

INTERROGATION DE NAVIGATION

<i>NOM</i>	<i>Cours : préparation de traversée</i>	20
<i>DUREE</i> 60 minutes	tout candidat pris en flagrant délit de fraude ou convaincu de tentative de fraude sera immédiatement exclu de la salle d'examen et risque l'exclusion temporaire ou définitive de toute école et d'une ou plusieurs sessions d'examen sans préjudice de l'application des sanctions prévues par les lois et règlements en vigueur réprimant les fraudes dans les examens et concours publics	

Le 18 juin entre 16h00 et 18h00 T_{cf} votre navire doit emprunter le passage de l'Ouest pour accoster à Eastern Port bâbord au quai de Estes Head. Le commandant vous demande préparer la navigation en eaux resserrées avec les contraintes suivantes :

- *draft* 13,1 m
- *speed* 11 nds
- *No Go Area* depth $\leq 1,1.draft$
- *Margin of Safety* depth $\leq 1,2.draft$
- *Under Keel Clearance* $\geq 15\%$ of maximum draft
- *le pilote sera déjà à bord lorsque vous arrivez sur cette carte*
- *hauteur d'eau* $\geq 2,2$ m entre 16h00 et 18h00 T_{cf}
- *vent* ENE force 5
- *mer* peu agitée
- *pression* 1015 hPa
- *PM Eastern Port* 14h00 T_{cf}

Hachurer sommairement les zones interdites.

Repérer les marges de sécurité par des lignes polygonales.

Choisir les segments de route-fond pour aller du bord de la carte jusqu'au quai et noter leur orientation.

Pour chaque waypoint, noter son nom et choisir un repère parallèle pour les routes avant et après.

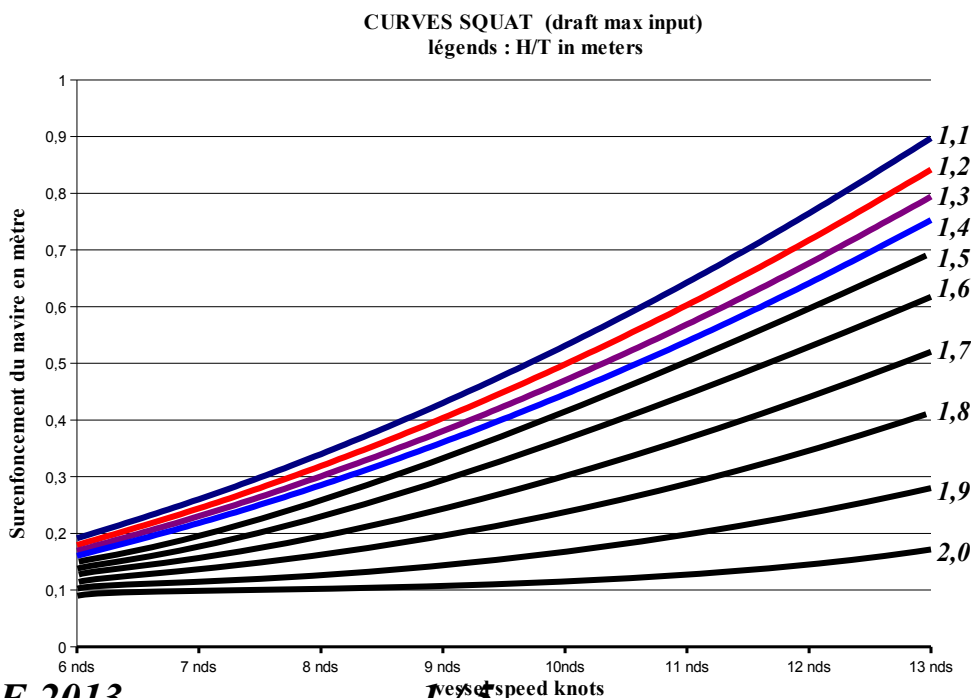
Noter les éventuelles réductions d'allure.

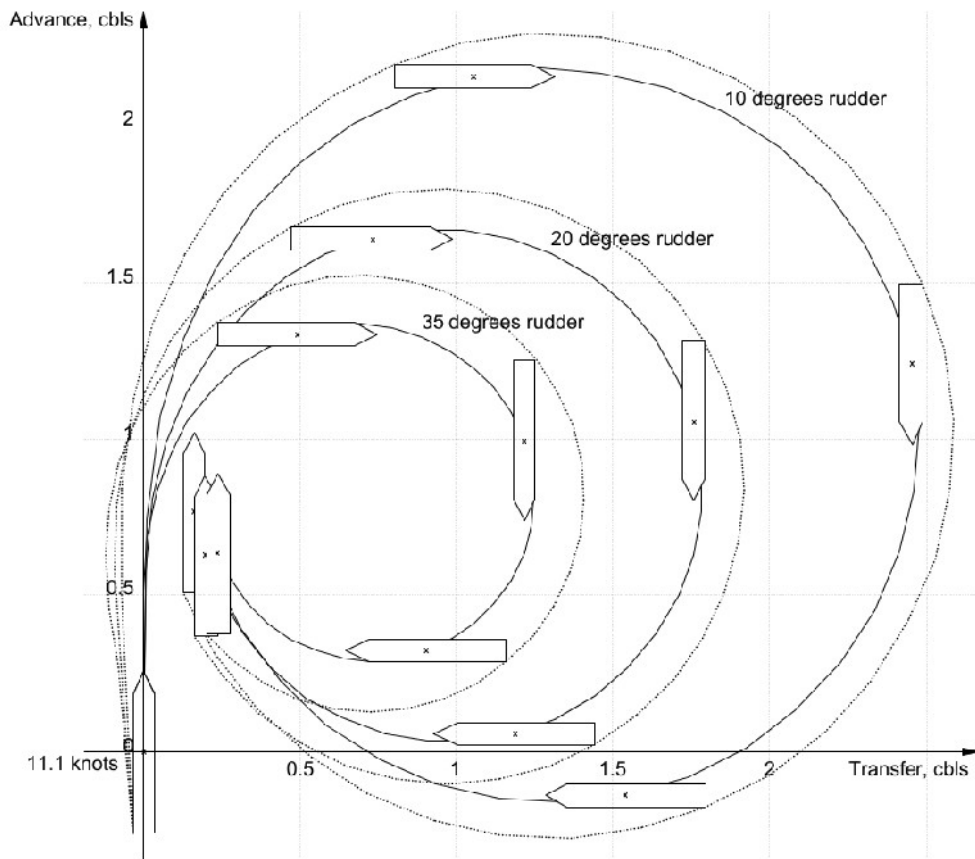
Placer les Wheel Over Point et repérer pour chacun un amer radar et un amer visuel.

Calculer le surenfoncement maximum le long de la route choisie.

Préciser les heures de passage aux points tournants pour un passage en haut de la carte à 16h00 T_{cf} .

Noter le point de non retour (s'il y a lieu).





cercles de giration

Change of Heading, deg	Time from W/O, min-s	Speed after turn, knots	Rate of turn, deg/min	Advance, cbls	Transfer, cbls
10	0-17	10.6	86.7	0.52	0.00
20	0-23	10.1	109.8	0.69	0.01
30	0-29	9.5	116.8	0.83	0.04
40	0-34	8.9	117.0	0.95	0.09
50	0-39	8.4	115.3	1.06	0.14
60	0-44	7.8	112.7	1.16	0.22
70	0-50	7.4	110.0	1.23	0.30
80	0-55	7.0	107.5	1.29	0.39
90	1-01	6.7	105.2	1.33	0.49
100	1-07	6.4	103.1	1.36	0.60
110	1-12	6.2	101.4	1.37	0.69
120	1-18	6.0	99.8	1.35	0.79
130	1-24	5.8	98.5	1.33	0.89
140	1-31	5.7	97.4	1.28	0.98
150	1-37	5.6	96.5	1.23	1.06
160	1-43	5.5	95.8	1.16	1.12
170	1-49	5.4	95.2	1.08	1.18
180	1-56	5.3	94.6	0.99	1.22
270	2-53	5.0	92.5	0.32	0.90
360	3-52	5.0	92.0	0.63	0.24

avance et transfert à 10 nds et 35° de barre

Extrait des instructions nautiques : U.S. Coast Pilot 1, Chapter 4 U.S. updated on 23 NOV 2014

Currents : For current predictions see the Tidal Current Tables. Tidal ranges within the area can be affected by atmospheric pressure. Low pressure days can result in tides up to 3 feet higher than predicted.

North Atlantic Right Whales : The Bay of Fundy is a feeding and nursery area for endangered North Atlantic right whales (peak season: July through October). Mother and calf pairs and groups of right whales may occur in the following areas: north along the New Brunswick coast, along the Campobello-White Horse coast, the Lubec Narrows, the Wolves and along the Grand Manan coast; close to shore from White Head to Swallowtail. (See North Atlantic Right Whales, indexed as such, chapter 3, for more information on right whales and recommended measures to avoid collisions with whales.)



Pilotage is compulsory.

Johnson Bay, on the northwest side of Lubec, is a well-sheltered and frequently used anchorage. The approach from southward is through Quoddy Narrows and Lubec Narrows, and the approach from northward is through Friar Roads. An aquaculture site consisting of several floating cages is in Johnson Bay centered at 44°51'48"N., 67°00'12"W.

Dudley Island, 0.3 mile northwestward of Popes Folly, is high and mostly grass covered. A causeway connects it with Treat Island, 0.2 mile northward.

Treat Island, largest of the islands between Lubec Narrows and Eastport, is high and grass-covered on the south end and wooded on the north end. Burial Islet, small and grass-covered, is 300 yards northwestward and bare. Gull Rock is 400 yards westward of Treat Island.

Estes Head Cargo Terminal is on the west side of Estes Head. The terminal can accommodate ships up to 900 feet. Depths of 64 feet have been reported alongside the pier.

Broad Cove, which makes into the south shore of Moose Island west of Eastport, is a good anchorage. The head of the cove is shoal for a distance of 0.2 mile.

Shackford Ledge, extending 0.3 mile southeast from Shackford Head, is marked at its southeastern end by a buoy. An aquaculture farm marked by private buoys is near the center of the entrance to the cove.

Deep Cove is the first cove to the northwestward of Broad Cove on Moose Island. A wharf in the cove is in ruins and is no longer usable. A T-shaped pier about 400 feet in length, with floating docks in the summer and a reported depth of 12 feet alongside its outer face, is on a former seaplane launching ramp on the southeastern side of the cove. It is used by an adjacent marine vocational school. A 60-ton travel lift and a repair facility for small vessels are available.

Snug Cove, on the west side of Campobello Island eastward of Dudley Island, is of no importance except to small craft. Between Snug Cove and Dudley Island is an unmarked rock covered 14 feet. Vessels entering Friar Roads from the southward pass on either side of the unmarked rock.

Friars Head, to the north of Snug Cove, is on the south side of the entrance to Friars Bay, on the western side of Campobello Island. Friars Bay is used as an anchorage, and on its northern side is the village of Welshpool, where small craft can find protection in all weather at the government wharf, which has a 215-foot face with 14 feet reported alongside.

For a distance of 1.3 miles from Welshpool, the west shore of Campobello Island continues northward to Bald Head, a point just south of which is a prominent circular hill 101 feet high. From Bald Head the coast trends northeastward 0.6 mile to Man of War Head, which is on the south side of the entrance to Harbour De Lute. The L-shaped breakwater-wharf, in the cove near the northwestern end of Man of War Head, has depths of 5 to 10 feet reported along the inner side of its north face.

A light, 23 feet above the water, is shown from a skeleton tower at the outer end of the breakwater. The basin behind the breakwater has been dredged to depths of 7 to 5 feet.

Harbour De Lute is used as an anchorage by small vessels, but those without local knowledge should not go beyond the 9-foot spot, known as Racer Rock, in the middle of the entrance to the inner harbor. The inner harbor is obstructed by fish weirs. Indenting the north shore of Harbour De Lute east of Windmill Point, which is on the north side of the entrance, are four coves that are of little importance except to the fishing industry.

In Curry Cove, the northernmost, there is an L-shaped wharf with reported depths of 5 feet along the outer and inner sides of its 150-foot outer face. The wharf is unsafe during strong southwest winds.

The harbors on the west side of Campobello Island are used as harbors of refuge by fishing vessels during heavy easterly gales.

Friar Roads (Eastport Harbor), which lies between Moose Island and Campobello Island, is approached from northward through Head Harbour Passage and from southward through Quoddy Narrows and Lubec Narrows. Friar Roads is the principal approach to Passamaquoddy Bay and St. Croix River.

Eastport, a city situated on the hilly east side of Moose Island, is the easternmost deepwater port in the United States. The docks of the port are along the waterfront on the east shore of the island. The principal industries are forest products, lobstering, scallop harvesting, farming and harvesting salmon, and tourism.

Prominent features

The principal landmarks are a blue standpipe, the customhouse with its square tower, and the spire of a church about 300 yards west-southwest of the customhouse. Numerous concrete pylon boundary markers on the tops of the hills are also conspicuous.

A dredged small-craft harbor for commercial and pleasure craft is off the customhouse in Eastport the harbor is protected on its northerly and easterly sides by a steel piling, solid fill, L-shaped breakwater-wharf onto which fishing vessels can unload their catch into trucks. A town float is on the inner side of the breakwater at the north end of the harbor. Boats usually moor along the inner face of the breakwater. In fair weather, berthing is available along the east and north seaward faces of the breakwater. Electricity is available at all the berths, and diesel fuel can be delivered by truck on short notice. Gasoline and diesel fuel are also available just to the north at the Eastport Chowder House dock. The breakwater is floodlighted at night. The harbormaster may be contacted through the town hall. A small-craft launching ramp is in the northwest corner of the harbor. Additional small-craft berths are available 0.2 mile north of the harbor.

Deep-draft vessels may anchor about 0.5 mile off the town with Cherry Island bearing 017° about 1.1 miles distant. The bottom here is broken and rocky, and the tidal currents are strong. This anchorage is not recommended in easterly weather, when more favorable conditions may be found on the opposite side of the bay off Friars Bay or off Broad Cove on the west side of the island. Anchorage in Deep Cove is not recommended due to submarine cables.

Dangers

Clark Ledge, marked by a daybeacon, is about 0.5 mile north of the breakwater. Strong rotating currents in the vicinity commonly set vessels onto Clark Ledge.

Dog Island, 0.3 mile northwestward of Clark Ledge, has a grassy top and a shelving ledge extending about 100 yards off the high-water line of the island. Dog Island Light DI (44°55.1'N., 66°59.3'W.), 35 feet above the water, is shown from a skeleton tower with a square green daymark. A red sector in the light covers Clark Ledge; a sound signal is at the light. Whirlpools and eddies that are dangerous at times for small

boats are encountered between Dog Island and Deer Island Point, 0.5 mile northeastward. They are reported to be worst about 3 hours after low water. Old Sow, the largest whirlpool in the Western Hemisphere, occurs at this location. Transit of large ships through this area is usually planned for periods of relatively slack current. For current predictions see the Tidal Current Tables.

Weather, Eastport and vicinity

July is the warmest month in Eastport with an average high of 72°F (22.2°C) and an average minimum of 53°F (11.7°C). January is the coolest month with an average high of 30°F (-1.1°C) and an average minimum of 15°F (-9.4°C). The highest temperature on record for Eastport is 96°F (35.6°C) recorded in July 1963 and the lowest temperature on record is -23°F (-30.6°C) recorded in December 1933. Every month, except July, has seen temperatures below 40°F (4.4°C) and every month except June, July, and August has recorded temperatures below freezing (0°C).

The average annual precipitation for Eastport is 41.3 inches (1049 mm) with an annual maximum during early winter and a minimum during mid-summer. Precipitation falls on about 332 days each year. The wettest month is November with 4.5 inches (114 mm) and the driest, July and August, average only 3.1 inches (79 mm). Snow falls on about 93 days each year and averages about 69 inches (1753 mm) each year. December through March each average greater than a foot (305 mm) per year while February averages 18 inches (457 mm). One-foot (305 mm) snowfalls in a 24-hour period have occurred in each month December through April. Snow has fallen in every month except June through September. Fog is present on average 112 days each year with a minimum occurrence during mid-winter and a maximum during July and August.

Pilotage, Eastport, Cobscook Bay and vicinity

Pilotage is compulsory for all foreign vessels, and for U.S. vessels registered in foreign trade with a draft of 9 feet or more. Pilotage is optional for fishing vessels and vessels powered predominately by sail.

Two pilot associations serve the area:

Quoddy Pilots, USA, Eastport, ME; telephone 207-263-6403; FAX 207-733-0936; or e-mail qpilot@maineline.net.

Eastport Pilots USA, RRD#1, Box 12A, Gleason Cove Road, Perry, ME 04667; telephone 207-853-6020, FAX 207-853-6231; or e-mail gmorrison5@prexar.com.

Towage

Two tugs up to 2,400 hp are available at Eastport.

Western Passage is between Moose Island and Deer Island, the next large Canadian island northwestward of Campobello Island, and connects Friar Roads with Passamaquoddy Bay.

Johnson Cove and **Kendall Head** are on the northeast side of Moose Island. An elevated tank painted silver just southward of Johnson Cove, a blue elevated tank and a ground tank, close northwestward of it, at **Quoddy** (Quoddy Village), are all prominent. Earth and rock causeways block the shallow passages north and south of Carlow Island, which is 0.2 mile northwest of Moose Island and 0.6 mile south of Pleasant Point. A prominent red brick Indian mission church with square belfry and numerous houses of the Indian reservation are on Pleasant Point.

Frost Island and **Frost Ledge** are at the northern end of Western Passage and between Pleasant Point and Gleason Cove, 0.9 mile to the northward. Frost Ledge extends 0.4 mile offshore and is marked by a bell buoy. Between Carlow Island and Frost Island, foul ground extends as much as 400 yards from shore. The northeastern, or Deer Island, shore of Western Passage is clear; indentations are Cummings Cove and Clam Cove.



UNITED STATES AND CANADA - EAST COAST
MAINE - NEW BRUNSWICK

GRAND MANAN CHANNEL NORTHERN PART

Mercator Projection
Scale 1:50,000 at Lat. 44°50'

North American Datum of 1983
(World Geodetic System 1984)

DEPTHS IN METERS AND DECIMETERS
AT MEAN LOWER LOW WATER IN U.S. WATERS AND
AT LOWEST NORMAL TIDE IN CANADIAN WATERS

Additional information can be obtained at nauticalcharts.noaa.gov.

HEIGHTS

In U.S. waters, elevations of rocks, lights and landmarks and clearances of bridges and overhead cables are given in meters and refer to Mean High Water, while contour and summit elevations are referenced to Mean Sea Level. In Canadian waters all elevations and clearances are referenced to Higher High Water Large Tides.

AUTHORITIES

Hydrography and topography by the Canadian Hydrographic Service with additional data from the National Ocean Service, Coast Survey, International Boundary Commission, U.S. Geological Survey, Corps of Engineers, U.S. Coast Guard and Canadian Ministry of Transport.

DEPTHS

Depths in U.S. waters are referred to Mean Lower Low Water Datum; depths in Canadian waters are referred to Lowest Normal Tide. The difference in datums means that depths in Canadian waters will appear shallower by approximately 1 meter than in U.S. waters. Refer to the tides and Current Tables of the appropriate country when crossing the International Boundary Line. Also see Note B for depth information concerning Lubec Channel and south of Quoddy Narrows.

For Symbols and Abbreviations see Chart No. 1

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.286' northward and 2.086' eastward to agree with this chart.

TIDAL INFORMATION

NAME	PLACE (LAT/LONG)	Height referred to datum of soundings (MLLW)		
		Mean Higher High Water	Mean High Water	Mean Low Water
Eastport, ME	(44°54'N/66°59'W)	5.9	5.7	0.1
Washcoot, N.B.	(44°53'N/66°57'W)	---	6.5	0.9
West Quoddy Head, ME	(44°49'N/66°59'W)	5.0	4.9	0.1
North Head, N.B.	(44°46'N/66°45'W)	---	6.2	0.9

NOTE: The following levels for Campobello Island and Grand Manan Island are based on the Canadian Datum (Lowest Normal Tide)
Dashes (---) located in datum columns indicate unavailable datum values for a tide station. Real-time water levels, tide predictions, and tide current predictions are available on the Internet from <http://idesandocuments.nova.gov>. (May 2013)

COBSCOOK BAY TURBINE

Vessels entering and departing Cobscob Bay, Maine should exercise caution in the area of an underwater turbine located in position 44°54'36"N 67°02'45"W. All vessels and persons are advised to avoid anchoring, diving, dredging, dumping, fishing, trawling, laying cable, or conducting salvage operations in this area.

CAUTION
SUBMARINE PIPELINES AND CABLES
Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:
Pipeline Area
Cable Area

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling. Covered wells may be marked by lighted or unlighted buoys.

FISH TRAPS
Numerous uncharted fish traps may exist shoreward of the 10 meter curve.

AIDS TO NAVIGATION

Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation. See Canadian List of Lights, Buoys and Fog Signals for information not included in the U.S. Coast Guard Light List.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners. During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 1. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 1st Coast Guard District in Boston, MA or at the Office of the District Engineer, Corps of Engineers in Concord, MA. Refer to charted regulation section numbers.

BAY OF FUNDY VESSEL TRAFFIC SERVICES

Traffic Services calling-in point with number; arrow indicates direction of vessel movement. The international boundary is the outer limit of Canada's Bay of Fundy Vessel Traffic Services zone. Vessels must report on entering or leaving the zone.

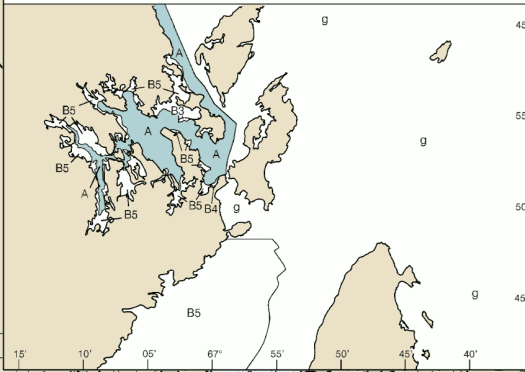
For additional information concerning these services see the Canadian publication *Radio Aids to Marine Navigation (Atlantic, St. Lawrence, Great Lakes, Lake Winnipeg and Eastern Arctic)*, Part 3.

NOTE C

Mariners are cautioned that ferries may deviate from their published standard routes due to inclement weather, traffic conditions, navigational hazards, or other emergency situations.

SOURCE

Symbol	Year	Survey Type	Coverage
A	1990 - 2010	NOS Surveys	full bottom coverage
B3	1940 - 1969	NOS Surveys	partial bottom coverage
B4	1900 - 1939	NOS Surveys	partial bottom coverage
B5	Pre - 1900	NOS Surveys	partial bottom coverage
G		Canadian Surveys	partial bottom coverage



L3A

18/06 16⁰⁰ - 18⁰⁰ Tef

$H \geq 2,2 \text{ m}$

1015 hPa $\rightarrow -2 \text{ m}$

$H \geq 2,18 \text{ m}$

NGA : 1.1. TE = 14,41 m

- $H_{\text{sonde}} = -2,18 \text{ m}$

sonde NGA $\geq 12,23 \text{ m}$

MoS = 1.2. TE = 15,72

- $H_{\text{sonde}} = -2,18$

sonde MoS $\geq 13,54 \text{ m}$

\rightarrow ligne de sonde 20 m

$H \geq 24,5 \text{ m}$ jusqu'au quel donc surestimation négligeable



UNITED STATES AND CANADA - EAST COAST
MAINE - NEW BRUNSWICK

GRAND MANAN CHANNEL NORTHERN PART

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For Symbols and Abbreviations see Chart No. 1

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TIDAL INFORMATION

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(May 2013)

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for changing. Surveys have been indicated in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

SOURCE	Full bottom coverage
A 1959 - 2010	Full bottom coverage
B3 1940 - 1959	partial bottom coverage
B4 1900 - 1939	partial bottom coverage
B5 Pre - 1900	partial bottom coverage
G	Canadian Surveys

