



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

**SECTOR 3 — CHART INFORMATION**

## SECTOR 3

### SOUTHEAST COAST OF NOVA SCOTIA—PENNANT POINT TO CAPE CANSO

**Plan.**—This sector describes the SE coast of Nova Scotia from Pennant Point, the W entrance point of Sambro Harbour, to Cape Canso, the W entrance point of the Strait of Canso. The sector includes Halifax Harbor, one of the finest natural harbors in the world. The arrangement of the sector is from SW to NE.

Sable Island and Nova Scotia Banks are described in the last part of the sector.

#### General Remarks

**3.1 Ice.**—The area from Halifax to Canso is ice-free all year except for new and young ice which forms in the bays and inlets during the cold spells of January and February. This ice soon melts if it is carried out to sea by wind and tidal current, and is never a hindrance to navigation. Local tugs or government ice-breakers are used to open some of the harbors after ice has formed or to maintain passage into a port despite weather conditions. In mild winters even the harbor ice does not form.

**Tides—Currents.**—The tidal currents between Cape St. Marys and Cape Canso are weak and irregular. There is usually, though not continuously, a current setting along the coast to the W; sometimes exceeding a velocity of 1 knot.

**Caution.**—Between Halifax and Cape Canso, it is not advisable to approach the coast within approximately the 100m curve; it must be kept in mind that this depth may be found within a distance of 3 miles of some of the most formidable dangers on the coast such as Lockwood Rock, in the approach to Marie Joseph Harbor, which lies within 1 mile of that depth.

#### Sambro Harbour Approach

The approach to Sambro Harbour lies between **Pennant Point** (44°26'N., 63°39'W.) and Sambro Island, about 3.5 miles E. There are numerous banks and shoals in the approach, and only the more important will be described.

A danger area, containing a sunken unexploded torpedo, is charted E of Pennant Point.

Bull Rock, which dries 1.8m, lies about 0.8 mile ESE of Pennant Point. Thrumcap Rock, with a depth of 5.5m, lies about 0.5 mile farther ESE.

Paddle Rock, with a depth of 3m, about 1.5 miles E of Pennant Point, lies on the S part of a bank with depths of 9.1m and less. Bigfish Shoal, with a least depth of 3.4m, about 0.5 mile ENE of Paddle Rock, lies near the E extremity of the bank. Torpey Ledge, with a least depth of 0.3m, lies on the N part of the same bank, about 0.5 mile NNE of Paddle Rock. Thrumcap Rock, Paddle Rock, and Bigfish Shoal are marked SE by buoys.

Smithson Rock, with a depth of 6.1m, lies about 2 miles SE of Pennant Point. A lighted bell buoy is moored about 0.3 mile SW of Smithson Rock.

**Merlin Rock** (44°25'N., 63°36'W.), with a depth of 6.4m, lies about 1.5 miles SW of Sambro Island. From Merlin Rock, a bank, with depths of less than 18.3m, extends N to the mainland. Colt Shoal, rock, with a depth of 4m, lies on the N end of a bank which extends N of Merlin Rock. Mare Shoal and Horse Shoal, rocks with depths of 2.1m and 1.5m, respectively, lie on this bank. Colt and Mare Shoals are marked W by buoys.

**3.2 Sambro Island** (44°26'N., 63°34'W.), 15.2m high, is surrounded by foul ground extending about 0.8 mile S and 1.5 miles ENE from it. Sambro Channel, which separates Sambro Island and the shoals in its vicinity from the mainland to the N, is partially buoyed and is used by small craft with local knowledge. Sambro Light is shown from a white octagonal tower, 25m high with red bands, on the island.



**Sambro Island Light**

Sambro Ledges, with uneven depths, extend 6 miles SSE from Sambro Island. Outer Bank, with a least depth of 21.9m, lies on the outer part of Sambro Ledges, about 4.5 miles SSE of Sambro Island.

Barse Ground, with a depth of 16.8m, and Shoal Ground, with a least depth of 13.4m, lie about 2.3 miles S and 2 miles SE, respectively, of Sambro Island. Hennesy Bank, rock, with a depth of 17.4m, lies about 1.7 miles ESE of Sambro Island. In bad weather, the sea almost breaks on these banks.

Southwest Breaker, at a depth of about 0.3m and which usually breaks, lies about 1.5 miles SSW of Sambro Island. A lighted whistle buoy is moored about 0.8 mile ESE of Southwest Breaker.

**3.3 Pennel Shoal** (44°25'N., 63°34'W.), with a depth of 6.7m, is the S danger on the bank and lies about 0.8 mile S of the island. Shag Rock, 0.9m high, lies about 0.4 mile SW of Sambro Light. Other dangerous shallow and drying patches extend up to 1.25 miles ESE through SSE of Sambro Light.

Broad Breaker, which dries 0.9m, lies about 1 mile E of Sambro Island. Blind Sister, with a depth of 3.7m, lies about 1.4 mile farther ENE.

**The Sisters** (44°27'N., 63°32'W.), two of which dry 1.2m, lie about 1.5 miles ENE of Sambro Island; a lighted bell buoy lies SSE of The Sisters.

Black Rock, 5m high, lies about 0.3 mile W of the N drying patch of The Sisters. Ede Rock, with a depth of 3m, lies about 0.5 mile N of Black Rock.

Wippy Rock, with a depth of 0.9m, lies about 0.3 mile W of Sambro Island. Gull Rock, 7.6m high, and Whaleback Rock, which dries 1.5m, lie about 0.3 mile NW and 0.7 mile NW, respectively, of Sambro Island.

A submerged power cable lies between Sambro Island and Fink Cove, approximately 2 miles NNE.

Inner Sambro Island, about 1 mile NW of Sambro Island, is about 7.6m high and steep-to on its W end. **Cape Sambro** (44°27'N., 63°35'W.) lies about 275m N of Inner Sambro Island.

Fairweather Rock, 3m high, and Middle Ground, with a least depth of 5.8m, lie about 0.5 mile SSW and 0.5 mile W, respectively, of the W extremity of Inner Sambro Island.

**3.4 Sambro Harbour** (44°28'N., 63°36'W.) (World Port Index No. 6350) is entered close W of Cape Sambro. Although the heavy seas accompanying SW winds are broken by the many ledges S of the entrance, the harbor affords only limited shelter for vessels with local knowledge.

Cowley Rock, with a depth of 3.7m and marked by a buoy, lies in the entrance to the harbor, about 0.3 mile NNW of the W extremity of Inner Sambro Island. Connor Reef, several rocks awash, extends about 0.3 mile offshore from the W entrance point of the harbor.

Isle of Man, a small islet, 4.6m high, lies about 0.5 mile NW of Cape Sambro. Bull Point, a low headland, is located near the head of the harbor, about 0.5 mile to the N of the Isle of Man.

**Depths—Limitations.**—A government wharf at Sambro, about 0.3 mile NW of Bull Point, is T-shaped and 108m long with an outer face 85m long. It extends from the NW shore of Sambro Harbour. There is a least depth of 4.6m along both sides of the outer end of the wharf. A buoyed channel leads to the pier.

**Anchorage.**—The best anchorage is in 11 to 16m, about 0.1 mile N and NE of the Isle of Man.

**Directions.**—Vessels approaching Sambro Harbour from the S or E should pass E of **Southwest Breaker Lighted Whistle Buoy** (44°24'N., 63°34'W.), then steer for Inner Sambro Lighted Buoy, moored midway between Fairweather Rock and the W extremity of Inner Sambro Island, taking care to avoid the 7.3 and 5.5m patches about 1 mile and 0.5 mile SSE, respectively, of the W extremity of Inner Sambro Island. After rounding the W end of Inner Sambro Island, alter course to bring its W end in line bearing 202° with Fairweather Rock, astern, to clear Cowley Rock and off-lying shoal. Then steer to pass E of the Isle of Man and then to the anchorage.

Vessels approaching from the W steer to pass midway between **Smithson Rock** (44°24'N., 63°37'W.) and Thrumcap Rock, and then between Colt and Bigfish Shoals into the channel previously described. This route should not be used without local knowledge.

**Note.**—A lifeboat station is situated at the Sambro public wharf and operates within a 50 mile radius of its base. All distress situations and calls for assistance should be communicated to RCC Halifax via the nearest coastal radio station or by any other available means.

### Halifax (44°39'N., 63°35'W.)

World Port Index No. 6340

**3.5** Halifax Harbor, one of the finest natural harbors in the world, is entered between **Chebucto Head** (44°30'N., 63°31'W.) and Devils Island, about 5.5 miles NNE. Devils Island, 4.6m high and treeless, is almost joined to Hartlen Point, about 0.4 mile NNE, at LW by a shingle spit. Chebucto Head, 30.5m high, is composed of whitish rock.

The harbor currently accommodates oil tankers greater than 100,000 tons capacity and has long served as a naval base. Several naval surface and submarine exercise areas are situated in the approaches to Halifax Harbor. In 1992, 1,711 vessels used this port, including 1,242 international movements, totalling more than 31.9 million grt. The port handled 13.9 million tons of cargo in 1992.

The coast in the vicinity of Halifax is of moderate elevation, the hills near the shore are seldom more than 61m high. To the E of the harbor, as far as Jeddore Head, almost all the headlands are composed of cliffs of reddish sand, clay and boulders; while to the W, as far as Mars Head, white granite predominates. The color of the cliffs are a good guide as to whether a vessel is E or W of the entrance.

Although the dangers in the approaches necessitate great caution during fogs, which are prevalent and accompany all winds from seaward, the harbor is easier to access than any other large harbor on this coast. Halifax Harbor is a terminus and port of call for shipping all year, as ice is never a problem.

The city of Halifax, the capital of the Province of Nova Scotia, is situated on the W side of the harbor, about 8 miles NNW of Chebucto Head. The city of Dartmouth is situated across the harbor from Halifax. The Narrows, about 1 mile above Halifax, connects Halifax Harbor to Bedford Basin, an excellent landlocked basin.

**Traffic Separation Scheme.**—For vessels entering or departing from Halifax Harbor, there is a voluntary separation scheme in the S, SW, and SE approaches to the harbor.

**Vessel Traffic Service.**—Halifax VTS Zone, with radar surveillance for the control of shipping, extends over the whole of Halifax Harbor and its approaches within Canadian territorial waters, and is distinct from the Eastern Canada Vessel Traffic Services Zone (ECAREG). The outer limits of the zone extends from Colliers Head and Pennant Point.

Participation is mandatory, as follows:

1. All vessels of 20m or more in length.
2. Vessels engaged in towing or pushing where the combined length of the ship and any vessel or object towed or pushed by the ship is 45m or more in length.
3. Vessels engaged in towing or pushing where the length of the vessel or object being towed or pushed by the ship is 20m or more in length.
4. Air cushion vehicles of 8m or more in length.

A traffic clearance is required before entering a zone or departing a berth or mooring. Clearance is obtained by making reports 15 minutes before entering the zone, arriving at a calling-in-point, arriving at a berth, and departing a berth.

The Canadian Coast Guard has a Vessel Traffic Management Center at Chebucto Head, equipped with VHF communications, to administer the system.

The mandatory reporting points for inbound and outbound vessels are shown on the appropriate charts. All vessels transiting the regulated area should be provided with a VHF set in accordance with the required standards.

The VTS Service is divided into two sectors. Sector 1 generally lies seaward of the line joining Chebucto Head and Hartlen Point. Sector 2 generally lies NW of this same line.

The Vessel Traffic Management Center, call sign "Halifax Traffic," can be contacted, as follows:

1. Sector 1—VHF channel 14.
2. Sector 2—VHF channel 12.

For vessels not yet fitted with the required equipment, portable VHF sets of limited range will be made available on a rental basis for vessels in pilotage.

All distress situations and calls for assistance should be communicated to the Rescue Coordination Center, Halifax, via the nearest Coast Guard radio station or the Vessel Traffic Services Center. Rescue vessels operating within a 50-mile radius of their respective bases are situated at Port Backtracking, Sambro Harbor, Port Mouton, Clarks Harbor, and Westport.

### Winds—Weather

Halifax has abundant rainfall, moderate but damp winters, cool summers, and frequent fog. Sudden and unusual changes of weather are a consistent feature of the climate. In early autumn, Nova Scotia occasionally gets the after effects of a hurricane.

The prevailing winds during the year are from the SW to NW.

Fog is common in the late spring and summer so, although the leading lights are conspicuous and sensitive, they may not be seen in conditions of low visibility because of their distance. Consideration should be given to making an early afternoon arrival/departure and taking local advise to minimize this risk.

### Ice

In extremely severe winters ice may form in the inner part of the harbor, but does not extend S of **Georges Island** (44°38'N., 63°34'W.). Even in these years the ice is rapidly broken up by strong S wind and swell.

### Tides—Currents

The tidal rise at Halifax is 2.1m at MHWS, and 1.7m at MHWN.

The ordinary rate of the tidal currents does not exceed 0.5 knot, but the rate and vertical movement are influenced by the wind. A set to the W has been experienced at all stages of the tide between Lichfield Shoal and Mars Rock. In the harbor, the direction generally rotates with the tide, but in The Narrows and other passages, the current is reversing. The greatest rates occur in The Narrows, but even there they seldom exceed 1 knot. Winds of over 10 knots cause large variations from the usual pattern. In the approaches to Halifax Harbor the general flow is to the SW, but a NE set may be expected about 30 percent of the time. The rate averages 0.25 knot and seldom exceeds 0.5 knot.

It has been reported (1998) that currents of up to 3-4 knots have been observed in the harbor.

### Depths—Limitations

Halifax has modern wharves with up-to-date facilities, such as rail connections, storage (warm and cold) sheds, grain conveyors, and facilities for handling containers and ro-ro traffic. Tankers up to 110,000 tons, with a draft of 15.2m, regularly use the port.

Wharves extend along the waterfront of Halifax, beginning with Pier C, the container terminal, near the mouth of the harbor to the Richmond Terminals in The Narrows.

The following berth information summarizes the principal commercial berths, listed from S to N by sections; Halifax, Eastern Passage, Dartmouth, and Bedford Basin:

Berth	Length	Depth
<b>Halifax</b>		
Pier C		
42	300m	13.7m
41	300m	14.3m
Pier B		
39	190m	11.3m
38	915m	11.5m
37	190m	12.8m
36	190m	10.6m
35	103m	4.5m
Pier A1		
34	190m	8.3m
33	190m	12.2m
32	88m	10.0m
31	190m	13.1m
30	190m	13.1m
Pier A		
29	122m	9.1m
28	171m	12.2m

Berth	Length	Depth
27	210m	12.2m
26	210m	11.2m
25	171m	11.2m
Ocean Terminals		
24	142m	8.9m
23	213m	9.9m
22	212m	12.2m
21	178m	12.2m
20	221m	12.2m
Richmond Terminals		
9	213m	9.1m
9A	241m	8.8m
9B	213m	9.1m
9C	140m	8.9m
<b>Eastern Passage</b>		
Texaco Canada		
Outside	258m	12.8m
Inside	158m	8.2m
Autoport (Ro-ro)		
Outside	201m	13.7m
Inside	107m	7.6m
<b>Dartmouth</b>		
Imperial Oil		
No. 3	67m	11.6m
No. 4	122m	10.7m
No. 5	67m	14.90m
Irving Oil (L-shaped)	85m	11.1m
Industrial Estates	232m	8.8m
<b>Bedford Basin</b>		
Fairview Container Terminal	660m	13.7m
National Gypsum Jetty	197m	10.0m
Gulf Oil (Ultramar Canada)	110m	9.7m

Two suspension bridges span Halifax Harbor. The Angus L. Macdonald Bridge spans Halifax Harbor from Halifax to Dartmouth, in the vicinity of the naval dockyard. Three red lights are shown vertically from the N bridge abutment. The A. Murray MacKay Bridge crosses The Narrows. There is a vertical clearance of 49m at the center of both spans; however, a moving work platform suspended beneath the Angus L. Macdonald bridge may reduce the clearance to 46.9m.

Protective rock berms, with an elevation of about 1.8m, surround the N abutment of the Macdonald bridge and the two NE abutments of the MacKay bridge. The E and W sides of the berms are marked by flashing lights on masts.

Red aircraft obstruction lights are shown from the N and S towers of both bridges; these are at an elevation of 104m on the Macdonald bridge and 96m on the MacKay bridge.

A regular ferry service operates between Halifax and Dartmouth.

Overhead power lines cross The Narrows, close E of the A. Murray MacKay Bridge, with a clearance of 52m.

There are shipyard repairs at both Halifax and Dartmouth, and repairs of all kinds can be executed.

Halifax has two floating docks, Panamax, the larger, and Scotiadock. There is also a graving dock, 173m long, 24m wide, with a depth over the sill of 9.1m and a mechanical lift dock with a capacity of 7,000 tons. The Dartmouth shipyard has three patent slips.

## Aspect

**3.6 Outer Approaches.—Chebucto Head** (44°30'N., 63°31'W.), the W entrance point of Halifax Harbor, is marked about 0.4 mile NNW by Chebucto Head Light, shown from a white octagonal tower, 14m high, on the summit of the headland; a radar tower, used for VTS surveillance, lies close W of the light. A racon transponder is situated at Chebucto Head Light. A tower is conspicuous about 0.4 mile SSW of Chebucto Head.

Bell Rock, with a depth of 2.1m, lies about 1 mile S of Chebucto Head. A lighted bell buoy is moored about 0.2 mile SE of the rock. Duncan Reef, on which there is a rock, 0.6m high, extends about 0.3 mile offshore, about 0.5 mile S of Chebucto Head. A lighted buoy is moored about 0.4 mile E of the reef.

Sambro Island, Sambro Ledges, and Outer Bank have been previously described in paragraph 3.1 in "Sambro Harbor Approach."

Camperdown Hill coast radar station is situated about 1.5 miles NW of Chebucto Head.

Between Chebucto Head and Tribune Head, the S entrance point to Herring Cove, about 4.3 miles NNW, the W shore of the harbor entrance is steep and barren, with several small indentations.

**Sandwich Point** (44°35'N., 63°33'W.) lies about 1.3 miles NNE of Tribune Head.

A lighted bell buoy is moored about 2.5 miles N of Chebucto Head, and marks the W edge of Bear Cove Shoal, with a least depth of 14.7m.

Sandwich Point Range Lights, about 0.3 mile SW of the point, in line bearing 336.5°, lead W of Bear Cove Shoal.

Portuguese Shoal, rock, with a least depth of 8.4m, lies about 2.5 miles NNE of Chebucto Head. A 9.1m shoal, rock, and a 10m patch, lie about 0.3 mile SW and 0.1 mile S, respectively, of Portuguese Shoal.

Head Rock Shoal (Rock Head Shoal), with a least depth of 7.2m, lies about 0.7 mile NE of Portuguese Shoal.

Lichfield Shoal, rock, with a depth of 4m, lies about 1.8 miles S of Sandwich Point and is marked on its E side by a



**Chebucto Head Light**

lighted whistle buoy. Rocky patches, with depths of 17.1, 14.3, and 16.7m, lie about 0.5, 0.8, and 0.9 mile SSE, respectively, of Lichfield Shoal.

Neverfail Shoal, with a least depth of 8.2m, lies about 2 miles SSE of Sandwich Point and is marked by a lighted buoy.

Mars Rock, with a depth of 3.7m, lies about 0.5 mile SSE of Sandwich Point and lies on the E part of a bank, with depths of less than 18.3m, on which there are several shoal patches with depths of from 5.5 to 9.1m, which extends about 0.9 mile SSE

from the same point. Holy Stone (Hollystone), 2m high, lies on the W part of this bank, nearly 0.1 mile offshore, and about 0.3 mile S of Sandwich Point.

**Big Thrumcap** (44°35'N., 63°30'W.), 14m high, lies close SW of the red clay cliff at the S extremity of McNabs Island. Little Thrumcap Hook comprises several small islets on a shingle beach located about 1.5 miles E of Sandwich Point. Thrumcap Shoal, with depths of less than 5m, surrounds a shingle beach, located about 0.7 mile SSE of Big Thrumcap. A lighted bell buoy is moored close S of the S extremity of Thrumcap Shoal.

**Caution.**—Mariners should avoid fishing nets in the vicinity of Thrumcap and Head Rock Shoals.

Eastern Passage is the narrow channel separating Lawlor and McNabs Islands from the mainland to the E. It has a least depth of 2.1m in the fairway, but due to continual silting, the charted depths are subject to change. The passage is accessible from the S only to small craft through a buoyed channel about 61m wide, formed by a gap in the obstruction between Lawlor Island and the mainland.

**3.7** The main channel into Halifax Harbor lies W of **McNabs Island** (44°36'N., 63°31'W.). Maugher Beach extends over 0.5 mile W from the W side of McNabs Island. Maugher Beach Light is shown from a white octagonal tower, 16.5m high, situated on the W end of Maugher Beach. A fog signal is sounded from the light.

Halifax Harbor Middle Range Lights, in line bearing 356°, are located on McNabs Island, about 0.8 mile farther N. Both lights are shown from white daymarks with red stripes.

Lighthouse Bank, with a least depth of 4.7m, extends about 0.8 mile SSE from the W end of Maugher Beach. A bank, with depths of less than 5.5m, extends about 0.2 mile NW and SW, and 0.12 mile W from the outer end of Maugher Beach.

Outer Middle Ground, with a depth of 10.7m, lies about 0.4 mile SW of the outer end of Maugher Beach and is marked W by a lighted buoy. Middle Ground, with a least depth of 8.5m at its N end, lies about 1.5 miles N of Sandwich Point and is marked close NNW by a lighted buoy. There is a 10.1m rocky shoal and an 11m shoal about 90m and 275m SSE, respectively, of Middle Ground.

A wreck, with a depth of 21.6m, lies in the main fairway between Outer Middle Ground and Middle Ground.

**York Redoubt** (44°36'N., 63°33'W.), about 0.8 mile NW of Sandwich Point, stands on a hill, 54m high, and is conspicuous. A Roman Catholic Church, with two towers, lies close N of the redoubt.

**Point Pleasant** (44°37'N., 63°34'W.) is the S extremity of the Halifax Peninsula, and the N entrance point of the Northwest Arm. There is a conspicuous monument about 0.1 mile NE of the point.

Pleasant Shoal is an extensive shoal extending about 0.6 mile E and 0.5 mile SE from Point Pleasant. It has a least depth of 0.6m extending nearly 0.4 mile seaward of the point. Hen and Chickens, which dry 0.9m, lie on the W part of the shoal, about 0.1 mile SE of Point Pleasant. A lighted bell buoy marks the E extremity of the shoal.

**Ives Point** (44°37'N., 63°33'W.), the NW extremity of McNabs Island, is a steep clay bank with a shingle beach.

Submerged mounds of rocks and boulders extend N from the point. A bank, with depths of less than 9.1m, extends over 0.4 mile NW of Ives Point. Ives Knoll, a rock drying 0.3m and marked by a dolphin, lies on the NW part of the bank, about 0.3 mile NW of the points. A lighted bell buoy and a lighted buoy are moored on the W and N edge of the bank, respectively.

Georges Island, 12.2m high, lies about 1.3 miles NW of Ives Point. A bank, with depths of less than 5.5m, about 90m in width, surrounds the island. The front light of the Halifax Harbor Inner Range Lights is shown from a white octagonal tower on the W side of Georges Island. The rear light is exhibited from a triangular tower, 17m high, situated in the city of Dartmouth. These lights, in line bearing 339°, lead E of Pleasant Shoal, Middle Ground and Outer Middle Ground, and W of Lighthouse Bank.



Georges Island from S



Georges Island Light

A radar tower, 17m high, looking like a golf ball on a tee, is situated on St. Georges Island.

The flame tower at the Imperial Oil refinery, situated about 0.8 mile E of Georges Island, is said to be visible for distances of up to 30 miles. Another flame tower is situated about 2 miles E of Ives Point.

**Bedford Basin** (44°41'N., 63°38'W.), entered from the NW end of The Narrows, lies at the head of Halifax Harbor and is landlocked. The shores of the basin are indented by a number of coves and bays.

The bottom of the bay, formed between Seaview Point and Sherwood Point, in the S part of Bedford Basin, is reported to be strewn with large boulders to a distance of 0.5 mile offshore.

Wrights Cove lies between **Wrights Point** (44°41.6'N., 63°37.0'W.) and Rent Point. The latter is bordered by an explosives dumping ground. The cove is enclosed SW by Navy Island.

An area strewn with live ammunition lies off Rent Point; diving and anchorage is prohibited.

A naval exercise area extends nearly 0.5 mile from the shore between Rent Point and the W side of Roach Cove, 1.2 miles NW. A naval underwater demolition training area is situated in Roach Cove.

There are two radio towers, nearly 0.5 mile SW of **Sherwood Point** (44°41'N., 63°39'W.). Three red obstruction lights, vertically displayed, are shown from each tower.

A television transmitting tower, 334m high, with red and white horizontal bands, lies about 1.8 miles S of Sherwood Point. Four red obstruction lights, vertically displayed, are shown from the tower.

There is a hydro tower, at an elevation of 95m on Turple Head, and a second tower, at an elevation of 112m near the Halifax end of the A. Murray MacKay Bridge. Both towers display red aircraft obstruction lights.

There are three conspicuous chimneys, 152m high, painted with red and white horizontal bands, are situated at the power plant near the E entrance to Tufts Cove. They display red aircraft obstruction lights.

### Pilotage

Pilotage is compulsory. Pilots board, as follows

1. Outer boarding position—about 2.2 miles SE of Chebucto Head.
2. Inner boarding position—about 1.5 miles NE of Chebucto Head.

In heavy weather, it is not always possible for the pilot vessel to be at the above positions, but will proceed as far seaward as possible to embark or disembark a pilot. Pilot boats are equipped with radar and maintain a radiotelephone watch on a frequency of 156.6 MHz or VHF channel 12 and 14.

To avoid a delay in obtaining a pilot, masters of vessels bound for Halifax, must report, by radiotelephone or radiotelegraph, their ETA to Pilots, Halifax, at least 12 hours before arrival at the pilot boarding station. The ETA must be confirmed or corrected 3 hours prior to arrival at the pilot station. Vessels departing or moving within the pilotage area must report to Pilots, Halifax, 5 hours before the ETD. The ETD must be confirmed 1 hour prior to the time the ship is to move or depart. Local time should be used. If GMT is used, it must be expressly stated.



Halifax Harbor—The Narrows and Bedford Basin

Canadian Hydrographic Service

Vessels of 50,000 grt and over shall apply for clearance to the VTM Center not less than 24 hours before the vessel is due to enter the Halifax VTM Zone.

## Regulations

Vessels maneuvering or otherwise underway in Halifax Harbor, and also while at an alongside berth or at anchor, are subject to the Halifax Port Corporation By-Law A-1—"Operating Regulations." A copy of these regulations may be obtained from the Corporation.

The regulations require that no vessel shall move in the harbor at a rate of speed that may endanger life or property. Northwest Arm is designated a No Wake Corridor and mariners are required to adjust their speed accordingly. Vessels should proceed at a speed which does not create a wash when N of **Ives Knoll** (44°38'N., 63°33'W.).

In Halifax Harbor, a specific speed limit of 8 knots has been established. The Halifax Harbor limit lies nearly midway between Pleasant Shoal and Middle Ground.

The Port Corporation has wide powers over vessels in its harbors, and may order vessels to move, to use tugs, to berth, or anchor in locations which it designates. Certain restrictions on berthing and anchoring are set forth, along with the requirements for vessels to inform the Corporation in advance of their intention to berth or anchor in the harbor.

Vessels are regulated with respect to cargo handling operations and the equipment and lighting employed in these operations. Instructions for signalling, action in the event of accidents, cargo or gear lost overboard, and safety requirements are included.

There are specific vessel regulations for the carriage and handling of explosives and dangerous goods, as well as rules to be observed in the prevention of fire.

Direct ship to shore communication with the harbormaster is available on a 24-hour basis on VHF channel 65A.

## Procedures for Vessels Transiting The Narrows

1. For the purposes of the following procedures, the area referred to as The Narrows is defined as follows:

a. The navigable water lying between a line through position 44°39'47.5"N, 63°34'11.5"W in a 221° True direction and extended to the opposite shore (calling-in-point No. 9, Ferry track); and

b. A line through position 44°41'21.5"N, 63°37'01"W in a 197° True direction and extended to the opposite shore (calling-in-point No. 10, Bedford Institute of Oceanography).

2. These procedures will apply to all vessels of 20m or more in length.

3. These procedures are to be followed when two vessels proceed toward The Narrows from opposite directions:

a. Halifax Traffic will inform each vessel of the location, and destination of the other vessel;

b. Except to prevent imminent danger to life or property, a vessel of more than 150m will not transit The Narrows at the same time as another vessel the length of which is also greater than 150m. Vessels will agree to their precedence of transit by means of bridge to bridge contact

on VHF channel 12. The northbound vessel will initiate this contact prior to passing George's Island and the southbound vessel immediately on leaving a berth in Bedford Basin. Unless otherwise agreed to by the vessels, the northbound vessel will have precedence and maintain course and speed;

c. Where one of the transiting vessels is greater than 150m, the vessels will agree to their transit procedures by means of bridge to bridge contact on VHF channel 12. The northbound vessel will initiate this contact prior to passing George's Island and the southbound vessel immediately on leaving a berth in Bedford Basin;

d. In restricted visibility or in winds sufficiently strong to affect maneuverability a vessel of 150m or more underway and intending to transit The Narrows may, through Halifax Traffic request that all other traffic intending to transit The Narrows be restricted;

e. In cases where the vessels concerned are less than 150m in length, transit procedures will be agreed to by all vessels through bridge to bridge contact on VHF channel 12.

4. A vessel requesting a clearance from Halifax Traffic to depart a berth within The Narrows is subject to the requirements of vessels in transit and may have such clearance withheld until traffic in transit is past and clear.

5. The master of a vessel or his delegate or the pilot who has reason to believe that the vessel has or might become uncontrollable from any cause and is at risk to collision with a bridge pier in The Narrows will make the following broadcast on VHF channel 12 as soon as possible:

PAN PAN, PAN PAN, PAN PAN

MACDONALD (MACKAY) BRIDGE, MACDONALD (MACKAY) BRIDGE

THIS IS (name of ship)

STOP TRAFFIC, STOP TRAFFIC, STOP TRAFFIC

(name of ship) OUT

6. Commanding Officers of Department of National Defense vessels will comply with these procedures as far as practicable.

7. These procedures shall not relieve the vessel, its master, owner, person in charge, or having the conduct thereof from any obligation contained in the Canadian Regulations enacted pursuant to the Canada Shipping Act.

## Anchorage

There are seven numbered anchorage berths, best seen on the chart, between McNabs Island and Dartmouth. Anchorage No. 1, SE of Georges Island, is the quarantine anchorage.

There is a prohibited anchorage area including the whole of the main entrance to Halifax Harbor and Eastern Passage. The

N limit is in the vicinity of the Terminals Breakwater Light, at the S extremity of Pier C container pier; the S limit is adjacent to Sandwich Point.

There is also good anchorage in Bedford Basin, S of a line drawn between Seaview Point and Sherwood Point. A Navy berth at a moored barge lies 0.25 mile NNW of Sherwood Point. A submarine cable runs WNW from the barge to the shore. Anchoring is prohibited in the vicinity of the barge.

Anchorage Areas A and B, located E of Chebucto Head, should not be used during periods of strong onshore winds.

## Directions

In thick weather, the E approach to Halifax Harbor is rendered comparatively easy by the absence of off-lying dangers after **Shut-in Island** (44°37'N., 63°17'W.) has been passed, and by soundings on the coastal bank which deepen fairly regularly to 55m at a distance of 4 to 6 miles offshore.

Approaching from the W in thick weather, the soundings on Outer Bank, off Sambro Ledges, may be found of great assistance.

There is a traffic separation scheme for vessels entering or departing from Halifax Harbor.

From the vicinity of "H4" lighted whistle buoy (44°32'N., 63°30'W.), three lighted ranges lead into Halifax Harbor as follows:

1. Sandwich Point Range Lights, about 0.3 mile SW of Sandwich Point, in line bearing 336.5°, lead W of Bear Cove Shoal and between Neverfail Shoal and Lichfield Shoal.

2. Halifax Harbor Middle Range Lights, in the NW part of McNabs Island, in line bearing 356°, lead between Neverfail Shoal and Lichfield Shoal, and E of Mars Rock.

3. Halifax Harbor Inner Range Lights, with the front light on the W side of Georges Island, in line bearing 339° with the rear light in Dartmouth, lead E of Pleasant Shoal, Middle Ground, and Outer Middle Ground and W of Lighthouse Shoal and Ives Knoll.

Georges Island may be passed on either side.

**Caution.**—A degaussing range, surrounded by a prohibited anchorage area, is situated 0.25 mile NW of Seaview Point.

## Halifax Harbor to Jeddore Harbour

**3.8** The coast from **Hartlen Point** (44°35'N., 63°27'W.) to Jeddore Harbor, about 19 miles ENE, is indented by numerous inlets separated by headlands. None of these inlets are of interest to ocean-going vessels. Shut-in Island is the S point on this section of coast. The headlands between Shut-in Island and Jeddore Head terminate in cliffs of red clay and present a very remarkable appearance.

**Osborne Head** (44°37'N., 63°25'W.), about 2 miles NE of Hartlen Point, is a prominent headland, 31.7m high, with reddish cliffs. A naval gunnery school, consisting of gray cement buildings, a control tower, and a firing platform for practice firings to seaward, is situated on the headland.

Egg Islet, about 2.7 miles ENE of Osborne Head, is low and almost connected to the mainland N by a reef and shingle beach. Fox Island, about 0.3 mile N, is connected to the

mainland by a causeway. Lawrencetown Head, about 0.8 mile NE of Egg Islet, is a conspicuous headland with red cliffs, and with a church with spire on its summit.

**Half Island Point** (44°38'N., 63°19'W.), a conspicuous headland with a red cliff about 2 miles farther ESE, has a bank with depths of less than 5.5 extending about 0.4 mile S of the point.

**Shut-in Island** (44°37'N., 63°17'W.), about 1.5 miles ESE of Half Island Point, is composed of clay slate rock and is joined to Graham Head about 0.4 mile NNW by a reef and shingle beach. Graham Head, with red cliffs, 18.3m high, is the S extremity of a peninsula of the mainland.

Shut-in Shoals, with depths of less than 9.1m, rock, extend about 1 mile S and 1.3 miles SW from Shut-in Island. The two shallowest patches, each with a depth of 4.6m, lie about 0.5 mile and nearly 1 mile WNW, respectively, of the S extremity of the island.

A lighted bell buoy is moored about 0.8 mile SSE of Shut-in Island.

Three Fathom Harbour, a summer resort and fishing harbor, is entered between Shut-in Island, flat and composed of clay slate rock, and Rat Rock, which lies close SW of Wedge Island. It affords shelter only to small craft. The entrance channel, 91m wide between reefs, has a depth of 6.4m, but 0.5 mile above the entrance the depth in the channel is only 1.8m. Mariners without local knowledge should not attempt to enter the harbor, except in an emergency.

**Off-lying Banks.**—**Yankee Bank** (44°33'N., 63°10'W.), with a least depth of 31m, lies about 6.5 miles SE of Shut-in Island. Darby Bank, with a least depth of 21.9m, lies about 1 mile NE of Yankee Bank. There are fisheries on both banks. Because of the sudden shoaling of the water, there is often a very heavy sea on these banks.

**Story Head** (44°40'N., 63°13'W.), located about 3.5 miles NNE of Shut in Island, is rounded and connected to the land N of it by a gravel spit. Chezzetcook Inlet is entered W of Story Head. There is a depth of 7.3m in the entrance, but only 0.9m on the bar, and the inlet is of no value to shipping; tidal currents in the entrance have a rate of 2 to 3 knots. A conspicuous yellow control tower, 12m high, is situated almost 1.5 miles NNW of Story Head. An Armed Forces exercise area is established in the vicinity. A lighted bell buoy is moored about 0.5 mile SW of Story Head.

Pat Shoal, with a depth of 7.7m, lies about 1.5 miles S of Story Head; it breaks occasionally after heavy gales.

**Collies Head** (Petpeswick Head) (44°41'N., 63°10'W.), 39.6m high, about 6 miles NE of Shut-in Island, is pyramidal in shape and resembles a fortification when seen from a distance. A bank, with depths of less than 9.1m, extends nearly 1 mile S from Collies Head. Codray Shoal, with a depth of 6.9m, lies on the S end of this bank. Petpeswick Shoal, with a depth of 7.8m, lies about 2.5 miles S of Collies Head. Two shoals, with depths of 9.1m and 7.6m, lie about 0.3 mile and 1 mile NNW, respectively, of Collies Shoal. A lighted bell buoy is moored about 4.5 miles S of Collies Head. Petpeswick Inlet, entered W of Collies Head, is available only for small craft in good weather. The channel shoals to a depth of 1.8m, 1 mile within the entrance.

**3.9 Jeddore Head** (44°40'N., 63°03'W.), about 5 miles E of Collies Head, is a remarkable headland, 61m high, with a low shingle point at Jeddore Cape, its S extremity. Coopers Head (Jeddore Cliff), composed of red clay, rises to an elevation of 41m on the E side of the headland, about 0.8 mile NE of the shingle point, and forms an excellent landmark. The cliffs on the W side of the headland are also composed of red clay, but are only 24.4m high. A bank, with depths of less than 5.5m, extends nearly 0.3 mile S from Jeddore Cape.

Musquodoboit Shoal, about 2 miles SW of Jeddore Head, has a least depth of 5.5m, rock, and frequently breaks.

**Musquodoboit Inlet** (44°40'N., 63°04'W.), entered between Jeddore Head and Flying Point, about 2 miles W, is encumbered by islands and mud flats, but with local knowledge it is navigable by small vessels at HW, to its junction with Musquodoboit River, about 7 miles above its entrance. Harbour Ledge, about 1 mile W of Jeddore Head, forms an unbroken barrier 0.75 mile long in a N-S direction, and is composed of boulders and shingle, which at its shallowest dries 0.3m. The entrance channel lies on the E side of this shoal. The seas normally break on this shoal a great deal of the time, but with strong SW winds the entrance may break also, making entrance of the inlet exceedingly dangerous.

A rocky shoal, with a least depth of 2.7m, extends nearly 0.3 mile S of the S extremity of Harbour Ledge.

Round Shoals are two patches, with a least depth of 7.8m, about 1 mile SW of Flying Point.

**Tides—Currents.**—The ordinary rate of the tidal currents in the entrance is about 2 to 3 knots, but heavy rains or melting snows have been known to increase the rate of the ebb current to 4 knots or more.

The entrance channel has a least depth of 2.7m. The channel is available to small craft only and should not be entered without local knowledge, except in an emergency. The village of **Musquodoboit Harbor** (44°47'N., 63°09'W.) (World Port Index No. 6330) is situated near the head of the inlet.

**3.10** The approach to **Jeddore Harbour** (44°45'N., 63°00'W.) from the E and S is encumbered with islands, reefs, and shoals. Vessels navigating this coast should pass S of the dangers, and in poor visibility should remain in depths of 74m or more.

**Jeddore Rock** (44°40'N., 63°01'W.), 15.2m high, lies about 1.8 miles ESE of Jeddore Head, is composed of clay slate, and is a conspicuous feature in the approach to Jeddore Harbour. A rocky ledge extends about 0.2 mile W from the W end of the rock, and a bank, with a depth of 5.5m, extends about 0.2 mile farther W. Jeddore Rock Light is shown from a square framework tower, 14m high, from the summit of the rock.

A shoal, with a least depth of 12.8m, lies about 0.6 mile WSW of Jeddore Rock. Shoals, with depths of 9.1m and 12.8m, lie about 1.3 and 1.8 miles WSW, respectively, of Jeddore Rock.

Arnold Rock, which dries, and Arnold Shoal, with a least depth of 11m, lie about 0.5 mile and 1.3 miles S, respectively, of Jeddore Rock. A lighted bell buoy is moored about 0.2 mile SSE of Arnold Rock. A rock, with a depth of 5.5m, and a 14.6m patch lie about 0.8 mile W and 0.5 mile SSW, respectively, of Arnold Shoal.

Old Man, 3.7m high, about 0.8 mile ESE of Jeddore Rock, is prominent and steep to on its N side. A small rock, with a depth of 0.9m, lies about 0.1 mile S of Old Man, and a shoal, with a depth of 9.1m, lies about 0.7 mile ESE of the same rock. A lighted whistle buoy is moored about 0.8 mile SE of Old Man.

**Faulkners Shoal** (Outer Pollock) (44°36'N., 62°58'W.), with a least depth of 11m, lies nearly 4 miles SSE of Jeddore Rock. Inner Pollock, with depths of 9.1 to 18.3m, lies with its shallowest part about 3 miles SSE of Jeddore Rock. East Pollock, about 1 mile N of Faulkners Shoal, has a depth of 11m, with deep water close to. A 14.6m depth lies about 0.3mile N of it.

Brig Rock, nearly 4 miles SE of Jeddore Rock, has a depth of 1.8m and usually breaks at LW. Brig Shoal, with a depth of 3.2m, lies about 0.2 mile S of Brig Rock. Another shallow patch, about 0.4 mile SE of Brig Rock, has a depth of 9.1m and is reported to break occasionally after very strong gales. An 11.3m shoal lies about 1.3 mile SSE of Brig Shoal. A lighted bell buoy is moored 0.5 mile SSW of Brig Rock.

**Long Island** (44°41'N., 62°54'W.), 15.2m high, about 6 miles E of Jeddore Head, is the largest off this part of the coast. Southwest Ledges consist of three ledges which dry. The SW ledge, about 1.5 miles S of Long Island, dries 1.8m. Bull Rock, with a depth of 1.6m, lies about 0.7 mile ESE of the SW ledge. Bull Shoal, with a depth of 3.6m, lies about 0.5 mile SW of Bull Rock.

The Squince (MacDonald Rock) and Hopkin Rock, each with a depth of 3.7m, lie 1.25 miles WSW and 2.25 miles W, respectively, of the S extremity of Long Island.

Gull Rock, above-water, nearly 3 miles E of Jeddore Head, lies on the NW part of a bank, with depths of less than 5.5m. Mehanny Rocks, awash, about 0.3 mile S, and Johns Rock (Middle Rock), with a depth of less than 1.8m, about 0.4 mile E of Gull Rock, lie near the S and E ends, respectively, of the bank.

**3.11 Jeddore Harbour** (44°45'N., 63°00'W.) (World Port Index No. 6325), entered between Hopkins Point, about 1.3 miles NE of Coopers Head, and East Head, about 0.7 mile further E, provides secure anchorage for small vessels. The entrance is narrow and the approach from E and S is encumbered with islands, reefs, and shoals. There is a depth of 7.1m over the bar between Hopkins Point and East Head. Near the head of the harbor there is a wharf, 33m long, with a depth of 6.4m at the outer end.

**Tides—Currents.**—The tidal rise at Jeddore Harbour is 2m at MHWS, and 1.7m at MHWN.

At the entrance to the harbor the direction of the tidal currents changes at about the time of HW and LW. The ordinary rate of both currents is about 1 knot. The indraft of the flood current is felt several miles to seaward of the harbor and in the inlets to the W.

**Aspect.**—Barren Island, 12.2m high, lies with its W extremity about 1 mile SE of East Head. Roger Islet, 4.6m high, lies about 0.2 mile NW of Barren Island. Other islets, islands, and submerged dangers, best seen on the chart, lie up to 1 mile SE and 2.25 miles NE of Barren Island.

Thorn Shoal, with a least depth of 2.7m, extends about 0.5 mile E of Jeddore Head, from a position about 0.4 mile S of

Hopkins Point. A lighted bell buoy is moored about 0.8 mile SE of West Head.

Bar Point lies on the E side of the harbor, about 0.5 mile NE of Hopkins Point. Bar Shoal, almost awash at LW and marked W by a lighted buoy, extends about 0.2 mile from the E shore, close N of Bar Point, narrowing the channel to about 0.1 mile in width.

Marsh Point, from which a dry sandy beach extends about 0.2 mile NE, lies on the W shore, nearly 1 mile N of Bar Point. A lighted buoy is moored off the sandy beach. Bakers Point (Pea Point) lies on the E shore, about 0.5 mile farther N. Navy A pier, at the Shearwater coastal forces base, extends NW from Bakers Point.

Above Bakers Point, the harbor is obstructed by mud flats and shoals, but as local knowledge is necessary to navigate this section, no description of them will be given.

**Anchorage.**—There is good shelter in 12.8m, mud, between Bakers Point and the sandy beach extending from Marsh Point, but the channel is only about 0.2 mile wide.

**Directions.**—The best time for mariners without local knowledge to enter Jeddore Harbour is at or near LW, when part of Bar Shoal is breaking, and the steep mud banks on either side of the channel are visible.

### Jeddore Harbour to Ship Harbour

**3.12** Clam Bay, which lies between East Head and **Porter Island** (44°41'N., 62°51'W.), about 6 miles E, affords no shelter to shipping. Clam Harbour and Little Harbour, on the E side of Clam Bay, are only available to small craft.

Porter Island, 27.4m high, and Laybold Island lie on the W part of a bank, with depths of less than 9.1m, on which are many islets and rocks above and below-water, extending more than 1 mile S from the shore between **Little Harbour Head** (Stoddart Point) (44°42'N., 62°52'W.) and Owls Head, about 2.8 miles ENE. Bald Island, Laney Island, and Woody Island lie on the SE part of the above-mentioned bank.

**Egg Island** (44°40'N., 62°52'W.), 7m high and composed of rocks, lies about 1.3 miles SSW of Porter Island. Egg Island Light is shown from a white pyramidal skeleton tower, 15m high, on the center of the island.

Ship Ledges (Transport Ledges), 1 to 2m high, lie with their NE end about 0.3 mile SE of Egg Island. Grizzle Rock, with a depth of 11.6m, and Psyche Rock, with a depth of 6.2m, lie about 0.6 mile ESE and 0.8 mile E, respectively, of Egg Island. A lighted bell buoy is moored close E of Psyche Rock.

Flint Ledge, 2.7m high, lies on a bank nearly 1 mile N of Egg Island. Other islets, ledges, and shoals, best seen on the chart, extend up to 2.25 miles NW of Flint Ledge.

**Off-lying Banks and Shoals.**—**Tom Bank** (44°37'N., 62°53'W.), with a depth of 14.6m, lies 2.5 miles SSW of Egg Island.

Duck Bank, with a depth of 14.3m, and John Bank, with a depth of 22m, lie about 1.7 miles S and 2.5 miles SSE, respectively, of Egg Island. The sudden shoaling of the water causes, at times, a very heavy sea on these banks. Both banks are used as fishing grounds.

A lighted whistle buoy is moored nearly 5 miles SSE of Egg Island.

Barse Rock, with a depth of 7.4m, lies about 3 miles ESE of Egg Island. Little Hurley Shoal, with a depth of 8.5m, lies nearly 1 mile NE of Barse Rock. The sea breaks heavily on these two dangers in bad weather.

**Bald Rock** (44°41'N., 62°48'W.), about 0.5 mile S of Bald Island, is 4.3m high and lies near the middle of a reef, which extends about 0.1 mile NE and SW from it. Bald Rock Bull, a rock with a depth of 2m, lies about 0.3 mile SW of Bald Rock.

Black Ledge, 1.8m high, lies about 0.2 mile E of Woody Island in the approach to Owls Head Bay. A rock, with a depth of 3m, lies near the edge of a bank extending about 0.2 mile N of Black Ledge.

**3.13** **Owls Head Bay** (44°44'N., 62°49'W.) is entered between Cuckold Island and **Friar Island** (44°43'N., 62°46'W.), about 1.5 miles E. The bay is easy to access and never freezes over. Cuckold Island, 27.4m high, is almost joined at LW to the S end of Owls Head Peninsula.

Owls Head, which gives its name to the bay, lies nearly 0.5 mile N of the E extremity of Cuckold Island. It has a remarkable round mound and cliff at its E extremity and is clear of off-lying dangers. A directional light (framework tower, white rectangular daymark with orange stripes, 12m high), intensified on a bearing of 319°, stands on the headland.

Friar Island, 6.1m high, has rocky ledges, some of which are above-water, extending about 0.3 mile SW from the island. Owls Head Rock (Owl Rock), with a depth of 1.8m, lies on the E side of the entrance channel, nearly 0.8 mile W of the N end of Friar Island. A lighted bell buoy is moored about 1.4 miles SSE of Friar Island.

**Wolfes Island** (Nichol Island) (45°44'N., 62°46'W.) lies about 0.5 mile N of Friar Island, and separates the bay from the approach to Ship Harbour. Cable Island lies about 0.5 mile W of Wolfes Island, and is separated from it by False Passage, available only for boats. Shag Rock, a prominent pointed white rock 9.1m high, lies nearly 0.5 mile ESE of Cable Point, the SW extremity of Cable Island.

**Anchorage.**—There is an anchorage in 6 to 7m, sand and mud, about 0.4 mile WNW of Cable Point.

At Palmer Cove, on the W side of the bay, there is a government pier with a depth of 1.8m at its outer end.

### Ship Harbour Approach

**3.14** The approach to Ship Harbor lies between Wolfes Island and Borgles Island, two of the largest islands off this part of the coast. Both islands are less than 30m high.

**Off-lying Dangers.**—**Little Rock** (44°41'N., 62°43'W.), with a depth of 8.2m, lies about 3.5 miles S of Green Point (Charles Point), the SE point of Borgles Island. An 8.8m patch lies about 0.9 mile NW of Little Rock.

A lighted whistle buoy is moored about 0.3 mile ESE of Little Rock.

Broad Breaker, with a depth of 8.5m, lies about 1.5 miles SSE of Green Point. Broad Shoal, rock, with a depth of 10.7m, lies about 0.8 mile SE of Broad Breaker.

**Flat Ledges** (44°43'N., 62°45'W.), on the W side of the entrance, extend about 0.5 mile in a NE-SW direction. A rock,

0.9m high, lies near the center, about 0.8 mile E of Friar Island. West Bull, with a depth of 1.5m, lies in the SW part of the ledge; East Bull, the farthest NE, has a depth of 2.1m.

Friar Ledges lie parallel with and about 0.4 mile NW of Flat Ledges. They consist of four separate rock outcrops, 0.6 to 1.2m high.

Middle Ground, with a depth of 6.7m, and Northeast Shoal, with a depth of 5.2m, lie about 1.3 miles ESE and nearly 1 mile E, respectively, of Long Point, the S extremity of Wolfes Island.

Wolfes Point (Wolf Point), the NE extremity of Wolfes Island, lies about 1.5 miles N of Long Point. The coast between the points is foul for about 0.2 mile offshore. A 2.3m patch lies about 0.3 mile WSW of Wolfes Point.

Ship Harbour Light is shown from a framework mast, 7m high, situated on Wolfes Point.

**3.15 Bear Rock** (44°44'N., 62°44'W.), 2m high and steep to on its E side, lies in the middle of the approach, about 1 mile SW of Green Point. Two rocks, each of which dries 0.6m, extend about 230m SW of Bear Rock. Pot Rock, with a depth of 2.4m, lies about 0.9 mile W of Bear Rock.

Bull Rock, with a depth of 1.5m, lies about 0.6 mile SE of Green Point, near the outer end of a rocky bank. A shoal, with a depth of 4.6m, lies about 0.2 mile SW of Bull Rock, and another, with a depth of 3.6m, lies about 0.2 mile farther SW. Two large outcrops of bedrock, about 90m apart, lie about 0.3 mile S of Green Point. The N one is 0.6m high and the other is awash.

Western Islands, about 0.8 mile SW of Green Point, consist of several islets, mostly wooded, the largest of which is 15.2m high to the tree tops. There are several low rocky islands, the highest being 4.9m high, and a number of drying shoals, about 0.3 to 0.4 mile SE of the Western Islands.

Bald Island lies about 0.3 mile NW of Tucker Point, the W extremity of Borgles Island. It is divided into two parts at HW, and is the S of a group of islets extending NW to the mainland.

**Ship Rock** (44°46'N., 62°46'W.), after which the harbor is named, lies about 1.3 miles NW of Tucker Point. It is a remarkable clay slate cliff, 23m high, which when seen from a distance seaward, resembles a ship under sail.

Hardwood Island lies about 0.3 mile W of Ship Rock. A rocky shoal, with a depth of 4.6m, lies about 0.5 mile S of Hardwood Island. Two patches, with depths of 4.9m and 5.5m, lie about 0.5 mile and 0.6 mile W, respectively, of the same island, with shallower depths NE of these patches.

**Passage Islands** (44°45'N., 62°47'W.), the largest 9m high and wooded, lie between Wolfes Island and DeBaies Point (Day Point), about 1.3 miles NW.

**Anchorage.**—Day Cove, between Passage Island and DeBaies Point, affords secure anchorage in 7 to 8m, mud, with the NE extremity of Passage Island bearing 105°, distant 0.5 mile.

**3.16 Ship Harbour** (44°47'N., 62°49'W.) (World Port Index No. 6310) is entered between Lapstone Point, about 0.4 mile N of DeBaies Point, and Black Point, about 0.6 mile further NNW. Beach Point lies about 0.3 mile W of Black Point. The harbor has a narrow entrance and provides secure shelter for small vessels.

**Ice.**—In average years the harbor is frozen over from the middle of December to the middle of March.

**Tides—Currents.**—The tidal rise at Ship Harbour is 1.9m at MHWS, and 1.6m at MHWN.

The ordinary velocity of the tidal currents does not exceed 0.5 knot, but after heavy rains the melting of the winter snow, or SE gales, the ebb current is reported to be much stronger.

**Aspect.**—Black Rock, awash, lies about 0.2 mile SE of Black Point. Shoals, with depths of less than 5.5m, extend about 90m S and about 0.2 mile NE of the rock.

O'Brien Reef, which dries 1.2m, lies on the NE side of the channel, about 0.4 mile NW of Black Point. The channel between O'Brien Reef and Beach Point is only 146m wide between the 5m curves.

**Salmon Point** (44°47'N., 62°49'W.), on the E side shore of the harbor, about 0.8 mile NW of Black Point, has clay cliffs and a drying spit off its W extremity. A bank, with depths of less than 5m, extends about 0.2 mile offshore N of the point. The wharf SE of the point is no longer usable.

Whale Island, small and low, lies close off the W shore, nearly 1 mile NW of Beach Point.

Laybolts Island (Caroline Island), with its S end about 0.2 mile NW of Whale Island, is easily identified by its round wooded summit, 63m high, near its N end.

Mussel Island, about 1 mile NNW of Salmon Point, has a drying reef extending about 0.1 mile NW of it.

North of Laybolts and Mussel Islands, the harbor is encumbered by rock and shoals to a line joining Eisans Point about 1 mile NW of Mussel Island, and Welsh Point, 0.5 mile E. North of this line, a clear basin, with depths of 7.3 to 16.5m, extends about 1.8 miles W to the head of the harbor.

**Anchorage.**—The best anchorage is in Ship Harbour between Salmon Point and Whale Island in 8 to 12m, mud. Secure anchorage can also be found ESE of DeBaies Point in about 8m, mud; a recommended berth lies with the NE extremity of the Passage Islands bearing 105°, distant 0.5 mile. A buoy is moored 0.3 mile SSE of DeBaies Point, about 0.3 mile SW of the anchorage position.

Mariners should not proceed beyond the anchorage W of Salmon Point without local knowledge.

**Directions.**—Approaching from the vicinity of the lighted whistle buoy marking Little Rock, pass E of this buoy and approach with the summit of Ship Rock, in line bearing 334° with the W extremity of Bald Island, to pass between Bear Rock and the dangers extending SE from Wolfes Island. When N of Bear Rock, steer to pass midway between Wolfes Point and Bald Island. Then steer for Lapstone Point and after passing NE of Passage Island, either steer for the anchorage in Day Cove or if for Ship Harbour, bring the NE extremity of Caroline Island in line with the conspicuous white house on Eisans Point, bearing 312°. Steer on this range, and when N of Black Point, steer to pass midway between O'Brien Point and Beach Point, and then to the anchorage. Vessels without local knowledge should not proceed beyond the recommended anchorage.

Both Black Rock and O'Brien Reef are marked close S by buoys.

**Caution.**—Marine farming activities are situated at many areas within Ship Harbour and mariners are advised to navigate with caution.

**3.17 Shoal Bay** (44°45'N., 62°41'W.) affords good shelter to shipping and is easy to access. It is entered between Green Point, the SE extremity of Borgles Island, and Outer Island, which lies close S of Tangier Island.

**Off-lying Danger.**—Tangier Shoal (Silver Shoal), with a least depth of 7.9m, lies about 3.3 miles SE of Outer Island.

Broad Breaker, with a 10.7m patch SE of it, and Bull Rock, on the W side of the approach, have been described previously in paragraph 3.14. Depths of less than 5.5m lie about 0.4 mile N of Bull Rock.

**Borgles Point** (Borgle Bluff) (44°46'N., 62°43'W.), the NE extremity of Borgles Island, lies about 1.5 miles NNW of Green Point. Borgles Shoal, with a depth of 3.7m, lies about 1 mile SE of Borgles Point. A bank, with depths of less than 9.1m, extends about 0.5 mile S of Mouseback Point, the SE extremity of Outer Island. A 4.9m patch lies on this bank about 0.2 mile SSE of the same point.

**Baltee Point** (44°46'N., 62°42'W.), the SW extremity of Baltee Island, lies about 1.3 miles NNE of Outer Island. Baltee Shoal, with a least depth of 5.5m, lies about 0.5 mile SE of Baltee Point.

Net Point (Net Rock Point), the SW extremity of Inner Baltee Island, lies about 0.8 mile NW of Baltee Point. Net Shoal, with a depth of 4.9m, lies about 0.3 mile S of Net Point.

Gravel Island, 2.1m high and composed of mainly boulders and stone, lies about 0.8 mile NW of Net Point. Foul ground extends about 0.2 mile W and SW of the island. Shag Ledge (Eve Ledge), 0.3m high, lies about 0.4 mile SW of Gravel Island. Shoal water extends for about 0.1 mile around the ledge.

Tuff Island, with Mary Island about 0.1 mile SW, lies about 0.4 mile W of Gravel Island. Glawsons Cove (Shellnut Cove) lies about 0.2 mile NW of Tuft Island.

Beaver Bluff (Kennedy Point), with red cliffs about 0.3 mile NE of it, lies about 0.8 mile W of Glawsons Cove. Mercury Rock, with a depth of 0.6m, lies about 0.3 mile WSW of Kennedy Point.

Middle Ground, with a depth of 2.7m, lies about 0.5 mile NW of the N extremity of Borgles Island.

**Anchorage.**—Vessels may anchor in 11 to 12m, mud, about 0.5 mile NNW of the N extremity of Borgles Island. Small vessels can anchor in the N part of Shoal Bay, W of Glawsons Cove, in 5.5 to 6.4m, mud.

**Directions.**—Approaching Shoal Bay from the E, pass 0.75 mile S of Outer Island to clear the bank extending S from the islands, and then steer 305° for Borgles Bluff, passing between Baltee and Borgles Shoals. When N of Borgles Shoal, alter course N to bring the W end of the red cliff NE of Beaver Bluff to bear 308°, open W of Mary Island. When W of Net Shoal, steer to pass between Shag Ledge and the N point of Borgles Island, and then to the anchorages.

**3.18 Tangier Harbour** (44°48'N., 62°43'W.) (World Port Index No. 6300) is entered between Tangier Island and **Ironbound Island** (44°46'N., 62°39'W.), about 0.5 mile NNE. The entrance is not easy to identify, the land being low and devoid of any remarkable features, with the exception of **Porcupine Hill** (44°47'N., 62°40'W.), 50m high, a conspicuous wooded hill resembling a porcupine on the E side of the harbor.

Tangier Shoal has been previously described in paragraph 3.17. There are numerous dangers, including Horse Rock and

Popes Shoal, on the E side of the approach, which will be described with Popes Harbour in paragraph 3.19.

Ironbound Ledge, above-water, lies near the outer end of a bank, with depths of less than 5.5m, extending about 0.2 mile S of Ironbound Island.

Drunken Dick, which dries 0.9m, lies about 0.4 mile SE of Ironbound Ledge. A shoal, with a least depth of 5.5m, lies about 0.4 mile SSE of Drunken Dick.

It is recommended that mariners without local knowledge should not attempt to enter the harbor.

**Sandy Cove Point** (44°46'N., 62°40'W.) lies about 0.3 mile W of Ironbound Island. A bank, with depths of less than 5.5m, extends about 0.1 mile S and about 0.4 mile NW of the point.

A bank, with depths of less than 5.5m, extends 0.1 mile N from Tangier Island and 0.2 to 0.3 mile E of Baltee Island.

There are a number of dangers, above and below-water, near the edge of the 5.5m curve, which lies about 0.3 mile E of the Baltee Islands.

Porcupine Point, on which Porcupine Hill is located, lies about 0.5 mile NNW of Sandy Cove Point. Whaleback, a group of drying rocks, the highest of which dries 0.6m, lies about 0.5 mile NW of Porcupine Point. The E and W edges of Whaleback are buoyed. A 4m patch lies about 0.2 mile ENE of Whaleback.

Shag Ledge, 0.3m high, lies about 0.4 mile NW of Whaleback.

Hog Island, with Hog Island Point at its NW extremity, lies about 1.3 miles NW of Porcupine Point.

**Anchorage.**—Vessels may anchor in the E part of the harbor, about 0.7 mile NW of Porcupine Point, in a depth of 6.1m, mud. More secure anchorage can be found about 0.2 mile ENE of Indian Point off the entrance to Mason Cove in about 4m.

**Directions.**—From a position about 0.2 mile NE of Tangier Lighted Whistle Buoy, steer for Porcupine Hill, bearing 328°, passing midway between Tangier Island and Drunken Dick. Then alter course to pass not less than 0.1 mile SW of Sandy Cove Point. When Porcupine Hill bears 044°, alter course N and bring Porcupine Point, bearing 136°, astern, and in line with the S end of Sandy Cove Beach, located about 0.2 mile NE of Sandy Cove Point. Then steer on this range to pass between Whaleback and the 4m patch, about 0.2 mile ENE, and to the anchorage.

Vessels of light draft proceeding to Mason Cove should pass about 0.2 mile N of Shag Ledge and around Hog Island at the same distance to the anchorage.

**3.19 Popes Harbour** (Pope Harbor) (44°48'N., 62°39'W.) is entered between **Popes Head** (44°47'N., 62°37'W.), the S extremity of Phoenix Island, and Popes Rock, 0.9m high, about 1 mile SW. The navigable channel is restricted to a width of about 0.3 mile because of the many dangers. There is no shelter in the harbor from S gales, which send in a heavy swell, except N of Harbour Island, located about 2 miles NW of Popes Head.

**Tides—Currents.**—The tidal currents in Popes Harbour are weak and affected by wind, as is also the rise of tide.

**Aspect.**—A lighted whistle buoy is moored about 1.8 miles S of Popes Rock. A lighted bell buoy is moored about 0.2 mile SW of Popes Head.

Popes Harbor Light is shown at an elevation of 7.6m from a tower on the W side of Harbor Island.

**Horse Rock** (44°45'N., 62°36'W.), with a depth of 2.7m, lies about 1.5 miles S of Popes Head. A shoal, with depths of less than 9.1m, extends about 0.2 mile SE and W of the rock. A black can buoy is moored about 0.4 mile SE of Horse Rock.

Popes Shoals, with depths of 2.1 to 9.1m, extend more than 0.1 mile S and E, and nearly 1 mile SE from Popes Rock.

**Gerard Head** (44°47'N., 62°38'W.), the S extremity of Gerard Island, lies about 1 mile NW of Popes Head. A shoal, with depths of less than 5.5m, on which are several rocks, above-water, extends nearly 0.2 mile W of Gerard Head.

Schooner Rock, with a depth of 1.5m, lies about 0.5 mile WSW of Gerard Head. A buoy is moored at the outer end of shoal ground extending about 0.1 mile SE of the rock. A 1.8m and a 1.2m shoal lie about 0.3 mile SE and 0.3 mile S, respectively, of Schooner Rock.

Black Rock, 1.8m high, lies about 0.4 mile S of Harbour Island. A shoal, with a least depth of 1.8m, lies about 0.1 mile NE of the rock.

Harbour Ledges (Barrier Reef), above-water in places, extends about 0.3 mile W from a point on Gerard Island, about 0.5 mile N of Gerard Head.

Shoal water extends about 135m W from the W end of Harbour Island.

Mink Islands lie about 0.3 mile NW of Harbour Island. The SW island is 6.7m high to the treetops, while the bare NE island is 4m high. Depths of less than 5.5m extend about 0.1 mile S of the islands.

**Anchorage.**—Vessels of appropriate size can find anchorage N of Harbour Island in about 8m, mud, protected from S gales, but space is severely restricted; a recommended berth is about 137m SSE of Bollong Point. More secure and spacious anchorage can be found in the landlocked approaches to Popes Harbour village, between the NW side of Gerard Island and the mainland. Small craft can find anchorage in Shelter Cove, favoring the S shore on entry to avoid the 0.3m shoal.

**Directions.**—To enter Popes Harbour, pass E of Horse Rock and steer for Gerard Head, bearing 319°, slightly open of the E side of Harbour Island, which leads between Pope Head and Popes Shoals. When Popes Head bears about 075°, alter course W so as to bring the SW and W points of Harbour Island in line bearing 322°. Steer on this bearing, which leads between Gerard Head and Schooner Rock, until SW of Harbor Ledges. Then alter course to pass midway between Harbour Island, the W shore of the harbor. Then round Harbour Island at a distance of 0.15 mile and proceed to the anchorage.

**3.20 Spry Bay** (44°48'N., 62°35'W.) is entered between **Taylor Head** (44°47'N., 62°33'W.) and Stony Island, 9.1m high, about 2 miles W. Gerard Island, 30m high, and Phoenix Island, 39m high, provide protection from the SW. Taylor Head, 13.7m high, is the S extremity of a long, narrow peninsula.

Access to the bay is difficult and is afforded by one of three entry channels between a number of dangers obstructing the entrance. The preferred channel is the middle one.

**Tomlee Head** (44°49'N., 62°36'W.), about 3 miles NW of Taylor Head, is saddle-shaped and steep-to on its S side. A

light is exhibited from a white tower, dividing the head of the harbor into Tomlee Bay to the E and Taylor Bay to the W. Tomlee Bay, E of the head, is almost full of rocks, but affords shelter to small fishing vessels.

Spry Harbour, the W part of Spry Bay, is entered between Tomlee Head and the N coast of Gerard Island. Taylor Bay, the N arm of Spry Harbour, is obstructed towards its head by rocks and shoals.

**Redman Shoal** (44°46'N., 62°33'W.), with a depth of 10.7m, lies about 1.4 miles SSW of Taylor Head. A 10.7m patch lies nearly 0.1 mile S of Redman Shoal.

A lighted bell buoy is moored about 0.5 mile S of Redman Shoal.

Mad Moll Reef, on the E side of the entrance, extends about 0.8 mile SW from the W end of Taylor Head, and consists of two dry patches and many rocks with depths of less than 1.8m. From its SW extremity, the reef runs another 0.8 mile N, and on this part lie two patches with depths of less than 1.8m.

Maloney Shoal, with a least depth of 3.7m, lies about 0.7 mile SE of Stony Island (Stony Island). A buoy marks the SE side of the shoal.

Herring Shoal, with a depth of 3.4m, lies about 0.7 mile S of Stony Island.

Maloney Rock, 2.7m high, lies about 0.4 mile ENE of the SE end of Stony Island.

Neverfail Shoal, with a least depth of 4.6m, lies about 0.3 mile ENE of Maloney Rock.

Ram Rock, which dries 0.3m, lies about 0.2 mile E of Lawler Point, the NE point of Gerard Island.

Bald Rock, about 0.8 mile SSE of Tomlee Head, is the outermost of the islets and rocks lying in the entrance to Tomlee Bay. Leslie Island lies about 0.2 mile NE of Bald Rock. A 7.3m rocky patch lies about 0.2 mile W of Bald Rock.

**Anchorage.**—There is good anchorage in Spry Harbour in depths of 11 to 14.6m, mud. Fishing vessels anchor near the head of Tomlee Bay, and small vessels can also anchor in Taylor Bay. There is a least depth of 5.8m in the approach to the anchorage in Spry Harbour.

Local knowledge is required for anchorage in Tomlee and Taylor Bays.

**Directions.**—A sector light, shown from Tomlee Head, marks the preferred channel into the bay.

To enter Spry Bay by the E channel, which is best, steer to pass close E of the lighted bell buoy marking Redman Shoal, with the E side of Tomlee Head bearing 340°, in line with high E side of Leslie Island. This range leads W of Redman Shoal and Mad Moll Reef, and E of Neverfail Shoal. When Maloney Rock comes in line with Popes Head, bearing 237°, alter course NW to pass between the ridge extending NNW from Neverfail Shoal and the 9.1m patch N of it, then between Ram Rock and Bald Rock. Then round Gerard Island at a distance of 0.2 mile and proceed to the anchorage.

**3.21 Sheet Harbor** (44°54'N., 62°30'W.) (World Port Index No. 6290), one of the finest harbors on the SE coast of Nova Scotia, is a landlocked inlet extending several miles N from its entrance. Numerous dangers lie in the approach, some of which lie as far as 4 miles offshore. This harbor affords sheltered anchorage and there are several alongside berths. The principal commodity handled is wood pulp.

The approach to Sheet Harbor lies between **Taylor Head** (44°47'N., 62°33'W.) and Sober Island, 40.5m high, about 4 miles NE. Fishery Island, 15.2m high, lies about 0.2 mile E of the S extremity of Sober Island. **Fishery Point** (44°49'N., 62°27'W.) is the E extremity of Fishery Island.

Guilford Island, 9.1m high, lies about 2 miles NE of Taylor Head. The entrance to Mushaboom Harbour lies to the W, and the entrance to Sheet Harbor to the E of the island.

**Sheet Rock** (44°50'N., 62°30'W.), 13.7m high, about 1 mile farther NE, lies in the entrance to Sheet Harbor. There is a remarkable cliff of clay slate on the S side of the rock, which resembles a suspended sheet from a distance. A light (white round structure, red bands, 9m high, stands on the rock. A small rock, which dries 1.8m, lies about 90m W of Sheet Rock.

A group of reefs and shoals, the highest of which is 2.4m high, lies about 0.5 mile WSW of Sheet Rock.

**Broad Bank** (44°44'N., 62°32'W.), with a least depth of 14.6m, rock, extends about 4 miles to the S of Taylor Head. Pollock Ground, with a depth of 10.1m, lies nearly 3 miles SSE of Taylor Head.

Yankee Jack, with a depth of only 0.9m, lies about 2.5 miles SE of Taylor Head. A 1.8m shoal lies about 0.3 mile W of Yankee Jack. At HW, with a smooth sea, neither of these shoals break. A shoal, with a depth of 4.6m, lies about 345m SSW, and another shoal, with a depth of 9.6m, about 1.1 miles WSW of Yankee Jack.

Taylor Goose, which dries 1.2m, lies about 1.8 miles SE of Taylor Head.

Mushaboom Shoal, with a depth of 5.5m and which seldom breaks, lies about 1.5 miles ESE of Taylor Head.

A rock, with a depth of 6.7m, and another, with a depth of 8.2m, lie about 0.6 mile and 0.8 mile E, respectively, of Taylor Head.

Psyche Shoals, with a least depth of 3.7m, lie about 1 mile ENE of Taylor Head.

**Geddes Shoal** (44°45'N., 62°27'W.), about 4.3 miles S of Fishery Point, has a least depth of 9.1m and breaks only after heavy gales. A lighted whistle buoy is moored 1 mile SW of Geddes Shoal.

Logan Rock, with a depth of 5.9m and which seldom breaks, lies about 3.8 miles SSW of Fishery Point.

Western Shagroost, 3.7m high, lies about 2 miles S of Fishery Point. Foul ground, with drying rocks, extends about 0.6 mile NE and SW of it. A reef, which dries 0.3m, lies about 0.5 mile SSW of Western Shagroost. Monroe Rock, with a least depth of 3.7m, lies about 1 mile SE of Western Shagroost.

Eastern Shagroost, 1.8m high, lies about 1.8 miles ENE of Western Shagroost. It is steep-to on its S side, but foul ground extends about 0.4 mile N and W of it. There are several patches, with depths of 2.7 to 9.1m between this rock and the rock which extend about 0.3 mile SE from Fishery Point.

Babin Shoal, with a least depth of 4.6m, lies about 1.7 miles SW of Fishery Point. Isolated shoals, with depths of 7 to 9.1m, lie within 0.8 mile of Babin Shoal.

Macdonald Rock, which dries 0.9m, lies about 0.8 mile SSW of Macdonald Point, the SW extremity of Sober Island. This rock lies near the outer end of Macdonald Shoals, a group of shoals extending about 0.6 mile WSW and about 1 mile S of the point.

Four shoal head, with depths of 7.9 to 8.8m, are centered about 0.6 mile WSW of Macdonald Rock.

A shoal, with a rock 0.3m high at its outer end, extends about 0.2 mile SE from Guildford Island.

**Inner Approach.**—The harbor is entered between **Danbury Island** (44°51'N., 62°30'W.), 12m high, located close W of Sober Island, and the Western Islands, 12.2m and 15.2m high, which lie about 0.7 mile NW of Sheet Rock. The entrance channel has a depth of over 13.7m and the leading marks being easily distinguished, little difficulty should be experienced in entering by day in clear weather. The numerous dangers in the approach render navigation difficult at night or in poor visibility.

A rock, awash, lies about 60m NE of the E extremity of the Western Islands.

Horse Island, 6.1m high, lies about 0.7 mile NW of the Western Islands. A 2.4m shoal and shoal with 4.9m lie about 0.2 mile NE and 0.3 mile SE, respectively, of Horse Island.

Lawrence Islet, 3m high, lies about 0.5 mile NE of Horse Island and a 7.6m patch and a 2.7m patch lie 0.2 mile SSW and SE, respectively, of Lawrence Islet.

White Rock, with a depth of 0.6m, lies about 0.5 mile N of the W extremity of Danbury Island.

Gull Ledge, a shingle ledge with its N end above-water, lies about 1 mile N of Danbury Island.

**Slab Point** (44°53'N., 62°30'W.), a prominent point on the W side of the harbor, lies about 1.5 miles NNE of Lawrence Islet. A shoal, with depths of 2.7 to 5.2m, extends about 0.4 mile off the W side of the harbor, midway between the point and the islet.

Slab Shoal, with a least depth of 2.1m, extends about 0.3 mile NE from Slab Point. The W extremities of Danbury Island and Sheet Rock, in line bearing 185.5°, leads close E of Slab Shoal.

Salmon Island, 13.7m high, lies on the E side of the harbor, about 2.3 miles N of Danbury Island. Foul ground extends about 0.1 mile W and SW of the island, and a shoal, with a least depth of 4.3m, lies about 0.7 mile S of Salmon Island.

At **Church Point** (44°55'N., 62°31'W.), about 5 miles above the harbor entrance, the harbor divides into Northeast Arm and Northwest Arm.

Ward Point, about 0.8 mile SE of Church Point, is a narrow shingle spit extending nearly 0.1 mile from the NE shore of the harbor.

A mussel bed, which dries 0.3m, lies about 0.2 mile W of Church Point.

A lighted orange and white mooring buoy (privately maintained) lies 0.3 mile SE of Church Point. A dangerous wreck lies 0.4 mile N of Church Point. The hospital, a large brick building, is situated 1.1 miles NW of Church Point.

**Ice.**—Ice forms in Sheet Harbor about the middle of January and breaks up early in March. During these months, the aid of an icebreaker is necessary to reach the head of the harbor.

**Tides—Currents.**—The tidal rise at Sheet Harbor is 1.8m at MHWS and is 1.5m at MHWN.

The velocity of the tidal currents in the entrance to Sheet Harbor does not normally exceed 0.5 knot, but the velocity, as well as the tidal rise, is affected by the wind.

**Depths—Limitations.**—At the head of Northwest Arm there is a public wharf, 55m long at the face, with a least depth of 4.6m alongside.

On the N shore of Malagash Cove, about 0.3 mile WNW of Horse Island, there is a government wharf with a width along the face of 12m and a depth of 4.9m alongside. A 4.3m shoal patch lies about 75m off the face of the wharf.

The Sheet Harbor Marine Terminal is situated on the W shore of the harbor opposite Ward Point. The wharf is 155m long with a least depth of 9.7m alongside. Mooring buoys are placed near the shore on each end of the wharf.

**Pilotage.**—Pilotage is not compulsory. Vessels requesting pilotage should contact Halifax Pilots 24 hours in advance, confirming or correcting 6 hours in advance. Pilots board about 4.7 miles SE of Taylor Head.

**Anchorage.**—Vessels may anchor anywhere in Sheet Harbor. There is good anchorage in 11.6 to 15.2m, mud, NW and W of the Western Islands. Smaller vessels may anchor to the S of Ward Point in 11 to 15m, mud.

**Directions.**—There are three principal channels of approach to Sheet Harbor. The middle passage, the widest and recommended route, between Logan Rock and Yankee Jack; the E passage, between Western Shagroost and Logan Rock; and the W passage, between Taylor Goose and Psyche Shoals.

**Middle Passage.**—From the vicinity of "X26" Lighted Whistle Buoy, steer with the E extremity of Sheet Rock in line 355° with the W extremity of Danbury Island. This course leads 0.5 mile E of Yankee Jack and clear of all dangers except for the patches, with depths of 7.3m and 7.9m, about 1.8 miles and 1 mile S, respectively, of Sheet Rock. The latter dangers can be easily avoided by bringing the W extremities of Sheet Rock and Danbury Island in range bearing 004°. After clearing these dangers, steer to pass not less than 0.15 mile on either side of Sheet Rock and then in mid-channel between Danbury Island and Western Islands.

**Eastern Passage.**—Do not bring "X26" Lighted Whistle Buoy to bear less than 250° until the W extremity of Sheet Rock is in line bearing 343.5° with the E extremity of Western Islands, then steer on this bearing, which leads E of Geddes Shoal and Logan Rock. When N of the latter, the leading marks should be used only as a general guide and opened as necessary to clear the dangers W of Western Shagroost and Babin Shoal. After passing Macdonald Rock, steer to pass not less than 0.15 mile on either side of Sheet Rock, then as previously directed.

**Western Passage.**—Steer with the W extremity of Sheet Rock in line bearing 019° with the E extremity of Danbury Island. This course leads W of Taylor Goose and Mushaboom Shoal, close E of Psyche Shoal, and between the bank extending 0.2 mile SSE from Guilford Island and the 10.1m rocky patch 0.4 mile further SE. When N of Guilford Island, proceed as directed above.

Vessels anchoring in the S part of the harbor should steer to pass not less than 0.15 mile E and N of the Western Islands.

Vessels proceeding to the anchorage SW of Ward Point should pass W of White Rock, and then steer in mid-channel to the anchorage. Vessels without local knowledge should not proceed above this anchorage.

**3.22 Mushaboom Harbour** (44°50'N., 62°33'W.) is entered between Psyche Island and Guilford Island. Shag Rock, drying 0.6m, lies on foul ground extending about 0.3 mile N of Psyche Island.

Bob Bluff lies about 0.7 mile NE of Shag Rock, and Milam Bluff, 29m high, lies nearly 1.5 miles farther NNW. Bob Shoal, a rock at a depth of 2.7m, lies about 0.2 mile NNE of Bob Bluff.

Gull Rock, 4.3m high, lies about 0.9 mile N of Bob Bluff. Foul ground extends about 0.2 mile N and 0.1 mile E of the rock.

Yellow Rock (Bald Rock), 3.4m high, lies about 0.4 mile WSW of Gull Rock. A 5.5m shoal lies midway between Gull and Yellow Rocks.

**Anchorage.**—A vessel may anchor in 11m, about 0.6 mile NNW of Gull Rock. Here the force of the sea is weakened to some extent by Gull Island and the shallow bank on which it stands.

Small craft can anchor off Bull Beach at the head of the bight between Bobs and Andersons Bluffs.

**Directions.**—To enter the harbor, keep the W extremity of Sheet Rock, bearing 019°, in line with the E extremity of Danbury Island until clear of Psyche Shoals, then alter course W to pass midway between Shag Rock and Ship Reef, and then NE of Bob Shoal. Then pass W and N of Yellow Rock to the anchorage. Vessels of light draft can pass between Yellow and Gull Rocks.

If entering on the other leading marks for Sheet Harbor, when Bob Bluff bears about 305°, alter course W to pass midway between Shag Rock and Ship Reef, and then as previously directed. (See Directions for Sheet Harbor.)

**3.23 Sheet Harbor Passage** is entered between **Fishery Point** (44°49'N., 62°27'W.) and Hardwood Island, 17.4m high, with red cliffs on its W side, nearly 1 mile NE. This passage is used by small craft with masters having local knowledge.

Sober Island Village lies on the N side of Sober Island, W of Cameron Point, the NE extremity of the island. There is a government wharf near the village which has a face 25m long and depth of 3.4m alongside. Good anchorage is reported in Sheet Harbor Passage.

Range lights, in line bearing 343°30', are shown on the mainland, the front light about 0.4 mile N of Cameron Point. The range lights lead between Western and Eastern Shagroost; however, they lead over a 4.6m patch about 0.5 mile ESE of Fishery Point. A lighted bell buoy is moored on the range line, about 0.2 mile S of the above shoal.

**Beaver Island** (44°50'N., 62°21'W.), lying about 4.5 miles E of Fishery Point, is 12.2m high with slate cliffs which appear white when seen from seaward, and is partly covered with shrubs. Beaver Island Light is shown from a white circular tower, 8.5m high, near the E end of the island.

A shoal, with a depth of 3m near its outer end, extends about 0.4 mile ENE from the E extremity of the island. A lighted bell buoy is moored about 0.5 mile E of Beaver Island.

A shoal, with a depth of 9.1m or less and on which are two islets, extends about 0.5 mile WSW from the W end of the island.

William Shoal, with a depth of 4.6m, lies about 2 miles SE of Beaver Island Light. A rocky shoal, with a depth of 8.5m, lies about 0.2 mile ENE of William Shoal. A lighted whistle buoy is moored about 0.8 mile E of William Shoal.

Sam Ground, with a depth of 12.8m, lies about 3 miles SSW of Beaver Island Light.

Horse Shoal, with a depth of 8.5m, lies about 1 mile SSE of Beaver Island Light. A 9.1m patch lies about 0.5 mile W of Horse Shoal.

Hard Shoal (Hardwood Island Shoal), with a depth of 9.1m, about 2.5 miles ENE of Beaver Island Light, is the outermost danger on the E side of the approach to Beaver Harbor.

Marmot Rock (The Bassoon), awash at LW, lies about 2 miles NE of Beaver Island Light. It seldom breaks with the prevailing SW wind. A shoal, with a least depth of 4m, lies about 0.3 mile ESE of Marmot Rock.

Quoddy Shoals, awash, lie about 2 miles NNE of Beaver Island Light. A 6.7m rocky shoal lies about 0.4 mile ESE of the shallowest part of the shoals. A 3.4m rock is located 0.2 mile NNW of Quoddy Shoals.

Middle Shoal, with a least depth of 0.9m, lies about 1.5 miles N of Beaver Island Light. A rocky patch, with a least depth of 1.8m, lies 0.3 mile WNW of Middle Shoal. Another patch, with a depth of 4.6m, lies 0.2 mile S of Middle Shoal, and a rock, with a depth of 4m, lies 0.3 mile ESE of Middle Shoal.

Harbour Islands are a group of islands, the largest of which is 15.2m high and lies about 2.5 miles N of Beaver Island light.

**Pumpkin Island** (44°49'N., 62°23'W.), 27.4m high and conspicuous, lies about 1.3 miles W of Beaver Island. Drying ledges extend about 0.5 mile S of the island, and a 2.4m shoal lies about 0.6 mile SW of the island's S extremity.

Horse Island, 12.2m high, lies about 1 mile NW of Beaver Island. A small island lies about 0.2 mile SE of the island, and a rocky ledge extends over 0.3 mile E of the island.

Sutherland Island, about 1 mile farther NW, has a prominent conical summit, 32.6m high, and is covered with trees. Rocky ledges extend about 0.5 mile SE of the island. There are many islets, rocks, and shoals W and NW of Sutherland Island.

Harbour Rock, 3.7m high, lies about 1 mile E of Beaver Point. A rock, with a depth of 1.5m, is located about 0.4 mile E of Harbour Rock. Another rock, with a depth of 4.3m, lies about 0.6 mile SE of Harbour Rock.

**3.24 Beaver Point** (44°52'N., 62°24'W.) lies about 3.8 miles NW of Beaver Island.

Sandy Island, about 0.8 mile NE of Beaver Point, is partially treed and has a red cliff, 6.1m high, on its S side. From this cliff, a shoal, with depths of less than 5.5m, extends about 0.3 mile SSE. A 3.4m patch lies about 0.3 mile S of the island, and a 6.1m rocky shoal lies about 0.2 mile farther S.

Hardwood Island, steep-to on its W side, lies about 0.3 mile N of Sandy Island. Rocky Island lies 0.5 mile W of Hardwood Island. A rock, with a depth of 0.9m, lies about 230m E of the E extremity of Rocky Island.

Balcom Shoal, with a least depth of 2.7m, lies from 0.1 to 0.3 mile W of the N extremity of Hardwood Island.

Whale Rock, which dries 1.5m, lies about 0.6 mile N of Hardwood Island. A 4.9m shoal lies about 0.2 mile W of Whale Rock.

McLeod Island, about 0.4 mile W of Rocky Island, lies in the entrance to McLeod Cove, the NW part of the harbor. Between the N ends of Rocky and McLeod Islands is a rocky

ledge, extending 0.25 mile SSW from McLeod Point, the E entrance point of the cove.

A reef of stones, connected to a sand and shingle spit, extends about 0.2 mile NNW from a point about 1 mile NW of Beaver Point.

**Beaver Harbor** (44°53'N., 62°25'W.) (World Port Index No. 6280) is entered between Beaver Point and Nowlan Head, about 2.5 miles ENE. The harbor is easy to enter after the lighthouse on Beaver Island has been identified. Quoddy Hill, 56m high, nearly 0.5 mile N of Nowlan Head, is conspicuous from seaward. Port Dufferin, where there is a church with a steeple, lies about 2.8 miles NNE of Beaver Point. The Salmon River enters the harbor near the village.

There is a government wharf about 1.3 miles NW of Beaver Point. The wharf is 41m long, L-shaped, and 13m long at the outer face, which has a least depth of 2.7m alongside.

Factory Cove, 1.75 miles NNE of Beaver Point, has a public pier, 15m long, 6m wide. It was reported partly in disrepair in 1990.

**Anchorage.**—There is anchorage for vessels in the outer harbor, sheltered from all but SE winds, in depths of 13 to 18m.

With local knowledge, small vessels may anchor in the Salmon River anchorage, N of Hardwood Island, in a depth of 7 to 10m.

**Directions.**—Having made the lighted whistle buoy moored ESE of **William Shoal** (44°48'N., 62°19'W.), pass NE of it, and NE of the lighted bell buoy moored E of Beaver Island. Should the bell buoy not be in position, give the E end of Beaver Island a berth of at least 0.5 mile to avoid the shoal extending 0.4 mile ENE from it. Then steer in midchannel between Middle Ground and Sutherland Island, then between Harbour Rock and Beaver Point to the anchorage.

A vessel should experience no difficulty in entering Beaver Harbor at night, with the aid of the lighted buoys, and anchoring W of Sandy Island.

**Caution.**—It is necessary to avoid a transatlantic submarine cable laid through the harbor and landed in Macloed Cove in the vicinity of Bluff Head (close W of McLeod Island).

It is necessary to avoid Whale Rock (0.6 mile N of Hardwood Island), which dries 1.5m, and which is marked by a buoy moored close W. The rock lies close W of the submerged end of a ruined breakwater; a rocky 3m patch lies about 0.2 mile WNW of Whale Rock.

### Beaver Harbor to Necum Teuch Harbor

**3.25** Between **Nowlan Head** (44°53'N., 62°21'W.) and Baptiste Island, about 2.5 miles NE, there is a bay encumbered with islets, reefs, and shoals, with Quoddy Inlet on the W side. The inlet, entered E of Nowlan Head, is little used as an anchorage as its entrance is encumbered with islets and dangers.

Close S of Baptiste Island, there is a buoyed channel to Beaver Harbour for the use of small craft. Local knowledge is required.

**Necum Teuch Harbor** (44°57'N., 62°13'W.), entered between **Torpey Island** (44°55'N., 62°16'W.) and Black Duck Island, about 2.3 miles ENE, is the outlet of the Moser River, a

small stream admitting only small craft. The anchorages in Necum Teuch Harbor and the bay NW of **Brokenback Island** (44°54'N., 62°16'W.) are exposed to offshore winds and seas.

**Bird Islands** (44°52'N., 62°17'W.), about 3.4 miles NE of Beaver Island, are the S islands on the W side of the approach. The islands are 5m high and bare. Roaring Cow, awash, lies near the outer end of shoals, which extend nearly 0.8 mile SW of the W extremity of Bird Islands. Shoal patches, one of which has a least depth of 1.8m, lie within 1 mile NE of the E island of the group.

Chapel Shoal, with a least depth of 11m, lies about 2.7 mile SSE of the E Bird Island, and is the outermost danger on the W side of the approach to Necum Teuch Harbor.

Bassoon Reefs (Bird Island Breakers), the SE of which lies about 1.8 miles SE of the E Bird Island, are an extensive group of large rounded stones which partly dry at LW. They usually break heavily except at HWS tides, when they are not easily identified with an offshore wind. Harvey Shoal and Southwest Breaker are the W and SW dangers, respectively, of this group. A lighted bell buoy is moored 0.75 mile ESE of the SE extremity of Bassoon Reefs.

Snapper Shoal, with a least depth of 7.3m, lies in the fairway, about 2.3 miles E of the E Bird Island.

Brokenback Island, 18.3m high, lies about 1.5 miles N of the Bird Islands. Between Brokenback Island and Baptiste Island, about 0.8 mile WNW, there are numerous islands and dangers.

Kitts Reef, awash, lies about 1.3 miles E of Brokenback Island.

Gold Island, 15.2m high, lies nearly 1 mile NE of Brokenback Island, and between them is the entrance to the anchorage off Harrigan Cove.

Shag Ledge, which dries, lies about 0.6 mile E of Gold Island. Foul ground extends more than 0.5 mile N of the ledge.

**Halibut Islands** (44°53'N., 62°12'W.), 10.7m high, about 3.3 miles ENE of the Bird Islands, are a group of islands and reefs on the E side of the approach to Necum Teuch Harbor. Pollock Shoal, with a least depth of 5.1m, lies about 0.5 mile SSE of the SW extremity of the Halibut Islands.

Bowen Ledge, 2.4m high, consists of two rocky ledges located on a shoal with depths of less than 5.5m, about 2.3 miles ESE of the SW extremity of the Halibut Islands. An 8.2m patch lies about 0.3 mile S of the SW extremity of Bowen Ledge. A lighted bell buoy is moored about 0.5 mile SW of Bowen Ledge.

Salamander Rock, with a depth of 0.3m, lies about 0.5 mile N of Halibut Island. A depth of 4.6m lies about 0.2 mile W of the rock.

A 9.1m patch lies about 0.9 mile WNW of the N Halibut Island.

Duck Shoals, on which are two rocks with depths of less than 1.8m, and several shoal heads with depths of 2.4 to 5.5m, extend 0.75 mile S from Black Duck Island, situated about 1.3 mile N of the N Halibut Island.

**3.26 Harbour Rock** (44°55'N., 62°14'W.), 9.1m high, lies about 1.8 miles NE of Gold Island.

Bull Rock, awash, about 0.3 mile ENE of Harbour Rock, lies on a shoal with depths of 8.2 to 8.5m.

Calf Shoal, which nearly dries, lies with its W end about 0.8 mile NE of Harbour Rock, and lies on a bank with depths of less than 5m.

Dry Ledge lies nearly 0.5 mile W of Harbour Rock. Two patches, with depths of 5.2 and 9.1m, lie about 0.2 mile NW and 0.2 mile NNW, respectively, of Harbour Rock.

Ship Island, 27.4m high, lies about 0.5 mile WNW of Harbour Rock. Between Ship Island and Torpey Island lies a large shoal, with depths of 2.4 to 4.6m. On this shoal are several rocks above and below-water.

Middle Shoal, with a least depth of 2.1m, lies about 0.3 mile N of Ship Island.

Moser Rock, with a depth of 1.2m, lies about 1.5 miles N of Harbour Rock.

A reef extends about 0.5 mile E from the W entrance point to Moser River.

Vessels can obtain anchorage in Necum Teuch Harbor and in the bay NW of Brokenback Islands; however, both of these anchorages are exposed to offshore winds and seas.

**Directions.**—Vessels should approach with the summit of Baptiste Island in line with the E extremity of Brokenback Island, bearing 304°, until past Snapper Shoal. If bound for the anchorage NW of Brokenback Island, steer on the range until 1 mile from the island. Then pass at least 0.1 mile NE of Brokenback Island and anchor in depths of 16.5 to 18.3m when the W extremity of the latter island bears 176°, distance 0.8 mile.

If proceeding to the anchorage in Necum Teuch Harbor, when past Snapper Shoal, steer to pass 1 mile W of the N Halibut Island, taking care to avoid Salamander Rock and the 4.6m patch lying about 0.2 mile W of the rock. Then steer to pass between Harbour Rock and Bull Rock, taking care to avoid the 9.1m patch NW of the N Halibut Island, and the 8.5m patch, midway between Harbor and Bull Rocks. Then steer NE to the anchorage, giving a wide berth to Calf Shoal. Harbour Rock, bearing 343°, and in line with the W entrance point of the Moser River, leads W of Pollock Shoal and of the Halibut Islands, but also leads over the 4.6m patch lying about 0.2 mile W of Salamander Rock, and also over the 9.1m patch lying 0.5 mile further N.

**Marie Joseph Harbor** (44°58'N., 62°05'W.) (World Port Index No. 6250) is protected S by Turner Island, Goose Island, and Barren Island, which are fringed by rocks and ledges. False Passage (Salmoneaux Passage), separating Goose and Barren Islands, is not navigable.

The harbor has two entrances, the W, between Blackbill Point, the NW extremity of Turner Island and Epe Point, about 0.6 mile NE; and the E, between the N extremity of Barren Island and Smith Point, about 0.7 mile NW.

The entrances are intricate, especially the W, and should not be attempted without local knowledge in any vessel drawing over 2.7m.

The harbor provides secure anchorage, but is restricted by several dangers. There are several piers and a fish processing plant in Hawbolt Cove (1 mile NW of Smith point) in the vicinity of which lies the village of Marie Joseph.

There is an inside buoyed channel for small craft from Barren Island to Necum Teuch Harbor, then as far W as Sheet Harbor Passage.

**3.27 Islands and Dangers in the W Approach.—White Islands** (44°52'N., 62°08'W.), the S islands in the W approach to Marie Joseph Harbor, lie with their E end (44°53'N., 62°07'W.), 24.4m high, about 3.5 miles S of Blackbill Point. Camp Island is the W island of the group. Little White Island, 9.1m high, lies about 1 mile NE of the E extremity of the White Islands. Foul ground extends about 0.3 mile W and N of the White Islands. A 6.7m patch lies about 0.5 mile SE of Little White Island. A shoal, with a least depth of 3m, extends NNE for 0.7 mile from the W end of the largest of the White Islands.

A lighted bell buoy is moored about 0.7 mile E of the E end of the White Islands.

West Black Ledges and East Black Ledges, above-water, lie about 0.8 mile and 1.5 miles NE, respectively, of Little White Island. The former is almost joined to Little White Island by reefs.

**Lockwood Rock** (44°52'N., 62°04'W.), with a depth of 5.5m, is the outermost danger along this section of coast, lying about 2 miles SSE of Little White Island.

A lighted whistle buoy is moored about 0.4 mile S of Lockwood Rock.

Crab Rock, with a depth of 9.1m, lies about 0.8 mile N of Lockwood Rock.

Horseshoe Shoal (Georges Mark), with a least depth of 5.5m, and David Shoal, with a depth of 7.3m, lie about 1.5 miles SSW and 1 mile SW, respectively, of the E end of the White Islands.

Frying Pan, an islet, lies about 1 mile NNE of Camp Island. A shoal, with a depth of less than 5.5m, extends about 0.3 mile WSW from the island, and there is a depth of less than 7.3m for about 0.3 mile farther WSW. A 7.3m rock lies about 0.8 mile SW of the W end of Frying Pan. A 4.9m rock lies about 0.3 mile W of Frying Pan. Shoal water, with a least depth of 4.6m, extends about 0.7 mile E of Frying Pan.

Byrne Rock (White Cliffs), with a depth of 2.7m, lies about 1 mile NNW of the E extremity of White Island. A 9.1m rocky patch lies about 0.6 mile NNE of the same extremity.

Tuffin Island, 27m high, lies 1.5 miles N of Camp Island; a bank, with depths of less than 9.1m, extends about 2 miles ENE from the island. Tuffin Shoal, with depths of less than 5.5m and a rock awash, lies on this bank, about 1.3 miles E of Tuffin Island.

It is reported that a rock, with a depth of 1.5m, lies in the channel lying between Byrne Rock and Frying Pan on the S and Tuffin Shoal and Tuffin Island on the N. Its exact position is not known as the area has not yet been examined. From the rock, the S and largest Halibut Island was reported to bear 252°. A rock 1.6 miles E of Tuffin Island has depth of 4.3m and extends S from Tuffin Shoal.

Hubbub Rock, awash, lies about 0.5 mile N of Little White Island.

Sheet Rock, 4.6m high, lies about 1.3 miles WSW of the S tip of Turner Island, near the E end of the numerous islands, rocks, and reefs N of Tuffin Island and Tuffin Shoal.

Frenchman Rock, awash, and Siteman Rock, with a depth of 1.8m, lie about 0.5 mile SSW and WSW, respectively, of Blackbill Point, the NW extremity of Turner Island.

**Harbour Rock** (44°57'N., 62°08'W.), 1.2m high, and Nag Rock, awash, lie 1 mile W and about 0.5 mile NW, respectively, of Blackbill Point.

Ecum Secum Inlet, entered about 1 mile NW of Harbour Rock, is encumbered with islets and shoals, and provides anchorage to small craft with local knowledge.

Ecum Secum West, where there is a public pier, is situated about 0.5 miles WNW of Necum Point on the W side of the harbor. The pier is 43m long, 6m wide, and has a depth at the outer end of 4.3m.

**3.28 Islands and Dangers in the E Approach.—Hawbolt Rock** (44°55'N., 61°57'W.), with a depth of 7.6m, lies about 3.8 miles SSE of Liscomb Point, which separates Marie Joseph Harbor from Liscomb Harbor. The sea seldom breaks on this rock. A lighted whistle buoy is moored about 5 miles SE of Liscomb Point.

Black Prince, which dries 0.9m and usually breaks heavily, lies about 2 miles SSE of Liscomb Point. Six rocks or shoals, with depths of 1.2 to 5.8m, lie within 1 mile radius of Black Prince.

A 9.1m patch lies about 1 mile SE of Liscomb Point.

Seal Ledge, awash, with a small islet, 1.2m high near its center, extends about 1.3 miles E of Barren Island. A rock, with a depth of 5.1m, lies 1 mile NE of the E extremity of Barren Island.

**Gull Ledge** (44°55'N., 62°02'W.), about 1.5 miles S of Barren Island, consists of two bare ridges of slate, 9.1m high, with deep water close to, separated by a narrow gully. A 5.8m patch lies about 0.6 mile E of Gull Ledge.

Nightcap Ledge, 3m high, lies about 0.8 mile S of Barren Island. West Rock (The Blazes), with a depth of 0.6m, lies about 0.3 mile S of the ledge. A shoal, with a depth of 9.1m, lies 1.5 miles E of Nightcap Ledge.

Smith Rock, with a depth of 3.7m, lies about 2 miles S of Barren Island.

**3.29 Thrumcap Island** (44°57'N., 62°02'W.), 4.6m high, lies in the E entrance, about 0.5 mile E of Smith Point. From its W end, a reef, parts of which are above-water, extends nearly 0.3 mile W. A light is shown from near the W end of Thrumcap Island.

Thrumcap Shoal, with a least depth of 2.4m, lies about 0.4 mile NE of Thrumcap Island. It is the N of a group of shoals, with depths of 2.4 to 5.5m, extending NE and E from the island.

Pan Shoal, on the S side of the entrance, about 0.5 mile E of Thrumcap Island, extends about 0.4 mile from the N side of Barren Island. There is a depth of 3m at the outer end, marked by a buoy. Smith Point, bearing 271°, in line with Turner Point, the N extremity of Hawbolt Island, leads close N of Pan Shoal.

Hawbolt Island (Turners Island), 24.4m high, lies in the harbor close N of Goose Island. Turner Shoal, with a depth of 2.7m at its outer end, extends about 0.5 mile ENE from the E end of the island.

Middle Ground, with a least depth of 2.1m, is a muddy flat, covered with eel grass, and lies in mid-channel between Hawbolt Island and the mainland NE. The buoyed channel lies S of this ground.

Round Island lies midway between Hawbolt Island and Epe Point, the N point of the W entrance. A shoal, with a depth of less than 5.5m, extends about 0.1 mile S and 500m NW of the island. Epe Rock, with a depth of less than 1.8m, lies near the outer end of this shoal, about 0.3 mile NW of Round Island. A rock, with a depth of 2.7m, lies about 0.2 mile E of Round Island.

**Anchorage.**—There is good anchorage in 8.8m, mud, about 0.4 mile NW of Turner Point. Anchorage is also available close W of Middle Ground in about 12m, mud.

### Liscomb and Little Liscomb Harbors

**3.30** Liscomb and Little Liscomb Harbors lie within a line joining **Liscomb Point** (44°59'N., 61°59'W.) and Redman Head, about 2.3 miles NE. Liscomb Island, 45.7m high and covered with trees, lies midway between the two points and shelters both harbors.

Liscomb Light is shown from a tower on **Cranberry Point** (44°59'N., 61°58'W.), the SW edge of Liscomb Island.

**Dangers in the Approaches.**—**Hawbolt Rock** (44°55'N., 61°57'W.), 3.75 miles SSE of Liscomb Point, has been previously described in paragraph 3.28. Other dangers, some drying, some awash, and others with depths of 2.7 to 5.9m, lie between Liscomb Point and Hawbolt Rock, and may best be seen on the chart. Some of these dangers break heavily.

Saddle Rock, with a charted depth of 9.1m, lies about 2.8 miles SSE of Crook Point, the E extremity of Liscomb Island.

Channel Rock, with a depth of 6.4m, lies about 2.5 miles SE of Crook Point and breaks in bad weather. An 11m patch, on which the sea breaks in heavy weather, lies about 1.3 miles SE of the same point. Cranberry Point, bearing 292°, and in line with Smoke Point, about 1 mile WNW, leads NE of the above dangers.

Crook Shoals, with an outer reef 0.3m high, extends about 0.8 mile ESE from Crook Point. A rock, with 1.8m, lies 0.25 mile NE of the same point. A lighted bell buoy is moored about 1.5 miles E of Crook Point.

Liscomb Shoal, with a depth of 4.9m at its extremity, extends over 0.5 mile E from Liscomb Point. A lighted bell buoy is moored off the extremity of the shoal.

Mackerel Shoal, with a least depth of 0.6m, extends about 0.2 mile W from Cranberry Point and is marked at its outer end by a buoy.

**3.31 Liscomb Harbor** (45°00'N., 62°01'W.) (World Port Index No. 6240), a small, practically landlocked harbor, is entered between Liscomb Island and the mainland from Liscomb Point to Smoke Point. Pye Point, on the N side of the harbor, about 1.3 miles NW of Smoke Point, is the S extremity of a small peninsula separating Little Liscomb Harbor from Spanish Ship Bay, a large indentation with numerous islands and rocks. An aquaculture facility has been established on the E side of Spanish Ship Bay in an area 305m in radius from 45°01'12"N, 62°00'43"W. Mariners are requested to avoid this area.

Liscomb Harbor proper lies W of a line drawn S from Pye Point; the area E of this line is known as the outer harbor.

Slate Cliff, 7.6m high, lies on the S shore of the harbor, about 0.5 mile SSW of Pye Point. Lang Island lies in the entrance to Spanish Ship Bay, about 0.4 mile WNW of Pye Point. Foul ground extends about 320m S of the island.

About 1 mile W of Pye Point the harbor is contracted by shoals, but a channel, with a width of about 0.1 mile and buoyed in places, leads to Liscomb Mills, located at the head of the harbor.

The tidal rise at Liscomb Harbor is 1.7m at MHWS, and 1.6m at MHWN.

The public wharf at Pye Point, 48m long with a depth of 4.6m alongside its face, is in a state of disrepair and closed to vessel traffic.

**Anchorage.**—The best anchorage is in 7m, mud, about 0.4 mile SW of Pye Point.

A submarine power cable is laid from Gravel Point, the NW extremity of Liscomb Island, to the mainland N of Harlan Point, which lies about 1.5 miles WNW of Gravel Point.

**Directions.**—Approaching Liscomb Harbor from the W, keep seaward of **Hawbolt Rock** (44°55'N., 61°57'W.) until Liscomb church bears about 332° and is open E of Liscomb Point, then alter course and steer with the church bearing 328° and seen over the W extremity of Hemloe Island, passing NE of the lighted bell buoy close E of Liscomb Shoal and abreast Mackerel Shoal. Then round Smoke Point at a distance of about 0.3 mile, and alter course to pass midway between Pye Point and the S shore to the anchorage.

Approaching from the E, steer for Smoke Point, bearing 304° and in line with Pye Point, passing NE of the lighted bell buoy close E of Liscomb Shoal. When abreast Mackerel Shoal, steer for the church at Liscomb bearing 328°, seen over the shingle or open W of the trees on the W extremity of Hemloe Island. Then proceed as previously directed.

**3.32 Little Liscomb Harbor** (45°01'N., 61°58'W.) is entered between **Redman Head** (45°01'N., 61°57'W.), a steep wooded bluff, 30.5m high, and Hog Island, about 0.7 mile W. The harbor area includes the area E, N, and W of Hemloe Island. The harbor affords fair anchorage for small vessels, and can also be entered from the S and W by vessels with local knowledge.

**Depths—Limitations.**—There is a government wharf at Liscomb on the W shore of the harbor, about 2 miles WNW of Redman Head. The wharf is L-shaped, 46m long, with an outer face 19m in length. Along both sides of the wharf is a least depth of 3.4m. Nine small white oil tanks stand close W of the wharf; a church with a steeple is conspicuous from seaward.

In 1994, it was reported that the pier was in a state of disrepair and closed to shipping.

**Aspect.**—Shag Ledge lies from 0.25 to 0.8 mile E of Redman Head. A dark rock, 0.9m high, lies on the outer edge of the ledge. Robar Rock, with 0.6m, lies on the W end of Shag Ledge, about 0.3 mile ESE of Redman Head.

A shoal, with a depth of 3.7m, lies about 0.3 mile S of Redman Head. A bank, with a least depth of 5.8m, extends about 0.2 mile S from Redman Head. Foul ground extends nearly 0.2 mile E from Hog Island.

Indian Point lies nearly 0.5 mile NNW of Redman Head, and from it a bank, with less than 4.6m, extends about 0.2 mile S.

**Anchorage.**—There is good anchorage for small vessels in 6.6 to 8m, mud, about 0.3 mile SSW of Indian Point.

**Directions.**—To enter Little Liscomb Harbor from the E, approach from the SW of the lighted bell buoy moored about 1.5 miles E of Crook Point, with Redman Head in line bearing 303° with the NE side of Hemloe Island. When abreast Robar Rock, alter course W to pass between the 3.7m shoal and the bank extending S of Redman Head. Then alter course NW to the anchorage, passing between Redman Head and the ledge, marked by a buoy, extending E from Hog Island.

**Caution.**—Without local knowledge, a vessel should not proceed farther than the anchorage without the services of a pilot.

An aquaculture facility is situated off Hemloe Island in an area 122m in radius from 45°00'50"N, 61°59'11"W. Mariners are requested to avoid this area.

**Gegogan Harbor** (Jegogan Harbor) (45°02'N., 61°56'W.), little frequented, is entered between **Redman Head** (45°01'N., 61°57'W.) and **Burns Point** (Byrne Head) (45°02'N., 62°54'W.), about 2 miles ENE. Brig Point, on the W side of the harbor, about 1.3 miles N of Redman Head, is low and covered with trees.

Tobacco Island, 12.2m high and covered with trees, lies in the entrance to the harbor, about 0.8 mile SW of Burns Point. Tobacco Reef, 0.3m high, extends about 1 mile SSE from the island. A 7.3m patch lies about 0.3 mile SW of the extremity of Tobacco Reef.

Byrne Rock, with a depth of 4.9m, lies about 1 mile ESE of the S extremity of Tobacco Island.

Tobacco Ledge, which dries, extends about 0.4 mile NW of Tobacco Island.

A rock, with a depth of 3.7m, lies about 0.4 mile N of Brig Point. On the E side of the harbor, abreast this rock, a rocky ledge extends about 230m from the shore.

**Anchorage.**—There is good holding ground in 7.3m, about 0.6 mile N of Brig Point; however, the anchorage is exposed to the ocean swell. Vessels drawing not more than 3.7m can find secure anchorage near the head of the harbor, but the channel leading to it is only about 91m wide and requires local knowledge.

**Directions.**—Gegogan Harbor should be entered between Tobacco Island and Shag Ledge. The approach should be made with Redman Head in line bearing 303° with the NE side of Hemloe Island. When the 0.9m rock on Shag Ledge comes in line with Brig Point, bearing 331°, alter course N to pass 0.25 mile E of Shag Ledge. Then a mid-channel course will lead to the anchorage.

## St. Marys River

**3.33** St. Marys River, one of the largest in Nova Scotia, is entered between **Cape St. Marys** (45°02'N., 61°51'W.) and Barachois Point, about 1.5 miles WSW. The entrance to the river is obstructed by a bar of sand, on which there is a depth of about 2.7m. The land N of Cape St. Marys rises to a height of over 50m.

**Wedge Island** (45°01'N., 61°53'W.), about 2 miles SSW of Cape St. Marys, is composed of clay. Its N side rises abruptly to an elevation of 15.2m. The island is surrounded by reefs, those on the N and S sides extending out for nearly 0.5 mile.

Wedge Shoal, with a least depth of 6.4m, lies about 1.8 miles SE of Wedge Island.

Lighted bell buoys are moored 2 miles ESE and about 1 mile NE, respectively, of Wedge Island.

Steering Reef, 0.9m high, extends 0.5 mile SSE from the shore, at a point nearly 0.5 mile W of Barachois Point. A shoal, on which there is a least depth of 1.5m, extends from Steering Reef to the reefs N of Wedge Island. A visible wreck is situated on the W side of Steering Reef.

**Black Head** (45°03'N., 61°54'W.) lies over 1 mile NW of Barachois Point. The village of **Sonora** (45°04'N., 61°55'W.) (World Port Index No. 6220) lies on the E shore of the river, nearly 1 mile NNW of Black Point.

At Sonora, there is a wharf 46m in length and 12m wide, with a depth of 4m at the outer end. There is a breakwater close S of the wharf. Two wharves lie near the museum at Sherbrooke. The S one is in disrepair and the N one has a face 11m long with 0.6m alongside.

In the summer months, during the prevalence of SW winds, the bar of the St. Marys River is smooth, but after a continuance of S winds it becomes a mass of breakers and entrance is then dangerous, if not impracticable.

Above the bar, the river winds between mud flats and is only navigable by small craft. The channel is marked by buoys up to the village of Sherbrooke, about 7 miles upstream.

Mariners are cautioned that numerous uncharted cribs, some of which are submerged, are located outside the buoyed channel in the St. Marys River, N of 45°06'45"N.

**Anchorage.**—During the summer months, vessels may anchor between Barachois Point and Cape St. Marys in 7.3 to 11m, sand, but this anchorage is not recommended at other times of the year. Anchorage in the river, where currents are reported to be strong, is not recommended.

**Caution.**—A rock, with a depth of 1.8m, lies about 0.2 mile NE of Black Head.

Shag Reef, parts of which are above-water, extends about 230m S from the E shore of the river. Its S extremity is about 0.4 mile NNE of Black Head.

Horse Shoal, which dries at LW, has its SE extremity about 0.3 mile N of Black Head and is marked by a lighted buoy.

## Cape St. Marys to Cape Mocodome

**3.34 Indian Harbor** (Indian Bay) (45°05'N., 61°48'W.), entered between Walter Island and Fiddlers Head (Holland Head), about 3 miles ENE, is entirely open SE and only affords shelter to small craft from SW winds. The village of Port Hillford is situated on the E side of the head of the bay. There is a government wharf, which is L-shaped, 98m long, with an outer face, 17m in length and a least depth of 3.4m alongside. The N face of the wharf is 18m long with a least depth alongside of 1.8m. The approach is obstructed by a bar with a depth of 1.5m. There is also a small public pier on the W side of Barachois Cove.

**Walter Island** (45°04'N., 61°49'W.), 10m high, 2 miles NE of Cape St. Marys, is covered with trees and nearly connected

to the mainland at LW by a ridge of sand and stones. A narrow sandy beach separates the head of the harbor from Indian Harbor Lake. The hill sides of the harbor and lake are extensively cultivated. The village of Port Hilford, where there is a white church with a spire and a pier, is situated at the NE head of the harbor. Little Hawbolt Shoal (Walter Shoal), with a depth of 5.5m, lies about 0.8 mile S of Walter Island.

Wine Head, a high clay bank, lies about 0.3 mile N of Walter Island. Rude Shoal, on which there is a rock 0.9m high, extends about 0.5 mile E from the shore, 0.25 mile N of Wine Head. A lighted bell buoy marks the E side of the shoal.

**Fiddlers Head** (Holland Head) (45°04'N., 61°45'W.) is a small but remarkable peninsula, attached to the mainland by a long beach of stones and shingle. It has a cliff, 11.6m high, composed of reddish clay and boulders, on its E side.

Bull Bank, 18.3m high, with a cliff on its S side, lies about 1 mile WNW of Fiddlers Head, and is connected to the mainland by a narrow sandy spit which dries. An 8.8m shoal lies about 0.7 mile SSW of Bull Bank.

Nixons Mate, formerly called Nixonmate Reef, with its outer end about 0.5 mile SW of Holland Head, is 1.5m high.

Nixons Mate Shoal (Nixon-mate Shoal), with a depth of 2.7m, lies on the extremity of a bank extending nearly 1.5 miles S of Holland Head. A patch, with a depth of 8.2m, lies about 0.5 mile S of Nixons Mate Shoal. A lighted whistle buoy is moored 1.1 miles S of Nixons Mate Shoal.

Fleck Shoal, with a depth of 5.8m, lies about 2.8 miles SSE of Fiddlers Head, and is the outermost danger off this part of the coast. A shoal, with a depth of 6.4m, lies about 0.4 mile N of Fleck Shoal.

Castor Rock, a small dark slate rock, 1.8m high, lies about 1.8 miles ESE of Fiddlers Head. Isaac Shoals (Castor Shoals), a group of rocky patches, with depths of 4.6 to 9.1m, lie within 1 mile radius of Castor Rock.

Holland Harbor (Hollins Bay), entered between Fiddlers Head and Bickerton Island, 29.6m high, about 2 miles NE, is open SE, but affords shelter to small craft at its head. Holland Shoal (Lower Bay Shoal), with a depth of 0.9m, lies in the entrance, about 0.8 mile SW of Bickerton Island. A shoal, with a least depth of 2.4m, lies about 1.3 miles WSW of the same island.

**Barachois Head** (45°05'N., 61°42'W.), about 0.2 mile NE of Bickerton Island, is 16.8m high and may be identified by its white cliffs and lighthouse. Port Bickerton Light is shown from a white square tower on a square building on Barachois Head.

Gibbs Shoal, with a least depth of 10.1m, lies about 0.8 mile SE of Barachois Head.

**Port Bickerton** (45°06'N., 61°43'W.), entered between Bickerton Island and Barachois Head, is a safe and convenient little anchorage for small vessels. Range lights lead into the outer harbor. The village of Port Bickerton lies on the NE side of the harbor, and Mouton Harbour lies on the SW side.

A public pier is situated in front of Port Bickerton village; a radio mast (red lights, 31m high) stands on the pier head.

**3.35 Cape Mocodome** (45°05'N., 61°39'W.), lying about 2 miles E of Barachois Head, terminates in a low shingle beach. The Calf, a rock, previously known as Cape Rock, 2.4m high, lies about 135m S of the beach. Bull Rock, about 0.4 mile SE of the cape, dries 0.6m, and lies on the bank extending nearly

0.5 mile E and SE from the cape. Bull Rock is exceedingly dangerous at HW, when with a smooth sea, the sea does not break. There is a depth of 9.1m about midway between Bull Rock and Rose Shoal.

Rose Shoal, with a least depth of 1.5m, lies about 1.3 miles SE of Cape Mocodome. A light bell buoy is moored about 230m SE of Rose Shoal.

**Country Harbor Head** (45°04'N., 61°39'W.), the W entrance point for County Harbor and Isaacs Harbor, about 2 miles N of Cape Mocodome, is a bold, precipitous headland, 38.4m high, composed of clay slate in nearly vertical strata.

Black Ledge, in the entrance to Fishermans Harbor, is 0.6m high in its central part, and several other parts dry. Stone Rock, with only 0.6m and steep-to, lies on the S extremity of the ledge. A 7.3m patch lies about 0.2 mile S of Stone Rock.

**Fishermans Harbor** (45°07'N., 61°40'W.), open SE, is entered between Cape Mocodome and County Harbor Head. The holding ground is good, and the sea is broken to some degree by the dangers in the approach to the harbor. During the summer, large vessels may safely anchor in depths of 7.3 to 12.8m.

**Bear Trap Head** (Ragged Point) (45°10'N., 61°40'W.), lying about 2 miles NNW of County Harbor Head, is 23m high.

**Caution.**—A rock, with a least depth of 3m, lies about 0.2 mile offshore, about 1.3 miles NNW of Cape Mocodome.

**3.36 County Harbor** (45°12'N., 61°43'W.) and Isaacs Harbor, close E, are separated from each other by Bear Trap Head. Country Harbor is considered to be the finest natural harbor on the coast E of Halifax. The approach to the harbors lies between Cape Mocodome and **New Harbor Head** (45°09'N., 61°28'W.), about 9 miles ENE.

County Harbor is easily navigable as far as **Stewart Cove** (45°13'N., 61°44'W.), on the E shore, where the channel becomes narrow. Small vessels can proceed above Stewart Cove to the head of the harbor, with local knowledge.

The shores on either side of the harbor are steep to, the summits of the ridges being generally only a short distance from the shore, and increasing in elevation from 61m at the entrance to about 143m near the head of the harbor.

**Pilotage.**—Pilotage is not compulsory. Vessels requesting pilotage should contact Halifax Pilots 24 hours in advance, confirming or correcting 6 hours in advance. Pilots board about 5.5 miles SE of Cape Mocodome.

**Mount Misery** (45°11'N., 61°43'W.), about 4.5 miles NNW of County Harbor Head, is a remarkable round hill, 44m high, located on a projecting peninsula on the W side of the harbor.

The village of **Stormont** (45°13'N., 61°43'W.) (World Port Index No. 6190) lies at the N end of Stewart Cove. The tidal currents in Country Harbor are weak, seldom exceeding a velocity of 1 knot. A T-shaped Public wharf extends from the NW entrance point of Stewart Cove. The outer face of this wharf is 51m long, with about 6.1m of water alongside.

Excellent anchorage in depths of 8.2 to 12.8m, mud, may be obtained off Stewart Cove.

**Caution.**—A cable ferry crosses County Harbor about 0.8 mile SE of Mount Misery. The cable is attached to a concrete wharf on each side of the harbor. A green light is shown from each wharf when the ferry is docked, and the cable suspended

to its maximum depth of 10.7m in the center of the channel. A red light is shown from each wharf when the ferry is underway and the cable lies near the surface.

A submarine power cable is laid across the harbor close NW of the ferry.

**Isaacs Harbor** (45°11'N., 61°39'W.), entered between Bear Trap Head and Red Head, about 0.8 mile E, extends about 3 miles NNW. The channel between the shoals on either side is about 274m wide. The hills on either side, composed of drift clay and boulders, rise gradually to heights of 61 to 91m. The entrance channel should not be attempted without local knowledge.

Red Head is a small peninsula with red clay cliffs attached to the mainland by shingle beaches which enclose a shallow pond. Avondale Reef (Webb Reef), with a depth of 4m on its outer end, extends nearly 0.2 mile W from a point located 0.25 mile NW of Red Head.

Outside Sinker and Inside Sinker, previously known as Ragged Rocks, are covered at HW and extend about 0.2 mile S from the shore E of Ragged Point.

A wreck, with a depth of 10.1m, lies about 0.8 mile SSE of Red Head. A shoal, with a depth of 4.9m, lies 0.8 mile SE of the same point.

Holly Point, on the W side of the harbor, lies about 1 mile NE of Ragged Point. A light is shown from a 13m high white dwelling about 0.5 mile SSW of Holly Point. Squinces Ledge, lying about 0.3 mile NNW of Holly Point, is a rock that dries 1.8m.

**Isaacs Harbor Village** (45°10'N., 61°40'W.) (World Port Index No. 6180), lying about 0.5 mile NNW of Holly Point, has an L-shaped 51m long Public wharf, with a least depth of 3.7m alongside a 15m long outer face. The Public wharf at **Goldsboro** (45°11'N., 61°39'W.) (World Port Index No. 6170), on the E shore, has an L-shaped Public wharf 46m long, with a depth of 4.9m alongside a 15m long outer face. Both wharves were reported in disrepair.

The tidal rise in Isaacs Harbor is 1.9m at MHWS and 1.6m at MHWN.

Isaacs Harbor affords secure anchorage in 6 to 8m, mud, N of Sinclairs Ledge. Anchorage is prohibited in the vicinity of a submarine cable, laid across the harbor about 1.5 miles N of Bear Trap Head.

Webbs Cove affords good shelter to small craft, mud, but the bar adjoining Hurricane Island to the shore is reported to afford little protection from S gales.

**Directions.**—Entrance to Isaacs Harbor should not be made without local knowledge. Approach Isaacs Harbor by passing about 0.2 mile NE of "TT" Lighted Whistle Buoy, with Country Harbor Head bearing 320°, in line with Mount Misery. Steer on this range until abeam of Flying Point, the S extremity of Goose Island, then alter course N to bring Mount Misery in line bearing 313° with Harbor Point. Steer on this range until abeam of Country Harbor Head, then steer for Isaacs Harbor Light, bearing about 388°, passing between Ragged Rocks and Webb Rock buoys. Then steer a mid-channel course and anchor as convenient. Note that a wreck, with a depth of 10.1m, lies about 0.2 mile E of this track, 0.75 mile SSE of Red Head.

Vessels approaching Country Harbor follow the directions for Isaacs Harbor, but continue to steer with Mount Misery in

line bearing 313° with Harbor Point until abreast of Ragged Point. Then steer a mid-channel course and anchor as convenient.

If proceeding to Stewart Cove, keep well over to the W shore to avoid the mussel beds that lie off the islet and the entrance points of the small coves on the E shore, S of Stewart Cove.

**3.37 Dangers in the Approach to County Harbor and Isaacs Harbor.**—**Harbor Island** (45°08'N., 61°36'W.) lies about 1.8 miles SE of Red Head. Finsley Shoal, with a depth of 4.1m, lies 0.5 mile W of Saladin Point, the SE extremity of Harbor Island. A 9.1m patch, which breaks in a heavy sea, lies about 0.2 mile S of Finsley Shoal.

Goose Island, 24m high and covered with small spruce trees, is the largest off this part of the coast and lies about 0.8 miles E of Saladin Point. A lighted buoy lies close SE of Saladin Point.

**Country Island** (45°06'N., 61°33'W.) lies about 1.3 miles E of the S extremity of Goose Island and is covered with small spruce trees. A light is shown from a square white tower, 14m high, with a dwelling attached, on the S side of the island. A lighted whistle buoy is moored about 3.8 miles S of Country Island. A depth of 9.1m was reported to lie 0.5 mile SE of Country Island.

South Easter (Middle Ledge), which dries 0.6m, lies about 3.8 miles SSW of Country Island. A lighted bell buoy is moored about 0.3 mile SE of the ledge.

**Pollux Rock** (45°03'N., 61°39'W.), about 2.3 miles S of Cape Mocodome, is a small slate rock, 1.5m high, which breaks in light seas. A shoal, with depths of less than 5.5m, extends about 0.4 mile NNW of Pollux Rock. Bingly Shoal, with a least depth of 4.6m, lies about 0.5 mile NE of Pollux Rock.

Taylor Shoal, about 1 mile ESE of Pollux Rock, has a least depth of 4.6m and breaks only in heavy seas. A lighted bell buoy is moored about 1.8 miles SSW of Taylor Shoal.

Tom Cod Shoals are a group of shoals S of Country Island. **Gull Nest** (45°05'N., 61°33'W.), the N of these shoals, with a least depth of 0.6m, lies about 0.9 mile S of Country Island. Tom Cod Rock, about 0.4 mile SSE of Gull Nest, dries 1.5m, usually breaks, and serves as a warning of approach to the shoals. A 3.2m patch and an 8.8m patch lie about 0.3 mile WSW and 0.4 mile S, respectively, of Tom Cod Rock.

Shoal Place, about 3.4 miles SSE of Country Island, has a least depth of 7.3m and breaks only in heavy seas.

Country Island Shoal, a pinnacle rock with a depth of 7.6m, which breaks in heavy weather, lies about 2.8 miles ESE of Country Island.

White Shoal (White Rock), with a depth of 2.7m, lies about 1 mile ENE of Country Island. Between White Shoal and Country Island, several patches exist, the S of which, with a depth of 3.7m, lies 0.65 mile E of the island.

Sunken Rock (Split Rock), with a depth of 0.9m, about 2.4 miles NE of Country Island, lies near the S end of a bank extending about 1.3 miles NW. A 6.6m shoal lies about 0.5 mile E of Sunken Rock. A lighted whistle buoy is moored W of Sunken Rock.

**Brandy Ledge** (45°07'N., 61°28'W.), the E danger, lies about 1.5 miles S of New Harbour Head. Near its center is a rocky head, which dries 1.2m near its center. A lighted bell buoy is moored approximately 0.6 mile SE of the drying part.

## The Sound

**3.38** The Sound, the E approach to Isaacs Harbor and County Harbor, lies between the N ends of Goose and Harbour Islands and the mainland N.

**New Harbour Head** (45°09'N., 61°28'W.) is a low rounded head of shingle, rising to an elevation of 30.5m.

Coddles Island, about 2.5 miles W of New Harbour Head, is 18.3m high at its E end. Coddles Harbor Light is shown from Thrumcap Island, a small island about 0.2 mile NE of the E end of Coddles Island.

Worm Shoal, with a least depth of 3.3m, lies about 1 mile ESE of Thrumcap Island. A 4.6m patch and a 5.2m patch lie about 0.2 mile S and 0.3 mile W, respectively, of Worm Shoal.

Graham Shoal, with a least depth of 1.2m, lies on the N side of The Sound, about 0.5 mile NNE of the N extremity of Goose Island. Duck Shoal (Dutch Shoal), with a least depth of 2.3m, lies about 1.5 miles E of the N extremity of Goose Island.

Ragged Ledge, which dries 1.8m at its E end, extends about 1.3 miles E of Sheep Pen Point, the E extremity of Goose Island.

Burke Shoal, with a least depth of 2.3m, extends about 0.3 mile E from Burke Point, the NE extremity of Harbour Island. A 5.5m shoal lies about 320m NW of Burke Point.

Drum Head Harbor (Island Harbor) lies between Harbor Island and the mainland N. **Drum Head Island** (45°09'N., 61°36'W.), 1.5m high, the N entrance point of the W entrance, is joined to Drum Head, close N, at LW. A buoy marks the extremity of the shoal extending about 0.2 mile SW of Drum Head Island, and a buoy marks the shingle spit at the NW tip of Harbour Island.

A shallow harbor, enclosed by two breakwaters, is located E of Drum Head Island. The fishing village of Drum Head lies at the head of the harbor. The E breakwater-wharf, 131m in length, has depths of 1.5 to 3m at the berth on the N side.

Drum Head Light is shown from a skeleton mast on the outer end of the E breakwater. This light is maintained from May 1 to December 15.

**Tides—Currents.**—The flood current sets W and its velocity is usually less than 1 knot, but is much influenced by the winds.

**Anchorage.**—There is anchorage N of a line joining Burke Point and the NW point of Harbour Island in a depth of 12.8m, mud. Although open E, this anchorage is considered safe during the summer months; however, it is not suitable for large vessels, the deep water being confined to a narrow and crooked channel.

**Directions.**—From the E, small coasting vessels generally take the inner route, especially late in autumn, when N and NW winds prevail, passing between Brandy Ledge and New Harbour Head, and then through The Sound.

From the S, vessels should pass through the channel between Harbour and Goose Islands, keeping midway between them, taking care to avoid the shoal bank extending S from **Saladin Point** (45°08'N., 61°36'W.) and Middle Ground, and the ledge W of Goose Island, which is always visible, on the E side.

**Caution.**—A submarine cable is laid from the vicinity of the E breakwater at Drum Head, W and S of Goose Island, to the NW side of Country Island.

## New Harbour Head to Tor Bay

**3.39 New Harbour Cove** (45°10'N., 61°26'W.), entered between New Harbour Head and Eastern Head, about 1.8 miles ENE, is shallow, open SE, and affords no safe anchorage.

Shoal Point, about 1 mile NE of New Harbour Head, is the inner W entrance point to New Harbour Cove. A rocky spit, with depths of less than 5.5m, extends 0.5 mile ESE, and with depths of less than 9.1m over 1 mile SE of the point. A lighted whistle buoy is moored about 1.3 miles SE of Shoal Point.

A breakwater, 192m long, extends N from Black Point, situated about 0.4 mile N of Shoal Point. Inside the breakwater, a T-shaped public wharf extends 72m to an outer end 37m long. There are depths of 1.5 to 3.4m alongside the outer 48m of the wharf. Undertows are reported between the breakwater and wharf after storms.

New Harbour Cove Light (mast, 5m high, shown May to December) is exhibited on the breakwater head.

**Tuffin Bank** (45°08'N., 61°23'W.), about 2.5 miles SE of Eastern Head, has a least depth of 13.7m. The sea is reported to break on the bank occasionally after heavy gales.

Little Harbour, navigable by boats at HW, lies with its E entrance point about 2.3 miles ENE of Eastern Head.

Net Rock (Dead Cow Shoals), with a least depth of 3.4m, lies about 0.5 mile SE of E entrance point of Little Harbour.

Shag Rock, 1.5m high, lies about 0.5 mile offshore, and about 0.8 mile E of the E entrance point of Little Harbour. It is joined to the mainland by a ledge, on which are several rocks which dry. Shoal water extends about 0.4 mile SE from Shag Rock.

## Tor Bay

**3.40** Tor Bay lies between **Berry Head** (45°11'N., 61°19'W.) and Flying Point, about 5 miles E. The Sugar Islands, Hog Island, and several other islands protect the bay from the S. North of these islands the bay contains several anchorages suitable for small vessels. The shores of Tor Bay are 15.2 to 33.5m high, while a short distance inland, the barren granite hills rise to an elevation of 109.7m.

Berry Head is a low rocky point at the E extremity of a peninsula, which nowhere exceeds an elevation of 24.4m. The peninsula is connected to the mainland by a spit on which there is a range of sandhills. Gull Rock, with a least depth of 4.6m, lies nearly 1 mile SSW of Berry Head. Dry rocks extend about 0.3 mile S, and a shoal, with a depth of less than 5.5m, extends about 0.5 mile E of the SE point of Berry Head.

Tor Bay Light is shown from a square tower, 7.9m high, painted in red and white vertical stripes with a black roof, on the SE point of Berry Head.

**Flying Point** (45°13'N., 61°12'W.), the E entrance point of Tor Bay, is a detached islet connected to the mainland by a rocky ledge.

Flying Point Shoals, with a least depth of 2.7m, lie within 1 mile NW and SW of Flying Point. A lighted whistle buoy is moored on the SW side of Flying Point Shoals, about 1.3 miles WSW of Flying Point.

**Hog Island** (45°14'N., 61°13'W.), 12.2m high, lies about 1.8 miles NW of Flying Point. Hog Island Light is shown from a

white circular tower, 9.1m high, with two red bands, on the SE end of the island.

Numerous islands, including the Sugar Islands, none of which exceed 10.7m high, extend about 2.5 miles WSW of Hog Island. These islands are composed of clay slate, and are surrounded by shoal water and detached rocks, especially to the S.

**Entrance.**—The principal entrance into Tor Bay is between Berry Head and the Sugar Harbour Islands, with a least depth of 7.3m in the main channel. Spar buoys mark the entrance. A shoal, with a depth of 5.9m, lies about 0.8 mile ESE of Berry Head.

A lighted whistle buoy is moored nearly 1.8 miles ESE of Berry Head.

Topstone Ledge, which dries, lies W of the Sugar Harbour Islands, about 1.8 miles NE of Berry Head.

Tor Bay Ledges extend about 1.8 miles S of Topstone Ledge. French Rock, the S of these dangers, with a depth of 0.9m, lies 1.5 miles E of Berry Head. Bull Rock, with a depth of 0.3m, on which the sea usually breaks, lies about 0.4 mile NE of French Rock. Curry Breaker (Brig Rock), the N of the Tor Bay Ledges, with a depth of 1.5m, lies nearly 1.5 miles NE of Berry Head. A 1.5m patch and several 1.8m patches lie between French Rock and Curry Breaker. The SW side of these dangers is marked by buoys.

Between the Tor Bay Ledges and the Sugar Harbour Islands there are numerous dangerous shoals, with deep water between them, but with no safe passage.

**Webber Shoal** (45°13'N., 61°20'W.), with a depth of 2.1m, extends 0.5 mile offshore N of Berry Head Peninsula.

Larry's Reef, consisting of several rocks, two of which dry 1.5m, lies about 1.8 miles NW of Flat Point, the NE extremity of Berry Head Peninsula.

**Forster Island** (45°14'N., 61°20'W.), low and fringed with reefs, lies close offshore, about 2.3 miles N of Flat Point. Charlos Reef, with a depth of 4.6m on its outer end, extends about 0.8 mile SE of Forster Island.

Seal Rocks, which dry 1.2m and are surrounded by shoal water, lies about 0.7 mile N of Topstone Ledge.

**Anchorage.**—The best anchorage in Tor Bay is in 11 to 12.8m, mud, about 0.7 or 0.8 mile NE of Webber Cove. The latter cove is a small indentation on the N side of the isthmus joining Berry Head Peninsula to the mainland. Vessels of suitable draft may anchor off the entrance to the river in 4 to 6m.

Larrys River, on the W side of Tor Bay, is sheltered by breakwaters. A government wharf on the W side of the river is F-shaped, and has an outer face 30m long with a least depth of 3m alongside.

Charlos Cove lies close N of Forster Island. A rock breakwater extends 200m from the N entrance point to the cove. Inside the breakwater, 0.15 mile NW, a public pier extends 47m from the N shore. The pier has an outer end 13m across with a depth of 1.8m alongside.

Cole Harbour, about 2 miles ENE of Charlos Cove, affords secure anchorage to small vessels. There are berths in the center and off the N shore of the NE part of the harbor.

The Sisters are three rocks, one of which dries 0.6m, on the W side of the entrance to the Cole Harbour.

**Port Felix Harbour** (Molasses Harbour) (45°15'N., 61°13'W.) lies in the NE corner of Tor Bay, from which it is

separated by Boudreaus Island (Mattee Island) and the shoals surrounding it. The harbor affords a safe anchorage for small vessels with masters having local knowledge in depths of 3.7 to 5.5m. The entrance to the harbor is a very narrow passage between Hog Island and the mainland.

**Port Felix** (45°15'N., 61°13'W.) (World Port Index No. 6120) is located at the head of Port Felix Harbour. The church spire in Port Felix, 33.5m high, is conspicuous from seaward. There is a wharf, 37m long, with a least depth of 2.4m at the head; the inner portion dries.

## Whitehead Harbour to Dover Bay

**3.41 Whitehead Harbour** (Whitehaven Harbour) (45°14'N., 61°11'W.) (World Port Index No. 6110), close E of Tor Bay, is entered between **Three Top Island** (45°13'N., 61°10'W.) and Spry Point, on the mainland, about 0.3 mile NE. Three Top Island can be identified by three remarkable hillocks, about 12.2m high, from which its name is derived.

Three Top Island Light is shown from a skeleton tower, 8m high, on the SE point of the island.

Net Rock, 1.8m high, lies about 0.1 mile SE of Three Top Island, to which it is joined by a reef. Turtle Rock, about 0.1 mile S of Spry Point, is surrounded by rocks, which on its S side extend for a distance of about 0.1 mile. An unnamed rock, with a depth of 3.7m, lies about 0.2 mile W of Spry Point, and about 0.1 mile offshore.

Whitehead Harbour provides a safe anchorage, with sufficient depth and space for a considerable number of vessels, but like most indentations on this coast the entrance is narrow, tortuous, and obstructed by rocks.

**White Head Island** (45°12'N., 61°08'W.), which is 36.6m high, with several off-lying islets and rocks, derives its name from the white granite from which it is composed. It is mostly covered with dwarf spruce trees.

White Head Island Light is shown from a white, square tower, 9.1m high, on the SW side of the island.

A lighted whistle buoy is moored about 2.5 miles S of White Head Island Light.

Deming Island, 9.1m high, lies nearly 1 mile W of Spry Point, and is joined to the mainland at LW. A prominent white spire is situated about 0.2 mile W of the point. A 4.9m shoal lies 0.15 mile E of the point.

Gammon Islands, 12.2m high, about 0.2 mile W of White Head Island, are composed of bare granite.

**Directions.**—There are three passages into Whitehead Harbour between the islands and dangers in its approaches: Western Passage, the normal channel; and Southern and Eastern Passages, which should only be used by masters of small vessels with local knowledge. Eastern Passage, intricate and dangerous, should only be attempted by vessels in case of necessity.

**Caution.**—Soundings give little or no warning in approaching any of the dangers in the entrance to Whitehead Harbour; a depth of 36.6m can be found 0.25 mile from several of the shoals. At night, or in the dense fogs that so frequently prevail, vessels should navigate with extreme caution.

Western Passage, about 0.4 mile wide, lies between Three Top Island and the ledges extending S of Deming Island, and Gammon Islands, and the ledges SW of them.

Black Ledge, which dries 1.8m and on which the sea usually breaks, lies on the E side of the passage, about 1 mile W of White Head Island Light. Shag Ledge, above-water, lies about 0.2 mile NE of Black Ledge. A rock, with a depth of 4m, lies about 0.2 mile W of the largest of the Gammon Islands.

Bald Rock, 1.2m high, about 1 mile W of Shag Ledge, is the outer dry rock on the W side of the passage. Shoal water extends about 0.4 mile E from the rocks; a rock, with a depth of 3.7m, lies at the E extremity of the shoal. Outer Gull Ledge, 1.5m high, and Inner Gull Ledge, 1.8m high, lie on the bank connecting Bald Rock and Deming Island.

Southern Passage is about 0.1 mile wide between White Head and Gammon Islands. Southwest Bull, the outer danger, about 0.5 mile SW of White Head Island, has a depth of 2.1m. It lies at the E end of a rocky shoal, and is marked about 0.2 mile SE by a lighted bell buoy. Between Southwest Bull and White Head Island are two rocky patches with depths of 7m and 3.7m.

Eastern Passage lies between White Head Island and the coast NE. Sculpin Rock, which dries 1.8m, and East Bull, a rock at a depth of 2.4m, lie about 0.2 mile and 0.4 mile SE, respectively, of White Head Island.

Middle Ground (Middle Rock), with a depth of 2.7m and marked SE by a spar buoy, lies mid-channel between White Head Island and Millstone Island, nearly 0.8 mile E. It narrows the channel E of it to less than 0.1 mile in width. A 3.7m rocky shoal lies about 0.3 mile SW of Millstone Island. Paddy Ledge, 3.7m high, lies about 0.1 mile N of Middle Rock. Mink Island, 7.6m high, lies about 330m NW of Paddy Ledge.

**Tides—Currents.**—The velocity of the tidal currents in the entrance seldom exceeds 0.5 knot, except in the case of the S current after heavy rain, or after the melting of the snow in the spring.

**Aspect.**—**Deming Point** (45°13'N., 61°11'W.) lies close N of Deming Island. A 5.5m shoal is charted about 0.2 mile E of Deming Point. A 2.1m shoal lies about 0.4 mile N of Deming Point.

Yankee Cove, entered about 0.5 mile NE of Deming Point, is a small inlet between Harbour Island and the mainland. A reef ends about 0.1 mile SW of Yankee Island, on the N side of the entrance to Yankee Cove.

Fisherman Island, 7.6m high, lies in the channel, 1 mile N of Deming Point. Kelp Shoal, with a least depth of 1.5m, lies in mid-channel, about 0.2 mile SW of Fisherman Island. The leading marks for this shoal are not easily identified. Large vessels proceeding to the head of the harbor should pass E of Fisherman Island.

Marshall Cove lies on the W side of the harbor, about 1 mile N of Deming Point. Foul ground extends about 320m off the S entrance point to the cove.

Two isolated rocks, with depths of 8.5 and 6.4m, lie 0.3 and 0.5 mile, respectively, N of Fisherman Island.

In Marshall Cove, the public wharf extends to an outer part, 53m long, with a depth of 3.7m on the S side and 3m along the N side.

**Anchorage.**—Good anchorage may be obtained in 7.3m, mud, in Marshall Cove; in 12.8 to 18.3m, mud, about 0.2 mile NW of Yankee Island; and off the fish stages and houses on the W shore, avoiding the rock with a depth of 2.1m, N of Deming Point.

**3.42** The coast between **Millstone Island** (45°12'N., 61°07'W.) and Fluid Point, about 2 miles NE, is indented by Raspberry Cove East, Crane Cove, and Wine Cove. These coves afford shelter to small craft, but entrance should not be attempted without local knowledge, as several islands, islets, and numerous ledges and shoals lie off this stretch of coast.

Avery Shoal, with a least depth of 5.2m, lies about 0.8 mile E of Millstone Island. Shoal patches, with depths of 7.3 to 9.1m, lies scattered between Millstone Island and Avery Shoal. A detached shoal, with a depth of 3.6m, lies about 0.5 mile NE of Millstone Island.

Whale Island lies close offshore, about 0.5 mile SW of Fluid Point, and is surrounded by reefs and detached rocks.

Jacks Shoal (Vache Ledge), drying 1m, and Vache Shoals, with a least depth of 2.1m, lies about 0.3 mile and 0.6 mile S, respectively, of Whale Island. Whale Shoal, with a least depth of 5.2m, lies about 0.7 mile E of Whale Island, and Whale Rocks, which dry 0.6m, lie about 0.3 mile NW of the shoal.

Black Rock, 1.5m high, lies about 0.1 mile E of Fluid Point, to which it is almost joined by foul ground.

**Dover Island** (Taylor Island) (45°14'N., 61°03'W.) lies about 0.5 mile E of Fluid Point. Snorting Rocks, above-water, extend nearly 0.3 mile S from the S extremity of the island. Submerged rocks extend about 0.3 mile farther SW. Dover Shoals, with a least depth of 3.7m, extends about 0.8 mile SE from Snorting Rocks.

**Port Howe** (45°14'N., 61°05'W.) is entered between Fluid Point and Howe Point, the W extremity of Dover Island. The small harbor is difficult to enter due to the numerous shoals in the approach; however, it provides a safe anchorage for small craft only, on account of the limited swinging room, in depths of about 15m in the W cove of Port Howe and about 5.5m in the N arm of the harbor.

A spit, with a depth of 4.9m at its extremity, extends about 0.3 mile SW from Howe Point. Port Island, 10.6m high, lies in the middle of the harbor.

## Dover Bay

**3.43 Dover Bay** (45°16'N., 60°59'W.) is entered between Dover Head, the E extremity of Dover Island, and White Point, about 2.5 miles ENE. Although extensive, the bay affords little shelter, being encumbered above Walsh Point (Bluff Point), about 2.5 miles NNE of Dover Head, and by islets and rocks, among which only masters of small vessels with local knowledge should pass.

**Little Dover Island** (White Island) (45°16'N., 60°59'W.) with the peninsula N of it, forms the E side of Dover Bay. **White Point** (45°15'N., 60°59'W.), the S extremity of a small island, 11m high, which lies close S of Little Dover Island, is so named from its more or less white appearance.

White Point Ledges extend about 0.7 mile S of White Point, and White Shoal (White Rock), with a depth of 4.6m on which the sea breaks in heavy gales, lies about 0.4 mile SE of the extremity of the ledges. A lighted whistle buoy is moored about 0.7 mile SSE of White Shoal.

**Caution.**—Blackman Shoal, with a least depth of 3.7m, lies about 0.8 mile SE of Dover Head. Bay Shoal, with a depth of 9.1m, rock, lies about 1.3 miles ENE of Dover Head and breaks only after heavy gales.

Lumsden Shoal, with a least depth of 3.4m, lies about 0.7 mile W of White Point. An unnamed shoal, with a least depth of 6.7m, lies about 0.3 mile SSW of Lumsden Shoal.

Horne Shoal, with a least depth of 4.9m and marked SSW by a lighted bell buoy, lies nearly 1.3 miles WNW of White Point.

## Dover Bay to Cape Canso

**3.44 Thrumcap Island** (45°15'N., 60°59'W.), 6.1m high, lies about 0.1 mile off the E extremity of Dover Island.

Gannet Shoal, with a least depth of 2.1m, lies about 0.5 mile ESE of Thrumcap Island, and consists of several detached rocky patches. A lighted bell buoy lies about 0.3 mile NE of Gannet Shoal.

A shoal, with a depth of 6m, lies about 0.2 mile NE of Gannet Shoal.

**Andrew Island** (45°18'N., 60°57'W.), about 2.5 miles NE of White Point, is low, boggy, and barren, with groves of stunted spruce. It is fringed with shoals except on its W side, and is surrounded by rocky patches and foul ground.

Gannet Ledges extend about 0.8 mile SE of Gannet Point, the S extremity of Andrew Island. There is a depth of 0.3m at the outer end of the ledges.

Andrew Passage, the narrow and intricate channel W of Andrews Island, is marked by buoys at the N and S ends. The limiting chart depth of 2.7m is at the N end of the passage. Good visibility is recommended for the passage. It is frequented by small craft and affords a route to Glasgow and Canso Harbours. Several coves indent the W side of the channel.

Black Island, 7.6m high, about 0.3 mile SW of Gannet Point, lies in the S part of the passage.

Boom Rock, with a depth of 3.7m, lies about 1.5 miles E of Gannet Point.

Eastern Patch Rock (Patch Rock), with a depth of 8.2m, lies about 2.3 miles E of Gannet Rock. The sea is reported to break over this rock occasionally.

**Cape Canso** (45°18'N., 60°56'W.) and its off-lying dangers are described in paragraphs 4.2 and 4.3.

## Sable Island

**3.45 Sable Island** (43°56'N., 59°54'W.), about 90 miles SSE of Cape Canso, forms the dry summit of the extensive Sable Island Bank. The island and its shifting, sandy shoals have been the scene of the greatest number of shipwrecks in the North Atlantic during the past 150 years.

The island is formed of two nearly parallel ridges of sand, shaped by the wind into sandhills, which frequently change their positions. Many of the sandhills terminate in steep cliffs, while others are covered with grass and fronted by broad beaches. The highest sand dunes rise to about 24m.

The island is reported to be moving slowly E due to the action of the sea and wind, the sea encroaching on the W end, and the land extending to the E over the East Bar.

Wild ponies roam the island. They feed on the grass and other plants. There are several kinds of edible berries, and many flowers and shrubs, but no trees. Water can be obtained almost anywhere by digging.

In recent years, gas and oil exploration has taken place on and in the vicinity of the island. Natural gas was discovered in a well drilled near the W end. No one is allowed to reside on the island without authority from the District Manager, Canadian Coast Guard, Dartmouth, Nova Scotia.

**Tides—Currents.**—The tidal rise at Sable Island is 2m at MHWS, and 1.8m at MHWN. The tidal currents are influenced by the wind. The ebb current sets S, on and over the bars, often at a velocity of 1.5 to 2 knots. The flood current sets N at a velocity of 0.5 knot less. The flow is influenced by the wind.

**Aspect.—East Point** (44°00'N., 59°43'W.), 11.3m high, is the E termination of the grassy sandhills of Sable Island. East Spit, dry in good weather, extends about 3.5 miles ENE of the point; a small grass-covered sand hillock, 2m high, lies on the spit, about 0.8 mile from the point.

**West Point** (43°57'N., 60°07'W.), 18.6m high, is the W termination of the grassy sandhills. A spit, dry in good weather, extends 3.5 miles W of the point.

**Sable Island East Light** (43°58'N., 59°47'W.) is shown from a white square tower, with a red vertical stripe on each side, 13.7m high, about 3 miles SW of East Point.

**Sable Island West Light** (43°56'N., 60°01'W.) is shown from a pyramidal skeleton tower with two rectangular daymarks facing N and S, situated about 2 miles E of West Point.

Main Station comprises several Quonset-type buildings and a house near the W end of the island. Four radio towers, with elevations of 29 to 61m high and red obstruction lights, stand near West End light.

The W lighthouse, the most prominent radar target, is reported to give a clear response at 15 to 18 miles from all directions.

**Depths—Limitations.**—East Bar, with depths of 3.7 to 18.3m, on which the sea breaks heavily, extends at least 16 miles ENE of East Point. The N side of the bar is steep-to. In one place the depth increases from 3.7 to 64m in less than 0.5 mile.

The N coast of Sable Island, from East Point to West Point, about 16 miles W, forms a featureless, shallow bight. It is fronted in places by sandy ridges, with depths of less than 1m, running parallel to the coast and less than 0.4 mile offshore. The sea breaks heavily on these ridges in bad weather.

West Bar, with depths of less than 5.5m, extends about 22 miles WNW of West Point. Depths of less than 18.3m extend for about 5 miles farther W, and in this locality there are usually ripples and a heavy cross sea in bad weather. This bar is steep-to on its N side, depths of 28m being found just off the edge of the shoal.

The S coast of the island, like the N coast, is featureless.

**Anchorage.**—There is good anchorage in depths of 15 to 20m, fine sand, off the N side of Sable Island, from 1 to 2 miles offshore, except near the E end of the island where it is too deep close to the shore.

The holding ground is good and the anchorage is safe with an offshore wind. If there is any indication of wind from seaward, vessels should weigh immediately because heavy seas are normally experienced.

Vessels seldom anchor off the S side of the island on account of the prevailing swell.

The Labrador Current sets WSW north of the island while the Gulf Stream sets ENE south of the island; this creates eddies at both ends of the island. Floating debris is known to circle the island for long periods before washing ashore.

- a. 44°12'N, 59°08'W
- b. 43°54'N, 58°48'W
- c. 43°42'N, 59°08'W
- d. 43°42'N, 58°48'W

**Caution.**—In approaching an anchorage off Sable Island from the N, vessels should sound constantly and exercise great caution.

The S side of the island may safely be approached by sounding constantly; however, there are no recommended landing beaches on the S side of the island.

A stranded wreck lies about 7.5 miles ENE of Sable Island East Light. It is reported to give a radar echo at 8 to 10 miles. Mariners are cautioned not to mistake this echo for that of Sable Island East Light. The light tower gives a poor radar response, but several sand dunes close W of it offer a fair target.

A whale sanctuary, active all year round for Northern Bottlenose Whales, which are an endangered species, exists in The Gully, E of Sable Island, within the following coordinates:

Mariners are advised to avoid passage through this area. If this is not possible, vessels should decrease speed, maintain a lookout, and maneuver around any marine mammal activity.

A lighted SPM lies about 30 miles WSW of Sable Island West Light. Lighted production platforms stand about 2 miles NW and 5 miles NE of the SPM. The production platforms are connected by a submerged pipeline; the westernmost platform is also connected to the SPM by a submerged pipeline. A prohibited anchorage area, best seen on the chart, surrounds the SPM and the production platforms.

## Nova Scotia Banks

**3.46** The predominant feature of the seabed off the SE coast of Nova Scotia is the extensive continental shelf with numerous banks separated by relative deeps or basins. The depths on the continental shelf may be very irregular, therefore, too much reliance should not be placed on a position assumed from soundings alone.

Nova Scotia Banks are bounded by the deep Laurentian Channel to the NE, and to the SW the Emerald Basin and La Have Basin form deeps on either side of the Sambro Bank. The E banks are separated from each other by depths of usually less than 183m, but the depth may be much greater in places.

Sub-surface current meters are laid from time to time in the offshore waters.

A group of four such meters, moored 400m below the surface with no markings, lie within 45 miles of 42°50'N, 48°10'W.

Banquereau Bank, the E bank, extends from about 44°30'N, 57°15'W to 60°W, and has depths of 29 to 91m. The bank is composed of sand, gravel, and shells, and may be distinguished from contiguous banks by the numerous flat sea urchins without spines which are found on the bottom. Eastern Shoal forms the shallowest part of Banquereau Bank, with a least depth of 29m in 44°42'N, 57°43'W. Eastern Shoal forms a sand

ridge, with depths of less than 36.6m, about 30 miles long in a NE-SW direction and some 9 miles wide at its broadest point.

The Gully, separating Banquereau Bank from Sable Island Bank, is 7 miles wide at its narrowest part and over 914m deep at its S extremity.

Artimon Bank, a relatively small bank, with a least depth of 60m, lies N of the E part of Banquereau Bank, and is composed of sand, gravel, and coral.

Misaine Bank, W of Artimon Bank and N of Banquereau Bank, has a least depth of 64m and general depths of over 73m. The bank is generally rocky with sand, gravel, and shells.

Between Misaine Bank and the bank off Cape Breton Island, there is a deep gully, some 25 miles wide, with depths of 82 to 300m.

Canso Bank, with a least depth of 60m and composed of sand, lies with its NW extremity about 14 miles SE of Cape Canso. Its E side is separated from Misaine Bank by a distance of about 17 miles. It is separated from the bank extending from Cape Canso by a relative deep at least 6 miles wide.

Middle Bank, with a least depth of 27.4m, lies S of Canso Bank, from which separated by depths of over 183m. Cape Canso lies about 30 miles NNW of this bank, from which it is separated by a submarine valley, with a maximum depth of 264m. Because of its position, the soundings on this bank can be used to advantage when approaching Halifax from the E. The bank is composed of sand, gravel, and shells.

Sable Island Bank, with **Sable Island** (43°56'N., 59°55'W.) forming its dry summit, lies S of and adjacent to Middle Bank. The bank, composed of sand, gravel, shells, and rocks, extends 26 miles E from Sable Island to The Gully, and about 90 miles W to Western Gully. There are depths of less than 30m at the N end of the bank.

Hydrocarbon exploration/exploitation platforms are situated on Sable Island Bank, about 25 miles WSW of Sable Island. The site consists of two platforms. **Cohasset** (43°51'N., 60°38'W.) and Panuke (5 miles WSW), and a SPM buoy (1.5 miles SE). The platforms have standard safety zones of 500m and the SPM buoy has a 1,240m safety zone. Additionally, there is a special safety zone which encompasses the waters between the two platforms and the SPM buoy. Passage through the special safety zone is permitted, but anchoring is prohibited and fishing is permitted only with the permission of the standby vessel, within the special safety zone.

Western Gully, with depths of 94 to 108m, is a deep separating the Western Bank of Sable Island Bank from Emerald Bank.

Emerald Bank, composed of sand, gravel, and rocks, has a least depth of 68m.

Emerald Basin, a deep with a maximum depth of 270m, lies NW of Emerald Bank. The NW extremity of this basin is about 40 miles SE from the port of Halifax.

Sambro Bank, W of Emerald Basin, has a least known depth of 90m, and consists of sand, gravel, shells, and rock.

**3.47** The W part of Nova Scotia Banks, comprising La Have Bank, Roseway Bank, Baccaro Bank, and Browns Bank, is separated from the E banks by the deep La Have Basin. This basin is an extensive deep with depths greater than 183m and a maximum depth of 269m in 43°43'N, 63°51'W, near the center of the basin.

La Have Bank, SSW of La Have Basin, has depths of 77 to 92m, and is composed of sand, gravel, shell, and rocks. The NW extremity of the bank lies about 62 miles E of Cape Sable.

Roseway Bank, a rocky bank with depths of 53 to 91m, lies midway between La Have Bank and the coast of Nova Scotia. A deep with depths of 92 to 183m lies between La Have and Roseway Banks. A narrow neck, with depths of 91 to 99m, connects Roseway Bank to the coastal bank NW.

**Caution.**—A whale sanctuary, active annually from July to November, for right whales, which are an endangered species, exists in Roseway Basin within the following coordinates:

- a. 43° 05'N, 65° 40'W
- b. 43° 05'N, 65° 03'W
- c. 42° 45'N, 65° 03'W
- d. 42° 45'N, 65° 40'W

Mariners are advised to avoid passage through this area. If this is not possible, then decrease speed, post lookouts, and

maneuver around any marine mammal activity. Further information can be found in Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Baccaro Bank lies S of Roseway Bank and WSW of La Have Bank, with its W extremity about 40 miles SE from Cape Sable. The bank has depths of 71 to 91m, and the seabed is sand, gravel, and rocks.

Browns Bank, WSW of Baccaro Bank, is an extensive bank at the W end of the Nova Scotia Banks. It includes a sandy rise with a least depth of 29.3m in 42° 49'N, 66° 13'W, but in general the depths are much greater.

The 183m curve of Browns Bank is separated from the 200m curve of Georges Bank, off the coast of Massachusetts by the deep Fundian Channel, 15 to 30 miles wide. There is a maximum depth of 163m between Browns Bank and the coastal bank S of Nova Scotia.