N 66°50'01.9"W, & 44°45'37"N 66°50'03"W, and thence along the boundary between Fishing Zones 2 & 4 to 44°47'39.1"N 66°53'07.5"W; thence, along the Canada/US boundary to 44°49'31.8"N 66°55'57.3"W, and along the extension of this boundary to 44°50'16.8"N 66°57'05.2"W
2P	1		Campobello Island to The Wolves	A line joining 44°55'57.4"N 66°53'55.3"W; & 44°56'09.8"N 66°44'04.3"W
2R	1		Southwest Wolf Island to sector boundary	A line joining 44°56'10.6"N 66°43'57.7"W; & 44°53'14.6"N 66°36'00.1"W
3Q	1&2		Sector Boundary	A line joining 44°43'08.8"N 66°44'16.6"W, 44°53'14.6"N 66°36'00.1"W, & 45°03'29.2"N 66°27'32.8"W
5R	2			A line joining 45°03'00.3"N 66°10'58"W;45°03'36.3"N 66°12'22"W; & 45°07'06.7"N 66°20'50.8"W
3P	1			A line joining 45°02'19.6"N 66°48'31.1"W; & 44°55'57.4"N 66°53'55.3"W
4P	1		Head Harbour Passage	A line joining 44°56'48.5"N 66°58'14"W; & 44°55'40.6"N 66°56'37.4"W
5P	1		Passamaquoddy Bay	A line joining 45°04'17"N 66°55'12.6"W; & a position on the Canada/US boundary line at 45°01'36.7"N 67°03'56.6"W
1M	1		Outer boundary – Sector 1 southwest of Brier Island	A line joining 43°58'45.3"N 66°27'43"W; & 44°09'30.3"N 66°47'01"W
2M	1		Entrance to St. Mary's Bay	A line joining 44°05'12"N 66°12'42.8"W; & 44°12'08.3"N 66°23'09"W

CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
3M	1		South end of Petit Passage	An arc centered on 44°22'21"N 66°12'12"W; Radius 1½ NM, and extending from shore to shore in the waters of St. Mary's Bay, connecting the following points: 44°23'31.3"N 66°10'53.6"W; 44°21'15.2"N 66°10'46.4"W; & 44°21'19.9"N 66°13'44.1"W.
4M	1		North end of Petit Passage	An arc centered on 44°24'14.5"N 66°12'55"W; Radius 1½ NM, and extending from shore to shore in the waters of the Bay of Fundy, connecting the following points: 44°23'02.8"N 66°14'10.8"W; 44°25'19.6"N 66°14'21.7"W; & 44°25'21.9"N 66°11'31.8"W.
6M	2			A line joining 44°39'56.6"N 65°49'57.2"W; & 45°01'30.3"N 66°02'46"W
5U	2			A line joining 45°08'02.3"N 65°50'56.9"W; & 45°15'24.3"N 65°48'39.9"W
1D	2		Entrance/Exit to Digby Gut	An arc centered on 44°42'38.8"N 65°46'23.9"W; Radius 2 NM and extending from shore to shore in the waters of the Bay of Fundy, connecting the following points: 44°41'03.7"N 65°48'06.6"W; 44°44'00.3"N 65°48'27.5"W; & 44°43'09.9"N 65°43'41.4"W.
5S	2			A line joining 45°01'30.3"N 66°02'46"W; &45°08'02.3"N 65°50'56.9"W
8U	2&3		Boundary – Sectors 2 / 3	A line joining 45°19'22.5"N 65°32'05.4"W; & 44°56'54.3"N 65°15'49.4"W
1L	1		Outer boundary – Sector 1 west of Yarmouth, NS	A line joining 43°43'54.3"N 66°26'28"W; & 43°58'45.3"N 66°27'43"W
1Y	1		Outer boundary – Bay of Fundy VTS Zone near Yarmouth, NS	A line joining 43°43'54.3"N 66°07'08"W; & 43°43'54.3"N 66°26'28"W
2Y	1		Yarmouth Sound	An arc centered on 43°46'57.3"N 66°09'29.5"W; Radius 1½ NM, and extending from shore to shore in the waters off Yarmouth Sound, connecting the following points: 43°46'08.4"N 66°07'45.2"W; 43°46'29.7"N 66°11'27.7"W; & 43°48'24.5"N 66°10'00.3"W.

All times shall be given in Atlantic Standard Time or Atlantic Daylight Saving Time, whichever is in effect.


BAY OF FUNDY
VESSEL TRAFFIC SERVICE
Reporting line
Limits of Vessel Traffic Service
Traffic Separation Scheme
NEW BRUNSWICK
NOVA SCOTIA
SAINT JOHN
SEE INSET
Quaco Hd
Sector 3
VHF Ch 71
Sector 2
VHF Ch 12
Sector 1
VHF Ch 14
Passamaquoddy Bay
Pt Lepreau
W Quoddy Hd
Grand Manan
Grand Manan Channel
Digby Gut
S. Marys Bay
Petit Passage
Brier I
Cape S. Marys
Yarmouth
SAINT JOHN
Fundy Traffic
Courtenay Bay
Saint John River
West Saint John
Red Head
Partridge Island
SAINT JOHN HARBOUR
Sheldon Point
Black Point

HALIFAX HARBOUR AND APPROACHES VTS ZONE

NOTE: Latitude and longitude positions given for Halifax Harbour and Approaches VTS Zone are in NAD 83

The Halifax Vessel Traffic Services Zone comprises all Canadian waters contained within an area bounded by a line connecting points from Point Pennant, 44°25'53.8"N 63°38'56.5"W; to position 44°17'41.3"N 63°35'09.6"W; to the Canadian territorial boundary at 44°14'02"N 63°30'50.3"W; thence, along Canada's territorial boundary to a point at 44°22'43.5"N 63°13'48.5"W, and thence, along a line to Petpeswick (Collies) Head, 44°40'43.3"N 63°09'44.2"W.

SECTORS AND BOUNDARIES

Sector	Boundaries
1	The seaward boundary of the zone, and a line connecting points from Hartlen Point, 44°35'20.5"N 63°27'05.8"W; to position 44°30'13.8N 63°28'46.7"W; thence, to Duncan Reef light buoy, H1, 44°29'36"N 63°30'34"W, and thence, to the shore west of Duncan Reef, 44°29'36"N 63° 31'28.1"W.
2	The inner boundary of sector 1 and the shoreline northward and westward of the inner boundary of sector 1.

IDENTIFICATION AND FREQUENCIES

Sector	Identifier	Channel	Frequency (MHz)
1	*"Halifax Traffic"*	14	156.7
2	*"Halifax Traffic"*	12	156.6

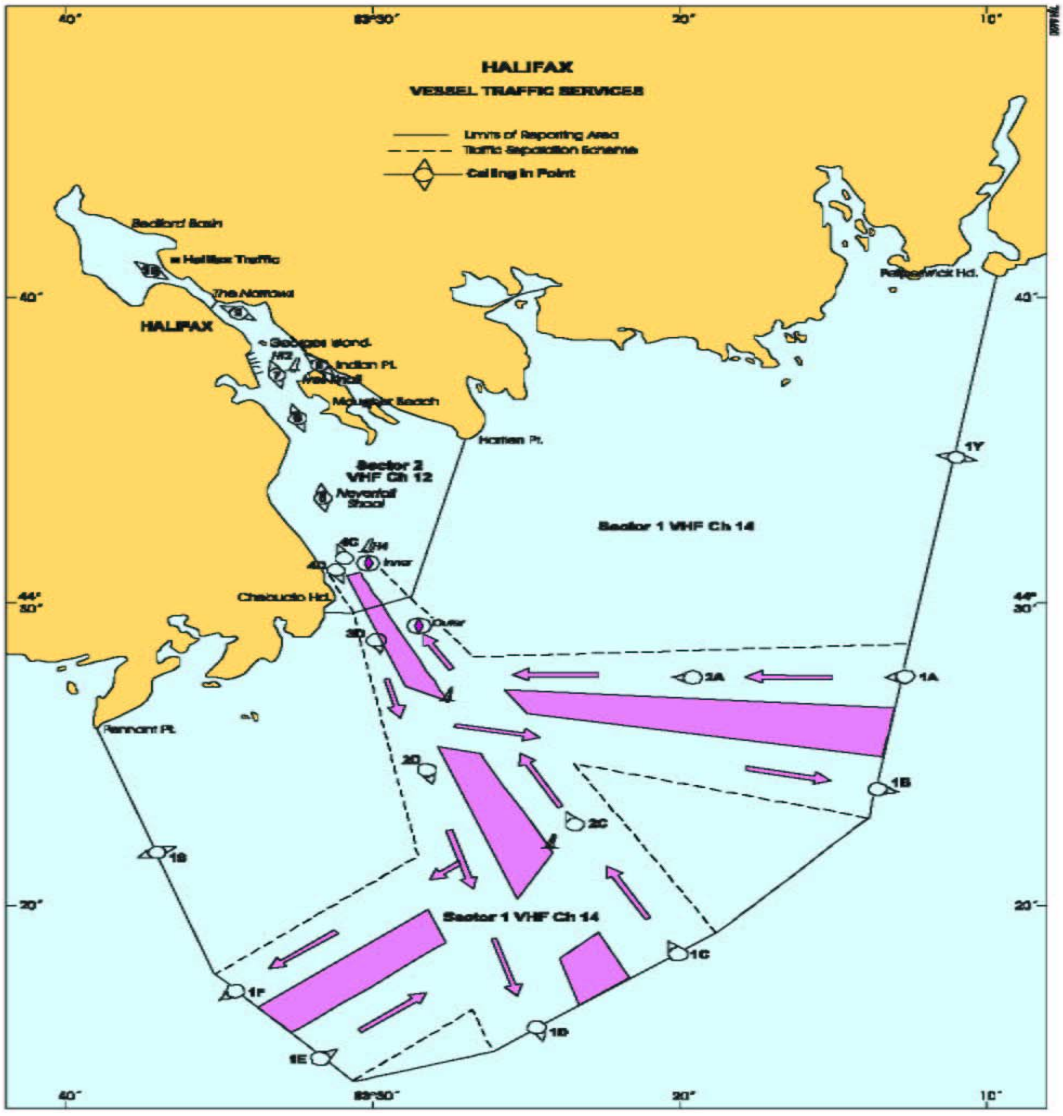
CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
1A	1		Boundary limit. Entrance to traffic lane	A point at 44°27'35.6"N 63°12'42.6"W
2A	1		Inward traffic only	A point at 44°27'39.3"N 63°19'37.6"W
1B	1		Boundary limit. Traffic lane exit	A point at 44°23'42.7"N 63°13'35.2"W
1C	1		Boundary limit. Entrance to traffic lane	A point at 44°18'13.2"N 63°19'57.3"W
2C	1		Inward traffic only	A point at 44°22'44.6"N 63°23'21"W
1D	1		Boundary limit. Traffic lane exit	A point at 44°15'46.2"N 63°24'26.4"W
2D	1		Outward traffic only	A point at 44°24'14"N 63°28'09.1"W
1E	1		Boundary limit. Entrance to traffic lane	A point at 44°14'47.8"N 63°31'44.4"W
1F	1		Boundary limit. Traffic lane exit	A point at 44°17'07"N 63°34'29"W
1S	1		Western limit of zone	A line joining 44°25'53.8"N 63°38'56.5"W; & 44°17'41.3"N 63°5'09.6"W
1Y	1		Eastern limit of zone	A line joining 44°40 43.3"N 63°09'44.2"W; & 44°28'42.3"N 63°12'27.6"W
3D	1		Outward traffic only	A point at 44°28'12.6"N 63°29'45.9"W
4C	2	Inner Automatic Inward	Vessels inward shall state whether passing east or west of Neverfail Shoal buoy.	A point at 44°31'31.9"N 63°30'31.6"W
4D	2	Inner Automatic Outward	Vessels shall state course and ETA to 3D	A point at 44°31'15.2"N 63°31'16.1"W

CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
5	2	Neverfail Shoal		A line joining points at: 44°34’47.8”N 63°27’34”W; 44°33’23.2”N 63°31’51.9”W; & 44°32’59.3”N 63°33’04.6”W
6	2	Maugher Beach light	Vessels outward shall state if passing east or west of Neverfail Shoal buoy	A line joining 44°36’07.7”N 63°32’02.5”W; & 44°35’50.2”N 63°33’04.7”W
7	2	Ives Knoll	Vessels inward shall state whether passing east or west of Georges Island	A line joining light buoy “HT2”, 44°37’50.2”N 63°32’44.7”W; & 44°37’33.9”N 63°33’34.7”W
8	2	Indian Point		A line joining 44°37’37.9”N 63°31’48.8”W; & 44°37’59.1”N 63°31’31.8”W
9	2	Ferry Track	Vessels outward shall state whether passing east or west of Georges Island	A line joining 44°39’47.3”N 63°34’09.9”W; & 44°39’23.7”N 63°34’38.4”W
10	2	Bedford Basin		A line joining 44°40’18.9”N 63°37’25.6”W; & 44°41’22.6”N 63°36’58.3”W

All times shall be given in Atlantic Standard Time or Atlantic Daylight Saving Time, whichever is in effect


HALIFAX
VESSEL TRAFFIC SERVICES
Limits of Reporting Area
Traffic Separation Scheme
Calling In Point
Bedford Basin
Halifax Traffic
The Narrows
HALIFAX
Georges Island
Indian Pt.
Mauger Beach
Harten Pt.
Sector 2
VHF Ch 12
Neverfail Shoal
Sector 1 VHF Ch 14
Chebucto Hd.
Outer
Pennant Pt.
Sector 1 VHF Ch 14
1A
1B
1C
1D
1E
1F
1G
1Y
2A
2C
2D
3D
4C
40°
83°30'
20°
10°
44° 30'

NORTHUMBERLAND STRAIT VTS ZONE

SECTOR AND BOUNDARIES

NOTE: Latitude and longitude positions given for the Northumberland Strait VTS Zone are in NAD 83.

Sector	Boundaries
1	All waters of Northumberland Strait extending west from a line drawn between Cape Cliff, NS, 45°52'42.3"N 63°27'59.3"W, to Rice Point, PEI, 46°07'47.9"N 63°13'18.3"W, to a line drawn between Fagan Point, N.B., 46°13'41.8"N 64°13'42"W, to Cape Egmont, PEI, 46° 24'04.8"N 64°08'05.3"W.

IDENTIFICATION AND FREQUENCIES

Sector	Identifier	Channel	Frequency (MHz)
1	*"Northumberland Traffic"*	12	156.6

CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
1	1	Eastern Zone Boundary	A line joining: Cape Cliff, NS, & Rice Point, PEI	A line joining 45°52'42.3"N 63°27'59.3"W, & 46°07 47.9"N 63°13 18.3"W.
2	1	Eastern Approach Security Zone	A line joining : Cape Tormentine, NB & Cape Traverse PEI	A line joining 46°07 24.6"N 63°46 56.5"W, & 46°13 51.2"N 63°38 58"W.
3	1	Western Approach Security Zone	A line joining : Spence Cove, NB, & Gordon Cove, PEI	A line joining: 46°09 15.3"N 63°54 21.6"W, & 46°17 34.1"N 63°43 53.1"W.
4	1	Western Zone Boundary	A line joining: Fagan Point, NB, & Cape Egmont, PEI	A line joining: 46°13 41.8"N 64°13 42"W, & 46°24 04.8"N 64°08 05.3"W.

All times shall be given in Atlantic Standard Time or Atlantic Daylight Saving Time, whichever is in effect

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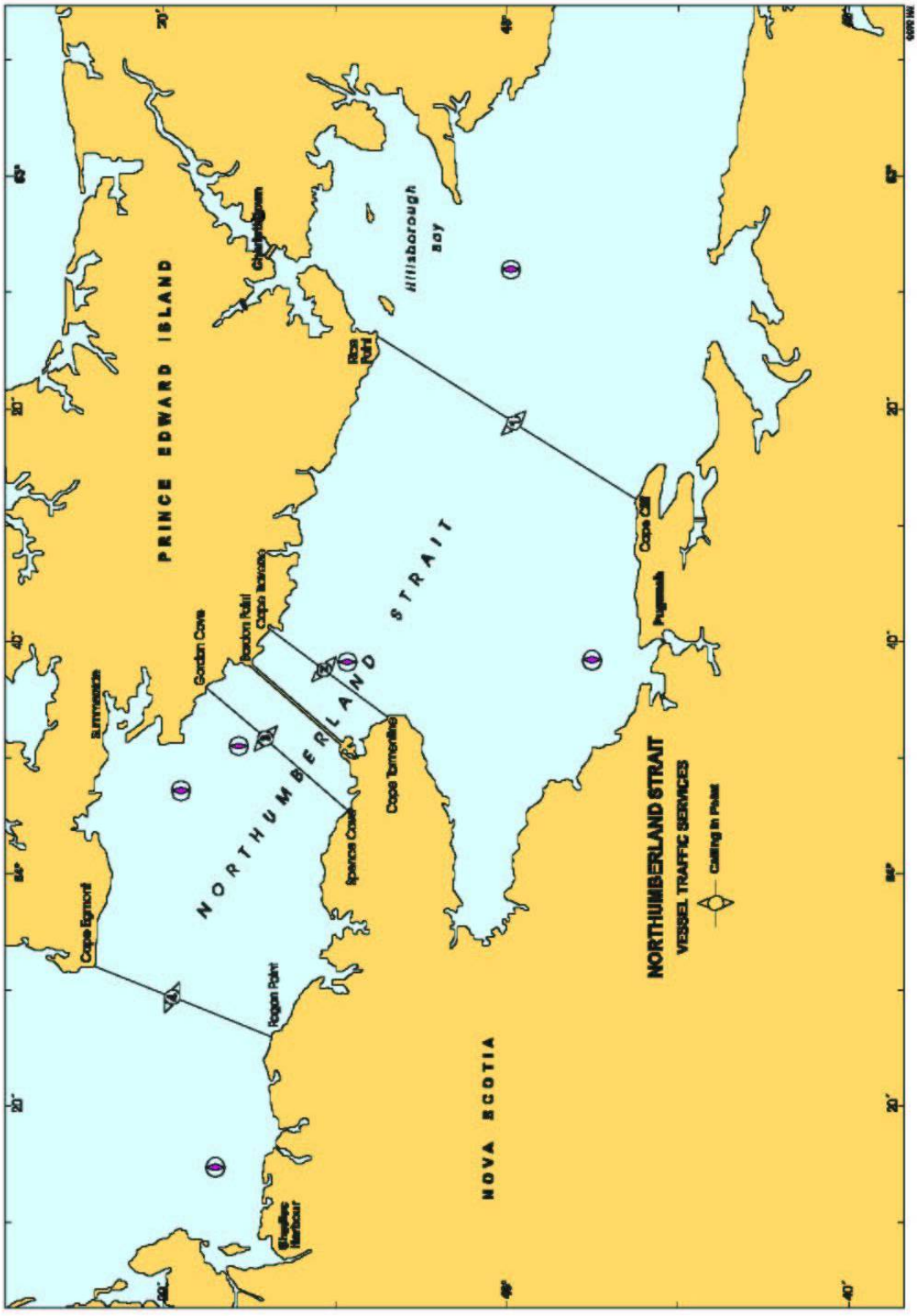

PRINCE EDWARD ISLAND
NORTHUMBERLAND STRAIT
NOVA SCOTIA
Hillsborough Bay
Summerside
Gordon Cove
Bardon Point
Cape Tormentine
Spence Cove
Cape Egmont
Rogan Point
Cape Cliff
Pugwash
NORTHUMBERLAND STRAIT
VESSEL TRAFFIC SERVICES
Calling in Point

PLACENTIA BAY VTS ZONE

Placentia Bay VTS Zone comprises all Canadian waters between a line bearing 180° True from Bass Point, 46°55’05”N 55°15’55”W; and a line bearing 180° True from Cape St. Mary's light, 46°49’22”N 54°11’49”W.

SECTORS AND BOUNDARIES

Sector	Boundaries
1	The seaward limit of the zone and a line drawn in a 101° - 281° True direction through position 47°08’05N 54°30’00”W, and extended to the shore.
2	The inner limit of sector 1, and the shoreline north of the zone.

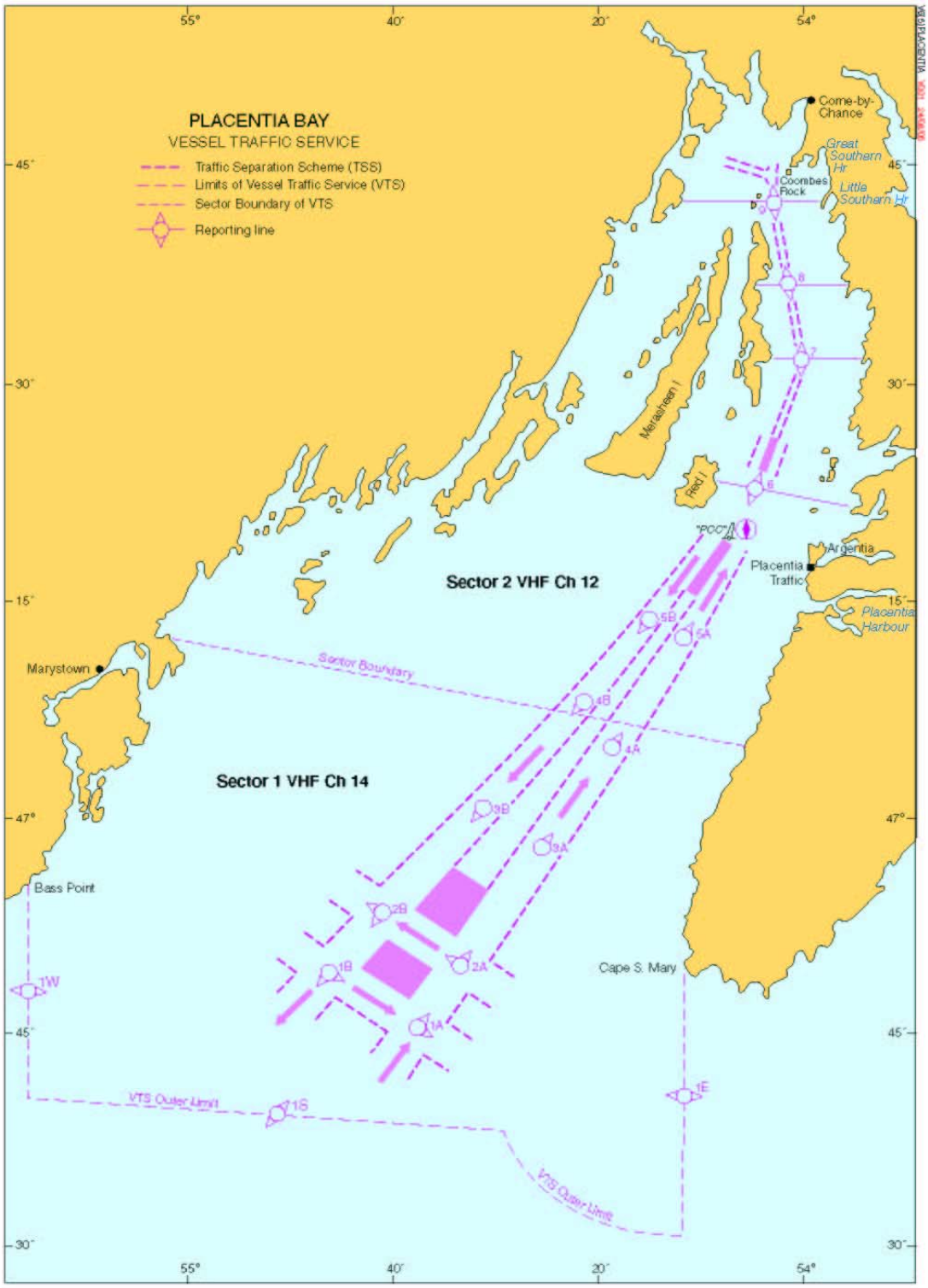
IDENTIFICATION AND FREQUENCIES

Sector	Identifier	Channel	Frequency (MHz)
1	*"Placentia Traffic"*	14	156.700
2	*"Placentia Traffic"*	12	156.600

CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
1W	1			A line bearing 180° True from Bass Point, 46°55’05”N 55°15’55”W, to the limit of Canadian waters.
1S	1			A line following the Canadian Territorial Sea boundary from position 46°39’55”N 55°15’55”W, to position 46°31’02”N 54°11’49”W
1E	1			A line bearing 180° True from Cape St. Mary's light, 46°49’22”N 54°11’49”W, to the limit of Canadian waters.
1A	1		Inbound	A point at 46°45’25”N 54°37’44”W
2A	1		Inbound	A point at 46°49’46”N 54°33’30”W
3A	1		Inbound	A point at 46°57’52”N 54°25’41”W
4A	2		Inbound	A point at 47°03’21.1”N 54°20’17.9”W
5A	2		Inbound	A point at 47°12’22”N 54°12’08”W
1B	1		Outbound	A point at 46°49’18”N 54°46’15”W
2B	1		Outbound	A point at 46°53’20”N 54°40’56”W
3B	1		Outbound	A point at 47°00’44”N 54°31’18”W
4B	1		Outbound	A point at 47°08’07”N 54°21’38”W
5B	2		Outbound	A point at 47°13’54”N 54°15’24”W
6	2			A line 101° - 281° True through 47°23’01”N 54°05’13”W, and extended to the shore.
7	2			A line 090° - 270° True through 47°31’55”N 54°00’32”W, and extended to the shore.
8	2			A line 090° - 270° True through 47°37’01”N 54°01’53”W, and extended to the shore.
9	2			A line 090° - 270° True through 47°42’35”N 54°03’22”W, and extended to the shore.

All times shall be in Newfoundland Standard Time or Newfoundland Daylight Saving Time, whichever is in effect


PLACENTIA BAY
VESSEL TRAFFIC SERVICE
Traffic Separation Scheme (TSS)
Limits of Vessel Traffic Service (VTS)
Sector Boundary of VTS
Reporting line
Come-by-Chance
Great Southern Hr
Little Southern Hr
Coombes Rock
Merasheen I
Red I
"PCC"
Argentia
Placentia Traffic
Placentia Harbour
Sector 2 VHF Ch 12
Sector 1 VHF Ch 14
Sector Boundary
Marystown
Bass Point
Cape S. Mary
VTS Outer Limit
VTS Outer Limit
55°
40'
20'
54°
45'
30'
15'
47°

.

PORT AUX BASQUES VTS ZONE

SECTORS AND BOUNDARIES

Port aux Basques Vessel Traffic Services Zone comprises all Canadian waters adjacent to the west and southwest coasts of Newfoundland between a line bearing 232° True from Cape Ray Light, 47°37'17.1"N 59°18'16.8"W and a line bearing 180° True from Rose Blanche Pt. Light, 47°35'57"N 58°41'30"W.

NOTE: Latitude and longitude positions given for the Port Aux Basques VTS Zone are in NAD 83.

Sector	Boundaries
1	From Cape Ray, at 47°37'04"N 59°18'05"W, along the boundary between Fishing Zones 1 and 4, to position 47°29'56"N 59°32'20.4"W; thence along an arc centered on position 47°43'07"N 59°05'59.7"W, and connecting the following points: 47°28'18.1"N 59°30'21.7"W, 47°26'48.2"N 59°28'10"W, 47°25'27.1"N 59°25'46.3"W, 47°24'15.6"N 59°23'12.1"W, 47°23'14.4"N 59°20'28.6"W, 47°22'24"N 59°17'37.4"W, thence, along the Canadian Territorial Sea boundary to position 47°23'37.3"N 58°42'01.9"W; thence 000° True to Rose Blanche Point Light, at 47°36'06.5"N 58°41'40.4"W.

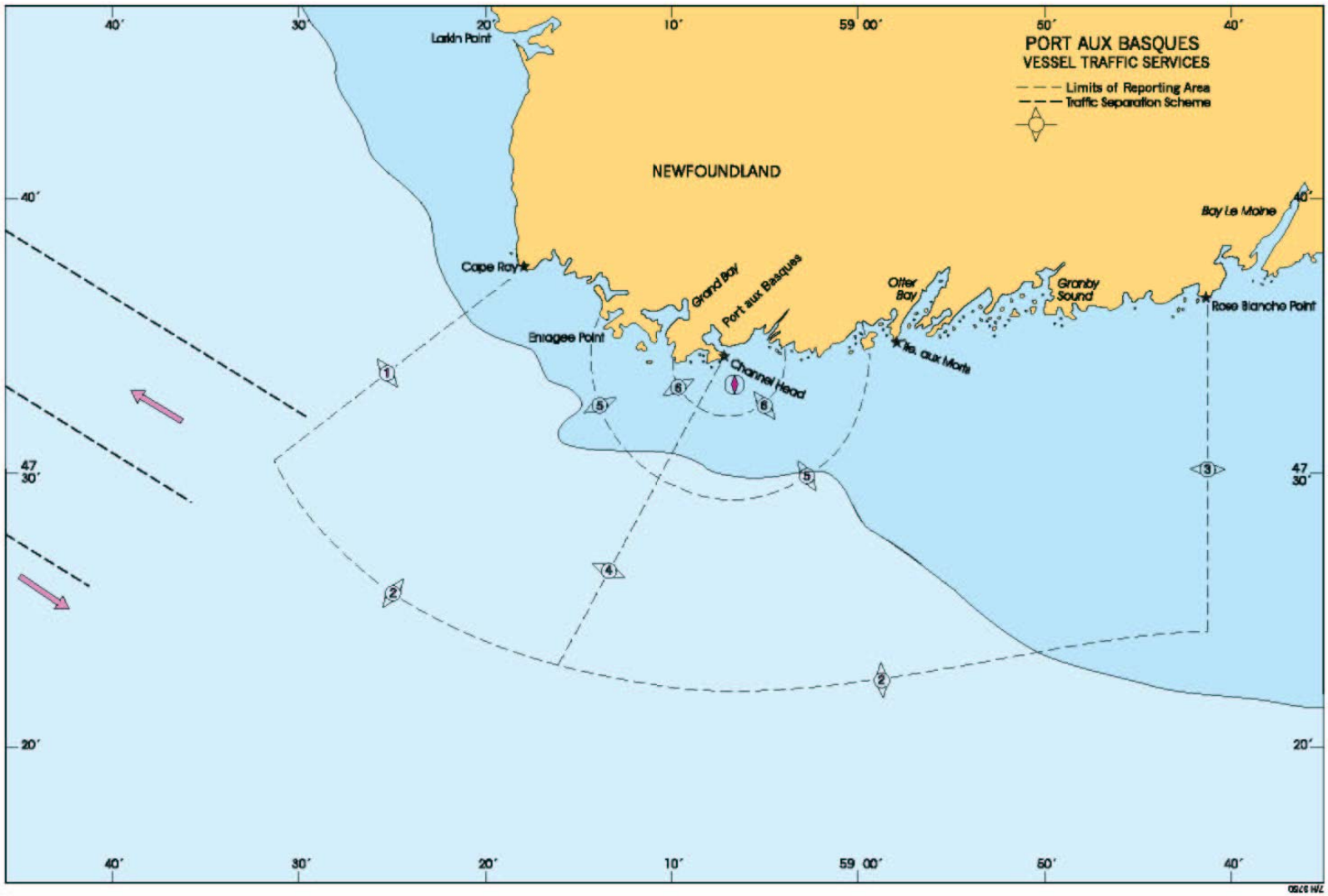
IDENTIFICATION AND FREQUENCIES

Sector	Identifier	Channel	Frequency (MHz)
1	*"Port aux Basques Traffic"*	11	156.55

CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
1	1	Cape Ray	Off Cape Ray	From Cape Ray, at 47°37'04"N 59°18'05"W, along the boundary between Fishing Zones 1 and 4, to position 47°29'56"N 59°32'20.4"W.
2	1	Southern limit	Crossing the southern zone limit	An arc, centred on position 47°43'07"N 59°05'59.7"W, and connecting the following points: 47°29'56"N 59°32'20.4"W, 47°28'18.1"N 59°30'21.7"W, 47°26'48.2"N 59°28'10"W, 47°25'27.1"N 59°25'46.3"W, 47°24'15.6"N 59°23'12.1"W, 47°23'14.4"N 59°20'28.6"W, 47°22'24"N 59°17'37.4"W; - thence, along the Canadian Territorial Sea boundary to position 47°23'37.3"N 58°42'01.9"W.
3	1	Rose Blanche	Off Rose Blanche Point	A line bearing 180° True from Rose Blanche Point, at position 47°36'06.5"N 58°41'40.4"W, to the limit of Canadian waters at 47°23 37.3"N 58°42'01.9"W.
4	1	Ferry Track	Crossing the Port aux Basques, NL, North Sydney, NS, recommended ferry track	A line from position 47°33'00"N 59°07'27.4"W, to the southern limit of the zone at position 47°22'09"N 59°16'26.6"W.
5	1	5 NM off Channel Head	5 NM off Channel Head.	An arc centered on 47°33'57"N 59°07'24.5"W, Radius 5 NM, and extending from shore to shore, connecting the following points: 47°35'09.7"N 59°00'14.4"W, and 47°28'57"N 59°07'24.5"W, & 47°36'02.8"N 59°14'07"W.
6	1	2 NM off Channel Head	2 NM off Channel Head	An arc centered on 47°33'57"N 59°07'24.5"W, Radius 5 NM, and extending from shore to shore, connecting the following points: 47°34'27"N 59°04'32.8"W, 47°31'57"N 59°07'24.5"W,& 47°34'12.2"N 59°10'20.4"W.

All times shall be given in Newfoundland Standard Time or Newfoundland Daylight Saving Time, whichever is in effect.


PORT AUX BASQUES
VESSEL TRAFFIC SERVICES
Limits of Reporting Area
Traffic Separation Scheme
NEWFOUNDLAND
Lakin Point
Cape Ray
Grand Bay
Port aux Basques
Otter Bay
Granby Sound
Bay Le Moine
Rose Blanche Point
Ile. aux Morts
Channel Head
Entrance Point
40′
30′
20′
10′
59 00′
50′
40′
47 30′
1
2
3
4
5
6

ST. JOHN'S VTS ZONE

SECTOR AND BOUNDARIES

St. John's Vessel Traffic Services Zone comprises all Canadian waters between a line bearing 090° True from Cape St. Francis Light, 47°48'32"N 52°47'09.6"W, and a line bearing 090° True from Bull Head Light 47°18'39"N 52°44'52"W, including the Port of St-John's.

NOTE: Latitude and longitude positions given for the St. John's VTS Zone are in NAD 83.

Sector	Boundaries
1	A line from Cape St. Francis, 47°48'31.5"N 52°47'09.6"W easterly to the Territorial Sea boundary at position 47°48'29.5"N 52°25'30.1"W; thence along the Territorial Sea boundary to position 47°18'36.3"N 52°25'14.8"W, thence, westerly to North Head, 47°18'38"N 52°44'46"W

IDENTIFICATION AND FREQUENCIES

Sector	Identifier	Channel	Frequency (MHz)
1	*"St. John's Traffic"*	11	156.55

CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GEOGRAPHIC DESCRIPTION
1N	1	Cape St. Francis	A line from 47°48'31.5"N 52°47'09.6"W, to the limit of Canadian territorial waters at 47°48'29.5"N 52°25'30.1"W.
1E	1	Eastern Zone Limit	A line following the Canadian Territorial Sea Boundary from 47°48'29.5"N 52°25'30.1"W, to 47°18'36.3"N 52°25'14.8"W.
1S	1	North Head	A line from 47°18'38"N 52°44'46"W, to the limit of Canadian territorial waters at 47°18'36.3"N 52°25'14.8"W.
2N	1	Torbay Point	A line from 47°39'56.2"N 52°40'05"W, to the limit of Canadian territorial waters at 47°39'54.8"N 52°21'46.3"W.
2S	1	Motion Head	A line from 47°26'11"N 52°39'33.2"W, to the limit of Canadian territorial waters at 47°26'09.5"N 52°20'50.9"W.
3	1	2 NM off St. John's	An arc centred on Fort Amherst light, 47°33'47.9"N 52°40'49.6"W, and connecting points at 47°35'39.8"N 52°39'45.2"W; 47°33'35.4"N 52°37'53.2"W; and, 47°31'49.5"N 52°40'20.3"W.
4	1	Fort Amherst	A point on the range line at 47°33'56.2"N 52°40'48.2"W, abeam Fort Amherst light at 47°33'47.9"N 52°40'49.6"W.

All times shall be given in Newfoundland Standard Time or Newfoundland Daylight Saving Time, whichever is in effect.

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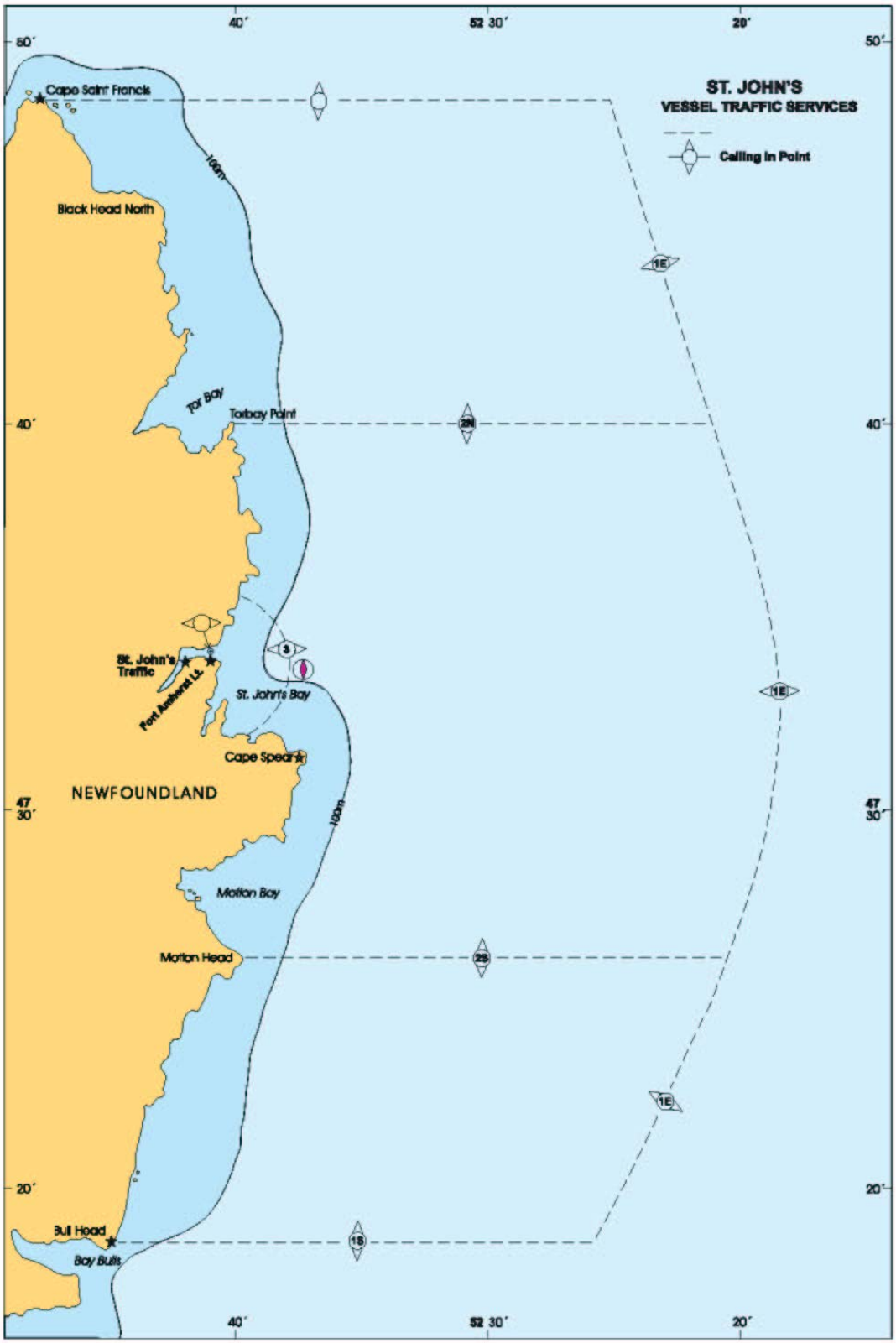

ST. JOHN'S
VESSEL TRAFFIC SERVICES
Calling In Point
Cape Saint Francis
Black Head North
Torbay Point
St. John's Traffic
Fort Amherst Lt.
St. John's Bay
Cape Spear
NEWFOUNDLAND
Motion Bay
Motion Head
Bull Head
Bay Bulls
100m
50'
40'
52 30'
20'
47 30'
1E
2N
3
2S
1S

ST. LAWRENCE WATERWAY VTS ZONE

The St. Lawrence Waterway Vessel Traffic Services Zone comprises the waters of the St. Lawrence River extending upstream from the meridian of longitude 66°00'00 West to the upper limits of Montreal Harbour including the Saguenay River and other tributary rivers where vessels enter or leave the St. Lawrence River between the above limits, but excluding that portion of the St. Lawrence Seaway from St. Lambert lock to a position 650 metres downstream from the section of Jacques-Cartier bridge spanning the Seaway.

SECTORS AND BOUNDARIES

Sector	Boundaries
1	The longitudinal meridian crossing the St. Lawrence River at 66°00'00"W, and a line at Pointe de Manicouagan joining positions 49°06'04.3"N 68°11'39.7"W; 48°42'00"N 67°52'00"W. ***(NAD 83)***
2	The inner boundary of sector 1 and a line at Cap du Basque joining positions 48°00'06"N 69°45'48"W, 47°58'25"N 69°37'51"W, and 47°52'35"N 69°33'02"W; including the Saguenay River. ***(NAD 83)***
3	The inner boundary of sector 2 and a line at Pointe St-Nicholas joining positions 46°42'07"N 71°26'47"W; and 46°43'38"N 71°27'33"W.
4	The inner boundary of sector 3 and a line at Tracy joining positions 46°00'48"N 73°09'49"W, and 46°01'00"N 73°11'00"W.
5	The inner boundary of sector 4 the upstream limit of the zone

IDENTIFICATION AND FREQUENCIES

Sector	Identifier	Channel	Frequency (MHz)
1	*"Escoumins Traffic"*	14	156.7
2	*"Escoumins Traffic"*	9	156.45
3	*"Quebec Traffic"*	12	156.6
4	*"Quebec Traffic"*	13	156.65
5	*"Montreal Traffic"*	10	156.50

➔ **CALLING-IN-POINTS**

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
1	1		Zone limit	Meridian Longitude 66°00'00"W
1A	1	66W	Eastern zone limit Inbound	A point at 50°05'30"N 66°00'00"W
1B	1	66W	Eastern zone limit Outbound	A point at 50°01'25"N 66°00'00W
1C	1	66W	Eastern zone limit Inbound	A point at 49°59'20"N 66°00'00W
1D	1	66W	Eastern zone limit Outbound	A point at 49°52'30"N 66°00'00W
1E	1	66W	Eastern zone limit Inbound	A point at 49°38'40"N 66°00'00"W
1F	1	66W	Eastern zone limit Outbound	A point at 49°34'25"N 66°00'00"W
1G	1	66W	Eastern zone limit Inbound	A point at 49°26'15"N 66°00'00"W
1H	1	66W	Eastern zone limit Outbound	A point at 49°22'00"N 66°00'00"W
2	1	Pointe des Monts		A line joining 49°19'00"N 67°22'30"W & 48°55'18"N 67°16'18"W
2A	1	Pointe des Monts	Upbound	A point at 49°13'40"N 67°21'20"W
2B	1	Pointe des Monts	Downbound	A point at 49°07'30"N 67°19'30"W
3	1/2	Pointe Manicouagan		A line joining 49°06'04.3"N 68°11'39.7"W and 48°42'00"N 67°52'00"W
3A	1/2	Pointe Manicouagan	Sector boundary Upbound	A point at 48°55'45"N 68°03'20"W
3B	1/2	Pointe Manicouagan	Sector boundary Downbound	A point at 48°52'20"N 68°00'00"W
4	2	Pointe au Boisvert		A line joining 48°33'55"N 69°08'32"W & 48°19'42"N 68°50'18"W

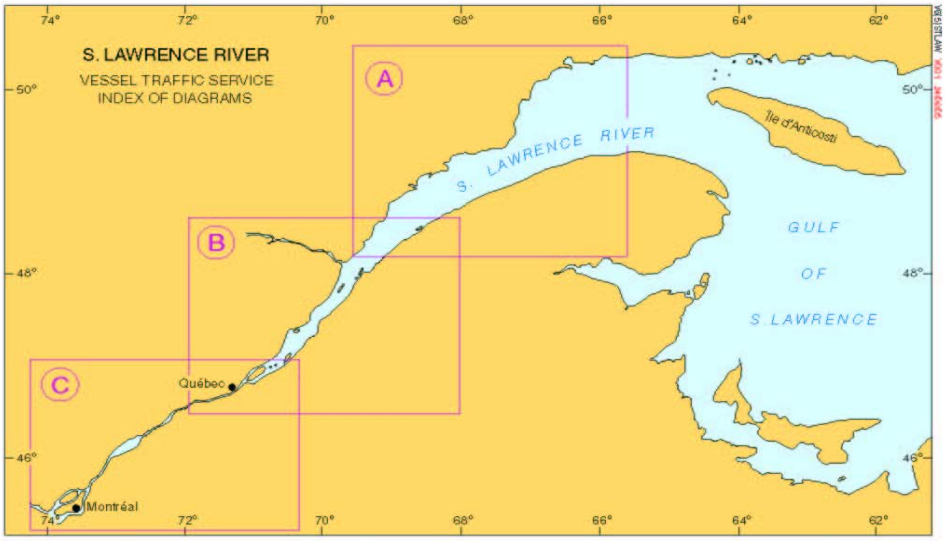
➔ **CALLING-IN-POINTS**

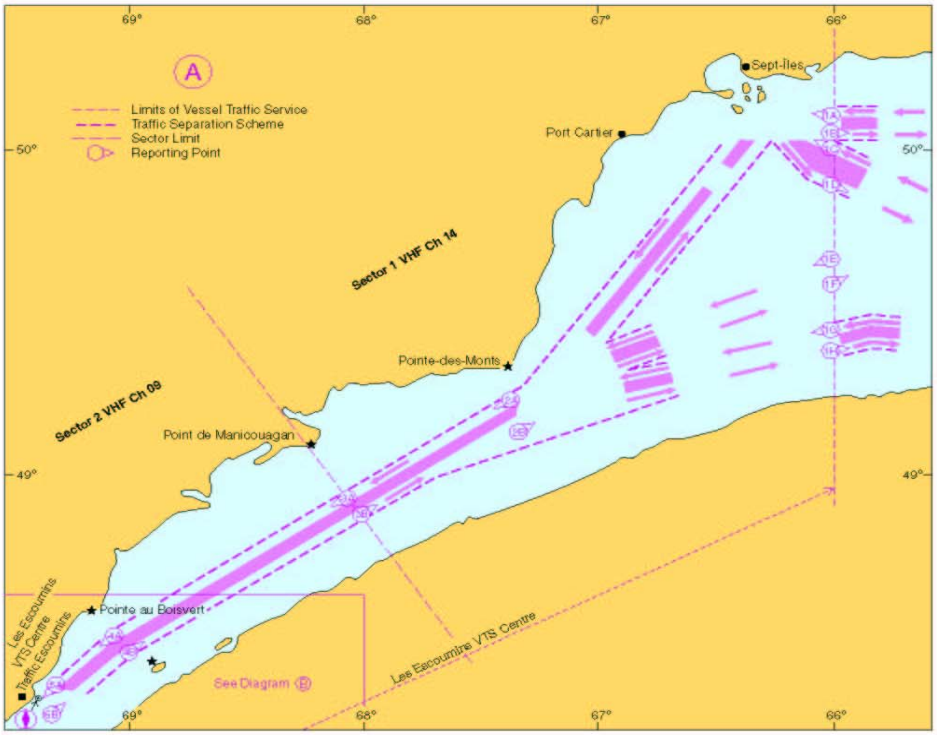
NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
4A	2	Pointe au Boisvert	Upbound	A point at 48°30’00”N 69°03’00”W
4B	2	Pointe au Boisvert	Downbound	A point at 48°26’48”N 68°59’20”W
5A	2		Precautionary area	A point at 48°20’54”N 69°19’36”W
5	2	Les Escoumins		A line joining 48°19’05”N 69°24’53”W & 48°08’05”N 69°11’14”W
5B	2	Les Escoumins	Downbound only	A point at 48°15’00”N 69°20’00”W
6	2	Prince Shoal Light		A line joining 48°09’36”N 69°39’00”W; 48°06’30”N 69°36’53”W; & 48°05’38”N 69°34’01”W; and a line joining 48°04’10”N 69°33’19”W; & 48°03’04”N 69°25’29”W
S1	2	Île St Louis (SAG)		A line joining 48°15’03”N 70°01’09”W; & 48°15’45”N 70°01’00”W
S2	2	Chicoutimi		A point at 48°25’20”N 70°52’50”W
7	2/3	Île Blanche	Sector boundary	A line joining 48°00’06”N 69°45’48”W; 47°58’25”N 69°37’51”W; & 47°52’35”N 69°33’02”W
8	3	Cap aux Oies St Roch		A line joining positions 47°29’18“N 70°13’55”W, and 47°18’42”N 70°10’42”W.
➔ 9	3	Sault au Cochon/ Beaujeu		A line joining positions 47°11’49”N 70°38’16”W ; et 47°05’12”N 70°25’30”W.
➔10	3	Saint Laurent		A line joining 46°51’33”N 71°00’16”W; & 46°50’09”N 70°59’15”W
➔11	3	Sainte Pétronille (Île d’Orléans)	*Upbound only*	A line joining 46°50’41.5”N 71°07’57”W; & 46°49’42”N 71°07’42”W
➔12	3	Quebec		A line joining 46°48’38”N 71°12’12”W; & 46°48’27”N 71°11’18”W
➔13	3	Sillery	*Downbound only*	A line joining 46°46’19”N 71°14’37”W; & 46°45’50”N 71°13’50”W
14	3/4	St Nicolas	Sector boundary	A line joining 46°42’07”N 71°26’47”W; & 46°43’38”N 71°27’33”W
15	4	Ste Croix		A line joining 46°37’40”N 71°42’00”W; & 46°40’09”N 71°42’16”W
16	4	Grondines		A line joining 46°35’14”N 72°02’26”W; & 46°33’39”N 72°01’18”W
17	4	Batiscan		A line joining 46°30’02”N 72°14’47”W; & 46°29’51”N 72°12’27”W
18	4	Cap de la Madeleine	Upbound only	A line joining 46°21’58.1”N 72°29’47.4”W; & 46°21’47”N 72°28’04”W
19	4	Pointe des Ormes		A line joining 46°18’14”N 72°34’39”W; & 46°17’24”N 72°34’15”W
➔20	4	Port Saint François	*Downbound only*	A line joining 46°16’21.5”N 72°37’10”W; & 46°16’50”N 72°37’48.5”W
➔21	4	Yamachiche		A line joining 46°12’53”N 72°49’11.5”W; & 46°12’28.9”N 72°48’55”W
➔22	4	Île des Barques		A line joining 46°05’24”N 73°00’43”W; & 46°05’08”N 73°00’13”W
➔23	4/5	Tracy	Sector boundary	A line joining 46°00’48”N 73°09’49 “W; & 46°01’00”N 73°11’00”W
➔24	5	Contre coeur		A line joining 45°49’55.3”N 73°16’55.7”W; & 45°50’15”N 73° 17’31”W

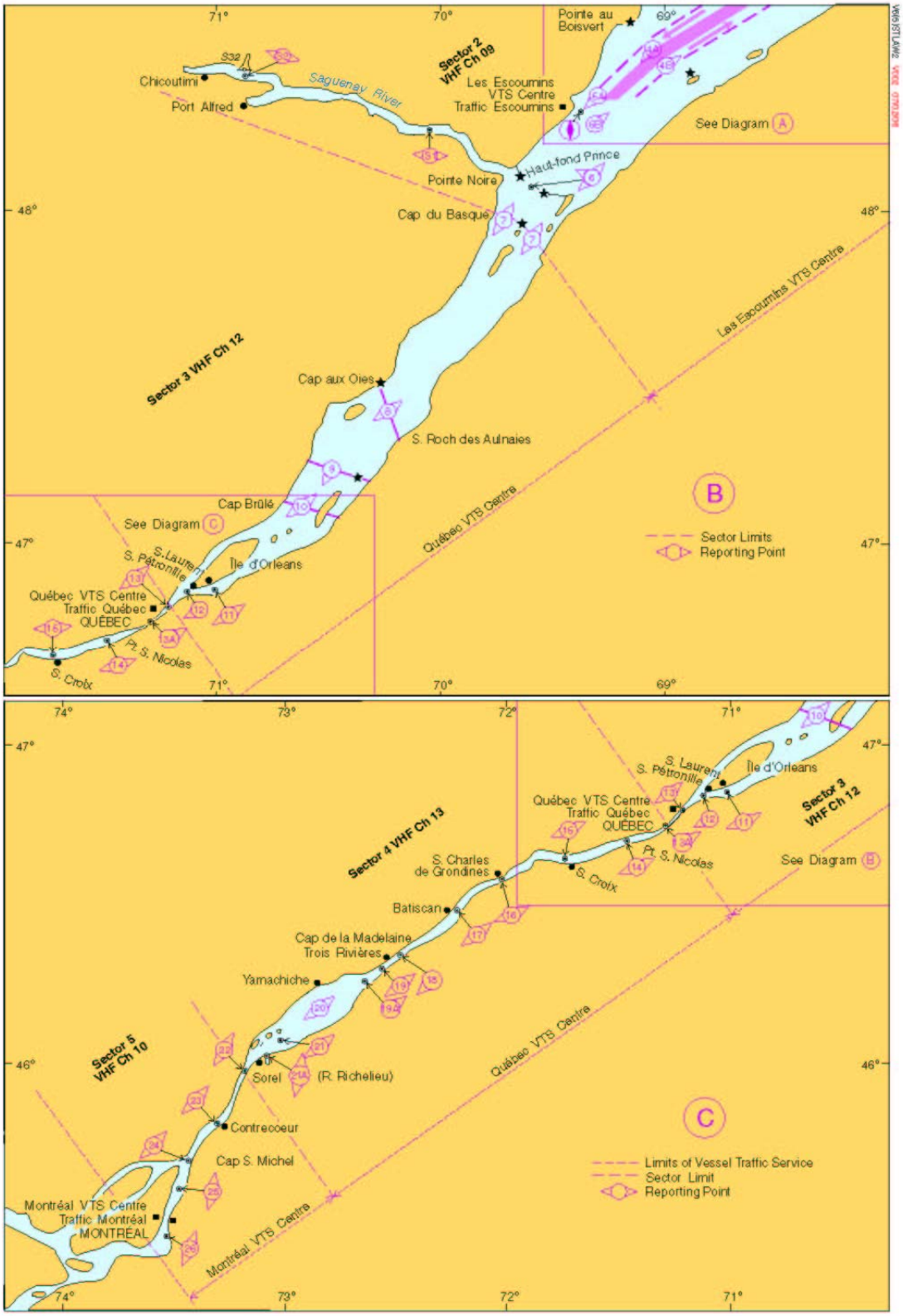
➔ CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
➔25	5	Cap St Michel		A line joining 45°44’05”N 73°26’40”W; & 45°43’30”N 73°25’15”W
➔26	5	Berth 110		A point at 45°37’54”N 73°29’18”W
➔27	5	Calling in Point 2		A point at 45°31’36”N 73°31’39”W

All times shall be given in Eastern Standard Time or Eastern Daylight Saving Time, whichever is in effect.







➔These charts do not yet reflect the CIP changes.

SARNIA VTS ZONE AND SARNIA VTS AREAS

Sarnia VTS Zone

Sarnia VTS Zone is comprised of the waters from Lake Huron Cut light buoy "11" to buoys 1 in the East and West Outer Channels in Lake Erie.

All vessels reporting in the area north of the Harbour Beach/Point Clark line will be answered by Thunder Bay MCTS Centre on behalf of Sarnia MCTS. The identifier “SARNIA TRAFFIC” may still be used.

NUMERICAL C-I-P's identify mandatory calling-in-points under the *St. Clair and Detroit River Navigation Safety Regulations.*

Sarnia VTS Areas

Sarnia VTS Areas are comprised of Canadian waters in Lake Huron from Detour Reef light to Lake Huron Cut light buoy "11", and Canadian waters in Lake Erie from East and West Outer Channel buoys "1" to Long Point light. Ships in these areas are required to guard the International Distress, Safety and Calling Frequency 156.8 MHz (Channel 16).

ALPHABETICAL C-I-P's identify voluntary calling-in-points in the Sarnia VTS Areas.

Application

Within the St. Clair and Detroit Rivers, mariners should be guided by the traffic reporting provisions of the *St. Clair and Detroit River Navigational Safety Regulations*, which apply to all ships required by the *Ship Station Radio Regulations* to be fitted with a bridge-to-bridge radiotelephone.

SECTORS AND BOUNDARIES

Sector	Boundaries
1	The waters of Lake Huron, the St. Clair River and Lake St. Clair from a line running 090° - 270° True through Detour Reef light, 45 56’54”N 83 54’12”W to a line joining Lake St. Clair light 42 27’54”N 82 45’18”W and Lake St. Clair light buoy "24", 42 27’53”N 82 45’03”W.
2	The waters of Lake St. Clair, the Detroit River and Lake Erie from a line joining Lake St. Clair light, 42 27’54”N 82 45’18”W and Lake St. Clair light buoy "24", 42 27’53”N 82 45’03”W to a line running 152° True from Long Point light 42 32’55”N 80 02’57.4”W in Lake Erie.

IDENTIFICATION AND FREQUENCIES

Sector	Identifier	Channel	Frequency (MHz)
1	*"Sarnia Traffic"*	11	156.55
2	*"Sarnia Traffic"*	12	156.6

CALLING-IN-POINTS

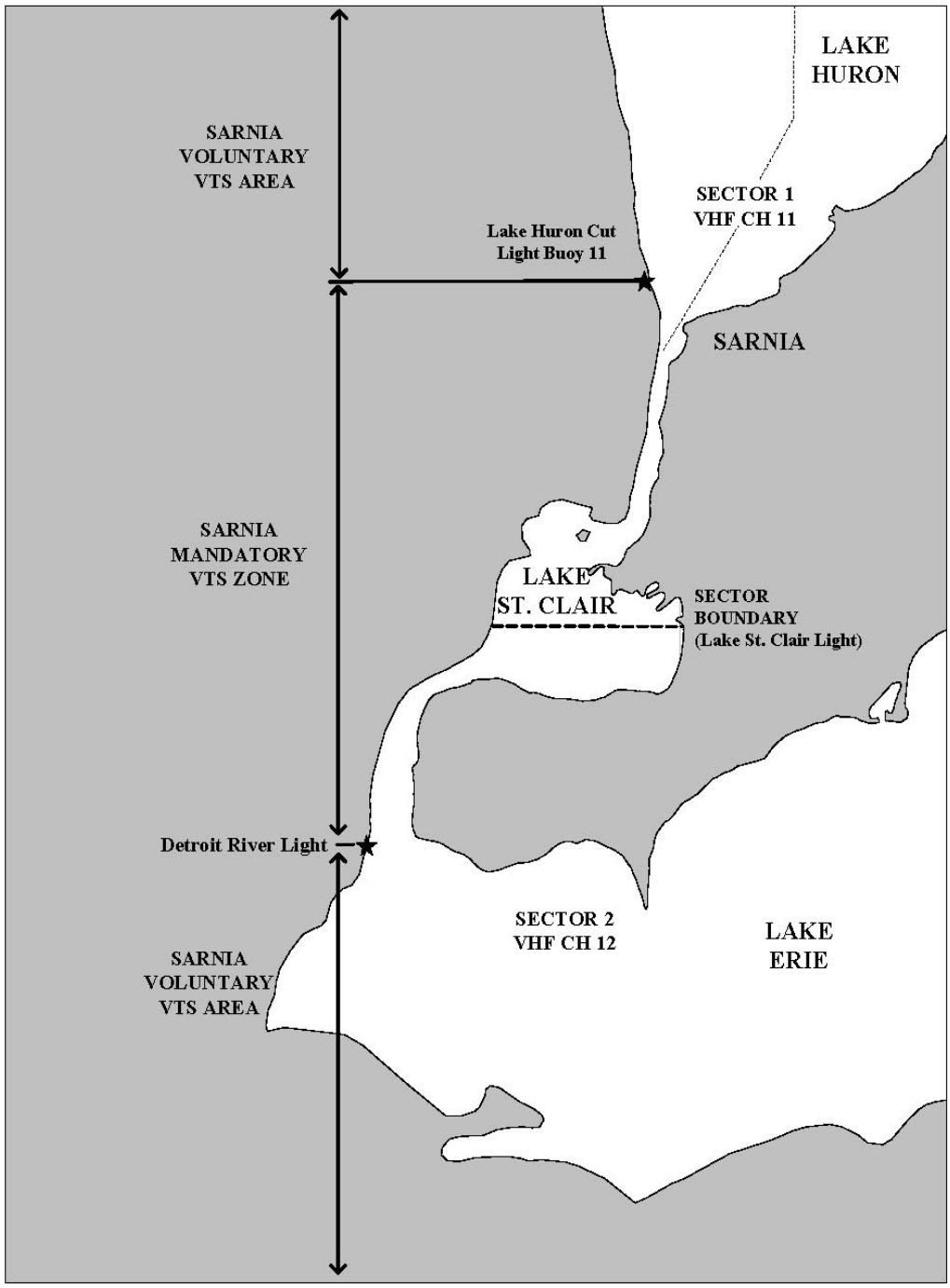
NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
A	1	Detour Cordwood Point	At Detour Reef light for vessels enroute to or from Lake Michigan A line joining Detour Reef light and Cordwood Point light buoy "1"	For vessels traversing St. Mary's River, a line running 090°- 270° True through 45 56’54”N 83 54’12”W For vessels enroute to or from Lake Michigan, a line joining 45 56’54”N 83 54’12”W & 45 40’53”N 84 18’05”W
			These vessels should specify Cordwood Point.	

CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
B	1	Great Duck Island	A line joining Great Duck Island light and Presque Isle light	A line running from 45 38’30”N 82 57’48”W; to 45 21’24”N 83 29’30”W
C	1	Cove Island	At Cove Island light for vessels enroute to or from Georgian Bay	A line running 000° True from 45 19’37”N 81 44’07”W Call Thunder Bay MCTS on Ch. 26
D	1	Harbor Beach Point Clark	Mariners should specify Point Clark when following Georgian Bay courses and Harbor Beach at all other times.	A line joining 43 50’42”N 82 37’54”W; to 44 04’22.1”N 81 45’25.6”W
1	1	30 minutes north of Lake Huron Cut light buoy "11"	30 minutes north of Lake Huron Cut lighted buoys "11" and "12" (downbound only)	
E	1	Lake Huron Cut light buoy "11"	Lake Huron Cut Light buoy "11"	A line running 090°- 270° True through 43 05’25”N 82 24’38”W
2	1	Lake Huron Cut light "7"	Lake Huron Cut light "7" (downbound only)	A line running 090°-270° True through 43 03’36”N 82 25’06”W
3	1	Lake Huron Cut light buoy "1"	At Lake Huron Cut light buoy "1" (upbound only)	A line running 090°-270° True through 43 00’37”N 82 24’53”W
4	1	Black River	At St. Clair/ Black River Junction light	On north shore of river entrance. 42 58’24”N 82 25’12”W
5	1	Stag Island Upper light	At Stag Island Upper light (upbound only)	A line running 090° True from 42 54’25”N 82 27’57.5”W
6	1	Salt Dock	Marine City Salt Dock light	A line running 110° True from 42 41’16.8”N 82 30’20.5”W
7	1	Light 23	Grande Pointe light "23" (downbound only)	A line joining 42 35’07”N 82 33’23.5”W; and 42 35’04”N 82 33’10”W
8	1	Light 2	A line joining St. Clair Flats Canal light "2" and St. Clair Cutoff Pier light "X32/1" (upbound only)	A line running from 42 31’06”N 82 41’12”W; to 42 30’54”N 82 41’08”W
9	1	Lake St. Clair light	Lake St. Clair light	A line running from 42 27’54”N 82 45’18”W; to 42 27’53”N 82 45’03”W
10	2	Station Belle Isle	Belle Isle light (downbound only)	A line running 150° True from 42 20’24”N 82 57’36”W
10A	2	Rouge River	20 minutes before entering or leaving the Rouge River or Shortcut Canal.	
10B	2	Rouge River	Immediately before entering or leaving the Rouge River or Shortcut Canal	A line running from 42 16’26”N 83 06’36”W; to 42 16’31”N 83 06’33.5”W
11	2	Grassy Island light	Grassy Island light	A line running 090°-270° True through 42 13’30”N 83 08’00”W

12	2	Detroit River light	Detroit River light	A line running 090°-270° True through 42 00’01”N 83 08’30”W
F	2	Southeast Shoal	At Southeast Shoal light	A line from 41 54’33”N 82 30’36”W; to 41 49’35”N 82 27’47”W, thence to 41 32’12”N 82 42’42”W
G	2	Long Point	A line joining Long Point light to the south shore of Lake Erie	A line running 152° True from 42 32’55”N 80 02’58”W; to 42 14’35”N 79 49’44”W

All times shall be given in Eastern Standard Time or Eastern Daylight Saving Time, whichever is in effect.



SARNIA VTS ZONE & AREAS

FREQUENCY GUARD GREAT LAKES BASIN

Amendments to the VHF Practices and Procedures regulations which make Channel 13 (156.650 MHz) the dedicated Bridge-to-Bridge frequency in the Great Lakes Basin became effective February 1, 1989. At that time the VHF listening watch requirements for vessels upbound/downbound in these waters were established as follows:

	LOCATION	MONITOR	REMARKS
A)	CIP #2 to CIP #6-7 (Seaway Beauharnois)	Seaway Ch 14 and Ch 16	CH 13 Bridge-to-Bridge exemption through this area.
B)	CIP # 6-7 to CIP 10-11 (Seaway Eisenhower)	Seaway Ch 12 and Ch 16	CH 13 Bridge-to-Bridge exemption through this area.
C)	CIP # 10-11 to Crossover Island (Seaway Iroquois)	Seaway Ch 11 and Ch 16	CH 13 Bridge-to-Bridge exemption through this area.
D)	Crossover Island to Cape Vincent (Seaway Clayton)	Bridge Ch 13 and Ch 16	➔CH 13 serves as Bridge in this area. Seaway Clayton on CH 12 through this area.
E)	Cape Vincent to mid Lake Ontario (Seaway Sodus)	Bridge Ch 13 and Ch 16	➔Seaway Sodus also on CH 12 through this area.
F)	Mid Lake Ontario to CIP #15 (Seaway Newcastle)	Bridge Ch 13 and Ch 16	Seaway Newcastle operates on CH 11 through this area.
G)	CIP #15 to CIP #16 (Welland Canal)	Seaway Ch 14 and Ch 16	CH 13 Bridge-to-Bridge exemption through this area.
H)	CIP #16 to Long Point Lake Erie (Seaway Long Point)	Bridge Ch 13 and Ch 16	Seaway Long Point on CH 11.
I)	Long Point to Detroit River Light (Lake Erie)	Bridge Ch 13 and Ch 16	Sarnia MCTS Centre operates on CH 12.
J)	Detroit River Light to Lake St. Clair Light	Bridge Ch 13 and MCTS Centre Ch 12	Sarnia MCTS Centre will monitor CH 16 on behalf of vessels.
K)	Lake St. Clair Light to Lake Huron Cut Light Buoy "11"	Bridge Ch 13 and MCTS Centre Ch 11	Sarnia MCTS Centre will monitor CH 16 on behalf of vessels.
L)	Lake Huron Cut Light Buoy "11" to Detour Reef Light including Cove Island (Lake Huron and Georgian Bay)	Bridge Ch 13 and Ch 16	Thunder Bay and Sarnia MCTS Centres operate on CH 11 Lake Huron.
M)	Detour Reef Light to Île Parisienne Light (St. Mary's River)	Bridge Ch 13 and Ch 12	USCG Sault Ste Marie (SOO Traffic) will monitor CH 16 on behalf of vessels.
N)	Île Parisienne Light through Lakes Superior/Michigan	Bridge Ch 13 and Ch 16	

Notes

1. Portable VHF equipment may be accepted to meet the Ch 13 requirement when a ship is required by the Ship Station Radio Regulations to fit only one radiotelephone installation.

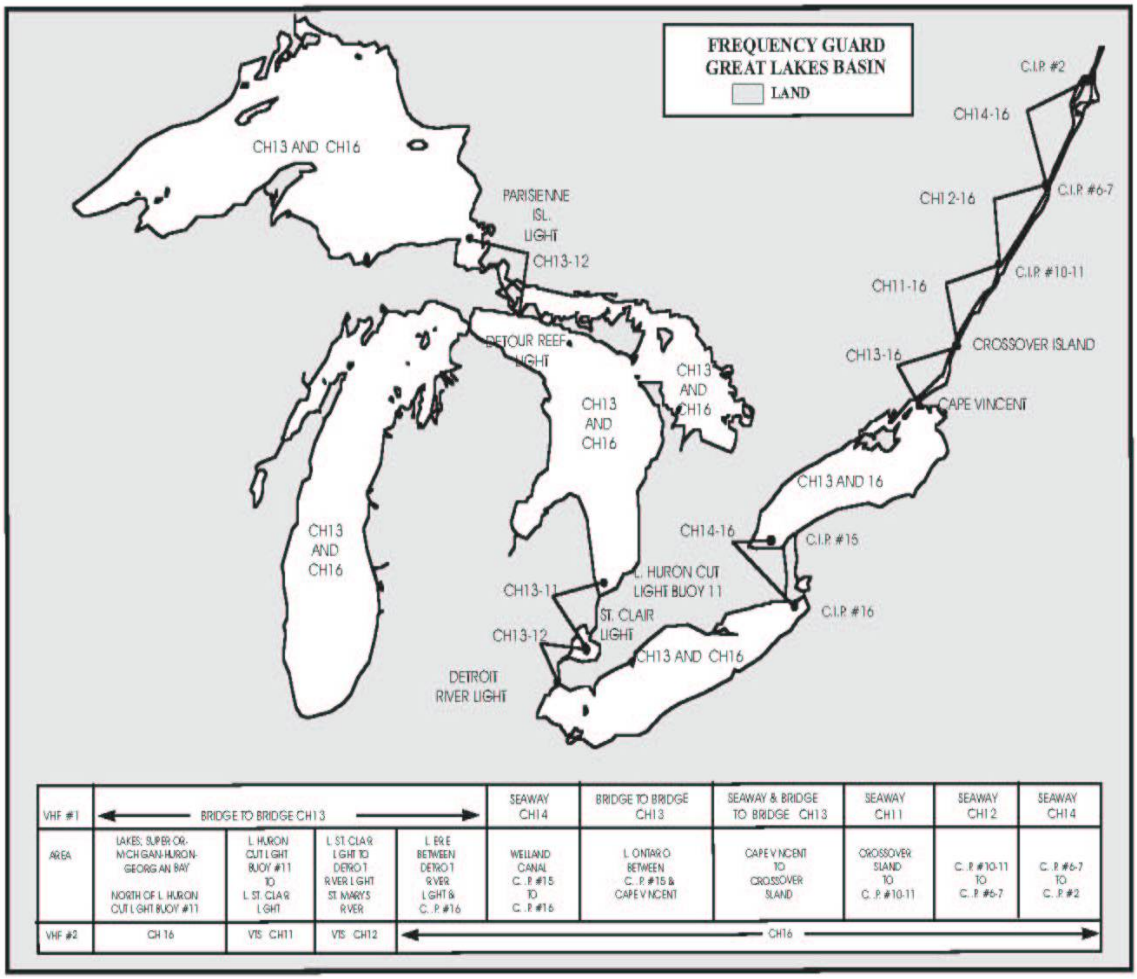
2. In summary, vessels shall monitor Ch 13 Bridge-to-Bridge continuously except in the exempted areas of St. Lambert to Crossover Island and in the Welland Canal where the appropriate Seaway channel must be guarded.

3. Channel 16 shall also be guarded throughout the Great Lakes Basin except from Detroit River Light to Lake Huron Cut Lighted Buoy "11" (Sarnia Vessel Traffic Services Zone) and from Detour Reef Light to Île Parisienne Light (St. Mary's River). Since vessels will be guarding Ch 13 and the VTS frequency through the zones, watch on Ch 16 will be maintained by Sarnia MCTS for the Sarnia Vessel Traffic Services Zone and by USCG Sault Control for the Detour Reef Light to Île Parisienne zone on behalf of vessels in transit.

4. **While the Ch 13 Bridge-to-Bridge guard is to be maintained continuously (except in exempted waters) the watch on Ch 16 may be relinquished when reporting at a CIP or exchanging traffic with any station of the maritime mobile service on an appropriate working frequency.**

5. When wishing to contact a Harbour, Bridge or Pilotage authority initial contact should be made on the appropriate working channel as directed.

6. Information contained in the chart and narrative is based on the latest information at time of printing.



VHF #1	BRIDGE TO BRIDGE CH13				SEAWAY CH14	BRIDGE TO BRIDGE CH13	SEAWAY & BRIDGE TO BRIDGE CH13	SEAWAY CH11	SEAWAY CH12	SEAWAY CH14
AREA	LAKES; SUPERIOR-MICHIGAN-HURON-GEORGIAN BAY NORTH OF L. HURON CUT LIGHT BUOY #11	L. HURON CUT LIGHT BUOY #11 TO L. ST. CLAIR LIGHT	L. ST. CLAIR LIGHT TO DETROIT RIVER LIGHT ST. MARYS RIVER	L. ERIE BETWEEN DETROIT RIVER LIGHT & C.P. #16	WELLAND CANAL C.P. #15 TO C.P. #16	L. ONTARIO BETWEEN C.P. #15 & CAPE VINCENT	CAPE VINCENT TO CROSSOVER ISLAND	CROSSOVER ISLAND TO C.P. #10-11	C.P. #10-11 TO C.P. #6-7	C.P. #6-7 TO C.P. #2
VHF #2	CH 16	VTS CH11	VTS CH12	CH16						

STRAIT OF BELLE ISLE – VOLUNTARY VTS ZONE

NOTE: Latitude and longitude positions given for the Strait of Belle Isle Voluntary VTS Zone are in NAD 83.

The Canadian Coast Guard has established a voluntary Vessel Traffic Services Zone in the Strait of Belle Isle, Newfoundland.

The Belle Isle Vessel Traffic Services Zone includes all waters within the Strait of Belle Isle bounded by a line extending from Double Island, Labrador, 52º15'30"N 55º32'55"W, to Northeast Ledge, Belle Isle, 52º02'11.8"N 55º16'05.6"W, to White Islands, Newfoundland, 51º34'51"N 55º21'05"W; thence, westerly to Partridge Point Light, Newfoundland, 51º34'52.7"N 55º25'16.1"W; thence, westerly along the south shore of the Strait of Belle Isle to Seal Islands, Newfoundland, 51º17'16.2"N 56º45'51.8"W; thence, along a line to Forteau Light, Labrador, 51º28'10.2"N 56º57'12.1"W; and thence, easterly along the north shore of the Strait of Belle Isle to Double Island, Labrador, 52º15'30"N 55º32'55"W.

Vessels required to comply with the Vessel Traffic Services Zones Regulations are requested to participate in the system. Fishing vessels are encouraged to maintain a listening watch or contact *"Belle Isle Traffic"* on Channel 14 VHF to obtain up-to-date information on vessels reported transiting the Belle Isle Vessel Traffic Services Zone.

SECTOR AND BOUNDARIES

Sector	Boundaries
1	**Eastern Boundary:** A line extending from Double Island, Labrador, 52 15'30"N 55 32'55"W, to Northeast Ledge, Belle Isle, 52 02'11.8"N 55 16'05.6"W, to White Islands, Newfoundland, 51 34'51"N 55 21'05"W; thence, westerly to Partridge Point Light, Newfoundland, 51 34'52.7"N 55 25'16.1"W. **Western Boundary:** A line joining Seal Island, Newfoundland, 51 17'16.2"N 56 45'51.8"W, to Forteau Light, Labrador, 51 28'10.2"N 56 57'12.1"W.

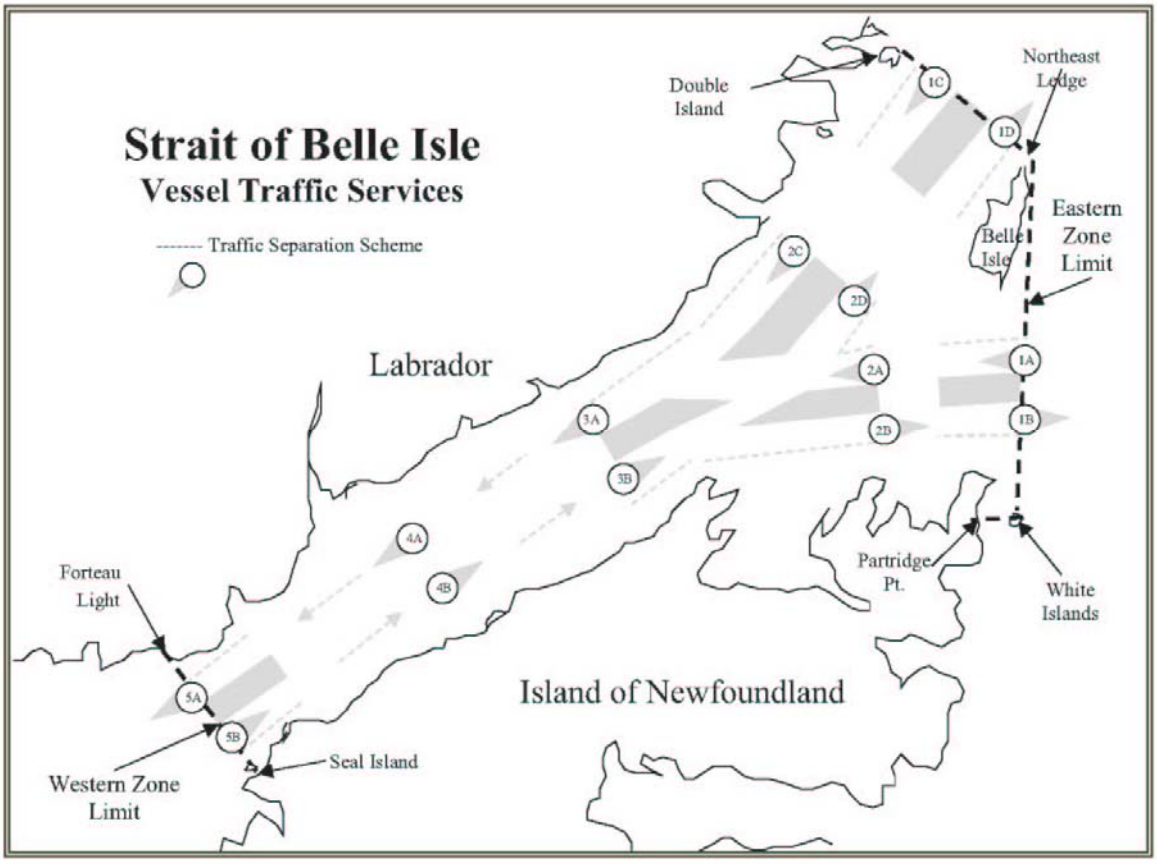
IDENTIFICATION AND FREQUENCIES

Sector	Identifier	Channel	Frequency (MHz)
1	*"Belle Isle Traffic"*	14	156.7

CALLING-IN POINTS

NUMBER	SECTOR	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
1A	1	Inbound (Belle Isle South Route)	A point at 51 50'29.2"N 55 18'14.6"W
2A	1	Inbound (Belle Isle South Route)	A point at 51 48'23.8"N 55 38'36.3"W
3A	1	Inbound	A point at 51 43'13.8"N 56 07'28.2"W
4A	1	Inbound	A point at 51 33'50.9"N 56 29'59.4"W
5A	1	Inbound	A point at 51 24'07.6"N 56 52'59"W
1B	1	Outbound (Belle Isle South Route)	A point at 51 46'21.4"N 55 18'59.8"W
2B	1	Outbound (Belle Isle South Route)	A point at 51 44'27.1"N 55 37'32.3"W
3B	1	Outbound	A point at 51 39'53.9"N 56 03'54.3"W
4B	1	Outbound	A point at 51 30'30.7"N 56 26'27.1"W
5B	1	Outbound	A point at 51 20 46.4N, 56 49 29.8W
1C	1	Inbound (Belle Isle North Route)	A point at 52 09 00.4N, 55 24 40.7W
2C	1	Inbound (Belle Isle North Route)	A point at 51 54 27.4N, 55 45 53.0W
1D	1	Outbound (Belle Isle North Route)	A point at 52 05 48.0N, 55 20 37.7W
2D	1	Outbound (Belle Isle North Route)	A point at 51 51 47.3N, 55 41 04.1W

All times shall be given in Newfoundland Standard Time or Newfoundland Daylight Saving Time, whichever is in effect.


Strait of Belle Isle
Vessel Traffic Services
------- Traffic Separation Scheme
Double Island
Northeast Ledge
1C
1D
Eastern Zone Limit
Belle Isle
2C
2D
Labrador
1A
2A
3A
1B
2B
3B
4A
4B
Partridge Pt.
White Islands
Forteau Light
Island of Newfoundland
5A
5B
Seal Island
Western Zone Limit

STRAIT OF CANSO AND EASTERN APPROACHES VTS ZONE

SECTOR AND BOUNDARIES

NOTE: Latitude and longitude positions given for the Strait of Canso and Eastern Approaches VTS Zone are in NAD 83.

Sector	Boundary
1	All Canadian waters south of the Canso canal north lock gate, 45°38'58.2"N 61°24'57.3"W, contained within the area bounded by a line connecting points 45°38'23.3"N 60°29'15.3"W, 45°25'48.8"N 60°29'34"W, and the Canadian territorial boundary at 45°24'09.3"N 60°29'34.3"W; thence, along Canada s territorial boundary to a point at 45°18'19.8"N 60°35'03.7"W; and thence, along a line to Cape Canso at 45°18'21.8"N 60°56'16.3"W.

IDENTIFICATION AND FREQUENCIES

Sector	Identifier	Channel	Frequency (MHz)
1	*"Canso Traffic"*	14	156.7

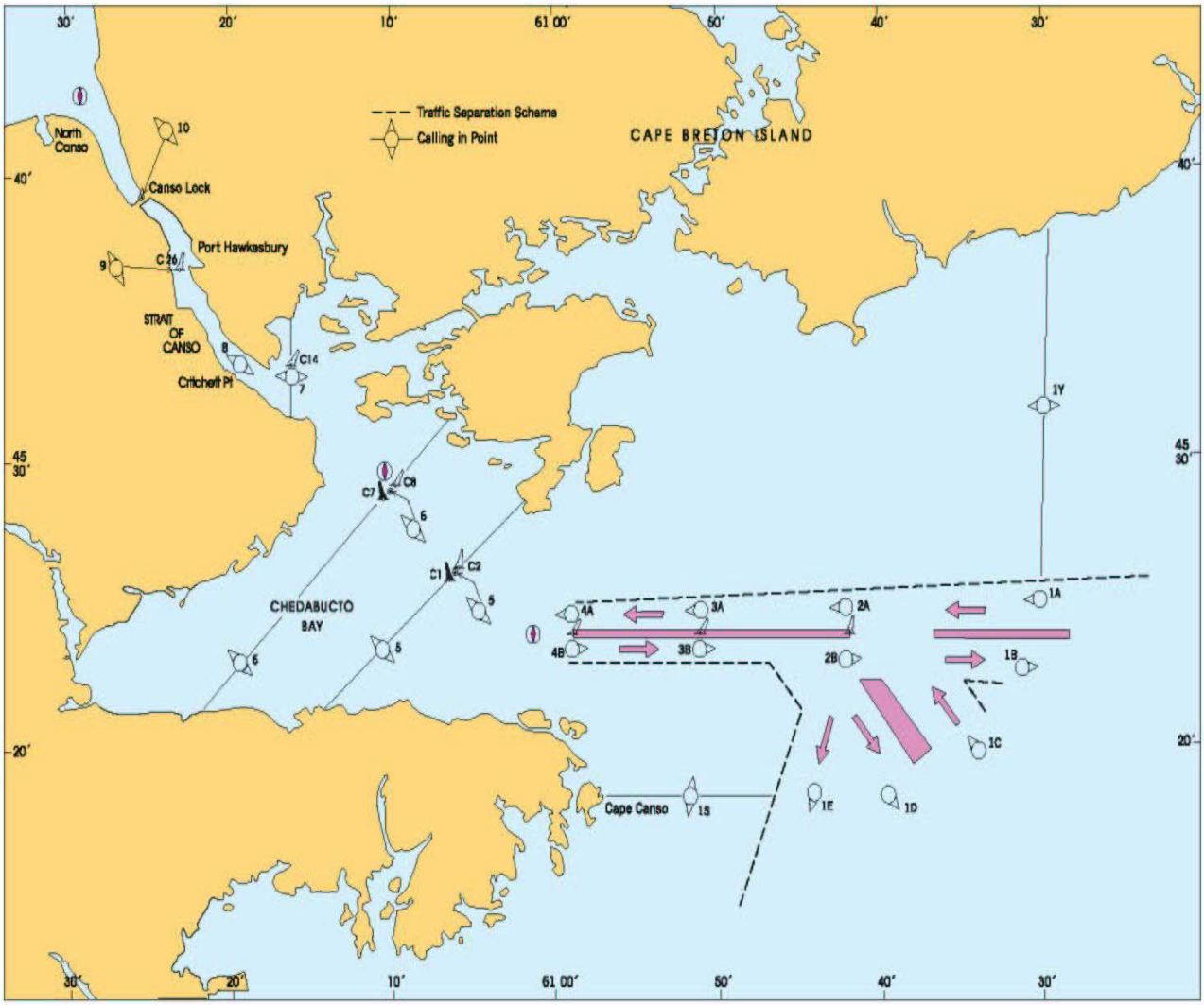
➔ CALLING-IN-POINTS

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
1Y	1			A line from 45°38'23.3"N 60°29'15.3"W, to 45°25'48.8"N 60°29'34"W
1A	1		Entrance to inbound traffic lane	A line from 45°25'48.8"N 60°29'34"W, to the Canadian territorial limit at 45°24'09.3"N 60°29'34.3"W
1B	1		Exit from outbound traffic lane	A line from 45°23'43.9"N 60°29'58.3"W, along Canada's territorial boundary, to 45°22'09"N 60°31'27.8"W
1C	1		Entrance to inbound traffic lane	A line from 45°20'53"N 60°32'39.5"W, along Canada's territorial boundary, to 45°18'36.8"N 60°34'47.7"W
1D	1		Exit from outbound traffic lane	A line from 45°18'20.1"N 60°36'30.3"W, to 45°18'20.8"N 60°41'06.3"W
1E	1		Exit from outbound traffic lane	A line from 45°18'20.8"N 60°41'06.3"W, to 45°18'21.3"N 60°46'04.2"W
1S	1			A line from 45°18'21.3"N 60°46'04.2"W, to 45°18'21.8"N 60°56'16.3"W
2A	1		Inbound traffic lane	A point at 45°24'40.3"N 60°41'39.3"W
2B	1		Outbound traffic lane	A point at 45°23'17"N 60°41'39.3"W
3A	1		Inbound traffic lane	A point at 45°24'32.5"N 60°50'16.3"W
3B	1		Outbound traffic lane	A point at 45°23'24.5"N 60°50'16.3"W
4A	1		Inbound traffic lane	A point at 45°24'24.3"N 60°58'45.3"W
4B	1		Outbound traffic lane	A point at 45°23'24.3"N 60°58'45.3"W
➔5S	1			A line from 45º21'08.3"N, 61º13'49.3"W, to 45º25'05.8"N, 61º07'10.9"W
➔5B	1		Outbound traffic lane	A point at 45º25'14.2"N, 61º06'57.0"W
➔5A	1		Inbound traffic lane	A point at 45º25'31.3"N, 61º06'28.1"W
➔5Y	1			A line from 45º28'31.3"N, 61º01'25.3"W, to 45º25'37.8"N, 61º06'17.4"W
➔6S	1			A line from 45º20'58.3"N, 61º21'43.4"W, to 45º28'07.2"N, 61º10'49.8"W
➔6B	1		Outbound traffic lane	A point at 45º26'04.2"N, 61º13'58.4"W
➔6A	1		Inbound traffic lane	A point at 45º28'37.8"N, 61º10'03.4"W

➔ **CALLING-IN-POINTS**

NUMBER	SECTOR	NAME	GENERAL DESCRIPTION AND CONDITIONS	GEOGRAPHIC DESCRIPTION
➔6Y	1			A line from 45º31'15.3"N, 61º05'59.5"W, to 45º28'42.0"N, 61º09'56.4"W
7	1	C14 buoy		A line from 45°34'42.3"N 61°15'52.6"W, to 45°31'13.8"N 61°15'40.4"W
8	1	Critchett Point		A line from 45°33'34.3"N 61°19'03.4"W, to 45°32'52.3"N 61°19'44.4"W
9	1	C26 buoy		A line from 45°36'23.2"N 61°22'14.3"W, to 45°36'15.2"N 61°23'13.2"W
10	1	Canal North Lock Gate		Canso Canal North Lock Gate, 45° 38'58.2"N 61°24'57.3"W

All times shall be given in Atlantic Standard Time or Atlantic Daylight Saving Time, whichever is in effect



➔Note: This image has not been updated to reflect the changes to the traffic separation scheme.

PART 4

GENERAL

PROCEDURES

RADIOTELEPHONE PROCEDURES

General

In the interest of safe navigation, and especially during bad weather conditions, masters should ensure that a continuous listening watch is maintained on 2182 kHz. Where practicable, and having due regard for Vessel Traffic Services and Seaway Control requirements, a conscientious listening watch should be maintained on VHF Ch 16 (156.8 MHz).

2182 kHz AND CH 16 (156.8 MHz) SHALL ONLY BE USED FOR DISTRESS, URGENCY AND SAFETY COMMUNICATIONS AND FOR CALLING PURPOSES. THE CLASS OF EMISSION TO BE USED FOR RADIOTELEPHONY ON THE FREQUENCY 2182 kHz SHALL BE J3E.

Initial calls must be made directly on the safety and calling frequency 2182 kHz. This procedure is required because the MCTS Centres do not monitor MF working frequencies.

Initial calls should be made directly on any of the VHF working frequencies shown in bold type, in the "Receiving" column of the MCTS Centre listing, in which case the MCTS Centre will reply on the corresponding frequency shown in the "Transmitting" column. It is necessary on the initial call for the channel number (see listings) to be indicated. This procedure is required to provide MCTS Officers, who guard a number of frequencies simultaneously, with a positive indication of the correct channel to be selected for answering the call. Before making a call directly on a working frequency, care should be taken to listen for a period long enough to ensure that the channel is not in use.

Requests for radio checks shall be made to the MCTS Centre in the same manner outlined above for initial calls.

If difficulty is experienced in establishing contact with the MCTS Centre, or if contact is desired with another vessel, the initial call may be made on the calling frequency Ch 16 in which case the station called will reply on the same frequency. As soon as communication has been established a change must be made to an agreed working frequency and all further communications made on that frequency.

Masters of compulsorily-fitted ships are reminded that a radio log of all distress and urgency communications and safety communications pertaining to their own ship should be kept and maintained onboard their vessels.

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The following examples will illustrate the procedure to be used.

Initial call, when a vessel is attempting to establish communication on a working frequency with a specific station:

Item	**Spoken**
Name of station called (not more than three times).	PRESCOTT COAST GUARD RADIO
The words THIS IS	THIS IS
Type, name, radio call sign of vessel calling (not more than three times)	STEAMER FAIRMOUNT CYLD
and channel	CHANNEL 26
Invitation to reply	OVER

Call, when a vessel wishes to establish communications with any station within range (or within a certain area).

Item	**Spoken**
General call (not more than three times).	ALL STATIONS (or ALL SHIPS IN JOHNSTONE STRAITS)
The words THIS IS	THIS IS
Type, name and radio call sign of vessel calling (not more than three times).	TANKER IMPERIAL CORNWALL/VCVC
Invitation to reply	OVER

When a station wishes to broadcast information rather than to establish communication, it proceeds with the message instead of giving the invitation to reply.

A radio message from a ship consists of several parts, which shall be transmitted in the following order:

(a) Type, name and radio call sign of the originating ship.
(b) The date and time the message originated.* (Preferably in UTC. Daylight Saving Time shall not be used).
(c) The address.
(d) The text or body of the message.
(e) The signature.

Note: Items (a) and (b) taken together, are known as the "preamble".
* Date and time may be sent as one group, the first two figures indicate the date, the last four the time.

Example of a ship to shore radio message:

MESSAGE	FROM M/V WEST WIND, CALL SIGN V2AG
FILED:	071225UTC
ADDRESS:	ECAREG CANADA
TEXT:	SECURED SYDNEY GOVERNMENT WHARF
SIGNATURE:	MASTER

An acknowledgment of receipt of a message shall not be given until the receiving operator is certain that the transmitted information has been received correctly.

While it is not practical to lay down precise words and phrases for all radiotelephone procedures, the following should be used where applicable.

Word or phrase	**Meaning**
ACKNOWLEDGE	Let me know that you have received and understood this message.
CORRECTION	An error has been made in this transmission. The correct version is.....
GO AHEAD	Proceed with your message.
OVER	My transmission is ended and I expect a response from you.
OUT	This conversation is ended and no response is expected.
READ BACK	After I have given OVER, repeat all this message back to me exactly as received.
ROGER	I have received all of your last transmission.
RECEIVED NUMBER	Receipt of your message number..... is acknowledged.
STAND BY	Wait until you hear further from me.
VERIFY	Check with the originator and send the correct version.
WORDS TWICE	As a request - Please send each word twice. As information - I will send each word twice.

Phonetic Alphabet

When it is necessary to spell out call signs, service abbreviations and words whose spelling might be misinterpreted, the following letter spelling table shall be used:

A - ALFA	F - FOXTROT	K - KILO	O - OSCAR	S - SIERRA	W - WHISKEY
B - BRAVO	G - GOLF	L - LIMA	P - PAPA	T - TANGO	X - X-RAY
C - CHARLIE	H - HOTEL	M - MIKE	Q- QUEBEC	U - UNIFORM	Y - YANKEE
D - DELTA	I - INDIA	N - NOVEMBER	R- ROMEO	V - VICTOR	Z - ZULU
E - ECHO	J - JULIETT				

Times

Times are expressed in four figures, the first two denoting the hour and the last two the minutes, the day starting at midnight with 0000 and ending at 2400. The standard of time (e.g. UTC) is stated at the head of the appropriate column, or against the figures involved.

Time Zone Comparison

NST	NEWFOUNDLAND STANDARD TIME
AST	ATLANTIC STANDARD TIME
EST	EASTERN STANDARD TIME
CST	CENTRAL STANDARD TIME

To convert from Coordinated Universal Time to Local Standard Time look opposite UTC under the appropriate column. For corresponding Daylight Saving Time, add one hour.

UTC	**NST**	**AST**	**EST**	**CST**
0000	2030	2000	1900	1800
0100	2130	2100	2000	1900
0200	2230	2200	2100	2000
0300	2330	2300	2200	2100
0400	0030	0000	2300	2200
0500	0130	0100	0000	2300
0600	0230	0200	0100	0000
0700	0330	0300	0200	0100
0800	0430	0400	0300	0200
0900	0530	0500	0400	0300
1000	0630	0600	0500	0400
1100	0730	0700	0600	0500
1200	0830	0800	0700	0600
1300	0930	0900	0800	0700
1400	1030	1000	0900	0800
1500	1130	1100	1000	0900
1600	1230	1200	1100	1000
1700	1330	1300	1200	1100
1800	1430	1400	1300	1200
1900	1530	1500	1400	1300
2000	1630	1600	1500	1400
2100	1730	1700	1600	1500
2200	1830	1800	1700	1600
2300	1930	1900	1800	1700

Time Signals

➔Canada's official time is the responsibility of the National Research Council's Institute for National Measurement Standards, Ottawa, ON Its short wave radio station CHU, with transmitters located at 45º17'47"N 75º45'22"W is equipped with vertical antennas to give the best possible coverage to the maximum number of Canadian users. The signal is transmitted continuously on 3330 kHz, ➔7850 kHz and 14,670 kHz, upper single-sideband H3E (AM compatible). A cesium atomic clock generates the carrier frequencies (accurate to a part in 10^{11}) and the UTC seconds pulses (accurate to 50 microseconds). The start of each UTC second is marked by the start of 300 cycles of a 1000 Hz tone, with certain omissions and identifications. Every half-minute is marked by omitting the preceding tone (for second 29). In the 9 seconds preceding each minute, the second pulses are shortened to "ticks' to provide a window for the voice announcement, followed by a longer tone. The start of this tone marks the exact minute given by the announcement. This tone is one-half second long, except for the exact hour - when it is one full second long and in this case only is followed by 9 seconds of silence.

The bilingual voice announcement which is heard each minute takes the form:

"CHU Canada - Coordinated Universal Time -- hours -- minutes -- heures -- minutes" for even minutes,
and
"CHU Canada - Temps Universel Coordonné -- heures -- minutes *-- hours -- minutes" for odd minutes.*

A small number of the longer time announcements use the abbreviation "UTC' rather than the full form.

Following international practice, Canada's official time is based on Coordinated Universal Time (UTC) which is kept within one second of UT1, the time on the Greenwich meridian as used for celestial navigation. Users interested in the ultimate accuracy of celestial navigation can determine UT1 with an accuracy of 0.1 seconds by decoding the difference DUT1 = UT1 - UTC, as transmitted by CHU in the internationally accepted code. The number of tenths of a second of DUT1 can be decoded by counting the number of emphasized second pulses that follow each minute. If the emphasized pulses occur for any of the seconds 1 to 8, DUT1 is positive; if the emphasized pulses occur for any of the seconds 9 to 16, DUT1 is negative. CHU emphasizes second pulses by splitting them (0.1 s of tone, 0.1 s of silence, 0.1 s of tone) so that a double tone is heard.

DISTRESS COMMUNICATIONS IN RADIOTELEPHONY

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 MCTS 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.

Canadian MCTS Centres provide coverage of all marine distress frequencies, however, each Centre does not necessarily guard each frequency (refer to Centre listings Part 2). MCTS provides co-ordination between the JRCC/MRSC and the vessel or vessels concerned with the distress.

The radiotelephone distress frequencies are:
i) 2182 kHz on medium frequency (MF) band; and
ii) 156.8 MHz (channel 16) on very high frequency band (VHF); and
iii) any other available frequency on which attention might be attracted if transmissions on 2182 kHz and 156.8 MHz are not possible or successful.

The digital selective calling (DSC) frequencies are:
i) Channel 70 in the VHF band;
ii) 4207.5 kHz;
iii) 6312.0 kHz;
iv) 8414.5 kHz;
v) 12577 kHz; and
vi) 16804.5 kHz in the High Frequency (HF) bands.

When another craft or person is in distress;
i) all transmissions capable of interfering with the distress traffic must be stopped;
ii) attention must be concentrated on the distress communications and all information possible intercepted; and
iii) a station in the vicinity of the distressed craft must acknowledge receipt of the distress message if received, giving its own position in relation to that of the craft in distress and stating the action being taken.

Distress communications consist of the:
- **Distress Signal;**
- **Distress Call;**
- **Distress Message; and**
- **Distress Traffic.**

Transmission of a Distress Signal and/or a Distress Call announces that the ship, aircraft, other vehicle, or person that is making the transmission is:
i) threatened by serious and imminent danger and requires immediate assistance; or
ii) aware of another ship, aircraft, other vehicle, or person threatened by serious and imminent danger and requires immediate assistance; and
iii) **distress communications** should be repeated by the craft in distress until an answer is heard.

The Alarm Signal

The radiotelephone Alarm Signal consists of the continuous alternate transmission of two audio tones of different pitch for a period of at least thirty seconds but not to exceed one minute. The sound of this tone is similar to that used by some ambulances.

The Alarm Signal is used by Canadian MCTS Centres to alert ships:
i) that a mayday relay broadcast is about to follow; or
ii) that a Tsunami warning, which should be preceded by the Urgency Signal (PAN PAN) is about to follow; or
iii) that the transmission of an urgent cyclone warning, which should be preceded by the Safety Signal (SÉCURITÉ), is about to follow.

The Alarm Signal transmitted by the coast radio station will normally be sent for a period not exceeding thirty (30) seconds and will be followed by a ten (10) second continuous tone.

The **Distress Signal** consists of the word “MAYDAY”.

The **Distress Call** consists of:
i) the word “MAYDAY” (spoken three times)
ii) the words “This is” followed by
iii) the name of the ship in distress (spoken three times), and
iv) ➔the ship's MMSI number (if a DSC distress alert has been sent).

The Distress Call:
i) should not be addressed to a particular coast radio station or ship; and
ii) has absolute priority over all other transmissions and all coast radio stations and ships that hear this call must cease any transmissions that will interfere with it and must listen on the frequency used for this call.

The **Distress Message** consists of:
i) the word "MAYDAY";
ii) the name of the ship in distress;
iii) the position of the ship in distress;
iv) the nature of the distress;
v) the kind of assistance needed;
vi) any other useful information which might assist the rescue;
vii) the word "Over" which is an invitation to acknowledge and reply.

Distress Traffic consists of all messages about the immediate assistance required by the ship in distress. Prior to the transmission of any Distress Traffic, the Distress Signal "MAYDAY" must be sent once before the call. The control of Distress Traffic is the responsibility of the ship in distress or of the ship or coast radio station sending a Distress Message.

A mobile station that learns that another mobile station is in distress may transmit the distress message if:
i) the station in distress cannot transmit it;
ii) the master or person responsible for the craft carrying the station which intervenes believes that further help is necessary;
iii) although not in a position to render assistance, it has heard a distress message which has not been acknowledged.

In the above situation the distress message takes the following form:
i) the radiotelephone Alarm Signal if possible;
ii) the words "MAYDAY RELAY" (spoken three times);
iii) the words "This is";
iv) the identification of the mobile station repeating the message (spoken three times).

When Distress Traffic has ceased or when silence is no longer necessary the station that has controlled the Distress Traffic must transmit a message on the distress frequency advising that the distress traffic has ceased.
i) the word "MAYDAY";
ii) the words "All Stations" (spoken three times);
iii) the words "This is";
iv) the name of the station which has controlled the distress traffic;
v) ➔MMSI number (if applicable);
vi) the current Coordinated Universal Time (UTC);
vii) the name of the ship that was in distress and a brief description of the resolution of the distress;
viii) the words "SEELONCE FEENEE";
ix) the word "Out".

Distress Procedure Example

Transmission of the Alarm Signal for between 30 seconds and one minute, if possible, then the following spoken slowly and distinctly.

Distress Signal	"MAYDAY" (three times)
the words	"This is"
name of ship	"Nonsuch" (three times)
➔MMSI number	"316010115"
Distress Signal	"MAYDAY"
name of ship	"Nonsuch"
position	"Off Iles-St-Marie"
nature of distress	"Struck rock and taking on water"
assistance needed	"Require help to abandon ship"
other useful information	"5 persons on board"
invitation to acknowledge and reply	"Over"

URGENCY COMMUNICATIONS

The **Urgency Signal** consists of the words "PAN PAN".

The **Urgency Call** consists of:
i) the words "PAN PAN" (spoken three times);
ii) the words "All Stations" or station specific call (spoken three times);
iii) the words "This is" followed by;
iv) the name of the station making the call (spoken three times); and
v) ➔the ship's MMSI number (if applicable).

The urgency signal may be transmitted only on the authority of the master or the person responsible for the ship, aircraft or other vehicle carrying the mobile station.

The urgency signal indicates that the calling station has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, or the safety of a person.

The urgency signal, the urgency call, and the urgency message shall be sent on the distress frequencies 2182 kHz and Ch 16 (156.8 MHz). If transmission on these frequencies is impossible, any other available frequency on which attention might be attracted should be used.

The urgency signal has priority over all other communications, except distress, and all stations which hear it must take care not to interfere with the transmission of the message which follows the urgency signal.

Stations which hear the urgency signal must continue to listen for at least three minutes. At the end of this period, if no urgency message has been heard, normal service may be resumed. However, stations which are in communication on frequencies other than those used for transmission of the urgency signal may continue their normal work without interruption provided the urgency message is not addressed "to all stations".

SAFETY COMMUNICATIONS

The **Safety Signal** consists of the word "SÉCURITÉ".

The **Safety Call** consists of:
i) the word "SÉCURITÉ" (spoken three times);
ii) the words "All Stations" (spoken three times);
iii) the words "THIS IS", followed by
iv) the name of the station making the call (spoken three times);
v) ➔the station's MMSI number (if applicable)
vi) "Safety Message"
vii) "Listen 2638 kHz."

The safety signal indicates that the station is about to transmit an important navigational or meteorological warning. The safety message should be sent on a working frequency, which is announced at the end of the call.

The safety call is transmitted on the distress frequencies 2182 kHz and Ch 16 (156.8 MHz). If transmission on these frequencies is impossible, any other available frequency on which attention might be attracted shall be used.

All stations hearing the safety signal shall shift to the working frequency indicated in the call and listen to the safety message until satisfied it does not concern them.

The **Safety Message** format consists of:
i) the word “SÉCURITÉ”;
ii) the words “All Stations”; (spoken three times);
iii) the words “This is”, followed by
iv) the name of the station making the call (spoken three times);
v) the details of the safety message;
vi) the word “Out”.

AIDS TO NAVIGATION

Positions

All positions expressed in latitude and longitude of the radio aids to navigation listed in this publication are approximate and are taken from the largest scale Canadian Hydrographic Service charts, where available, or British Admiralty charts of the vicinity. Mariners should bear in mind when plotting the position of any given aid that it is preferable to use a chart with the aid already located on it than to plot it from a position given in latitude and longitude.

Reporting Abnormal Operation of Radio Aids

A marine radio aid observed to be operating abnormally should be reported, as soon as possible to an MCTS Centre.

Reports shall be as complete as possible, giving full details including time, date, the position from which the observation was made, and details and description of conditions, such as weather and reception, prevailing at the time of the observation.

It is also requested that ships report abnormal MCTS Centre operation, such as poor quality of marine telephone calls, unreadability of broadcasts, failure to answer calls, etc.

To ensure prompt corrective action, such reports must include the date, time and position of ship when the observation was made, together with details of prevailing weather and reception conditions.

Radio Beacons

Marine radio beacons generally operate in the 285-325 kHz. Radio beacon service enables ships fitted with direction finding equipment to take a bearing or to take several consecutive bearings which will provide a fix. See Part 2 for details on individual listings.

Radar Beacons (Racons)

Radar beacons (Racons) may be established at lighthouses, on buoys or at other specific charted locations ashore or afloat to enhance identification and detection range of these features by radar.

Some Racons operate only in the X band 9320-9500 MHz, whilst others are dual band X/S, X band plus S band of 2920-3100 MHz. It should also be noted that the slow sweep (SS) type of Racon will give a response every 72-120 seconds, whilst the frequency agile Racon (FAR) will respond more frequently.

The Racon signal appears on the radar display as a line commencing at the approximate range of the Racon and extending outwards along its line of bearing from the ship toward the limit of the display. The signal displayed may be a solid line or it may be broken into a code consisting of a series of dots and dashes as shown in relevant publications.

SYSTEMS

GMDSS - GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM IN CANADA

What is GMDSS?

The Global Maritime Distress and Safety System (GMDSS) is an international system using improved terrestrial and satellite technology and ship-board radio systems. It ensures rapid alerting of shore-based rescue and communications authorities in the event of an emergency. In addition, the system alerts vessels in the immediate vicinity and provides improved means of locating survivors.

GMDSS was developed through the International Maritime Organization (IMO) and represents a significant change in the way maritime safety communications are conducted. While it is mandatory for all ships subject to the International Convention for the Safety Of Life At Sea (SOLAS) (cargo ships 300 gross tons or greater and all passenger vessels, on international voyages), GMDSS will impact on all radio-equipped vessels, regardless of size. All SOLAS ships are required to fully comply with GMDSS.

Why GMDSS?

GMDSS was developed to **SAVE LIVES** by modernizing and enhancing the current radiocommunications system. By utilizing satellite and digital selective calling technology, GMDSS provides a more effective distress alerting system. It improves the current system by:

- increasing the probability that an alert will be sent when a vessel is in distress;
- increasing the likelihood that the alert will be received;
- increasing the ability to locate survivors;
- improving rescue communications and coordination; and
- providing mariners with vital maritime safety information.

Maritime Safety Information (MSI)

Maritime Safety Information broadcasts, which comprise distress alerts, SAR information, navigational and weather warnings, as well as forecasts, can be received in three different ways in GMDSS:

1. NAVTEX receivers are fully automatic and receive broadcasts in coastal regions up to 300 nautical miles offshore.
2. Inmarsat-C terminals receive Enhanced Group Call - SafetyNET (EGC) broadcasts for areas outside NAVTEX coverage.
3. HF Narrow Band Direct Printing (NBDP) receivers can be used where service is available as an alternate to EGC.

GMDSS Sea Areas - International

Although ship-to-ship alerting is still an important function in GMDSS, the emphasis is on two way communications between ships and shore facilities. All GMDSS ships must be capable of communicating with the shore and transmitting a distress alert by two different means. The equipment carried by a GMDSS ship is therefore determined by its area of operation and the availability of shore-based communications services.

There are four “Sea Areas” defined in the GMDSS:

Sea Area A1	Within range of shore-based VHF/DSC coast station (40 nautical miles)
Sea Area A2	Within range of shore-based MF/DSC coast station (excluding sea areas A1)(150 nautical miles)
Sea Area A3	Within the coverage of an Inmarsat geostationary satellite (approximately 70°N to 70°S) (excluding sea areas A1 & A2)
Sea Area A4	The remaining areas outside sea areas A1, A2 & A3 (Polar Regions)

GMDSS Sea Areas - Canada

In Canada, as a result of consultations with the Canadian marine industry, it has been decided to implement sea areas A1 on the east and west coasts. Outside of A1 will be an A3 sea area with an A4 sea area in the Arctic.

Consideration was given to the implementation of an A2 sea area, but due to budgetary constraints and the marine industry's preference for sea areas A1 and A3, sea area A2 is not being planned at this time. A1 sea area for the Great Lakes and St. Lawrence River is currently under construction.

Communications between GMDSS Vessels & Non-GMDSS Vessels

Since February 1st, 1999, GMDSS larger ships have been maintaining an automated listening watch on GMDSS VHF/DSC Ch 70 and MF/DSC 2187.5 kHz. This at times creates the situation, where vessels fitted with traditional, non-GMDSS radio equipment, may have had difficulties alerting or contacting a GMDSS ship. The Coast Guard is addressing this by monitoring both GMDSS and traditional distress frequencies. Canadian Coast Guard MCTS Centres will continue to monitor 2182 kHz and Ch 16 for distress, urgency, safety and calling purposes for the foreseeable future. Further, the Coast Guard and Transport Canada encourage all vessels to fit VHF/DSC in the interest of increased safety.

Important Safety Notice concerning VHF/DSC

After having received a distress, urgency or safety broadcast announcement on VHF/DSC Channel 70 the VHF/DSC equipment will automatically switch the DSC radio to VHF Channel 16 for the subsequent voice announcements. Mariners who are required by the *VHF Practices and Procedures Regulations* to monitor a specific VTS sector frequency should return the radio to the appropriate working frequency after determining, on Channel 16, the impact of the VHF/DSC alert broadcast announcement on their vessel's operations.

It has been determined that vessels maintaining a listening watch on a VTS sector frequency, per the requirements of the *VTS Zone Regulations* may, if navigating in congested waters, temporarily discontinue DSC watchkeeping on VHF/DSC Channel 70 until the required manoeuvre has been completed.

Vessels inadvertently or accidentally transmitting a distress/urgency/safety broadcast on VHF/DSC must cancel the distress/urgency/safety broadcast on VHF Channel 16. Intentionally sending a false distress alert carries penalties under both the *Canada Shipping Act* and the *Radiocommunications Act*.

VHF/DSC equipment must be programmed with the correct Maritime Mobile Service Identity (MMSI) numbers (reference Radio Station licensing and MMSI numbers section in Part 4, also reference page 1-7 for the MCTS Centres' MMSI numbers).

Canadian Coast Guard Marine Communications and Traffic Services (MCTS) Centres

To help ease the transition to GMDSS and bridge the communication gap between the two systems, Canadian Coast Guard MCTS Centres will continue to monitor the current distress and safety channels VHF Ch 16 and MF 2182 kHz for the foreseeable future. Once Canada's sea areas have all been implemented, lower cost DSC equipment is available, and it is determined that these services are no longer required, these listening watches may be discontinued. This decision will be evaluated at that time.

To supplement the broadcasting of Maritime Safety Information (MSI) on NAVTEX and INMARSAT EGC, MCTS Centres will continue safety broadcasts using the existing VHF continuous marine broadcast system.

CANADIAN NAVTEX SERVICE

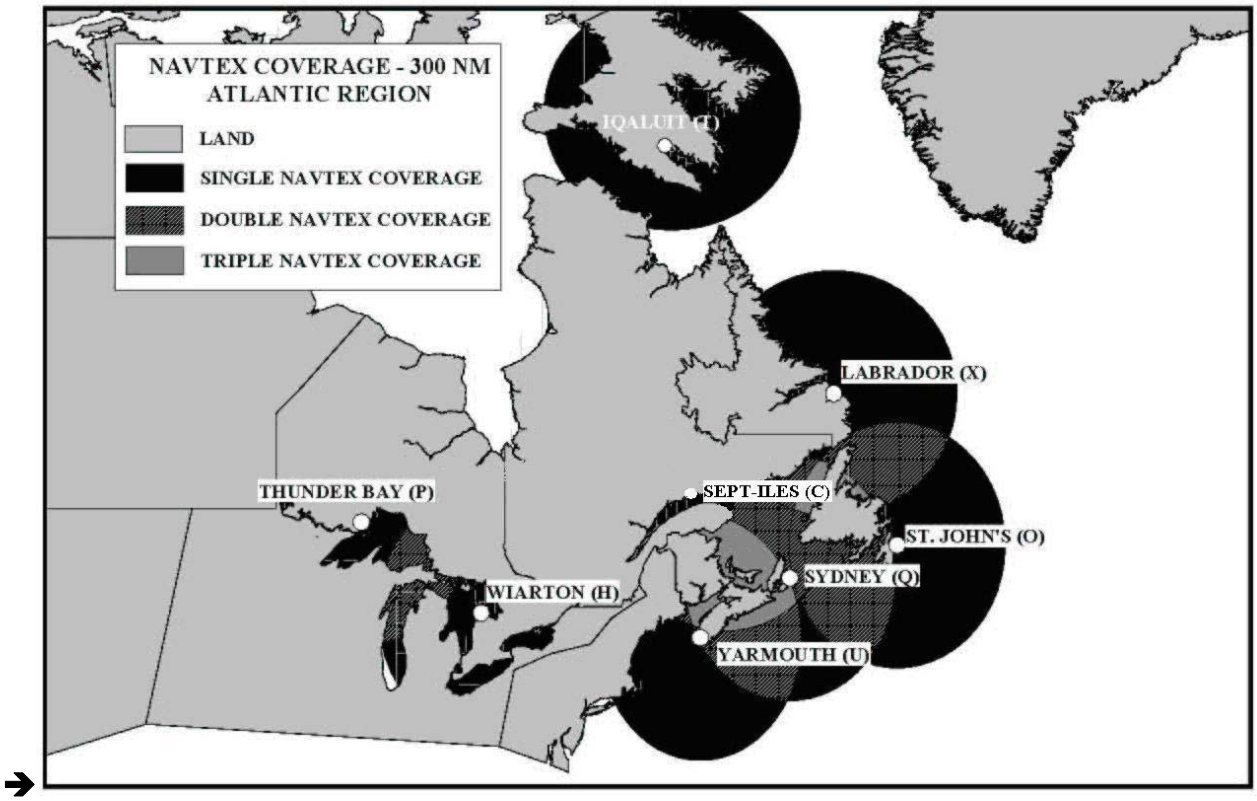
NAVTEX Service is available from the following transmitting sites:

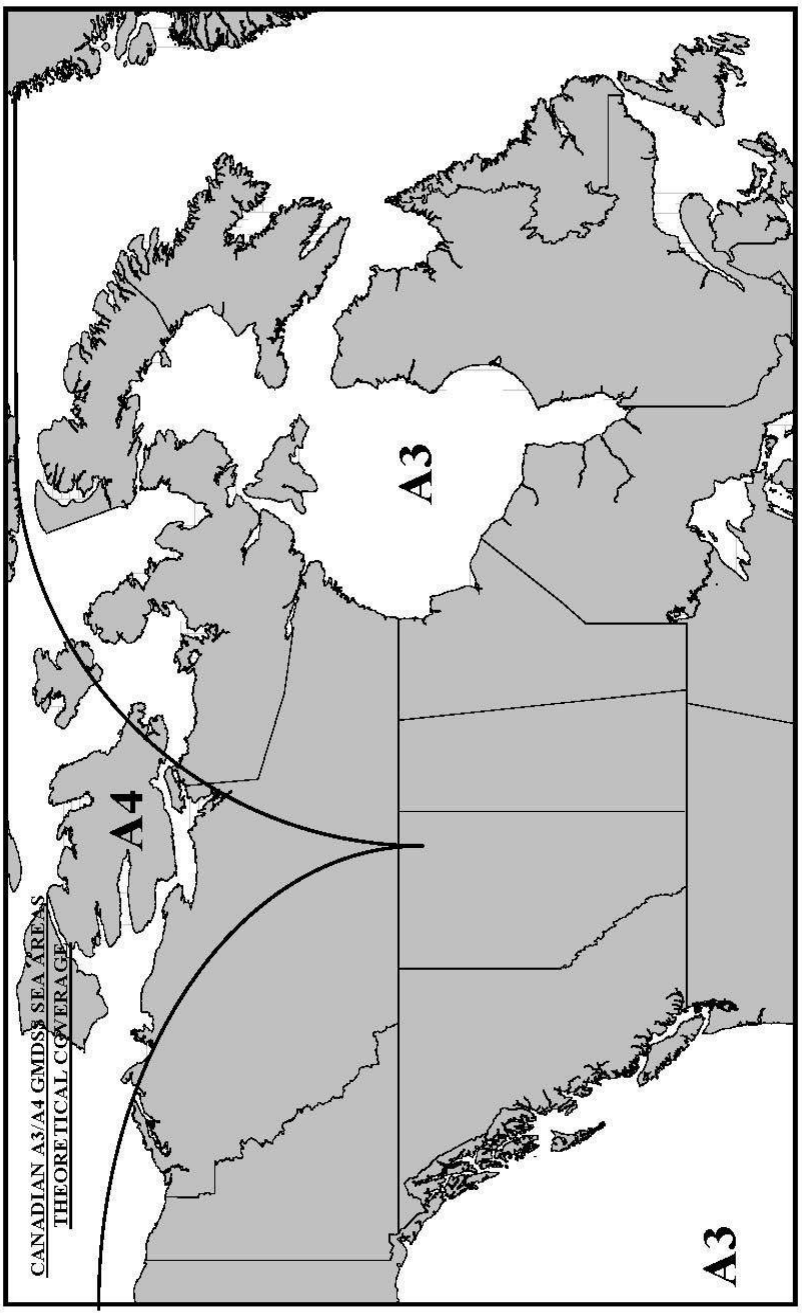
Site	Position	Range (NM)	ID
St. John's	47 30N 52 40W	300	O
Labrador	53 42N 57 02W **(NAD 83)**	300	X
Sydney	46 10N 60 00W	300	Q (English) J (French)
Yarmouth	43 45N 66 07W	300	U (English) V (French)
Sept-Iles	50 15N 66 10W	300	C (English) D (French)
Thunder Bay	48 25N 89 20W	300	P
Wiarton	44 20N 81 10W	300	H
Iqaluit	63 43N 68 33W	300	T (English) S (French)

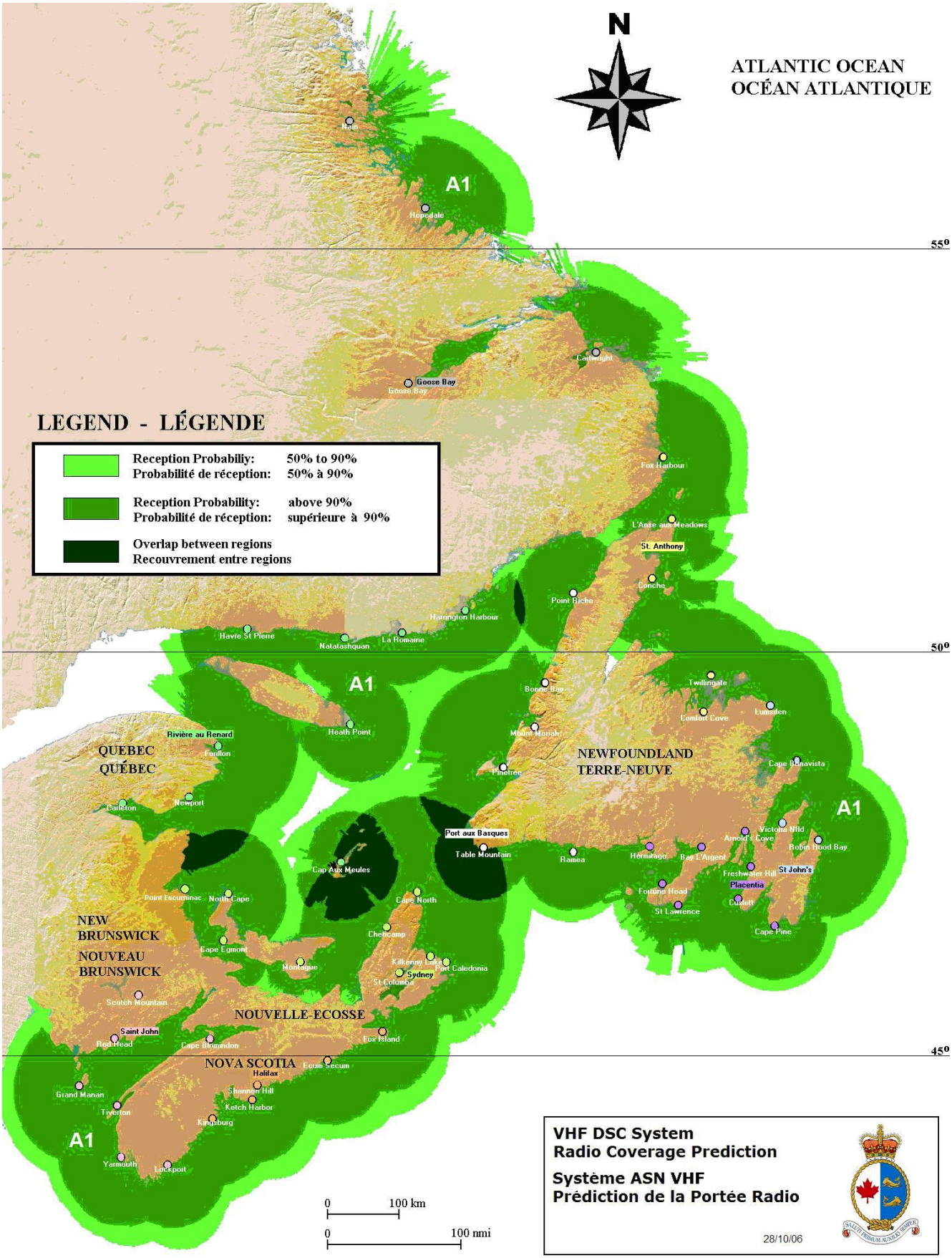
The service uses the frequency 518 kHz (English) and 490 kHz (French) on a timeshared basis for the broadcast of the following subject-Indicator content:

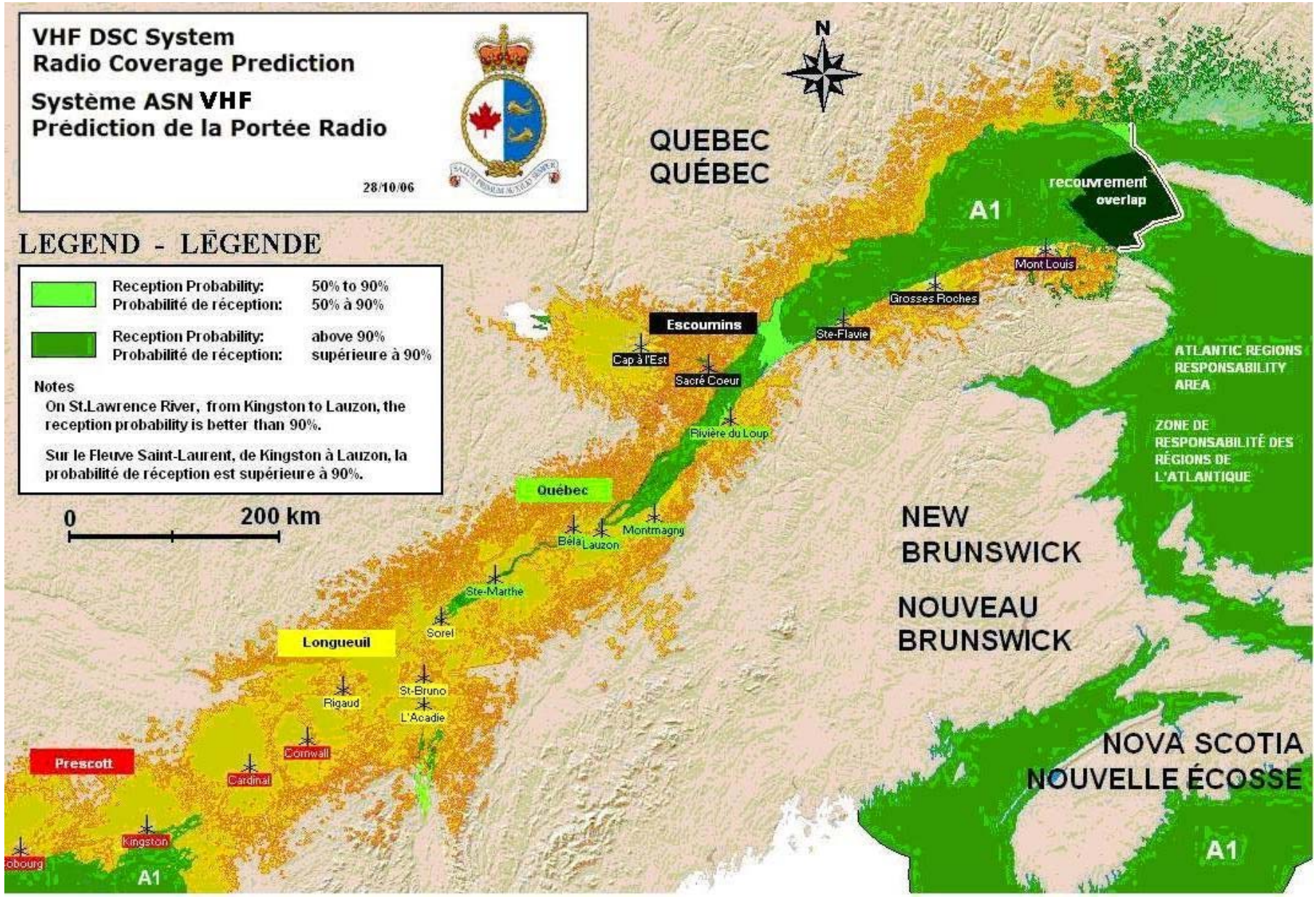
(A) Navigational Warnings
(B) Meteorological Warnings
(C) Ice Reports
(D) Search and Rescue Reports
(E) Meteorological forecasts
(H) Loran-C messages
(K) DGPS Notices to Shipping

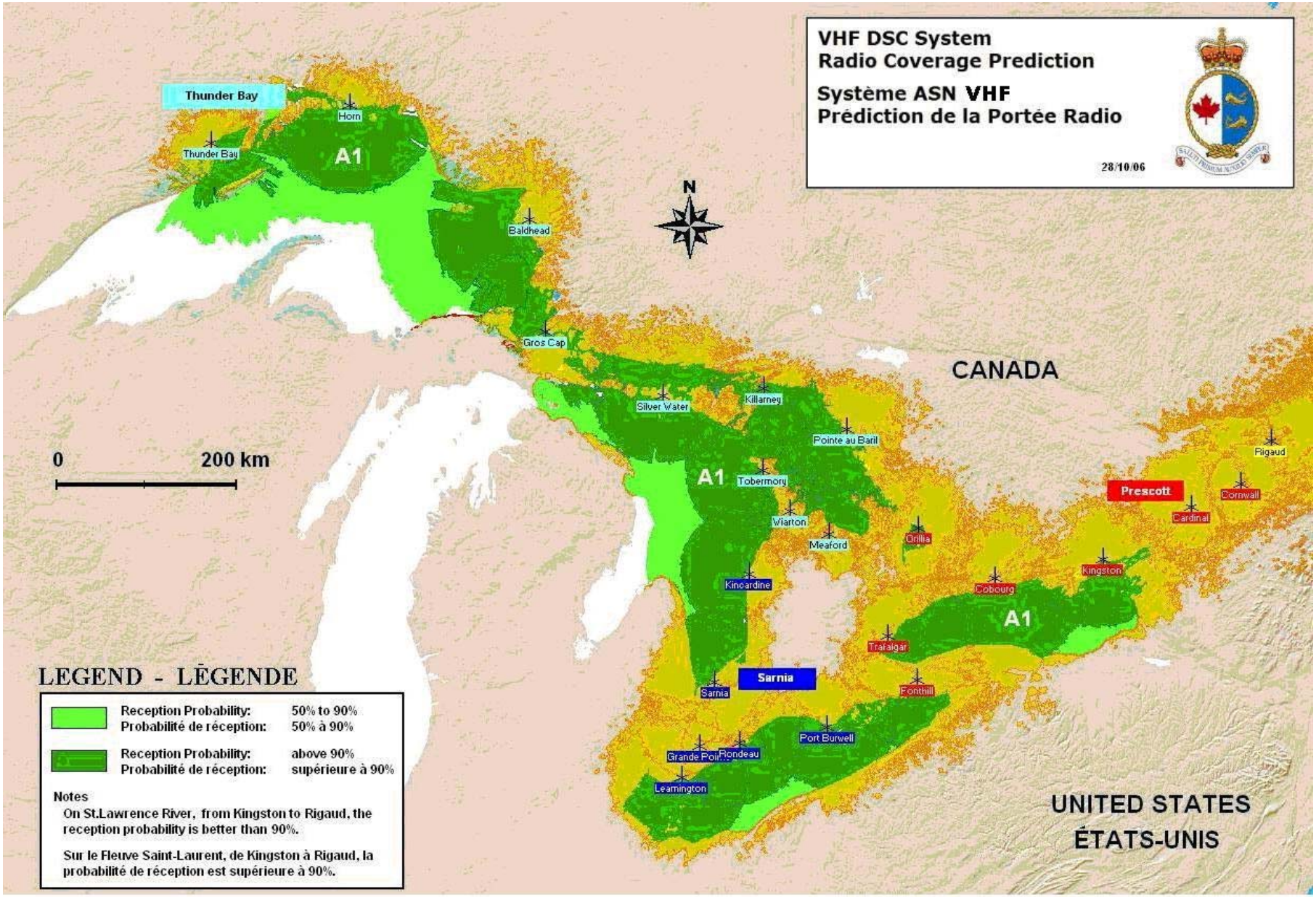
Broadcast time and content is shown in individual MCTS Centre listings. For Wiarton site consult Prescott MCTS listing. For Sept-Iles site consult Rivière-au-Renard MCTS listing.




CANADIAN A3/A4 GMDSS SEA AREAS
THEORETICAL COVERAGE
A4
A3
A3


N
ATLANTIC OCEAN
OCÉAN ATLANTIQUE
A1
Hopedale
55⁰
Goose Bay
Fox Harbour
L'Anse aux Meadows
St. Anthony
Conche
Point Riche
Harrington Harbour
Havre St Pierre
Natashquan
La Romaine
50⁰
Bonne Bay
Twillingate
Lumsden
Comfort Cove
Heath Point
Rivière au Renard
Fontilon
QUEBEC
QUÉBEC
Pinetree
NEWFOUNDLAND
TERRE-NEUVE
Cape Bonavista
Bathurst
Newport
Port aux Basques
Victoria Nfld
Arnold's Cove
Robin Hood Bay
Table Mountain
Ramea
Hermitage
Bay L'Argent
Freshwater Hbr
St John's
Placentia
Cap Aux Meules
Point Escuminac
North Cape
Cape North
Fortune Head
St Lawrence
Chetticamp
Cape Pine
NEW
BRUNSWICK
NOUVEAU
BRUNSWICK
Cape Egmont
Montague
Kilkenny Lake
Port Caledonia
Sydney
St Columba
Scotch Mountain
NOUVELLE-ECOSSE
Saint John
Red Head
Cape Tormentine
Fox Island
NOVA SCOTIA
Halifax
Ecum Secum
45⁰
Grand Manan
Shannon Hill
Tiverton
Ketch Harbor
Kingsburg
Yarmouth
Lockport
LEGEND - LÉGENDE
Reception Probabiliy: 50% to 90%
Probabilité de réception: 50% à 90%
Reception Probability: above 90%
Probabilité de réception: supérieure à 90%
Overlap between regions
Recouvrement entre regions
0 100 km
0 100 nmi
VHF DSC System
Radio Coverage Prediction
Système ASN VHF
Prédiction de la Portée Radio
28/10/06


VHF DSC System
Radio Coverage Prediction
Système ASN VHF
Prédiction de la Portée Radio
28/10/06
LEGEND - LÉGENDE
Reception Probability: 50% to 90%
Probabilité de réception: 50% à 90%
Reception Probability: above 90%
Probabilité de réception: supérieure à 90%
Notes
On St.Lawrence River, from Kingston to Lauzon, the reception probability is better than 90%.
Sur le Fleuve Saint-Laurent, de Kingston à Lauzon, la probabilité de réception est supérieure à 90%.
0
200 km
N
QUEBEC
QUÉBEC
A1
recouvrement
overlap
Mont Louis
Grosses Roches
Ste-Flavie
Escoumins
Cap à l'Est
Sacré Coeur
Rivière du Loup
Québec
Bélal
Lauzon
Montmagny
Ste-Marthe
Sorel
Longueuil
Rigaud
St-Bruno
L'Acadie
Cornwall
Prescott
Cardinal
Kingston
A1
ATLANTIC REGIONS
RESPONSABILITY
AREA
ZONE DE
RESPONSABILITÉ DES
RÉGIONS DE
L'ATLANTIQUE
NEW
BRUNSWICK
NOUVEAU
BRUNSWICK
NOVA SCOTIA
NOUVELLE ÉCOSSE
A1


VHF DSC System
Radio Coverage Prediction
Système ASN VHF
Prédiction de la Portée Radio
28/10/06
Thunder Bay
Horn
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Baldhead
Gros Cap
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CANADA
Silver Water
Killarney
Pointe au Baril
Rigaud
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200 km
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Tobermory
Prescott
Cornwall
Cardinal
Wiarton
Meaford
Orillia
Kingston
Kincardine
Cobourg
A1
Trafalgar
Sarnia
Sarnia
Fonthill
Port Burwell
Grande Pointe
Rondeau
Leamington
UNITED STATES
ÉTATS-UNIS
LEGEND - LÉGENDE
Reception Probability: 50% to 90%
Probabilité de réception: 50% à 90%
Reception Probability: above 90%
Probabilité de réception: supérieure à 90%
Notes
On St.Lawrence River, from Kingston to Rigaud, the reception probability is better than 90%.
Sur le Fleuve Saint-Laurent, de Kingston à Rigaud, la probabilité de réception est supérieure à 90%.

TRANSPORT CANADA'S REQUIREMENTS FOR THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS) AND GUIDANCE ON IMPORTANT OPERATIONAL ALERTING PROCEDURES

Masters and radio operators are urged to review and use the following important information on the use of GMDSS radio equipment to help ensure the GMDSS and Search and Rescue (SAR) services can operate as efficiently and effectively as possible.

New Regulations

Following several years of development and consultation, the new *Ship Station (Radio) Regulations*, 1999 and the new *Ship Station (Radio) Technical Regulations*, 1999 came into force on April 1, 2001. These Regulations affect Canadian domestic ships operating on the seacoasts of Canada, which are not in a Vessel Traffic Services Zone, and that:

- are 20 metres in length or more and certified to carry more than 12 passengers; or
- have a gross tonnage of 300 tons or more

These ships will be carrying and using new radio equipment consistent with the GMDSS.

The new regulations also phase-in requirements over the next couple of years that will apply to smaller commercial ships operating on the seacoasts of Canada (Note in particular that by **April 1, 2002**, vessels 8 metres or more in length and operating more than 20 miles from shore will need an EPIRB. By **February 1, 2003**, tow boats, vessels carrying more than 6 passengers and vessels of closed construction more than 8 metres in length will need a VHF/DSC radio). In addition, amendments have been made to other regulations to update the requirements pertaining to survival craft radio equipment e.g., *Life Saving Equipment Regulations*, *Small Fishing Vessel Inspection Regulations* and the *Large Fishing Vessel Inspection Regulations*. The following table summarizes the carriage requirements of the *Ship Station (Radio) Regulations, 1999*. However the actual regulations should be consulted for specific requirements and are available at: http://www.tc.gc.ca/acts-regulations/GENERAL/C/CSA/menu.htm

EMERGENCY POSITION INDICATING RADIO BEACONS (406 MHZ)

It is recommended that a float-free EPIRB be carried on board ships and pleasure crafts operating offshore. To be effective, 406 MHz EPIRBs **must be registered** in the National SAR Secretariat's 406 MHz Canadian Beacon Registry you can register your 406 MHz EPIRBs by (telephone at 1 800 727-9414 by facsimile 613-996-3746) or on the Website at: http://www.nss.gc.ca/site/cospas-sarsat/emergencyBeacon_e.asp

Inmarsat announced that they discontinued their monitoring service of INMARSAT "E" EPIRB distress alerts as of **December 1, 2006**: http://support.inmarsat.com/announce/00018994.aspx?language=EN&textonly=False.

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.

- Float-free EPIRBs should not be fitted under ledges or structures that would impede their ability to float free. Do not install the EPIRB with lanyard attached to the superstructure of your vessel.
- Both manually activated EPIRBs and float-free EPIRBs should be readily accessible so that in the event of an emergency, it is available for immediate use.
- EPIRBs should be tested using the "TEST" button, by the operator every 6 months. This test should be recorded in the radio log.
- EPIRB battery packs and hydrostatic release units should be replaced per the manufacturer's recommendations.

A list of 406 MHz EPIRBs approved for use in Canada is available on the Website at: http://www.tc.gc.ca/MarineSafety/APCI-ICPA/default.asp

Ship Station (Radio) Regulations, 1999

Ships ≥ 20m and certified to carry >12 passengers, or ships ≥300gt

All other ships

Italics *represent new requirements to be complied with by April 1st, 2001, unless otherwise indicated.*

- Requirements for Safety Convention ships are not shown as they must comply with the Safety Convention
- Requirements for ships on inland voyages and minor waters voyages are not shown since there are no new requirements
- Regulations do not apply to a pleasure yacht not carrying a master or crew for hire, or a tow-boat in a booming ground

Equipment	Sea Area A1 or VHF Area	Sea Area A3	Sea Area A4
VHF Radio with DSC (SSRR)	***Yes*** *-unless ship operates within a VTS Zone, then will have until January 31, 2003, or until the sea area A1 is completed, whichever is latest*		
	Yes ***- by February 1, 2003, or after sea area A1 completed, whichever is latest*** • ***ships ≥8m in length and of closed construction,*** • ***ships carrying >6 passengers, and*** • ***tow boats*** -exempted are ships on a home-trade voyage, class IV in a VTS Zone -current VHF radiotelephone provisions remain in effect until then		
Inmarsat Ship Earth Station with EGC, and MF Radio with DSC, Or MF/HF Radio with DSC and NBDP (SSRR)	no	***Yes*** ***(EGC required only if outside NAVTEX range)***	***Yes*** ***MF/HF option only***
	no		
NAVTEX Receiver (no change to current requirement-SSRR)	no	**Yes**	no
	no	**Yes** • if ≥ 150gt tow boat • if ≥ 300gt cargo ship • if ≥ 24m fishing, or • if passenger ship	no
EPIRB (float-free) (SSRR)	**Yes**		
	Yes • if ≥20m (and beyond home trade IV voyage) • if tug >5gt and <20m if voyage >50 miles long and >2 miles from shore • ***if ≥15gt and go beyond home-trade III voyage limits i.e., 20 miles from shore by April 1, 2001*** • ***if ≥8m and go beyond home-trade III voyage limits on April 1, 2002*** (Note: EPIRB does not have to be float-free if less than 15gt) -exempted are ships on home-trade voyages, class IV or minor waters voyages		
Radar Transponder(s) (SARTs) (SSRR, Life Saving Equipment Regulations, Large Fishing Vessel Inspection Regulations, and Small Fishing Vessel Inspection Regulations)	no	***Yes*** ***2 are required, unless ship is certified to carry ≤12 passengers and is <500gt, then carry 1***	
	Yes *1 if 20m in length or over on > HTII voyages; but, can continue to carry 2 Class II EPIRBs instead until one of the batteries expire.*		
Survival Craft VHF Portable Radio (Life Saving Equipment Regulations, Large Fishing Vessel Inspection Regulations)	**Yes** 3 are required, unless ship is certified to carry ≤ 12 passengers and is <500gt, then carry 2 ***(new requirement for ships on home-trade voyages, class III)***		
	no	**Yes** 3 are required if ship is certified to carry >12 passengers and is >5gt	
Reserve Source of Energy	**Yes**		
	Yes if ship is ≥20m, is carrying more than 6 passengers, or is a tow-boat		

DSC: digital selective calling **EGC**: enhanced group calling **NBDP**: narrow band direct printing

Additional requirements: emergency procedures card, operating and routine maintenance manuals, consumable spare parts, radio publications, time piece, weather facsimile (Arctic), spare antennas (some ships ≥20m).

Guidance for Masters in Distress Situations and Alerting of SAR Authorities

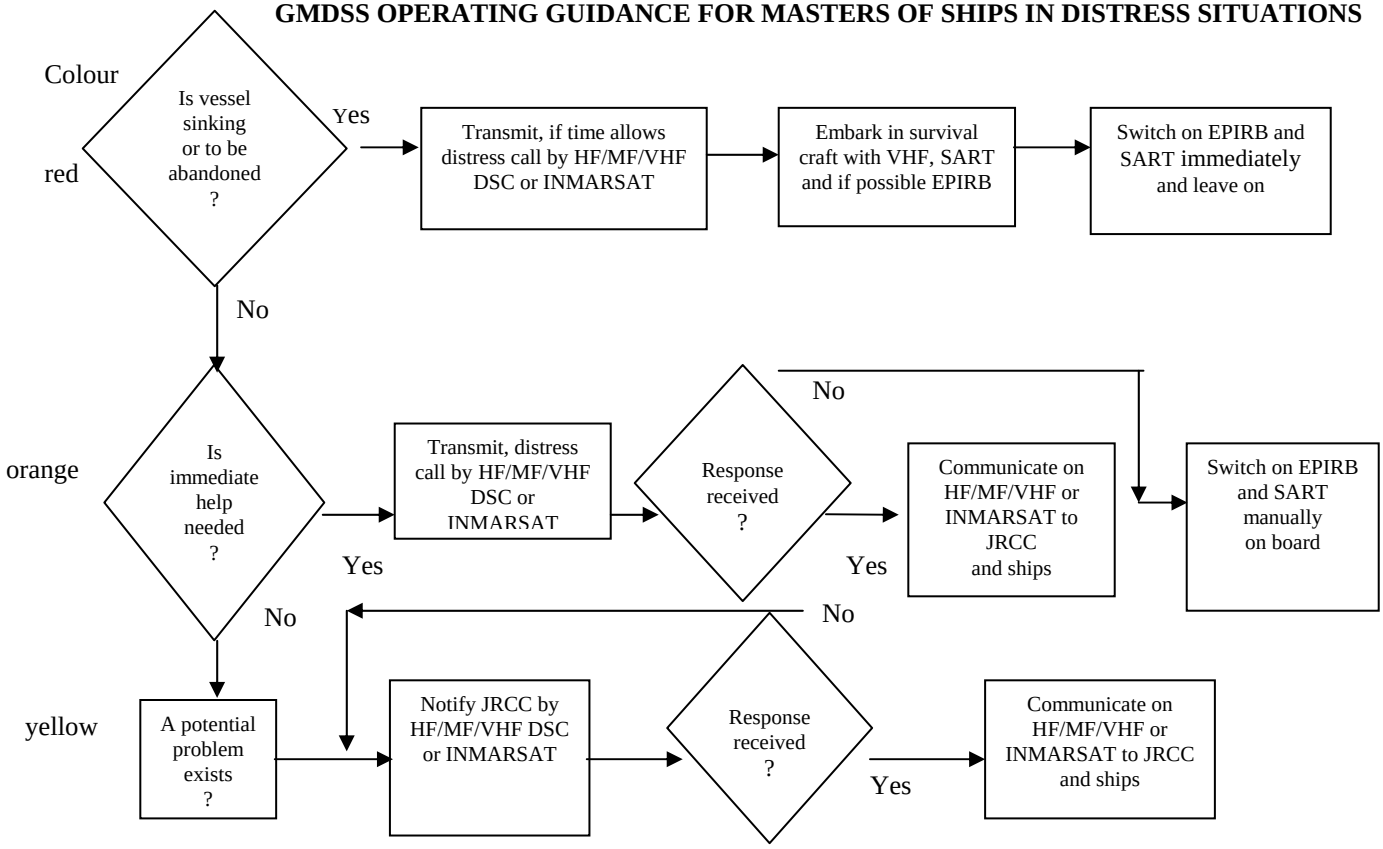
In 1992, the International Maritime Organization (IMO) prepared a flow chart providing GMDSS operating guidance for masters of ships in distress situations (COM/Circ.108). It was recommended that this chart be displayed on the ship's bridge.

Later, another circular (MSC/Circ.892) was prepared to strongly emphasize the importance for ships to alert SAR authorities at the earliest possible moment in any situation that may involve a danger to life or that has the potential of developing into such a situation.

The following is for the mariner's information and guidance:

- GMDSS Operating Guidance for Masters of Ships in Distress Situations and;
- Alerting the Search and Rescue Authorities

GMDSS OPERATING GUIDANCE FOR MASTERS OF SHIPS IN DISTRESS SITUATIONS



1. EPIRB should float-free and activate automatically if it cannot be taken into survival craft.

2. Where necessary, ships should use any appropriate means to alert other ships.

3. Nothing above is intended to preclude the use of any and all available means of distress alerting.

RADIO DISTRESS COMMUNICATIONS

	Digital Selective Calling (DSC)	Radiotelephone	Radiotelex
VHF	Channel 70	Channel 16	
MF	2187.5 kHz	2182 kHz	2174.5 kHz
HF4	4207.5 kHz	4125 kHz	4177.5 kHz
HF6	6312 kHz	6215 kHz	6268 kHz
HF8	8414.5 kHz	8291 kHz	8376.5 kHz
HF12	12577 kHz	12290 kHz	12520 kHz
HF16	16804.5 kHz	16420 kHz	16695 kHz

Alerting the Search and Rescue Authorities (MSC/Circ.892)

1. The need for the earliest possible alerting of the search and rescue (SAR) co-ordination authority to maritime emergencies cannot be over-emphasized

2. It is essential to enable shore-based facilities to respond without delay to any situation which constitutes, or has the potential to constitute, a danger to life. Time lost in the initial stages of an incident may be crucial to its eventual outcome. It cannot be regained.

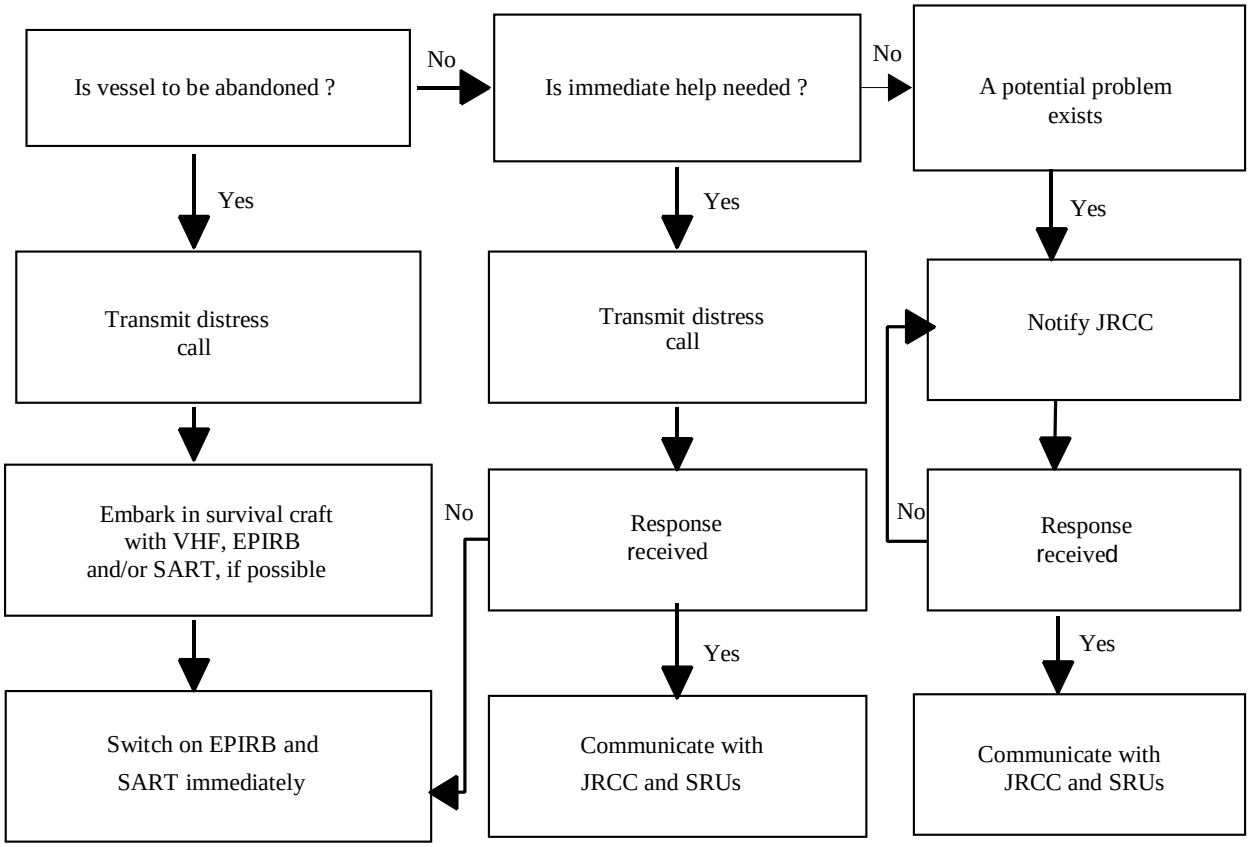
3. Factors to be considered include position (in relation to hazards and to shore-based or other SAR units); time of day; weather conditions (actual & forecast); the number of persons at risk or potentially at risk; specific assistance required, etc.

4. It is always best to consider the 'worst-case scenario' and to alert the SAR organization accordingly. Depending on the circumstances, the co-ordinating authority may choose to alert or despatch SAR facilities as a precautionary measure and/or to reduce transit times. If assistance is not subsequently required, any such positive response can be easily curtailed. But time lost through delays in notification can *never* be regained.

5. It is therefore essential that the SAR co-ordinating authority be informed *immediately* of:
   i) all maritime SAR incidents;
   ii) any situation which may develop into a SAR incident; and
   iii) any incident which may involve or lead to danger to life, the environment or to property which may require action from the SAR services and/or other authorities.

Operating guidance for masters of ships in distress or urgency situations*

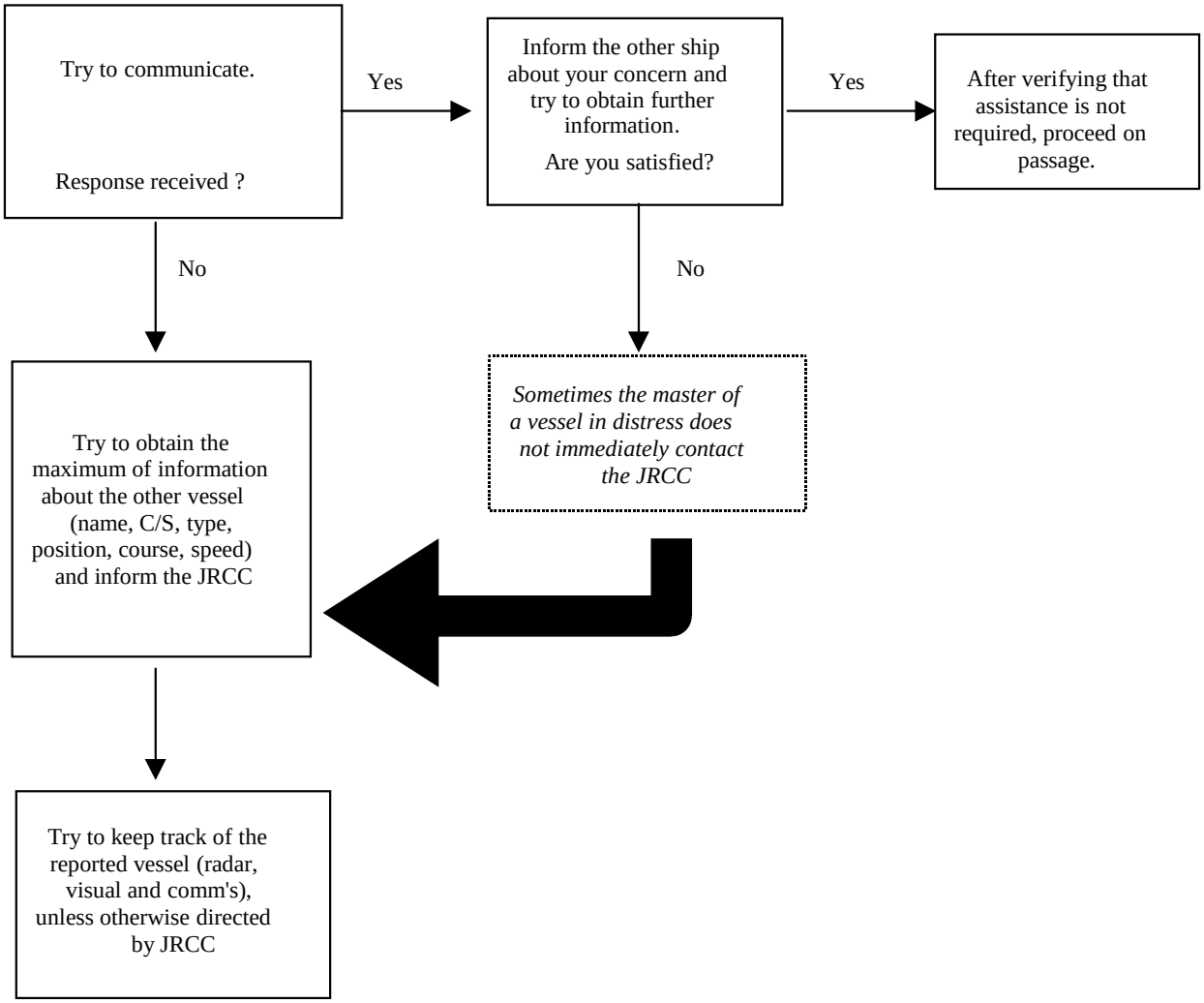
6. The following diagram shows standard procedures for distress/urgency message routing. It is for guidance only, and does not preclude the use of any and all available means of distress alerting.



***** To be considered in conjunction with IMO publication 969 - GMDSS Operating Guidance for Masters of Ships in Distress Situations (COM/Circ.108 of 23 January 1992).

Operation guidance for masters of ships observing another vessel apparently in danger

7. The following diagram shows suggested procedures for reporting concerns about the safety of another vessel (fire, smoke, adrift, navigating towards a danger, etc.).



Note: *For local JRCC contact information, refer to section SEARCH AND RESCUE IN CANADIAN AREAS OF RESPONSIBILITY (Part 4 of this publication).*

False Distress Alerts and Distress Relay Alerts

The GMDSS has been in force for ships on international voyages since February 1, 1999, following its seven-year phase-in. During this time, considerable experience was gained internationally in the operation of the GMDSS. While the GMDSS has proven its overall effectiveness, the high number of accidental distress alert activations and the inappropriate and unintended Digital Selective Calling (DSC) distress relay alerts have detracted from the efficiency of the system. Excessive false alerts and distress relay alerts can create an unnecessary burden and workload for SAR services. They may also cause confusion and undermine mariner's confidence in the GMDSS. They could potentially have a serious impact on real distress situations.

With the aim of minimizing the number of false alerts and distress alert relays, the following information is provided:

- "Instructions for Mariners and Others on How to Cancel a False Alert" (appendix to IMO Resolution A.814(19) entitled Guidelines for the Avoidance of False Distress Alerts)
- "Procedure for Responding to DSC Distress Alerts by Ships" (COMSAR/Cir.21)

Instructions for Mariners and Others* on How to Cancel a False Distress Alert

[Appendix to IMO Resolution A.814 (19)]

DSC

1 VHF

1. switch off transmitter immediately**;
2. switch equipment on and set to Channel 16; and
3. ➔make broadcast to "All Stations" giving the ship's name, call sign and MMSI number, and cancel the false distress alert.

Example
All Stations, All Stations, All Stations
This is NAME, CALL SIGN,
➔MMSI NUMBER, POSITION.

Cancel my distress alert of
DATE, TIME UTC,
= Master NAME, CALL SIGN,
➔MMSI NUMBER, DATE, TIME UTC

2 MF

1. switch off equipment immediately**;
2. switch equipment on and tune for radiotelephony transmission on 2182 kHz; and
3. ➔make broadcast to "All Stations" giving the ship's name, call sign and MMSI number, and cancel the false distress alert.

Example
All Stations, All Stations, All Stations
This is NAME, CALL SIGN,
➔MMSI NUMBER, POSITION.

Cancel my distress alert of
DATE, TIME UTC,
= Master NAME, CALL SIGN,
➔MMSI NUMBER, DATE, TIME UTC

* Appropriate signals should precede these messages in accordance with the ITU Radio Regulations Chapter NIX.
** This applies when the false alert is detected during transmission.

3 HF

As for MF, but the alert must be cancelled on all the frequency bands on which it was transmitted. Hence, in stage 2.2 the transmitter should be tuned consecutively to the radiotelephony distress frequencies in the 4, 6, 8, 12 and 16 MHz bands, as necessary.

4 Inmarsat-C

Notify the appropriate JRCC to cancel the alert by sending a distress priority message via the same CES through which the false distress alert was sent.

NAME, CALL SIGN, IDENTITY NUMBER,
POSITION,
Cancel my Inmarsat-C distress
alert of DATE, TIME UTC
= Master +

5 EPIRBs

If for any reason an EPIRB is activated accidentally, the ship should contact the nearest coast station or an appropriate coast earth station or JRCC and cancel the distress alert.

6 General

6.1 Notwithstanding the above, ships may use any means available to them to inform the appropriate authorities that a false distress alert has been transmitted and should be cancelled.

6.2 No action will normally be taken against any ship or mariner for reporting and cancelling a false distress alert. However, in view of the serious consequences of false alerts, and the strict ban on their transmission, Governments may prosecute in cases of repeated violations.

Procedure for Responding to DSC Distress Alerts by Ships

(COMSAR/Circ.25)

1 Introduction

The Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) decided that Digital Selective Calling (DSC) relays of distress alerts on all shipborne DSC equipment should be reduced and prepared a procedure for responding to VHF/MF and HF distress alerts, given in flow diagrams 1 and 2 which follow, recommending that it be displayed on the ship's bridge as A4 size posters. It also prepared the following guidance.

2 Distress relays

2.1 Radio personnel serving on ships should be made aware of the consequences of transmitting a distress relay call and of routing a DSC distress relay alert to other than coast stations (CS).

2.2 The number of unintended activations of DSC distress alerts and DSC distress relay alerts creates extra work load and confusion to (M) JRCCs and also causing delay in the response-time. The original distress alert from a ship in distress should not be disrupted by other ships, by transmitting a DSC distress relay alert.

2.3 Recommendation ITU-R M.541-8 on Operational procedures for the use of DSC equipment in the Maritime Mobile Service identifies only two situations in which a ship would transmit a distress relay call (distress relay alert):

1. on receiving a distress alert on a HF channel, which is not acknowledged by a coast station within 5 minutes. The distress relay call should be addressed to the appropriate coast station (Annex 1, paragraph 3.4.2 and Annex 3, paragraph 6.1.4); and

2. on knowing that another ship in distress is not itself able to transmit the distress alert and the Master of the ship considers that further help is necessary. The distress relay call should be addressed to "all ships" or to the appropriate coast station (Annex 3, paragraph 1.4).

2.4 In no case is a ship permitted to transmit a DSC distress relay call on receipt of a DSC distress alert on either VHF or MF channels.

2.5 Distress relay calls on HF channels should be initiated manually.

2.6 Compliance with operational and technical provisions above would prevent transmissions of inappropriate distress relay calls.

3 All coast stations call

3.1 Recommendation ITU-R M.493-9 on DSC systems for use in the Maritime Mobile Service provides for "group calls" an address consisting of the characters corresponding to the station's Maritime Mobile Service identity (MMSI) and a number of administrations have already assigned a "group call" MMSI to their coast stations in addition to the coast station's individual MMSI.

3.2 By multilateral agreements, a "group call" MMSI could be assigned to all coast stations of a specific region, e.g., an JRCC area and could comply with IMO's requirement without need of introducing further modifications to GMDSS equipment.

3.3 An alternative method to implement an "all coast stations" call without the need to modify Recommendation ITU-R M.493-9 could be to define one MMSI world-wide as an address for all coast stations, in accordance with Nos. S19.100 to S19.126 of the ITU Radio Regulations. However, this solution would also require a modification of the setup at each coast station participating in the GMDSS.

4 Authorization

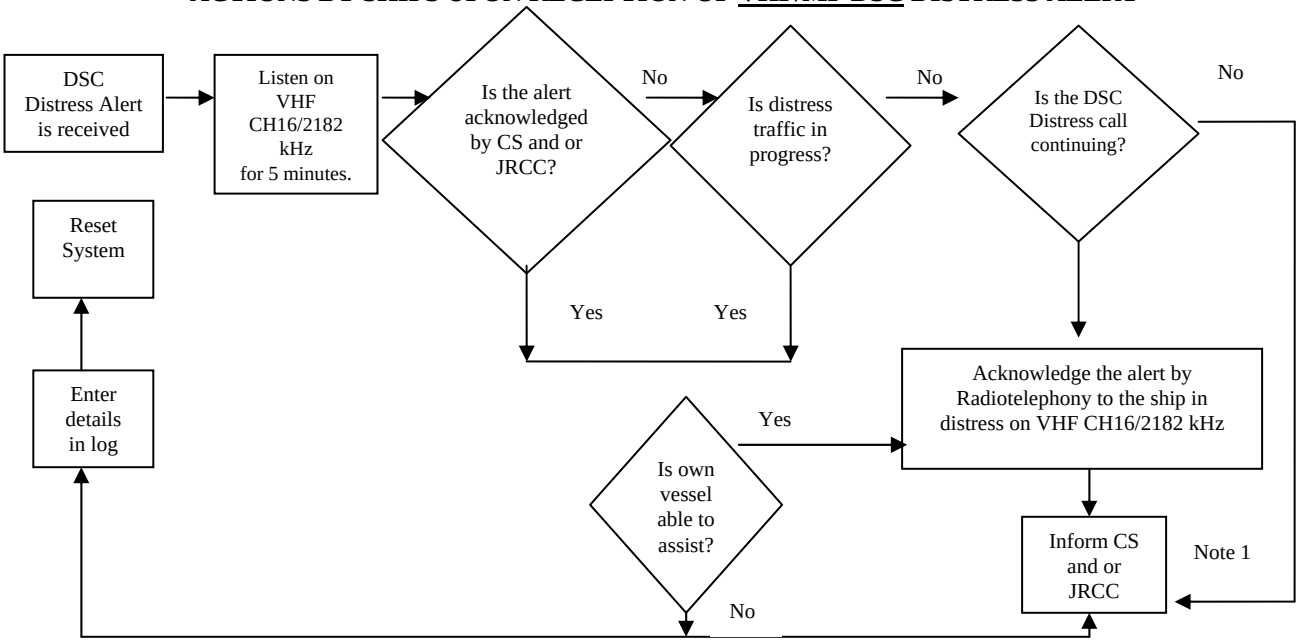
It should be noted that on ships, distress alerts, distress acknowledgements and distress relay calls can only be transmitted with permission of the Master of the ship.

5 Flow diagrams

5.1 The simplified flow diagrams 1 and 2 describe actions to be taken aboard ships upon receipt of distress alerts from other ships. Administrations should give wide distribution of these flow diagrams to ships and training institutions.

5.2 Member Governments are invited to bring the above guidance and the attached flow diagrams to the attention of their shipowners, seafarers, coast stations, JRCCs and all others concerned.

FLOW DIAGRAM 1 (COMSAR/Cir.25)
ACTIONS BY SHIPS UPON RECEPTION OF VHF/MF DSC DISTRESS ALERT



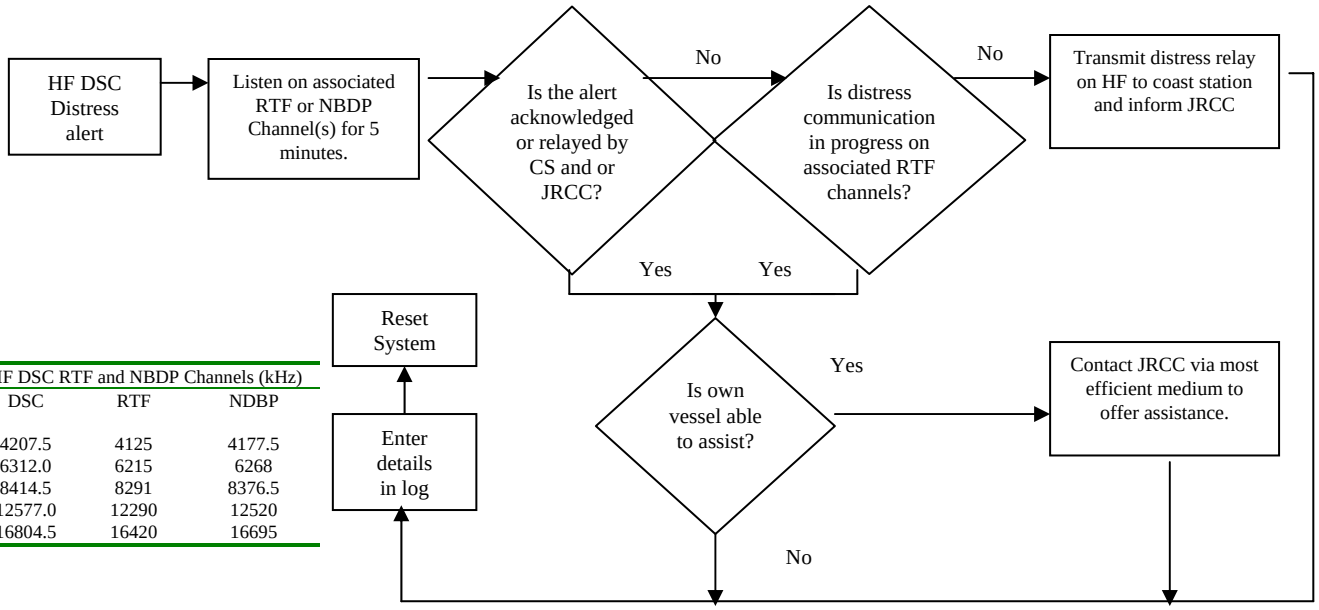
REMARKS:

Note 1: Appropriate or relevant JRCC and/or Coast Station shall be informed accordingly. If further DSC alerts are received from the same source and the ship in distress is beyond doubt in the vicinity, a DSC acknowledgement may, after consultation with a JRCC or Coast Station, be sent to terminate the call.

Note 2: In no case is a ship permitted to transmit a DSC distress relay call on receipt of a DSC distress alert on either VHF channel 70 or MF Channel 2187.5 kHz

CS = Coast Station **JRCC** = Joint Rescue Co-ordination Center

FLOW DIAGRAM 1 (COMSAR/Cir.25)
ACTIONS BY SHIPS UPON RECEPTION OF HF-DSC DISTRESS ALERT



HF DSC RTF and NBDP Channels (kHz)		
DSC	RTF	NDBP
4207.5	4125	4177.5
6312.0	6215	6268
8414.5	8291	8376.5
12577.0	12290	12520
16804.5	16420	16695

REMARKS:

Note 1: If it is clear the ship or persons in distress are not in the vicinity and/or other crafts are better placed to assist, superfluous communications which could interfere with search and rescue activities are to be avoided. Details should be recorded in the appropriate logbook.

Note 2: The ship should establish communications with the station controlling the distress as directed and render such assistance as required and appropriate.

Note 3: Distress relay calls should be initiated manually.

CS = Coast Station **JRCC** = Joint Rescue Coordination Centre

➔ *AMVER - AUTOMATED MUTUAL-ASSISTANCE VESSEL RESCUE SYSTEM*

Note: A 96-hour pre-arrival report to U.S. ports is required under 33 CFR 160.

The Amver System, operated by the United States Coast Guard, is a maritime mutual assistance program that provides important aid to the development and co-ordination of search and rescue (SAR) efforts in the oceans of the world. Merchant vessels of all nations making offshore passages of more than 24 hours are encouraged to send sail plans and periodic position reports to the Amver Centre in Martinsburg, WV There is no charge for these radio messages when they are sent through MCTS Centres. Information from these messages is entered into a computer that generates and maintains dead reckoning positions for participating vessels throughout their voyages. The predicted locations and SAR characteristics of all vessels known to be within a given area are furnished upon request to recognized SAR agencies of any nation for use during an emergency. Predicted vessels' locations are disclosed only for reasons related to maritime safety.

Amver is a free and voluntary program. An Amver participant is under no greater obligation to render assistance during an emergency than a vessel that is not participating. Benefits to shipping include:

- improved likelihood of rapid aid in emergencies;
- reduced number of calls for assistance to vessels not favourably located;
- reduced time lost for vessels responding to calls for assistance. An Amver participant is under no greater obligation to render assistance during an emergency than a vessel that is not participating.

Details of Amver System operations may be obtained from Amver Maritime Relations Office, U.S. Coast Guard, Battery Park Building, 1 South Street, New York, NY 10004-1499 (Telephone: 212-668-7764, Fax 212-668-7684). Amver instructions are also available at Coast Guard Captain of the Port and Marine Safety Offices in major United States coastal ports. The instructions are published in the following languages: Chinese, Danish, Dutch, English, French, German, Greek, Italian, Japanese, Norwegian, Polish, Portuguese, Spanish, and Swedish. Requests for instructions should state the language desired if other than English. Amver Website: http://www.amver.com

Ship Station (Radio) Technical Regulations, 1999 now specify compulsory participation in Amver for certain ships when departing on an offshore voyage of more than 24 hours duration.

The provisions apply to all Canadian ships and to all non-Canadian ships engaged in the coasting trade of Canada. Of this group, the following are exempted:

- fishing vessels engaged in fishing;
- ships operated by the Canadian government on law enforcement duties;
- vessels whose voyages will be within the waters of an Arctic Shipping Safety Control Zone, Hudson Bay, James Bay or Ungava Bay; and
- vessels in other waters provided their voyages are within VHF or MF coverage areas.

It should be noted that the above exemptions do not amount to a prohibition; and that all other ships proceeding on an offshore voyage of more than 24 hours duration are encouraged to participate in Amver.

I. To Participate

Any merchant vessel of one thousand gross tons or more on a voyage of greater than twenty-four hours to anywhere on the globe is to be part of the Amver system. International participation is voluntary regardless of vessel's or company's flag, country of origin, or destination.

II. The Information Reported

Information voluntarily provided by vessels to Amver is kept strictly confidential, and is protected by the Coast Guard. It will be released only for safety purposes.

III. What and When You Report

A. Sail plan message should be sent on or before departure.
B. Position Reports should be sent within twenty-four hours of departure and subsequently no less frequently than every forty-eight hours until arrival.
C. Arrival Reports should be sent immediately prior to or upon arrival at the Port of Destination.
D. Reports are to be sent during the Radio Officer's normal duty hours.
E. At the discretion of the vessel, reports may be sent more frequently than the above schedule, as, for example, in heavy weather or under other adverse conditions.

IV. Report Format

As previous Amver participants will note, the format described below represents a change which serves two purposes: First, the new format will permit the automated data processing system to enter your information into Amver more accurately and efficiently. Second, the new format conforms to the International Maritime Organisation (IMO) proposed standard, thus reducing the number of different formats in use. As other systems also adopt the IMO format, we will have moved closer to a single format worldwide.

V. Amver System Communications Network

The following methods are recommended for ships to transmit Amver Sail Plan, Position, Deviation and Arrival reports. Details are available on the Amver Website at http://www.amver.com.

➔**Electronic Mail via the Internet:** Amver's address is: amvermsg@amver.com

AMVER/SEAS "Compressed Message" via Inmarsat-C thru TELENOR: Amver address: NOAA telephone number entered in the ADDRESSBOOK. For information, please see the instruction sheet for your brand of Inmarsat-C transceiver. AMVER/SEAS software can be downloaded from the Internet at:
http://www.seas.amverseas.noaa.gov/seas/goosplots.html

or requested from: TELENOR Satellite Services
1101, Wootton Parkway, 10th Floor
Rockville, Maryland 20852
301-838-7800
Internet E-Mail:
customercare@telenor-usa.com

HF Radiotelex Service of U.S. Coast Guard Communications Stations: Full information on how to send Amver messages this way can be found at: http://www.navcen.uscg.mil/marcomms/egcomms/call.htm

HF Radio at no cost via Coast Guard Contractual Agreements with the following companies:
Globe Wireless Super Station Network
Mobile Marine Radio (WLO)

Telex: Amver Address: (0) 230 127594 AMVERNYK

Telefax: To the USCG Operations Systems Centre in Martinsburg: 304-264-2505

If messages are relayed through Canadian Coast Guard Ships no ship charge will be assessed. All Amver messages forwarded via the stations listed should be addressed to Amver Halifax, rather than COAST GUARD New York, to ensure that no charge is applied in delivery.

VI. Amver Voyage Report Types

There are four types of Amver Reports - Sail Plan, Arrival, Position, and Deviation Reports.

A. Reporting format. Each line of Amver Report text starts with a line identifier. Line identifiers are "AMVER" or a single letter. The line identifier and the data items on the line are each separated from each other by a single slash ("/"). Lines are terminated by two slashes ("//").

B. Reporting data. Amver participants need to be familiar with four types of reports - Sail, Arrival, Position, and Deviation Reports. Note that Amver permits sail plan and departure to be combined into a single report. Amver accepts sail plan information separately - for example, several days prior to departure. Report identifiers are as follow:

AMVER/SP//	Sail Plan & Departure
AMVER/PR//	Position Report
AMVER/FR//	Arrival Report.
AMVER/DR//	Deviation Report.

C. Details. Paragraph IX includes a discussion of each report type. Each example is followed by an explanation. Note that not all the lines in the example are necessary for each type of report. The required and optional lines are discussed in each section.

VII. Other Required Information

Amver also needs other information, which might be useful in an emergency. This includes data such as the ship length, communications equipment, radio watch schedule, speed, rig, and so forth. This information is collected separately once, by completion of the Search and Rescue Questionnaire (SAR-Q) found on the Amver web site at http://www.amver.com which is then retained in the automatic data processing system, periodically validated, and used only for search-and-rescue purposes.

VIII. Release of Information

All voluntary information collected under these instructions will be only released to recognized search-and-rescue authorities. Information regarding vessels required to participate in Amver will be forwarded to the U.S. Maritime Administration, via the keyword MAREP on the Y-Line.

IX. Description of Voyage Reports

An example and explanation of each of the four types of Amver reports follows. Numbers in parentheses refer to footnotes at the end of the section.

A. Sail Plan & Departure Report. The "L" lines contain routing and "turnpoint" information needed by Amver. Amver needs data about every intended turnpoint, but also accepts information about any points along the intended track, even though they might not be turnpoints. Turnpoint information is needed by Amver to maintain plot accuracy.

EXAMPLE:	EXPLANATION:
AMVER/SP// A/SANDY JOAN//ABCD// B/110935Z// E/145// F/126// G/NORVOROSK/4510N/03820E// I/GIBRALTERGI/3600N/00600W/140730Z// L/RL/140/4130N/02910E/112000Z// L/RL/140/4010N/02620E/112300Z// L/RL/140/3630N/02330E/120330Z//	**Required** - AMVER/SP// A /vessel/name/International Radio Call Sign// B /intended time of departure or departure time // (1) G /port of departure/latitude//longitude// (2) I /port of destination/latitude//longitude/estimated time of arrival//(1) (2) (3) L / ..... route information ...// (1) (3) (4) Z // end of report

EXAMPLE:	EXPLANATION:
L/RL/140/3650N/01520E/121500Z// L/RL/140/3800N/01000E/130100Z// L/LR/060// M/GKA/GKM// V/MD/NURSE// X/NEXT/REPORT/120900Z// Z/SITOR/INSTALLED/SELCALL/NUMBER/IS/99999/Z//EOR	**Optional** - E /current course// (5) F /estimated average speed// (6) M /current coastal radio station//next coastal radio station, if any// V /onboard medical resources// (7) X /up to 65 characters of amplifying comments// (8) (9)

B. Arrival Report.

EXAMPLE:	EXPLANATION:
AMVER FR// A/SANDY/JOAN/ABCD K/NEW YORK/US/4040N/07420W/180600Z// X/PROBLEMS WITH MF XMTR AGENT/ADVISED// Z//EOR	**Required** - AMVER/FR// A /vessel name/International Radio Call Sign// K /port name/latitude/longitude/time of arrival// (1) (3) Z // end of report **Optional** - X /up to 65 characters of amplifying comments// (8) (9)

C. Position Report.

EXAMPLE:	EXPLANATION:

AMVER/PR//
A/SANDY/JOAN/ABCD//
B/120300Z//
C/3630N/02330E//
E/145//
F/126//
M/GKM//
X/NEXT REPORT/131800Z//
Z//EOR
	Required -
	AMVER/PR//
	A /vessel name International Radio Call Sign//
	B /time at position// (1)
	C /latitude/ longitude// (3)
	Z //end of report
	
	Optional -
	E /current course (5)//
	F /average speed (6)//
	M /current coastal radio station/ next coastal radio station, if any//
	X /up to 65 characters of amplifying comments (8) (9)//

D. Deviation Report. Used to report sail plan and other changes.

EXAMPLE:	EXPLANATION:
AMVER/DR// A/SANDY/JOAN/ABCD// B/120300Z// E/095// F/220// G/NORVOROSK/4470N/03780E// I/NEW YORK US/4040N/07420W/180800Z// L/GC/220// M/GKA/WSL/NMN// V/MD/NURSE// X/DIVERTING BEST SPEED TO NEW YORK US// Z//EOR	**Required** - AMVER/DR// A /vessel name International Radio Call Sign// Z //end of report **One or more of the following optional items** - B /intended time of departure// (1) E /intended course// (5) F /intended average speed// (6) G /port of departure/latitude/longitude// (2) I /port of destination/latitude/longitude/estimated time of arrival//(1) (2) (3) L /..... route information ....// (1) (3) (4) M /current coastal radio station/ next coastal radio station, if any// V /onboard medical resources// (7) X /up to 65 characters of amplifying comments// (8) (9)

Footnotes:

(1) All times must be expressed as a six-digit group giving date of month (first two digits), hours and minutes (last four digits). Only Coordinated Universal Time (i.e. Greenwich Mean Time) is to be used. The six-digit date-time-group is to be followed by either Z or GMT. The month is optional, and may be added, if appropriate. The first three digits of the English-language month are used. The following examples are acceptable:

290900Z 290900 Z 290900Z DEC

(2) Port latitude longitude refers to the geographic position of the pilot station. Both port name and geographic position are required from U.S. flag vessels.

(3) Latitude is a four-digit group expressed in degrees and minutes, and suffixed with "N" for north or "S" for south. Longitude is a five-digit group expressed in degrees and minutes, and suffixed with "E" for east or "W" for west.
For example: C/4000N/03500W//

(4) The "L" lines contain most of the sail plan information. As many "L" lines as needed may be used. The "L" lines contain routing data to each of the intermediate points, and to the destination. Data about all turnpoints are required, unless the voyage will follow a great circle with no delays at intermediate points. In addition to turnpoint information, data about other points along each leg are useful. Following, is the information desired for each intermediate point: navigation, method, leg speed, latitude, longitude, port or landmark name ETA estimated time of departure.
For example:

L/RL/125/0258N/07710W/ABACO/111200Z//
L/RL/125/0251N/07910W/NWPROVCHAN/112145Z//
L/RL/125/0248N/08020W/120255Z//
L/RL/125//

NAVIGATION METHOD IS REQUIRED. It is either "GC" for great circle, or "RL" for rhumb line.
LEG SPEED is useful, but is not required. See footnote (6).
LATITUDE LONGITUDE IS REQUIRED. See footnote (3).
PORT OR LANDMARK NAME is useful, but is not required.
ETA IS REQUIRED. See footnote (1).
ESTIMATED TIME OF DEPARTURE IS REQUIRED, if the ship will lay over at the intermediate point.
A final NAVIGATION METHOD is required to route the ship to its destination. A final LEG SPEED is useful, but not required.

(5) True course is a three-digit group.

(6) Speed is a three-digit group in knots and tenths of knots. For example, 20.5 knots would be written as 205, without a period or decimal point.

(7) If the optional "V" line is used, one or more of the following is required:
/MD/ for physician
/PA/ for physician's assistant
/NURSE/
/NONE/
For example: V/DOCTOR/NURSE//

(8) Any information provided in the Remarks line will be stored in the Amver's automatic data processing system for later review. However, no immediate action will be taken, nor will the information be routinely passed to other organizations. The remarks line cannot be used as a substitute for sending information to other search-and-rescue authorities or organizations. However, Amver will, at the request of other SAR authorities, forward remarks line information to the requesting agencies.

(9) Next report information is not currently used by the Amver System, but is expected to aid in future development.

DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS)

Since May 2000, Full Operational Service (FOS) of the Canadian Coast Guard DGPS service has been available from 19 DGPS stations located on the East and West coasts of Canada and parts of the Great Lakes. DGPS corrections are broadcast from medium frequency (MF) radiobeacon transmitters located to cover selected marine areas and waterways. The broadcasts are in accordance with international standards for radiobeacon DGPS services. DGPS provides continuous precise positioning of better than 10 metres for 95% or better of the time (provided that suitable DGPS receiver equipment is utilized, properly installed and maintained).

Additional information on the use of the DGPS service will be announced through Notices to Mariners. General information is also available from the CCG Website: http://www.ccg-gcc.gc.ca/dgps/main_e.htm

The corrections from the DGPS service are calculated at the reference station in the NAD 83 coordinates. To process the information properly, DGPS receivers should be adjusted to the WGS 84 setting. Although WGS 84 and NAD 83 are essentially the same (only a few centimetres difference), it is highly recommended that all DGPS receivers be set to WGS 84 to take full advantage of the precision of DGPS. When utilizing charts other than NAD 83, DGPS latitude and longitude positions must be adjusted to the appropriate datum using the information contained in the charts.

The table that follows provides information on existing DGPS broadcasts. A list of United States Coast Guard (USCG) DGPS transmitters providing coverage in Canadian waters may be obtained directly from the USCG. http://www.navcen.uscg.gov/dgps/default.htm

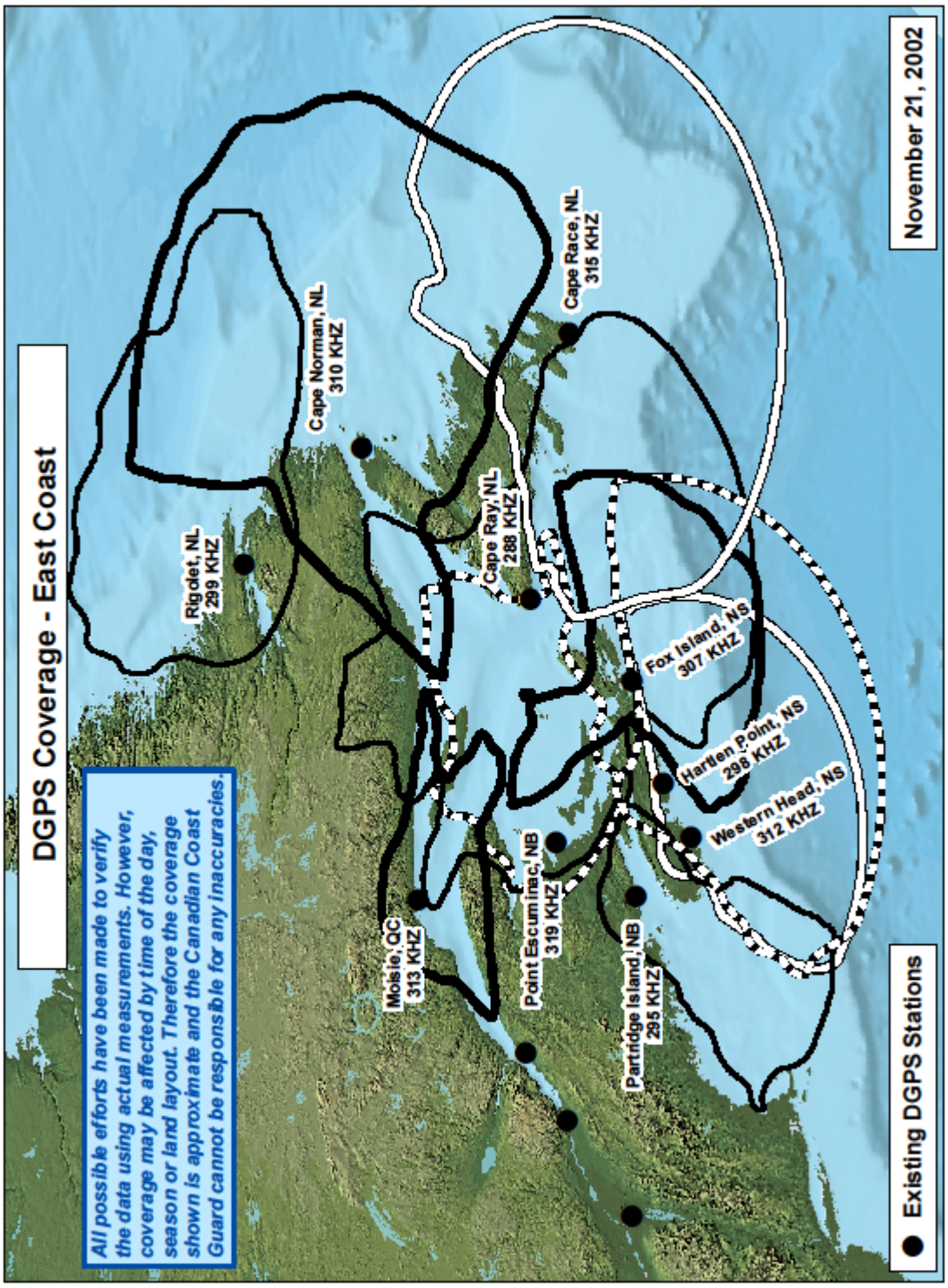
Figures 1, 2 & 3 show the nominal coverage from existing broadcast stations. Users should be aware that coverage is subject to short and long term variations due to environmental and seasonal conditions.

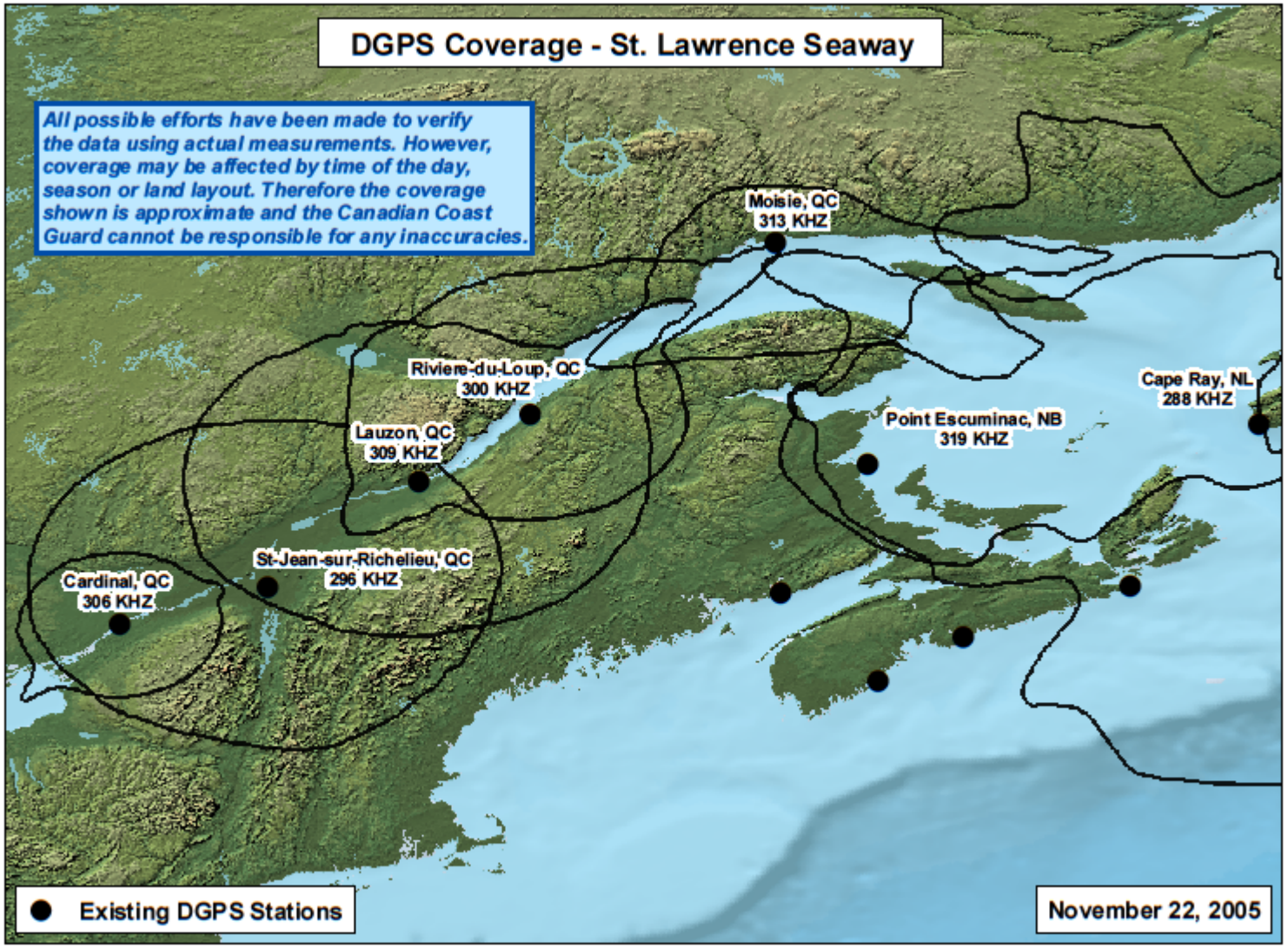
CCG DGPS BROADCASTS - St. Lawrence River and Atlantic Coast

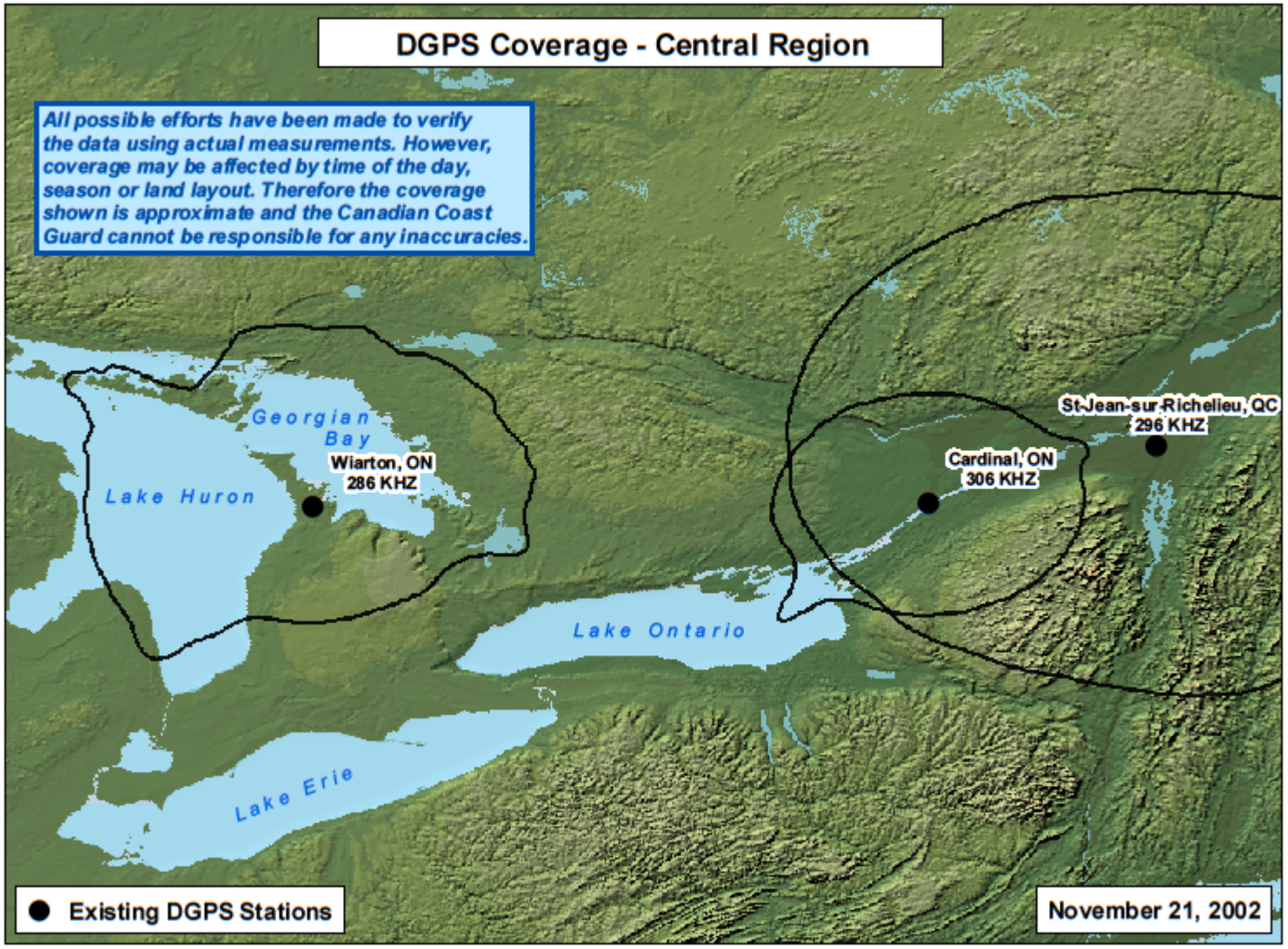
Station Name	Location NAD 83	Frequency & Transmission rate	IALA Reference Station ID	IALA Radio beacon ID	Remarks
St. Jean sur Richelieu, Que.	45º19'N 73º19'W	296 kHz 200bps	312, 313	929	Full operational service
Lauzon, Que.	46º49'N 71º10'W	309 kHz 200bps	316, 317	927	Full operational service
Rivière du Loup, Que.	47º46'N 69º36'W	300 kHz 200bps	318, 319	926	Full operational service
Moisie, Que.	50º12'N 66º07'W	313 kHz 200bps	320, 321	925	Full operational service
Point Escuminac, N.B.	47º04'N 64º48'W	319 kHz 200bps	332, 333	936	Full operational service
Partridge Island, N.B.	45º14'N 66º03'W	295 kHz 200bps	326, 327	939	Full operational service
Western Head, N.S.	43º59'N 64º40'W	312 kHz 200bps	334, 335	935	Full operational service
Hartlen Point, N.S.	44º36'N 63º27'W	298 kHz 200bps	330, 331	937	Full operational service
Fox Island, N.S.	45º20'N 61º05'W	307 kHz 200bps	336, 337	934	Full operational service
Cape Race, N.L.	46º46'N 53º11'W	315 kHz 200bps	338, 339	940	Full operational service
Cape Ray, N.L.	47º38'N 59º14'W	288 kHz 200bps	340, 341	942	Full operational service
Rigolet, N.L.	54º11'N 58º27'W	299 kHz 200bps	344, 345	946	Full operational service
Cape Norman, N.L.	51º30'N 55º49'W	310 kHz 200bps	342, 343	944	Full operational service

CCG DGPS BROADCASTS - Great Lakes and St. Lawrence River

Station Name	Location NAD83	Frequency & Transmission Rate	IALA Reference Station ID	IALA Radiobeacon ID	Remarks
Cardinal, Ont.	44º47'N 75º25'W	306khz 200bps	308, 309	919	Full operational service
Wiarton, Ont.	44º45'N 81º07'W	286khz 200bps	310, 311	918	Full operational service


DGPS Coverage - East Coast
All possible efforts have been made to verify the data using actual measurements. However, coverage may be affected by time of the day, season or land layout. Therefore the coverage shown is approximate and the Canadian Coast Guard cannot be responsible for any inaccuracies.
Rigolet, NL 299 KHZ
Cape Norman, NL 310 KHZ
Cape Ray, NL 288 KHZ
Cape Race, NL 315 KHZ
Fox Island, NS 307 KHZ
Harten Point, NS 298 KHZ
Western Head, NS 312 KHZ
Moisie, QC 313 KHZ
Point Escuminac, NB 319 KHZ
Partridge Island, NB 295 KHZ
Existing DGPS Stations
November 21, 2002


DGPS Coverage - St. Lawrence Seaway
All possible efforts have been made to verify the data using actual measurements. However, coverage may be affected by time of the day, season or land layout. Therefore the coverage shown is approximate and the Canadian Coast Guard cannot be responsible for any inaccuracies.
Moisie, QC
313 KHZ
Riviere-du-Loup, QC
300 KHZ
Lauzon, QC
309 KHZ
Cape Ray, NL
288 KHZ
Point Escuminac, NB
319 KHZ
St-Jean-sur-Richelieu, QC
296 KHZ
Cardinal, QC
306 KHZ
Existing DGPS Stations
November 22, 2005


DGPS Coverage - Central Region
All possible efforts have been made to verify the data using actual measurements. However, coverage may be affected by time of the day, season or land layout. Therefore the coverage shown is approximate and the Canadian Coast Guard cannot be responsible for any inaccuracies.
Georgian Bay
Wiarton, ON
286 KHZ
Lake Huron
Cardinal, ON
306 KHZ
St-Jean-sur-Richelieu, QC
296 KHZ
Lake Ontario
Lake Erie
Existing DGPS Stations
November 21, 2002

PRE-ARRIVAL INFORMATION REPORT (PAIR)

Note: The following pre-arrival information requirement does not apply to vessels operating solely on the Great Lakes or to the portions of a vessel's voyage on the Great Lakes after pre-arrival information has been given prior to its entrance into the St. Lawrence Seaway.

The master of the following vessels, engaged on a voyage from a port in one country to a port in another country:

- SOLAS vessels of 500 tons gross tonnage or more
- SOLAS and NON-SOLAS vessels carrying 12 passengers or more
- NON-SOLAS vessels that are more than 100 tons, gross tonnage; excluding fishing vessels, pleasure craft and government vessels
- NON-SOLAS vessels that are a towing vessel engaged in towing a barge astern or alongside or pushing ahead, if the barge is carrying certain dangerous cargoes.

shall ensure their vessel does not enter Canadian waters unless the master submits their pre-arrival information to a Canadian MCTS centre before entering Canadian waters. All pre-arrival information must be provided 96 hours prior to entering Canadian waters unless the total duration of the voyage before entering Canadian waters is less than 96 hours in which case the notification must be provided 24 hours prior to entering Canadian waters. If the duration of the segment of the voyage before entering Canadian waters is less than 24 hours, vessels are required to send a pre-arrival report as soon as practicable before entering Canadian waters but no later than the time of departure from their last port of call.

The Pre-Arrival Information must be sent to one of the addresses below:

a) Vessels planning to transit through Canadian territorial waters or enter Canadian waters inbound to a Canadian port on the West Coast shall send pre-arrival information to the Canadian Coast Guard Regional Marine Information Centre (RMIC) via one of the following methods listed below:

E-mail: OFFSHORE@RMIC.GC.CA
INMARSAT: telex 04352586 "CGTC VAS VCR"
any Canadian Coast Guard MCTS Centre, free of charge; or
directly to CVTS Offshore by Fax: 604-666-8453

b) Vessels planning to transit through Canadian territorial waters or enter Canadian waters inbound to a Canadian port on the East Coast including a Canadian or American port in the Great Lakes shall send pre-arrival information to ECAREG Canada via one of the following methods listed below:

St. John's MCTS Centre
Telex - 016-4530
Facsimile – 709-772-5369
Telegraphic Identifier - CCGTC SNF
Email: ECAREGSNF@INNAV.GC.CA

OR

Halifax MCTS Centre
Telex - 019-22510
Facsimile – 902-426-4483
Telegraphic Identifier - CCG MRHQ DRT
Email: HLXECAREG1@INNAV.GC.CA

c) Vessels planning to transit through Canadian territorial waters or enter Canadian waters inbound to a Canadian port within the Canadian Arctic Zone shall send pre-arrival information to NORDREG Canada via one of the following methods listed below:

*****Iqaluit MCTS Centre
Facsimile – 867-979-4264
Telex (Telefax) 063-15529
Telegraphic Identifier - NORDREG CDA
Email: IQANORDREG@INNAV.GC.CA
***Open only during the navigation season (approximately mid-June to end of November).**

It is the responsibility of the Master of the vessel to ensure all information provided to the Government of Canada (Transport Canada) in the pre-arrival information is complete and accurate. Masters of vessels subject to the *Marine Transportation Security Regulations* (as described above) failing to submit or submitting an incomplete or inaccurate pre-

arrival information risk subjecting their vessel to control actions such as, but not limited to: inspection, detention, redirection or expulsion from Canadian waters.

The vessel's pre-arrival information shall include the following:

a) its name;
b) its country of registry;
c) the name of its registered owner;
d) the name of its operator;
e) the name of its classification society;
f) its international radio call sign;
g) its International Ship Security Certificate, Canadian Vessel Security Certificate or ship security compliance document number;
h) its International Maritime Organization number, if it is a SOLAS ship;
i) the date of issuance, date of expiry and name of the issuing body of its International Ship Security Certificate, Canadian Vessel Security Certificate, or ship security document;
j) confirmation that the vessel has an approved vessel security plan;
k) the current MARSEC level;
l) a statement of when its last 10 declarations of security were completed;
m) details of any security threats to the vessel during the last ten calls at marine facilities;
n) a statement as to whether the vessel consents to tracking by the Canadian Government;
o) details of any deficiencies in its security equipment and systems, including the communication systems, and the way in which the master of the vessel intends to correct them;
p) if applicable, the name of it's agent and contact person and their 24-hour telephone and facsimile numbers;
q) if applicable, the name of the vessel's charterer;
r) its position and time at which it reached that position;
s) its course and speed;
t) its destination and estimated time of arrival at its destination;
u) the name of a contact person at the marine facility that it will visit and their 24-hour telephone and facsimile numbers;
v) the following information in respect of its last ten marine facilities visited:
    i) the receiving facility;
    ii) the marine facility visited;
    iii) the city and country;
    iv) the date and time of arrival, and
    v) the date and time of departure;
w) a general description of the cargo, including cargo amount; and
x) if applicable, the presence and description of any dangerous substances or devices on board.

All reasonable measures shall be taken whenever a change occurs in the information previously provided in any pre-arrival information made pursuant to the *Marine Transportation Security Regulations*, to the appropriate MCTS Centre as soon as possible.

SERVICES

NOTICES TO SHIPPING

Notices to Shipping (NOTSHIP) issued for the Atlantic, Great Lakes and Arctic areas of Canada are assigned an alphanumeric designator. The alphanumeric designator consists of an alpha character which identifies the Canadian Coast Guard (CCG) Notices to Shipping issuing authority. The alpha character is followed by a number commencing with the number 001 on January 1 each year and subsequently increasing with each new notice until years end. Alpha designators utilized in Canadian Notices to Shipping are as follows:

A – Arctic C – Central M – Maritimes N – Newfoundland Q – Quebec

Broadcast times and radio frequencies for Notice to Shipping broadcasts by CCG Marine Communications and Traffic Services (MCTS) Centres are listed in Part 2 of this publication.

Some Notices to Shipping remain in effect for extended periods of time. To reduce broadcast time, these notices are designated as Written Notices to Shipping and bear the same number as the corresponding broadcast notice.

Written Notices to Shipping are distributed to shipping companies, agents, and other interested parties as indicated in the table below:

Distribution of Written Notices to Shipping

Designator	NOTSHIP Authority	Post	Fax	Email	Internet
A	Central & Arctic Region		**X**	**X**	
C		**X**	**X**	**X**	
M	Maritimes Region		**X**	**X**	
N	Newfoundland Region	**X**			
Q	Québec Region				www.marinfo.gc.ca

Persons may have their names added to or deleted from mailing lists by contacting the appropriate NOTSHIP issuing authority in their area (refer to page 1-8).

Masters are reminded of the regulatory requirement to report any danger, potential danger or hazard to navigation which they may encounter. Reports should be forwarded to the appropriate MCTS Centre as soon as possible to ensure the widest distribution to mariners through broadcast Notices to Shipping.

Information Updates

Notices to Mariners contain information which serves to correct charts and related publications. Up-to-date information is available to vessels inbound for Canadian waters on any changes which have occurred between the date of issue of the most recent monthly edition of Canadian Notices to Mariners held on board. Vessels wishing to avail themselves of this service should send their request directly to *ECAREG or NORDREG Canada.* Requests may also be routed via any MCTS Centre as listed in Part 2 of this document.

When making this request the following information shall be included:

- ship's name and call-sign
- present position, destination and intended route
- most recent monthly edition of Canadian Notices to Mariners held on board
- list of recent Notices to Shipping held on board.

Ice information, ice routing and icebreaker assistance may be obtained through the Eastern Canada Traffic System *(ECAREG CANADA)* or the Arctic Canada Traffic System *(NORDREG CANADA).* Refer to Notice Number 6 of the Annual Edition, Notices to Mariners or the publication "Ice Navigation in Canadian Waters" for additional information.

WORLDWIDE RADIO NAVIGATIONAL WARNING SYSTEM

(a) NAVAREA Warnings

In accordance with the decisions of the Ad Hoc Joint IHO/IMO Committee on Radio Navigational Warnings, the United States conditionally, on January 1, 1977, accepted responsibility for NAVAREAS IV and XII in the Worldwide Radio Navigational Warning System.

NAVAREA IV covers the North Atlantic Ocean West of 35°W and north of 7°N. These messages are broadcast from: Boston (NMF) at 0140 UTC on 6314 kHz, 8416.5 kHz, and 12579 kHz (FIB) and at 1630 UTC on 8416.5 kHz, 12579 kHz, and 16806.5 kHz (FIB).

NAVAREA XII covers the North Pacific Ocean east of 180° and north of the equator, plus the area north of 3° 25'S and east of 120°W. These messages are broadcast by Honolulu (NMO) at 0330 and 1730 UTC daily, on 8416.5 kHz, 12579 kHz, and 22376 kHz (FIB).

The area warning system should normally be sufficient for the ships which proceed along the main oceanic routes of an Area. However, in some waters knowledge of the coastal warnings may prove necessary.

(b) Subject Matter Of Warnings

The following list of messages considered suitable for transmission as warnings in this service is not exhaustive and should only be regarded as a guideline. Furthermore, it presupposes that sufficiently precise information about the items has not previously been disseminated in Notices to Mariners.

(i) casualties to lights, fog signals and buoys affecting main shipping lanes;
(ii) the presence of dangerous wrecks in or near main shipping lanes and, if relevant, their marking;
(iii) establishment of major new aids to navigation or significant changes to existing ones when such establishment or change might be misleading to shipping;
(iv) the presence of large unwieldy tows in congested waters;
(v) drifting mines;
(vi) areas where search and rescue (SAR) and anti-pollution operations are being carried out (for avoidance of such areas);
(vii) ships and aircraft on or over the open sea reported in distress, seriously overdue or missing;
(viii) the presence of newly discovered rocks, shoals, reefs and wrecks likely to constitute a danger to shipping, and, if relevant, their marking;
(ix) unexpected alteration or suspension of established routes;
(x) cable or pipe-laying activities, the towing of large, submerged objects for research or geophysical exploration, the employment of manned or unmanned submersibles, or other underwater operations constituting potential dangers in or near shipping lanes;
(xi) establishment of off-shore structures in or near shipping lanes;
(xii) significant malfunctioning of radio-navigation services;
(xiii) information concerning special operations which might affect the safety of shipping, sometimes over wide areas, e.g. naval exercises, missile firings, space missions, nuclear tests, etc. These should be initially promulgated by the Area Co-ordinator concerned not less than five days in advance of the scheduled event, wherever possible. The messages should be repeated as considered necessary until the event is completed.
(xiv) navigational warnings broadcast within the Area should be consecutively numbered throughout the calendar year.

(c) Coastal Warnings

Coastal warnings are concerned with information listed in paragraphs (a) above which is sufficient for mariners to know when they enter a given Sub-area or region. However, coastal warnings should not be restricted to main shipping lanes.

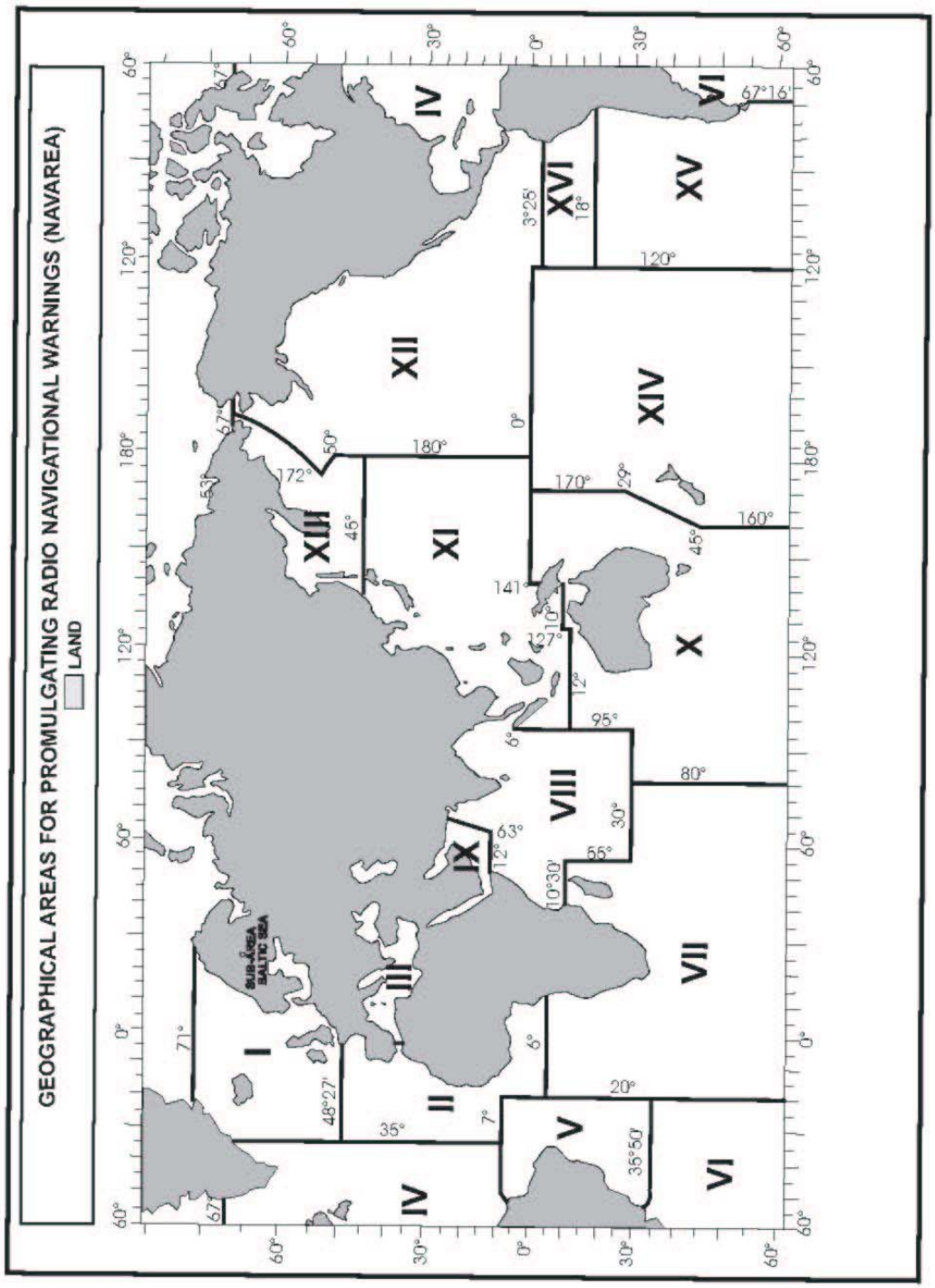
(d) Local Warnings

Local warnings supplement the coastal system by giving detailed information on aspects which the ocean-going ship normally does not require. However, local warnings may be issued in the national language only.

(e) Danger Messages

In accordance with Section 82 of the Navigation Safety Regulations, the master of a ship which meets with dangerous ice, a dangerous derelict, or any other direct danger to navigation, a tropical storm or a storm which the master believes might develop into a tropical storm, or encounters sub-freezing air temperatures associated with gale force winds causing severe ice accretion on superstructures, or winds of force 10 or above on the Beaufort scale for which no storm warning has been received, shall communicate this information to ships in the vicinity and the nearest coast station.

Please refer to Section 82(4) of the Navigation Safety Regulations for the information required in a danger message.


GEOGRAPHICAL AREAS FOR PROMULGATING RADIO NAVIGATIONAL WARNINGS (NAVAREA)
LAND
I
II
III
IV
V
VI
VII
VIII
IX
X
XI
XII
XIII
XIV
XV
XVI
SUB-AREA BALTIC SEA

CELLULAR TELEPHONE (*16) SERVICE - MARINE EMERGENCIES

MCTS Centres in certain parts of Canada are connected to the cellular telephone network system where cellular telephone users can, **in an emergency situation only, dial *16 or #16 (dependant upon the service provider)** on their telephone to access an MCTS Centre in order to obtain assistance.

Mariners are cautioned that **a cellular telephone is not a good substitute for a marine radio** because the maritime mobile radio safety system in the southern waters of Canada is based principally on VHF communications. VHF has the advantage that a call can be heard by the closest MCTS Centre(s) and by ships in the vicinity which could provide immediate assistance. On the other hand, the telephone cellular network is a party-to-party system and the benefit of the broadcast mode in an emergency situation cannot be obtained.

Mariners are reminded that the use of marine radio distress frequencies to obtain assistance in an emergency situation is the best option and that cellular telephone should be used only as an alternative should the VHF radiotelephone set not be available. Standard distress alerting equipment, such as marine radio and EPIRBs should never be replaced by cellular telephone alone.

Note: Details of this service may be obtained by contacting local cellular telephone companies; however, mariners are cautioned that not all cellular telephone companies provide this service.

DIRECTION FINDING (VHF/DF) SERVICE

MCTS Centres in certain parts of Canada are provided with VHF/DF equipment, primarily to determine or confirm the bearing, from a DF facility, of a vessel requiring assistance in a distress or other emergency situation. In addition, an estimated line of position from a DF facility can be provided to vessels that are uncertain of their locations. Location of VHF/DF facilities will be found in the appropriate Centre listings in Part 2 of this publication. The intent of this service is not to provide a navigation service. Positions must be regarded as estimates only. Mariners are cautioned that any information provided shall be used at their own discretion.

Direction Finding Bearings

Any MCTS Centre will, on request, transmit signals that will enable a ship to take a radio bearing with its own direction finder. It is pointed out to masters of ships fitted with direction finding equipment employing DF loops, that serious error may result in bearings taken if metallic material or equipment (poles, wires, winches, etc.) are erected in proximity to the DF antenna equipment after calibration.

Masters of ships are urged to exercise caution in the use of commercial radio broadcasting stations as radio beacons. Bearings taken on such stations may be very inaccurate owing to errors caused by coastal refraction and the calibration of the Direction Finder employed may vary considerably due to the wide difference in frequencies used, (i.e. the standard broadcast band spreads over approximately 1060 kHz). In addition, it is advisable to make certain that the position of the broadcast transmitter (not the studio) is accurately known before using it as a navigation aid.

SAIL PLAN SERVICE

All small craft operators, including those making day trips, are encouraged to file a Sail Plan with a responsible person. This person should be instructed to call the Joint Rescue Coordination Centre (JRCC) or Maritime Rescue Sub-Centre (MRSC) if the vessel becomes overdue (the telephone number can be found at the front of most telephone books, and should be included with the Sail Plan). 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 any Coast Guard MCTS Centre. While at sea, masters/operators who have filed a sail plan with an MCTS Centre are encouraged to file a daily position report during long trips. Upon your return, be sure to close (or deactivate) the sail plan you filed earlier. Forgetting to do so can result in an unwarranted search for you.

The information to be provided should be in accordance with the listing below.

- vessel identification (boat's name and licence number);
- sail or power;
- vessel size and type;
- colour of hull, deck, and cabin;
- type of engines;
- other distinguishing features;
- radios and channels monitored (MF / HF / VHF);
- Maritime Mobile Service Identity (MMSI);
- satellite and/or cellular telephone number;
- description of life rafts or small boats available;
- number and type of flares;
- number of lifejackets PFDs and/or survival suits;
- other safety equipment;
- name, address, and telephone number of vessel owner;
- other information;
- date and time of departure;
- number of people on board;
- departure point;
- route and stop-over points;
- destination;
- estimated date and time of arrival at destination; and,
- telephone number of an emergency contact person.

SEARCH AND RESCUE IN CANADIAN AREAS OF RESPONSIBILITY

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). In addition, Maritime Rescue Sub-Centres (MRSC), staffed by Coast Guard personnel are maintained at St. John's, Nfld. and at Québec, QC. to coordinate local marine SAR operations.

JRCC TRENTON	1-800-267-7270 (Central Canada only)
Emergency telephone number	613-965-3870
	613-965-7190 (fax)
	066-2282 (telex)
	431699928 / 29 (telex - INMARSAT C)
JRCC HALIFAX	1-800-565-1582 (Maritime Region only)
Emergency telephone number	902-427-8200
	902-427-2114(fax)
Telex number Inmarsat B on Atlantic Ocean Region West	584-331699943 (telex–INMARSAT B on AOR West)
	493020114 / 15 (telex – INMARSAT C)
MRSC QUEBEC	1-800-463-4393 (Québec Region only)
Emergency telephone number	418-648-3599
	418-648-3614 (fax)
MRSC ST. JOHN'S	1-800-563-2444 (Newfoundland & Labrador Region only)
Emergency telephone number	709-772-5151
	709-772-2597 (fax).
Telex number	581-331600063 (telex – INMARSAT B – AOR East)
	431699930 / 31 (telex – INMARSAT C)
	016-4044 (telex)

Canadian Coast Guard Auxiliary

The Canadian Coast Guard Auxiliary (CCGA) is an association of approximately 4500 dedicated volunteers operating close to 1300 vessels to support the Canadian Coast Guard in Marine Search and Rescue.

For more information on maritime SAR services in Canada, refer to Section 28 of the Annual Edition of Notices to Mariners, published by the Canadian Coast Guard, Marine Navigation Services.

MARINE COMMUNICATIONS AND TRAFFIC SERVICES MESSAGE SERVICE

Message Charges

Messages no longer accepted:

(a) Ships' business messages
(b) Private messages.

Messages handled without charge by MCTS Centres:

(a) Messages pertaining to weather or ice information and ice routing.
(b) Messages concerning aids to navigation.
(c) AMVER Messages, addressed AMVER HALIFAX
(d) Radiomedical messages.
(e) Messages reporting pollution.
(f) Messages addressed to a port or a member of the Canadian Coast Guard that involve a report of a ship movement, position or condition.
(g) Messages addressed to a Joint Rescue Co-ordination Centre (JRCC) or Maritime Rescue Sub-Centre (MRSC).
(h) Pilotage messages
(i) Official Naval messages
(j) Quarantine messages addressed to "Quarantine"
(k) Messages requesting a doctor to meet a ship on arrival.

Weather Messages

Weather reports in the international meteorological code, made at the standard synoptic hours of 0000, 0600, 1200 and 1800 UTC, are solicited from ships of all nationalities which have been recruited by their own national weather service, or other weather services, to make weather reports on a regular basis. These reports should be made and transmitted to the nearest MCTS Centre, irrespective of the ship's position. In fact, reports made close to, or even within sight of land, are equally important to reports made offshore, due to the greater variability of weather conditions in proximity to a coastline.

Pollution Messages

All vessels plying Canadian and adjacent waters are requested to report oil slicks or pollution of any type to the nearest MCTS Centre.

Medical Advice Messages

Masters of ships may obtain medical advice by addressing a radiotelegram to "Radiomedical" and routing it via the nearest MCTS Centre which will refer the message to the nearest medical authority and transmit the reply to the ship.

Quarantine Messages

1. In the following circumstances only, the person in charge of a vessel shall, by radio, at least 24 hours prior to the vessel's estimated time of arrival at its port of destination, notify the quarantine officer at the quarantine station designated in paragraph (3) for that port of the occurrence:

   Where, in the course of a voyage of a vessel,

   (a) a member of the crew or a passenger on board the vessel exhibits one or more of these symptoms,
   - Fever or chills (profuse sweating, unusually flushed or pale skin, shivering;
   - Rash;
   - Stiff neck;
   - Confusion or disorientation;
   - Bruising or bleeding without injury;
   - Yellowing of skin or eyes;
   - Profuse watery or bloody stools;
   - Cough, difficulty breathing and/or sore throats;
   - Severe headache;
   - Colored sputum (yellow, green, brown), or sputum containing blood; or,
   - Death

   that person should be isolated in order to minimize the exposure of crew and passengers, and the Quarantine Station / Quarantine Officer contacted.

   (b) the person in charge of the vessel is, during the period
   i. of four weeks preceding the estimated time of arrival of the vessel, or
   ii. since he last submitted a declaration of health as required by section 16, whichever is the lesser, aware of any instance of illness among the crew or passengers that he suspects is of a communicable nature and may lead to the spread of disease,

   (c) the vessel has, within sixty days of its estimated time of arrival in Canada, been in a country that, in the opinion of a quarantine officer, is infected or suspected of being infected a communicable disease, or

   (d) a certificate establishing that the vessel has been de-ratted or exempted from de-ratting procedures has expired or is about to expire.

2. At the same time, the person in charge of a vessel shall, by radio, provide the quarantine officer with the following information:
   (a) the name and nationality of the vessel;
   (b) the ports called at during the voyage of the vessel;
   (c) the nature of the cargo on board the vessel;
   (d) the number of persons comprising the crew of the vessel;
   (e) the number of passengers on board the vessel;
   (f) the port of destination of the vessel and the name of the vessel's owner or, if the owner is not in Canada, the name of the vessel's agent in Canada;
   (g) the condition of all persons on board the vessel and details of any death or illness occurring during the voyage;
   (h) whether the body of any person is being carried on the vessel;
   (i) the estimated time of arrival of the vessel at the port of destination; and
   (j) the date and place of issuance of any de-ratting certificate or de-ratting exemption certificate applicable to the vessel.

3. For the purposes of paragraph (1), the quarantine station for vessels bound for
   (a) a port in the Province of Nova Scotia or a port in the Province of Prince Edward Island, is Quarantine Station, Halifax, Nova Scotia 902-873-7659 (24 hour phone line);
   (b) a port in the Province of New Brunswick, is Quarantine Station, Halifax, Nova Scotia 902-873-7659 (24 hour phone line);
   (c) a port in the Province of Newfoundland, is Quarantine Station, Halifax, Nova Scotia 902-873-7659 (24 hour phone line);

(d) a port in the Province of Quebec or any Canadian port via the St. Lawrence River, is Quarantine Station, Montreal, Quebec 514-229-2561(24 hour phone line);
(e) a port on Hudson Bay is Quarantine Station Calgary, Alberta 403-221-3067 (24 hour phone line)

When circumstances outlined in paragraph (1) require vessels bound for any St. Lawrence River or Great Lakes port to notify the quarantine officer, this should be done preferably 48 hours prior to arrival at Quebec City or, if not preceding past Quebec City, 48 hours prior to arrival at destination. To ensure prompt and efficient service, messages should be sent through an east coast MCTS Centre.

4. The person in charge of a vessel who wishes to change his port of destination after receiving instructions from the quarantine officer shall notify him of such change and request new instructions.

Pilotage Messages

For detailed information on Notices to Obtain Pilot, Notices of Departure, Notices of Movage, Optional Notices and Required Information, please refer to Section 23 of the latest Annual Edition of Notices to Mariners, published by the Canadian Coast Guard, Marine Navigation Services.

Official Naval Messages

For detailed information on Naval Messages to Canadian and Commonwealth ships in Canadian areas, please refer to Section 39 of the latest Annual Edition of Notices to Mariners, published by the Canadian Coast Guard, Marine Navigation Services.

ICE ADVISORY SERVICE

Gulf of St. Lawrence, St. Lawrence River, South and East Coasts of Newfoundland and Labrador Coast

Commencing December 15, each year, and until ice in the Gulf of St. Lawrence is no longer likely to hinder shipping, an experienced ship master will be attached to ECAREG CANADA as Ice Operations Officer. During this period, vessels inbound to the Gulf of St. Lawrence should report using the address ECAREG CANADA through any MCTS Centre twenty-four hours prior to their expected entry into the Cabot Strait, stating their position, destination, whether loaded or in ballast, ice class if any, and classification society. This procedure will facilitate the passing of ice information and a suggested shipping track as necessary. Ships bound for ports on the South and East Coasts of Newfoundland and along the coast of Labrador should also report to ECAREG CANADA for ice information, routing and escort as necessary. Gulf shipping interests are requested to maintain close contact with the Ice Operations Office so that all routing and escort assistance needed may be provided as circumstances permit.

All radio communications mentioned in this notice addressed to ECAREG CANADA and passed through a MCTS Centre will be handled free of charge to the ship.

Ships outbound from Canadian ports east of Sept-Iles should report to the Ice Operations Officer ECAREG CANADA through any MCTS Centre twenty-four hours in advance of sailing time, if possible, for ice information, suggested routing and escort if deemed necessary.

Ships outbound from Sept-Iles and ports west of Sept-Iles may obtain the latest bulletin pertaining to reported ice conditions, forecast and recommended routing for the Gulf and River St. Lawrence by calling the Quebec, Les Escoumins or Montreal MCTS Centre on the control frequency of the sector in which the vessel is located. Vessels bound seaward when passing off Sept-Iles, should further contact ECAREG CANADA through any MCTS Centre for up-to-date ice information, routing and icebreaker escort if required.

During the winter navigation season, MCTS Centres broadcast ice advisories and forecasts on a regular schedule as indicated in the MCTS Centre listings. Ice forecasts will normally be for five day periods when ice is light and of no immediate concern to shipping. Frequency of issue will be increased and forecast periods shortened when direct tactical support to shipping is required. Ice advisories will normally include a summary of existing ice conditions, a forecast of ice conditions for an appropriate period (2 to 5 days) and may include a suggested shipping track. This information is also broadcast in the form of charts by facsimile from stations so equipped.

Great Lakes

Fisheries and Oceans Canada operates a service for the support of vessels navigating in Canadian waters of the Great Lakes during the season in which navigation is restricted by ice. This service includes the promulgation of up-to-date information on ice conditions, routing advice, aids to navigation and the provision of icebreaker support when available and considered necessary, also the formation of convoys when conditions dictate.

The following information outlines the services and facilities provided by the Canadian Coast Guard:

(1) Assembly and distribution of ice advisories, forecasts, and synoptic ice charts.
(2) Routing advice through light ice conditions, upon request.
(3) Coordination and direction of icebreaker support activities.

The service is known as "Ice Sarnia" and will commence December 1st, each year, and terminate when ice conditions permit unrestricted navigation.

Address: Ice Sarnia
Canadian Coast Guard,
105 Christina St. South
SARNIA ON N7T 7W1

Telephone: 519-383-1855
Facsimile: 519-337-2498

The Canadian Coast Guard has a limited number of icebreakers available for the support of shipping and these are heavily committed. Therefore, it is emphasized that icebreaker support cannot always be provided on short notice. In order to make the most efficient use of available resources it is most important that Ice Sarnia be kept informed about the position and projected movements of vessels on the Great Lakes. Masters or agents should notify Ice Sarnia as soon as their sailing time is known, giving their ETD and destination in order to receive the most up-to-date information.

Arctic and Hudson Strait and Bay

The Canadian Coast Guard operates a service for the support of ships navigating in the ice congested Canadian Arctic, and other ice free northern waters, during the summer navigation season. Access to this service can be obtained by calling NORDREG CANADA. This support includes the promulgation of up-to-date information on ice conditions; advice on routes; aids to navigation; icebreaker support when available and considered necessary; and organization of convoys when conditions dictate.

Throughout the navigation season, ice advisories, forecasts and synoptic ice charts are issued by Canadian Ice Service in Ottawa, and broadcast daily by radio and radio facsimile. Particulars of the time of transmissions and radio frequencies used, etc. will be found in Part 2 of this publication.

The Canadian Coast Guard has established an MCTS Centre at Iqaluit, Nunavut. The Centre opens in mid June and is staffed until late November

Contact information for NORDREG Canada is as follows:

Address: Fisheries and Oceans
Canadian Coast Guard
NORDREG Canada
P.O. Box 189
IQALUIT NU X0A 0H0

Telephone: 867-979-5724 or 979-5269
Facsimile: 867-979-4264
Telex (Telefax): 063-15529
Telegraphic Identifier: NORDREG CDA
E-mail: IQANORDREG@INNAV.GC.CA

The Canadian Coast Guard has a limited number of icebreakers available for the support of shipping. Because of heavy commitments, it is emphasized therefore, that icebreaker support cannot always be provided at short notice. In order to make the best possible use of available resources, it is most important that the Arctic Canada Traffic System (NORDREG CANADA) is as well informed as possible about the position and movements of ships in the Canadian Arctic. Ships bound for or leaving Hudson Bay or the High Arctic are required to contact NORDREG CANADA in accordance with procedures specified in Part 3, Vessel Traffic Services, of this publication.

***CANADIAN HYDROGRAPHIC SERVICE* - Conversion of charts to North American Datum 1983 (NAD 83)**

The Canadian Hydrographic Service is converting navigational charts to the North American Datum 1983 (NAD 83).

NAD 83 is considered equivalent to the World Geodetic System 1984 (WGS 84) recently adopted as the horizontal datum for world-wide use. The advantage of the new datum is its compatibility with the NAVSTAR (GPS) satellite positioning system.

The difference in the position of the same point when quoted on the former NAD 27 and the new NAD 83 is up to 60 metres on the Atlantic coast, about 110 metres on the Pacific coast and almost zero near Chicago although there can be local discrepancies from these approximations.

Horizontal positions obtained from satellite receivers are based on NAD 83 (WGS 84) and must be converted to the horizontal chart datum (if not NAD 83) before being used. In some cases, the horizontal position obtained by LORAN-C coordinate converters, after due correction for Additional Secondary Factor (see Part 6), is based on NAD 83 and must also be converted to horizontal chart datum (if not NAD 83).

A note has been added to nearly all existing charts indicating the datum on which the chart is based, and providing the increase or decrease required to convert the latitude and longitude from NAD 83 to the chart datum.

New Charts and New Editions being produced are now almost always based on NAD 83.

➔**Note:** Latitude and longitude positions given in this publication are in NAD 83 unless otherwise indicated.

INSPECTION OF RADIO APPARATUS

The Canadian Coast Guard on behalf of Transport Canada, is responsible for the conduct of ship radio inspections pursuant to the Canada Shipping Act. Queries concerning the standards governing inspections of radio apparatus fitted in ships for safety purposes may be sent to:

Project Manager, Ship Radio Inspection
Fisheries and Oceans Canada
Canadian Coast Guard
200 Kent Street, 7th Floor, Station 7S022
OTTAWA ON K1A 0E6
Tel: 613-998-1520 Fax: 613-998-9258
E-Mail: pittmand@dfo-mpo.gc.ca

Owners and masters of Canadian ships, that are required to be fitted with a radio installation under the provisions of the *Canada Shipping Act*, are reminded that they are responsible to ensure that the installation is inspected by a Radio Inspector not more than one month before the ship first proceeds to sea and at least every year thereafter in order that they may be issued with an appropriate Safety or Inspection Certificate.

A non-Canadian ship which does not have a valid Radio Safety Certificate on board may be detained by a port Customs Officer until a valid certificate has been obtained.

A fee for the conduct of ship radio inspections is levied in accordance with the *Ship Radio Inspection Fees Regulations*. The fee is payable upon completion of the inspection.

Applications for radio inspections of Canadian ships should be filed with the Canadian Coast Guard (CCG). The form entitled: Application for Radio Inspection, Compulsory Fitted Ships (82-0643) should be used for this purpose. Such request by owners, agents or masters should be received by the CCG at least three days (72 hours) in advance of the date requested for inspection.

The owners, agents or masters of Canadian ships requiring radio inspection while outside of Canada should make application by fax or letter to:

Transport Canada
Director General
Marine Safety Directorate
Tower C, Place de Ville
330 Sparks Street
OTTAWA ON K1A 0N8
Telephone: 613-998-0611
Fax: 613-954-1032

Non-Canadian ships (except Liberian ships) may obtain a cargo Ship Safety Radio Certificate (GMDSS) in Canada. Applications should originate with the owners, ship agents or masters of the ships concerned and be supported by confirmation from the Consul or other official representative of the country in which the ship is registered. Confirmation shall be in writing. It is the responsibility of the owner, agent or master to contact the Consul or official representative and arrange to submit the necessary confirmation to the local CCG inspection office. Where time is limited, a verbal request for an inspection may be accepted from the Consul or official representative (a person who has a document from an Administration giving him the official power to act on their behalf), provided that the confirmation is submitted later.

Applications for radio inspections of Canadian ships wintering in US Great Lakes ports should be made by the owners, agents or masters on F.C.C. form 809 and filed directly with the FCC Field Engineering office nearest to the port of which the inspections are desired. Copies of form 809 are available from any of the FCC offices serving the Great Lakes.

Ship Radio Inspection Contacts:

Canadian Coast Guard
Newfoundland and Labrador
Fisheries and Oceans Canada
Telephone & Fax: 1 888-454-3177
Outside Canada Telephone & Fax: 1-709-454-3177

Charlottetown, **Prince Edward Island,** C1A 7M8
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard
P.O. Box 1236
Telephone: 902-566-7976
Fax: 902-566-8221

Saint John, **New Brunswick,** E2L 4B3
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard
P.O. Box 700, Water Street
Telephone: 506-636-4743
Fax: 506-636-5000

Dartmouth, **Nova Scotia,** B2Y 4A2
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard
P.O. Box 1006
Telephone: 902-426-3753
Fax: 902-426-6908

Yarmouth, **Nova Scotia,** B5A 4B1
Senior Technician
Fisheries and Oceans Canada
Canadian Coast Guard
P.O. Box 37
Telephone: 902-742-6858
Fax: 902-742-0411

Canadian Coast Guard **Quebec**
Fisheries and Oceans Canada
Telephone: 514-283-5684
Fax: 514-283-2129

Prescott, **Ontario,** K0E 1T0
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard Ships Electronic Workshop
401 King Street West, P.O. Box 1000
Telephone: 613-925-2865 ext. 246
Fax: 613-925-5540

Sarnia, **Ontario,** N7T 7W1
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard Ships Electronic Workshop
105 Christina Street South
P.O. Box 2839
Telephone: 519-464-5106
Fax: 519-464-5108

Thunder Bay, **Ontario,** P7B 6R9
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard Ships Electronics Workshop
100 Main Street, Suite 400
Telephone: 807-345-8084
Fax: 807-344-5893

Sydney, **Nova Scotia,** B1P 6K7
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard Ships
1190 Westmount Road, P.O. Box 8630
Telephone: 902-564-7750
Fax: 902-564-8608

RADIO STATION LICENSING AND MMSI NUMBERS

To obtain further information on radio station licensing and Maritime Mobile Service Identity (MMSI) numbers contact Industry Canada at: http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/vwGeneratedInterE/sf01742e.html or locate the nearest Industry Canada office through the local telephone directory.

Fisheries and Oceans Canada | Pêches et Océans Canada

Coast Guard | Garde côtière

APPLICATION for a RADIO INSPECTION of a COMPULSORILY FITTED VESSEL

Name of Vessel	Port of Registry	MMSI	Call Sign

Gross Tonnage	Length	Official Number	IMO Number

Agent: Name, Address, Telephone Number

Check if appropriate to this inspection

- ☐ New vessel or first inspection?
- ☐ Change of Voyage?
- ☐ Change of Certificate Type?

Radio Services Representative: Name & Telephone Number

Check appropriate Vessel type

- ☐ Cargo
- ☐ Tanker
- ☐ Government Search & Rescue
- ☐ Drilling Unit
- ☐ Oil and Gas Standby Vessel
- ☐ Fishing
- ☐ Fish Processing
- ☐ Passenger
- ☐ Tow-Boat

Inspection Requested - Date: Time:

Port, dock or quay, at which survey is to be conducted

Application is hereby made for a radio inspection for the ship indicated above in accordance with Canadian Law and International Convention or Treaty as applicable. If after inspection the radio apparatus is found to comply with the requirements, it is requested that the following document(s) be issued.

Please check all appropriate boxes.

- ☐ **RADIO INSPECTION CERTIFICATE** (Sea Coast of Canada)
- ☐ **RADIO INSPECTION CERTIFICATE** (Great Lakes Basin)
- ☐ **CARGO SHIP RADIO SAFETY CERTIFICATE** (SOLAS) ☐ Renewal Survey ☐ Periodical Survey
- ☐ **REPORT OF INSPECTION** concerning a radio installation on board a passenger ship engaged in international voyages.
- ☐ **LETTER OF CERTIFICATION** concerning a radio installation on board a Non-Convention cargo ship to allow Customs Clearance for an international voyage.

VOYAGE TYPE:	Home Trade	Minor Waters	Inland Waters	Foreign	International
	☐ I, ☐ II, ☐ III or ☐ IV	☐ I or ☐ II	☐ I or ☐ II	☐	☐
	Sea Area: ☐A1 ☐ A2 ☐A3 ☐A4				

CONDITIONS OF INSPECTION:

a) Transport Canada is responsible for the conduct of ship radio inspections pursuant to the Canada Shipping Act. The Minister of Transport has appointed Canadian Coast Guard Radio Inspectors to carry out radio inspections.

b) An application for inspection shall be submitted to the Canadian Coast Guard office nearest to the desired port of inspection **at least 3 days in advance of inspection date**.

c) When an inspection is requested of a ship registered elsewhere than in Canada, the application must be accompanied by a letter from the Consul or another official representative of the Administration concerned in accordance with Regulation 13, Chapter 1, SOLAS 1974, or Protocol 1988.

d) The ship's electrical power shall be available and a person with authority to operate the radio station shall be on board at the date and time determined for the inspection.

e) Fees are payable as outlined in the Ship Radio Inspection Fees Regulations (SRIFR)

_____ Date

_____ Signature of Agent or Master

76-000-000-PF-JP-001 (12-2004) *82-0643*

MARINE TELEPHONE SERVICE

General

This service enables a person aboard a ship to speak directly to any person ashore, or vice versa, as in ordinary long distance telephone calls. The service is an extension of the public telephone system to ships at sea through MCTS Centres. For procedures in establishing contact with MCTS Centres refer to "Radiotelephone Procedures". No distinction is made in regard to day, night or Sunday calls. Collect calls are admissible in either direction, ship to shore or shore to ship, with the exception that collect calls from ships to the Ice Operations Officer, Halifax, NS will not be accepted.

Radiomedical Calls

Mariners may obtain medical advice by calling an MCTS Centre and requesting to be connected to a medical professional. The Canadian Coast Guard will connect the vessel to an appropriate medical professional via the Marine Telephone System.

For mariners who wish to make their own arrangements for medical advice, radiomedical services are available in numerous languages to vessels flying any flag at any location through the International Radio-medical Centre (CIRM) in Rome, Italy. This centre is staffed 24/7/365 by specially trained physicians and radio operators who also have access to specialists in all medical branches. The CIRM can be contacted via the following means:

Telephone	39 6 54223045
Mobile	GSM 39 348 3984229
Fax	39 6 5923333
Telex	043 612068 CIRM I
Email	telesoccorso@cirm.it
Web	http://www.cirm.it

Placing a Marine Telephone Call

Ship to Shore

1. Listen to make sure that the MCTS Centre is not busy with another ship.
2. Call the MCTS Centre and when communication has been established give the following:
   (a) Name of the city being called.
   (b) Name and/or telephone number of the person being called, and if the call is to be made "collect".
   (c) Name of the caller or the number of the caller's telephone company credit calling card (if applicable).
3. When the call is completed, sign off, using the name and call sign of the ship.
4. When first placing the call, if a ship radio operator is unable to compute the charges which should be collected, request the MCTS Centre to "Report Charges". The MCTS Centre will then relay this information to the ship at the end of the call.

Shore to Ship

1. Dial "0 (zero)" and ask for the "Marine Operator".
2. Give the "Marine Operator" the following information:
   (a) Name of the person and ship being called and if the call is to be made "collect".
   (b) Name of the city and the telephone number from which the call is being made and number of the caller's telephone company credit calling card (if applicable).

Receiving a Marine Telephone Call

1. When you hear your ship being called, reply, giving your ship's name and call sign.
2. At the end of the conversation, sign off by announcing the name and call sign of your vessel.

PART 5

Environment Canada's Marine and Ice Warning and Forecast Programs

Background

➔Environment Canada's Meteorological Service of Canada (MSC) is the agency responsible for delivering Canada's weather service. The MSC offers a broad range of products and services that are designed to help mariners make informed decisions on how weather will affect them. The Canadian Coast Guard (CCG) also plays an important role in disseminating forecasts and warnings, and in collecting and relaying weather information from volunteer observers and ships.

➔The constant stream of data coming from volunteer observers, ships, weather buoys, automatic coastal stations, and lighthouses is supplemented by satellite imagery, weather radar and a full set of numerical weather products adapted for marine operations.

Marine Warning Program

Warnings of extreme weather events that pose a threat to life and property at sea such as strong winds, freezing spray, high coastal waters, squall lines and other localized phenomena shall be issued for the offshore economic zone including the St. Lawrence Seaway and major inland waters.

➔Major inland waters are defined as having significant marine activity and where time to reach shore is comparable to the marine weather warning lead time. The criteria for issuing weather warnings is based on national guidelines, but determined regionally to account for regional climatology and the nature of the regional marine community. The following table describes the warning program:

Table 1: Synoptic warnings

Synoptic warnings *	Warning criteria
Strong wind warning (2)	Winds (1) 20 to 33 knots inclusive occurring or expected to occur in any portion of a marine area including any portion defined by a local effect or an «except» statement.
Gale warning	Winds (1) 34 to 47 knots inclusive occurring or expected to occur in any portion of a marine area including any portion defined by a local effect or an «except» statement.
Storm warning	Winds (1) 48 to 63 knots inclusive occurring or expected to occur in any portion of a marine area including any portion defined by a local effect or an «except» statement.
Hurricane force wind warning	Winds (1) 64 knots or above occurring or expected to occur in any portion of a marine area including any portion defined by a local effect or an «except» statement.
Freezing spray warning	Ice accretion rate of 0.7 cm/hr or more occurring or expected to occur in any portion of a marine area including any portion defined by a local effect or an «except» statement.

Notes:

* These warnings are included in the body of the text forecast.

(1) Gusts are excluded from the definition.

(2) A warning is not required when the wind is described using the range 15-20 knots. This range is normally used for greater accuracy.

Range: With the exception of Note (2) above, when a range is used to describe the wind speed, the upper value of the range determines the warning category.

Table 2: Localized warnings

Localized warnings/watches *	warning criteria
Squall watch	Advance notice of conditions that are favourable to the development of squalls.
Squall warning	Wind gust ≥ 34 knots associated with a line or an organized area of thunderstorms.
Tornado watch	Advance notice of conditions that are favourable to the development of Tornados.
Tornado warning	Evidence of tornado formation (radar, report from a reliable source, etc.) over a marine area, or an existing tornado moving from land to an adjacent marine area.
Waterspout watch	Advance notice of conditions that are favourable to the development of cold-air waterspouts.
➔Waterspout warning	Evidence of waterspout formation, (radar, report from a reliable source, etc.) over a marine area,
➔High water level warning	Issued to warn mariners and coastal populations of potentially hazardous impacts due to abnormally high water levels or waves along coastal areas.
Special marine warning/watch	Used to describe conditions other than those defined above that may have potentially hazardous impacts on navigation.

Notes: * These warnings/watches are delivered using separate messages.

Ice warnings: refer to the Canadian Ice Services further in this section.

➔Marine and Ice Forecast program

➔Marine forecasts are issued for the offshore economic zone including the St. Lawrence Seaway and major inland waters. For sea ice, ice forecasts are issued for offshore marine areas as well as the Great Lakes. The production schedule is detailed in each regional section of this chapter. The forecast program includes the following bulletins:

Table 3: Marine forecast program

Forecast or bulletin name	Details
Technical marine synopsis	Provides the positions and trends of the main weather systems for the forecast period covering Days 1 and 2.
Marine forecast (or Regular marine forecast)	Provides information on: synoptic warnings, wind, visibility, precipitation, and freezing spray. It may include air temperature as appropriate. Valid for Days 1 and 2.
Recreational boating marine forecast	➔Tailored to the needs of recreational boaters, it is available on a seasonal basis and only in specific regions.
Marine weather statement	Issued when deemed necessary, it provides additional information on potentially high impact marine conditions.
Wave height forecast	Provides information on significant wave heights for Days 1 and 2. It is not available for the Arctic waters or Hudson Bay.
Extended marine forecast	Primarily used as a planning tool, it provides an extended marine wind outlook for Days 3, 4, and 5.
Iceberg bulletin	➔Provides information on distribution of icebergs valid for the time of issue of the bulletin.
➔Ice forecasts	Provides information on hazardous ice conditions for Days 1 and 2.
NAVTEX [1]	➔**International Maritime Organization** (IMO)-compliant *NAV*igational Tel*EX* bulletin issued with each regular marine forecast or ice forecasts in a standardized abbreviated format - see Table 5 for Abbreviations.
MAFOR [1]	This is a specialized coded marine forecast produced for Quebec and Ontario.

1: More details on NAVTEX and MAFOR are provided at the end of this section.

Monitoring the Forecast

Forecasts are monitored, and amended as necessary, to reflect unexpected or changing weather conditions according to criteria based on the following principles:

1. when safety or security is at risk,
2. when inconvenience to the marine community will be extensive or,
3. when the product could adversely affect the credibility of the marine forecast program.

➔Marine and Ice Forecast Areas

➔Marine forecasts and ice forecasts are issued for marine and ice areas as outlined in the regional maps. The sizes and boundaries of these areas are determined regionally based on the following considerations:

1. marine traffic density,
2. the ability to forecast to the proposed resolution,
3. the degree to which, climatologically, marine weather varies, and
4. the ability to distribute the information effectively to the marine community.

Current Conditions

➔Current weather data is available to Canadians for their local area. The frequency and quality of the data will be consistent with the standards established by the **World Meteorological Organization** (WMO). The data may include as appropriate:

- wind speed and direction,
- atmospheric pressure,
- sky conditions,
- precipitation type,
- restrictions to visibility,
- wave height,
- current temperature.

General information on current sea ice will be provided to the marine community once a week to provide an adequate planning tool for those considering entering ice-encumbered waters.

Emergency Response

Meteorological support is provided during emergencies and includes the provision of meteorological information and forecasts. In the case of a pollution event, Environment Canada adheres to the "polluter pay" policy for the provision of all services. Where agreements are in place, Environment Canada will make its distribution systems available to transmit vital information during emergency situations.

Delivery of Marine Warning and Forecast Services

Delivery of marine warning and forecast services to Canadians is primarily by mass communication in order to reach the greatest population base through technology available to most Canadians. The following principles apply, regardless of the specific available technologies:

a. Internet access via the World-Wide Web. All forecast and warning information will be found at the following address: http://www.weatheroffice.gc.ca/canada_e.html

b. Basic services to Canadians shall be delivered primarily by mass distribution in partnership with media, relying on current and developing technologies in radio, television, newspaper, and the Internet. These distribution mechanisms represent the primary methods by which most Canadians receive their weather information, now and in the future.

c. Marine and Environmental Advisories, Watches and Warnings are distributed through various mechanisms including partnerships with national and regional media distributors and local emergency measures organizations.

The Voluntary Observing Ship (VOS) Program

➔The VOS program is organized for the purpose of obtaining weather, ice, and oceanographic observations from moving ships. An international program under the auspices of the WMO, the VOS has nearly 8,000 vessels participating from 60 nations. It is part of the WMO Global Observing System of the World Weather Watch. Canada has approximately 235 vessels participating in the VOS. It closely follows WMO guidelines for VOS programs.

➔The Canadian program is supported by full-time Port Meteorological Officers (PMO). The national program office in Toronto manages the program and oversees PMO activities. The office also maintains a VOS Program Computerized Data Management System to record PMO ship visits, vessel mailing addresses, vessel equipment inventories and other information about vessels reports. Any vessel willing to take and transmit observations in marine areas where Environment Canada prepares weather forecasts (see the regional annexes) can join the program. The importance of ship reports cannot be overstated. Without your participation in VOS, there would be vast marine areas without data, making marine forecasting nearly impossible for these areas. We thank ships' officers and crew for their fine work, dedication, and commitment.

➔Mariners are also encouraged to inquire about the SEAS (Shipboard Environmental data Acquisition System) program with their local PMO. Under the SEAS program, observations are sent via INMARSAT C and the cost of transmission is absorbed by a consortium of countries interested in timely marine observations on a global scale.

The WMO establishes the ships synoptic code, and procedures and standards for the collection and dissemination of information worldwide. The WMO also maintains information about countries and vessels participating in the program.

Buoys program

In order to complement the observational network, Environment Canada operates a network of buoys across the country. This data becomes part of the collection of weather reports sent to the distribution network and is used to improve marine forecasting. The location, WMO identifiers and names of the Environment Canada buoys are given in the regional annexes.

Mariners are requested to use caution when approaching buoys as mooring chains are normally not detectable from a ship and can be damaged or even severed if there is contact. Such a mishap could possibly result in the buoy going adrift thus requiring a costly effort to recover the platform. Please keep the regional PMO informed of any incidents involving buoys.

Buoy Locations: buoy positions are described in each specific regional annex.

MAREP (MArine REPorting Program)

MAREP gives mariners the opportunity to informally report local weather conditions and to receive up-to-date weather forecasts and warnings. MAREP stations are generally operated on a semi-volunteer basis by a member of the marine community who is concerned about marine safety. The stations operators are in regular contact with the Marine Weather Forecaster of the area.

Since the program is informal, the individuals at the stations do not provide a 24 hour service, but are likely available during day-time and early evening hours.

Port Meteorological Officers (PMOs)

➔PMOs spend most of their time visiting ships in support of the VOS program. This is to encourage vessels to report weather and ice conditions, to instruct observers about procedures and the use of code; to supply observing forms, handbooks (free of charge!); to calibrate equipment; and, in some cases, to install, on loan, meteorological or oceanographic instrumentation. The PMO is also responsible for recruiting new vessels to participate in the VOS program.

➔If a PMO visits your ship, feel free to ask questions about observing and coding, and reporting weather and ice conditions. Inform the PMO of any concerns you may have with forecasts, warnings, or facsimile products, especially if you have specific problems. The PMO will contact the appropriate party for investigation. Keep the PMO informed of your contact information.

➔Table 4: Port meteorological officers (PMOs)

Great Lakes	**Atlantic - Maritimes**	**➔Atlantic - Newfoundland**
Tony Hilton, Supervisor Roland Kleer, PMO Shawn Livingstone, PMO Environment Canada, MSC 100 East Port Boulevard HAMILTON, ON L8H 7S4 Telephone: 905-312-0900 Facsimile: 905-312-0730 E-Mail: anthony.hilton@ec.gc.ca	Randy Sheppard, Supervisor Derek Cain, PMO Environment Canada, MSC 45 Alderney Drive, 16th floor DARTMOUTH, NS B2Y 2N6 Telephone: 902-426-6616 Cellular: 902-456-6927 Facsimile: 902-426-6404 E-Mail: randy.sheppard@ec.gc.ca	Andre Dwyer, PMO Environment Canada, MSC 6 Bruce Street. MOUNT PEARL, NL A1N 4T3 ➔Telephone: 709-772-4798 Cellular: 709-689-5787 Facsimile: 709-772-5097 E-Mail: andre.dwyer@ec.gc.ca
St-Lawrence - Québec	**➔Pacific**	**➔Great Slave Lake / Lake Athabaska /Western Arctic**
Erich Gola, PMO Environment Canada, SMC Canada Place Bonaventure, Portail Nord-Est 800 de la Gauchetière ouest, Suite 810 MONTREAL, QC H5A 1L9 Telephone: 514-283-1644 Facsimile: 514-496-1867 E-Mail: erich.gola@ec.gc.ca	Bruce Lohnes, Supervisor Vaughn Williams, Supervisor Bijan Rasti, PMO Alan Webster, PMO Environment Canada, MSC 140 13160 Vanier Place RICHMOND, BC V6V 2J2 Telephone: 604-664-9188 Facsimile: 604-664-4094 E-Mail: bruce.lohnes@ec.gc.ca E-Mail: vaughn.williams@ec.gc.ca	Ben Lemon, PMO Environment Canada, MSC M.J. Greenwood Centre 9345 - 49 Street EDMONTON, AB T6B 2L8 Telephone: 780-495-6442 E-Mail: ben.lemon@ec.gc.ca
➔Manitoba Lakes		
Barry Funk, PMO Monitoring and Systems Environment Canada, MSC Suite 150 123 Main Street WINNIPEG, MB R3C 4W2 Telephone: 204-984-2018 E-Mail: barry.funk@ec.gc.ca		

NAVTEX

➔MSC will provide CCG with marine forecast information in NAVTEX format for coastal and offshore areas of responsibility based on IMO standards. Marine forecast information provided will include:

I. **Warnings** (Winds & ice accretion),

II. **Synopsis** (major features),

III: **Forecasts** (wind, visibility, ice accretion, wave height)

➔Each bulletin will contain a WMO telecommunication header, a valid period, notes on parameters used within the bulletin, a synopsis section, a weather forecast section and a wave forecast section. Below is a sample of a partial NAVTEX produced for CCG MCTS Sydney. Note that NAVTEX will make use of abbreviations: this is necessary in order to comply with the physical limitations of the NAVTEX system. In the example, text in superscript indicates how abbreviations are used.

	NAVTEX service sample (518 kHz)
Header	FQCN**34 CWHX** 171400
Title(part one) ►	NAVTEX/**1** FOR SYDNEY VCO AT 10:00 AM AST FRI Friday 17 NOV November 2006.
Weather forecast	
Parameters ►	VLD valid period 17/14Z-19/03Z, WND(KT) wind in knots, VIS(NM) visibility in nautical miles ABV above 1 NM UNL IND unless indicated, FOG IMPLIES VIS 1 NM OR LESS.
Synopsis ►	**SYNOPSIS:** 17/14Z STRM storm 980 MB OVR SRN NFLD over southern Newfoundland 18/14Z STRM storm 985 MB OVR NRN NFLD. over northern Newfoundland 17/14Z RIDG OVR WRN QUE. ridge over western Quebec 18/14Z RIDG OVR WRN GU ST LAW. ridge over western Gulf of St Lawrence
Area name ►	EASTERN SHORE, FOURCHU:
Warning ►	WNG warning: NIL.
Wind forecast ►	WND: SWsouthwest10-15. 17/18Z SEsoutheast15-20. 18/06Z V15. 18/12Z SWsouthwest15-20. 18/18Z SW20-25. 19/00Z SW15-20.
Visibility forecast ►	VIS: 17/13Z-19/03Z PTH-FG .fog banks
	{… other marine areas }
End of weather ►	END/
Wave height forecast	
Parameters ►	WAVES(M) metres VLD 17/09Z-18/10Z.
Area name ►	EASTERN SHORE, SABLE, EAST SCOTIAN SLOPE–N – northern half, FOURCHU, BANQUEREAU:
Height in meters ►	1-2.
	{…. Other marine areas}
End of waves and part one ►	END/

	NAVTEX service sample (518 kHz)
Header ►	FQCN**34 CYQX** 171330
Title (VCO part two) ►	**NAVTEX/2** FOR SYDNEY VCO.
Weather forecast	
Parameters ►	VLD 17/13Z-19/03Z.
Marine areas ►	➔GULF-PORT AU PORT, SOUTHWEST COAST:
Warning ►	WNG: NIL.
Wind ►	WND: S10-15G20. 17/23Z S10-15. 18/11Z S15-20. 18/18Z SW20.
Visibility ►	VIS: 17/12Z-19/02Z FG-PTH.
	{… other marine areas}
End of weather ►	END/
Wave height forecast	
Parameters ►	WAVES(M) VLD 17/09Z-18/09Z.
Marine areas ►	➔GULF PORT AU PORT:
Waves ►	1-2. 18/06Z 0-1.
	{… other marine areas}
End of waves and part two ►	END/

Table 5: Abbreviations used by MSC within NAVTEX

Date/Time standards

April	APR	June	JUN	September	SEP
August	AUG	March	MAR	Sunday	SUN
December	DEC	May	MAY	Thursday	THU
February	FEB	Monday	MON	today	TDY
Friday	FRI	November	NOV	tonight	TNGHT
January	JAN	October	OCT	Tuesday	TUE
July	JUL	Saturday	SAT	Wednesday	WED

Marine Forecast area dividing standards

- eastern half	-E	- northwestern half	-NW	- southwestern half	-SW
- northeastern half	-NE	- southeastern half	-SE	- western half	-W
- northern half	-N	- southern half	-S		

Forecast parameters

valid	VLD	unless	UNL	millibar	MB
indicated	IND	knots	KT	nautical mile	NM
implies	IMPL	meters	M		

Table 5: Abbreviations used by MSC within NAVTEX

Wind elements

east	E	south	S	west	W
north	N	southeast	SE	light	LGT
northeast	NE	southwest	SW	with gust to	G
northwest	NW	variable	VRB	warning	WNG

Freezing spray qualifier

freezing spray	FRZ-SPR	risk	RSK	outside the ice edge	OUT-EDGE
moderate	MOD	severe	SEV	over open water	OVR-OW
at times	OCNL				

Wave elements

ice covered	ICE				

Weather elements

blizzard	BZ	hail	HL	mist patches	PTH-MIST
blowing snow	BS	heavy rain	HVY-RA	rain	RA
drizzle	DZ	heavy snow	HVY-SN	rain and snow mixed	MIX-RASN
flurries	LGT-SN	heavy thunderstorm	HVY-TSTM	scattered	SCT
fog	FG	ice fog	IFG	showers	SHWRS
fog banks	PTH-FG	ice pellets	IP	snow	SN
freezing drizzle	FRZ-DZ	light snow	LGT-SN	thunderstorm	TSTM
freezing rain	FRZ-RA	mist	MST	waterspout	WTSPT

Weather/visibility elements (qualifier)

at times	OCNL	as low as 1 mile	NR 1	one mile or less	0-1
heavy	HVY	in precipitation	IN-PRECIP	visibility	VIS
occasional	OCNL	near zero	NR 0		

Trend descriptors (synopsis)

building	BLDN	Intensifying	INTSF	splitting	SPLIT
dissipating	DISS	Merging	MERG	weakening	WKN
deepening	DPN	quasi-stationary	QSTNR		

Systems descriptors (synopsis)

cold front	C-FRONT	Hurricane	HURR	ridge	RIDG
col	COL	Low	LOW	storm	STRM
disturbance	DISTURB	Trough	TROUGH	tropical depression	TD
flat low	FLAT LOW	Post tropical storm	POST-TS	tropical storm	TS
frontal system	FRONT	High	HIGH	warm front	W-FRONT

Position descriptors (synopsis)

cape	CAP	Lake	LK	Pacific	PAC
coastal	CSTL	Longitude	LONG	peninsula	PEN
from	FM	Near	NR	river	RIV
island	IS	located on a line	ON LINE	strait	STR
latitude	LAT	Over	OVR		

Table 5: Abbreviations used by MSC within NAVTEX

Cardinal point descriptors (synopsis)

central	CENTRAL	northeast-southwest	NE-SW	southeast	SE
east	E	Northern	NRN	southeastern	SERN
eastern	ERN	north - south	N-S	southern	SRN
east - west	E-W	Northwest	NW	southwest	SW
from	FM	Northwestern	NWRN	southwestern	SWRN
north	N	northwest-southeast	NW-SE	west	W
northeast	NE	South	S	western	WRN
northeastern	NERN				

Territorial references (synopsis)

Alberta	ALTA	New Brunswick	NB	Ontario	ONT
British Columbia	BC	Newfoundland	NFLD	Prince Edward Island	PEI
Great lakes	GRT LKS	Newfoundland and Labrador	NL	Quebec	QUE
Gulf of St Lawrence	GU ST LAW	Nova Scotia	NS	Saskatchewan	SASK
Labrador	LAB	Northwest Territories	NWT	Yukon Territory	YT
Manitoba	MAN				

ICE ELEMENTS

ice conc.

1 tenth	1	6 tenths	6	bergy water	BW
10 tenths	10	7 tenths	7	consolidated	CONS
2 tenths	2	8 tenths	8	ice free	IF
3 tenths	3	9 plus tenths	9+	open water	OW
4 tenths	4	9 tenths	9	trace of	TR-
5 tenths	5	9 to 10 tenths (lake ice)	9-10		

ice type

first year ice	FYI	medium ice	MEDI	thick ice	TKI
grey ice	GI	new ice	NI	thin ice	THI
greywhite ice	GWI	old ice	OI	very thick ice	VTKI

ice qualifier

light	LGT	Moderate	MOD	strong	STRG
		Pressure	PRESS		

ice general

conditions	CDNS	Except	EXC	possible	POSS
edge	EDGE	Ice	ICE	along the coast	ALNG CST
estimated	EST	Including	INCL		

ice direction

eastward	EWD	northwestward	NWWD	southwestward	SWWD
northeastward	NEWD	southeastward	SEWD	westward	WWD
northward	NWD	southward	SWD		

Table 6: MAFOR DECODE TABLE

MAFOR
YYG_1G_1/ $0AAAa_m$ $1GDF_mW_m$

YYG_1G_1/ YY: Day of the month

G_1G_1: Time of commencement of forecast (UTC). Midnight is encoded as 00

$0AAAa_m$ The maritime area to which the whole forecast or set of forecasts refers. If the geographical name for the forecast region is used instead of the indicator $AAAa_m$, it shall be inserted at the place of this group.

a_m	Portion of the maritime area		
Code		*Code*	
0	Whole of the area AAA	5	Southwest quadrant of the area AAA
1	Northeast quadrant of the area AAA	6	Western half of the area AAA
2	Eastern half of the area AAA	7	Northwest quadrant of the area AAA
3	Southeast quadrant of the area AAA	8	Northern half of the area AAA
4	Southern half of the area AAA	9	Rest of the area AAA

1GDFmWm **G**: Forecast period **Fm:** Beaufort number

D: Direction from which the wind is blowing **Wm:** Forecast weather

G *Code*	Forecast period *Descriptive*	D *Code*	Wind *direction*	F_m *Code*	Wind *Beaufort*	W_m *Code*	Forecast weather
0	Beginning of period	0	Calm	0	0 - 3	0	Visibility greater than 3 nm
1	Valid for 3 hrs	1	Northeast	1	4	1	Risk of accumulation of ice on superstructures
2	Valid for 6 hrs	2	East	2	5	2	Strong risk of accumulation of ice on superstructure
3	Valid for 9 hrs	3	Southeast	3	6	3	Visibility >= 1 nm and <=3 nm
4	Valid for 12 hrs	4	South	4	7	4	Visibility < 1nm, including fog
5	Valid for 18 hrs	5	Southwest	5	8	5	Drizzle
6	Valid for 24 hrs	6	West	6	9	6	Rain
7	Valid for 48 hrs	7	Northwest	7	10	7	Snow, or rain and snow
8	Valid for 72 hrs	8	North	8	11	8	Squally weather with or without showers
9	Occasionally*	9	Variable	9	12	9	Thunderstorms

Environment Canada
Environnement Canada

SUGGESTIONS / COMMENTS / COMMENTAIRES

Help us to serve you: **Make us aware of your comments regarding the Environment Canada Marine and Ice services**	**Aidez-nous à mieux vous servir :** **Faites-nous parvenir vos commentaires concernant le programme de prévisions maritimes d'Environnement Canada**

Officer/Officier :		**Return to / Envoyer à:** **National Service Office – Marine** **Bureau national de services – marine** **P.O. Box 370** **Gander, NL A1V 1W7** **Canada** **Fax: (709) 256-6627** **E-Mail/courriel:** Tom.King@ec.gc.ca
Ship/navire :		
Position Latitude :		
Longitude :		
Date:		

Subject / Détails:

NORTHERN CANADA

Includes: Western and Eastern Arctic, Central and Western Hudson Bay & Major Inland Lakes of Manitoba, Northern Saskatchewan and Northwest Territories.

Marine Weather Forecast Program

➔**The Prairie and Arctic Storm Prediction Centre** (Edmonton) provides marine forecasts in support of Arctic marine activity during the open water season from summer into parts of the fall. The forecast area encompasses Lake Athabasca, Great Slave Lake, the Mackenzie River, as well as the waterways of the Western and High Arctic, and Baffin Bay. **Note that wave height forecasts are not produced for the Arctic areas.**

➔The **Prairie and Arctic Storm Prediction Centre** (Winnipeg) provides marine forecasts for Central and Western Hudson Bay, Hudson Strait, Foxe Basin, Ungava Bay, and Davis Strait. Marine forecasts are also provided for Lake Winnipeg (north and south basins), Lake Manitoba and Lake Winnipegosis during the open water season in support of pleasure and commercial activities. **Note that marine forecasts for Eastern Hudson Bay and James Bay are provided by the MSC Quebec Region**.

The forecast program for the Manitoba Lakes continues through the winter months as a public rather than a marine forecast in aid of commercial ice fishing. Minimum and maximum temperatures along with wind chill are included in the forecast.

Table 7: Production schedule

a) Text format

Forecast name	Issue Time	Time Zone	Marine region
Technical marine synopsis	06:30, 18:30	MDT / MST	Western Arctic
	04:45, 16:45	EDT / EST	Eastern Arctic
Suite of Marine forecasts	05:00, 17:00	MDT / MST	Inland waters
	07:00, 19:00	MDT / MST	Western Arctic Waterway
	05:30, 17:30	EDT / EST	Arctic
	05:00, 17:00	CDT / CST	Western Hudson Bay
	05:30, 17:30	EDT / EST	Southern Nunavut
	05:00, 17:00	EDT / EST	Eastern Nunavut

b) NAVTEX format on 518 kHz:

MCTS Centre	Name	Header	Availability
Iqaluit VFF	NAVTEX	FQCN36 CWNT	05:30, 17:30 EDT / EST

Marine Weather Warnings: (refer to Table 1, page 5-1)

Note the following regional particularities:

	Warning Types	Comments
1	Strong wind warning	Applies to Manitoba Lakes, Lake Athabasca, Great Slave Lake and Mackenzie River

➔**Weather and Ice Messages**

➔Ship weather and ice reports in the international meteorological code, taken at the standard synoptic hours of 0000, 0600, 1200 and 1800 UTC are solicited from ships of all nationalities which have been recruited by their national weather service, or other weather services. These reports should be transmitted directly to the circuit using INMARSAT. Alternatively, the observation should be passed to the nearest CCG MCTS centre, irrespective of the ship's position. Reports made close to, or even within sight of land, are as important as reports made offshore, due to the greater variability of weather conditions in proximity to a coastline. Such reports contribute to the overall knowledge of Arctic weather from both a real-time operational perspective and from a climate perspective.

➔The **Prairie and Arctic Storm Prediction Centre** also welcomes weather, sea, and ice observations from the lakes. Real-time observations, and those up to a few hours after the event, are most valuable. Relay observations to 1-800-66STORM (1-800-667-8676).

Radiofacsimile package available: Analyses and prognostics

➔Weather analysis and weather prognostic charts covering Arctic and Hudson Bay waters are prepared at the Arctic Weather Centre, co-located with the Prairie and Arctic Storm Prediction Centre (Edmonton). MCTS Iqaluit and MCTS Inuvik transmit selected charts on radio facsimile. Please note the MCTS centres access these charts from the Canadian Ice Service (CIS) web site: http://ice-glaces.ec.gc.ca/. Charts prepared by the Arctic Weather Centre are available directly to subscribers to the CIS web site.

➔Buoys deployed during the open water season

WMO #	Location / Information	LAT Deg/min	LONG Deg/min
45140	Lake Winnipeg South Basin (moored buoy)	50º48'**N**	096º44'W
45141	Great Slave (moored buoy 25 nm northeast of Hay River)	61º11'**N**	115º19'W
45144	Lake Winnipeg North Basin (moored buoy)	53º15'**N**	098º15'W
45145	Lake Winnipeg between North and South Basins	51º24'**N**	096º42'W
45150	Great Slave (moored buoy - immediate west of Inner Whaleback Rocks)	61º55'**N**	113º45'W
45158	Hudson Bay SW	59º00'**N**	094º00'W

➔The **Great Slave Lake** buoys are deployed in early July and retrieved in late September or early October. They provide hourly wind, air temperature, surface water temperature, and wave data.

➔The **Lake Winnipeg** South Basin buoys are deployed annually in May or June, and retrieved in October. They provide hourly wind, air temperature, surface water temperature, and wave data.

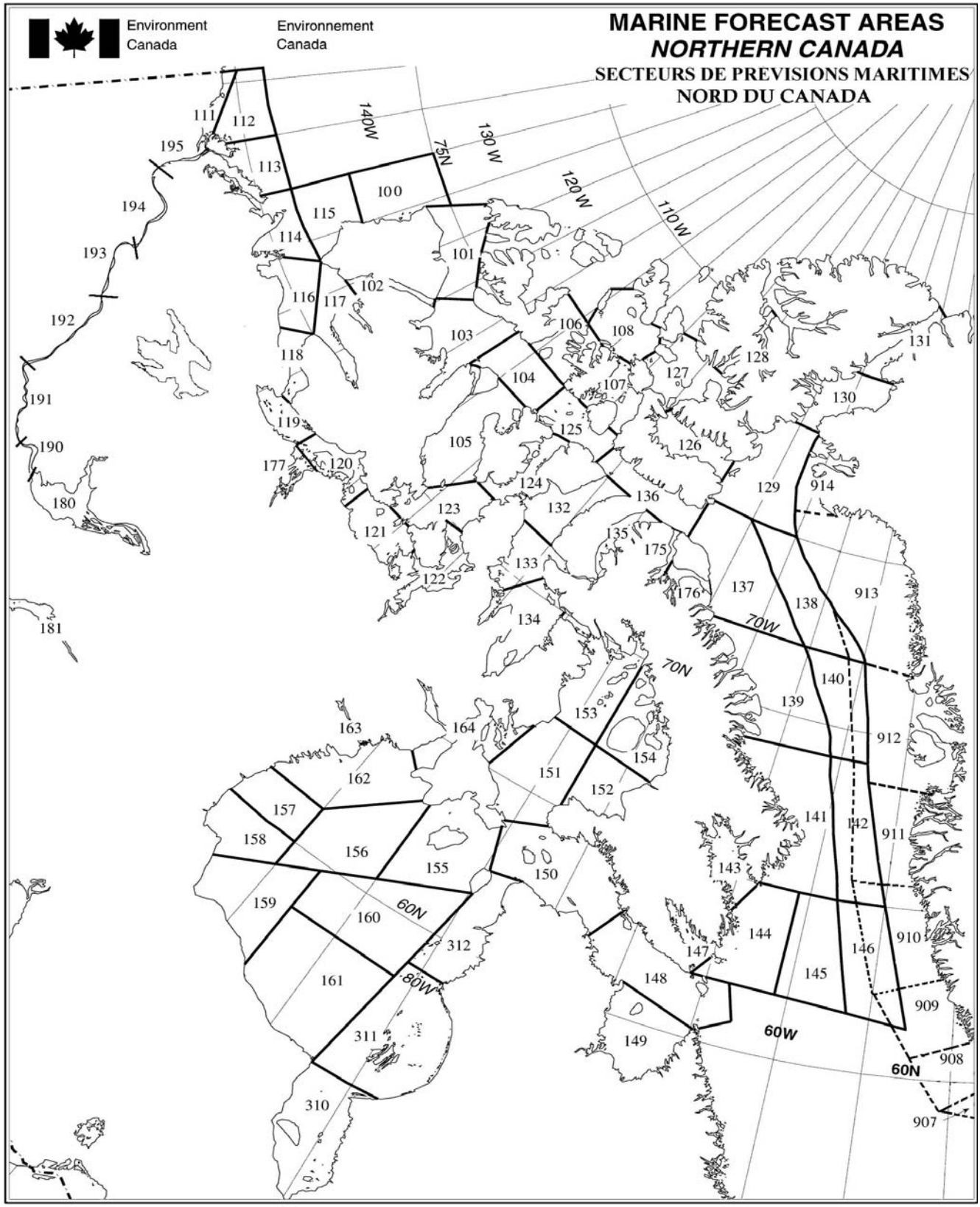
➔The **Hudson Bay** buoy is deployed annually mid to late July and retrieved late September or early October. It provides hourly wind, air temperature, surface water temperature, and wave data.

Weatheradio Canada

➔Environment Canada Weatheradio operates several stations serving Northern region. These are:

Stations	CALL SIGN	Frequency (MHz)	➔Effective Radiated Power (Watts)	➔Location
Iqaluit	CIQA	93.3 FM	42	Iqaluit Airport
Inuvik	VBU996	162.400	54	Hidden Lake
Yellowknife	VBC200	162.400	148	Yellowknife Seismic Station
Winnipeg	XLM538	162.550	126	Trizec Building
Riverton	XLF471	162.400	195	Riverton
Long Point	VCI386	162.550	72	Long Point

➔**Winnipeg**, **Riverton** and **Long Point** provide **continuous** broadcast of marine weather forecasts and warnings for the Manitoba Lakes, and of marine weather observations when available. Further information regarding EC's Weatheradio network can be obtained via the Internet at http://www.msc.ec.gc.ca/msb/weatheradio.


Environment Canada
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MARINE FORECAST AREAS
NORTHERN CANADA
SECTEURS DE PREVISIONS MARITIMES
NORD DU CANADA
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MARINE FORECAST AREAS

Eastern and Western Arctic Waters

Number	Area Name	Availability Period	Number	Area Name	Availability Period
100	Prince Alfred	Shipping season	138	East Baffin	July-August
101	McClure	Shipping season	139	West Clyde	July 01 - Oct. 31
102	Prince of Wales	Shipping season	140	East Clyde	July-August
103	Melville	Shipping season	141	West Davis	July 01 - Oct. 31
104	Rae	Shipping season	142	East Davis	July 01 - Oct. 31
105	McClintock	Shipping season	143	Cumberland	July 01 - Oct. 31
106	Byam	Shipping season	144	West Brevoort	July 01 - Oct. 31
107	Queens	Shipping season	145	Central Brevoort	July 01 - Oct. 31
108	Maclean	Shipping season	146	East Brevoort	July 01 - Oct. 31
109	(unused)	-	147	Frobisher Bay	July 01 - Oct. 31
110	(unused)	-	148	Resolution	July 01 - Oct. 31
111	Yukon Coast	July 01 - Sept. 30	149	Ungava	July 01 - Oct. 31
112	Mackenzie	July 01 – Oct 10	150	Nottingham	July 01 - Oct. 31
113	Tuktoyaktuk	July 01 – Oct 10	151	West Foxe	Shipping season
114	Baillie	July 15 - Sept. 30	152	East Foxe	Shipping season
115	Banks	Shipping season	153	Igloolik	Shipping season
116	Amundsen	July 15 - Sept. 30	154	Prince Charles	Shipping season
117	Holman	Shipping season	155	Coats	Shipping season
118	Dolphin	July 15 - Sept. 30	156	Central	Shipping season
119	Coronation	July 15 - Sept. 30	157	Arviat	July 01 - Oct. 15
120	Dease	July 15 - Sept. 30	158	Churchill	July 01 - Oct. 15
121	Maud	Shipping season	159	York	Shipping season
122	St. Roch	Shipping season	160	South-central Hudson	Shipping season
123	Larsen	Shipping season	161	South Hudson	Shipping season
124	Peel	Shipping season	162	Rankin	July 01 - Oct. 15
125	Barrow	July 01 – Oct. 31	163	Baker	July 01 - Sept. 30
126	Jones	Shipping season	164	Roes Welcome	Shipping season
127	Norwegian	Shipping season	170	North Tuktoyaktuk	July 01 - Oct. 31
128	Eureka	Shipping season	171	North Mackenzie	July 01 - Oct. 31
129	Clarence	Shipping season	172	West Prince Alfred	July 01 - Oct. 31
130	Kane	Shipping season	173	Northwest Beaufort	July 01 - Oct. 31
131	Robeson	Shipping season	175	Navy Board	July 01 - Oct. 31
132	Regent	Shipping season	176	Pond	July 01 - Oct. 31
133	Boothia	Shipping season	177	Bathurst	July 01 - Oct. 31
134	Committee	Shipping season	310	James Bay	Navigation season
135	Admiralty	Shipping season	311	Belcher	Navigation season
136	Lancaster	July 01 – Oct. 31	312	Povungnituk	Navigation season
137	West Baffin	July 01 – Oct. 31			

Inland waters

Number	Area name	Availability period
180	Great Slave Lake	June 15 - October 31
181	Lake Athabasca	Open water season
182	Lake Manitoba	Open water season
183	Lake Winnipeg - south basin	Open water season
184	Lake Winnipeg - north basin	Open water season
185	Lake Winnipegosis	Open water season
190	Wrigley Harbour (mile 0) to Axe Point (mile 91)	June 01 - Oct. 20
191	Axe Point (mile 91) to Camsell Bend (mile 290)	June 01 - Oct. 20
192	Camsell Bend (mile 290) to Tulita (mile 512)	June 01 - Oct. 20
193	Tulita mile (512) to Fort Good Hope (mile 684)	June 01 - Oct. 20
194	Fort Good Hope (mile 684) to Point Separation (mile 913)	June 01 - Oct. 20
195	Point Separation mile (913) to Kittigazuit Bay (mile 1081)	June 01 - Oct. 20

Danish Marine Forecasts for Baffin Bay Waters available via: Danish Meteorological Institute, Copenhagen Tel: (45) 39 15 7500.

Number	Area Name	Period	Number	Area Name	Period
907	Nunap Isuata Kitaa	Year round	911	Attu	Year round
908	Nuuarsuit	Year round	912	Uiffaq	Year round
909	Narsalik	Year round	913	Qimusseriarsuaq	Year round
910	Meqquitsoq	Year round	914	Kiatak	Year round

Marine Weather Observations - manned stations Weather Reports (See note 2) for

Aklavik	Lake Winnipeg: Gimli	Norman Wells
Fort MacPherson	Lake Winnipeg: Grand Rapids	Sachs Harbour
Fort Reliance	Lake Winnipeg: George Island	Tuktoyaktuk
Fort Resolution	Lake Winnipeg: Norway House	Yellowknife
Hay River	Lake Winnipeg: Berens River	
Inuvik	Lake Winnipeg: Victoria Beach	

Marine Weather Observations – Automatic stations Weather Reports (See note 2) for

Inner Whale Back Island (automatic station)

Marine Weather Observations – Buoy reports **Weather Reports (See note 2) for**

45141	Great Slave Lake Buoy	45140	Lake Winnipeg Buoy (South Basin)
45150	Great Slave Lake Buoy	45144	Lake Winnipeg Buoy (North Basin)

(2) When available. Full broadcasts from staffed stations. Temperature and winds from automatic stations and buoys.

NEWFOUNDLAND AND LABRADOR

Marine Weather Forecast Program

➔The Newfoundland and Labrador Weather Office (NLWO) in Gander provides year-round marine weather and wave height information for the waters around Newfoundland and Labrador out to approximately 250 nm and the waters of the Gulf of St. Lawrence, and for other specific bodies of water.

The regular program

➔This consists of a **full 24 hours, 7 days a week weather watch, warning and amendment service** provided by the Newfoundland and Labrador Weather Office in Gander. The regular marine forecast covers the period out to midnight of the following day (days 1 and 2). An extended marine wind outlook covering the next 3 days (days 3, 4, and 5) is also produced.

➔Wave height forecasts are produced twice a day and cover the period out to midnight of the following day.

Table 8: Production schedule

a) Text format

Forecast name	Issue Time	Time Zone	Marine region
Technical marine synopsis	03:00, 10:00, 15:30, 20:00	NDT / NST	Newfoundland
	04:00, 09:30, 16:00, 21:30	NDT / NST	Labrador
Marine forecast	03:00, 10:00, 15:30, 20:00	NDT / NST	Newfoundland
	04:00, 09:30, 16:00, 21:30	NDT / NST	Labrador
Marine weather statement	As needed		
Wave height forecast	06:00, 18:00	NDT / NST	Newfoundland
	06:00, 18:00	NDT / NST	Labrador
Extended marine forecast	05:00, 16:30	NDT / NST	Newfoundland
	05:00, 16:30	NDT / NST	Labrador

b) NAVTEX format on 518 kHz

MCTS Centres	Name	Header	*Availability*
St. John's VON	Navtex	FQCN33 CYQX	*03:00, 06:00, 10:00, 15:30, 18:00, 20:00 NDT / NST*
Labrador VOK	Navtex	FQCN35 CYQX	*04:00, 06:00, 10:00, 16:00, 18:00, 21:30 NDT / NST*

Marine Weather Observations and Forecast Bulletins

➔Observations available on the Environment Canada Weatheradio network are updated hourly and include a series of coastal stations extending around the coast of Newfoundland and Labrador, and from the coast of Maine, around the Maritimes and into the Gulf of St. Lawrence, as well as offshore buoys. Marine forecast bulletins are updated at regular intervals or whenever necessary. These bulletins are available on MSC's Automated Telephone Answering Device (ATAD), as well as Weatheradio and Canadian Coast Guard's Continuous Marine Broadcast (CMB).

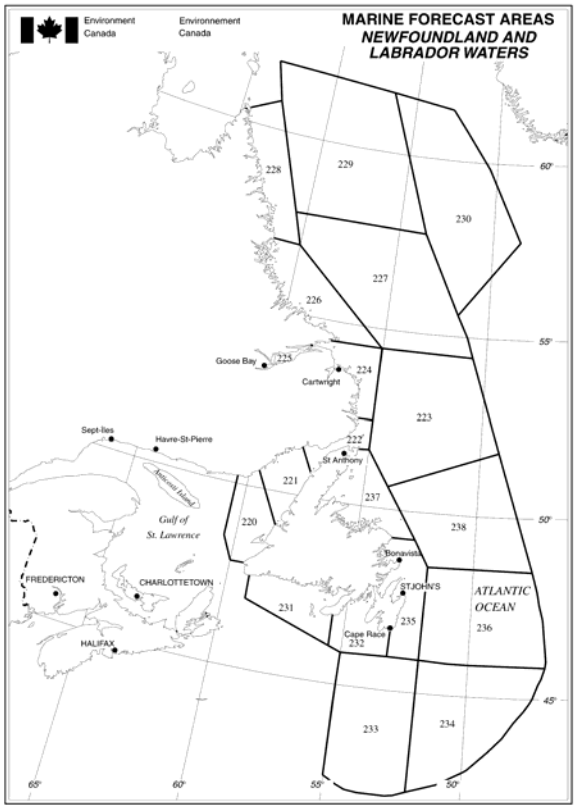
Weatheradio Canada

There is 1 main station in the Newfoundland and Labrador region:

Station	CALL SIGN	Repeaters
Gander	XLM 616	15

➔**Frequencies in use:** 162.400 MHz and 162.550 MHz.

➔Broadcasts can be received over most coastal areas of Newfoundland and southern Labrador, and include marine weather and ice warnings, regular marine and wave height forecasts, and synopses. Hourly updated observations from coastal stations and offshore buoys are all incorporated in the broadcast. Further information regarding EC's Weatheradio network can be obtained via the Internet at http://www.msc.ec.gc.ca/msb/weatheradio.



MARINE FORECAST AREAS

Newfoundland and Labrador Waters:

220 Gulf - Port au Port	227 South Labrador Sea	233 Southwestern Grand Banks
221 Northeast Gulf	228 North Labrador Coast	234 Southeastern Grand Banks
222 Strait of Belle Isle	229 Northwest Labrador Sea	235 East Coast
223 Belle Isle Bank	230 East Labrador Sea	236 Northern Grand Banks
224 South Labrador Coast	231 Southwest Coast	237 Northeast Coast
225 Lake Melville	232 South Coast	238 Funk Island Bank
226 Mid Labrador Coast		

Marine Weather Observations

Argentia	Englee	Natashquan
Blanc Sablon	Ferolle Pt.	Pool's Island
Bonavista	Goose Bay	Port aux Basques
Burgeo	Grates Cove	Sagona Island
Cape Whittle	Hopedale	St. Anthony Airport
Cape d'Espoir	LaScie	St Anthony's Harbour
Cape Race	Makkovik	St. John's
Cartwright	Marticot Island	St. Pierre
Chevery	Mary's Harbour	Stephenville
Daniel's Harbour	Nain	Twillingate

Observations will be broadcast only when available.
Hourly updated observations from coastal stations and offshore buoys may also be available on **Weatheradio**

MARITIMES REGION

Marine Weather Forecast Program

➔The Atlantic Storm Prediction Centre (ASPC) in Dartmouth NS provides year-round marine weather, sea state and wave height information for the waters around the Maritimes to approximately 250 nm offshore, and the waters of the Gulf of St. Lawrence, as well as for other specific bodies of water. Additionally, a wave analysis and forecasting program provides analysis and forecast wave charts of the North Atlantic Ocean for the Department of National defence, Maritime Forces Atlantic. These charts are subsequently re-broadcast to the fleet on Radiofax.

The regular program

➔This consists of a **full 24 hours, 7 days a week weather watch, warning and amendment service**, including a detailed forecast for Halifax Harbour. The regular marine forecast covers the period out to midnight of the following day (days 1 and 2). An extended marine wind outlook covering the next 3 days (days 3, 4, and 5) is also produced.

Wave height forecasts are produced twice a day and cover the period out to midnight of the following day.

The recreational program

➔The recreational program covers the waters of Bras d'Or Lakes in Cape Breton during the summer season (May 1 to October 31) and is provided as a service to recreational boaters. Recreational forecasts are issued 3 times a day.

Table 9: Production schedule

a) Text format

Forecast name	Issue Time	Time Zone	Marine region
Technical marine synopsis	03:00, 10:00, 15:30, 20:00	ADT / AST	Maritimes
Marine forecast	03:00, 10:00, 15:30, 20:00	ADT / AST	Maritimes
	03:00, 10:00, 15:30, 20:00	ADT / AST	Halifax Harbour and Approaches
Recreational boating marine forecast	03:00, 10:00, 15:30	ADT / AST	Bras d'Or Lakes
Marine weather statement	As needed		
Wave height forecast	05:00, 17:00	ADT / AST	Maritimes
Extended marine forecast	04:00, 16:00	ADT / AST	Maritimes

b) NAVTEX format on 518 kHz:

MCTS	Name	Header	*Availability*
Saint John VAR	NAVTEX	FQCN33 CWHX	*03:00, 05:00, 10:00, 15:30, 17:00, 20:00 ADT / AST*
Sydney VCO	NAVTEX/1	FQCN34 CWHX	*03:00, 05:00, 10:00, 15:30, 17:00, 20:00 ADT / AST*
	NAVTEX/2	FQCN34 CYQX	*03:00, 06:00, 10:00, 15:30, 18:00, 20:00 NDT / NST*

Marine Weather Warnings: (refer to Table 1, page 5-1). Note the following regional particularities:

	Warning Types	Comments
1	Strong wind warning	This warning is indicated in the forecast for coastal waters of the Maritimes and for the Halifax Harbour and the Bras d'Or Lakes Issued between April 15 and November 15.

Marine Weather Observations and Forecast Bulletins

Observations and forecast bulletins are available on MSC's Automated Telephone Answering Device (ATAD) and Weatheradio. Observations are updated hourly and include a series of coastal stations extending from the coast of Maine around the Maritimes and into the Gulf of St. Lawrence, as well as offshore buoys. Marine forecast bulletins are updated at regular intervals or whenever necessary and are available on Weatheradio and the Canadian Coast Guard's continuous marine broadcast.

Canadian Hurricane Centre

The Canadian Hurricane Centre (CHC) is co-located with the Atlantic Storm Prediction Centre. It becomes operational when a storm system of tropical origin enters or threatens to enter the designated response zone within 48-72 hrs. The CHC may begin to issue associated bulletins if the storm is north of 36ºN and west of 41ºW. When operational, the Canadian Hurricane Centre issues bulletins every 6 hours which include information statements for Public and Media notification and Prognostic messages for use by MSC and Canadian Forces weather offices. Bulletins are issued at intervals of 3 hours when the storm threatens land.

Moored Buoys: Positions North-West Atlantic Ocean

WMO#	Name	LAT	LONG
44137	East Scotia Slope	42.28 N	062.00 W
44138	SW Grand Banks	44.26 N	053.62 W
44139	Banquereau	44.27 N	057.09 W
44140	➔Tail of the Grand Banks	43.75 N	051.75 W
44141	Laurentian Fan	43.00 N	058.00 W
44142	La Have bank	42.50 N	064.02 W
44251	Nickerson Bank	46.44 N	053.39 W
44255	NE Burgeo Bank	47.28 N	057.35 W
44258	Halifax Harbour Approaches	44.50 N	063.40 W

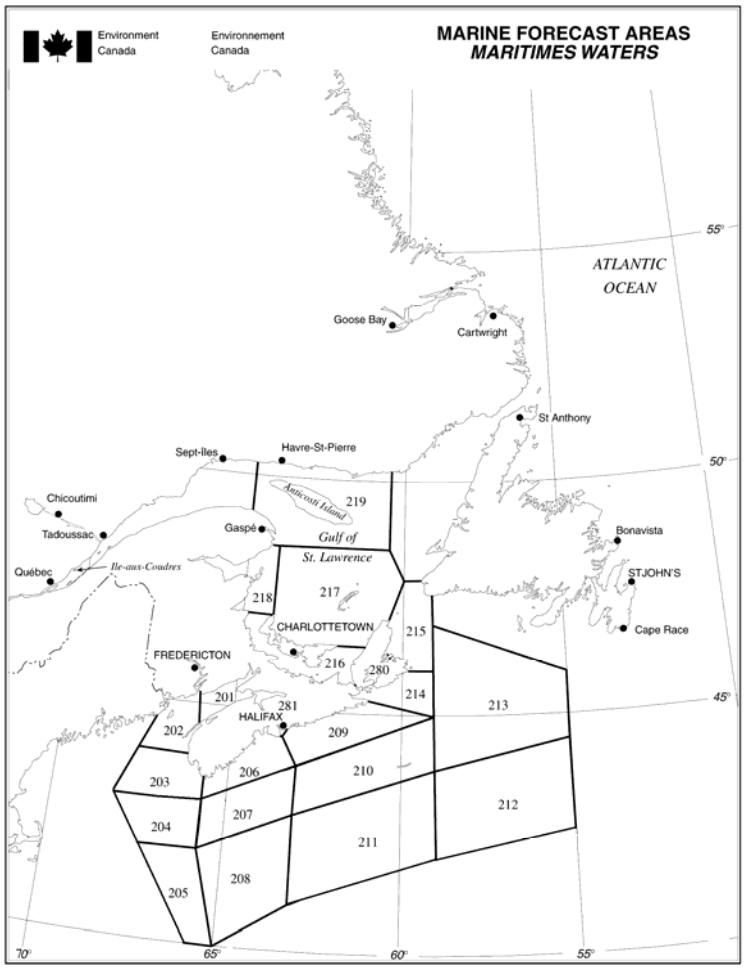
Weatheradio Canada

There are 2 main stations in the Maritimes region:

Stations	CALL SIGN	Repeaters
Moncton	XLM 466	8
Halifax	XLK 473	14

➔**Frequencies in use:** 162.400 MHz and 162.550 MHz.

➔Broadcasts can be received over most coastal areas of New Brunswick, Nova Scotia and Prince Edward Island. Broadcasts include marine weather and ice warnings, and marine forecasts including wave heights, and synopses. Hourly updated observations from coastal stations and offshore buoys are all incorporated in the broadcast.



MARINE FORECAST AREAS

Maritime Waters:

201 Fundy	208 West Scotian Slope	215 Cabot Strait
202 Grand Manan	209 Eastern Shore	216 Northumberland Strait
203 Lurcher	210 Sable	217 Gulf – Magdalen
204 Brown's Bank	211 East Scotian Slope	218 Chaleur – Miscou
205 George's Bank	212 Laurentian Fan	219 Anticosti
206 Southwestern Shore	213 Banquereau	280 Bras d'Or Lakes
207 Lahave Bank	214 Fourchu	281 Halifax Harbour and Approaches

Marine Weather Observations:

Cap d'Espoir	Pointe-des-Monts	St. Paul Island
Miscou	Port aux Basques	St. Pierre
Natashquan	Port Menier	Sept-Iles
Pointe Heath (Anticosti)	Rivière-au-Renard	

Observations will be broadcast only when available.
Hourly updated observations from coastal stations and offshore buoys may also be available on **Weatheradio**

QUEBEC REGION

Marine Weather Forecast Program

The program provides weather information for the St. Lawrence waterway, the Saguenay River, James Bay and eastern Hudson Bay, as well as for other specific lakes or navigable waterways.

The regular program

Area of coverage includes the St. Lawrence waterway between Cornwall*, Ontario, and Anticosti Island (65°W), and the navigable waterway of the Saguenay River between Chicoutimi and Tadoussac (see map areas 301-309). The program provides a **full 24 hours, 7 days a week weather watch, warning and amendment service**. Regular forecasts are issued twice a day from the Quebec Storm Prediction Centre in Montreal.

Time coverage: Year round ***St. Lawrence Seaway portion (Cornwall to Montréal) in open season only.***

Wave height forecasts are issued twice a day for marine areas 301, 302, 303 and 305.

The northern program

➔Area of coverage: James Bay and eastern Hudson Bay (See map areas 310-311-312). The northern program provides a full 24 hours, 7 days a week weather watch, warning and amendment service during the navigation season. Forecasts are issued twice a day. The northern program is active during the navigation season from July to November.

➔Wave height forecasts are also issued twice a day for marine areas **310**, **311** and **312** (see **Forecast Areas map** below).

The recreational program

➔Area of coverage is for various inland lakes and navigable waterways (See map areas **380 to 386**). The recreational program is active from May to October. Also provided is a full 24 hours, 7 days a week **squall warning service** during the summer months (refer to Table 2, page 5-2)

Table 10: Production schedule

a) Text format

Forecast name	Issue Time	Time Zone	Marine region
Technical marine synopsis	03:00, 15:00	EDT / EST	St. Lawrence and Saguenay rivers
	06:00, 18:00	EDT / EST	Eastern Hudson Bay
Marine forecast.	03:00, 15:00	EDT / EST	St. Lawrence and Saguenay rivers
	06:00, 18:00	EDT / EST	Eastern Hudson Bay
Marine weather statement	As needed		
Wave height forecast	03:00, 15:00	EDT / EST	St. Lawrence River
	06:00, 18:00	EDT / EST	Eastern Hudson Bay
MAFOR	03:00, 15:00	EDT / EST	St. Lawrence and Saguenay rivers
Extended marine forecast	06:00, 18:00	EDT / EST	St. Lawrence and Saguenay rivers
	06:00, 18:00	EDT / EST	Eastern Hudson Bay

b) NAVTEX format on 518 kHz:

MCTS	Name	Header	*Availability*
Rivière-au-Renard VCG	NAVTEX/1	FQCN37 CWUL	*03:00, 15:00 EDT / EST*
	NAVTEX/2	FQCN37 CWHX	*03:00, 05:00, 10:00, 15:30, 17:00, 20:00 ADT / AST*
	NAVTEX/3	FQCN37 CYQX	*03:00, 06:00, 10:00, 15:30, 18:00, 20:00 NDT / NST*

Marine Weather Warnings (refer to Table 1, page 5-1)

Note the following regional particularities with respect to the **regular** programs:

	Warning Types	Comments
1	Strong wind warning	Issued between April and October only. Regular program only.

Marine Weather Observations and Forecast Bulletins

Environment Canada operates a network of coastal and insular weather observing stations as well as one weather buoy. Hourly weather reports from these stations are available continuously on Environment Canada's Weatheradio (see **Weatheradio Canada** below) and on request from the Canadian Coast Guard MCTS Centres (refer to Marine Weather Observations). Marine forecasts are updated at regular intervals or whenever necessary and are available on Weatheradio and Canadian Coast Guard's continuous marine broadcast.

Buoy Position St. Lawrence River

In order to complement its network of coastal and insular weather observing stations, Environment Canada operates one weather buoy on the St. Lawrence River. Mariners are requested to use caution when approaching the buoy as mooring chains are normally not detectable from a ship and can be damaged or even severed if there is contact.

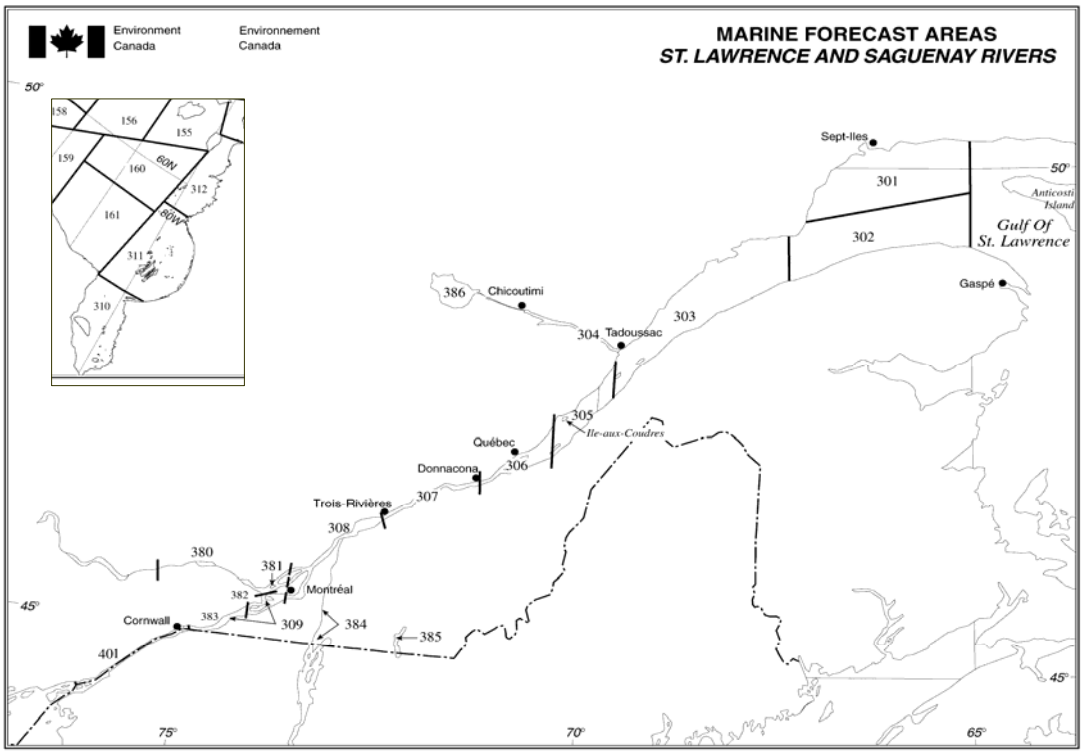
WMO#	Name	LAT	LONG
45138	Mont Louis	49.54ºN	65.76ºW

Weatheradio Canada

Weatheradio is a public service designed to make weather information available over VHF-FM continuously. Weatheradio is dedicated to transmitting up to the minute weather reports and forecasts directly to all users including the marine community. The table below lists all the Weatheradio stations under the responsibility of Environment Canada - Québec region broadcasting marine forecasts and weather reports, showing the stations and frequencies:

Stations	Frequency (Mhz)	Stations	Frequency (Mhz)
Montréal	162.550	Prevert	162.475
Trois-Rivières	162.400	Rivière-au-Renard	162.475
Québec	162.550	Gaspe (Pudding Stone)*	162.550
Baie St-Paul	162.400	Carleton *	162.500
Grand-Fonds	162.475	Mingan *	162.400
Mont Valin	162.550	Kegaska *	162.475
Rimouski	162.550	Harrington Harbour *	162.550
St-Cléophas	162.400	Blanc-Sablon *	162.400
Sept-Iles (Pointe Noire)	162.550	Magdalen Islands *	162.550

* Also broadcast marine forecasts issued from Environment Canada – Atlantic region (refer to the Maritimes Region and the Newfoundland and Labrador Region).



MARINE FORECAST AREAS

Quebec waters

St Lawrence/Saguenay		Hudson Bay	
301	Pointe-des-Monts to Anticosti - northern half	310	James Bay
302	Pointe-des-Monts to Anticosti - southern half	311	Belcher
303	Tadoussac to Pointe-des-Monts	312	Puvirnituq
304	Saguenay to Tadoussac		
305	Isle-aux-Coudres to Tadoussac	**Major inland waters**	
306	Donnacona to Isle-aux-Coudres		
307	Trois-Rivières to Donnacona	384	Richelieu and Northern Lake Champlain
308	Montréal to Trois-Rivières	385	Lake Memphrémagog - northern half
309	Cornwall to Montréal	386	Lake Saint-Jean

Marine Weather Observations – St. Lawrence and Saguenay Rivers

Baie-Comeau	Île Charron	Pointe Claveau
Cap Rouge	Île d'Orléans (St François)	Pointe-des-Monts
Cap-chat	Île Rouge	Port Alfred
Dorval Airport	Île St-Quentin	Rivière-au-Renard
Île aux Grues	Lauzon	Sept-Îles
Île Bicquette	Mont-Joli	St.-Hubert Airport

Reports are broadcast only when available.

GREAT LAKES INCLUDING ST. LAWRENCE RIVER TO CORNWALL

Marine Weather Forecast Program

The program provides marine weather information for the navigable waterway between Cornwall and Thunder Bay, and for other specific lakes or navigable waterways.

The regular program

➔In addition to the Great lakes, the area of coverage includes the waterway between Cornwall and Thunder Bay and is in effect **year round** except for the St. Lawrence Seaway portion where the service is only offered during the navigation season. The marine areas include: Lake Superior, Whitefish Bay, Lake Huron, Georgian Bay, Lake St. Clair, Lake Erie, and Lake Ontario. Note that the marine forecast applies to the entire lake or specific body of water (not only to the Canadian portion). The program provides a **full 24 hours, 7 days a week weather watch, warning and amendment service.** Synopses, regular marine and wave height forecasts are issued 3 times a day from the Ontario Storm Prediction Centre in Toronto.

The recreational program

Marine forecasts tailored to the needs of recreational boaters are issued during the recreational boating season 3 times a day for Lake Simcoe, Lake Nipissing, Lake of the Woods, the North Channel and Lake Nipigon. The season runs from May 15 to October 31, except for Lake Simcoe which runs from May 1 to October 31.

Table 11: Production schedule

a) Text format

Forecast name	Issue Time	Time Zone	Marine region
Technical marine synopsis	03:00, 10:30, 18:30	EDT / EST	Great Lakes and the Ontario portion of the St. Lawrence River
Marine forecast	03:00, 10:30, 18:30	EDT / EST	Great Lakes and the Ontario portion of the St. Lawrence River
Recreational boating marine forecast	05:00, 11:30, 17:30	EDT / EST	Lake of the Woods, Lake Nipigon, North Channel, Lake Nipissing, Lake Simcoe
Marine weather statement	As needed		
Wave height forecast	03:00, 10:30, 18:30	EDT / EST	Great Lakes and the Ontario portion of the St. Lawrence River
MAFOR	03:00, 10:30, 18:30	EDT / EST	Great Lakes and the Ontario portion of the St. Lawrence river
Extended marine forecast	03:00, 18:30	EDT / EST	Great Lakes and the Ontario portion of the St. Lawrence River

b) NAVTEX format on 518 kHz:

MCTS Centres	Name	Header	Availability
Prescott VBR	NAVTEX	FQCN38 CWTO	03:00, 10:30, 18:30 EDT / EST
Thunder Bay VBA	NAVTEX	FQCN39 CWTO	03:00, 10:30, 18:30 EDT / EST

Marine Weather Warnings:
(refer to Table 1, page 5-1): Note the following regional particularities with respect to the **regular** program:

	Warning Types	Comments
1	**Strong wind warning**	Issued May-Oct. and applies to Canadian waters only

Weather Bulletins: LAWEB (Great Lakes weather bulletin)

LAWEB consists of weather reports as received from Canadian Lighthouses equipped with automated weather stations, U.S. and Canadian weather buoys and weather offices located adjacent to the Great Lakes as observed at: 0000, 0300, 0600, 0900, 1200, 1500, 1800, and 2100 UTC. When available, these reports are carried as part of the appropriate Continuous Marine Broadcast for three hours after the time of observation. MCTS centres will broadcast these reports for the locations indicated in the centre listing. More information on transmission of LAWEB can be found in the Marine Weather Observations.

Facsimile package available

The package is available by fax via the Prescott MCTS Centre and consists of:

- marine forecast for the Great Lakes and St. Lawrence River (eastward to Cornwall only).
- marine weather warnings
- charts of marine observations issued 4 times a day at: 0200, 0800, 1400, 2000 UTC
- 12 hr prognostic chart issued twice a day at 0100 and 1300 local time.
- Ice charts and reports – reference Part 5 Canadian Ice Services section

The facsimile package may be obtained by calling (613) 925-0666 and operating the POLL function on your facsimile machine. Mariners are cautioned that information may not be the latest issue.

Buoys

In order to complement the observational network, Environment Canada operates a network of buoys around the Great Lakes. This data becomes part of the collection of weather reports sent through LAWEB and is used to improve marine forecasting. Mariners are requested to use caution when approaching buoys as mooring chains are normally not detectable from a ship and can be damaged or even severed if there is contact, which could result in the buoy becoming adrift and a costly recovery of the platform. Please keep the regional Port Meteorological Officers informed of any incidents involving buoys.

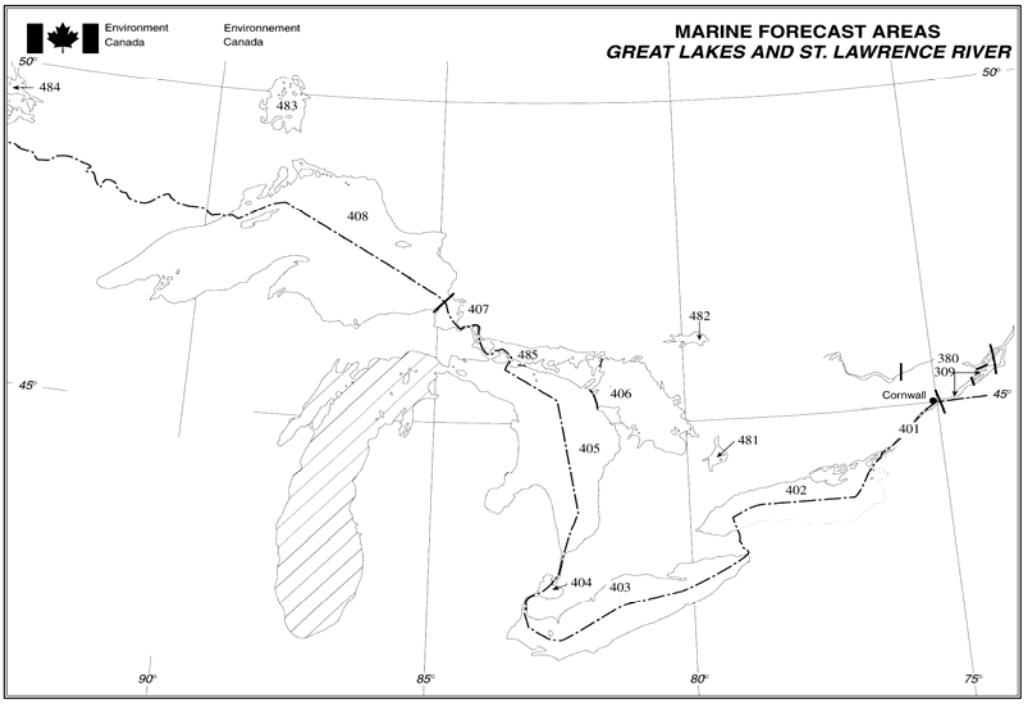
Cdn. Buoys	Name/Lake	Position	U.S. buoys	Name/Lake	Position
45132	Port Stanley	42°28.3'N 81°12.9'W	**45001**	C. Superior	48°00'00"N 87°36'00"W
45135	Prince Edward Pt	43°47.4'N 76°52.4'W	**45002**	Michigan N.	45°18'00"N 86°18'00"W
45136	Slate Island	48°32.3'N 86°56.8'W	**45003**	N. Huron	45°18'00"N 82°48'00"W
45137	Georgian Bay	45°32.6'N 81°00.9'W	**45004**	E. Superior	47°12'00"N 86°30'00"W
45139	West Ontario	43°25.6'N 79°22.9'W	**45005**	W. Erie	41°42'00"N 82°30'00"W
45142	Port Colborne	42°44.2'N 79°17.4'W	**45006**	W. Superior	47°18'00"N 90°00'00"W
45143	S. Georgian B	44°55.1'N 80°37.7'W	**45007**	Michigan S.	42°43'00"N 87°06'00"W
45146	Triaxys	N/A	**45008**	S. Huron	44°18'00"N 82°24'00"W
45147	Lake St. Clair	42°25.8'N 82°41.0'W			
45148	Lake of the Woods	49°38.3'N 94°33.5'W			
45149	SE. Lake Huron	43°32.5'N 82°04.5'W			
45151	Lake Simcoe	44°30'N 79°22'W			
45152	Lake Nipissing	46°14'N 79°43'W			
45153	Wave test	43°25.4'N 79°21.9'W			
45154	North Channel East	46°03'N 82°38'W			
45159	Grimsby	43°13.7'N 79°28.3'W			
45160	16 Mile Creek	43°25.4'N 79°37.7'W			

Weatheradio Canada

Weatheradio in this region comprises a very comprehensive network of stations covering the Great Lakes area. Frequencies in use are: **162.400 MHz, 162.475 MHz, and 162.550** MHz. Broadcasts include marine warnings and forecasts as well as

inland warnings and forecasts. Hourly updated observations from coastal stations and buoys are also incorporated in the broadcast.

Note: **Weatheradio Canada** automatically alerts users to severe weather warnings. If receivers are equipped with suitable alert devices they will emit a loud continuous tone and/or flashing light when a warning is issued.



MARINE FORECAST AREAS

Ontario waters

Commercial shipping waters		**Major inland waters**	
401	Kingston to Cornwall	481	Lake Simcoe
402	Lake Ontario	482	Lake Nipissing
403	Lake Erie	483	Lake Nipigon
404	Lake St. Clair	484	Lake of the Woods
405	Lake Huron	485	North Channel
406	Georgian Bay		
407	Whitefish Bay		
408	Lake Superior		

Marine Weather Observations[1] - St. Lawrence River and Great Lakes

Barrie	Montréal
Lake Simcoe ODAS buoy	Reports from Kingston to Montréal
Lagoon City	Reports from Long Point to Port Colborne
Kingston	Reports from Port Weller to Kingston
Alexandria Bay	Reports from Great Duck Island to Windsor
Massena	Reports from Sarnia to Port Colborne
Superior Shoals	Reports from Duluth (Lake Superior) to Detour Reef (Lake Huron)
Grenadier Islands	Reports from Sault Ste Marie to Sarnia and Georgian Bay

(1) Reports are broadcast only when available. Reports from platforms such as buoys or ships, are also broadcast when available.

CANADIAN ICE SERVICE (CIS)

➔Ice Forecasts

➔Ice forecasts are produced once a day year round. The intent is to advise users of any ice warning conditions that are in effect or that could develop during the day, the evening and the following day, for the areas where a daily ice chart is produced. The forecasts also provide a point by point description of the ice edge.

The iceberg bulletin is produced once a day except in November and December when it is produced from Monday to Friday only. The purpose is to convey routine, general information on the iceberg distribution off the Canadian East Coast. The bulletin provides the estimated limit of all known icebergs and a general description of the number of icebergs for each marine area.

Table 12: Ice bulletins production schedule

a) Text format

Forecast name	Issue Time	Time Zone	Marine region
Iceberg bulletin	11:00	EDT/EST	East Coast waters
➔Ice forecasts	10:00	EDT/EST	Western and Central Arctic
	11:00	EDT/EST	Hudson and Foxe
	11:00	EDT/EST	Eastern and Northern Arctic
	10:00	EDT/EST	Gulf of St. Lawrence
	10:00	EDT/EST	➔East Newfoundland and Labrador waters
	12:00	EDT/EST	Great Lakes

b) NAVTEX format on 518 kHz:

MCTS	Name	Header	Availability
St John's VON	Ice NAVTEX	FICN33 CWIS	17:50 (**W**), 21:50 (**S**) UTC
Sydney VCO	Ice NAVTEX	FICN34 CWIS	22:10 UTC
Labrador VOK	Ice NAVTEX	FICN35 CWIS	23:20 UTC
Prescott VBR	Ice NAVTEX	FICN38 CWIS	00:40, 12:40 UTC
Thunder Bay VBA	Ice NAVTEX	FICN39 CWIS	06:00, 18:00 UTC
Iqaluit VFF	Ice NAVTEX	N/A	N/A

Ice Warning Criteria

Warning Name	Warning criteria
1. Ice Pressure warning	➔Reported or forecast strong ice pressure.
2. Rapid Closing of Coastal Leads warning	Rapid closing of coastal leads is expected to occur. Leads are corridors of mainly ice-free water surrounded by pack ice.
3. Special Ice warning	Issued when a shipping lane or port has been open for at least 2 weeks and is now expected to become blocked by first year or older ice, or…
	When one tenth or more of greywhite ice or older is expected to move into areas when that ice is not normally present, or…
	For any unusual or significant ice event that may present a hazard to navigation.

Ice Forecast Program

➔Time scales for ice forecasts are relatively longer. Useful time scales for ice forecasts are daily, monthly and seasonal. At present, the program provides a 30 day text forecast mainly as a planning tool for operators.

Ice Reports or Ice Observations

Ice reports from ships or aircraft are normally relayed through MCTS Centres for broadcast. These reports are all assimilated in the daily ice charts produced by CIS.

Ice Charts Available

Current ice conditions charts are produced on a daily basis. The area covered by the chart depends on the time of the season and these charts are normally broadcast at times specified in tables below.

Once a week, CIS produces Regional ice charts. These charts are intended to be used as a planning tool rather than a tactical support tool and are available on the CIS website at http://ice-glaces.ec.gc.ca and through commercial communication lines. They are not broadcast through MCTS Centres.

Ice Beacons

➔In order to better track the ice drift or to verify ice models, CIS deploys between 4 to 8 ice beacons yearly. While most beacons are only reporting their positions, a few are equipped with barometric pressure sensor and longer lasting battery pack to provide surface pressure information in data sparse regions. These devices drift with the ice/iceberg and are relatively small, so they are very hard to detect from a ship especially if they have been covered with snow. Beacons are deployed primarily in the Central Arctic, Eastern Arctic and the Labrador Coast regions. Through partnership with the International Arctic Buoy Program, CIS will provide, when possible, beacon(s) to be deployed in the Beaufort Sea.

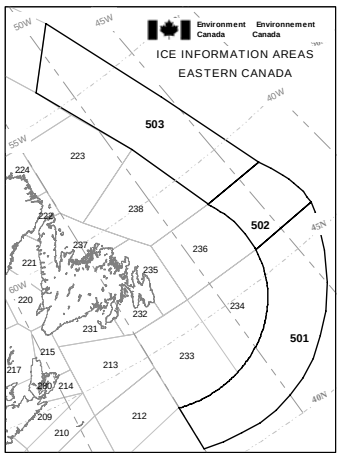
Weatheradio Canada

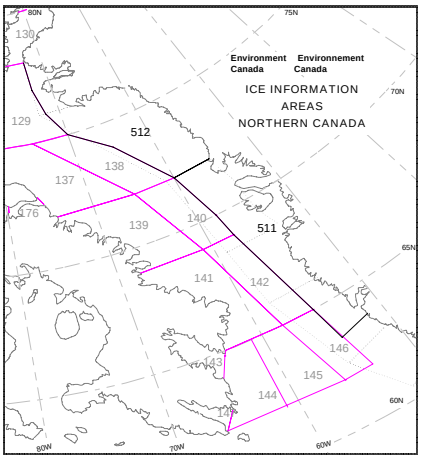
➔Detailed ice forecasts are not broadcast via Weatheradio, however, ice warnings are broadcast to alert mariners to marine areas impacted by hazardous ice conditions. Mariners planning operations in these waters may obtain further details regarding ice conditions by consulting the CIS website, or contacting their regional MCTS centre. Detailed ice information may also be obtained through consultation with an Environment Canada meteorologist using the "Weather One-on-One" 1-900 service at 1-900-565-5555. For cell phone users and credit card billing call 1-888-292-2222. User fees apply.

Ice areas

➔Areas for which ice forecasts apply are identical to the marine forecasts areas. In addition to these, ice forecasts will cover Lake Michigan, and may cover 3 areas along the East Coast (501 to 503), and two more off the Greenland Coast (511-512).

501	➔Tail of the Grand Banks
502	Flemish
503	Southeast Labrador Sea
511	Greenland Central
512	Greenland North
541	Lake Michigan





Ice charts

The following list describes ice charts produced to support Canadian Coast Guard operations which are available for broadcast. All **available** charts can be transmitted or re-transmitted on request. **MCTS broadcast times** are found in Chapter 2. **METOC Halifax broadcast times** are found immediately following this section.

Ice Chart (when available)	**Broadcast site**	**Season**
Iceberg limit	MCTS Sydney	Year round
Gulf of St. Lawrence	METOC Halifax MCTS Sydney	Winter Winter
➔Northeast or Southeast Newfoundland Waters	METOC Halifax MCTS Sydney	Winter Winter
Labrador Coast	METOC Halifax MCTS Iqaluit	Winter Summer
Hudson Strait	MCTS Iqaluit	Summer
Northern Hudson Bay	MCTS Iqaluit	Summer
Southern Hudson Bay	MCTS Iqaluit	Summer
Foxe Basin	MCTS Iqaluit	Summer
Davis Strait	MCTS Iqaluit	Summer
Baffin Bay	MCTS Iqaluit (Resolute) MCTS Iqaluit	Summer
Approaches to Resolute	MCTS Iqaluit (Resolute)	Summer
Resolute - Byam	MCTS Iqaluit (Resolute)	Summer
Eureka	MCTS Iqaluit (Resolute)	Summer
Parry Channel	MCTS Iqaluit (Resolute)	Summer
McClure Strait	MCTS Iqaluit (Resolute) MCTS Inuvik	Summer
Queen Maud	MCTS Iqaluit (Resolute) MCTS Inuvik	Summer
Amundsen Gulf	MCTS Inuvik	Summer
Alaskan Coast	MCTS Inuvik	Summer
Bering Strait	MCTS Inuvik	Summer

For correct reception of this broadcast on WMO standard facsimile recorders requiring 2300 Hz for White and 1500 Hz for Black, 1800 Hz centre frequency, radio receivers should be tuned in the **UPPER SIDEBAND MODE** or **USB**: add **1.6 to 1.8** to the indicated frequencies.

METOC Halifax (CFH): Broadcasts intended for North Atlantic waters North of 35ºN and West of 35ºW. Radio facsimile transmission commences with a 30 second break followed by a 30 second signal.

NAME	**Call Sign**	**Modulation**	**Index of Cooperation**	**Power**	**Frequencies (kHz)**	**Drum speed**
MCTS Iqaluit	**VFF**	J3C (FM)	576	5 KW	3251.1, 7708.1 **(USB)**	120 RPM
MCTS Inuvik	**VFA**	J3C (FM)	576	1 KW	8456.0, 8457.8 **(USB)**	120 RPM
METOC Halifax	**CFH**	J3C (FM)	576	6 KW	4271, 6496.4, 10536, 13510	120 RPM
METOC Halifax	**CFH**	J3C (FM)	576	10 KW	122.5	
MCTS Sydney	**VCO**	J3C (FM)	576	5 KW	4416, 6915.1	120 RPM

Facsimile Broadcast

Upon authorized request from Canadian Coast Guard, C-GCFR can transmit observed conditions via satellite fax. Vessels must make a request through the Canadian Coast Guard to receive it.

THE CANADIAN FORCES FLEET METEOROLOGICAL AND OCEANOGRAPHIC CENTRE (METOC) BROADCAST ATLANTIC

The Canadian Forces Fleet Meteorological and Oceanographic Centre (Metoc) Broadcast Atlantic broadcasts text and chart information for the Atlantic. The broadcast is maintained to serve and fulfill the requirements of the Canadian Navy. The area in which the broadcast is intended to be received is North Atlantic waters north of 35°N and west of 35°W.

a) Radioteletype

NAME	Call Sign	Frequencies (kHz)	Power	Broadcast Times	Class of Transmission
Halifax	**CFH**	4271, 6496.4, 10536, 13510	6 KW	0000 – 2400	
Halifax	**CFH**	122.5	10 KW	0000 – 2400	100 WPM

Text-based information is broadcast during those times when meteorological charts are not being transmitted. Selected bulletins are placed into a transmission queue. Once they have been received in the queue, they are assigned a priority. Once a bulletin is broadcast it is removed from the queue. The priority for a particular bulletin is reduced after each hour it remains in the queue. Each bulletin is also coded as to the length of time in hours it remains in the queue. If a particular bulletin is not broadcast during its allotted time, it is removed from the queue.

The following is a description of each type of bulletin that is inserted into the queue for broadcast:

Weather Warnings (WH/WW) have the highest priority and are put into the queue as they are received. They are broadcast as soon as possible once the charts have been done.

The technical marine synopsis and (Regular) Marine Forecasts (FQ) are issued by the Maritimes Weather Centre (CWHX) and the Newfoundland office **(CYQX).** The **production schedule** is listed in the MARITIMES and NEWFOUNDLAND AND LABRADOR sections of this chapter.

High Seas Forecasts are issued four times per day and are put into the queue as they are received. The area of coverage is the Atlantic Ocean from 7N to 67N west of 35W.

Ship Reports (SM) are observations at each synoptic hour, 00, 06, 12 and 18 UTC. These reports are put into the queue when available.

Buoy Reports are from selected locations in the waters adjacent to Atlantic Canada.

Terminal Forecasts (FT) are issued four times per day within a half an hour of the synoptic hour, 00, 06, 12 and 18 UTC. Every hour surface observations and forecasts for selected aerodromes are broadcast.

Ice Information (FI) Ice forecasts for the Gulf of St. Lawrence, the East Coast of Canada and the Eastern Arctic are broadcast according to the season and availability. When available, Ice forecasts are broadcast after 15 UTC.

Public Forecasts (FP) are issued twice each day and contain a long-term forecast for the Maritimes provinces. These forecasts are put into the queue as they are received.

PIREPS (UA) are reports from aircraft pilots and are put into the queue as received.

Upper Air Reports (UM, UG) are reports from radiosonde balloons and are broadcast after 00 and 12 UTC.

Tropical Cyclone Discussions (WO) are bulletins that describe tropical weather that is expected to affect Canadian waters. These discussions are put into the queue when available.

The following list contains the buoys that are included in the Buoy Report groups. Every six hours reports from the available stations are collected and broadcast.

BUOYNS	44258 / 44139 / 44141 / 44137 / 44144 / 44011 / 44142
BUOYNF	44145 / 44251 / 44138 / 44255 / 44140
BUOYNE	44005 / 44008 / 44007 / 44013 / 44025

The following list contains the land stations that are included in the Terminal Forecast groups. For most stations both a METAR and TAF are broadcast.

TAFNS	CYAW XMI CYZX CYHZ CWSA CYQI CYQY
TAFNF	CYQX CYYT LFVP CYJT CYDF
TAFNB	CYSJ CYFC CYQM CYYG CYGR
TAFUS1	KNHZ KBOS KACK KGON KJFK KDOV KADW KNHK KNGU KECG
TAFUS2	KMQI KNKT KMYR KNBC KNIP KCOF KHST TXKF TJNR TJSJ

In addition to the preceding tables and list, the following summarizes when particular bulletins are scheduled to be broadcast. All times UTC.

Hour 00	FQCN10/13 CWHX	Hour 08	FQCN10/13 CYQX	Hour 16	
Hour 01	FQCN10/13 CYQX	Hour 09	Buoy Reports Public Forecast	Hour 17	High Seas Forecast
Hour 02		Hour 10		Hour 18	
Hour 03	Buoy Reports	Hour 11	High Seas Forecast	Hour 19	FQCN10/13 CYQX
Hour 04		Hour 12		Hour 20	FQCN10/13 CYQX Public Forecast
Hour 05		Hour 13		Hour 21	Buoy Reports
Hour 06	High Seas Forecast	Hour 14	FQCN10/13 CWHX	Hour 22	
Hour 07	FQCN10/13 CWHX	Hour 15	FQCN10/13 CYQX Buoy Reports	Hour 23	High Seas Forecast

b) Radio Facsimile

NAME	Call Sign	Frequencies (kHz)	Power	Broadcast Times	Drum Speed	Index of Cooperation
Halifax	CFH	4271, 6496.4, 10536, 13510	6 KW	0000 – 2400	120 RPM	576
Halifax	CFH	122.5	10 KW	0000 – 2400	120 RPM	576

Chart based information is broadcast at the beginning of each hour. As chart transmission commences for a particular hour there is a 30 second break followed by a 30 second phasing signal. During a chart transmission period there will be one or two charts broadcast. The schedule of charts broadcast follows. At the conclusion of chart transmission, bulletin transmission begins and continues until the end of the current hour.

Notes:
Frequency 122.5 kHz is continuous except for maintenance from 1200 to 1600 UTC on the second Thursday of each month.
Frequency 4271 kHz is continuous except for maintenance from 2200 to 1000 UTC on the second Thursday of each month.
Frequency 6496.4 kHz is continuous.
Frequency 10536 kHz is continuous.
Frequency 13510 kHz is continuous except for maintenance from 1000 to 2200 UTC on the second Thursday of each month.

The following summarizes the scheduled chart broadcast times

Time	Chart Description	Area	Time	Chart Description	Area
0001	Ice Chart #1 (see note): Latest	-----	**1201**	Day 3 Surface Prognosis: 1200Z	G
			1222	Day 4 Surface Prognosis: 1200Z	G

Time	Chart Description	Area	Time	Chart Description	Area
0101	Satellite picture: infrared	-----	**1301**	Day 5 Surface Prognosis: 1200Z	G
0201	12Z Significant Weather Depiction: 1200Z	A	**1401**	00Z Significant Weather Depiction: 0000Z	A
0301	500 mb Analysis: 0000Z	B	**1501**	500 mb Analysis: 1200Z	B
0322	00Z Surface Analysis: 0000Z	F	**1522**	12Z Surface Analysis: 1200Z	F
0401	500 mb 36 hour Prognosis: 1200Z	H	**1601**	850 mb Analysis: 1200Z	B
0422	24hr Isobaric Prognosis: 0000Z	G	**1622**	500 mb 36 hour Prognosis: 0000Z	H
0501	850 mb Forecast Winds: 18/00Z	C	**1701**	24hr Isobaric Prognosis: 1200Z	G
0601	36hr Isobaric Prognosis: 1200Z	G	**1801**	36hr Isobaric Prognosis: 0000Z	G
			1822	850 mb Forecast Winds: 06/12Z	C
0701	18Z Significant Weather Depiction: 1800Z	A	**1901**	06Z Significant Weather Depiction: 0600Z	A
0801	24/36hr Significant Wave Prognosis: 0000Z/1200Z	I	**2001**	24/36hr Significant Wave Prognosis: 1200Z/0000Z	I
0901	06Z Surface Analysis: 0600Z	F	**2101**	18Z Surface Analysis 1800Z	F
1001	NS SST Mon, NS OFA Wed/Sat NF SST Tue/Fri, NF OFA Sun/Thu	E D	**2201**	NS SST Tue/Thu/Fri, NS OFA Sun NF SST Wed/Sat, NF OFA Mon	E D
1022	Satellite picture: infrared	-----	**2222**	Ice Chart #2 (see note): Latest	-----
1101	CFH Broadcast Schedule: Latest		**2301**	Ice Chart #3 (see note): Latest	-----

The following is a description of the coverage area for each charts.

Area	Geographical Area	Area	Geographical Area	Area	Geographical Area
A	56ºN 87ºW 56ºN 24ºW 34ºN 38ºW 34ºN 73ºW	**D**	60ºN 68ºW 60ºN 33ºW 43ºN 33ºW 43ºN 68ºW	**G**	52ºN 98ºW 56ºN 24ºW 30ºN 39ºW 28ºN 78ºW
B	76ºN 16ºW 30ºN 20ºW 23ºN 11º0W 8ºN 69ºW	**E**	50ºN 75ºW 50ºN 48ºW 34ºN 48ºW 34ºN 75ºW	**H**	30ºN 107ºW 15ºN 67ºW 34ºN 24ºW 79ºN 60ºW
C	52ºN 80ºW 65ºN 15ºW 30ºN 60ºW 34ºN 17ºW	**F**	52ºN 98ºW 58ºN 24ºW 30ºN 39ºW 28ºN 78ºW	**I**	54ºN 100ºW 58ºN 22ºW 30ºN 39ºW 28ºN 78ºW

NOTES:
This schedule is subject to change without notice according to the requirements of the Canadian Forces.

The geographical area of coverage for the ice charts varies according to season. The typical areas are: Gulf of St. Lawrence, East Newfoundland waters, Labrador Coast, Hudson Strait, Davis Strait and Baffin Bay. The Canadian Ice Service prepares all ice charts.

PART 6

LORAN-C NAVIGATION SYSTEM

TABLES

1. NEWFOUNDLAND EAST COAST LORAN-C CHAIN GRI 7270
2. CANADIAN EAST COAST LORAN-C CHAIN GRI 5930
3. GREAT LAKES LORAN-C CHAIN GRI 8970
4. NORTHEAST U.S. LORAN-C CHAIN GRI 9960

FIGURES

1. LORAN-C CHAIN COVERAGE OF NORTH AMERICA
2. LORAN-C COVERAGE DIAGRAM - EAST COAST
3. LORAN-C COVERAGE DIAGRAM - GREAT LAKES
4. NEWFOUNDLAND EAST COAST CHAIN COVERAGE DIAGRAM
5. CANADIAN EAST COAST CHAIN COVERAGE DIAGRAM
6. GREAT LAKES CHAIN COVERAGE DIAGRAM
7. NORTHEAST U.S. CHAIN COVERAGE DIAGRAM
8. INDEX AND CHARTLETS SHOWING ADDITIONAL SECONDARY FACTOR CORRECTIONS-EAST COAST
9. INDEX AND CHARTLETS SHOWING ADDITIONAL SECONDARY FACTOR CORRECTIONS-GREAT LAKES

A. Loran-C Chain Coverage

Figure 1 shows the North American coverage of Loran-C while Figures 2 and 3 show the Loran-C coverage existing on the East Coast of Canada and on the Great Lakes (respectively). They show the recommended Loran-C chains, and the station pairs within a particular chain, to be used within the various coverage areas. The following note pertains to Figures 2 and 3.

Note: The dividing lines between the Loran-C rates do not necessarily mean there are no other suitable Loran-C stations/chains which could be used to safely navigate in an area. Example Figure 2, while it is recommended to use 5930XY (Caribou - Nantucket - Cape Race on rate 5930) off Halifax, coverage also exists there for 9960WZ and 5930XZ. It is simply estimated that 5930XY provides better coverage in this area. Example Figure 3, while it is recommended to use 9960YZ (i.e., Seneca – Carolina Beach – Dana on rate 9960) in Lake Erie, coverage also exists there for 9960WZ and 8970XY. It is simply estimated that 9960YZ provides better coverage in Lake Erie.

The individual coverage patterns shown in Figures 4, 5 & 7 are provided by the Newfoundland East Coast, Canadian East Coast and Northeast U.S. Loran-C chains respectively. Those patterns provided by the Great Lakes coverage are shown in Figure 6.

B. Chain Details

Technical details of chains that provide coverage in waters off Eastern Canada are shown in Tables 1&2 and coverage in the Great Lakes is shown in Table 3. Table 4 shows the Northeast U.S. chains which cover the Great Lakes and East Coast.

C. Loran-C Coordinate Converters

Listing of vectors from the Loran-C coordinate converter position to the true position.

D. Loran-C Receiver Latitude/Longitude Corrections

Today's Loran-C receivers are equipped with microprocessors which are designed to internally compute the latitude and longitude coordinates of the receiver, based on the Time Difference (TD) readings, and directly display these values. This reduces the need to possess to Loran-C charts, though it is still recommended that they be procured.

The latitude/longitude computation may be based upon a pure seawater path. This leads to errors if the Loran-C signals from the various stations involve appreciable overland paths since the speed of the signal will decrease by varying amounts, depending on the nature of the earth's surface over which it is passing. Loran-C operates by measuring the difference in arrival times of the signals from the different stations in the Loran-C chain, and thus any unforeseen variation in the speed of a signal will result in an error in the latitude/longitude reading. Note that when the receiver is being used in the time difference mode (time difference readings being used to manually plot lines of position on a Loran-C chart), these errors are minimal and the system should be accurate to within ¼ nautical mile. This is because the Loran-C lattice on a nautical chart has already been adjusted to allow for the signal variation as it travels over land.

It is recommended that mariners using the latitude/longitude feature of their receiver check the manufacturer's operating manual to determine if corrections are necessary and how they may be applied to compensate for overland paths in order to obtain a greater fix accuracy. The correction can be applied in either of two forms: (i) insertion of a correction when the vessel is at a known location, or (ii) the insertion of a correction factor that is determined from a table or chartlet. The latter is called an Additional Secondary Phase Factor (ASF) correction, and the chartlets in Figures 8 & 9 can be used to ascertain the numeric value to apply. These corrections will normally be valid only within 50 to 100 miles of the location at which the correction was inserted because of the changing effects of land mass on the Loran signals in the different areas.

E. Waypoint Navigation Cautionary Note

Mariners are cautioned that an error can exist between the waypoint navigation information provided by their Loran-C receiver and the desired straight-line track plotted on a chart. A straight line course plotted between two waypoints on a mercator chart is a rhumb line, defined as a line on the earth's surface cutting the meridians of longitude at the same angle. The course and distance displayed by a microprocessor-based Loran-C receiver, used in the waypoint mode, are normally computed for a great circle track, not a rhumb line. In the northern hemisphere, a great circle track between two normal waypoints lies to the north of a rhumb line joining those same waypoints.

This offset distance, or error, is a maximum when sailing East-West at a latitude of approximately 45 degrees, decreasing to zero at the equator and at the North and South Poles. It also decreases to zero as your track becomes North-South, regardless of the latitude. As an example of the offset error possible, a journey from St. John's, Newfoundland, to the Lands End area, England, a distance of roughly 1850 nm, would have a maximum offset of approximately 140 nm when comparing a rhumb line and a great circle track between the two places. The rhumb line versus great circle path offset becomes a danger only if the mariner has not laid off a great circle course on a Gnomonic chart, ensuring the vessel will pass clear of all navigation dangers.

F. Loran-C Skywave Interference

It has been found that the skywave effects are minimal if the receiver is properly installed and operated. Special attention should be given to receiver grounding, placement of the antenna and the elimination of shipboard interference.

G. Loran-C System Status Information

Up-to-date Loran-C status information is available by telephoning:

Loran-C Chain/Rate	Phone Number/Location	
Newfoundland East Coast Chain 7270	709-454-3129	Control/Monitor, St. Anthony, NL
Canadian East Coast/5930	709-454-3129	Control/Monitor, St. Anthony, NL
Northeast U.S./9960	703-313-5900/03	USCG NAVCEN, Alexandria, Va
Great Lakes/8970	703-313-5900/03	USCG NAVCEN, Alexandria, Va

H. Loran-C - Notices to Shipping

Loran-C Notices to Shipping (NOTSHIPs) concerning the status of Loran-C signals in eastern Canadian waters and in the Great Lakes, the immediate proximity are broadcast from the following Marine Communications and Traffic Services (MCTS) Centres and their respective remotely-controlled facilities:

St. Anthony	Labrador	Saint John	Quebec	Sarnia
St. John's	Halifax	Rivière-au-Renard	Montreal	Thunder Bay
Port-aux-Basques	Sydney	Les Escoumins	Prescott	

Note that these broadcasts may only be made from those MCTS Centres located in the general area where the Loran-C signal normally exists.

TABLE 1
NEWFOUNDLAND EAST COAST LORAN-C CHAIN GRI 7270

STATION	LOCATION (NAD83)	FUNCTION	EMISSION DELAY	THEORETICAL BASELINE TRAVEL TIME (1)	RADIATED PEAK POWER
COMFORT COVE, Newfoundland	49 19'53.57"N 54 51'42.57"W	MASTER	_____	_____	185 kW
CAPE RACE, Newfoundland	46 46'32.29"N 53 10'27.61 W	WHISKEY SECONDARY	12037.49 μ s	1037.49 μ s	500 kW
FOX HARBOUR, Labrador	52 22'35.25"N 55 42'27.86 W	XRAY SECONDARY	26148.01 μ s	1148.01 μ s	800 kW

(1) Theoretical baseline travel time is based on all-seawater transmission path between master and secondary.
(2) Vessels passing in the immediate vicinity of the Fox Harbour station may experience interference on their communication receivers. Reception of weak communication signals may not be possible on vessels that are within 10 miles of Fox Harbour.

TABLE 2
CANADIAN EAST COAST LORAN-C CHAIN GRI 5930

STATION	LOCATION (NAD 83)	THEORETICAL FUNCTION	EMISSION DELAY	THEORETICAL BASELINE TRAVEL TIME (1)	RADIATED PEAK POWER
CARIBOU, Maine (2)	46 48'27.31"N 67 55'37.16"W	MASTER	_____	_____	800 kW
NANTUCKET, Massachusetts (2)	41 15'12.05"N 69 58'38.54"W	X SECONDARY	13131.88 μ s	2131.88 μ s	375 kW
CAPE RACE, Newfoundland	46 46'32.29"N 53 10'27.61"W	Y SECONDARY	28755.02 μ s	3755.02 μ s	500 kW
FOX HARBOUR, Labrador (3)	52 22'35.25"N 55 42'27.86"W	Z SECONDARY	41594.59 μ s	3594.59 μ s	800 kW

(1) Theoretical baseline travel time is based on all-seawater transmission path between master and secondary.
(2) This station operated by United States of America.
(3) Vessels passing in the immediate vicinity of the Fox Harbour station may experience interference on their communication receivers. Reception of weak communication signals may not be possible on vessels that are within 10 miles of Fox Harbour.

TABLE 3
GREAT LAKES LORAN-C CHAIN GRI 8970

STATION	LOCATION (1)	FUNCTION	EMISSION DELAY	THEORETICAL BASELINE TRAVEL TIME (2)	RADIATED PEAK POWER
DANA, Indiana (3)	39 51'07.66"N 87 29'11.59"W	MASTER	———	———	400 kW
MALONE, Florida (3)	30 59'38.87"N 85 10'08.75"W	W SECONDARY	14355.11 μ s	3355.11 μ s	800 kW
SENECA, New York (3)	42 42'50.72"N 76 49'33.31"W	X SECONDARY	31162.06 μ s	3162.06 μ s	800 kW
BAUDETTE, Minnesota (3)	48 36'49.95"N 94 33'17.92"W	Y SECONDARY	47753.74 μ s	3753.74 μ s	800 kW
BOISE CITY, Oklahoma (3)	36 30'20.78"N 102 53'59.49"W	Z SECONDARY	63669.46 μ s	4669.46 μ s	800 kW

(1) Based on WGS 84 (coordinate system for charting.)
(2) Theoretical baseline travel time is based on all-seawater transmission path between master and secondary.
(3) This station is operated by the United States of America.

TABLE 4
NORTHEAST U.S. LORAN-C CHAIN GRI 9960

STATION	LOCATION (NAD 83)	FUNCTION	EMISSION DELAY	THEORETICAL BASELINE (2) TRAVEL TIME	RADIATED PEAK POWER
SENECA, New York (3)	42 42'50.72"N 76 49'33.31"W	MASTER	———	———	800 kW
CARIBOU, Maine (3)	46 48'27.31"N 67 55'37.16"W	W SECONDARY	13797.20 μ s	2797.20 μ s	800 kW
NANTUCKET, Massachusetts (3)	41 15'12.05"N 69 58'38.54"W	X SECONDARY	26969.93 μ s	1969.93 μ s	375 kW
CAROLINA BEACH North Carolina (3)	34 03'46.21"N 77 54'46.10"W	Y SECONDARY	42221.65 μ s	3221.65 μ s	800 kW
DANA, Indiana (3)	39 51'07.66"N 87 29'11.59"W	Z SECONDARY	57162.06 μ s	3162.06 μ s	400 kW

(1) Based on WGS 84 (Coordinated system for charting).
(2) Theoretical baseline travel time is based on all-seawater transmission path between master and secondary.
(3) This station operated by United States of America.

Loran-C Coordinate Converters

Many of the Loran-C Coordinate Converters on the market do not compensate for the overland propagation errors caused by radio waves traveling more slowly over land than they do over seawater. These converters assume that the radio waves are traveling over an all seawater path from the transmitters to the ship. Because the amount of the time delay in each pattern varies with location, as does the width for 1 microsecond in each pattern, and the angle of cut between patterns, and which two patterns are being used for the position determination, there can be no over-all simple error statement.

It is important to note that a Loran-C coordinate converter that does not incorporate the overland propagation corrections (Additional Secondary Factor, or ASF) within its computations will produce a systematic geographic position error. This error is often in the dangerous direction; namely, it will compute a position that is farther offshore. If you are transiting along a coast, thinking that you are safely outside the dangerous shoals, you may find yourself closer to shore than you think you are.

The Canadian Hydrographic Service (CHS) has determined the overland propagation (ASF) errors through actual observations. The overland propagation corrections were incorporated into the lattices that were/are on CHS nautical charts. These maps have been published showing the corrections to observed Time Differences (TDs) necessary to make them theoretical TDs that can be used with algorithms using just the seawater velocity to compute the geographic position.

Manufacturers have their own methods to compute geographic positions, which may incorporate some approximations. The receivers may or may not tell the mariner which TDs it is using to compute the position – hopefully the pair with the best repeatable geometry. Some receivers use more than two TDs to compute positions.

Some manufacturers have incorporated the overland propagation corrections into their algorithms and those receivers should perform more accurately than those that do not. The industry self-imposed standard set by the Radio Technical Commission on Marine Services - Special Committee 75 on Minimum Performance Standards for Loran-C Coordinate Converters (1980) is a ¼ mile positioning accuracy.

The following tables give the vectors from the Loran-C coordinate converter position to the true position. These will give some guide as to the possible errors. It is suggested, however, that mariners **NOT** correct their positions by the stated amounts, but to use the listed information as an advisory. Your coordinate converter may behave differently.

5930 – Canadian East Coast Chain

Information in **Bold** is for the TD pair that gives the best repeatability.

Vicinity of:	**Latitude**	**Longitude**	**5930XY**	**5930XZ**	**5930YZ**
Gulf of Maine					
Georges Bank	41 00’N	66 00’W	**0.4 nm @ 000°T**		
Georges Bank	42 00’N	67 00’W	**0.3 nm @ 350°T**		
Bay of Fundy					
Machias Seal I	44 30’N	67 00’W	**0.2 nm @ 035°T**		
Saint John	45 00’N	66 00’W	**0.3 nm @ 020°T**		
Cape d'Or	45 15’N	64 45’W	**0.3 nm @ 005°T**		
Digby	44 45’N	65 45’W	**0.3 nm @ 040°T**		
Brier Island	44 15’N	66 30’W	**0.3 nm @ 050°T**		
Western Nova Scotia					
Yarmouth	43 30’N	66 20’W	**0.1 nm @ 030°T**		
Seal Island	43 20’N	66 20’W	**0.2 nm @ 000°T**		

Vicinity of:	Latitude	Longitude	5930XY	5930XZ	5930YZ
South Shore, Nova Scotia					
Shelburne	43 40'N	65 00'W	**0.4 nm @ 345°T**		
Mahone Bay	44 00'N	64 00'W	**0.4 nm @ 345°T**		
Mahone Bay	44 20'N	64 10'W	**0.3 nm @ 335°T**		
Sambro Island	44 20'N	66 30'W	**0.4 nm @ 335°T**		
Eastern Shore, Nova Scotia					
Sheet Harbour	44 40'N	62 30'W	**0.6 nm @ 345°T**		
Country Harbour	44 50'N	62 00'W	**0.7 nm @ 345°T**		
Canso	45 10'N	61 00'W	**0.8 nm @ 345°T**		
Pt Michaud	45 30'N	60 45'W	**0.5 nm @ 345°T**		
Sable Island					
West end	44 00'N	60 30'W	**0.6 nm @ 345°T**	0.7 nm @ 340°T	0.6 nm @ 340°T
East end	44 00'N	59 30'W	**0.7 nm @ 340°T**	0.8 nm @ 335°T	0.5 nm @ 335°T
Cape Breton Island					
Scatarie Island	45 50'N	59 45'W	**0.7 nm @ 345°T**	0.8 nm @ 330°T	0.4 nm @ 335°T
Sydney	46 20'N	60 00'W	0.2 nm @ 300°T	0.1 nm @ 005°T	**0.4 nm @ 340°T**
Cape Egmont	47 00'N	60 00'W	0.0 nm	0.0 nm	**0.1 nm @ 330°T**
Gulf of St. Lawrence, southern part					
Cheticamp	46 45'N	61 15'W	0.1 nm @ 350°T	0.2 nm @ 305°T	**0.1 nm @ 190°T**
Cape George	46 00'N	62 00'W	**0.1 nm @ 335°T**	0.2 nm @ 300°T	0.2 nm @ 205°T
S of Magdalen Is.	47 00'N	62 00'W	0.2 nm @ 350°T	0.2 nm @ 320°T	**0.0 nm**
North Cape, PEI	47 10'N	64 00'W	0.3 nm @ 345°T	0.3 nm @ 325°T	**0.0 nm**
Cape Egmont	46 20'N	64 15'W	**0.3 nm @ 350°T**	0.3 nm @ 325°T	0.1 nm @ 215°T
Gulf of St. Lawrence, western part					
Miscou Island	48 00'N	64 00'W	0.4 nm @ 340°T	0.4 nm @ 325°T	**0.2 nm @ 325°T**
Baie des Chaleurs	48 00'N	65 00'W		0.1 nm @ 070°T	**0.3 nm @ 340°T**
Gaspe	48 45'N	64 00'W		0.4 nm @ 330°T	**0.2 nm @ 335°T**
Grande-Vallee	49 20'N	65 00'W		0.1 nm @ 000°T	**0.2 nm @ 330°T**
Marsoui	49 20'N	66 00'W			**0.0 nm**
River St. Lawrence					
Pte des Monts	49 15'N	67 00'W			**0.2 nm @ 105°T**
Baie Comeau	49 10'N	68 00'W			**0.3 nm @ 100°T**
Pte Mitis	48 50'N	68 00'W		0.6 nm @ 310°T	**0.4 nm @ 105°T**
Les Escoumins	48 15'N	69 15'W	0.5 nm @ 325°T	**0.3 nm @ 310°T**	0.3 nm @ 070°T
Malbaie	47 36'N	70 00'W	0.7 nm @ 325°T	**0.5 nm @ 320°T**	0.6 nm @ 050°T
Ile aux Coudres	47 20'N	70 27'W	1.2 nm @ 320°T	**0.6 nm @ 315°T**	1.5 nm @ 065°T
Ile aux Ruaux	47 00'N	70 45'W			
Gulf of St. Lawrence, northern part					
Sept Iles	50 00'N	66 00'W			**0.2 nm @ 085°T**
Sheldrake	50 00'N	65 00'W			**0.2 nm @ 115°T**
Mingan	50 00'N	64 00'W			**0.1 nm @ 020°T**
Natashquan	50 00'N	62 00'W			**0.1 nm @ 025°T**
Pointe Heath	49 00'N	61 30'W	0.6 nm @ 005°T	0.5 nm @ 325°T	**0.2 nm @ 150°T**
R aux Oiseaux	48 00'N	61 00'W	0.5 nm @ 000°T	0.5 nm @ 325°T	**0.1 nm @ 175°T**

Vicinity of:	Latitude	Longitude	5930XY	5930XZ	5930YZ
Cap Whittle	50 00’N	60 00’W			**0.2 nm @ 150°T**
B de St. Augustin	51 00’N	58 30’W			**0.2 nm @ 165°T**
Greely Island	51 15’N	57 00’W			**0.2 nm @ 145°T**
Gulf of St. Lawrence, eastern part					
Pte Riche	50 45’N	57 40’W			**0.3 nm @ 145°T**
Bay of Islands	49 15’N	58 40’W	0.9 nm @ 015°T	0.6 nm @ 315°T	**0.3 nm @ 155°T**
C St George	48 30’N	59 30’W	0.5 nm @ 015°T	0.4 nm @ 315°T	**0.2 nm @ 160°T**
C Anguille	48 00’N	59 45’W	0.2 nm @ 025°T	0.2 nm @ 310°T	**0.2 nm @ 155°T**
South Coast of Newfoundland					
Cape Ray	47 30’N	59 00’W	0.0 nm	0.2 nm @ 075°T	**0.4 nm @ 000°T**
Ramea	47 30’N	57 30’W	0.0 nm	0.2 nm @ 085°T	**0.3 nm @ 005°T**
Pass Island	47 30’N	56 15’W	0.1 nm @ 010°T	0.1 nm @ 045°T	**0.2 nm @ 010°T**
St Pierre	46 30’N	56 00’W	0.8 nm @ 355°T	1.0 nm @ 320°T	**0.2 nm @ 330°T**
off Placentia Bay	46 30’N	55 00’W	0.8 nm @ 350°T	1.0 nm @ 315°T	**0.1 nm @ 315°T**
Argentia	47 15’N	54 30’W	0.9 nm @ 015°T	1.0 nm @ 310°T	**0.0 nm**
C St Mary's	46 30’N	54 00’W	0.9 nm @ 345°T	1.1 nm @ 310°T	**0.1 nm @ 285°T**
Cape Race	46 30’N	53 00’W	1.6 nm @ 300°T	**1.2 nm @ 310°T**	5.7 nm @ 130°T
East Coast of Newfoundland					
Virgin Rocks	46 30’N	51 00’W		2.0 nm @ 295°T	
Ferryland Head	47 00’N	52 30’W			0.9 nm @ 295°T
St John's	47 30’N	52 30’W			0.5 nm @ 270°T
Baccalieu Island	48 15’N	52 30’W			0.7 nm @ 255°T
Bonavista	48 45’N	53 00’W			0.5 nm @ 250°T
Cape Freels	49 15’N	53 15’W			0.5 nm @ 245°T
Funk Island	49 45’N	53 10’W			0.4 nm @ 240°T
North Coast of Newfoundland					
Fogo Island	50 00’N	54 00’W			0.3 nm @ 220°T
Gull Island	50 00’N	55 20’W			**0.3 nm @ 210°T**
Grey Islands	51 00’N	55 00’W			**0.2 nm @ 200°T**
Quirpon	51 45’N	55 00’W			**0.2 nm @ 200°T**
St Lewis Sound	52 30’N	55 00’W			**6.0 nm @ 205°T**
Strait of Belle Isle	51 45’N	56 00’W			**0.2 nm @ 170°T**
Offshore, near 200 nm Limit					
	41 00’N	64 00’W	**0.5 nm @ 350°T**		
	40 30’N	60 00’W	**0.8 nm @ 345°T**		
	43 30’N	56 00’W	**1.2 nm @ 330°T**	1.4 nm @ 320°T	0.4 nm @ 300°T
	43 30’N	52 00’W	**1.8 nm @ 310°T**	1.7 nm @ 315°T	Parallel LOP's
	44 30’N	49 30’W	4.4 nm @ 290°T	**2.6 nm @ 300°T**	1.4 nm @ 145°T
	48 00’N	48 00’W			3.3 nm @ 280°T
	50 00’N	48 00’W			1.9 nm @ 260°T
	53 00’N	50 00’W			2.6 nm @ 225°T

7270 - East Newfoundland Chain

Information in **Bold** is for the TD pair that gives the best repeatability.

Vicinity of:	Latitude	Longitude	7270WX
East Coast of Newfoundland			
Virgin Rocks	46 30'N	51 00'W	**2.2 nm @ 305°T**
Ferryland Head	47 00'N	52 30'W	**1.1 nm @ 295°T**
St John's	47 30'N	52 30'W	**0.7 nm @ 270°T**
Baccalieu Island	48 15'N	52 30'W	**0.4 nm @ 250°T**
Bonavista	48 45'N	53 00'W	**0.2 nm @ 225°T**
Cape Freels	49 15'N	53 15'W	**0.2 nm @ 200°T**
Funk Island	49 45'N	53 10'W	**0.2 nm @ 125°T**
North Coast of Newfoundland			
Fogo Island	50 00'N	54 00'W	**0.4 nm @ 105°T**
Gull Island	50 00'N	55 20'W	Baseline ext.
Grey Islands	51 00'N	55 00'W	Baseline ext.
Quirpon	51 45'N	55 00'W	Baseline ext.
St Lewis Sound	52 30'N	55 00'W	Baseline ext.
Strait of Belle Isle	51 45'N	56 00'W	Baseline ext.
Offshore, near 200 nm Limit			
	44 30'N	49 30'W	Baseline ext.
	48 00'N	48 00'W	**0.8 nm @ 275°T**
	50 00'N	48 00'W	**0.2 nm @ 225°T**
	53 00'N	50 00'W	**0.9 nm @ 065°T**

9960 – North East United States Chain

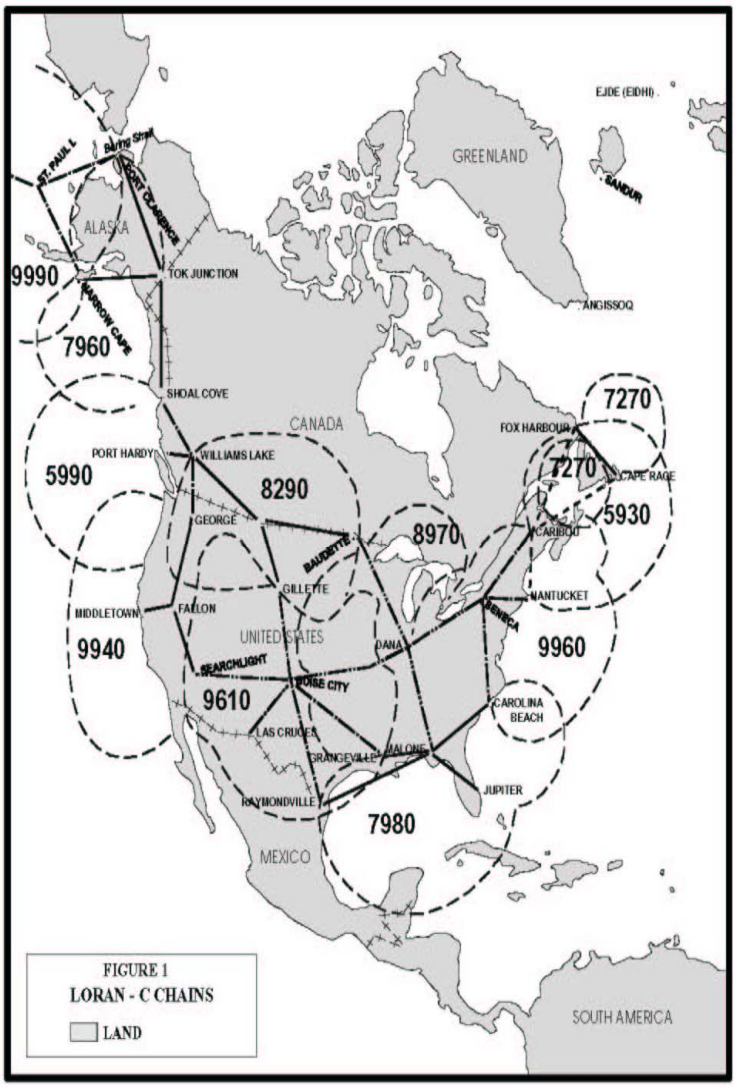
Information in **Bold** is for the TD pair that gives the best repeatability.

Vicinity of:	Latitude	Longitude	9960WX	9960WY
Gulf of Maine				
Georges Bank	41 00'N	66 00'W	Baseline ext.	0.8 nm @ 300°T
Georges Bank	42 00'N	67 00'W	1.5 nm @ 310°T	0.6 nm @ 300°T
Bay of Fundy				
Machias Seal I	44 30'N	67 00'W	1.0 nm @ 290°T	0.9 nm @ 285°T
Saint John	45 00'N	66 00'W	1.5 nm @ 280°T	
Cape d'Or	45 15'N	64 45'W		
Digby	44 45'N	65 45'W	1.5 nm @ 280°T	
Brier Island	44 15'N	66 30'W	1.0 nm @ 290°T	0.8 nm @ 285°T
Western Nova Scotia				
Yarmouth	43 30'N	66 20'W	1.0 nm @ 295°T	0.8 nm @ 290°T
Seal Island	43 20'N	66 20'W	1.2 nm @ 295°T	0.8 nm @ 290°T
River St. Lawrence				
Baie Comeau	49 10'N	68 00'W	1.7 nm @ 215°T	
Pte Mitis	48 50'N	68 00'W	2.3 nm @ 210°T	
Les Escoumins	48 15'N	69 15'W	0.4 nm @ 235°T	
Malbaie	47 36'N	70 00'W	0.2 nm @ 275°T	
Île aux Coudres	47 20'N	70 27'W	0.2 nm @ 285°T	
Île aux Ruaux	47 00'N	70 45'W	**0.2 nm @ 285°T**	

8970 – Great Lakes Chain

Information in **Bold** is for the TD pair that gives the best repeatability.

Vicinity of:	Latitude	Longitude	9960WZ	9960YZ	8970XY
Lake Ontario					
Kingston	44 00’N	76 30’W	**0.3 nm @ 000°T**		
Cobourg	43 45’N	78 00’W	**0.3 nm @ 350°T**	1.7 nm @ 195°T	
Hamilton	43 20’N	79 25’W	**0.4 nm @ 350°T**	0.8 nm @ 180°T	
Lake Erie					
Port Colborne	42 45’N	79 15’W		**0.7 nm @ 170°T**	0.5 nm @ 345°T
Long Point	42 25’N	80 00’W		**0.6 nm @ 165°T**	0.5 nm @ 345°T
Rondeau	42 00’N	82 00’W		**0.5 nm @ 155°T**	0.4 nm @ 345°T
Amherstburg	42 00’N	83 07’W		**0.5 nm @ 155°T**	0.4 nm @ 350°T
Lake St. Clair					
mid-lake	42 20’N	82 45’W		0.6 nm @ 160°T	**0.4 nm @ 345°T**
Lake Huron					
Sarnia	43 10’N	82 20’W			**0.3 nm @ 340°T**
Point Clark	44 00’N	82 00’W			**0.3 nm @ 340°T**
Cape Hurd	45 00’N	82 00’W			**0.2 nm @ 340°T**
Great Duck Island	45 30’N	83 00’W			**0.1 nm @ 300°T**
Detour Passage	45 45’N	84 00’W			**0.1 nm @ 245°T**
North Channel, Lake Huron					
Thessalon	46 10’N	83 30’W			**0.1 nm @ 245°T**
Gore Bay	46 00’N	82 30’W			**0.1 nm @ 295°T**
Georgian Bay					
Squaw Island	45 50’N	81 30’W			**0.2 nm @ 335°T**
Cabot Head	45 15’N	81 10’W			**0.2 nm @ 335°T**
Collingwood	44 35’N	80 15’W			**0.2 nm @ 325°T**
Parry Sound	45 15’N	80 30’W			**0.2 nm @ 340°T**
French River	45 50’N	80 50’W			**0.2 nm @ 350°T**
Lake Superior					
Île Parisienne	46 35’N	84 50’W			**0.1 nm @ 205°T**
Caribou Island	47 20’N	86 00’W			**0.1 nm @ 050°T**
Brule Point	47 50’N	85 45’W			**0.1 nm @ 065°T**
Superior Shoal	48 00’N	87 00’W			**0.1 nm @ 060°T**
Marathon	48 40’N	86 30’W			**0.2 nm @ 055°T**
Passage Island	48 20’N	88 20’W			**0.1 nm @ 105°T**
Thunder Bay	48 25’N	89 00’W			**0.1 nm @ 140°T**


EJDE (EIDHI)
GREENLAND
SANDUR
ANGISSOQ
ALASKA
9990
TOK JUNCTION
7960
SHOAL COVE
CANADA
7270
FOX HARBOUR
7270
CAPE RAGE
5990
PORT HARDY
WILLIAMS LAKE
8290
5930
GEORGE
8970
CARIBOU
GILLETTE
NANTUCKET
MIDDLETOWN
FALLON
UNITED STATES
9940
9960
SEARCHLIGHT
9610
CAROLINA BEACH
LAS CRUCES
GRANGEVILLE
MALONE
JUPITER
RAYMONDVILLE
7980
MEXICO
SOUTH AMERICA
FIGURE 1
LORAN - C CHAINS
LAND

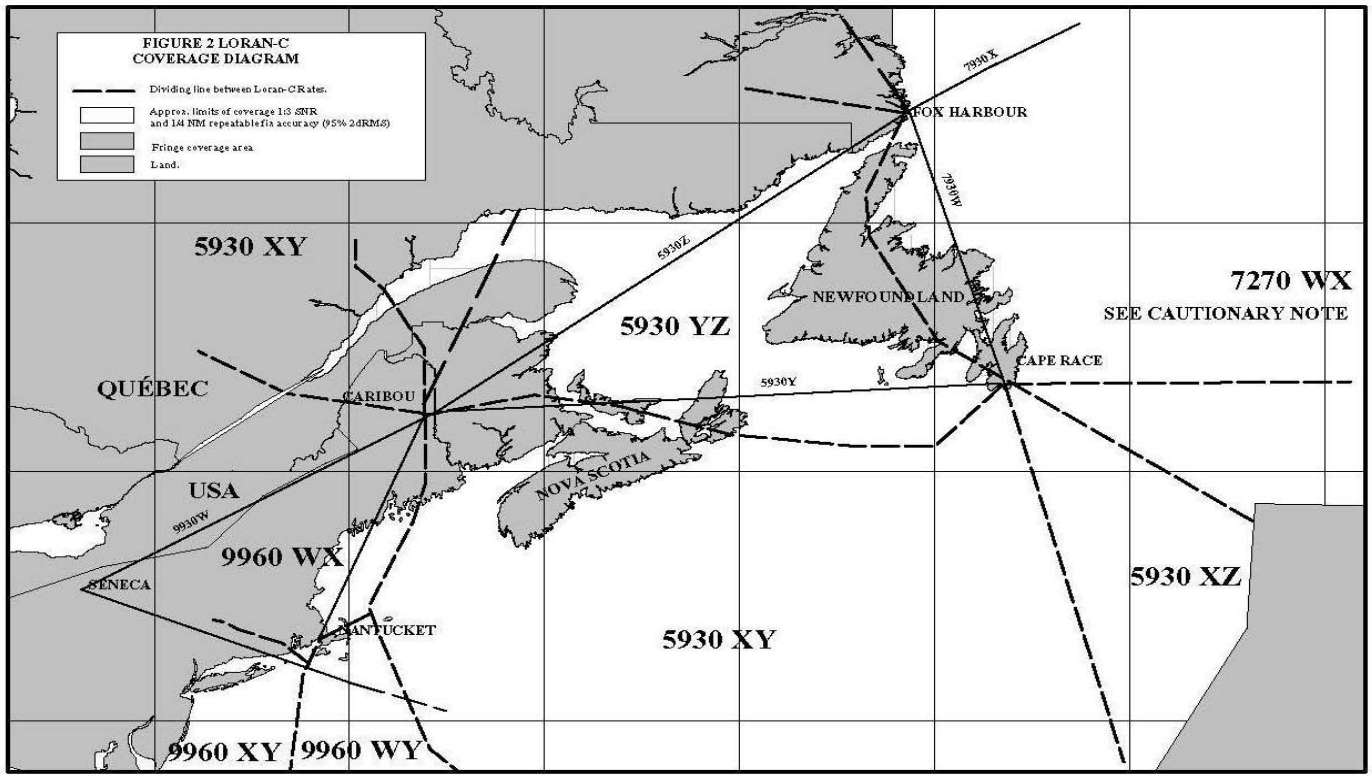


FIGURE 2 LORAN-C
COVERAGE DIAGRAM
Dividing line between Loran-C Rates.
Approx. limits of coverage 1/3 SNR and 1/4 NM repeatable/fix accuracy (95% 2dRMS)
Fringe coverage area
Land.
5930 XY
5930 YZ
7270 WX
SEE CAUTIONARY NOTE
QUÉBEC
CARIBOU
USA
9960 WX
SENECA
NANTUCKET
5930 XY
5930 XZ
9960 XY
9960 WY
NOVA SCOTIA
NEWFOUNDLAND
FOX HARBOUR
CAPE RACE
7930 X
7930 W
5930 Z
5930 Y
9930 W

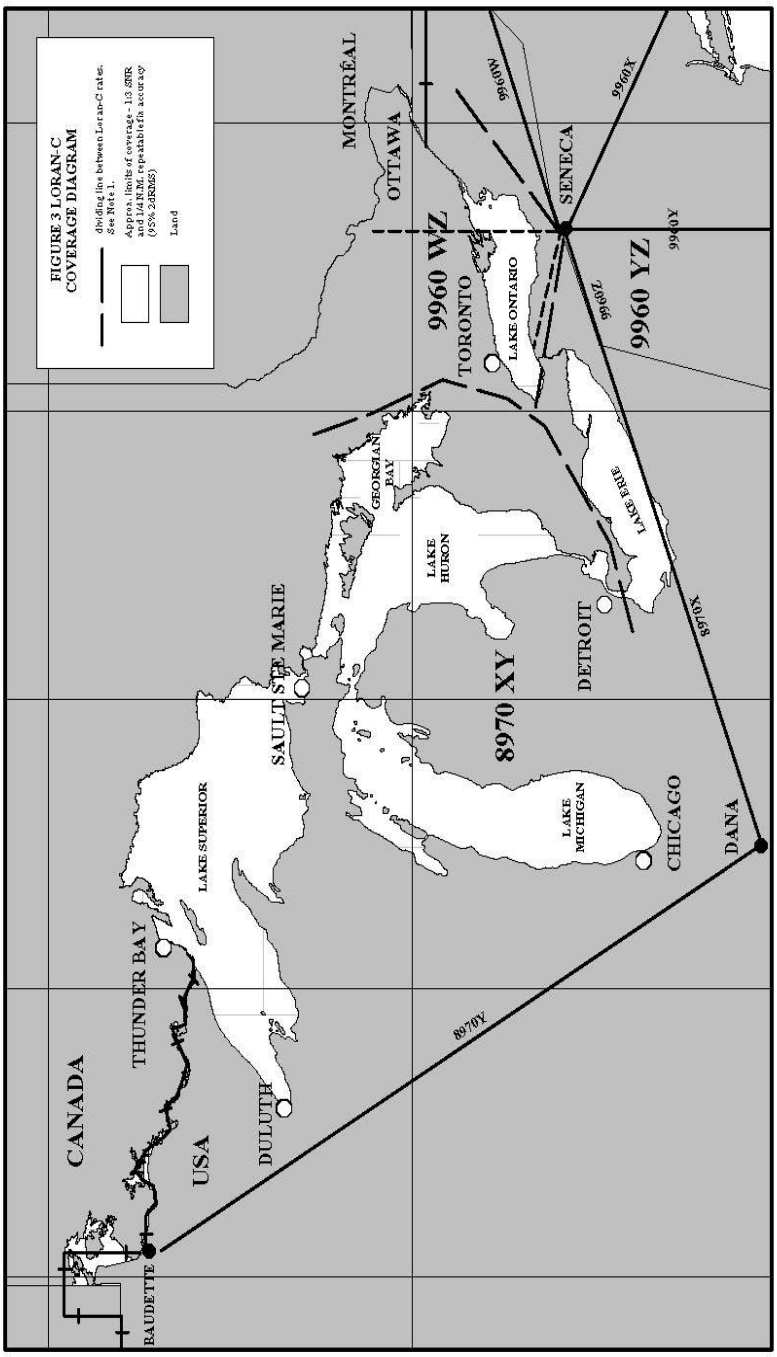


FIGURE 3 LORAN-C
COVERAGE DIAGRAM
dividing line between Loran-C rates.
See Note 1.
Approx. limits of coverage - 1:3 SNR
and 1/4 N.M. repeatable fix accuracy
(95% 2dRMS)
Land
CANADA
USA
BAUDETTE
THUNDER BAY
DULUTH
LAKE SUPERIOR
SAULT STE MARIE
GEORGIAN BAY
LAKE HURON
8970 XY
LAKE MICHIGAN
CHICAGO
DANA
DETROIT
LAKE ERIE
8970X
8970Y
TORONTO
LAKE ONTARIO
9960 WZ
9960 YZ
9960W
9960X
9960Y
9960Z
SENECA
MONTRÉAL
OTTAWA

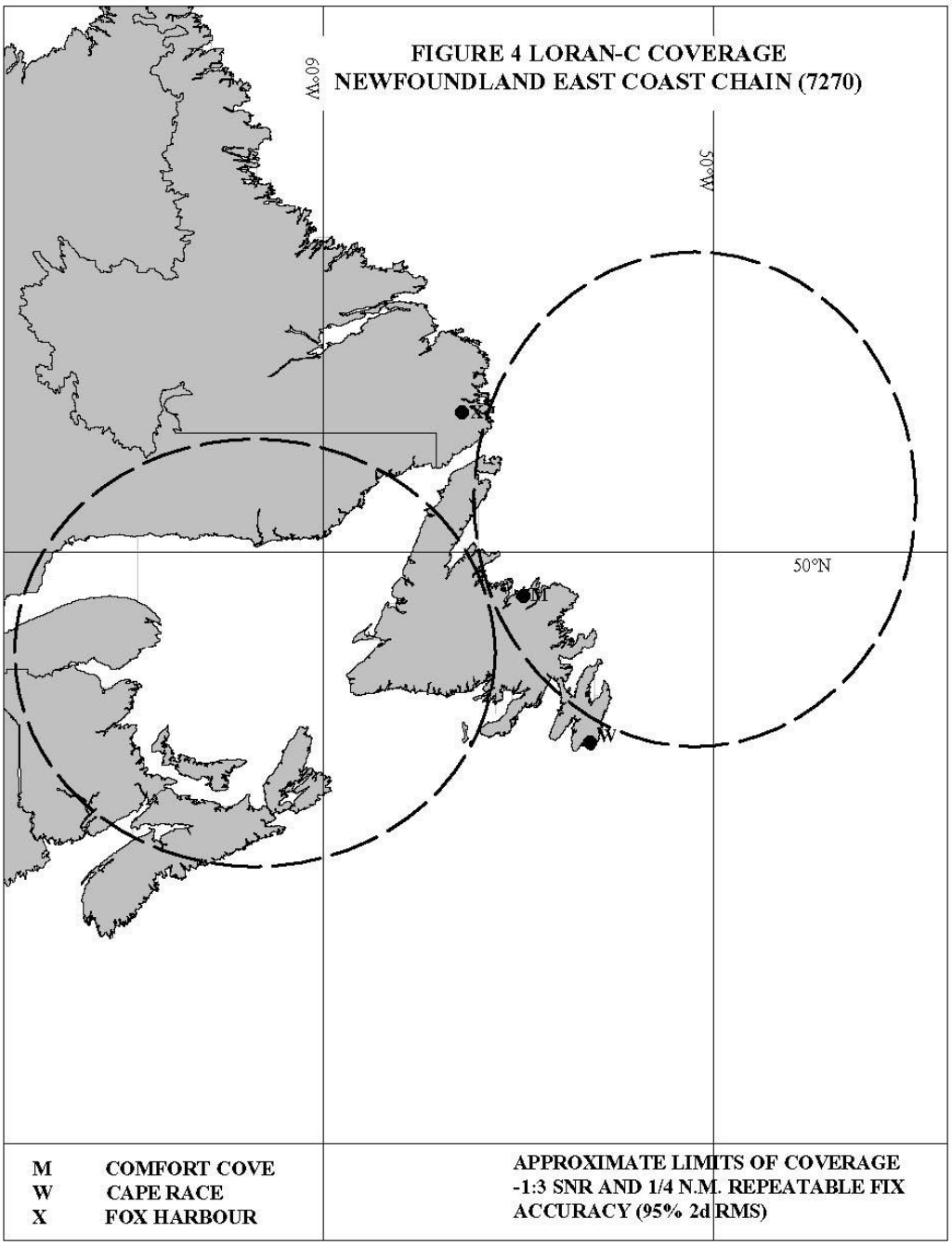


FIGURE 4 LORAN-C COVERAGE
NEWFOUNDLAND EAST COAST CHAIN (7270)
60°W
50°W
50°N
M
W
X
M COMFORT COVE
W CAPE RACE
X FOX HARBOUR
APPROXIMATE LIMITS OF COVERAGE
-1:3 SNR AND 1/4 N.M. REPEATABLE FIX
ACCURACY (95% 2d RMS)

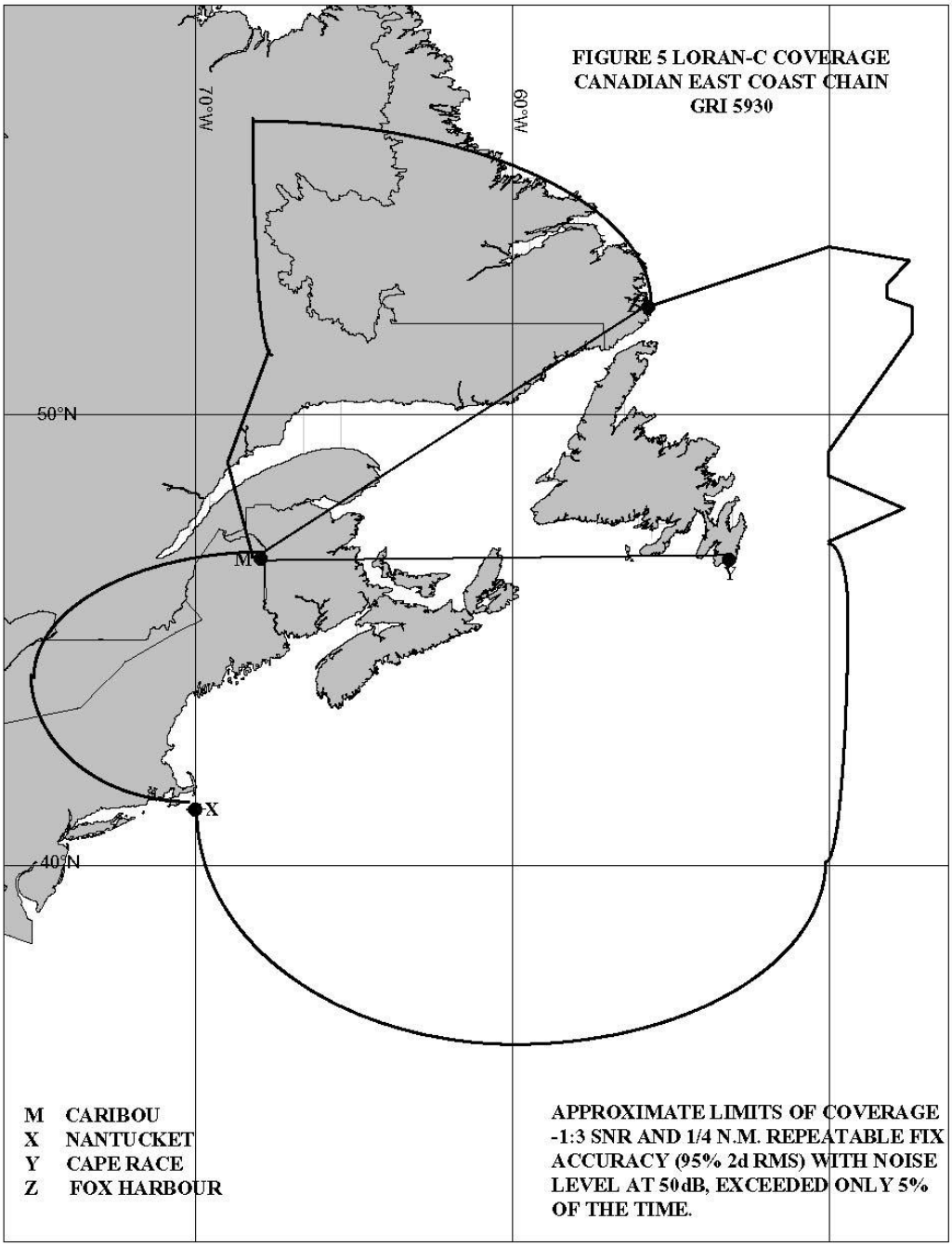


FIGURE 5 LORAN-C COVERAGE
CANADIAN EAST COAST CHAIN
GRI 5930
70°W
60°W
50°N
40°N
M
X
Y
M CARIBOU
X NANTUCKET
Y CAPE RACE
Z FOX HARBOUR
APPROXIMATE LIMITS OF COVERAGE -1:3 SNR AND 1/4 N.M. REPEATABLE FIX ACCURACY (95% 2d RMS) WITH NOISE LEVEL AT 50dB, EXCEEDED ONLY 5% OF THE TIME.

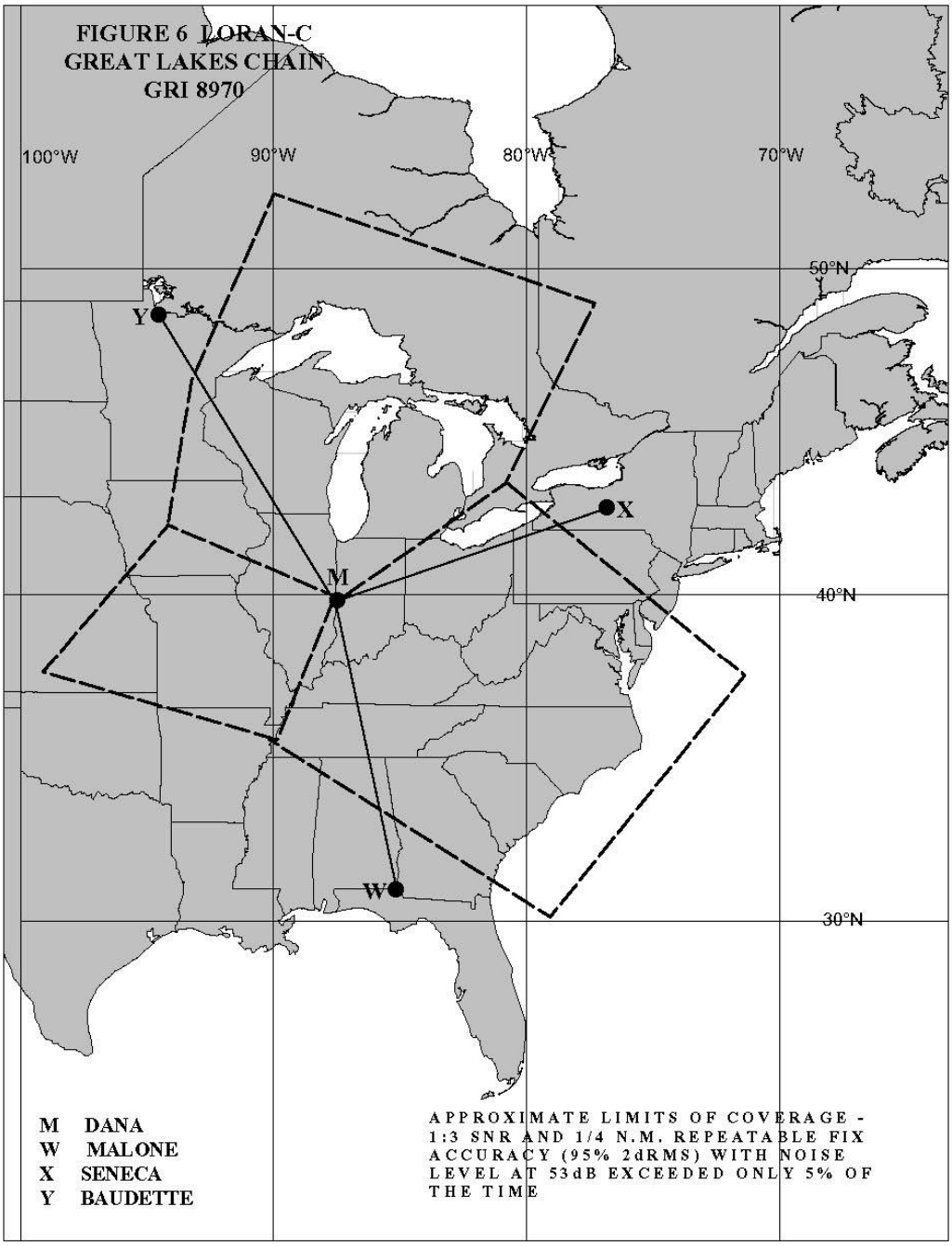


FIGURE 6 LORAN-C
GREAT LAKES CHAIN
GRI 8970
100°W
90°W
80°W
70°W
50°N
40°N
30°N
Y
X
M
W
M DANA
W MALONE
X SENECA
Y BAUDETTE
APPROXIMATE LIMITS OF COVERAGE - 1:3 SNR AND 1/4 N.M. REPEATABLE FIX ACCURACY (95% 2dRMS) WITH NOISE LEVEL AT 53dB EXCEEDED ONLY 5% OF THE TIME

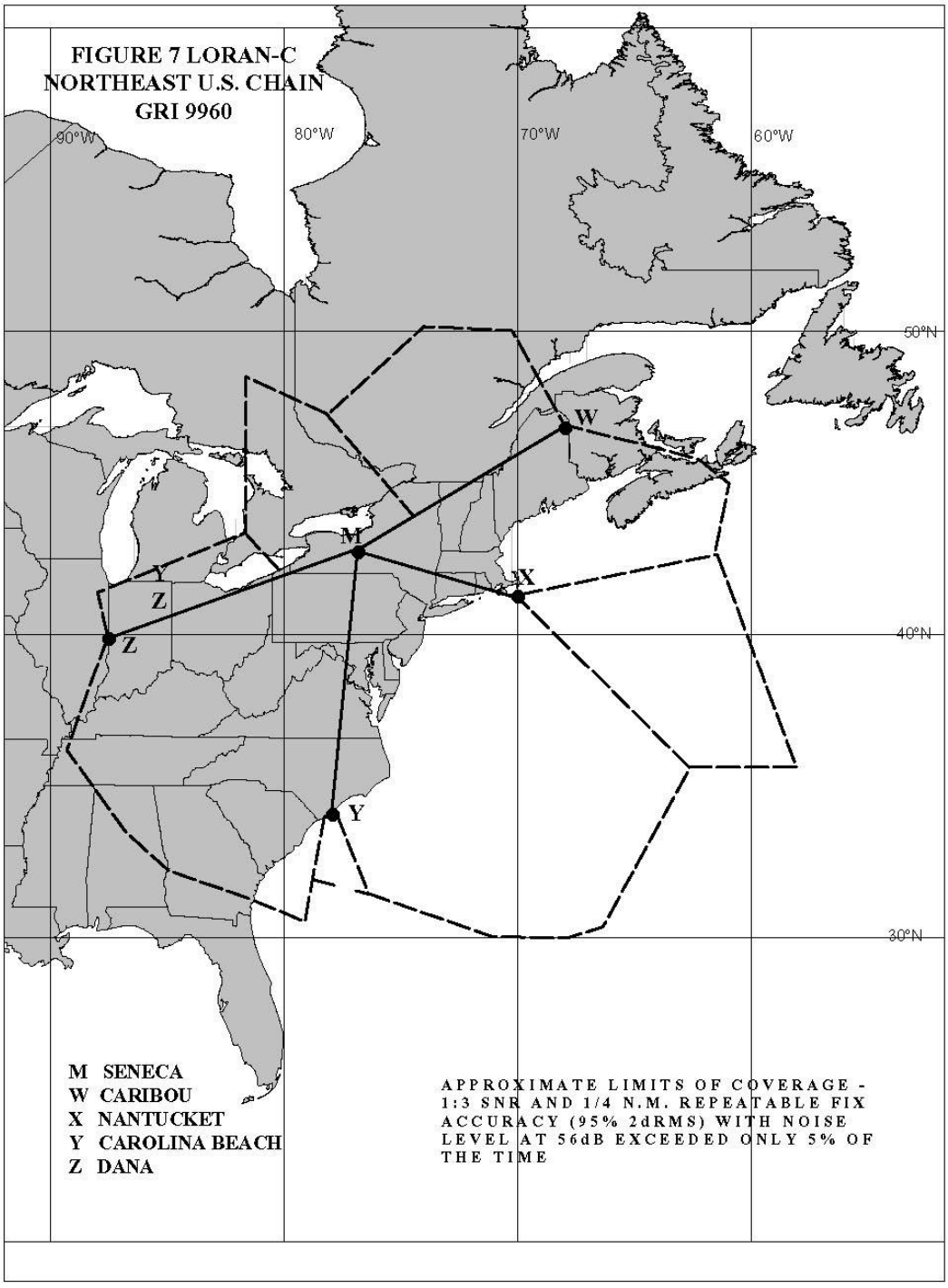


FIGURE 7 LORAN-C
NORTHEAST U.S. CHAIN
GRI 9960
90°W
80°W
70°W
60°W
50°N
40°N
30°N
W
M
X
Y
Z
Z
Y
M SENECA
W CARIBOU
X NANTUCKET
Y CAROLINA BEACH
Z DANA
APPROXIMATE LIMITS OF COVERAGE - 1:3 SNR AND 1/4 N.M. REPEATABLE FIX ACCURACY (95% 2dRMS) WITH NOISE LEVEL AT 56dB EXCEEDED ONLY 5% OF THE TIME

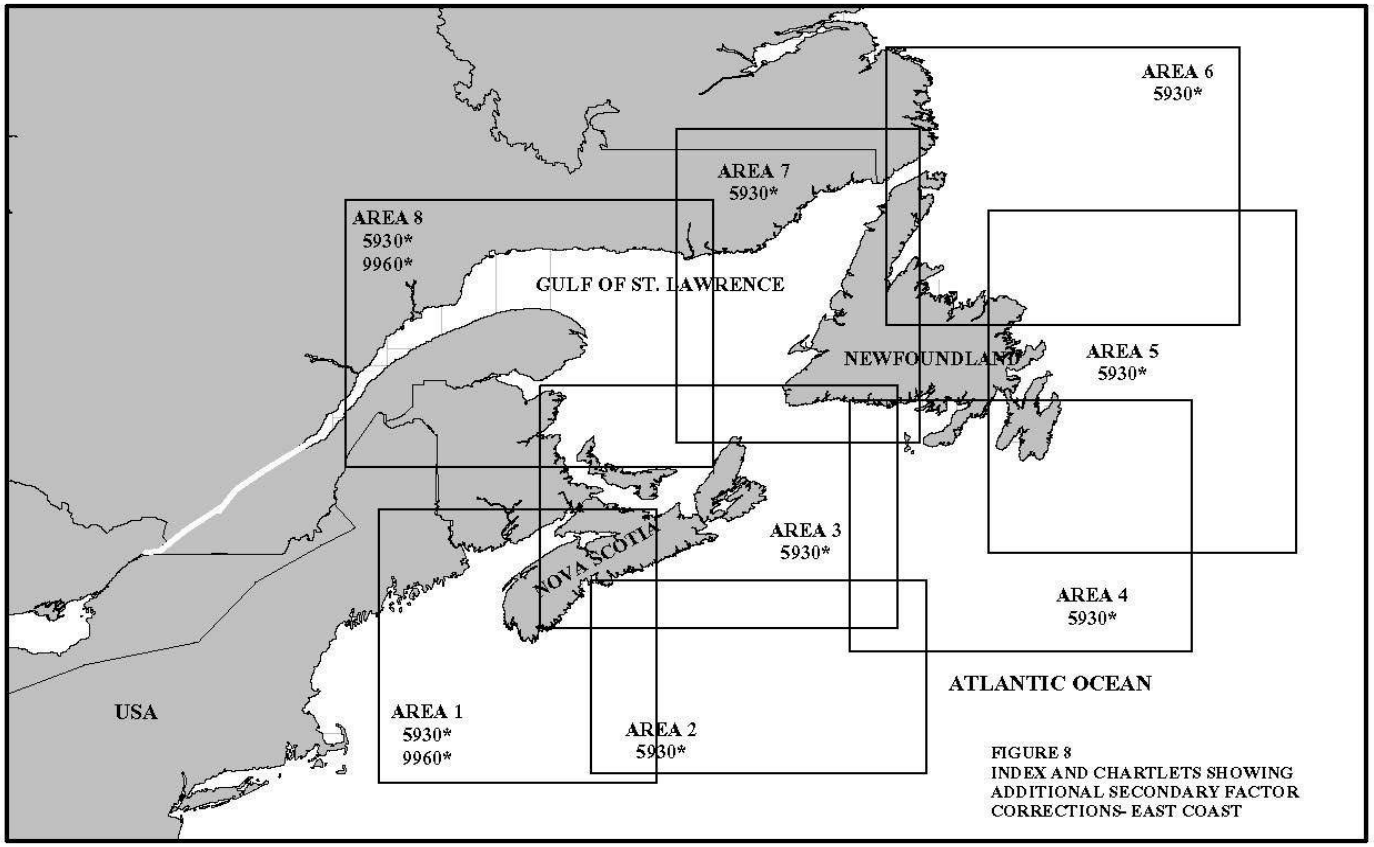


FIGURE 8
INDEX AND CHARTLETS SHOWING
ADDITIONAL SECONDARY FACTOR
CORRECTIONS- EAST COAST

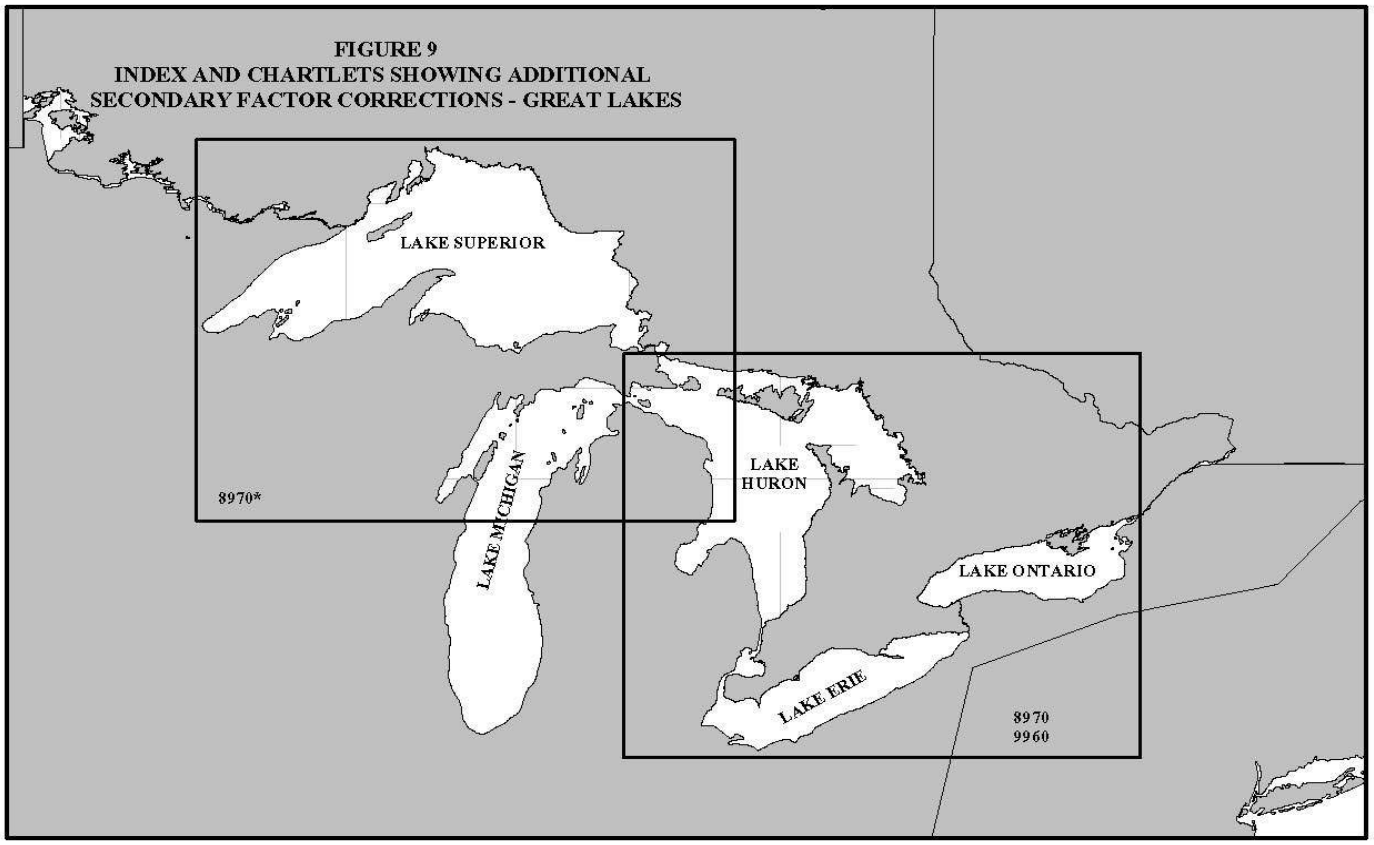
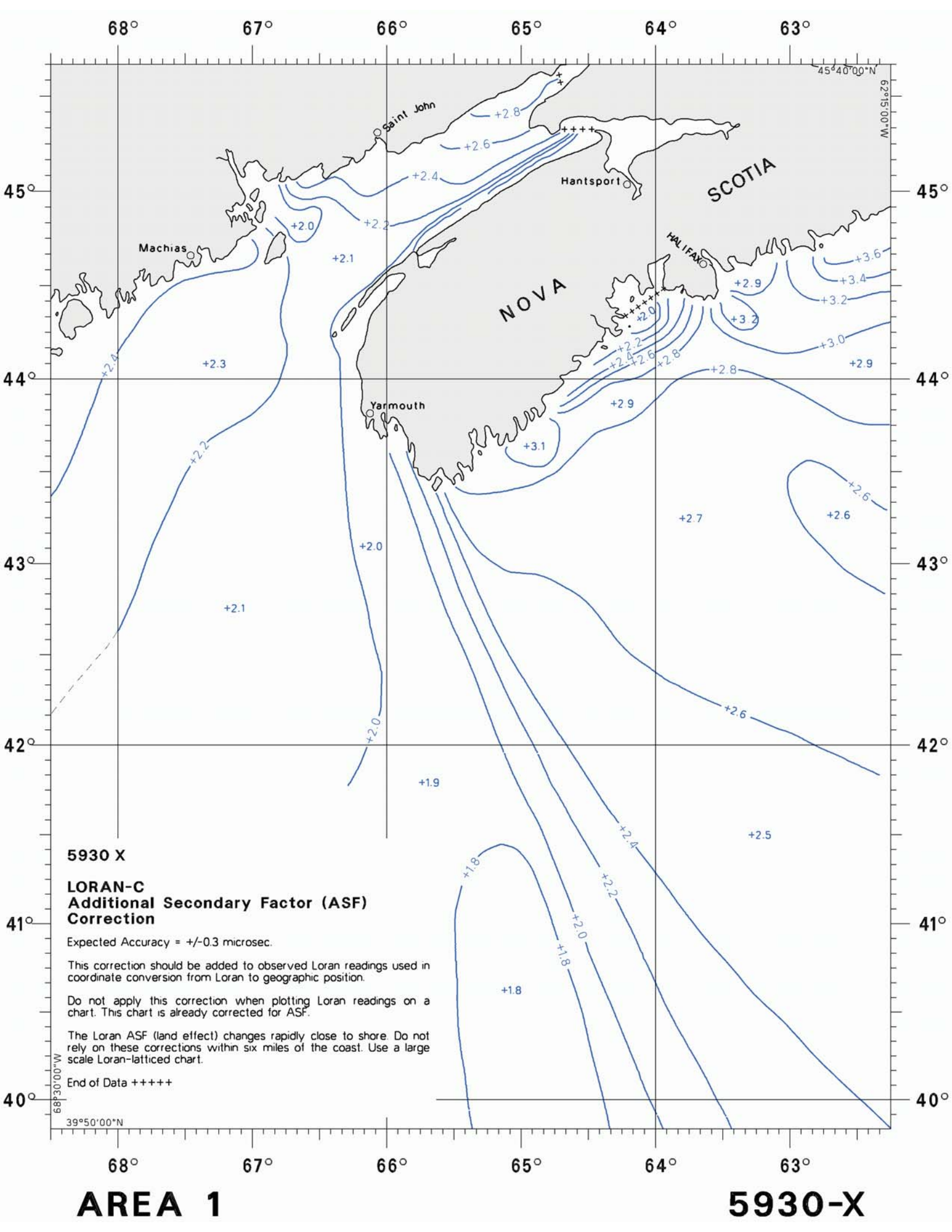
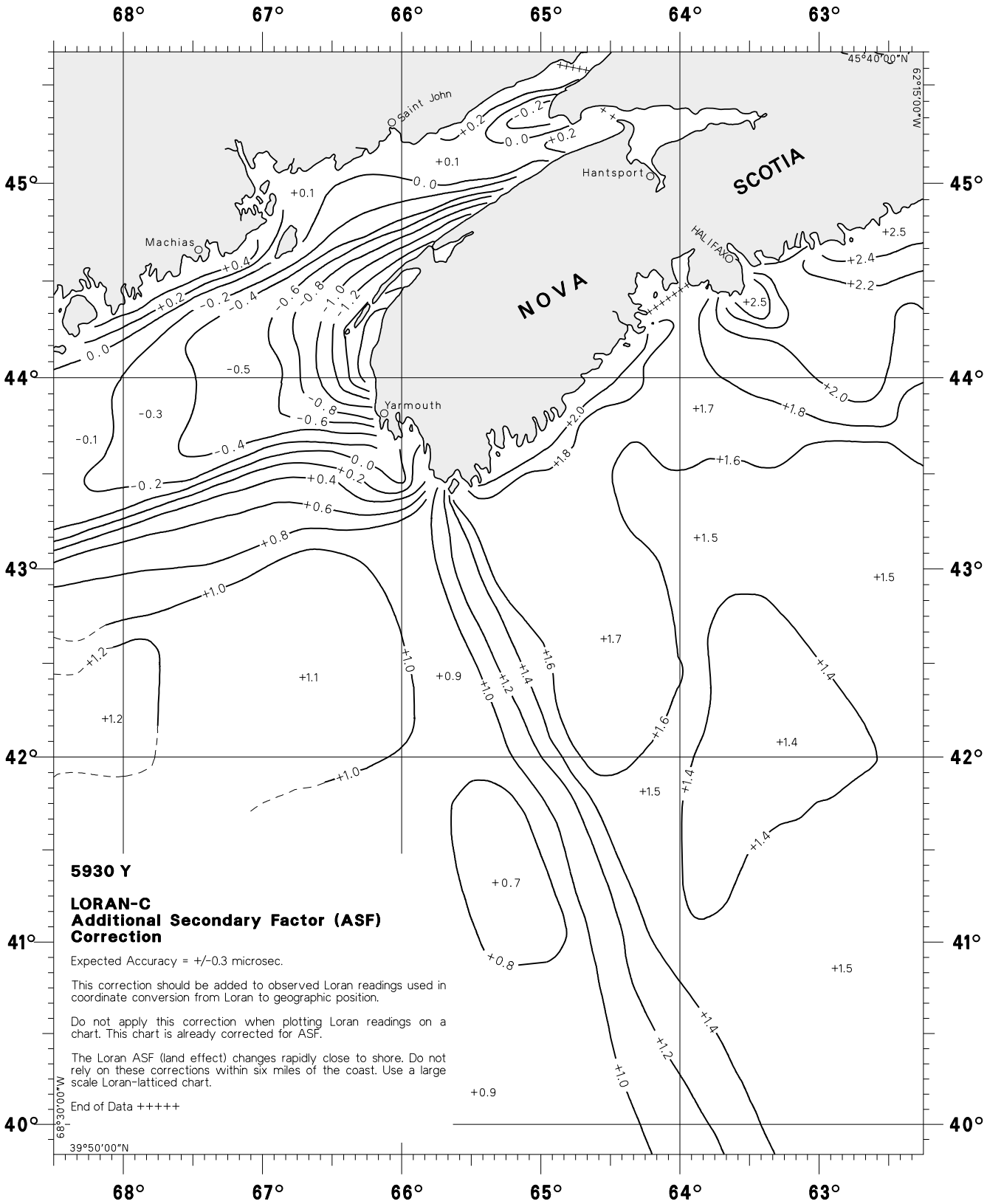
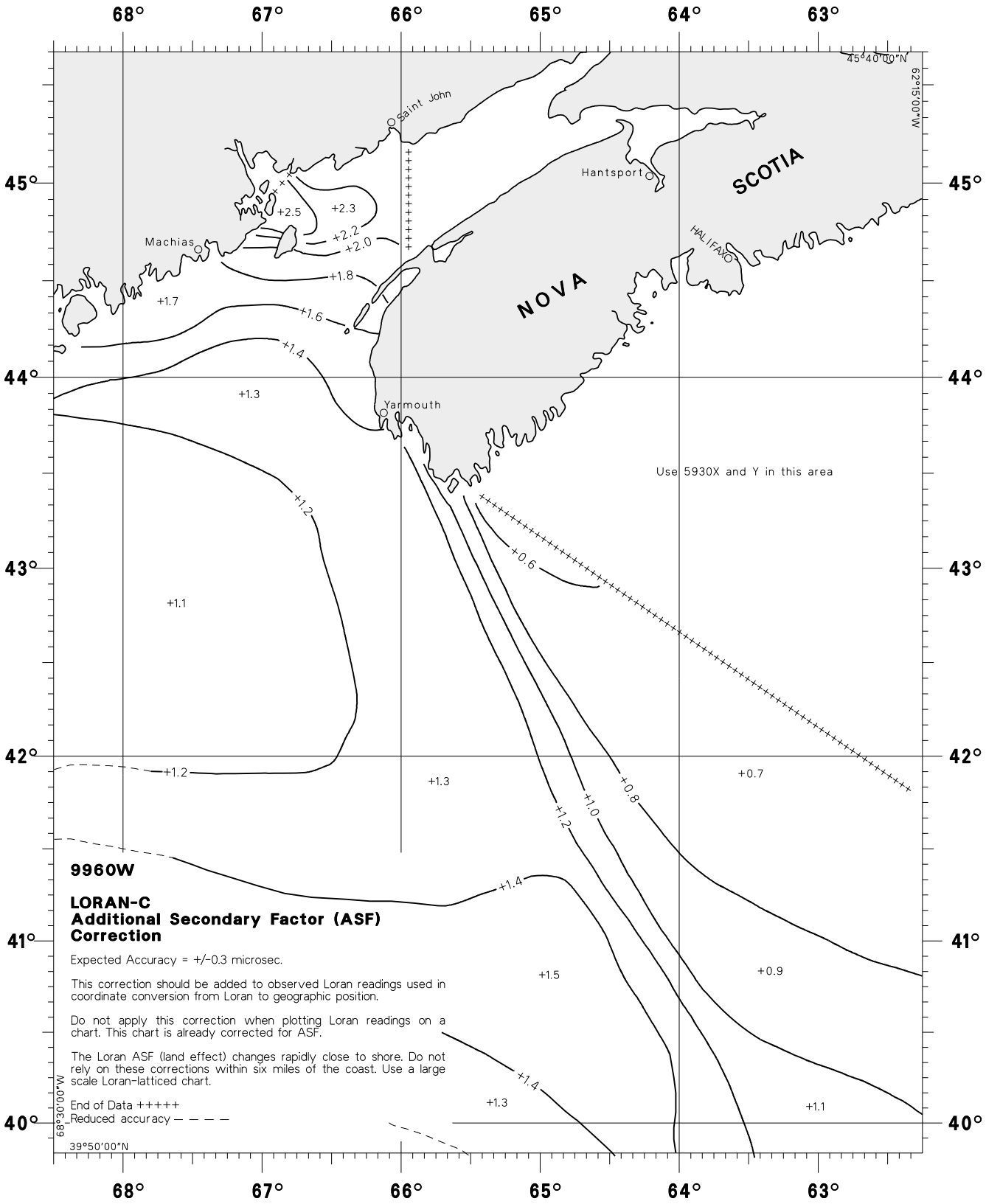


FIGURE 9
INDEX AND CHARTLETS SHOWING ADDITIONAL
SECONDARY FACTOR CORRECTIONS - GREAT LAKES
LAKE SUPERIOR
LAKE MICHIGAN
LAKE
HURON
LAKE ONTARIO
LAKE ERIE
8970*
8970
9960


68°
67°
66°
65°
64°
63°
45°
44°
43°
42°
41°
40°
45°40'00"N
62°15'00"W
68°30'00"W
39°50'00"N
Saint John
Hantsport
Machias
HALIFAX
NOVA SCOTIA
Yarmouth
+2.8
+2.6
+2.4
+2.2
+2.0
+2.1
+2.3
+3.6
+3.4
+3.2
+2.9
+3.0
+3.1
+2.7
+1.9
+2.5
+1.8
5930 X
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++
AREA 1
5930-X

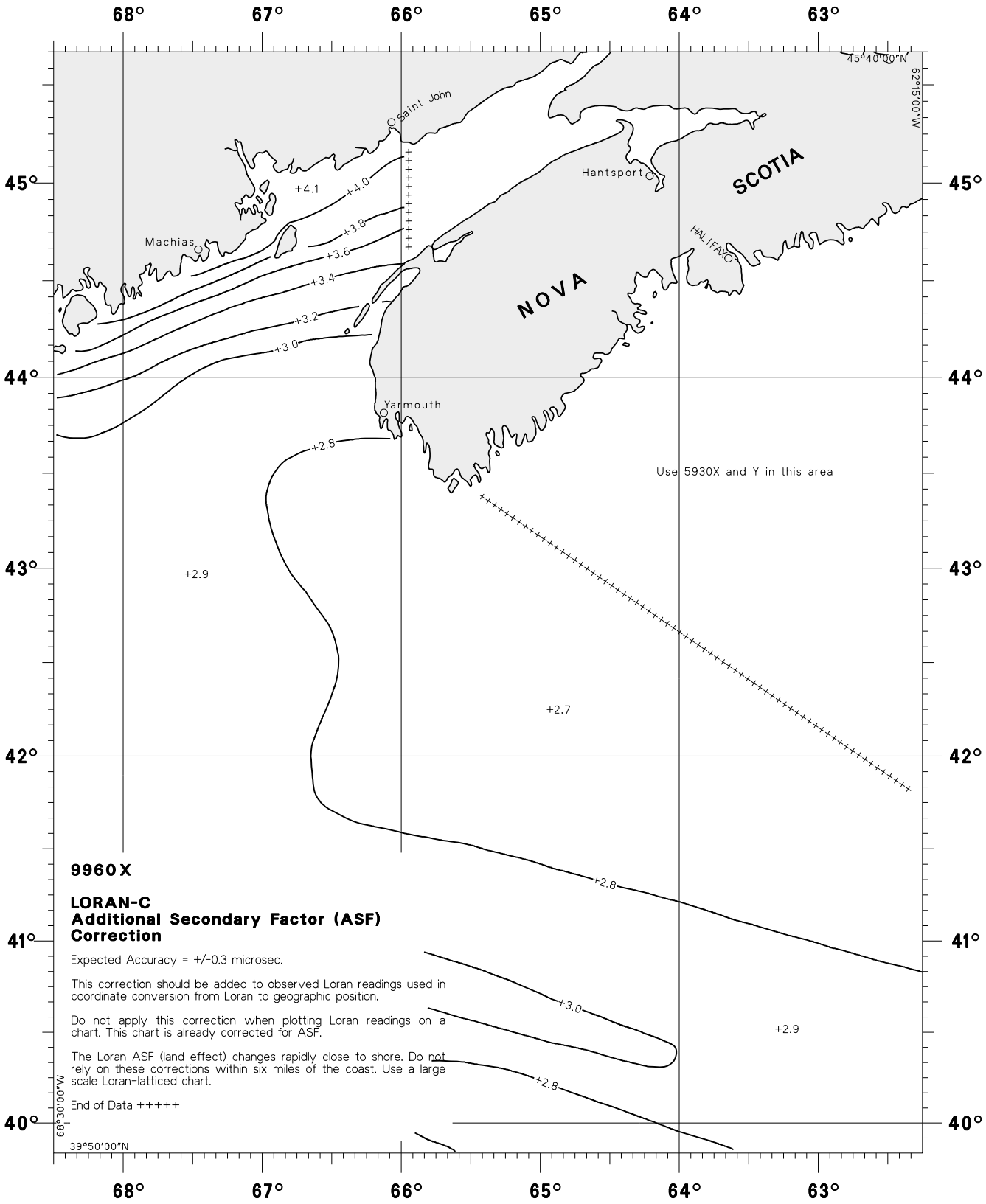

68°
67°
66°
65°
64°
63°
45°
44°
43°
42°
41°
40°
45°40'00"N
62°15'00"W
68°30'00"W
39°50'00"N
Saint John
Hantsport
Machias
Yarmouth
HALIFAX
NOVA SCOTIA
5930 Y
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

AREA 1 **5930-Y**

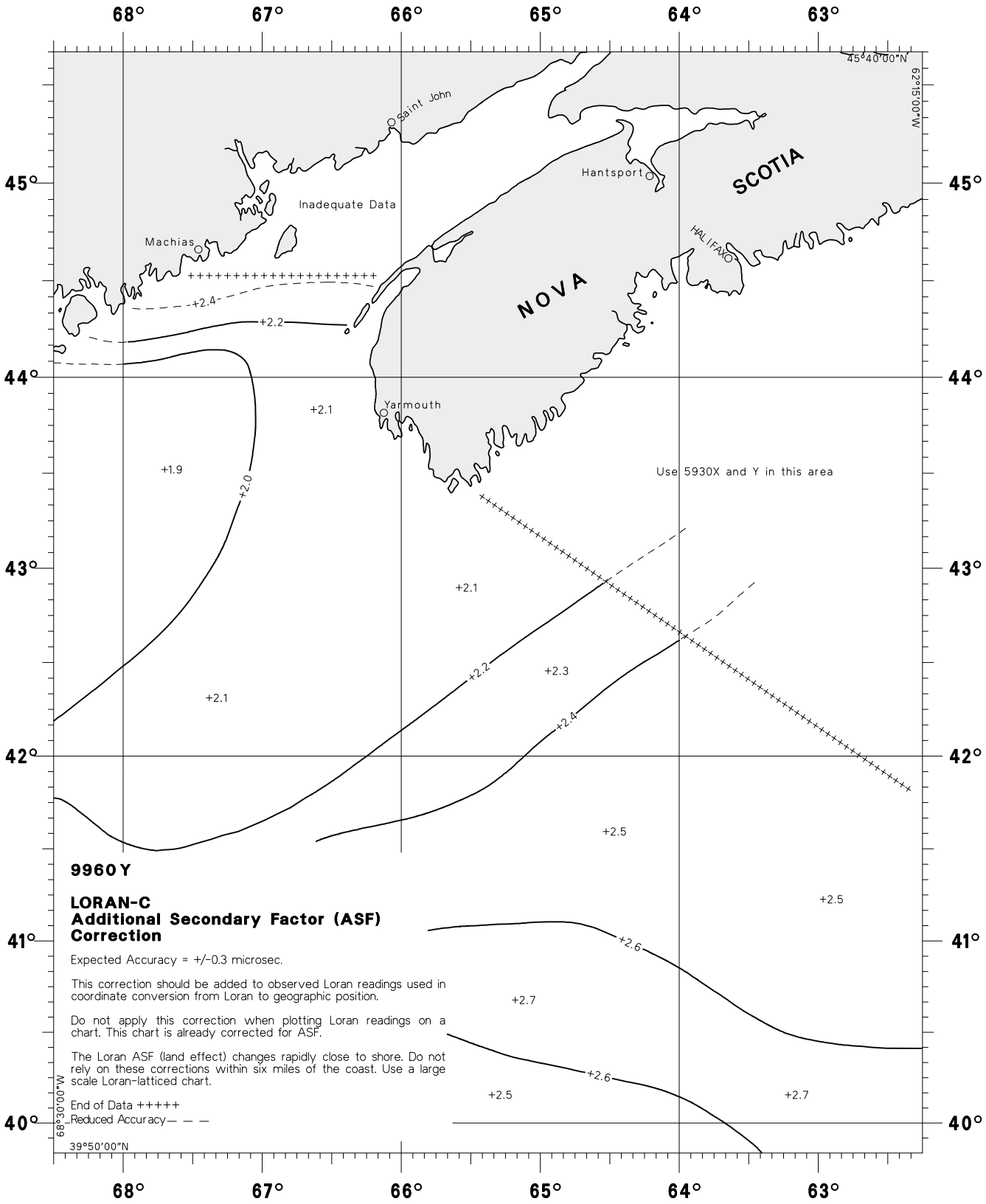

68°
67°
66°
65°
64°
63°
45°
44°
43°
42°
41°
40°
45°40'00"N
62°15'00"W
68°30'00"W
39°50'00"N
Saint John
Hantsport
SCOTIA
NOVA
HALIFAX
Machias
Yarmouth
+2.5
+2.3
+2.2
+2.0
+1.8
+1.7
+1.6
+1.4
+1.3
+1.2
+1.1
+0.6
+0.8
+1.0
+0.7
+1.5
+0.9
Use 5930X and Y in this area
9960W
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++
Reduced accuracy — — — —

AREA 1

9960-W

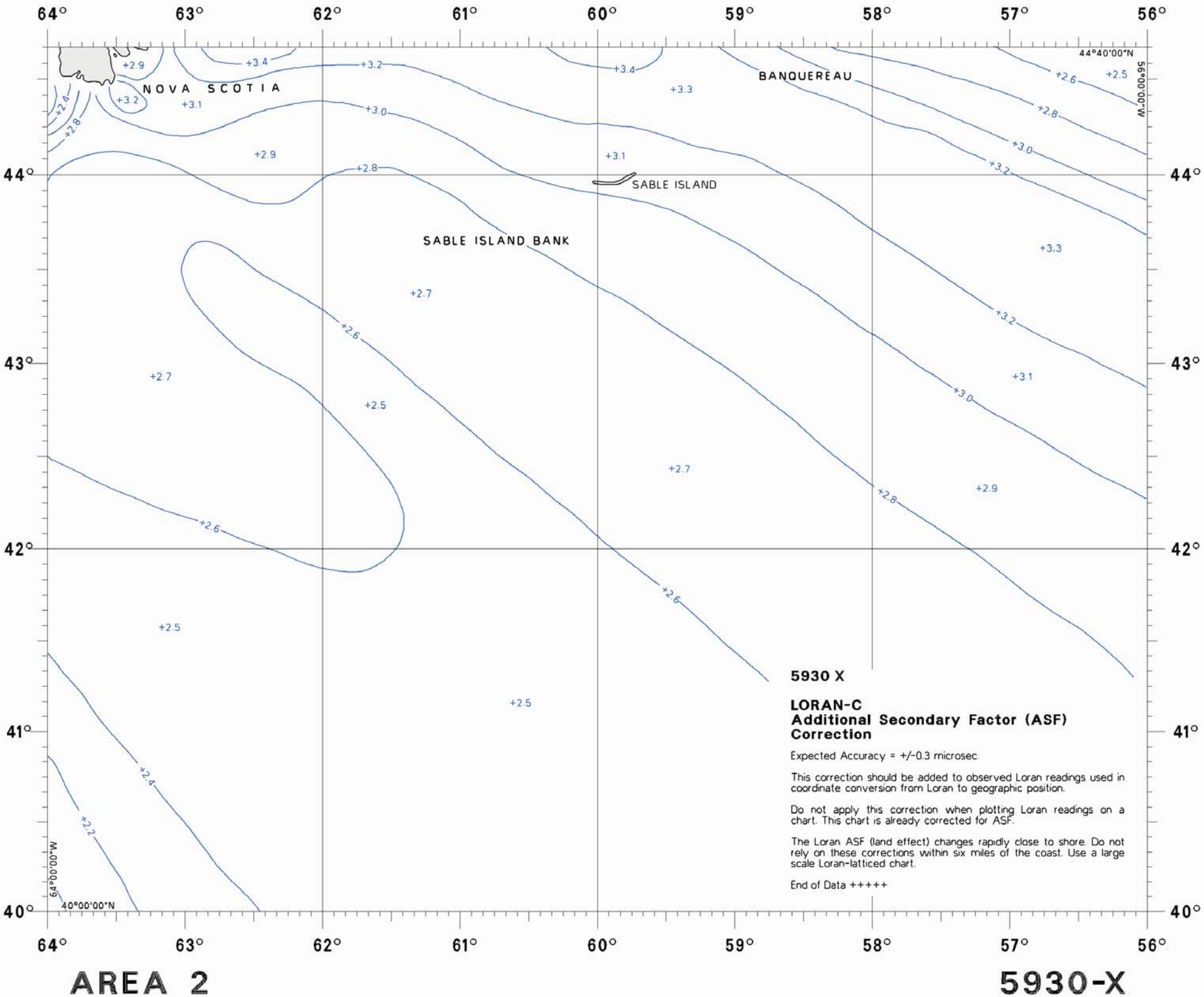

68°
67°
66°
65°
64°
63°
45°
44°
43°
42°
41°
40°
45°40'00"N
62°15'00"W
68°30'00"W
39°50'00"N
Saint John
Hantsport
SCOTIA
NOVA
HALIFAX
Machias
Yarmouth
+4.1
+4.0
+3.8
+3.6
+3.4
+3.2
+3.0
+2.8
+2.9
+2.7
+3.0
+2.8
+2.9
Use 5930X and Y in this area
9960X
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

AREA 1 **9960-X**


68°
67°
66°
65°
64°
63°
45°
44°
43°
42°
41°
40°
45°40'00"N
62°15'00"W
68°30'00"W
39°50'00"N
Saint John
Hantsport
SCOTIA
Inadequate Data
Machias
HALIFAX
NOVA
Yarmouth
+2.4
+2.2
+2.1
+1.9
+2.0
Use 5930X and Y in this area
+2.1
+2.2
+2.3
+2.4
+2.1
+2.5
+2.5
+2.6
+2.7
+2.6
+2.5
+2.7
9960 Y
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++
Reduced Accuracy— — —

AREA 1

9960-Y



5930 X

LORAN-C
Additional Secondary Factor (ASF) Correction

Expected Accuracy = +/-0.3 microsec.

This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.

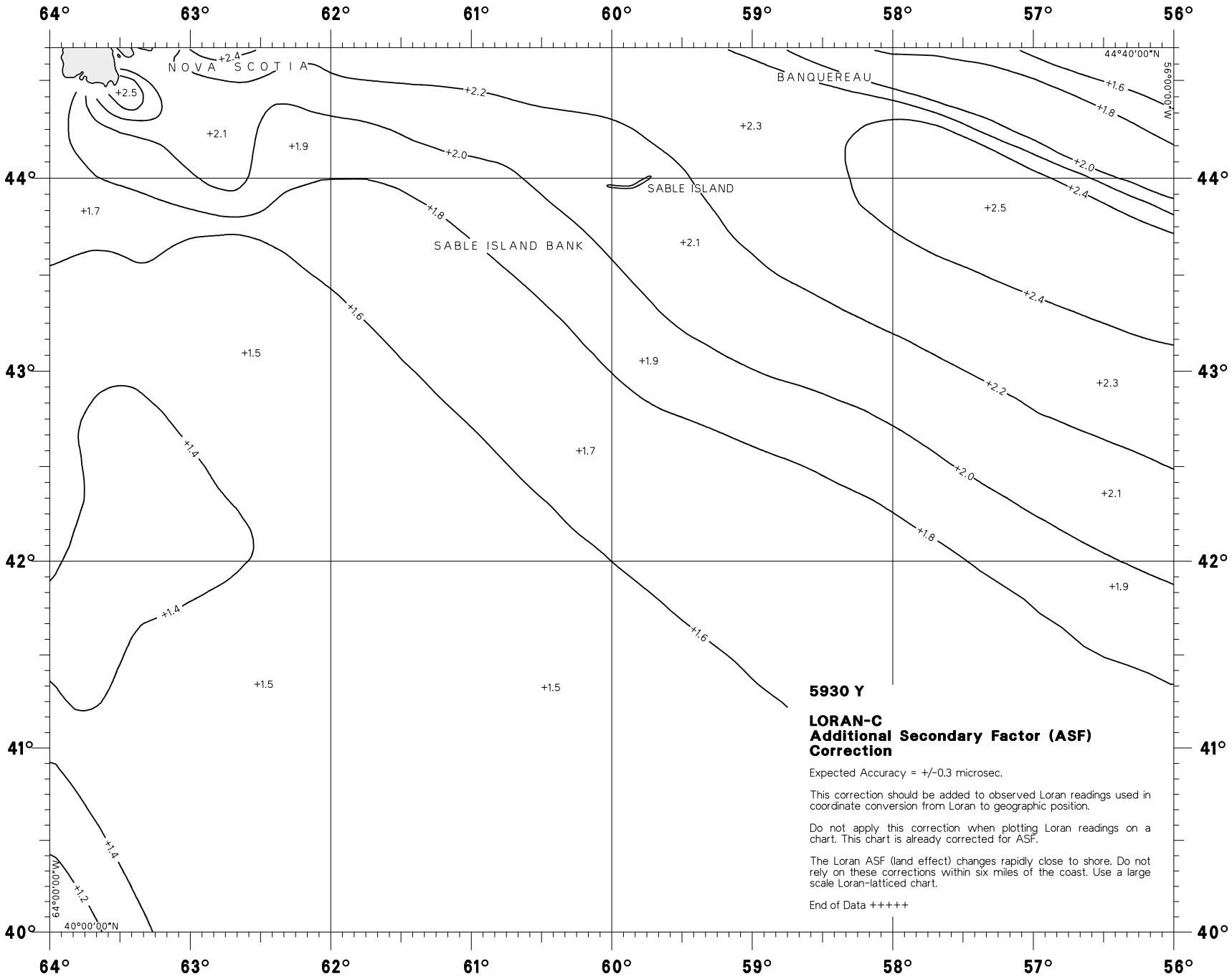
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.

The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.

End of Data +++++

AREA 2

5930-X



5930 Y

LORAN-C
Additional Secondary Factor (ASF) Correction

Expected Accuracy = +/-0.3 microsec.

This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.

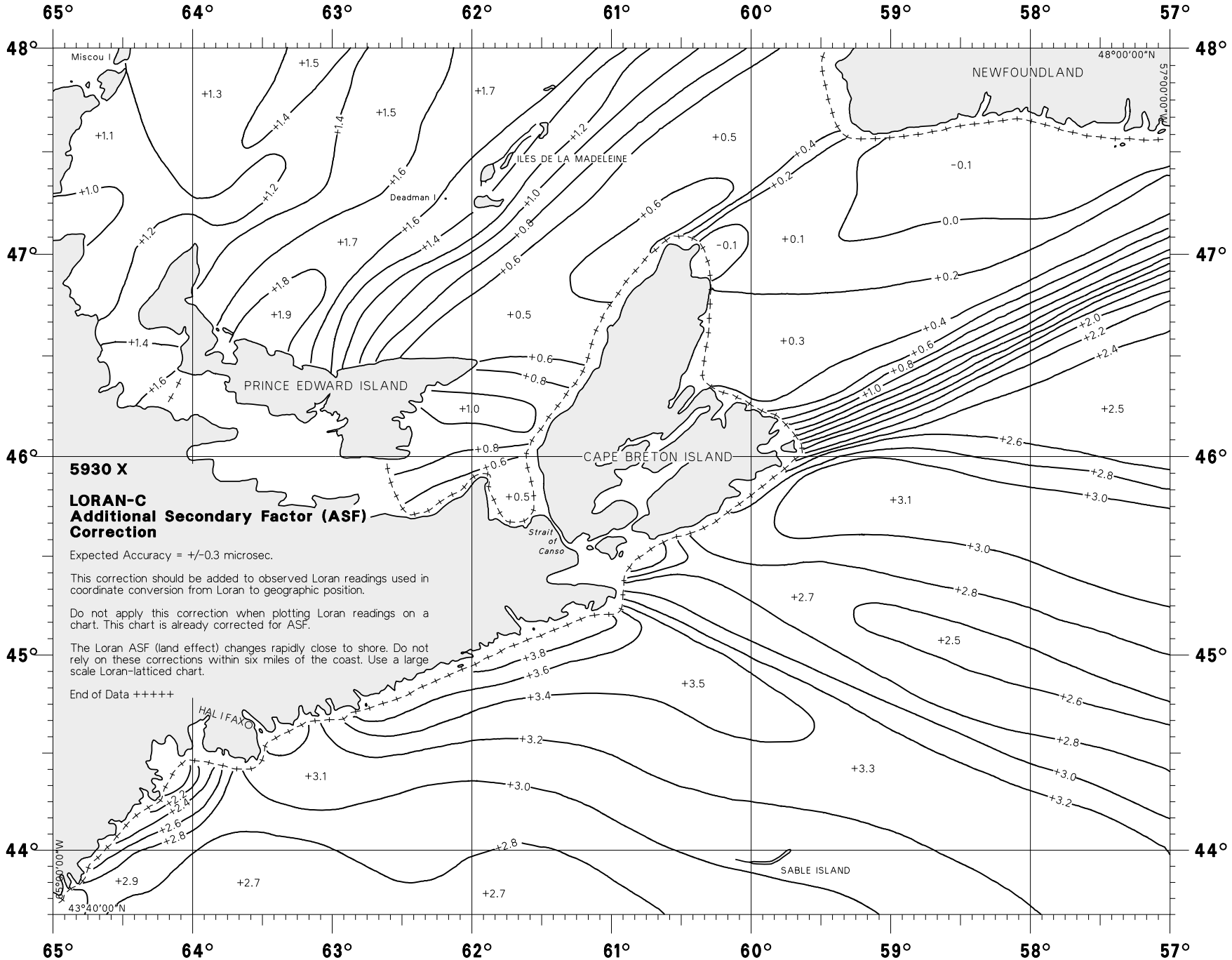
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.

The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.

End of Data +++++

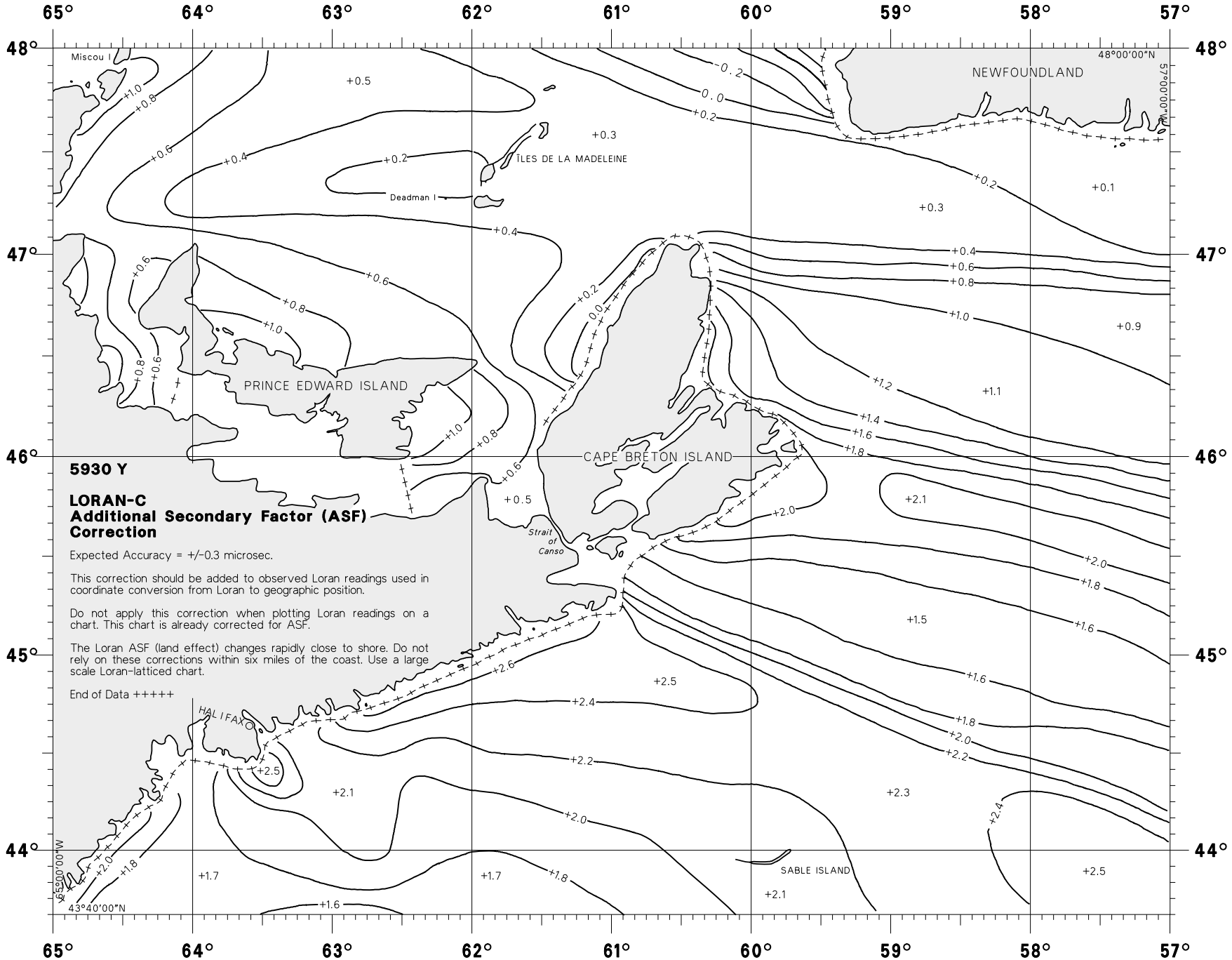
AREA 2

5930-Y


65° 64° 63° 62° 61° 60° 59° 58° 57°
48° 47° 46° 45° 44°
Miscou I
NEWFOUNDLAND
48°00'00"N
57°00'00"W
ILES DE LA MADELEINE
Deadman I
PRINCE EDWARD ISLAND
CAPE BRETON ISLAND
Strait of Canso
HALIFAX
SABLE ISLAND
63°20'00"W
43°40'00"N
5930 X
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

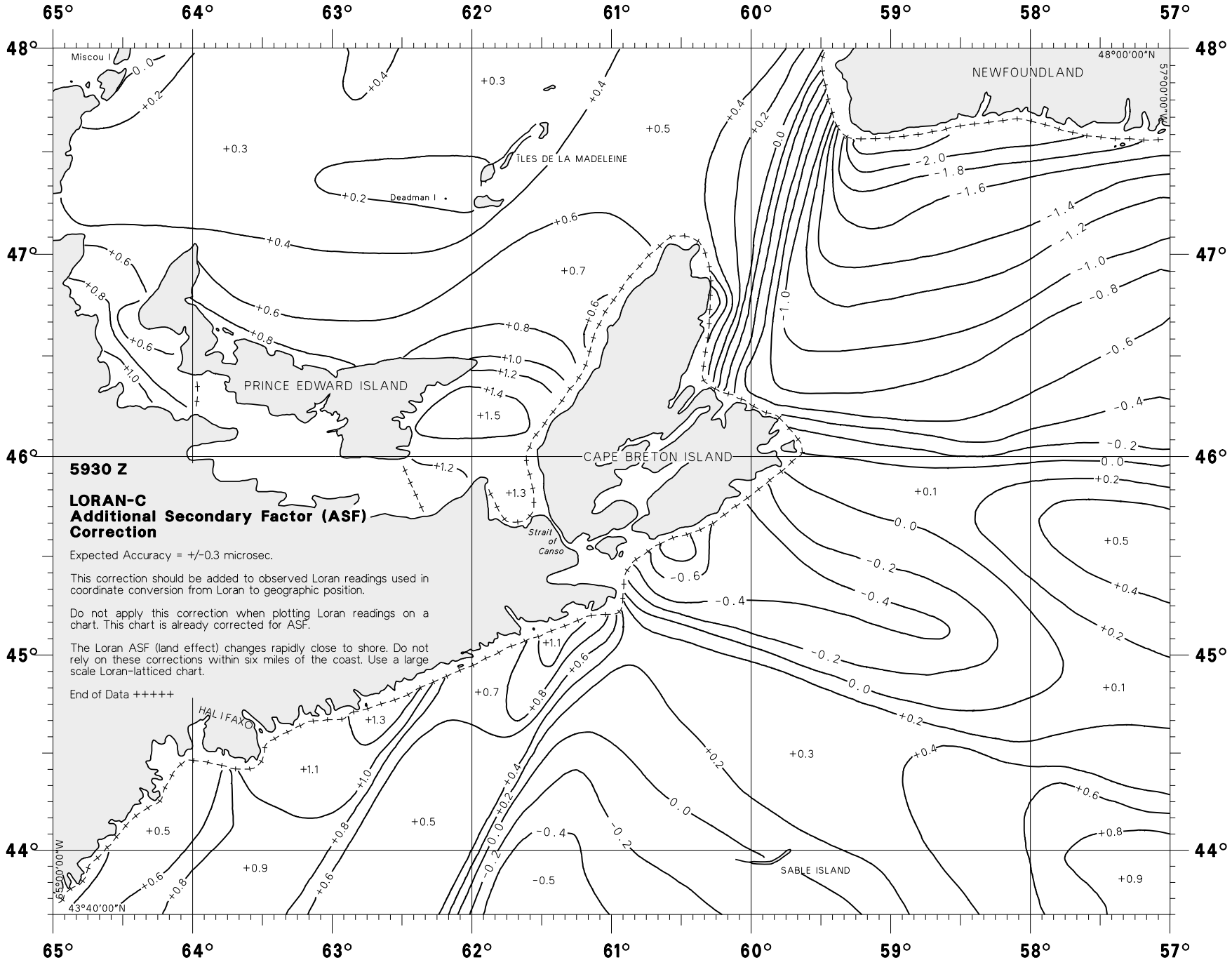
AREA 3

5930-X


65°
64°
63°
62°
61°
60°
59°
58°
57°
48°
47°
46°
45°
44°
Miscou I
NEWFOUNDLAND
48°00'00"N
57°00'00"W
ILES DE LA MADELEINE
Deadman I
PRINCE EDWARD ISLAND
CAPE BRETON ISLAND
Strait of Canso
HALIFAX
SABLE ISLAND
63°20'00"W
43°40'00"N
5930 Y
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

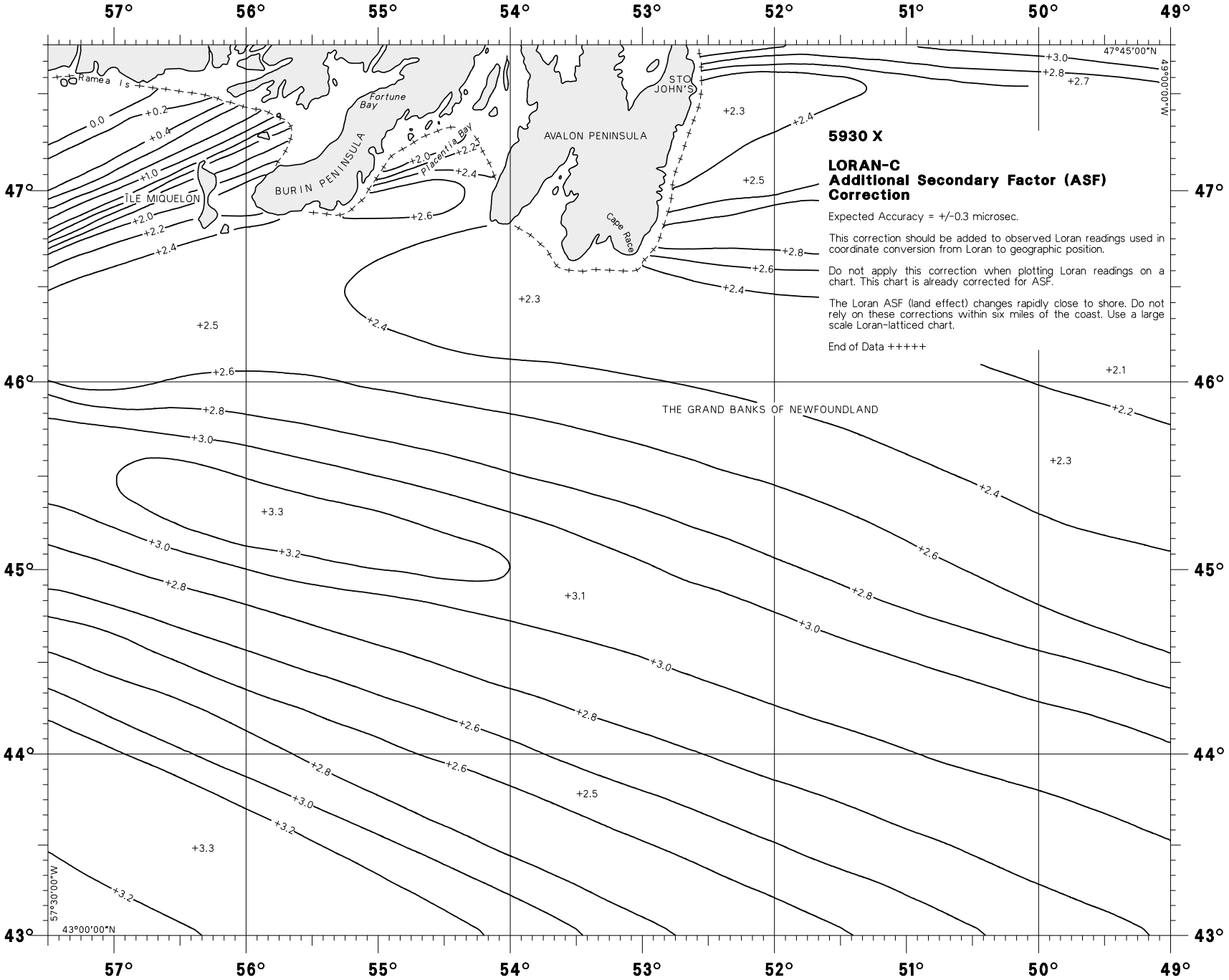
AREA 3

5930-Y


65°
64°
63°
62°
61°
60°
59°
58°
57°
48°
47°
46°
45°
44°
Miscou I
NEWFOUNDLAND
48°00'00"N
57°00'00"W
ÎLES DE LA MADELEINE
Deadman I
PRINCE EDWARD ISLAND
CAPE BRETON ISLAND
Strait of Canso
HALIFAX
SABLE ISLAND
63°00'00"W
43°40'00"N
5930 Z
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

AREA 3

5930-Z



5930 X

LORAN-C
Additional Secondary Factor (ASF) Correction

Expected Accuracy = +/-0.3 microsec.

This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.

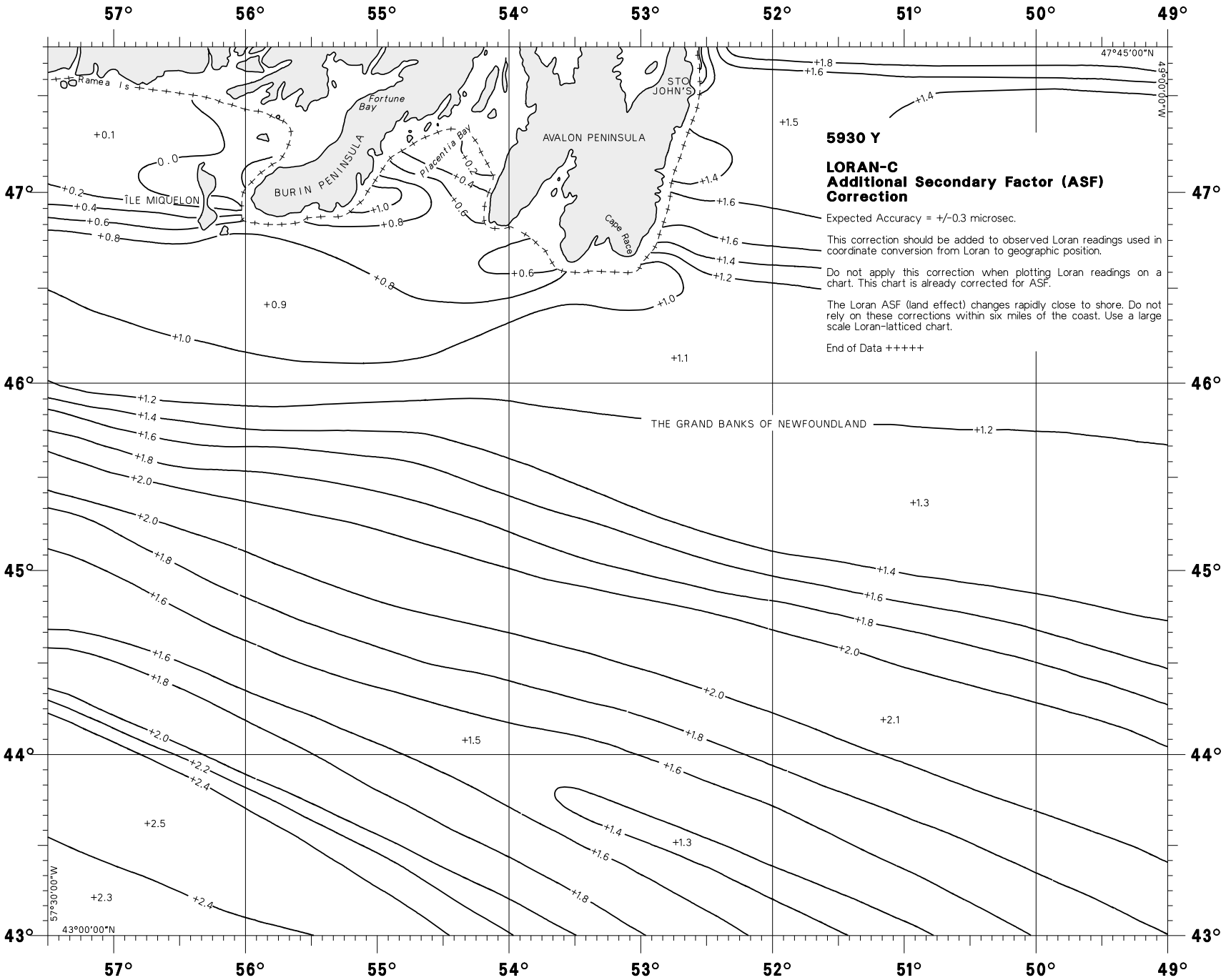
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.

The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.

End of Data +++++

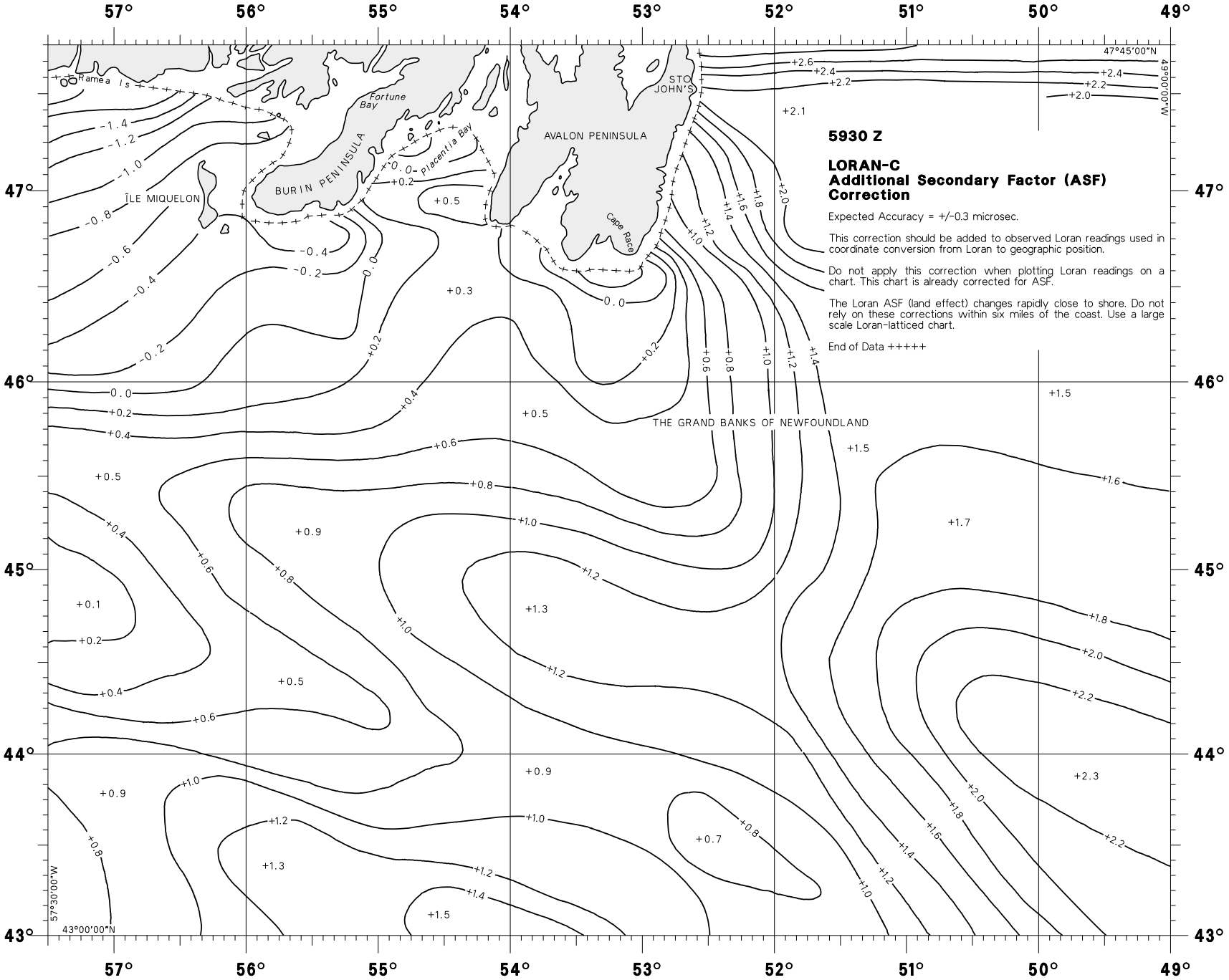
AREA 4

5930-X


57°
56°
55°
54°
53°
52°
51°
50°
49°
47°
46°
45°
44°
43°
47°45'00"N
49°00'00"W
57°30'00"W
43°00'00"N
Ramea Is
Fortune Bay
BURIN PENINSULA
Placentia Bay
AVALON PENINSULA
STO JOHN'S
Cape Race
ÎLE MIQUELON
THE GRAND BANKS OF NEWFOUNDLAND
5930 Y
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

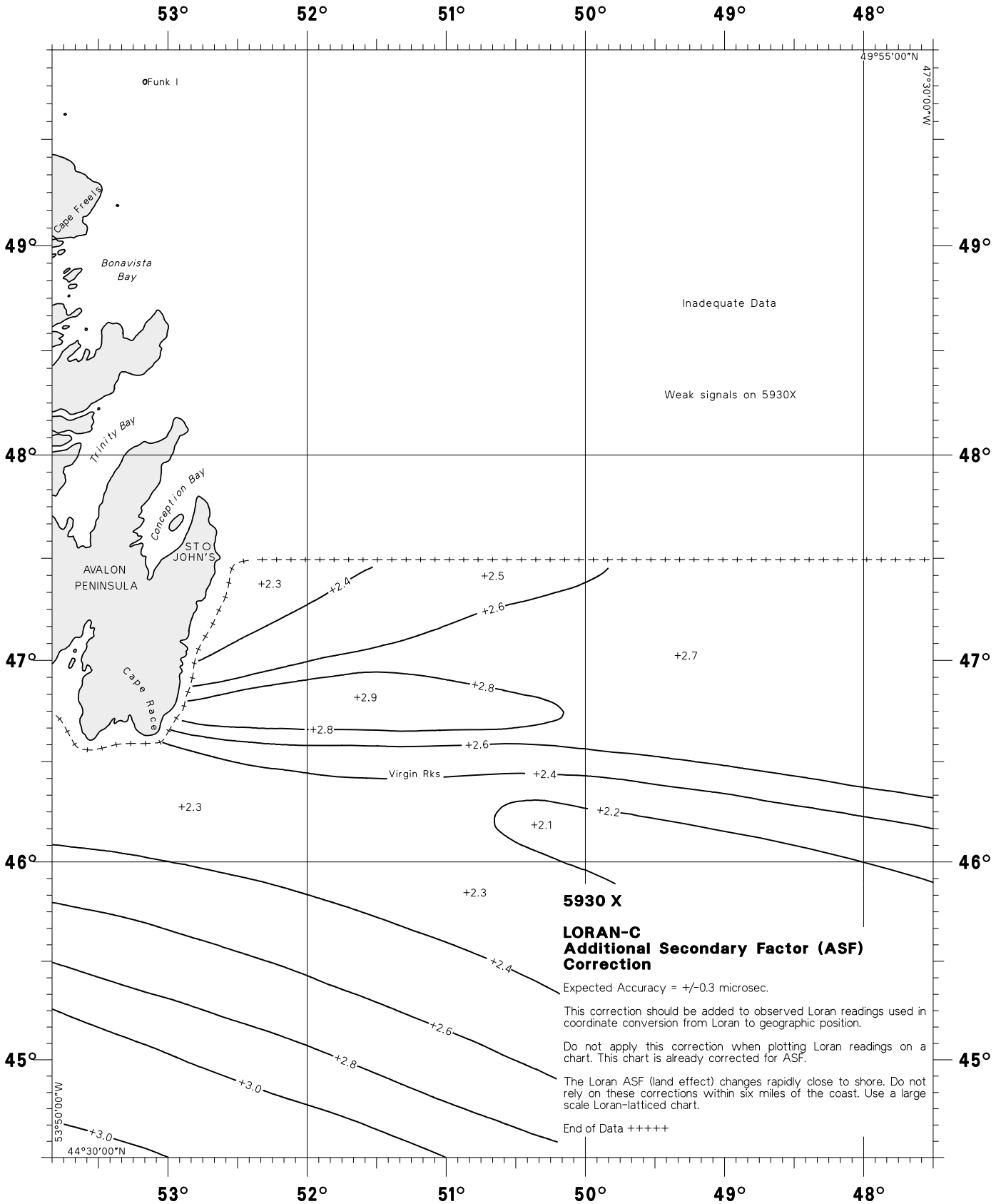
AREA 4

5930-Y


57°
56°
55°
54°
53°
52°
51°
50°
49°
47°
46°
45°
44°
43°
Ramea Is
Fortune Bay
BURIN PENINSULA
Placentia Bay
AVALON PENINSULA
STO JOHN'S
Cape Race
ÎLE MIQUELON
THE GRAND BANKS OF NEWFOUNDLAND
47°45'00"N
49°00'00"W
57°30'00"W
43°00'00"N
5930 Z
LORAN-C
Additional Secondary Factor (ASF) Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

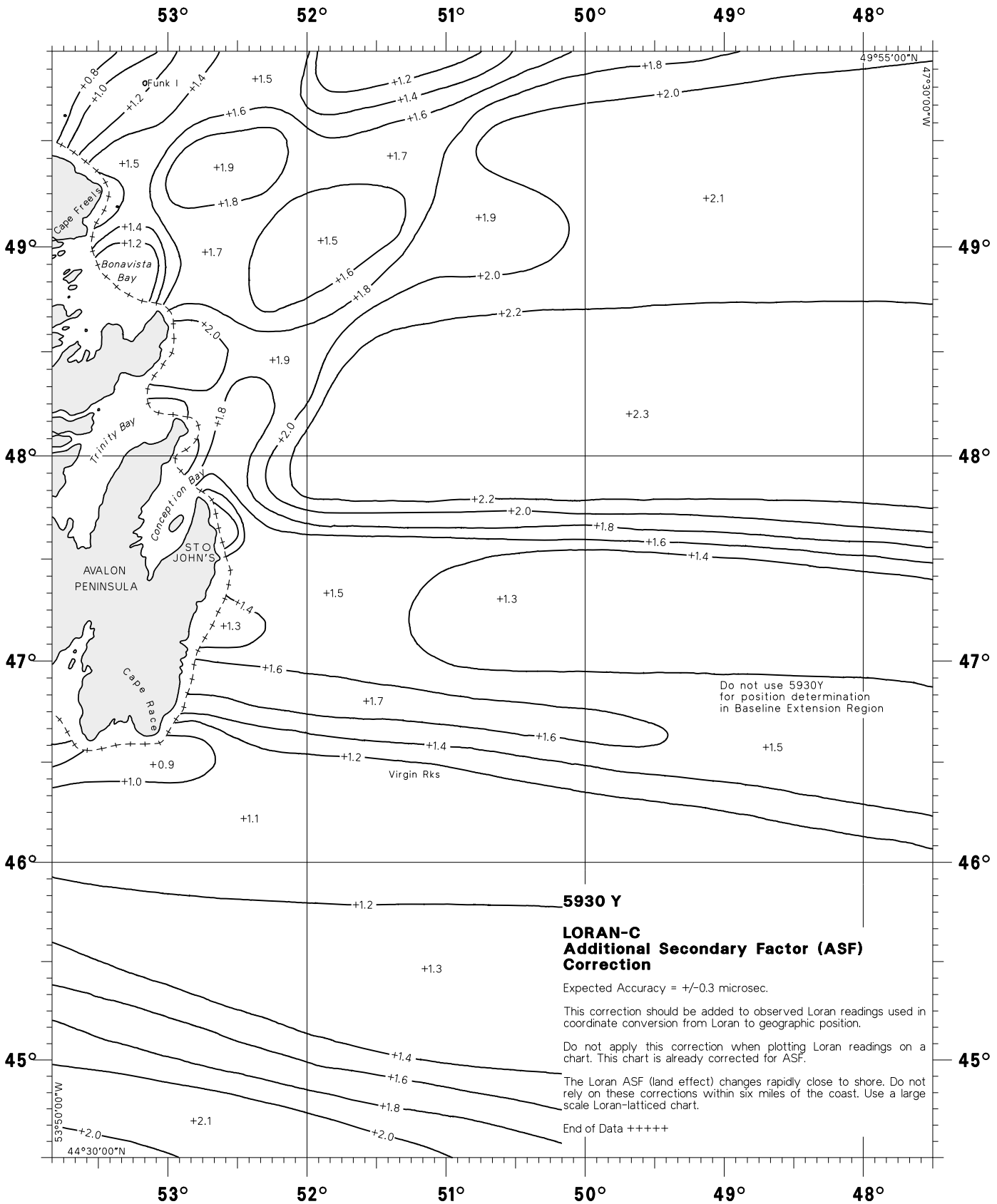
AREA 4

5930-Z


53°
52°
51°
50°
49°
48°
49°55'00"N
47°30'00"W
Funk I
Cape Freels
Bonavista Bay
Inadequate Data
Weak signals on 5930X
Trinity Bay
Conception Bay
STO JOHN'S
AVALON PENINSULA
Cape Race
+2.3
+2.4
+2.5
+2.6
+2.7
+2.8
+2.9
Virgin Rks
+2.2
+2.1
+3.0
53°50'00"W
44°30'00"N
5930 X
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

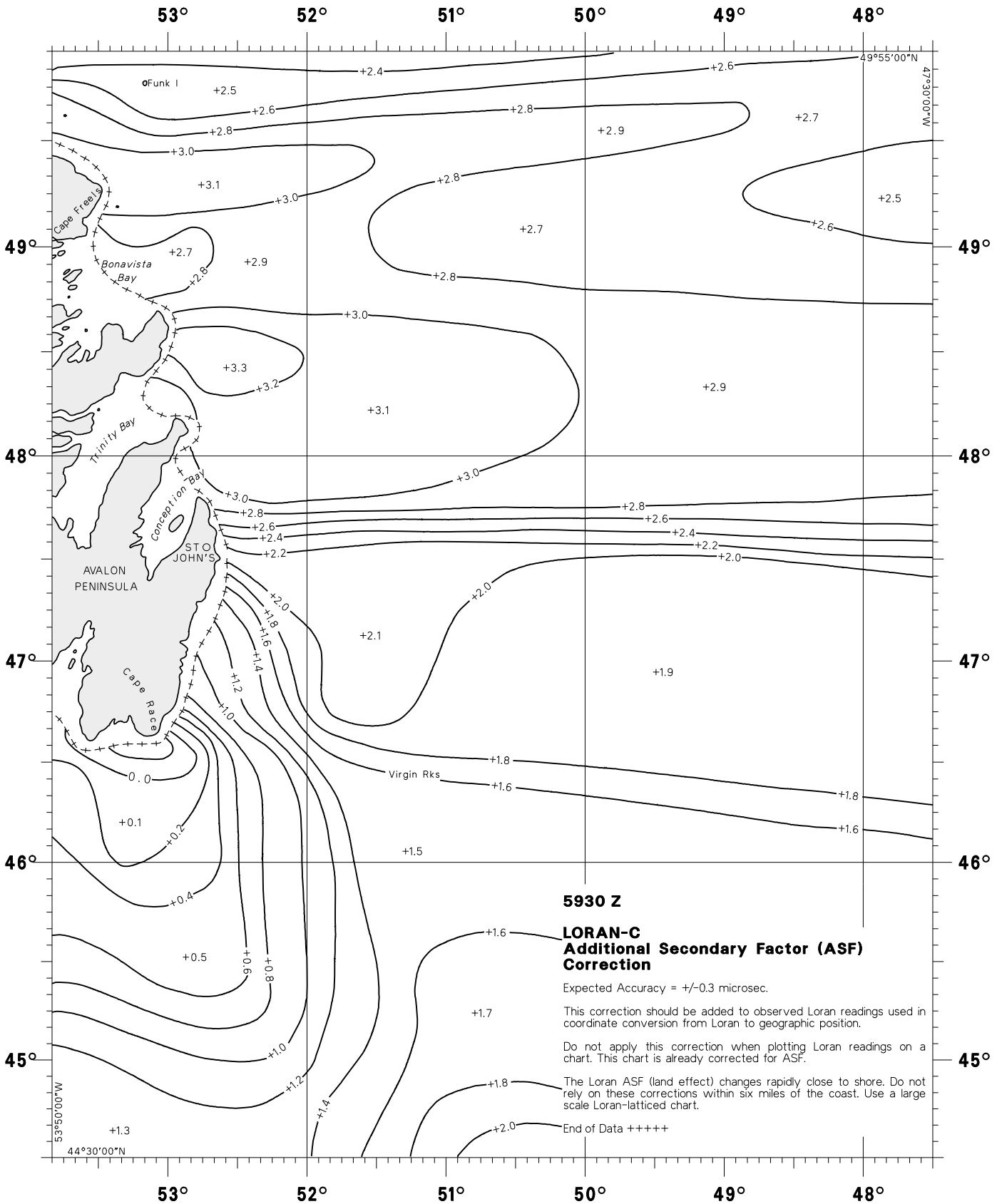
AREA 5

5930-X


53°
52°
51°
50°
49°
48°
49°55'00"N
47°30'00"W
Funk I
Cape Freels
Bonavista Bay
Trinity Bay
Conception Bay
STO JOHN'S
AVALON PENINSULA
Cape Race
Virgin Rks
Do not use 5930Y for position determination in Baseline Extension Region
53°50'00"W
44°30'00"N
5930 Y
LORAN-C
Additional Secondary Factor (ASF) Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

AREA 5

5930-Y



5930 Z

LORAN-C
Additional Secondary Factor (ASF) Correction

Expected Accuracy = +/-0.3 microsec.

This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.

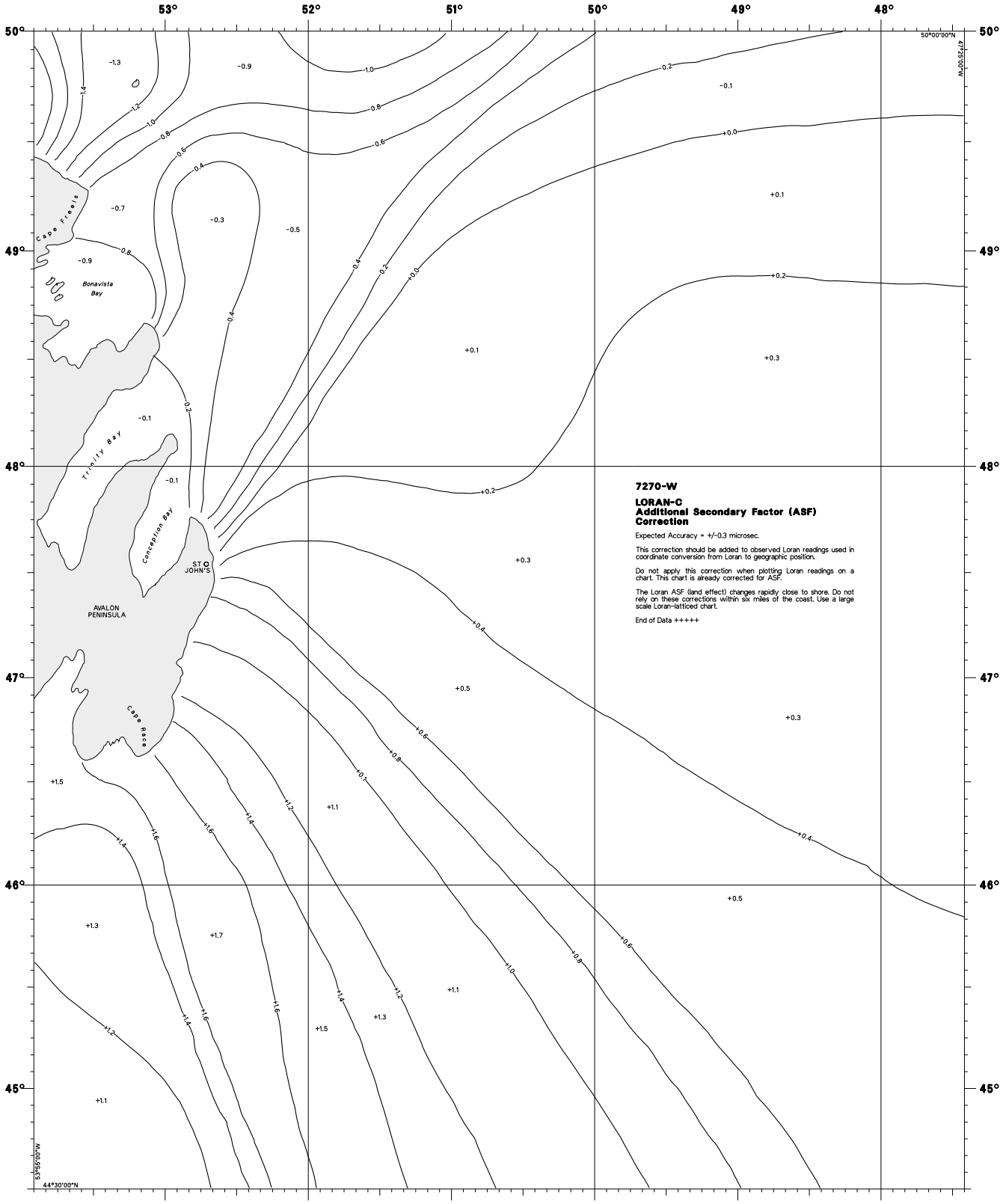
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.

The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.

End of Data +++++

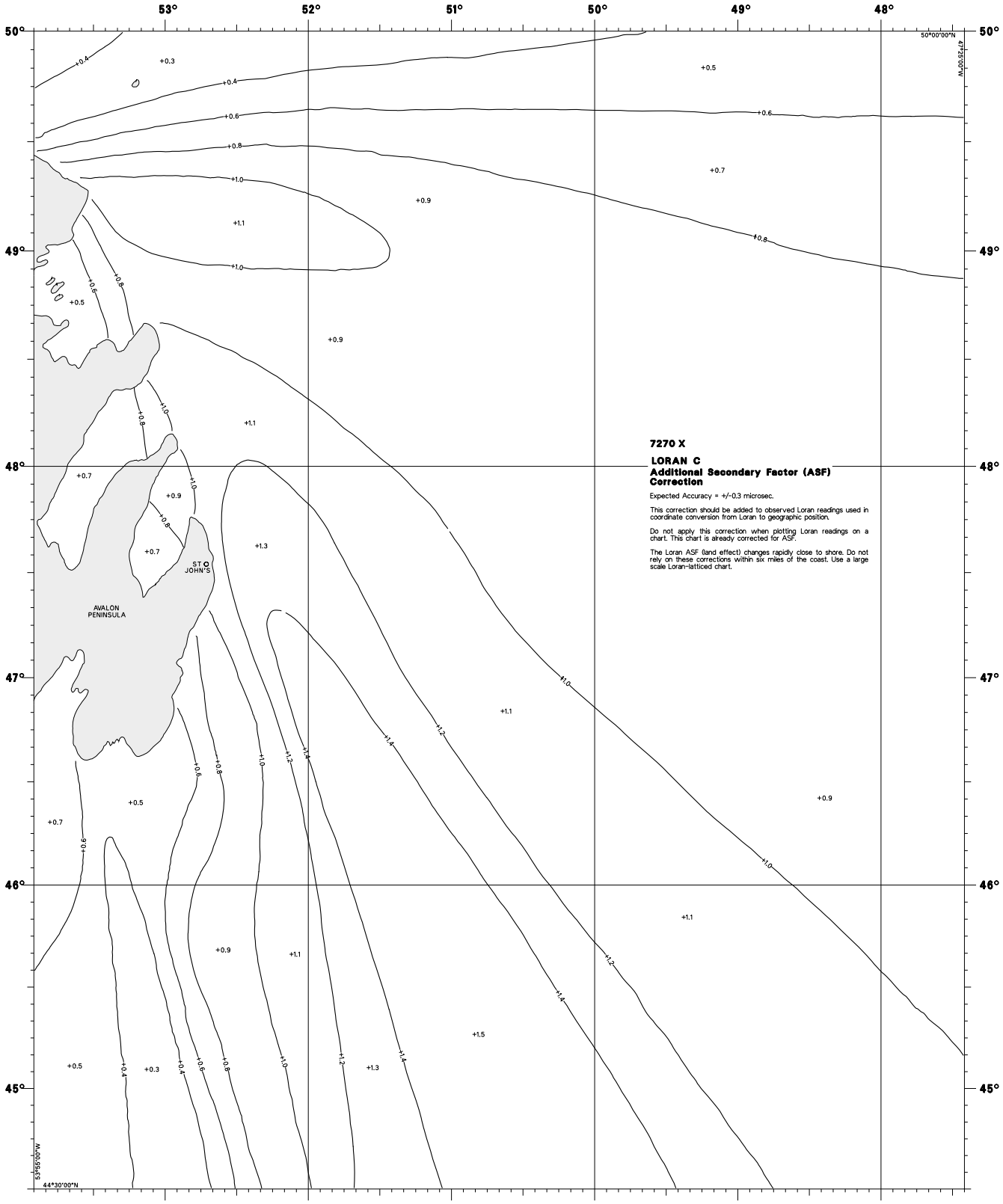
AREA 5

5930-Z


53°
52°
51°
50°
49°
48°
50°
49°
48°
47°
46°
45°
50°00'00"N
44°30'00"N
53°50'00"W
Cape Freels
Bonavista Bay
Trinity Bay
Conception Bay
ST JOHN'S
AVALON PENINSULA
Cape Race
7270-W
LORAN-C
Additional Secondary Factor (ASF) Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

AREA 5

7270-W



7270 X

LORAN C
Additional Secondary Factor (ASF) Correction

Expected Accuracy = +/-0.3 microsec.

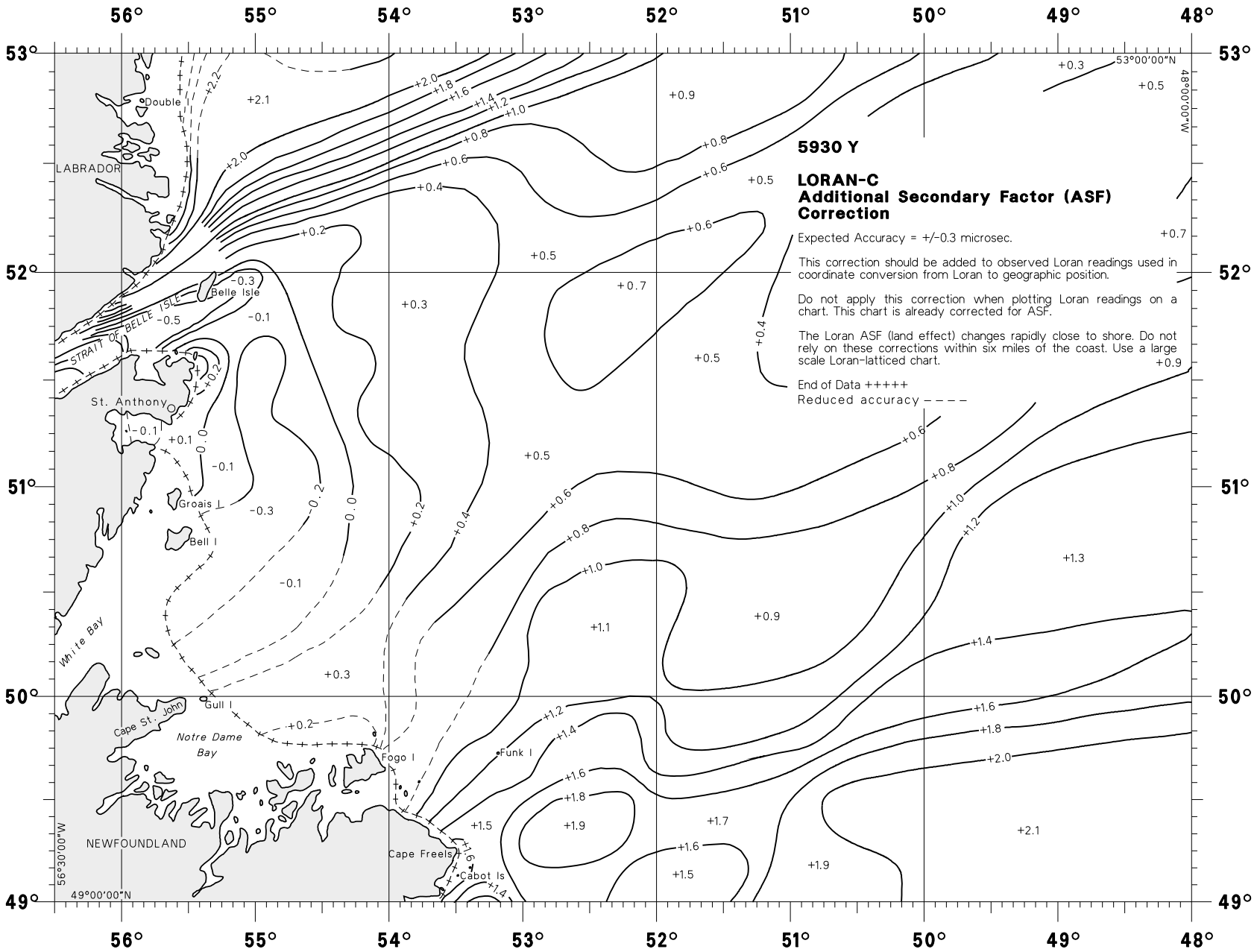
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.

Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.

The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.

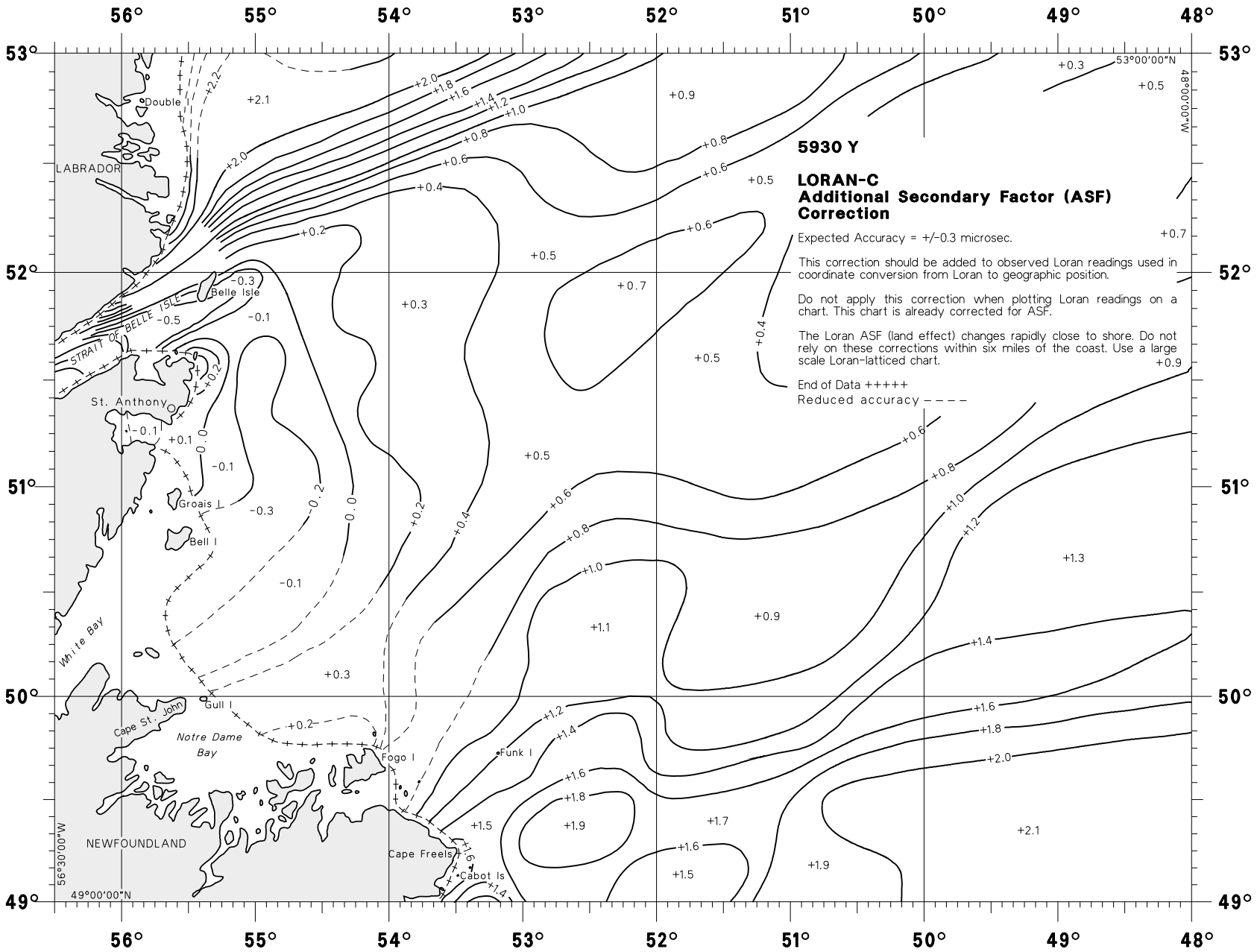
AREA 5

7270-X


5930 Y
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++
Reduced accuracy - - - -
LABRADOR
NEWFOUNDLAND
Double I
Belle Isle
STRAIT OF BELLE ISLE
St. Anthony
Groais I
Bell I
White Bay
Gull I
Cape St. John
Notre Dame Bay
Fogo I
Funk I
Cape Freels
Cabot Is
53°00'00"N
49°00'00"N
56°30'00"W
48°00'00"W
56°
55°
54°
53°
52°
51°
50°
49°
48°

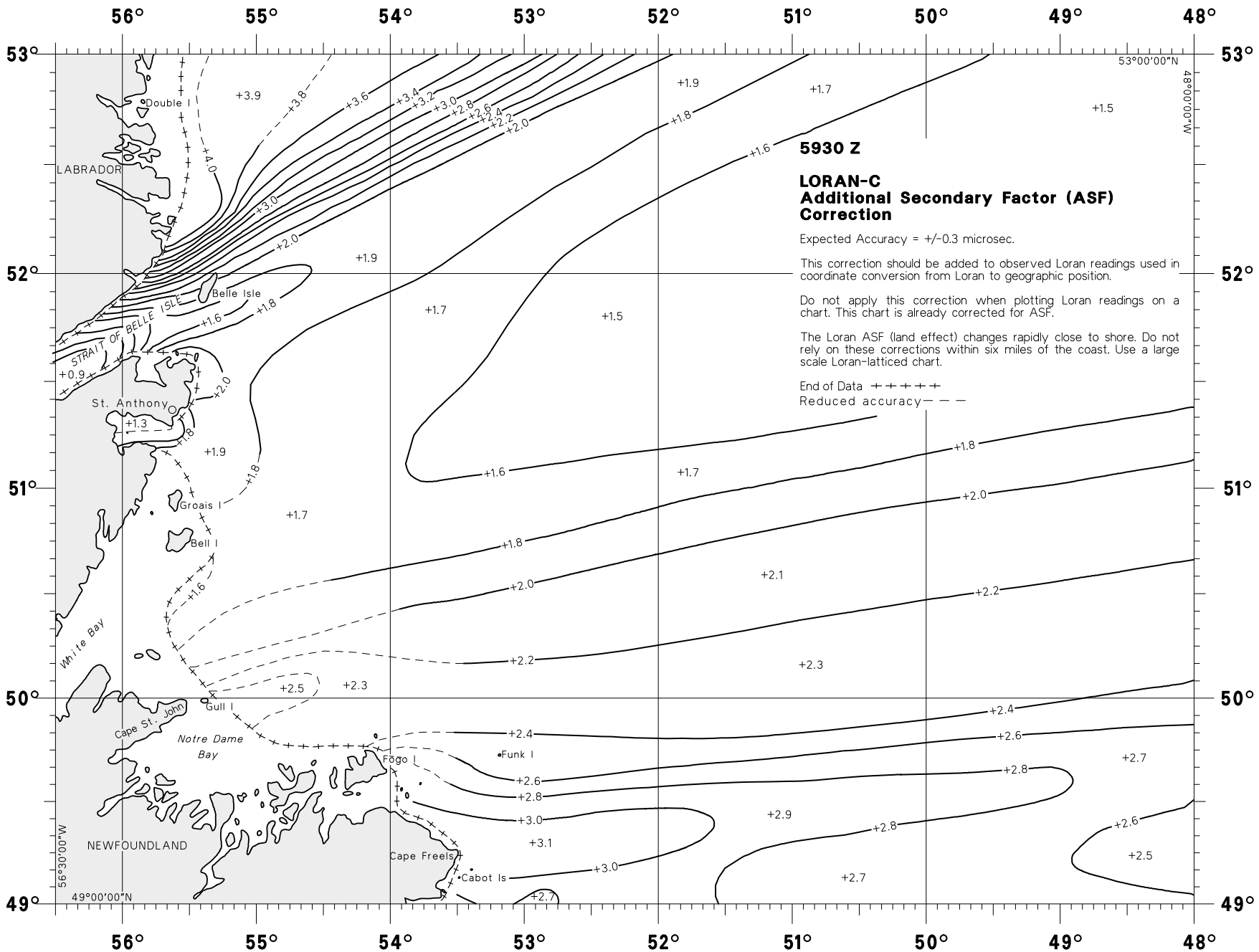
AREA 6

5930-Y


5930 Y
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++
Reduced accuracy - - - -
LABRADOR
NEWFOUNDLAND
Double I
Belle Isle
STRAIT OF BELLE ISLE
St. Anthony
Groais I
Bell I
White Bay
Gull I
Cape St. John
Notre Dame Bay
Fogo I
Funk I
Cape Freels
Cabot Is
53°00'00"N
49°00'00"N
56°30'00"W
48°00'00"W
56°
55°
54°
53°
52°
51°
50°
49°
48°

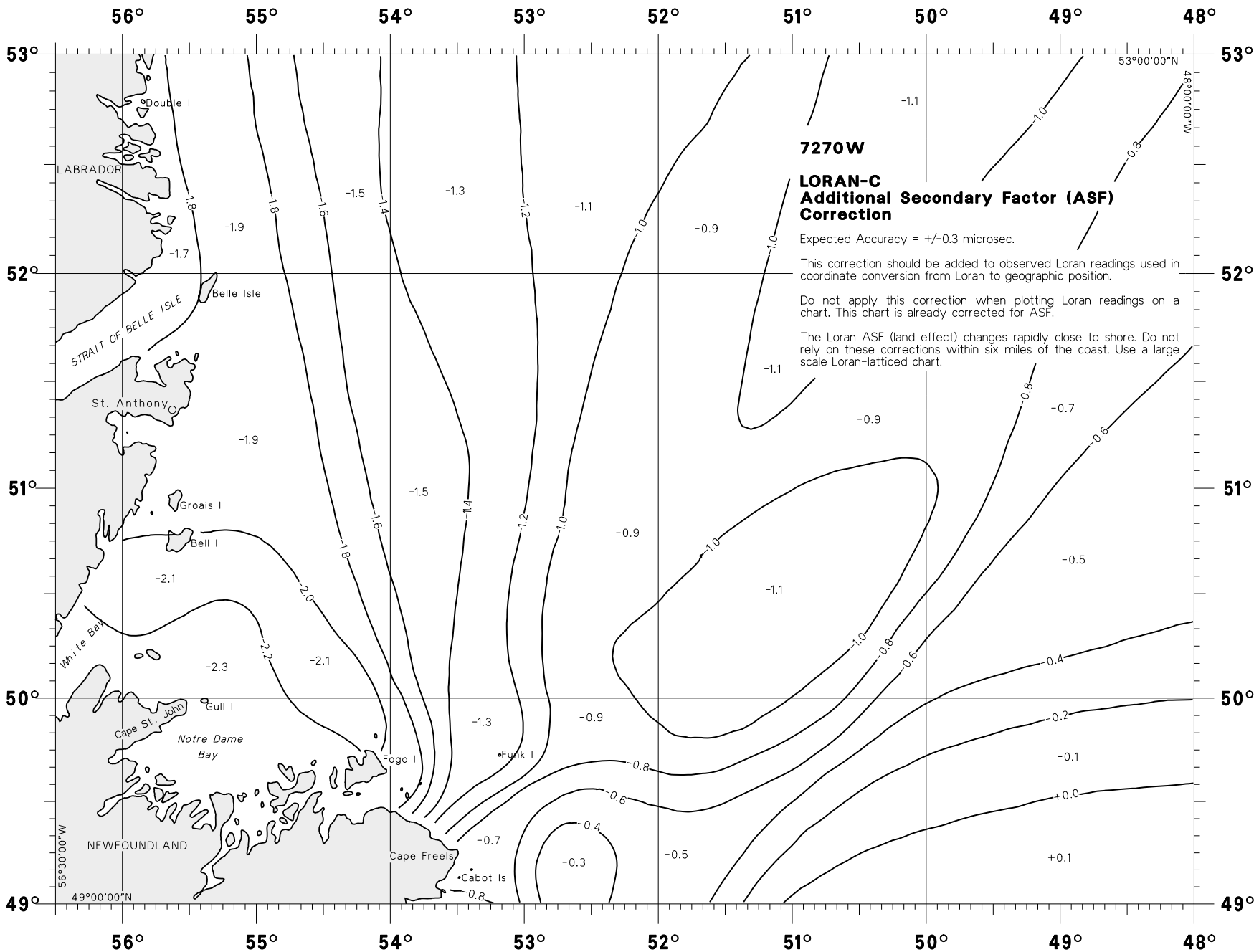
AREA 6

5930-Y


5930 Z
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data
Reduced accuracy
LABRADOR
NEWFOUNDLAND
Double I
Belle Isle
STRAIT OF BELLE ISLE
St. Anthony
Groais I
Bell I
White Bay
Gull I
Cape St. John
Notre Dame Bay
Fogo I
Funk I
Cape Freels
Cabot Is
53°00'00"N
49°00'00"N
56°30'00"W
48°00'00"W
56°
55°
54°
53°
52°
51°
50°
49°
48°

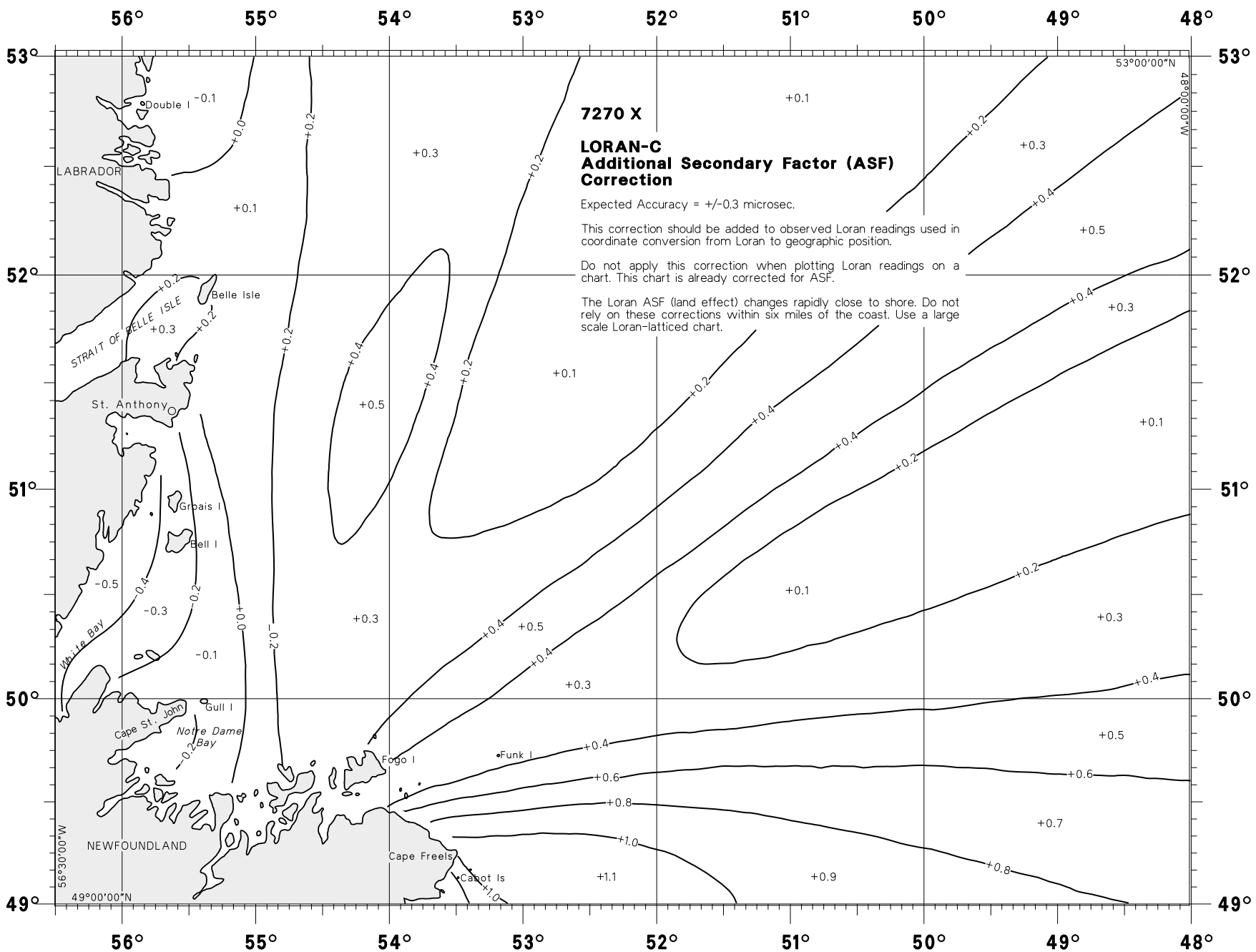
AREA 6

5930-Z


7270W
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
56°
55°
54°
53°
52°
51°
50°
49°
48°
53°00'00"N
48°00'00"W
56°30'00"W
49°00'00"N
LABRADOR
NEWFOUNDLAND
STRAIT OF BELLE ISLE
White Bay
Notre Dame Bay
Double I
Belle Isle
St. Anthony
Groais I
Bell I
Gull I
Cape St. John
Fogo I
Funk I
Cape Freels
Cabot Is
-1.1
-1.0
-0.8
-1.9
-1.7
-1.8
-1.6
-1.5
-1.4
-1.3
-1.2
-0.9
-0.7
-0.6
-2.1
-2.0
-2.3
-2.2
-0.5
-0.4
-0.2
-0.1
+0.0
+0.1
-0.3

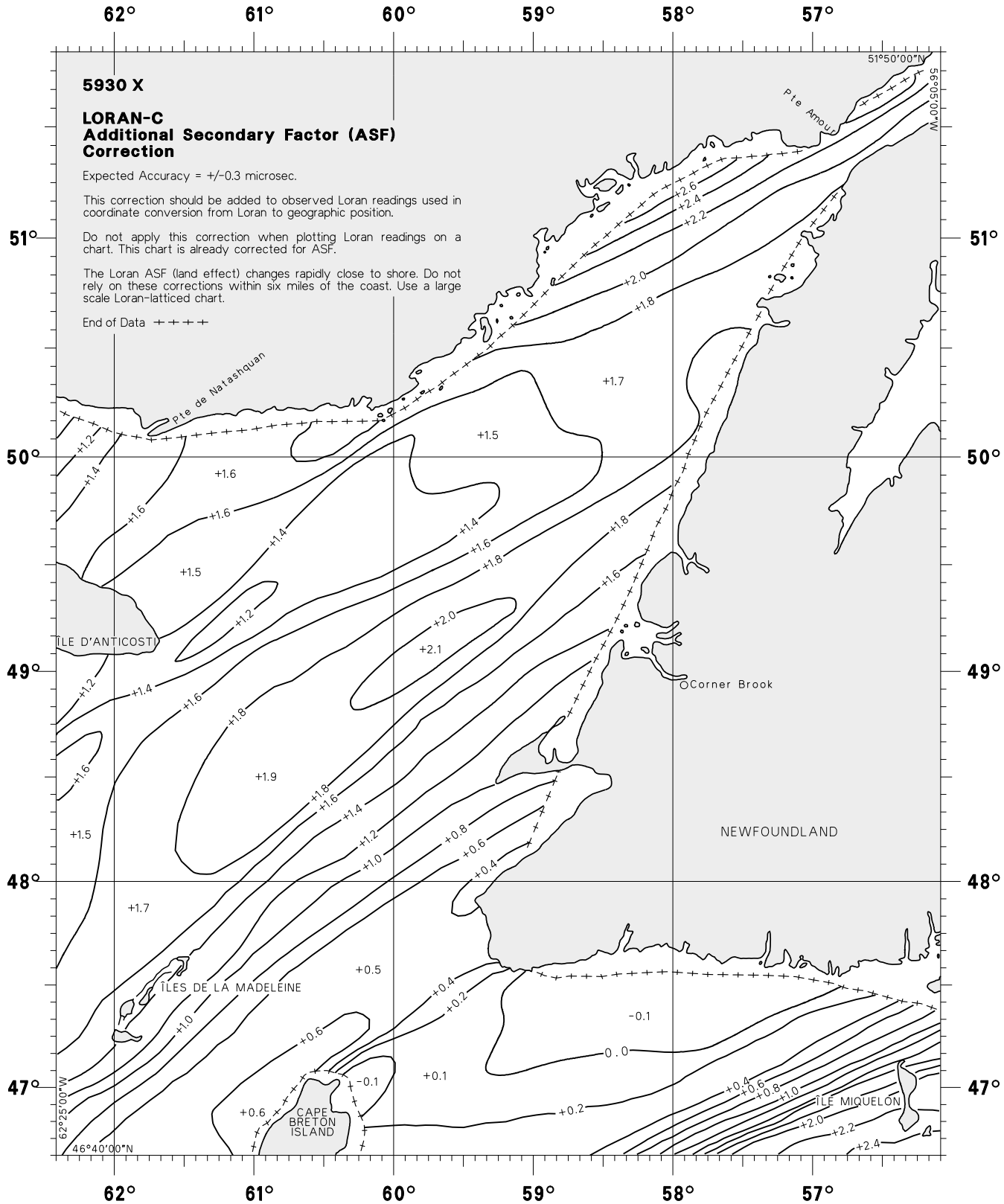
AREA 6

7270-W


7270 X
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
56°
55°
54°
53°
52°
51°
50°
49°
48°
53°00'00"N
48°00'00"W
56°30'00"W
49°00'00"N
LABRADOR
NEWFOUNDLAND
STRAIT OF BELLE ISLE
White Bay
Notre Dame Bay
Cape St. John
Double I
Belle Isle
St. Anthony
Groais I
Bell I
Gull I
Fogo I
Funk I
Cape Freels
Cabot Is
-0.1
+0.0
+0.1
+0.2
+0.3
+0.4
+0.5
+0.6
+0.7
+0.8
+0.9
+1.0
+1.1
-0.2
-0.3
-0.4
-0.5

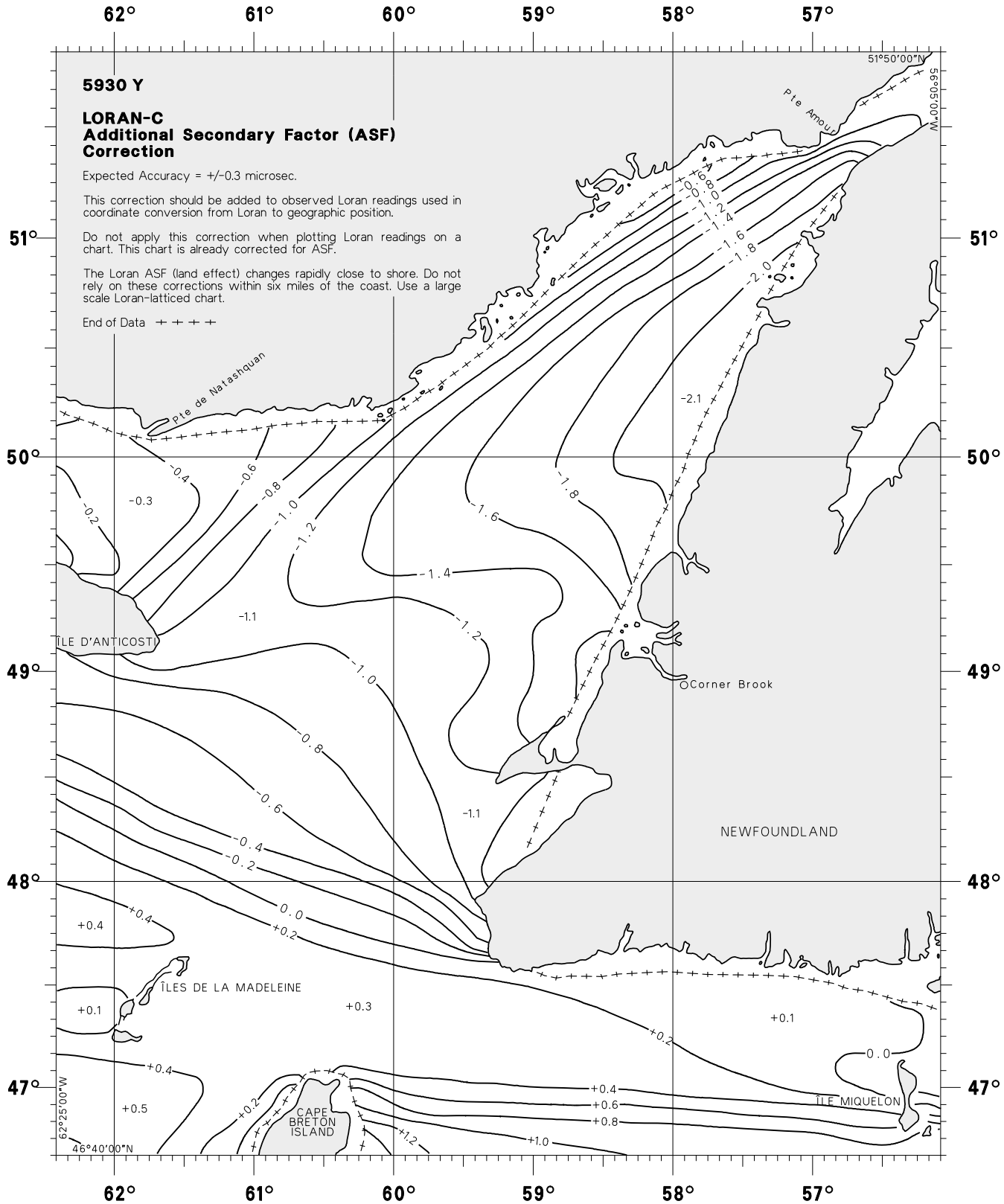
AREA 6

7270-X


5930 X
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data
62°
61°
60°
59°
58°
57°
51°
50°
49°
48°
47°
51°50'00"N
56°05'00"W
62°25'00"W
46°40'00"N
Pte Amour
Pte de Natashquan
ÎLE D'ANTICOSTI
Corner Brook
NEWFOUNDLAND
ÎLES DE LA MADELEINE
CAPE BRETON ISLAND
ÎLE MIQUELON
+1.7
+1.5
+1.6
+1.5
+1.9
+1.5
+1.7
+2.1
+0.5
+0.1
-0.1
0.0

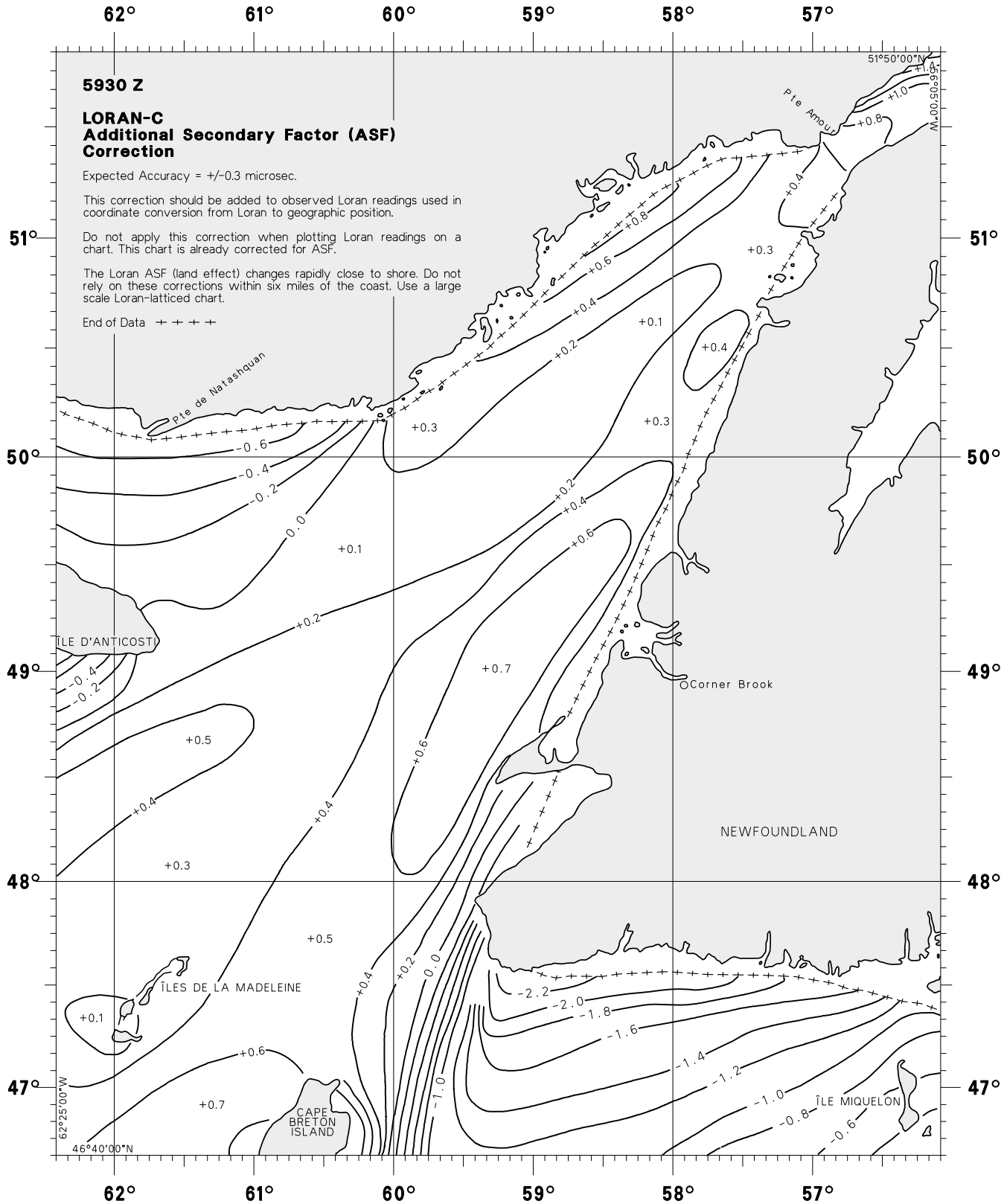
AREA 7

5930-X


5930 Y
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data
62°
61°
60°
59°
58°
57°
51°
50°
49°
48°
47°
51°50'00"N
56°05'00"W
62°25'00"W
46°40'00"N
Pte Amour
Pte de Natashquan
ÎLE D'ANTICOSTI
Corner Brook
NEWFOUNDLAND
ÎLES DE LA MADELEINE
CAPE BRETON ISLAND
ÎLE MIQUELON
-0.2
-0.3
-0.4
-0.6
-0.8
-1.0
-1.1
-1.2
-1.4
-1.6
-1.8
-2.0
-2.1
0.0
+0.1
+0.2
+0.3
+0.4
+0.5
+0.6
+0.8
+1.0
+1.2

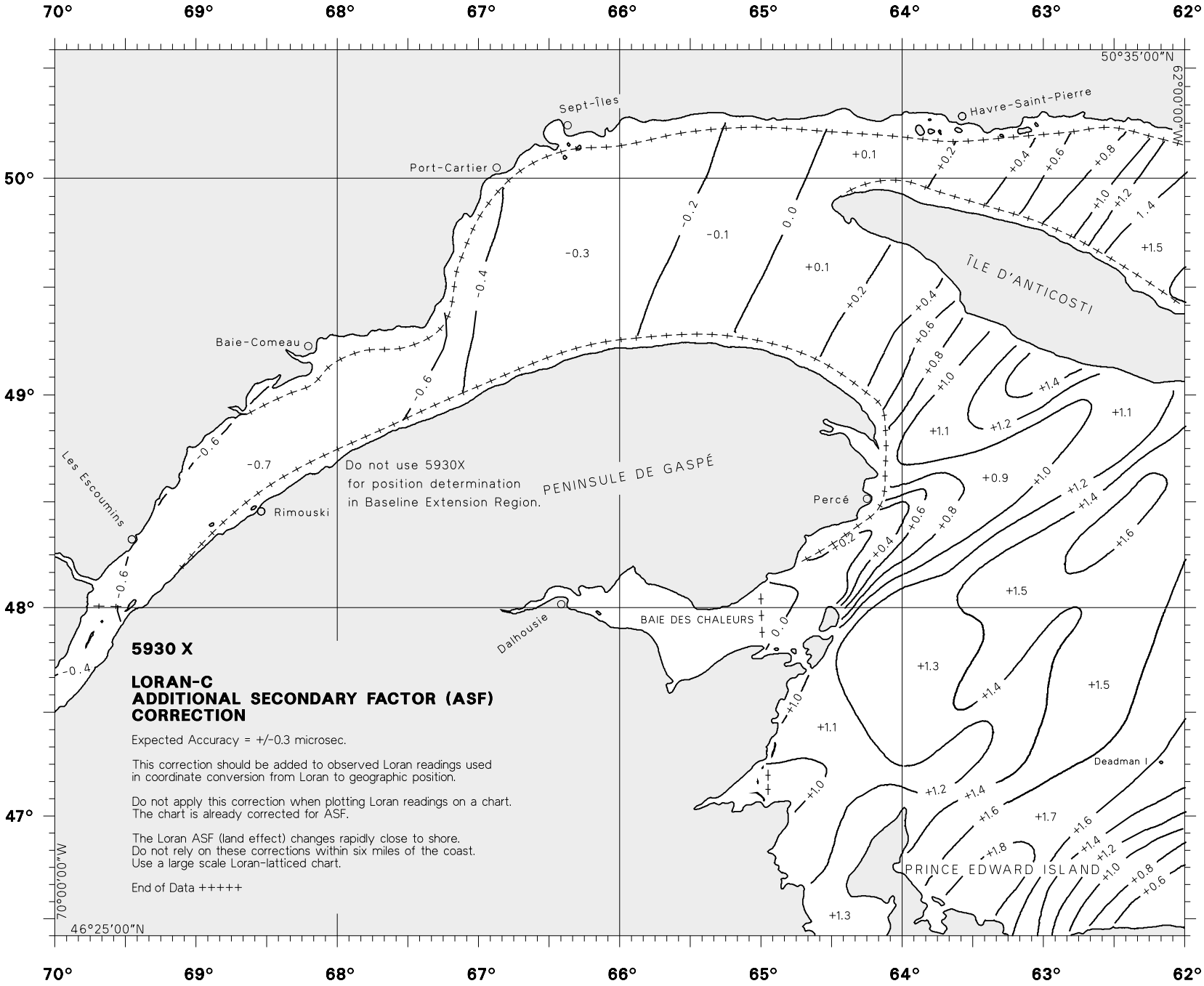
AREA 7

5930-Y


5930 Z
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data
62°
61°
60°
59°
58°
57°
51°
50°
49°
48°
47°
51°50'00"N
66°00'50"W
62°25'00"W
46°40'00"N
Pte Amour
Pte de Natashquan
ÎLE D'ANTICOSTI
Corner Brook
NEWFOUNDLAND
ÎLES DE LA MADELEINE
CAPE BRETON ISLAND
ÎLE MIQUELON

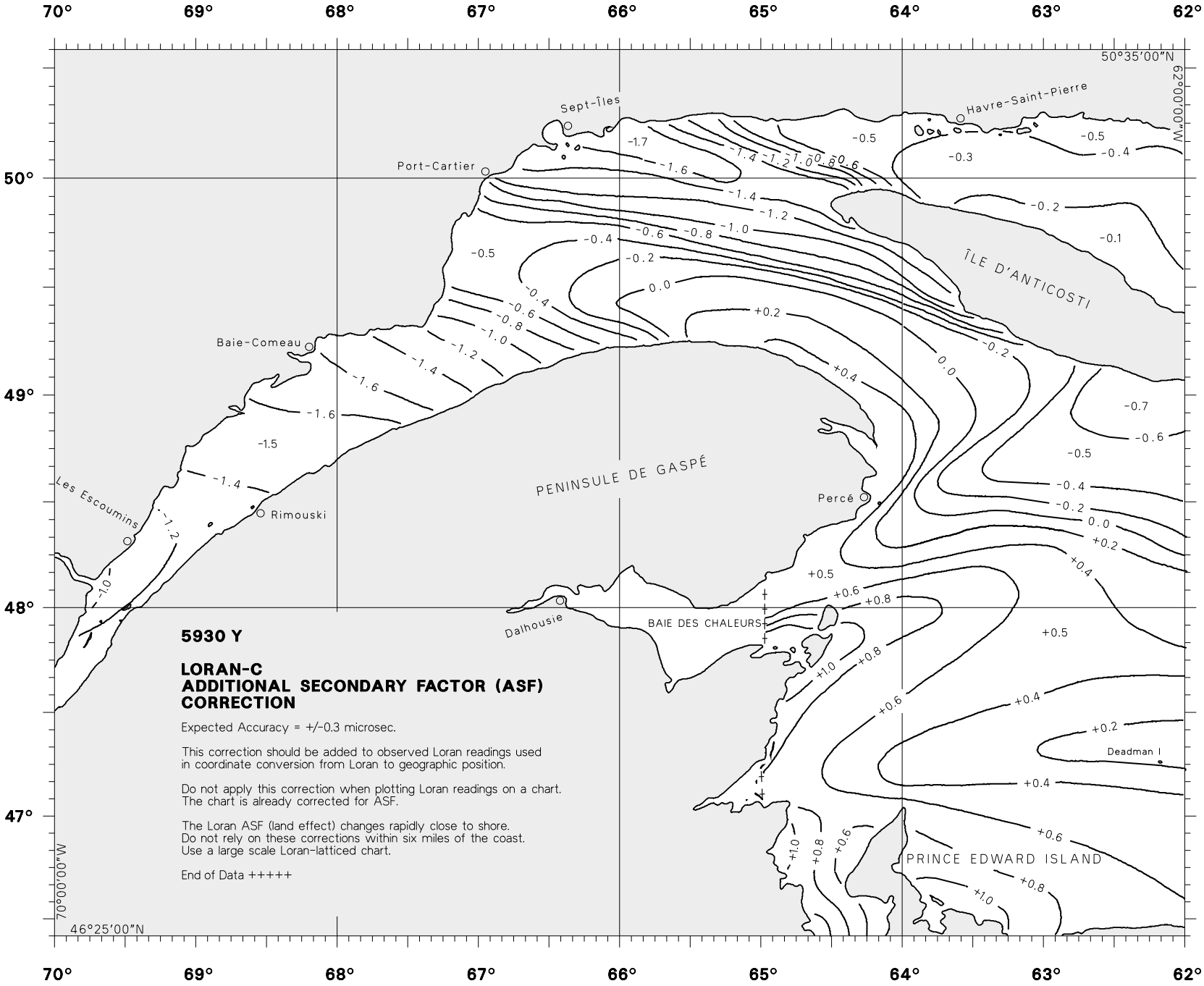
AREA 7

5930-Z


70°
69°
68°
67°
66°
65°
64°
63°
62°
50°35'00"N
62°00'00"W
50°
49°
48°
47°
70°00'00"W
46°25'00"N
Sept-Îles
Havre-Saint-Pierre
Port-Cartier
Baie-Comeau
Les Escoumins
Rimouski
Percé
Dalhousie
Deadman I
ÎLE D'ANTICOSTI
PENINSULE DE GASPÉ
BAIE DES CHALEURS
PRINCE EDWARD ISLAND
Do not use 5930X
for position determination
in Baseline Extension Region.
5930 X
LORAN-C
ADDITIONAL SECONDARY FACTOR (ASF)
CORRECTION
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used
in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart.
The chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore.
Do not rely on these corrections within six miles of the coast.
Use a large scale Loran-latticed chart.
End of Data +++++

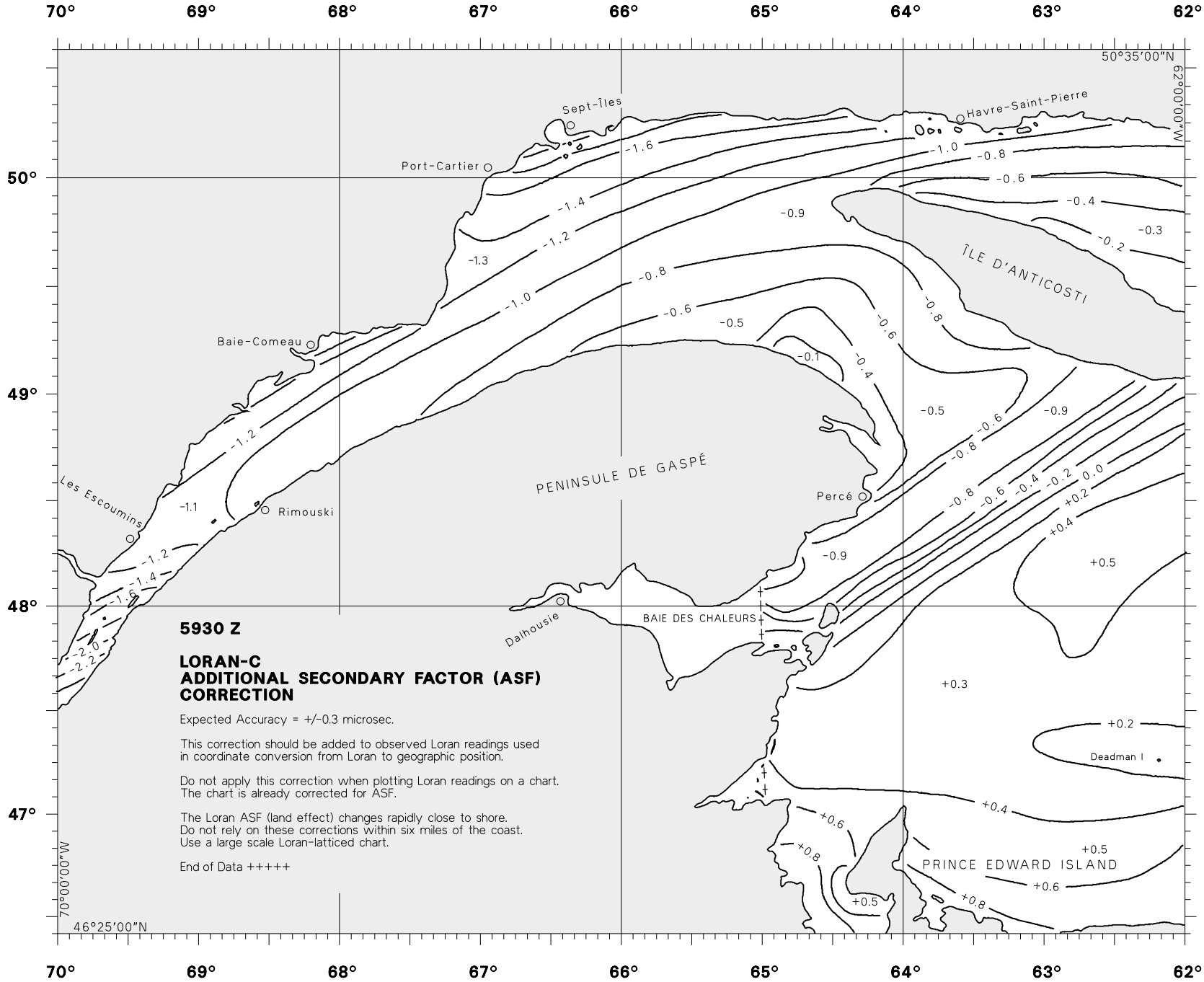
AREA 8

5930-X


70°
69°
68°
67°
66°
65°
64°
63°
62°
50°35'00"N
62°00'00"W
70°00'00"W
46°25'00"N
50°
49°
48°
47°
Sept-Îles
Havre-Saint-Pierre
Port-Cartier
Baie-Comeau
Les Escoumins
Rimouski
Percé
Dalhousie
ÎLE D'ANTICOSTI
PENINSULE DE GASPÉ
BAIE DES CHALEURS
PRINCE EDWARD ISLAND
Deadman I
5930 Y
LORAN-C
ADDITIONAL SECONDARY FACTOR (ASF)
CORRECTION
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. The chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

AREA 8

5930-Y



5930 Z

LORAN-C
ADDITIONAL SECONDARY FACTOR (ASF)
CORRECTION

Expected Accuracy = +/-0.3 microsec.

This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.

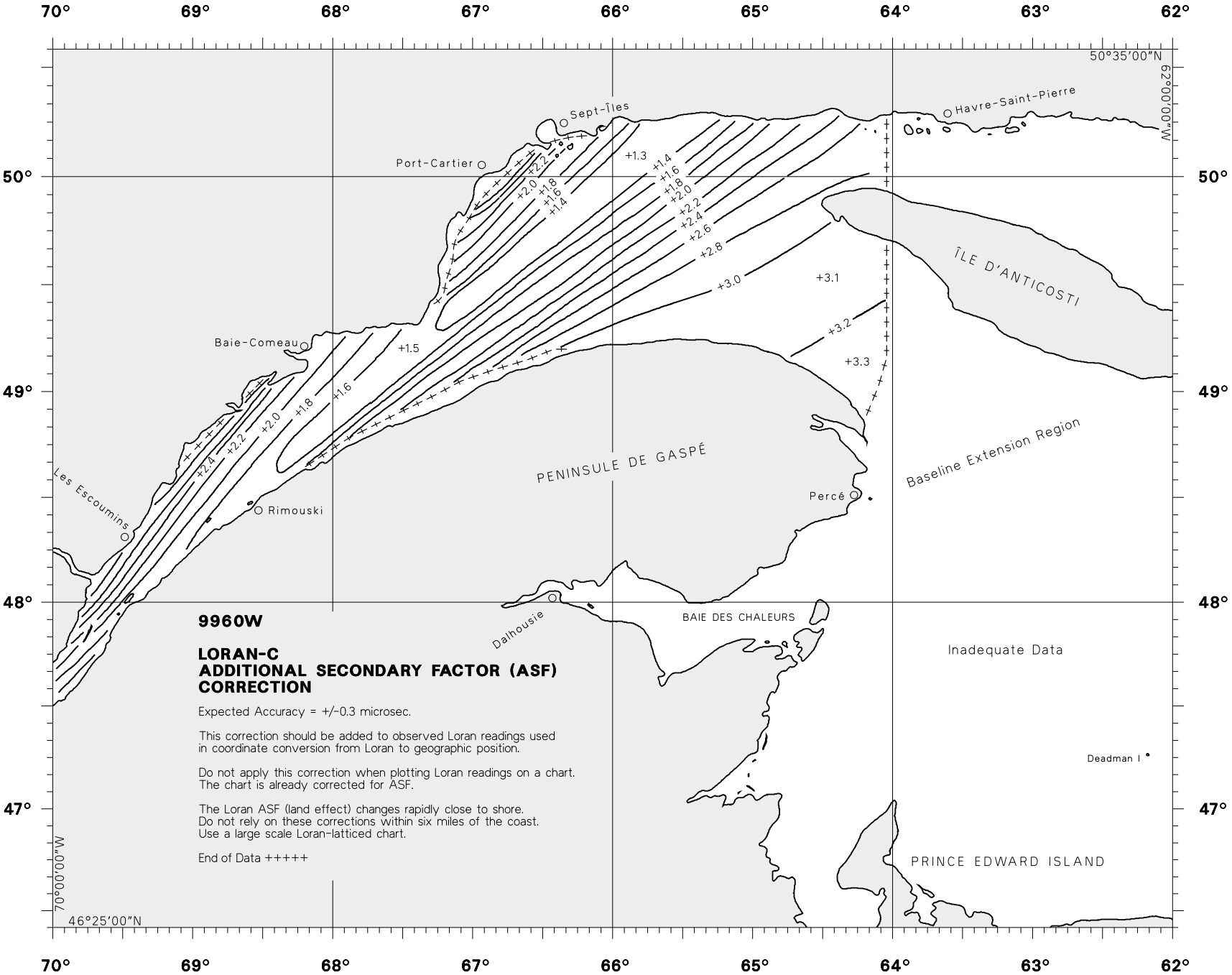
Do not apply this correction when plotting Loran readings on a chart. The chart is already corrected for ASF.

The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.

End of Data +++++

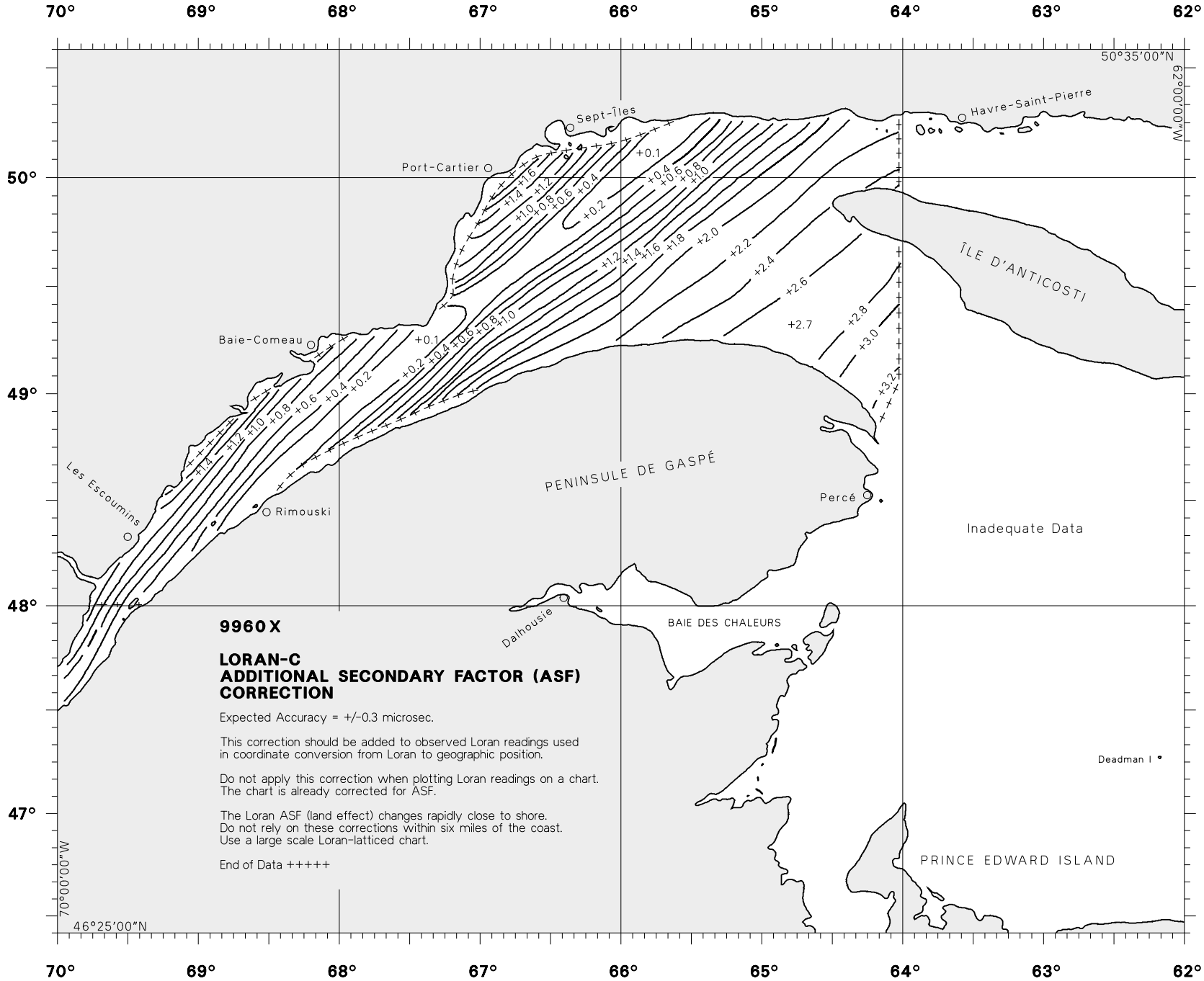
AREA 8

5930-Z


70°
69°
68°
67°
66°
65°
64°
63°
62°
50°35'00"N
62°00'00"W
50°
49°
48°
47°
70°00'00"W
46°25'00"N
Sept-Îles
Havre-Saint-Pierre
Port-Cartier
Baie-Comeau
Les Escoumins
Rimouski
Percé
Dalhousie
ÎLE D'ANTICOSTI
PENINSULE DE GASPÉ
BAIE DES CHALEURS
Baseline Extension Region
Inadequate Data
Deadman I
PRINCE EDWARD ISLAND
+1.3
+1.4
+1.5
+1.6
+1.8
+2.0
+2.2
+2.4
+2.6
+2.8
+3.0
+3.1
+3.2
+3.3
9960W
LORAN-C
ADDITIONAL SECONDARY FACTOR (ASF)
CORRECTION
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. The chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

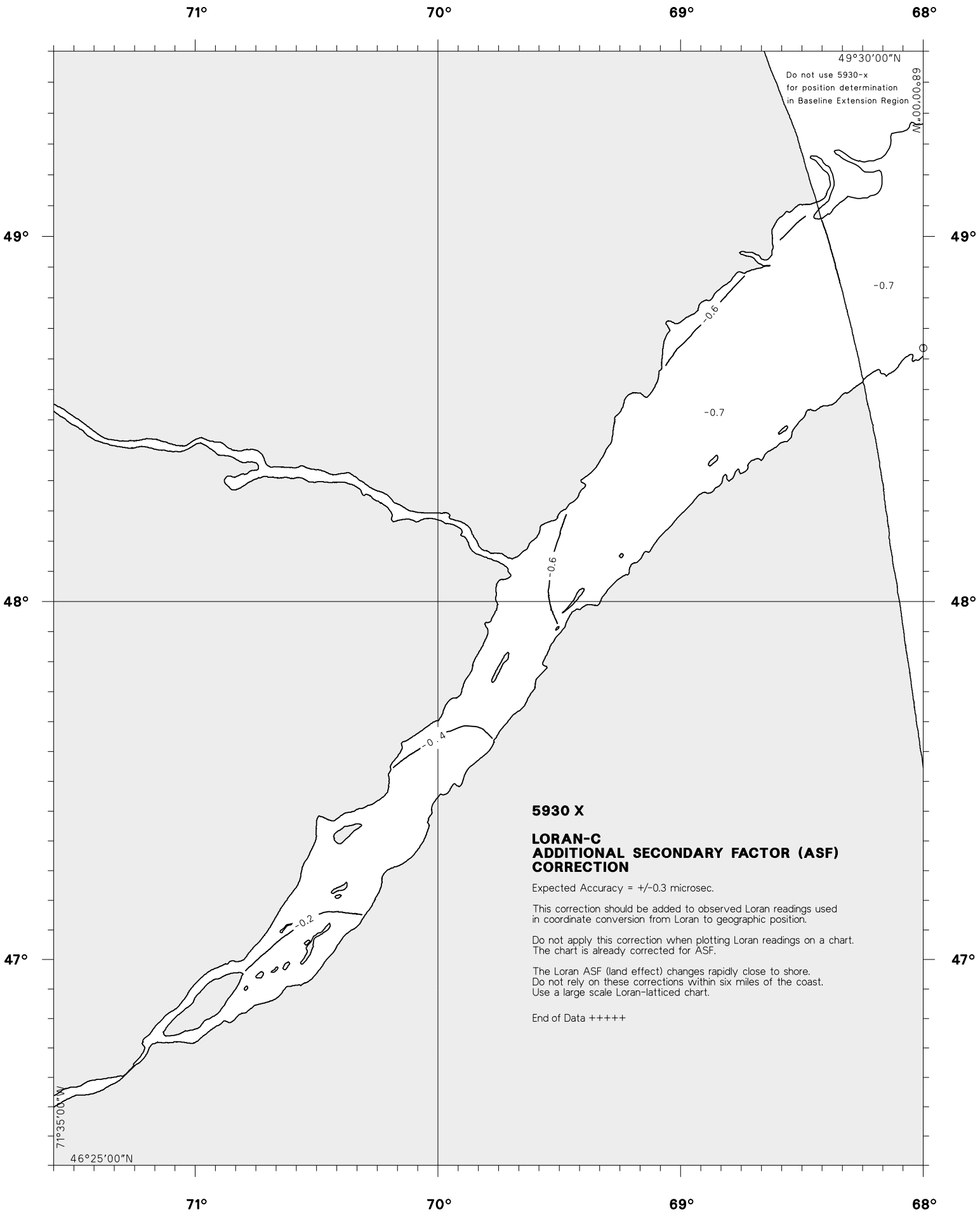
AREA 8

9960-W


70°
69°
68°
67°
66°
65°
64°
63°
62°
50°
49°
48°
47°
50°35′00″N
62°00′00″W
70°00′00″W
46°25′00″N
Sept-Îles
Havre-Saint-Pierre
Port-Cartier
Baie-Comeau
Les Escoumins
Rimouski
Percé
Dalhousie
ÎLE D'ANTICOSTI
PENINSULE DE GASPÉ
BAIE DES CHALEURS
PRINCE EDWARD ISLAND
Deadman I.
Inadequate Data
+0.1
+0.2
+0.4
+0.6
+0.8
+1.0
+1.2
+1.4
+1.6
+1.8
+2.0
+2.2
+2.4
+2.6
+2.7
+2.8
+3.0
+3.2
9960 X
LORAN-C
ADDITIONAL SECONDARY FACTOR (ASF)
CORRECTION
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. The chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++

AREA 8

9960-X



5930 X

LORAN-C
ADDITIONAL SECONDARY FACTOR (ASF)
CORRECTION

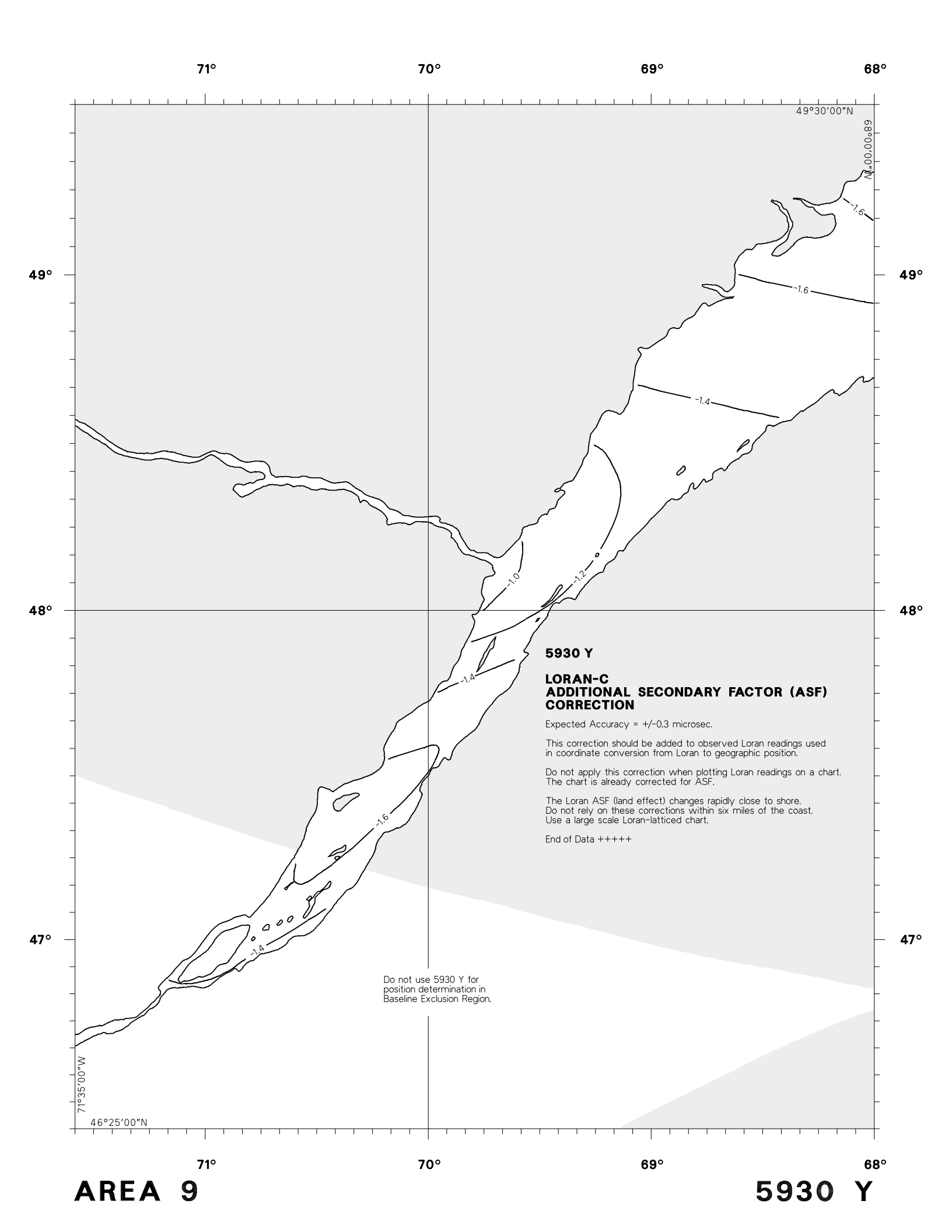
Expected Accuracy = +/-0.3 microsec.

This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.

Do not apply this correction when plotting Loran readings on a chart. The chart is already corrected for ASF.

The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.

End of Data +++++


71°
70°
69°
68°
49°30'00"N
68°00'00"W
49°
48°
47°
-1.6
-1.4
-1.0
-1.2
-1.6
-1.4
-1.6
-1.4
5930 Y
LORAN-C
ADDITIONAL SECONDARY FACTOR (ASF)
CORRECTION
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. The chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++
Do not use 5930 Y for position determination in Baseline Exclusion Region.
71°35'00"W
46°25'00"N

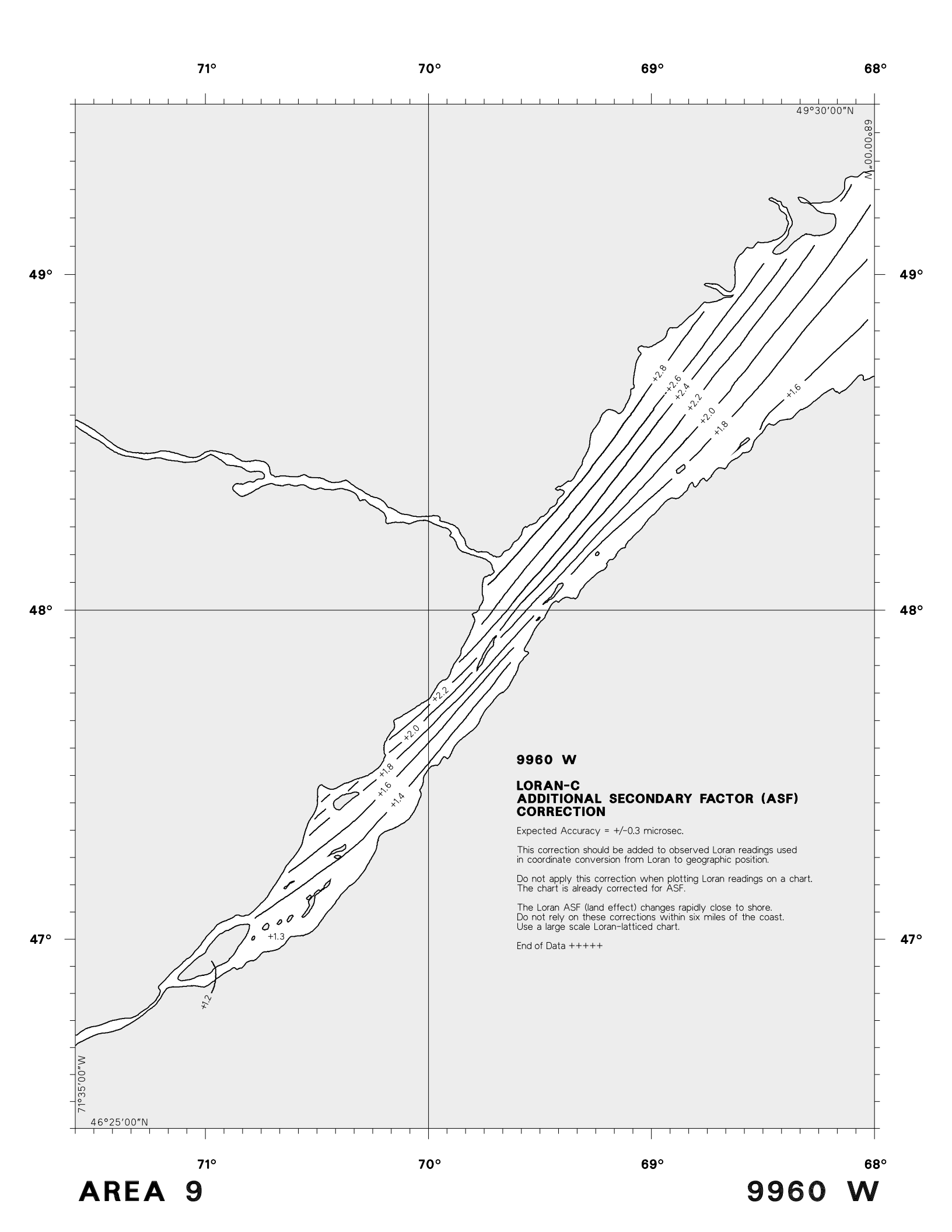
AREA 9

5930 Y

71°
70°
69°
68°
49°30'00"N
68°00'00"W
49°
48°
47°
-1.6
-1.4
-1.2
-1.0
-1.2
-1.4
-1.6
-1.8
-2.0
-2.2
-2.4
-2.6
-2.8
71°35'00"W
46°25'00"N
5930 Z
LORAN-C
ADDITIONAL SECONDARY FACTOR (ASF)
CORRECTION
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. The chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++
Do not use 5930-Z
for position determination
in Baseline Extension Region

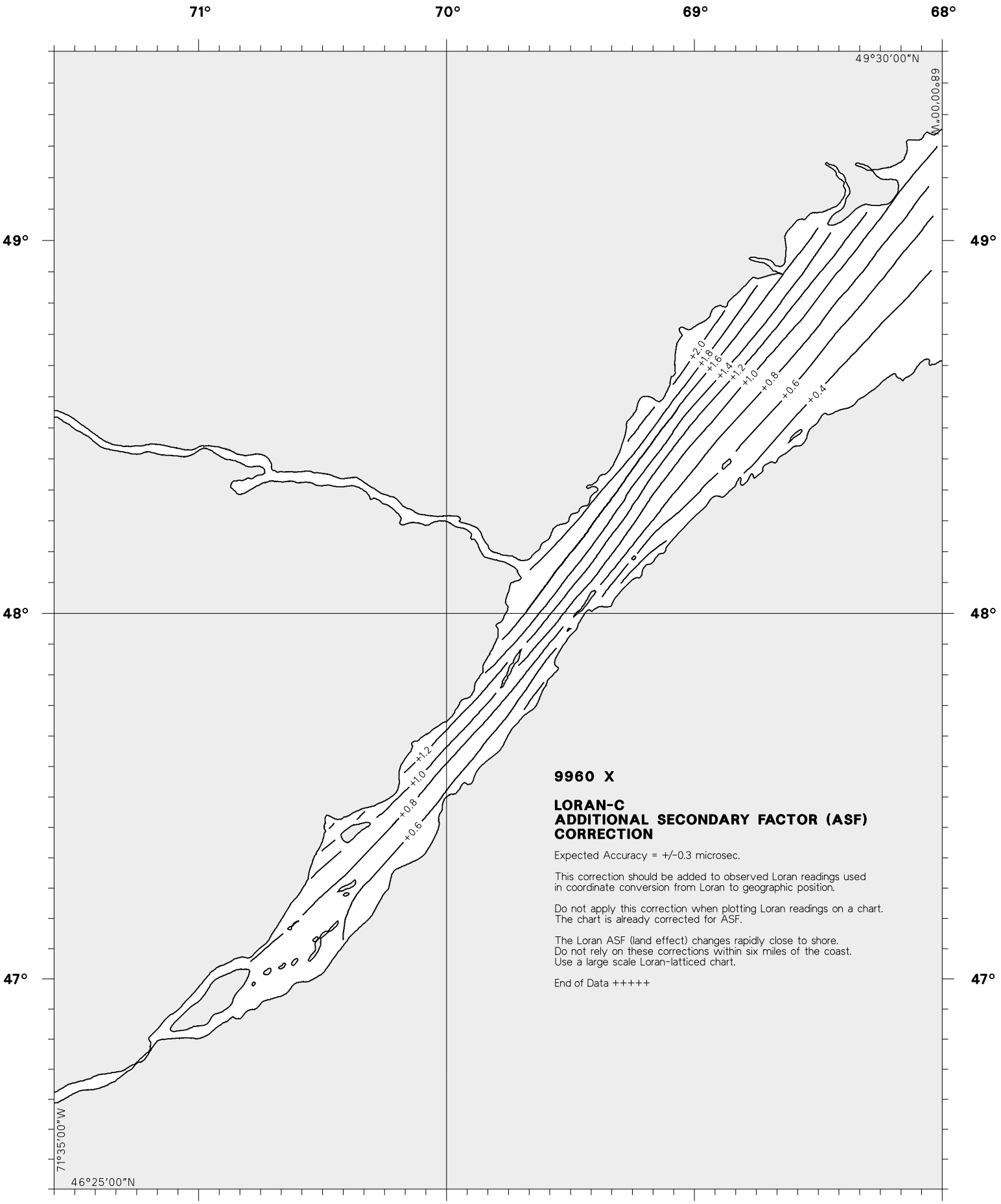
AREA 9

5930 Z


71°
70°
69°
68°
49°30'00"N
68°00'00"W
49°
48°
47°
+2.8
+2.6
+2.4
+2.2
+2.0
+1.8
+1.6
+2.2
+2.0
+1.8
+1.6
+1.4
+1.3
+1.2
9960 W
LORAN-C
ADDITIONAL SECONDARY FACTOR (ASF)
CORRECTION
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. The chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++
71°35'00"W
46°25'00"N

AREA 9

9960 W



9960 X

LORAN-C
ADDITIONAL SECONDARY FACTOR (ASF)
CORRECTION

Expected Accuracy = +/-0.3 microsec.

This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.

Do not apply this correction when plotting Loran readings on a chart. The chart is already corrected for ASF.

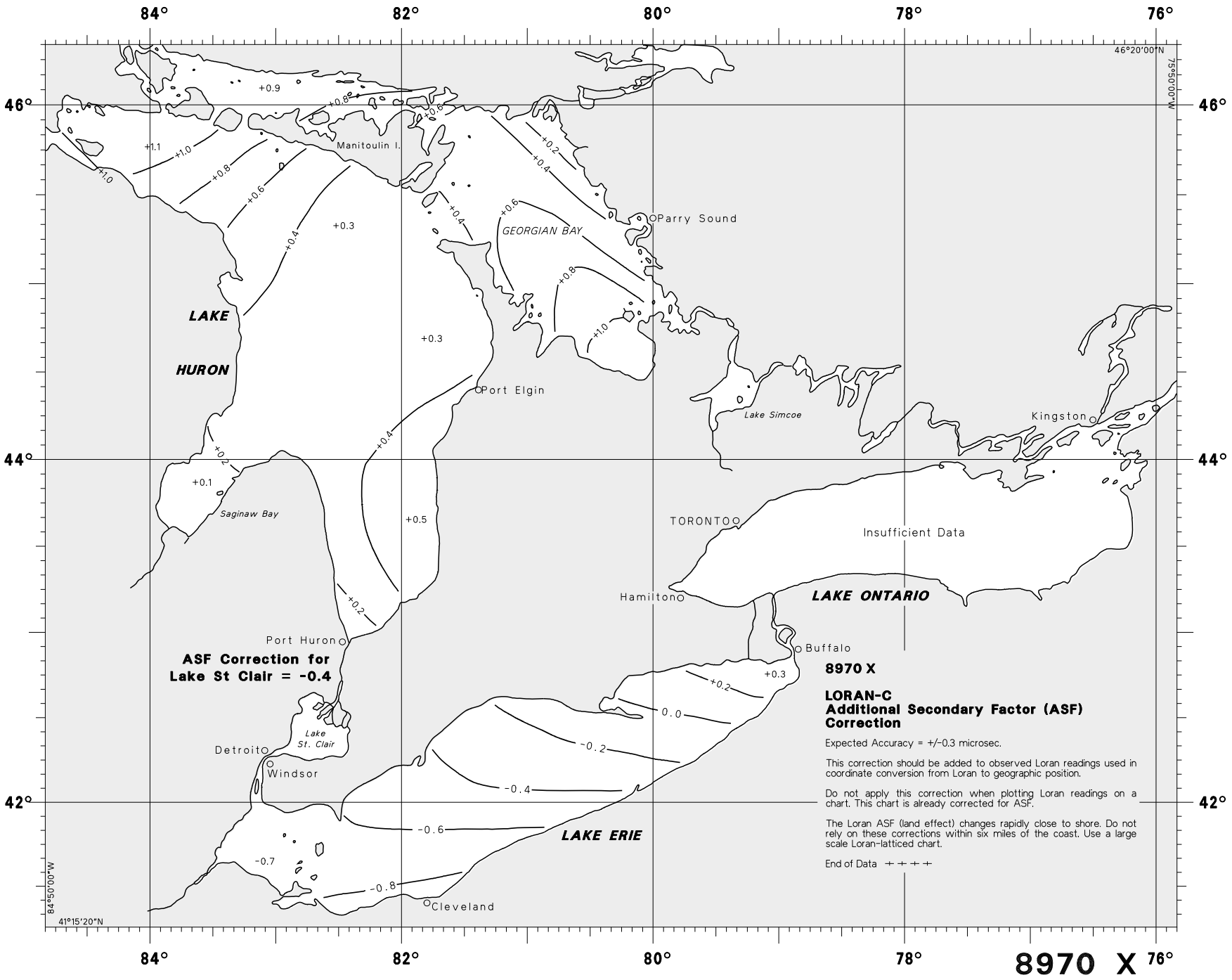
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.

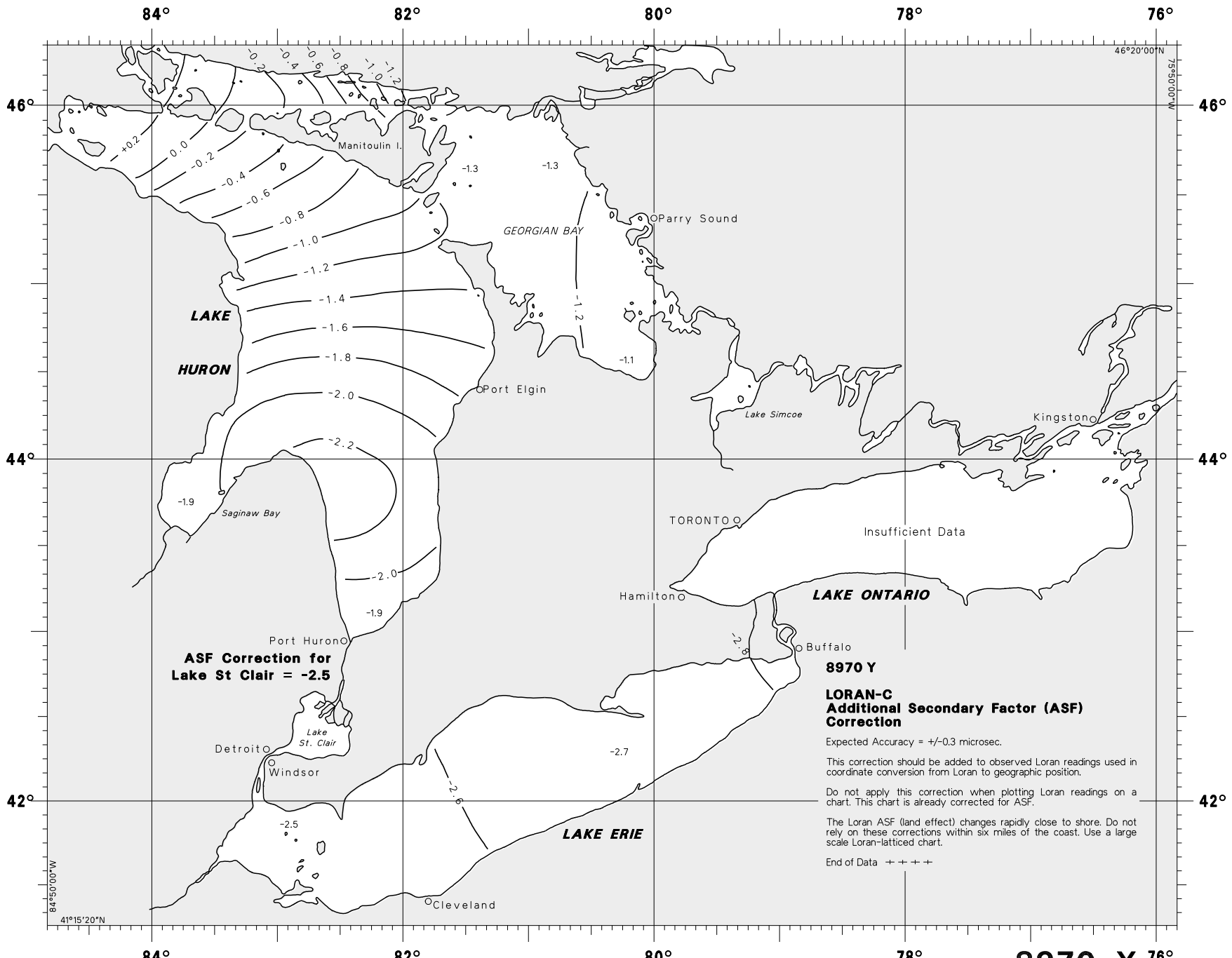
End of Data +++++

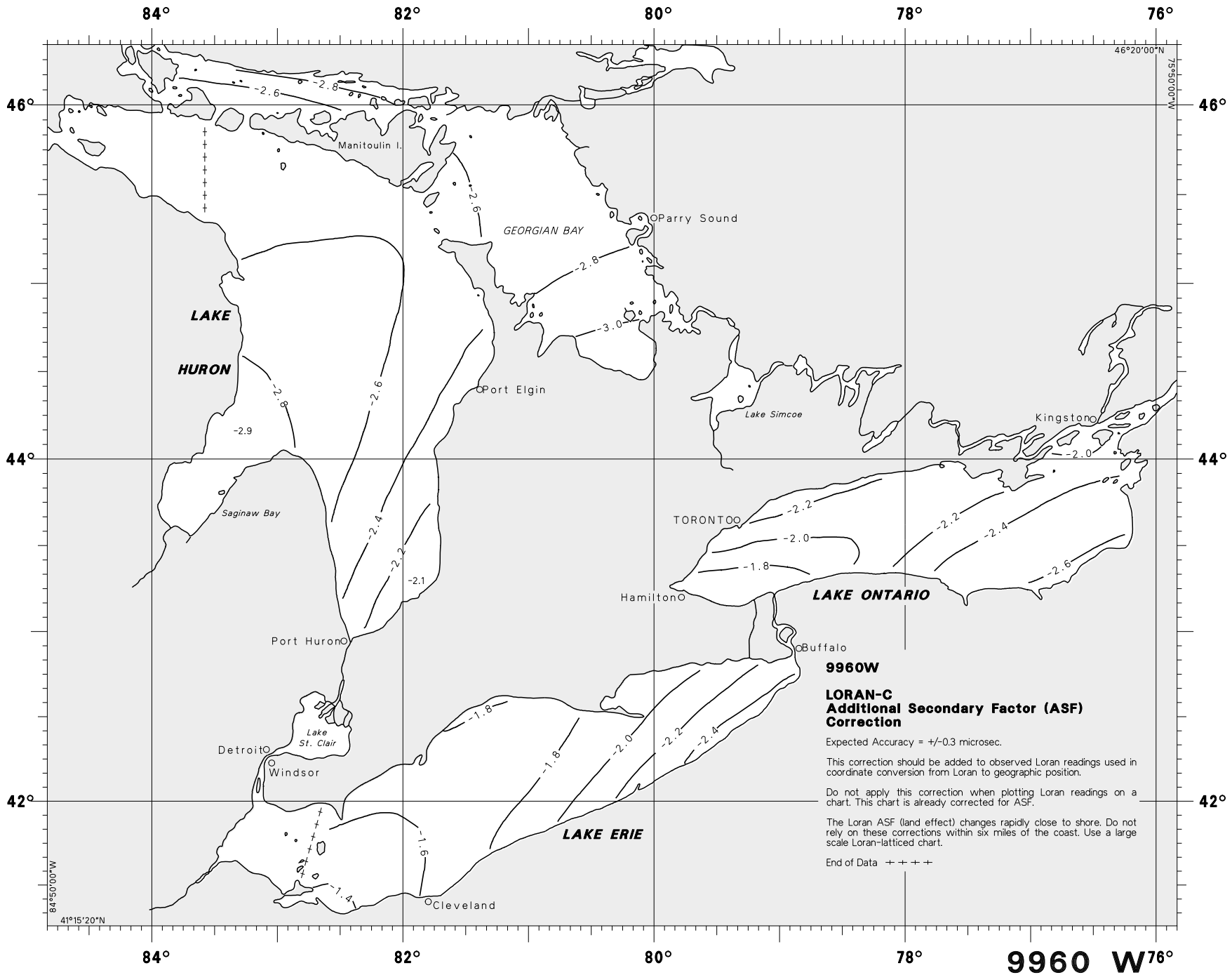
71° 70° 69° 68°

AREA 9

9960 X


84°
82°
80°
78°
76°
46°
44°
42°
46°20'00"N
75°50'00"W
84°50'00"W
41°15'20"N
+0.9
+0.8
+0.6
+1.1
+1.0
+0.8
+0.6
+0.4
+0.3
+0.2
+0.4
+0.6
+0.8
+1.0
+0.4
+0.3
+0.2
+0.1
+0.5
+0.2
Manitoulin I.
Parry Sound
GEORGIAN BAY
LAKE
HURON
Port Elgin
Lake Simcoe
Kingston
Saginaw Bay
TORONTO
Insufficient Data
Hamilton
LAKE ONTARIO
Buffalo
Port Huron
ASF Correction for
Lake St Clair = -0.4
Lake
St. Clair
Detroit
Windsor
+0.3
+0.2
0.0
-0.2
-0.4
-0.6
-0.7
-0.8
LAKE ERIE
Cleveland
8970 X
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data
8970 X


84°
82°
80°
78°
76°
46°
44°
42°
46°20'00"N
75°50'00"W
84°50'00"W
41°15'20"N
Manitoulin I.
GEORGIAN BAY
Parry Sound
LAKE
HURON
Port Elgin
Lake Simcoe
Kingston
TORONTO
Insufficient Data
Saginaw Bay
Hamilton
LAKE ONTARIO
Buffalo
Port Huron
ASF Correction for
Lake St Clair = -2.5
Lake
St. Clair
Detroit
Windsor
LAKE ERIE
Cleveland
8970 Y
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data
8970 Y



9960W

LORAN-C
Additional Secondary Factor (ASF) Correction

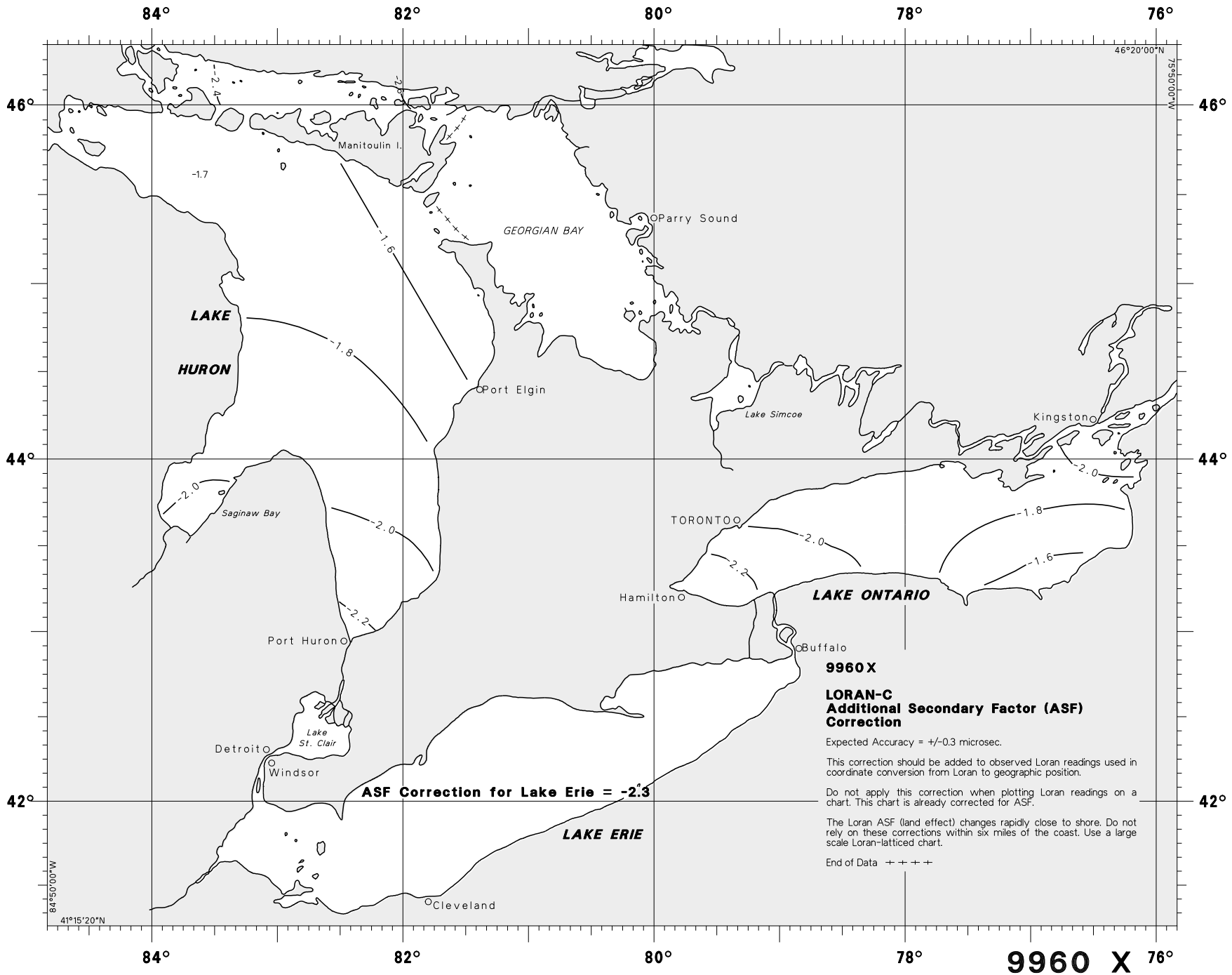
Expected Accuracy = +/-0.3 microsec.

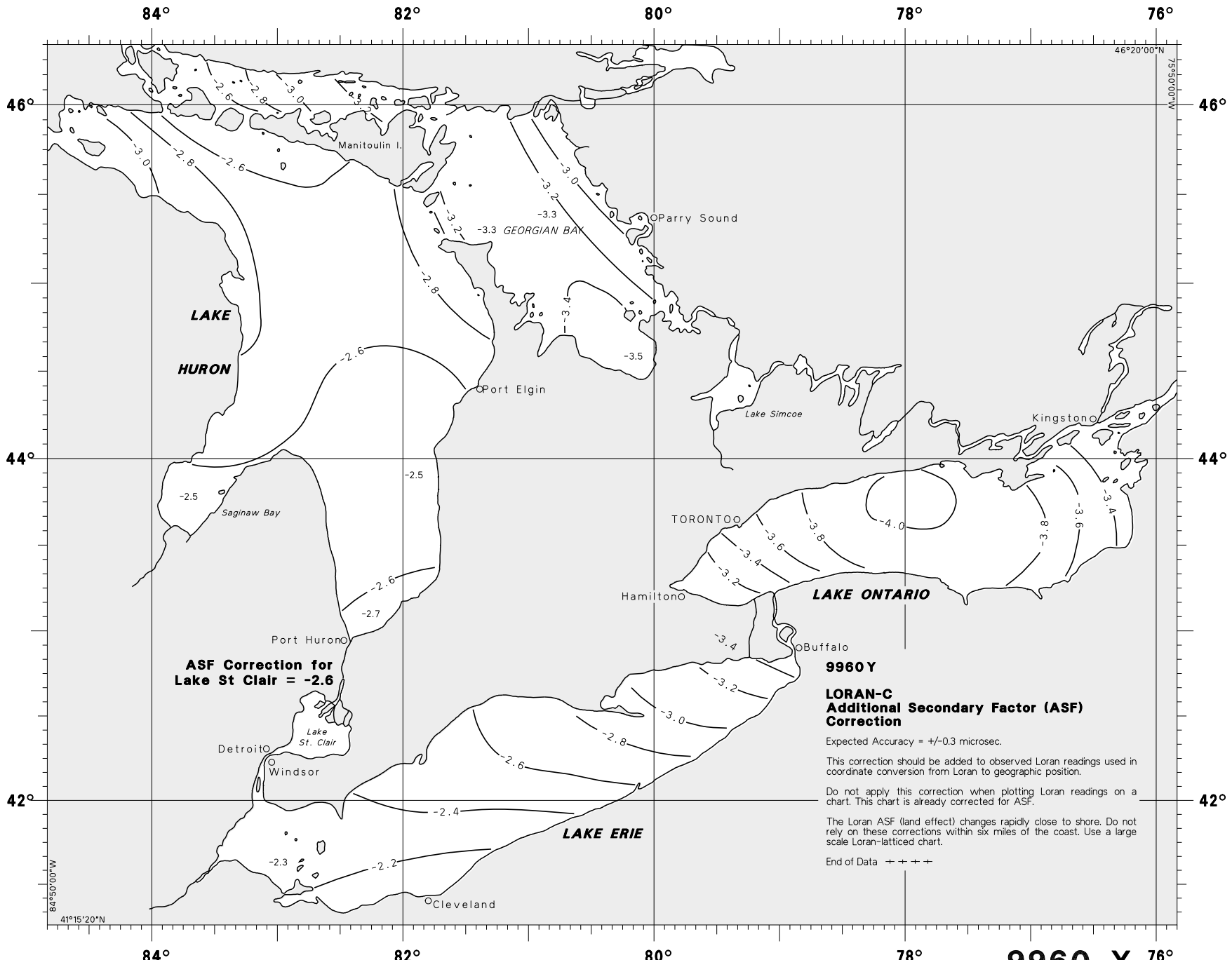
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.

Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.

The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.

End of Data + + + +


84°
82°
80°
78°
76°
46°
44°
42°
46°20'00"N
75°50'00"W
41°15'20"N
84°50'00"W
Manitoulin I.
-2.4
-2.6
-1.7
-1.6
-1.8
-2.0
-2.2
GEORGIAN BAY
Parry Sound
LAKE
HURON
Port Elgin
Lake Simcoe
Kingston
Saginaw Bay
TORONTO
Hamilton
LAKE ONTARIO
Buffalo
Port Huron
Lake
St. Clair
Detroit
Windsor
ASF Correction for Lake Erie = -2.3
LAKE ERIE
Cleveland
9960X
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data
9960 X



9960 Y

LORAN-C
Additional Secondary Factor (ASF) Correction

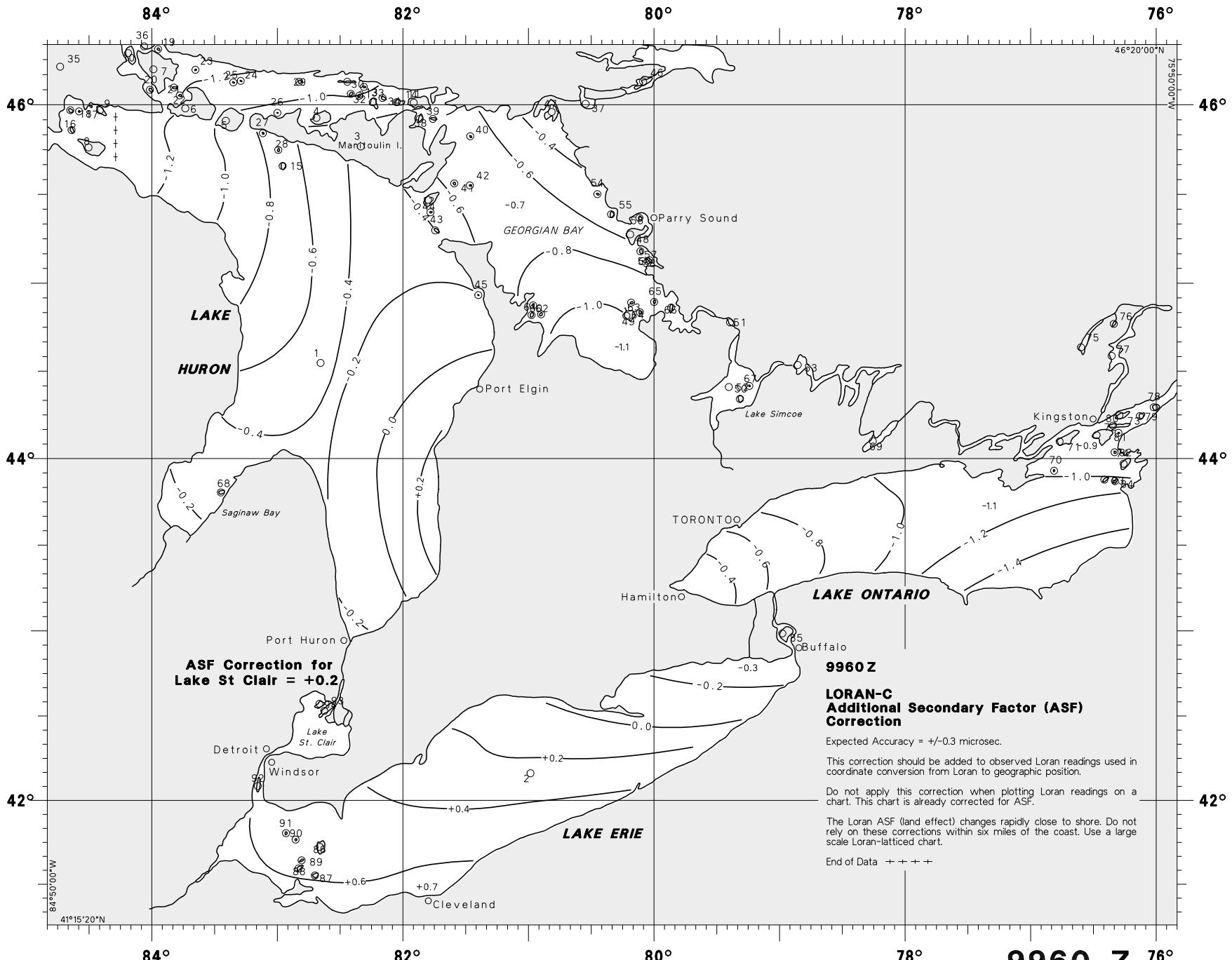
Expected Accuracy = +/-0.3 microsec.

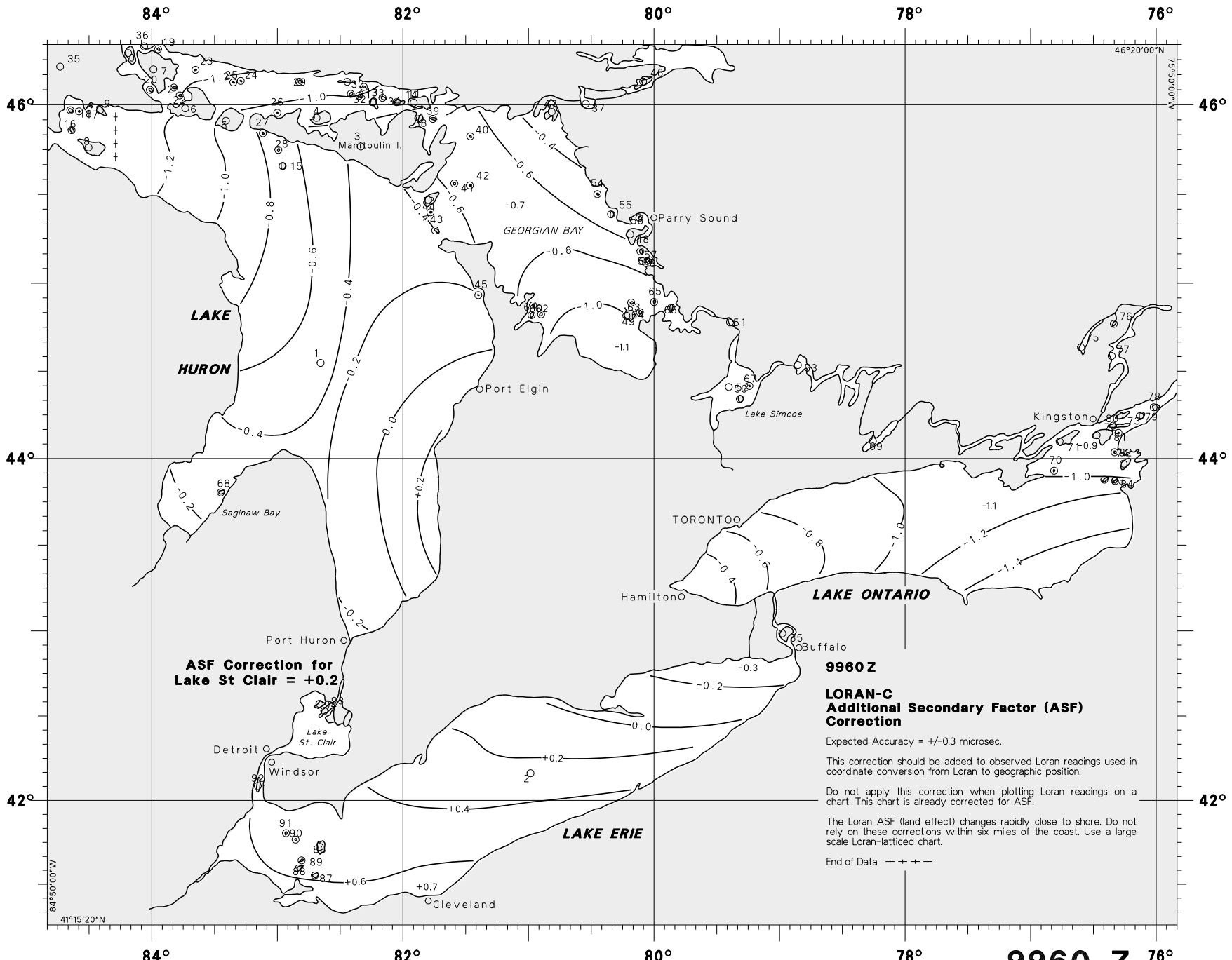
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.

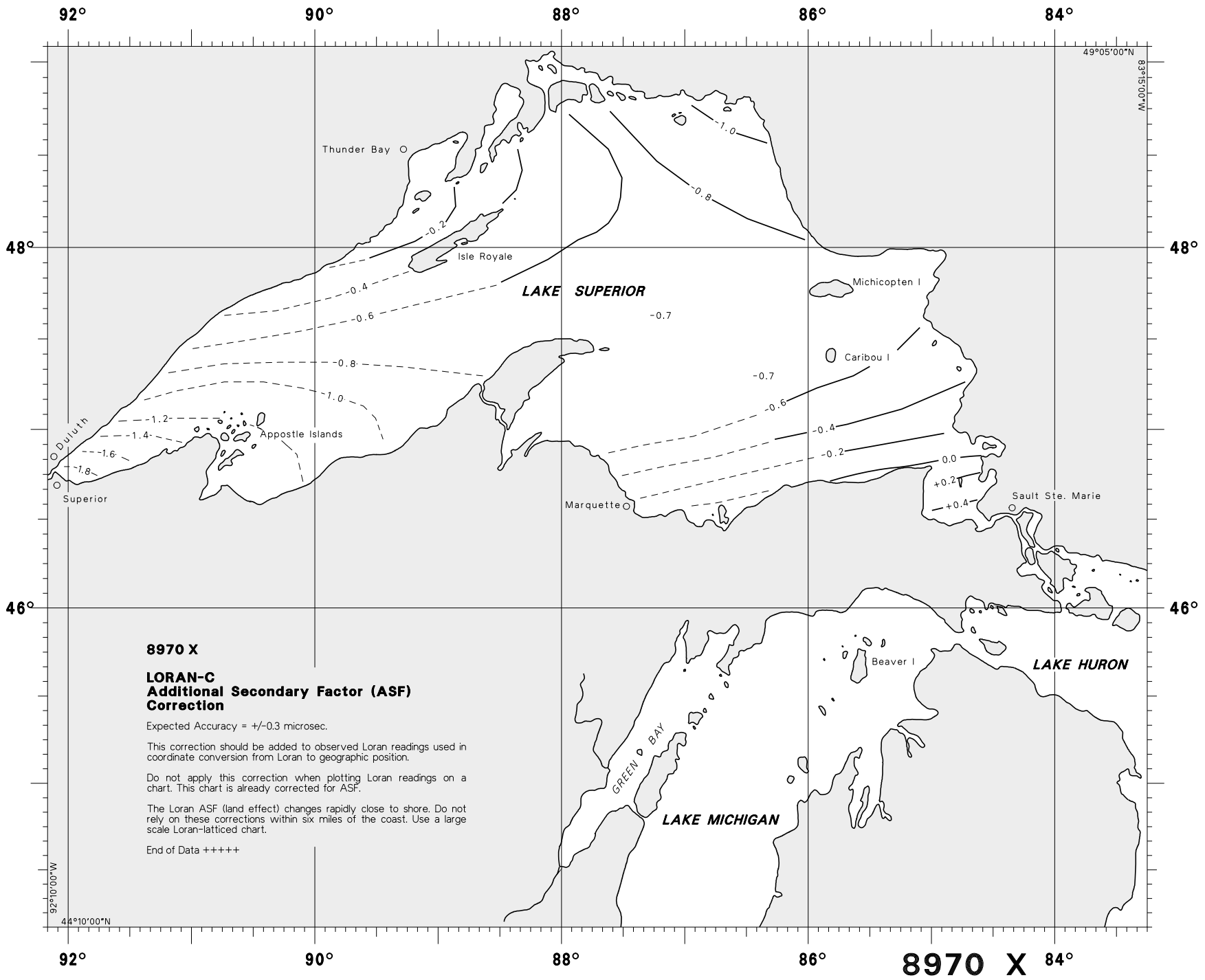
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.

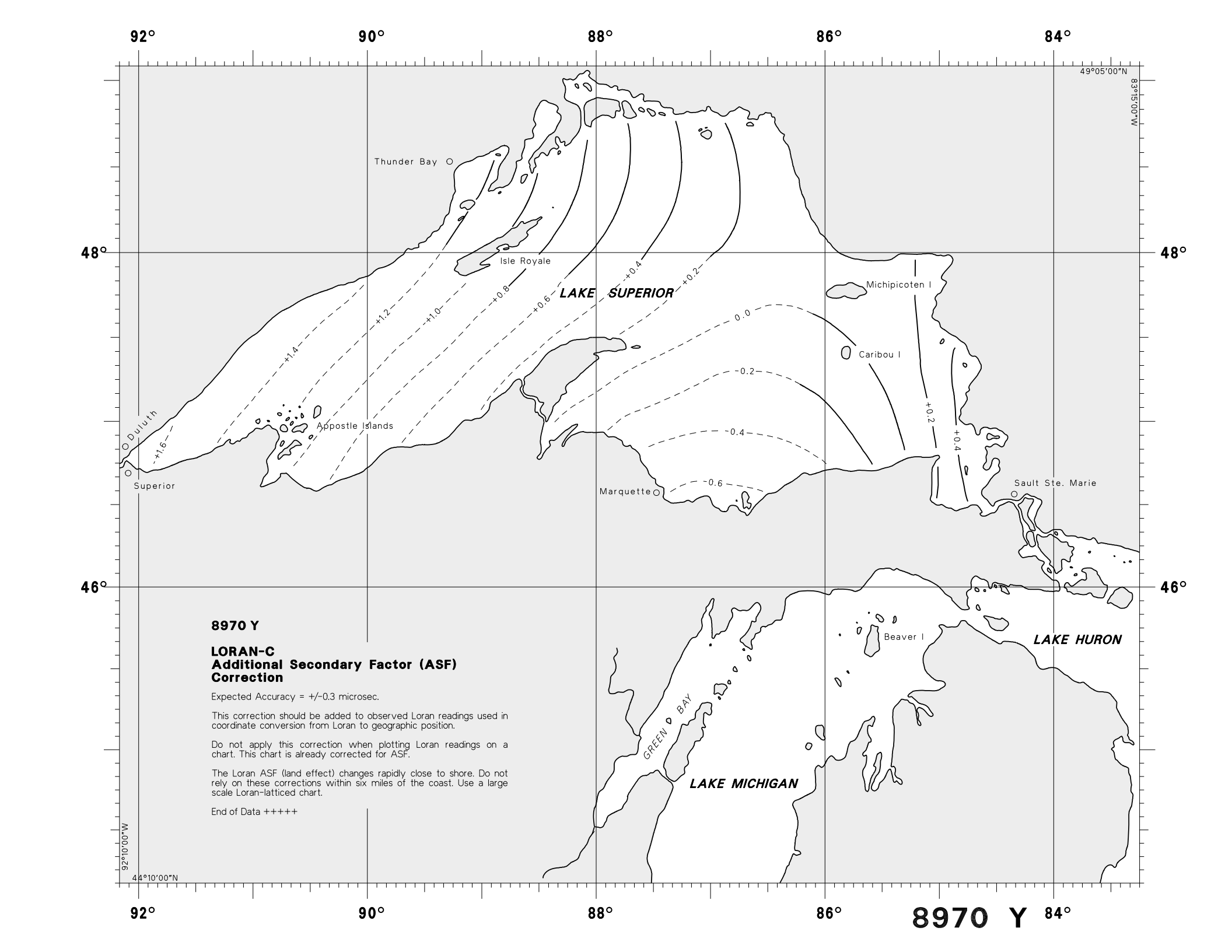
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.

End of Data + + + +


84°
82°
80°
78°
76°
46°
44°
42°
46°20'00"N
75°00'00"W
84°50'00"W
41°15'20"N
LAKE
HURON
GEORGIAN BAY
LAKE ONTARIO
LAKE ERIE
Lake Simcoe
Lake St. Clair
Saginaw Bay
Manitoulin I.
Parry Sound
Port Elgin
Kingston
TORONTO
Hamilton
Buffalo
Port Huron
Detroit
Windsor
Cleveland
ASF Correction for
Lake St Clair = +0.2
9960 Z
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data
9960 Z


84°
82°
80°
78°
76°
46°
44°
42°
46°20'00"N
75°00'00"W
84°50'00"W
41°15'20"N
LAKE
HURON
GEORGIAN BAY
LAKE ONTARIO
LAKE ERIE
Lake Simcoe
Lake St. Clair
Saginaw Bay
Manitoulin I.
Parry Sound
Port Elgin
Kingston
TORONTO
Hamilton
Buffalo
Port Huron
Detroit
Windsor
Cleveland
ASF Correction for
Lake St Clair = +0.2
9960 Z
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data
9960 Z


92°
90°
88°
86°
84°
49°05'00"N
83°15'00"W
48°
46°
44°10'00"N
92°10'00"W
Thunder Bay
Isle Royale
LAKE SUPERIOR
Michicopten I
Caribou I
Duluth
Superior
Appostle Islands
Marquette
Sault Ste. Marie
Beaver I
LAKE HURON
GREEN BAY
LAKE MICHIGAN
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
-0.7
0.0
+0.2
+0.4
8970 X
LORAN-C
Additional Secondary Factor (ASF)
Correction
Expected Accuracy = +/-0.3 microsec.
This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.
Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.
The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.
End of Data +++++
8970 X



8970 Y

LORAN-C
Additional Secondary Factor (ASF)
Correction

Expected Accuracy = +/-0.3 microsec.

This correction should be added to observed Loran readings used in coordinate conversion from Loran to geographic position.

Do not apply this correction when plotting Loran readings on a chart. This chart is already corrected for ASF.

The Loran ASF (land effect) changes rapidly close to shore. Do not rely on these corrections within six miles of the coast. Use a large scale Loran-latticed chart.

End of Data +++++