

Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.  
**SECTOR 17** — CHART INFORMATION

# SECTOR 17

## DIXON ENTRANCE

**Plan.**—This sector describes the N coast of Graham Island from Cape Knox to Rose Point including Virago Sound, Masset Sound, and Masset Inlet. The salient features on the N side of Dixon Entrance are only mentioned herein, full details are given in U.S. Coast Pilot 8, Pacific Coast Alaska—Dixon Entrance to Cape Spencer.

### General Remarks

**17.1 Dixon Entrance** (54°30'N., 133°00'W.), the N approach from the Pacific Ocean to the inner channels of British Columbia and the S approach to those of SE Alaska, is entered from the W between the Queen Charlotte Islands, on the S side, and Dall Island, on the N.

Masset is the principal port described within the limits of this sector. This port is small, but it can accommodate ocean-going vessels.

Cape Muzon, Point Marsh, Point Nunez, and Cape Chacon are prominent features which lie on the N side of Dixon Entrance and N of the International Boundary. U.S. Coast Pilot 8, Pacific Coast Alaska—Dixon Entrance to Cape Spencer, should be consulted for complete details of these features.

**Winds—Weather.**—Winds from the SW predominate by day from May to September. In November and December, S and E winds become roughly equal to the SW winds and in January and February exceed them in frequency. By night, E and S winds vie with the SW ones for supremacy in winter, but from June to September, SW and W winds together account for some 40 percent of the winds and E and SE ones become few.

**Tides—Currents.**—In Dixon Entrance, the tidal currents are the reversing type; the flood sets E and the ebb sets W. The mean maximum velocity is about 1.5 knots along the S side and about 2 knots along the N side. The currents are strongest around headlands where rips and overfalls often occur. In mid-channel, the current velocities are weaker, and the mean maximum rate is about 1 knot. The flood branches N into Clarence Strait and S into Hecate Strait.

In the narrows, the flood current attains a maximum rate of 2 knots and the ebb current 2.5 knots. The turn of the tidal current occurs about 15 and 20 minutes after HW and LW, respectively, by the shore.

At Masset, the N current, which attains rate of 5.5 knots at springs, runs for nearly 6 hours 30 minutes until about 2 hours 30 minutes after LW by the shore. The S current, which attains a rate of 5 knots at springs, runs for nearly 6 hours until 2 hours 15 minutes after HW by the shore.

The duration of slack water is brief, particular at spring tides.

The tidal currents attain a rate up to 2.5 knots off Cape Muzon. Between Cape Muzon and Point Marsh and S of the International Boundary, the E current attains a rate of 1.3 knots and the W current about 1.8 knots.

The tidal currents off Cape Chacon and Nunez Rocks are irregular and attain a rate up to 3 knots. Weather conditions affect the currents.

The tidal currents attain a rate of 3.5 knots at springs in the channel lying between the drying part of Rose Spit and Overfall Shoal. The turn of the tidal currents in the vicinity of Rose Spit occurs approximately at the same time as HW and LW at Prince Rupert.

At times, the currents attain a maximum rate of 4 knots in the vicinity of Rose Spit, which causes heavy overfalls having the appearance of breakers, principally on its N side near the edge of the deep water.

In the inner straits and passages, the tidal currents follow the general directions of the channels, flooding into the many bays and inlets. The ebb usually sets in the opposite direction to that of the flood and generally is stronger. Mean rates at springs are fairly strong and generally range from about 1 to 3 knots. Velocities often exceed 5 knots in some of the narrow channels and strong rips may form.

In semi-enclosed inlets, the rate of the tidal current decreases toward the head and the current turns at or near the time of HW and LW.

Along the S side of the entrance, the flood sets E around the N end of Langara Island at a rate of up to 2.5 knots. In the area lying about midway between Rose Spit and Dundas Island, the current divides; the weaker part sets N towards Portland Inlet and the main flood turns SE into Hecate Strait.

**Regulations.**—The waters described in this sector lie within the Prince Rupert Vessel Traffic Zone. For further information, see General Remarks in [paragraph 11.1](#).

Canadian modifications to 72 COLREGS are applied in waters under Canadian jurisdictions. See Pub. 120, Sailing Directions (Planning Guide) Pacific Ocean and Southeast Asia for further information.

**Caution.**—The navigation of Dixon Entrance is difficult at night or during thick fog, when extreme care is required because of the dangers and irregular currents.

Magnetic anomalies of as much as 4° have been reported to occur along the N side of Dixon Entrance.

### Off-lying Islands and Dangers

**17.2 Forrester Island** (54°48'N., 133°32'W.), located about 30 miles WNW of Cape Muzon, is a prominent mark for vessels approaching Dixon Entrance from the W or N. This island is wooded and mountainous, the summit, 429m high, rising near the center. Petrel Island, lying 0.5 mile S of Forrester Island, has two wooded summits, which from a distance appear as islands. A small islet lies close N of Forrester Island and is marked by a light.

**Learmonth Bank** (54°28'N., 133°05'W.), about 13 miles long and 5 miles wide, lies in the fairway of the W entrance to Dixon Entrance. The bank is contained within the 200m curve and has a least depth of 36.6m. Strong tide rips and overfalls occur near the SW part of this bank.

Nunez Rocks, which dry 2.1m, lie about 1.5 miles S of Point Nunez. The rocks are often marked by breakers and marked by

kelp in the summer. Shoals, with depths of 2.7m, lie up to about 0.3 mile NE and SE of Nunez Rocks. The passage leading between Nunez Rocks and Point Nunez is clear. Vessels should give Nunez Rocks a berth of at least 1 mile when passing to the S, because the tidal currents are irregular in their vicinity.

**Barren Island** (54°45'N., 131°21'W.), marked by a light, is a bare rock, about 9m high.

West Devil Rock, which dries 3.4m, lies about 10 miles WSW of Barren Island. A rock, with a depth of less than 1.8m and on which the sea breaks almost continuously in moderate weather, lies about 0.5 mile NNW of West Devil Rock. Foul ground, on which the sea breaks, extends up to about 0.5 mile SW from the rock and a shoal, with a depth of 11m, lies about 2.3 miles SE of it. These dangers are all steep-to.

**Celestial Reef** (54°31'N., 131°28'W.) consists of three rocky heads, one with a depth of less than 1.8m and the other two with depths of 3m and 17.4m. The reef lies on the SE part of a bank, which has depths of 18 to 36.6m. Shoal patches, with depths of 29m and 15.8m, lie about 4 miles NNW and 2 miles S, respectively, of the reef.

## Dixon Entrance—South Side

**17.3 Cape Knox** (54°11'N., 133°05'W.) is a narrow tongue of densely wooded land which extends about 2 miles W from the NW extremity of Graham Island.

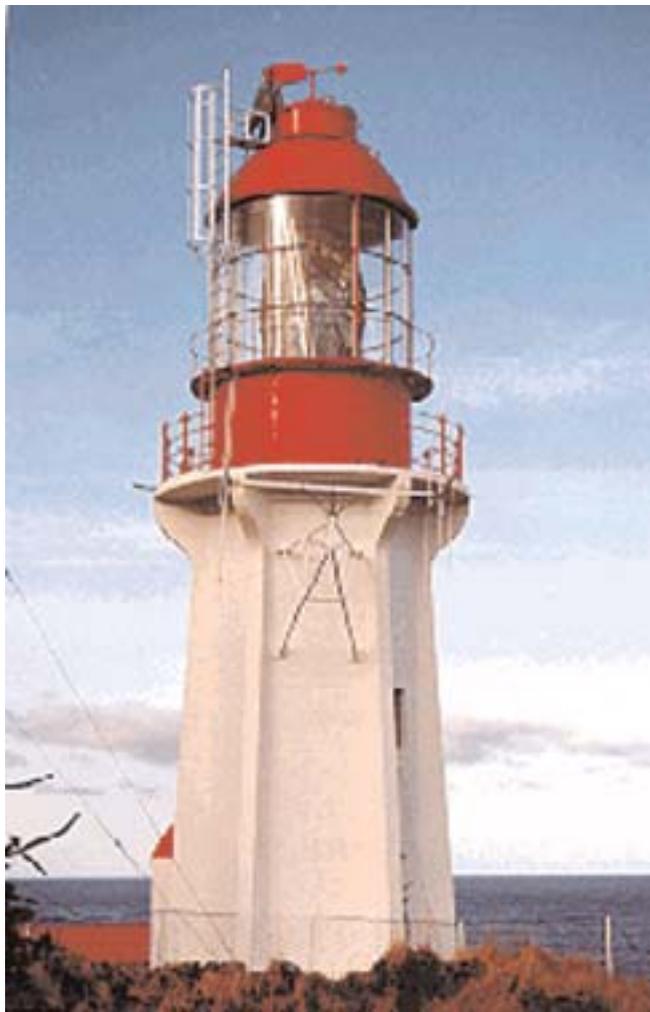
The coast between Cape Knox and Cape Naden, 18 miles E, is rocky and fronted by occasional low cliffs and gravel beaches. The land behind this part of the coast is generally low, rising gradually to the mountainous country in the NW part of Graham Island. Pivot Mountain (see [paragraph 16.33](#)), which stands in the NW part of Graham Island, is conspicuous from the NE part of Dixon Entrance.

Virago Sound, the approach to Naden Harbor, lies between Cape Naden and Wiah Point, 9 miles E. The coast on each side of the sound is low and wooded, with occasional open grassy spaces. The entrance of Masset Sound lies on the E side of Wiah Point. The coast between Wiah Point and Rose Point, 23 miles E, is low, densely wooded, and swampy with low sandhills fringing the woods. Tow Hill is the only prominent landmark rising on this part of the coast.

**Langara Island** (54°14'N., 133°02'W.), the SW extremity of which is located 2.5 miles N of Cape Knox, is the northernmost of the Queen Charlotte Islands. The island is irregularly shaped and densely wooded. A succession of rounded hills, up to 160m high, stands in the central part of the island and the W and N shores are rocky and precipitous. These rugged shores are fully exposed to the prevailing ocean swell and it is only on the calmest days that landing can be effected. The cliffs on the W side of the island rise in high pinnacles of sandstone.

Thrumb Islet, 20m high with some stunted bushes on it, lies on a drying rocky ledge which extends close off the NW extremity of the island. A rock, awash and on which the sea breaks in moderate weather, lies about 0.4 mile SW of the islet, with foul ground between.

**17.4 Langara Point** (54°15'N., 133°04'W.), marked by a light, is located 0.8 mile NE of Thrumb Islet. A square white



*Photo copyright Chris Mills*

### Langara Point Light

Langara Rocks, lying about 1.3 miles E of Langara Point, are two bare, somewhat prominent rocks, 8m and 9m high. These rocks, located about 0.4 mile apart, lie about 0.4 mile offshore and there is foul ground between and close around them.

A shoal, with a depth of 7.3m, was reported (1962) to be marked by kelp and to lie about 0.6 mile ENE of Langara Point. Kelp, indicating a series of shoals, lies between this reported shoal patch and Langara Rocks.

Andrews Point projects 0.3 mile from the E shore of Langara Island and the tidal currents off it run strongly. A ledge of above-water rocks extends about 0.2 mile NE from the point. Explorer Bay and Dibrell Bay are two bights lying on the N and S sides, respectively, of Andrews Point; these bays are deep, fully exposed to the N and E, and afford indifferent anchorage.

Egeria Bay, which affords the best anchorage in this vicinity, recedes about 1 mile SW between Cohoe Point, the S entrance point of Dibrell Bay, and a point located 1.5 miles SSW. This bay is sheltered from all except E winds, which, if strong enough, raise a sea sufficiently heavy to render the anchorage

untenable. A rock, with a depth of 31.1m, lies about 1.8 miles ESE of Cohoe Point.

Anchorage can be taken in depths of 26 to 28m, mud, with the head of the bay bearing about 287° and Cohoe Point bearing 017°. Large vessels should anchor farther out in a depth of 33m with the above-water rocks lying off Andrews Point open E of Cohoe Point.

During the summer and autumn, kelp is visible growing in depths of up to 15m along the shore of Egeria Bay to the E entrance of Parry Passage.

## Parry Passage

**17.5 Parry Passage** (54°12'N., 133°02'W.) separates Langara Island from the NW end of Graham Island. This passage has a least width of 0.3 mile between the dangers lying on either side. It trends generally ESE for about 5 miles from Ocean Shoal to Gunia Point. Depths of more than 33m lie in the fairway.

Ocean Shoal, with a least depth of 13.7m and on which the sea breaks heavily with a moderate swell, lies in the W entrance of Parry Passage, about 0.8 mile N of Cape Knox. Vessels should pass N of this shoal.

Meares Point, located 2 miles E of Cape Knox, is low and partly cleared. Totem poles standing in the clearing on the shore to the SE of the point mark the sites of two deserted Indian villages.

Chanal Reef, nearly covered at HW and on which the sea always breaks, lies with its N side located about 0.3 mile N of Meares Point. It is steep-to on the N or channel side. Foul ground, marked by large fields of kelp, extends up to about 0.5 mile W from the highest part of the reef. A rock, 1.5m high, lies on the NE edge of this reef.

Marchand Reef, a rocky ledge which dries, extends E from the shore between the deserted Indian villages and terminates in a shallow spit. Astrolabe Rock, with a depth of less than 1.8m, lies near the E extremity of this reef.

Bruin Bay occupies a bight that recedes less than 0.5 mile SE from a point on the coast located about 1.8 miles ESE of Meares Point. A rock, with a depth of 6.5m, lies in the middle of the bay.

Anchorage in the bay is not recommended, as the flood tidal current forms eddies which cause considerable yawing.

Gunia Point, the S entrance point of the E end of Parry Passage, is somewhat conspicuous because of the high land rising behind it.

Douglas Rock, which dries 2.4m, lies close WNW of Gunia Point and is fronted by an area of foul ground that extends to the shore of the bight lying to the S.

Coneehaw Rock, 0.6m high, lies about 0.4 mile ENE of Gunia Point. It is located on the N side of a shoal with depths of less than 5.5m. The channel leading between Gunia Point and the shoal is deep and free from dangers. A detached shoal patch, with a depth of 8.2m, lies about 0.2 mile ESE of the rock, but is reported to be unexamined. A rock, with a depth of 18.3m, lies in the fairway, about 0.3 mile NW of Coneehaw Rock.

**17.6 Lucy Island** (54°13'N., 133°05'W.), 20m high and bare, lies off the SW extremity of Langara Island, with foul

ground between. This island is the N point of approach to the W entrance of Parry Passage.

Cloak Bay occupies the outer part of the bight which lies between Rhodes Point and Iphigenia Point, on the SW side of Langara Island. Foul ground, marked by kelp, extends about 0.1 mile offshore in places from the N side of the bay, between Rhodes Point and Hart Point, 1 mile E. A rock, 3m high, lies at the end of the drying reef which extends about 0.3 mile SW from Hart Point. Entry to the bay is best affected from the S, between the SE end of Swanton Bank, described below, and the W side of Iphigenia Point.

**Swanton Bank** (54°12'N., 133°02'W.), with general depths of 1.8 to 17m and on which kelp is present during the summer and autumn, occupies a large part of the entrance of Cloak Bay. A rock, with a depth of 5.8m, lies close to the SE extremity of Swanton Bank.

Harvey Rock, with a depth of less than 1.8m and which generally breaks, lies near the N end of the bank, about 0.5 mile S of Rhodes Point. The bank breaks heavily with a SW swell, which is felt almost as far as Hazardous Cove. Under these conditions, vessels cannot reach the cove. The passage leading between the SE end of Swanton Bank and the foul ground lying W of Cox Island is about 0.2 mile wide.

Sunday Reef, a rocky ledge, lies about 0.3 mile S of Hart Point and at the entrance of Hazardous Cove. This reef is steep-to, awash at HW, and dries 3.7m at LW.

Cox Island, 115m high and densely wooded, lies in the E part of Cloak Bay. The island is precipitous on its W and S sides with sheer cliffs; some prominent rock pillars lie close off the cliffs.

In calm and settled weather, temporary anchorage can be taken in a depth of 27m. The berth lies with the summit of Cox Island bearing 044°, distant 0.5 mile, and the extremity of the land near Iphigenia Point bearing 147°. A more sheltered berth lies in a depth of 33m with the summit of Cox Island bearing 107°, distant 0.5 mile, and the SW extremity of the land near Iphigenia Point bearing 158°. These anchorages are exposed to the W and are seldom free from the prevailing ocean swell, which at times may become heavy without any apparent cause.

Iphigenia Point, located 1.5 miles S of Hart Point, is the S extremity of a steep, rounded bluff, which rises to a height of 122m a short distance inland. Some conspicuous rock pillars lie close off the SW face of the bluff. The S side of the point is steep-to. A light is shown from Iphigenia Point.

**17.7 Lucy Island** (54°11'N., 132°59'W.), lying close off the S extremity of Langara Island, is densely wooded and rises to a well-defined summit, 69m high. A rock, which dries 4.3m, lies about 0.2 mile SW of the E end of the island and a shoal, with a depth of 2.9m, lies close S of it. Below-water reefs, with rocks up to 1.5m high, extend about 0.3 mile E from the E end of the island. A light, which is obscured to the W, is shown on the E end of the island.

Solide Passage, which separates Lucy Island from the S extremity of Langara Island, has a least width of 90m between the shoals lying on either side. The fairway has a least depth of 5.5m, near its E end. The passage is bordered by rocky ledges on both sides, and its use is recommended only for small vessels with local knowledge.



*Photo copyright Mike Mitchell*

### Lucy Island Light

Vessels should make their approach with Lucy Island bearing no less than  $040^\circ$ . The course should then be altered to head for Iphigenia Point Light bearing  $113^\circ$ . When clear of Channel Reef, the course should be altered to  $123^\circ$  in order to pass 0.1 mile off the land to the NW of the point.

When Iphigenia Point Light bears  $316^\circ$ , astern, the course should be altered to  $136^\circ$  until Lucy Island Light bears  $070^\circ$ . A heading of  $104^\circ$  toward Gunia Point should then be taken. With Lucy Island Light bearing  $000^\circ$ , the course should be altered to a safe heading in order to clear Douglas Rock and the dangers lying SE.

**Caution.**—Parry Passage presents no difficulties in clear weather and is suitable for ocean-going vessels. During thick or foggy weather, vessels approaching from the S must take care not to mistake Lepas Bay for the entrance to the passage, the opening of which is not very apparent until past Cape Knox.

The currents S and W of Lucy Island run strong and vessels should have full power available, so as to be able to swing against them in the narrow part of the passage.

**17.8 Pillar Bay** ( $54^\circ 09'N.$ ,  $132^\circ 55'W.$ ), which affords a temporary shelter with W and offshore winds, recedes about 1 mile SE between a point located 0.8 mile SE of Gunia Point and Seath Point, 1.5 miles ESE. Pillar Rock, a prominent columnar mass of sandstone and conglomerate rock, is 29m high. It is surmounted by bushes and lies in the E part of the bay near the edge of a rocky ledge which extends from the shore at LW.

Anchorage can be taken in a depth of 24m with Pillar Rock bearing about  $152^\circ$ , distant 0.8 mile. Boats may find shelter behind some of the rocky points in the bay.

Nankivell Point, located 3.5 miles ESE of Seath Point, is the entrance point of the Jalun River, which affords shelter to boats at HW close within its mouth. Drying rocks encumber the entrance of this river.

Klashwun Point, a conspicuous promontory of uniform height with a distinct summit rising near its W part, is located 5 miles ENE of Nankivell Point. The summit, 164m high, is visible from a considerable distance and provides a useful landmark due to the low, flat character of the adjacent coast. The site of the deserted village of Yats is situated close SE of the point.

Shag Rock, which dries 4m and from which a light is shown, is steep-to. It lies about 0.4 mile NE of Klashwun Point.

**Caution.**—Caution is required when approaching this part of the coast as it is fronted by dangers and vessels are recommended not to approach within depths of less than 26m. Numerous shoals lie within 1 mile of the shore, especially in the vicinity of Nankivell Point.

## Virago Sound and Naden Harbor

**17.9 Virago Sound** ( $54^\circ 06'N.$ ,  $132^\circ 30'W.$ ) is entered between Cape Naden, on the W side, and Cape Edensaw, a low and somewhat conspicuous point, 5.3 miles ESE.

The high promontory of land at Klashwun Point, visible for some distance, is a useful guide for the approach to the sound. The highest part of Langara Island is also visible in clear weather from the entrance of the sound. Mazarredo Islands and the entrance to Alexandra Narrows, both of which are described below, can be seen as the entrance of the sound is approached.

Hanna Bay and Hussan Bay, with Jorey Point between, lie on the W side of the sound between Cape Naden and Mary Point, 4.5 miles S. Foul ground fronts the shore of Hanna Bay and is fringed by large kelp fields growing in depths of up to 11m. The outermost danger, a small ledge which dries 1.8m, lies near the middle of the bay and about 1 mile SSE of Cape Naden. Hussan Bay is encumbered with drying rocks and flats, and is fronted by a dense kelp field.

The Mazarredo Islands, two in number, are wooded and lie within 0.6 mile E of Jorey Point to which they are connected by a stoney ridge that covers at about half tide. A rock, 2.5m high, lies about 0.1 mile NE of the outermost island.

The Bar, composed of stones and gravel, is covered in most parts with kelp during the summer and autumn. It extends from Inskip Point, located 4 miles SW of Cape Edensaw, towards the central part of Hussan Bay. There is seldom any appreciable swell on The Bar.

Hastings Reef, nearly awash at its NW end during the lowest tides, lies close S of the middle of The Bar. Vessels can pass about 0.3 mile on either side of this reef, but Smyth Passage, lying on the E side, is favored.

Alexandra Narrows, which have a least width of 0.1 mile abreast of Haswell Reef, lead from Virago Sound into Naden Harbor. The narrows, free of eddies, are not difficult to navigate, but careful attention is required when rounding George Point.

Richard III Bank, which dries 1.2m near its central part, lies close S of George Point and fronts the E side of the narrows.

The tides rise about 4.6m at springs and 3.8m at neaps. The flood current attains a maximum rate of 2 knots and the ebb current 2.5 knots. Slack water occurs about 5 minutes after HW and LW at Prince Rupert.

A buoy, moored on the N side of the bar, marks a shoal with a depth of 3.2m. Hodgson Passage, which passes W of the bar, is indicated by a lighted range. However, use of this range is recommended only to small vessels with local knowledge.

**17.10 Naden Harbor** (54°00'N., 132°37'W.), lying close S of Alexandra Narrows, consists of a large and nearly landlocked basin. The shores of the basin are low and wooded. The basin affords good shelter to all vessels which can enter and provides excellent anchorage for an extended stay.

A cannery is situated on the S side of George Point. There is no permanent settlement; however, the village of Kung, standing on Mary Point, is usually occupied in the summer.

A wharf, 170m long, fronts an abandoned whaling station on the W side of Naden Harbor. It was reported that this wharf is in a bad state of repair and unfit for use.

Small vessels waiting to cross the bar can anchor in a depth of 11m about 1.3 miles NNW of Inskip Point with Mary Point in line with Bain Point, bearing 209°. Larger vessels can anchor farther out in the same depth, to the E of the Mazarredo Islands.

Naden Harbor affords sheltered anchorage from all winds in depths of 11 to 22m, mud, almost anywhere within it. Craft Bay, lying on the E side of the harbor, provides even better shelter for small vessels.

The Naden River, flowing into the head of the harbor, drains Roy Lake. Its mouth is fronted by extensive flats that dry, but the river is navigable by boats through a difficult channel for 2 miles. A number of creeks flow into the S portion of the harbor and Tee Island, high and wooded, lies off the SE shore.

**17.11 Cape Edensaw** (54°06'N., 132°26'W.) is the W extremity of a section of low, wooded coast. This section is fringed with a rocky ledge for 4 miles to Wiah Point. The land backing this part of the coast is considerably lower than that to the W of Cape Naden and provides a good contrast when approaching from the N.

Wiah Point, from which a rocky ledge extends about 0.3 mile N, has no distinguishing features, particularly when seen from the N. A light is shown from the outer end of the reef which extends NE from the point. A lighted buoy is moored about 0.1 mile N of the reef.

Refuge Island, lying less than 0.5 mile E of Wiah Point, is located at the SW end of a large, rocky ledge which dries. The Indian village of Mia-Kwun is situated at the head of a boat harbor which lies between Refuge Island and Wiah Point. A light is shown from the head of this boat harbor. Floating fish camps are situated in the boat harbor during the fishing season, approximately May 1 to September 15.

Hidden Island, wooded and from which a drying ledge extends about 0.4 mile NE, lies 1.5 miles ESE of Wiah Point. Foul ground, with above and below-water rocks, extends up to about 0.3 mile N and E from the drying rocky ledge.

Striae Islands, lying 2.8 miles SE of Wiah Point, are located on some drying rocky ledges off a bight in the coast to which they are connected at LW. The northwesternmost and largest of the islands is 38m high, thickly wooded, and somewhat conspicuous when approaching Masset Harbor. A light is shown from the easternmost of the Striae Islands.

**17.12 Masset Harbor** (54°01'N., 132°09'W.) ([World Port Index No. 19000](#)) is entered between Westacott Point, located 3.5 miles SE of Wiah Point, and Entry Point, 2.5 miles SE. The entrance of the harbor is difficult to identify from the NE as the coast in the vicinity is low and featureless.

**Winds—Weather.**—Winds from the SE predominate from October to April, generally occurring on 30 percent of the observations. Winds from the N and NE are also fairly common during this period.

From May to September, winds from the W and NW are reported about 50 percent of the time, with SE winds now averaging about 25 percent. The mean number of days per month with gales averages about 1 from October to March. Gales are rarely encountered in the summer, but calms are also infrequent.

**Tides—Currents.**—The tides rise about 3.6m at springs and 3m at neaps.

The N current, which attains a rate of 5.5 knots at springs, runs for nearly 6 hours 30 minutes until about 2 hours 30 minutes after LW by the shore. The S current, which attains a rate of 5 knots at springs, runs for nearly 6 hours until about 2 hours 15 minutes after HW by the shore.

The duration of slack water is brief, particularly at spring tides.

**Depths—Limitations.**—Venture Banks, the outermost dangers lying off the harbor, have a least depth of 1.8m located about 3.5 miles NNE of the N extremity of Entry Point. These banks are fairly steep-to on their N sides and the sea frequently breaks heavily over them.

Outer Bar, a narrow ridge of sand and gravel, extends up to about 2.5 miles NE from Westacott Point. The least depth in the fairway over the Outer Bar is 5.8m.

Inner Bar, a narrow ridge of gravel, extends about 2.5 miles NNE from a position lying about 0.8 mile NW of Entry Point. The least depth in the fairway over the Inner Bar is 4.6m.

Troup Bank, which dries in patches, extends 1.5 miles N from the NE side of Entry Point. A shingle spit, 0.7m high, extends about 0.5 mile N from the N extremity of the same point.

Davy Ledge, which dries 1.5m, lies about 0.3 mile ENE of Westacott Point.

Susan Bank, which nearly dries, and Wimble Rocks, which dry 2.7m, front the SE part of Sturgess Bay on the W side of the harbor.

Entry Point, the E entrance point of the harbor, is the NW extremity of a low, rounded, and densely wooded promontory. The W side of the promontory between Entry Point and Camp Point, 4.5 miles SE, forms the E shore of the harbor which is fairly steep-to.

A wharf, with a T-head, provides a berth, 30m long. It has a depth of 4.9m alongside and is situated at the Indian village of old Masset.

A government wharf, 147m long, is situated at 0.3 mile NW of Harrison Point. It is L-shaped and has a head, 18m long, with a depth of 7.3m alongside. There are two landing floats at this wharf and a loading ramp for ro-ro vessels.

Another wharf, 96m long, is situated close N of the government wharf. It has a T-head, 46m long.

Delkatla Inlet is entered between Harrison Point, located 3 miles SE of Entry Point, and Skaga Point, 0.5 mile S. This inlet

dries with the exception of a dredged channel, 25m wide and 0.3 mile long. This channel leads to a dredged boat basin, 73m wide and 0.1 mile long. The least depth in the channel and the boat basin is 1.5m. Buoys mark the entrance to the channel. A mooring buoy is situated close NW of the seaplane landing at Skaga Point.

**Aspect.**—The deserted Indian village of Yan stands about 1 mile S of Westacott Point. Several totem poles, which are conspicuous, are situated in the area.

A lighted range, which may best be seen on the chart, indicates the channel leading over the bars.

**Anchorage.**—Anchorage can be taken on the entrance range line with Striae Islands Light bearing 213°, distant about 0.8 mile. The berth lies in a depth of 12m, sand and mud, but is exposed to the tidal currents making it unpleasant, especially during N winds, to which it is fully exposed.

Vessels usually anchor in a depth of 25m, poor holding ground, off the Indian village of Old Masset for purposes of communication. This anchorage is fully exposed to the strength of both tidal currents. Vessels should not remain here during the night.

Small vessels can anchor in a depth of 14m about 0.3 mile S of Skaga Point. This anchorage is somewhat out of the main strength of the tidal currents, but the swinging room is limited.

Small craft can find shelter within the dredged boat basin in Delkatla Inlet.

**Caution.**—Slightly shallower depths than charted may exist on the range over Inner Bar and caution is advised.

Vessels should not enter the harbor during the strength of the tidal currents. Anchorage within the bars is not recommended overnight. Larger vessels should cross the bars just before HW.

Care must be taken not to be set down on to the shoals lying off Rooney Point.

Submarine pipelines, which may best be seen on the chart, lie offshore between Entry Point and Harrison Point.

**17.13** Masset Sound, a narrow passage lying between Masset Harbor and Masset Inlet, trends S for 15 miles. This sound leads from Crowell Point and Camp Point, its NW and NE entrance points, to Ship Island at its junction with Masset Inlet.

The tidal currents, which follow the general trend of the sound, are strong because this narrow passage expands into the large body of water of Masset Inlet.

Masset Sound has a navigable channel, about 0.3 mile wide, extending as far as Cook Point, located 3 miles from the S end of the sound. The channel here is reduced to a width of about 0.1 mile. The fairway has general depths of over 12m and a least depth of 8.8m, lying about 1 mile SSE of Griffith Point.

Griffith Point, which is steep-to, is located 3 miles S of Camp Point.

The site of the deserted Indian village of Watun is situated at the mouth of the Watun River, 2.3 miles SSE of Griffith Point. A rock, with a depth of less than 1.8m, was reported to lie about 0.1 mile offshore, about 0.3 mile NW of the mouth of the Watun River.

The site of the deserted Indian village of Nadu is situated at the mouth of the Nadu River. A shoal patch, with a depth of 9.8m, lies in the center of the channel and 0.4 mile NW of Nadu.

Hogan Point, the N extremity of Kumdis Island, is located 0.5 mile SW of Nadu. Kumdis Island forms the S part of the E shore of Masset Sound and the NE part of Masset Inlet. Kumdis Slough, a narrow and shoal passage, dries near its central part and separates Kumdis Island from the main island.

Cub Island, lying 2.5 miles SW of Hogan Point, is 20m high. This island is the outermost of four islands lying close off the W side of Kumdis Island. Foul ground, with a rock which dries 1.5m at its W extremity, extends up to 0.8 mile W from a position on the W side of Kumdis Island, 1.8 miles SW of Hogan Point.

A drying flat occupies the bight which lies about 3 miles S of Crowell Point. Shoals, marked by kelp, extend up to about 0.2 mile E from the edge of the drying flat.

Allan Point is located 8.5 miles S of Crowell Point. A rock, with a depth of less than 1.8m, lies about 0.2 mile offshore, about 2 miles SW of this point.

Cook Point is located 3.5 miles SW of Allan Point. A drying bank extends about 0.1 mile E from the point and a light is shown from its E extremity.

Collison Point is located 1.5 miles SSW of Cook Point. Ship Island, 84m high and wooded, lies 2 miles SW of Collison Point and at the S end of Masset Sound at its junction with Masset Inlet. Ship Kieta Island is connected with the W side of Ship Island by a drying bank. Stubbs Rock, which dries 1.8m, lies about 0.5 mile SW of Ship Island. Foul ground lies between Ship Island and Stubbs Rock, which is marked by a buoy.

Sloop Islet, from which a light is shown, lies 0.3 mile E of Ship Island. A rock, with a depth of 3.7m, lies about 0.3 mile SSW of this islet.

**Caution.**—The tidal currents in Masset Sound are strong, but generally follow the line of the channel. Vessels usually have no trouble maintaining their position in the fairway, except in the vicinity of Cook Point, where the channel narrows considerably, and this part should be navigated at or near slack water.

**17.14** Masset Inlet is entered between Ship Island and the W side of Kumdis Island. The E part of the inlet is encumbered by Borrowman Shoals and its shores are low. The W part of the inlet is deep and its shores rise steeply to heights of more than 610m.

Dinan Bay lies at the W extremity of Masset Inlet. Dinan Bay extends 5 miles W and SW. Mutus Island, 58m high, lies in the middle of the entrance. Foul ground and drying rocks extend 0.5 mile SE of the island to an islet, 33m high. Foul ground also extends NW of Mutus Island to the shore. A rock, awash, lies close S of Mutus Island.

Range beacons are situated close to the shore, within 1 mile of the entrance. These beacons, in line, lead through a very narrow passage close to the S shore. McClinton Bay lies close E of Dinan Bay. It is deep and clear of danger to within 0.8 mile of the head and to within 0.2 mile of the shore. There are several groups of islands which lie within Masset Inlet, the most central group being the Dawson Islands. Juskatla Inlet is a large recess in the shore on the S side of Masset Inlet.

The tidal currents in Masset Inlet seldom attain a rate of more than 1.5 knots.

Borrowman Shoals, which occupy nearly the whole of the E part of Masset Inlet, consist of two extensive shoals lying N and S of each other with a deep channel between. These shoals are contained within the 5m curve, which lies up to 2 miles off the E shore. The northernmost shoal has a least depth of 0.9m and the southernmost shoal has a least depth of 2.7m.

**17.15 Port Clements** (53°41'N., 132°11'W.), situated on a small promontory at the SE end of Masset Inlet, affords shelter for small craft.

A breakwater, marked by a beacon at its E extremity, extends NW and E from the N side of the promontory. Two L-shaped floats, with depths of 3.1m alongside, are situated inside the breakwater. A mooring buoy is situated close N of the breakwater. A wharf, situated on the W side of the promontory, has a depth of 5.2m alongside.

Good anchorage can be taken by vessels waiting to berth at Port Clements off the S shore of Masset Inlet. The berth lies in a depth of 13m, mud, about 2 miles WSW of the settlement.

Small craft can obtain shelter from W winds in Ferguson Bay, under Echinus Point, about 1.5 miles farther W. Rocks, with a least depth of 1.2m, lie about 0.4 mile E of Echinus Point.

The **Dawson Islands** (53°43'N., 132°21'W.), a group of islands up to 29m high, lie near the central part of Masset Inlet. A number of drying rocks lie within this group. A light is shown from the southeastermost island of the group.

Mackie Rock, awash at HW and drying about 2.4m at LW, lies about 1.5 miles NW of Echinus Point and is marked by a beacon.

The Cowley Islands, 56m high, lie about 1.5 miles SSW of the Dawson Islands. Cowley Rock, which dries 0.3m, lies about 0.2 mile E of the easternmost of the Cowley Islands. Powell Island, 8m high, lies about 0.5 mile SSW of the westernmost of the Cowley Islands. Two rocks lying close together, with depths of 5.2m, are located 1 mile W of Powell Island.

Kwaikans Island, 133m high and wooded, lies about 1.5 miles W of the Dawson Islands. Above-water rocks lie between these islands.

Gray Island, 83m high, lies about 0.8 mile W of Kwaikans Island. Several islets and above and below-water rocks lie between these two islands.

McCreight Island, 54m high and wooded, lies about 0.5 mile SW of Gray Island. An islet, 25m high, and a rock, which dries 2.7m, lie midway between these islands. McCreight Rock, with a depth of less than 1.8m, lies about 0.1 mile NW of McCreight Island.

Ross Islet, 17m high, lies about 0.4 mile off the S shore of Masset Inlet and about 1.5 miles W of Makai Point, the W entrance point of Juskatla Inlet.

A rocky patch, with a depth of 7.6m, lies between 0.3 mile and 0.4 mile off the S side of McCreight Island.

Shannon Bay occupies the bight that recedes about 3 miles SW from a position on the S shore of Masset Inlet, about 3 miles W of Makai Point. Several wooded islands, the largest of which is Wathus Island, front the entrance of this bay. Wharton Island, Smyth Island, Learmonth Island, and Simpson Island lie between Wathus Island and the shore of the bay to the SE.

The passage leading between Wathus Island and Wharton Island is encumbered with rocks and is not recommended. The recommended passage leads W of Learmonth Island and then between Wharton Island and Smyth Island. It is narrow and shoals, with depths of 6.4m, lie on each side. The fairway leading between these two shoals is deep. An islet, 16m high, lies close S of Smyth Island. A rock, with a depth of 8.8m, lies in mid-channel, about 0.1 mile SW of Smyth Island.

A light is shown from a rock lying close N of Learmonth island.

A mooring buoy, which is privately maintained, is situated in the middle of Shannon Bay, about 0.5 mile from the head.

Local steamers call regularly at Shannon Bay with supplies for the logging operations in the vicinity.

Wiah Island, 87m high and wooded, lies between the S end of Wathus Island and the coast, which forms the W shore of Shannon Bay. A rock, with a depth of 3.7m, lies in the passage leading N of Wiah Island, close SW of the S extremity of Wathus Island. The passage leading S of Wiah Island is encumbered by an islet, 23m high, and rocks which dry 0.9 to 1.5m.

Awun Bay, lying close W of Shannon Bay, is deep. The bay has no dangers, except a shoal lying 0.1 mile off its W entrance point to which it is connected by a drying reef. Large vessels can enter the bay by passing W of Wathus Island. Small vessels can enter this bay from Shannon Bay via the passage lying N of Wiah Island.

**17.16 Juskatla Inlet** (53°39'N., 132°21'W.) is entered through Juskatla Narrows on the S shore of Masset Inlet, about 5.5 miles W of its E end. An E arm of the inlet leads to Cowhoo Bay and Mamin Bay. Datlamen Creek flows into the head of Juskatla Inlet.

The entrance is divided into two channels by Fraser Island, Richards Island, and Deasy Island. Numerous small islets and rocks lie in the vicinity of these three islands.

Koutz Rock, which dries 0.6m and is marked by a buoy, lies about 0.3 mile NNE of Richards Island and forms a danger in the approach.

Juskatla Narrows, the channel lying W of Fraser Island and Deasy Island, has a least width of 135m and a least depth of 1.8m in the fairway. The narrows, a restricted and shoal passage with strong tidal currents, should only be attempted at HW. Extensive kelp beds cover the shoals in the narrows.

The channel leading E of Fraser Island and Deasy Island is encumbered with islets and drying shoals, and should not be attempted.

Due to the restricted and shoal entrance of Juskatla Inlet, the tidal rapids form in Juskatla Narrows. The tidal currents attain a rate of 6 to 9 knots with much broken water on the ebb. The ebb velocity may increase considerably when the rivers and creeks flowing into the inlet are in flood.

The rise of the tides within Juskatla Inlet varies from 1.5m at spring tides to 0.9m at neap tides, as compared with 3m at spring tides to 1.7m at neap tides at Richards Island. A higher tide may be expected when currents flowing into Juskatla Inlet are in flood and the general level of the inlet is raised in consequence.

The Harrison Islands, located in the middle of Juskatla Inlet, consist of several small islands, numerous rocks, and one large

island, 125m high. This group generally divides the inlet to the E and W and leaves a narrow channel leading N and S.

Mamin Islets, two in number, lie in the E arm of the inlet, about 2.3 miles E of the S end of the largest of the Harrison Islands. A rock, which dries 0.3m, lies about 0.4 mile SW of the westernmost of the Mamin Islets.

Cowhoe Bay and Mamin Bay, both of which afford good anchorage almost anywhere within them, occupy the N and S bights, respectively, in the E extremity of Juskatla Inlet.

Juskatla, a small settlement which is engaged in logging operations, is situated at the head of Mamin Bay. Boat service is available to Shannon Bay where vessels call regularly.

The SW part of Juskatla Inlet forms a long bight which is encumbered with numerous islets and shoals. The general depths are deep and the area is not suitable for good anchorage.

**Caution.**—Vessels should enter Juskatla Narrows at HW only. Because of the tortuous nature of the narrows and the numerous rocks and shoals within the inlet, local knowledge is required.

**17.17 McIntyre Bay** (54°05'N., 132°00'W.) forms a large bight between Wiah Point and Rose Point, 24 miles E. This bay is shoal in its W part with depths of less than 5.5m lying up to 4 miles offshore.

Skonun Point, located 10.8 miles ESE of Wiah Point, is fronted by a small cliff from which a rocky ledge extends close N. The Sanger River and the Skonun River flow into a brook which empties into the bay about 2.5 miles E of Skonun Point.

Several conspicuous radio towers, 33m high, stand about 0.4 mile W of Skonun Point.

**Tow Hill** (54°04'N., 131°48'W.), 152m high to the tree tops, rises on the W side of the entrance of the Heillen River. This hill serves as a prominent landmark and is radar conspicuous, rising above the low and featureless land along this stretch of the coast. It rises close to the coast and is fronted by a cliff, 122m high.

Anchorage can be taken in a depth of 13m, good holding ground, about 2 miles N of Tow Hill.

**Rose Point** (54°09'N., 131°40'W.), the NE extremity of Graham Island, is a prominent and low promontory. The point

itself is distinguished by the termination of the trees. The promontory gets lower and tapers to a needle point, 2.5 miles NNE of the trees. It then terminates in Rose Spit. The inner portion is covered with low bushes surmounting grass-covered sandy hills, which constantly change their position. The outer portion is covered, above the HW mark, with heaps of drifting sand and large quantities of bleached logs and stumps. A shoal, with a depth of 4.2m, was reported (1988) to lie about 4.8 miles NNE of Rose Point.

Anchorage can be taken in depths of 13 to 16.5m about 2 miles WNW of the end of the trees on Rose Point.

Rose Spit, upon which the sea generally breaks with heavy overfalls, dries in places and extends about 2.5 miles NE beyond the extremity of the high water mark of Rose Point. The drying part of this spit terminates in a narrow sandbank, about 0.8 mile long, on which lies an islet, 1.5m high. The spit then extends about 3 miles NE with general depths of 5.5 to 8.2m.

A racon is situated on Rose Spit, about 2 miles N of Rose Point. A lighted buoy is moored at the N end of the spit, about 4 miles from Rose Point.

A narrow sandspit, the outer extremity of which has a depth of 4.6m, extends about 1 mile W from the drying part of Rose Spit and about 2 miles N of the extremity of the trees on Rose Point. Rose Spit is otherwise steep-to on its NW side, but it should be given a wide berth.

Overfall Shoal, with a depth of 2.7m, is sandy and lies at the NE extremity of Rose Spit, about 7 miles NE of Rose Point. A lighted buoy is moored close NE of this shoal.

**Caution.**—Great care is necessary when navigating in the vicinity of Rose Spit, especially at night or in fog, as the tidal currents set strongly across it. The lighted buoy should be given a berth of at least 3 miles, and when approaching from the W, it should be kept in mind that, as the spit is steep-to on its NW side, the soundings do not indicate the danger in sufficient time to take avoiding action.

In daylight, during clear weather with Tow Hill in sight, navigation is somewhat less difficult. Tow Hill is sufficiently high to be seen from seaward over the low land for some distance to the S of Rose Point.