



PAC 206

Canadian **Sailing Directions**

Hecate Strait, Dixon Entrance, Portland
Inlet and Adjacent Waters and Haida Gwaii

2022/07



Fisheries and Oceans
Canada

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Pictograph legend



Anchorage



Current



Radio calling-in point



Wharf



Caution



Lifesaving station



Marina



Light



Pilotage

Report discrepancies between real-world observations and descriptions in the publication

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This Second Edition of *Sailing Directions, PAC 206—Hecate Strait, Dixon Entrance, Portland Inlet and Adjacent Waters and Haida Gwaii*, 2015, has been compiled from Canadian Government and other information sources. In general, all hydrographic terms used in this booklet are in accordance with the meanings given in the *Hydrographic Dictionary* (Special Publication No. 32), published by the International Hydrographic Bureau.

This edition introduces a new presentation and layout of the geographical areas.

General information for the British Columbia coast is given in one booklet, *Sailing Directions, PAC 200—General Information, Pacific Coast*. It contains navigational information and a brief description of the main port facilities as well as geographic, oceanographic and atmospheric characteristics. A geographical index at the end of the booklet should also be consulted.

The detailed descriptions of the geographical areas is given in a series of volumes and booklets. Their limits are printed on the back cover of the booklets. **The appropriate descriptive booklet(s) and volumes of *Sailing Directions* should be consulted in conjunction with the *PAC 200—General Information, Pacific Coast* booklet.**

Tide and current information has been revised by the Canadian Hydrographic Service.

Meteorological information has been supplied by the Atmospheric Environment Service, Environment Canada.

The photographs are by the Canadian Hydrographic Service, Fisheries and Oceans Canada unless otherwise indicated.

Users' comments concerning the format, content or any other matter relating to *Sailing Directions* would be appreciated and should be forwarded to the Director General, Canadian Hydrographic Service, Fisheries and Oceans Canada, Ottawa, Ontario, Canada K1A 0E6.



Canadian *Sailing Directions* amplify charted details and provide important information of interest to navigation which may not be found on charts or in other marine publications. *Sailing Directions* are intended to be read in conjunction with the charts quoted in the text.

Remarks

Buoys are generally described in detail only where they have special navigational significance, or where the scale of the chart is too small to clearly show all the details.

Chart references, in italics in the text, normally refer to the largest scale Canadian chart but occasionally a smaller scale chart may be quoted where its use is more appropriate.

Distance tables contain approximate distances only that are based on tracks usable by most vessels consistent with safe navigation.

Facilities available to the general public are described. The floats and wharves which are not described can be assumed to be privately owned. **Marina** facilities are listed in the Appendix of the appropriate geographic booklet of *Sailing Directions*.

Magnetic Compass Roses must be corrected for annual change in variation.

Names have been taken from the Canadian Permanent Committee on Geographical Names. Where an obsolete name still appears on the chart, it is given in brackets following the official name.

Tidal information relating to the vertical movements of the water is not given and the *Canadian Tide and Current Tables, Volume 7* should be consulted. However, abnormal changes in water level are mentioned.

Wreck information is included where drying or submerged wrecks are relatively permanent features having significance for navigation or anchoring.

Units and terminology used in this booklet

A-frames are derricks generally constructed of logs formed in the shape of the letter "A". They are used for lifting bundles of logs from logging trucks to the water and are usually conspicuous.

Bearings and **Courses** refer to True North (geographic) and are given in degrees from 000° clockwise to 359°. The bearings of conspicuous

objects, lights, ranges and light sectors are given from seaward. Courses always refer to the course to be "made good".

Booming grounds can be either areas where logs are yarded and formed into sections, or areas where booms and sections are stored. They are generally private areas, holding water leases, which restrict public usage.

Clearances under bridges, overhead cables, etc., are those at HHWLT.

Conspicuous objects, natural or artificial, are those which stand out clearly from the background and are easily identifiable from a few miles offshore in normal visibility.

Deadheads/Sinkers are logs that have become so waterlogged that they are almost entirely submerged. They usually assume a vertical position; if the water is shallow enough for their bottom end to be aground they can cause massive damage to a hull. They are invisible even in daylight unless a slight swell causes them to break the surface.

Dead-weight tonnage and mass are expressed in metric tonnes of 1,000 kilograms. The kilogram is used for expressing relatively small masses.

Depths, unless otherwise stated, are referred to chart datum. As depths are liable to change, particularly those in dredged channels and alongside wharves and floats, it is strongly recommended that these, when critical, be confirmed by enquiry to the appropriate authority.

Distances, unless otherwise stated, are expressed in nautical miles. For practical purposes, a nautical mile is considered to be the length of one minute of arc, measured along the meridian, in the latitude of the position. The international nautical mile, which has now been adopted by most maritime nations, is equal to 1,852 m.

Elevations on land are given above HHWLT. The elevations of wooded islands, points, etc., are to the tops of trees. **Heights** of objects, as distinct from the elevations, refer to the heights of structures above the ground.

Figures in brackets given after those denoting fathoms, feet or yards, are their equivalent in metres. Those following lights and light buoys are their Canadian Light List number and those after post office are the postal code for General Delivery.

HHWLT (Higher High Water, Large Tides) is the highest predictable tide during an average year in the nineteen year lunar cycle.

HW (High Water) refers to the highest water level achieved during one tidal cycle.

LLWLT (Lower Low Water, Large Tides) is the lowest predictable tide during an average year in the nineteen year lunar cycle.

LW (Low Water) is the lowest water level achieved during one tidal cycle.

Latitudes and longitudes given in brackets are approximate and are intended to facilitate reference to the general area on the chart quoted.

Logbooms are a collection of logs formed into units suitable for towing. They are generally oblong and can range up to 76 m wide and 360 m long. Logbooms are encircled and contained by **boomsticks** formed by logs chained together end to end.

Log dumps are areas where logs are dumped either from A-frames or log ramps. Usually the area is blocked off by boomsticks and pilings.

Public wharf is a wharf that is generally available for public use, though certain fees may be charged by local authorities. Some wharves may give berthing priority to the local fishing fleets or other agencies. It may be shown on older charts as “Government wharf” or “Gov’t whf”.

Radar beacons (Racon) are beacons which respond to radars; a full description is given in *Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

Small craft is the term used to designate pleasure craft in general, small vessels with shallow draught.

Tidal streams and currents are described by the direction toward which they flow. The **ebb** stream is caused by a falling tide and the **flood** stream is caused by a rising tide.

Time, unless otherwise stated, is expressed in Pacific standard or daylight time.

Winds are described by the direction from which they blow.

Pictographs are symbols shown at the beginning of the paragraphs to allow quick reference to information or to emphasize details. The Pictograph Legend is shown on the inside front and back covers of this booklet.



References to other publications:

Canadian Coast Guard

- *List of Lights, Buoys and Fog Signals (Pacific)*
- *Radio Aids to Marine Navigation (Pacific and Western Arctic)*
- *Annual Edition of Notices to Mariners*
- *The Canadian Aids to Navigation System*

Environment Canada

- *Canadian Climate Normals British Columbia*

Canadian Hydrographic Service

- *Canadian Tidal Manual*
 - *Chart 1 — Symbols, Abbreviations and Terms*
 - *Notes on the Use of Loran-C Charts*
 - *Canadian Tide and Current Tables, Volume 7*
 - *Catalogue of Canadian Nautical Charts and Related Publications (Pacific)*
-

Units

°C	degree Celsius
cm	centimetre
fm	fathom
ft	foot
h	hour
ha	hectare
kHz	kilohertz
km	kilometre
kn	knot
kPa	kilopascal
m	metre
min	minute
MHz	megahertz
mm	millimetre
t	metric tonne
°	degree (plane angle)
'	minute (plane angle)

Directions

N	north
NNE	north northeast
NE	northeast
ENE	east northeast
E	east
ESE	east southeast
SE	southeast
SSE	south southeast
S	south
SSW	south southwest
SW	southwest
WSW	west southwest
W	west
WNW	west northwest
NW	northwest
NNW	north northwest

Various

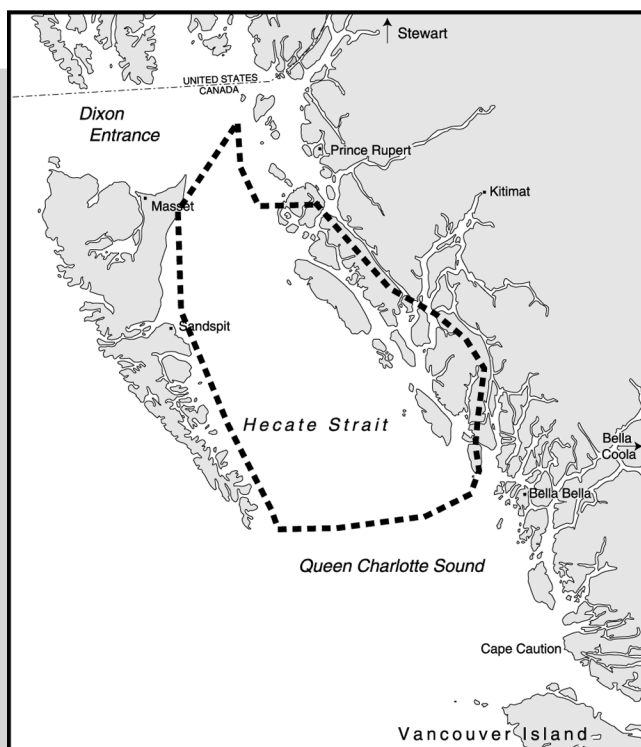
CCG	Canadian Coast Guard
CHS	Canadian Hydrographic Service
HF	high frequency
HW	high water
LW	low water
M	million, mega
MCTS	Marine Communications and Traffic Services Centre
NAD	North American Datum
ODAS	Ocean Data Acquisition System Buoy
SAR	Search and Rescue
VHF	very high frequency
VTS	Vessel Traffic Services

Hecate Strait, East Shore and Channels leading to the Inner Passage

General

Charts 3744, 3800, 3902, 3978, 3980, 3981, 3982

1 This chapter covers the east side of Hecate Strait between Price Island ($52^{\circ}18'N$, $128^{\circ}40'W$) and Porcher Island ($53^{\circ}51'N$, $130^{\circ}42'W$). The channels along the east side of Hecate Strait and those leading to the **Inner Passage** between Price, Swindle, Princess Royal, Pitt and Porcher Islands are also described. The Inner Passage is described in Sailing Directions booklet *PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound*.



Hecate Strait

2 **Hecate Strait** separates Haida Gwaii from the outlying islands that fringe the mainland of British Columbia. Its south entrance, between Cape St. James ($51^{\circ}56'N$, $131^{\circ}01'W$) on the west and Price Island on the east, is about 87 miles wide. The strait gradually narrows to a width of about 30 miles at its north end, between Rose Point on the west and Stephens Island on the east side.


3 The east side of Hecate Strait, between the south end of Aristazabal Island and the north end of Banks Island, is fringed by banks with numerous islets and reefs extending up to 13 miles offshore. **Dogfish Banks**, at the north end of Hecate Strait, extend east from the Haida Gwaii shore between Cumshewa Head and Rose Point; off Rose Point they extend east to within 3.5 miles of Butterworth Rocks.


4 **Changing seabed and depths.** — The NW part of Hecate Strait in the area bounded below consists of mobile bedforms or sandwaves as high as 7 metres from trough to peak. This area is roughly indicated by the darker blue colour depth areas on charts.

- North limit $54^{\circ}25'N$
- South limit $52^{\circ}50'N$
- West limit $131^{\circ}55'W$
- East limit $130^{\circ}50'W$

These sandwaves are moved by tides and storm driven currents. Material eroded from the east side of Graham Island between the Tlell River and Rose Spit moves northward at a rate between 3 to 12 m per year. The result is rapidly changing depths, contours and low water lines. Rose Spit is building


eastward at a rate of approximately 150 m per year. MacIntyre Bay is also affected but the rate of change is much slower (approximately 1 m per year).

 5 **Pilotage.** — All approaches to and the channels on the east side of Hecate Strait, such as Laredo Sound, Caamaño Sound, Otter Passage, Browning Entrance, Edye Passage and Bell Passage, are within Area 4 of the Pacific Pilotage Authority and pilotage is compulsory. All the coastal waters of Haida Gwaii along the west side of Hecate Strait are within Area 5 of the Pacific Pilotage Authority and pilotage is compulsory. For details regarding pilotage areas and obtaining a pilot, *see* Sailing Directions booklet *PAC 200 — General Information, Pacific Coast*.

 5.1 Three individual Marine Protected Areas (MPAs) have been established under the *Oceans Act* on February 2017 in Hecate Strait and Queen Charlotte Sound. The intention of the Northern, Central and Southern MPAs is to protect the Glass Sponge Reefs existing in the area.

5.2 The Northern and Central Reef Marine Protected Areas are located in Hecate Strait. The Southern one is located in Queen Charlotte Sound. For further information on the MPAs please visit <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/index-eng.html>.

6 **Tides.** — Tidal differences along the east side of Hecate Strait, referenced on Bella Bella, for Higgins Passage (Index No. 9056), McKenney Islands (Index No. 9077), Beauchemin Channel (Index No. 9082), Borrowman Bay (Index No. 9080), Gillen Harbour (Index No. 9105), Block Islands (Index No. 9165) and referenced on Prince Rupert, for Larsen Island (Index No. 9232) and Griffith Harbour (Index No. 9230) are given in the Tide Tables, Volume 7.

 7 **Tidal streams.** — In general, the flood coming in from Dixon Entrance meets the flood coming up Hecate Strait from the south in the vicinity of Porcher Island. In late summer, from mid July to mid September, they meet some 25 or 30 miles farther south.


8 At springs, or during bad weather, the tide-rips caused by the meeting of the streams are sometimes so great as to convey an appearance of broken water.

9 The flood stream through Dixon Entrance, on reaching the north end of Hecate Strait, divides at a point midway between Rose Spit and Dundas Island. Part of the current sets north past Dundas Island, no doubt because of the indraught toward Portland Inlet, and part turns SE into Hecate Strait; in winter the flood and ebb here are quite regular, but in late summer the flood greatly exceeds the ebb. In August, especially, there can be 2½ to 3 kn of flood, with little appreciable ebb or only slack water.

10 Farther south, where the strait widens in the latitude of Porcher Island, the currents rarely exceed 1 kn in the central part of the strait. However, along the shore of Stephens Island,

as far north as Butterworth Rocks, the strongest set is NW with the ebb, and the flood is hardly appreciable.

11 Off the south end of Haida Gwaii, the direction of the flood is NE and the ebb is SW.

 12 Information from tidal stream observations in 1984 in Hecate Strait is given below.

13 The tidal stream 17 miles SE of Cape St. James is rotary clockwise. First of flood sets 290° at ¾ kn, maximum flood 025° at ¼ kn, last of flood 105° at 1 kn and maximum ebb 200° at ¼ kn. Maximum flood here is at HW Bella Bella, last of flood at 1 hour after LW Bella Bella.

14 Ten miles east of Kunghit Island first of flood sets 280° at 1½ kn, maximum flood 340° at 2½ kn, last of flood 075° at 1 kn, first of ebb 110° at ¼ kn and maximum ebb 175° at 2¾ kn. Maximum flood here is 1 h 30 min before HW Bella Bella, maximum ebb 2 hours before LW Bella Bella.

15 About 8 miles east of Copper Islands the stream is rectilinear, maximum flood setting 335° at 1½ kn and maximum ebb 155° at 1½ kn.

16 In a position 097°, 53 miles, from Cape St. James maximum flood sets 010° at ¼ kn, last of flood 090° at 1 kn, maximum ebb 210° at 1¾ kn and last of ebb 290° at 1 kn.

17 Sixteen miles west of Aristazabal Island first of flood sets 270° at ½ kn, maximum flood 000° at 1½ kn, first of ebb 085° at ½ kn and maximum ebb 195° at 1 kn.

18 About 37 miles west of Aristazabal Island maximum flood is 025° at 1 kn and maximum ebb 140° at 1 kn. In summer the stream nearly always turns through east with first and last of flood and ebb setting 080° at ½ kn. In winter the stream nearly always turns through west with first and last of flood and ebb setting 270° at ½ kn. Last of flood here is at HW Bella Bella, last of ebb at LW Bella Bella.

19 Four miles north of North Danger Rocks, close west of Banks Island, maximum flood sets 310° at 1½ kn, maximum ebb 125° at ¾ kn.


20 About 12 miles west of North Danger Rocks maximum flood sets 320° at 1½ kn, maximum ebb 120° at 1¼ kn and last of ebb 240° at ¾ kn. Maximum flood here is 1 h 30 min before HW Bella Bella, maximum ebb 1 h 30 min before LW Bella Bella.

21 About 27 miles east of Sandspit maximum flood sets 330° at 1½ kn, maximum ebb 130° at 1 kn.

22 Fourteen miles SE of Sandspit maximum flood sets 340° at 1½ kn, maximum ebb 155° at 1¼ kn.


23 About 6 miles WNW of Fan Point on Porcher Island maximum flood sets 000° at ¼ kn, maximum ebb 205° at 1 kn.

24 About 12 miles west of Fan Point maximum flood sets 350° at ¾ kn, maximum ebb 180° at 1 kn. Maximum flood here is at HW Prince Rupert, maximum ebb at LW Prince Rupert.

 25 **Caution.** — About sixteen hours after the passage of a storm through Queen Charlotte Sound, and where the wind veers from SE to SW to NW, the maximum currents at the south end of Hecate Strait will occur about 3 h 30 min after HW at Prince Rupert, and can remain out of phase for three or four days. The initial change of phase is usually accompanied by a surge of current about ½ kn greater than is usual. This change in the phase of the currents is caused by a wind driven inertial current of period 15.4 hours and a starting velocity of 30 cms/sec. (0.6 kn). This current slowly decays over a three to four day period.

26 A strong outflow from Hecate Strait can occur during large tidal ranges combined with rapid equalization of a large difference in barometric pressure between the coastal area and the head of the inlets. Unusual currents of 2 to 3 kn setting south were reported in 1968.

27 **Meteorological information** for Bonilla Island, Cape St. James, Ethelda Bay and Sandspit and **frequency of fog information** for Ethelda Bay and Sandspit are given in the Appendices.

 28 **Vessel Traffic Services (vts).** — The area covered in this chapter is in *Sector 1* of the *Prince Rupert Traffic Zone* and the assigned frequency is 156.55 MHz, Channel 11.

29 A brief description of this Vessel Traffic Services (vts) System is given in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast*; full details are given in *Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

30 The Calling-in Points are

31 *Calling-in Point No. 28*, called *McInnes Island/Cape St. James*, is a line joining McInnes Island light (619) and Cape St. James light (770).

32 *Calling-in Point No. 30*, called *Bonilla Island/Sandspit*, is a line from Bonilla Island Sector light (734) to Sandspit Aeronautical Beacon (784).

33 *Calling-in Point No. 32*, called *White Rocks*, is a line joining Browning Entrance light (742) and Hankin Rock light (743).


34 *Calling-in Point No. 33*, called *Duckers Islands*, is a line joining Duckers Island light (629) and Dupont Island light (630). **Note.** — Northbound mariners shall report whether their route is through Squally Channel or Whale Channel.


35 *Calling-in Point No. 34*, called *Wilson Rock*, is a line running 232° across Laredo Channel through Wilson Rock.

36 **Fishing vessels** of all types can be encountered in Hecate Strait, the heaviest concentrations being during the herring fishery in March and during the salmon fishery from May until October. During certain times of the year, mariners can encounter numerous crab traps, marked by dan buoys, in the shoal water areas of Rose Spit. Mariners intending to pass through Hecate Strait are advised to monitor VHF

Channel 78A (156.925 MHz) in addition to the Vessel Traffic Services channel for the vts Sector they are in. For full details see Fishing Vessels in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast* and in the *Annual Edition of Notices to Mariners*.

37 **Ferry.** — A ferry crosses Hecate Strait between Skidegate Inlet and Prince Rupert. Charted **ferry routes** are general indications of the route followed by the ferry. The ferry may deviate from the charted route at times as determined by prevailing weather conditions.

 38 **Light buoys.** — Hecate Strait South ODAS **light buoy** “46185” (621.5) is in 52°25'44.8"N, 129°49'15.6"W, about 15 miles west of Gertrude Rock.

 39 Hecate Strait ODAS **light buoy** “46183” (734.5) is in 53°37'00"N, 131°06'18"W, about 19 miles west of Bonilla Island.

40 Oval Bank west cardinal **light and bell buoy** “EOB” (747.5) is in 53°55'36"N, 130°54'18"W, about 6 miles west of Fan Point.

41 Continuously operating radiobeacons in Hecate Strait are at McInnes Island, Sandspit and Dead Tree Point. Radar beacons (Racons) are at Hammer Rocks, Jacinto Island, Lawn Point, Rose Spit, Seal Rocks and Stenhouse Shoal.

42 **Directions.** — Keep on the east side of Hecate Strait and when approaching Brown Passage, at the north end, pass west of Butterworth Rocks.

Aristazabal Island — West Coast

Charts 3726, 3975, 3980

43 **Aristazabal Island** (52°40'N, 129°10'W) separates Laredo Channel from Hecate Strait. **Mount Johnston**, 10 miles NNW of its south extremity, is a conspicuous saddle-shaped hill. **Knight Range**, at the north end of the island, is a bare ridge of hills with four conspicuous peaks. **Mount Parizeau**, the highest of the peaks, has a conspicuous dome-shaped summit.

44 The west coast of Aristazabal Island is fringed with islands and dangerous reefs extending 13 miles into Hecate Strait. Two good harbours on the west coast of Aristazabal Island are Clifford and Borrowman Bays. Weeteam Bay, also on the west coast of the island, offers good anchorage during summer months.

45 Beauchemin Channel leads close along the west and NW coasts of Aristazabal Island and is described later in this chapter.

46 **Tides.** — Tidal differences, referenced on Bella Bella, are given for McKenney Islands (Index No. 9077), Borrowman Bay (Index No. 9080) and Beauchemin Channel (Index No. 9082) in the Tide Tables, Volume 7.

Chart 3726

Off-Lying Islands, Rocks and Shoals

47 **Harvey Islands** ($52^{\circ}31'N$, $129^{\circ}19'W$) have a maximum elevation of about 150 feet (46 m). **Sinnett Islets** are 1 mile NNW of Harvey Islands; the water between these two groups is encumbered with reefs. **Conroy Island** is 3 miles west of Harvey Islands. The bottom surrounding these islands is very uneven with reefs extending 7 miles south. The named reefs are as follows. **Muriel Rocks** are awash. **Morey Rock** has less than 6 feet (2 m) over it. **Gertrude Rock** and **Frances Rock** both dry 6 feet (1.8 m). **Steele Rock** is 54 feet (16.5 m) high with a rock awash 0.25 mile north of it. **Mason Rock** has less than 6 feet (2 m) over it.

48 **Baker Shoal**, 1.5 miles WSW of Conroy Island, has a depth of 16 feet (4.9 m) over it and a rock with less than 6 feet (2 m) over it is reported (1999) 1.4 miles SW. **Allen Rocks**, 2.3 miles NW of Conroy Island, dry 3 feet (0.9 m). A rock with a depth of 15 feet (4.6 m) over it lies 0.8 mile south.

49 **Byers Islands**, 1.5 miles north of Conroy Island, are in the centre of a chain of reefs extending 4 miles north from Conroy Island. **Wakely Rock**, at the north end of these reefs, is awash. **Eaton Rock**, 1.8 miles NW of Byers Islands, is awash. A rock with less than 6 feet (2 m) over it is reported (1999) 1.2 miles NW of Eaton Rock. **Christie Shoal**, 1.3 miles NE of Wakely Rock, has a depth of 19 feet (5.8 m) over it.

50 Byers, Conroy, Harvey and Sinnett Islands and surrounding waters are an **Ecological Reserve**.

51 **Wright Passage**, with Wakely Rock and Christie Shoal on its south side and the rocks and shoals extending south from McKenney, Whitmore and Moore Islands on its north side, has a navigable width of about 1.5 miles.

52 **McKenney Islands** ($52^{\circ}39'N$, $129^{\circ}29'W$), with **Carter Rocks** close north, lie on the north side of the approach to Wright Passage and the south side of Willis Passage. **Whitmore Islands** are about 1 mile east of McKenney Islands. It is advised not to attempt to pass between these islands, or between Whitmore and Moore Islands, without local knowledge.

53 **Munro Shoal**, 2.5 miles SW of McKenney Islands, has 27 feet (8.2 m) over it. **Liddell Rocks** extend 1.6 miles south from McKenney Islands and consist mainly of drying rocks with a few above-water rocks. **McGowen Rocks**, which extend 0.8 mile south from Whitmore Islands, also consist mainly of drying reefs with some above-water rocks.

54 **Ecological Reserve**. — The south Moore Island, the McKenney and Whitmore Islands, the surrounding islets and rocks are an Ecological Reserve and is closed to the public.

Chart 3975

55 **Moore Islands** ($52^{\circ}40'N$, $129^{\circ}25'W$), NE of McKenney Islands, consist of two large islands and several

islets. Numerous rocks and shoals extend west to Carter Rocks and north to **Keith Rock**, which dries 15 feet (4.6 m), and form the south side of Willis Passage.

56 **Willis Passage**, north of Moore Islands, leads from Hecate Strait into Beauchemin Channel.

57 **Towner Bank**, on the north side of the west entrance to Willis Passage, has a least depth of 72 feet (21.9 m) over it.

58 **Schram Rocks**, a group of drying and above-water rocks 2.5 miles north of McKenney Islands, and **Verdier Shoal**, 0.9 mile east of Schram Rocks, are on the north side of Willis Passage.

59 **Richards Shoal**, 1 mile NE of Moore Islands, has a least depth of 30 feet (9.1 m) over it and is usually marked by kelp in summer.

60 **Isnor Rock** ($52^{\circ}44'N$, $129^{\circ}32'W$) is 60 feet (18.3 m) high and bare. **Wells Rocks**, 0.8 to 2.5 miles east of Isnor Rock, are a group of drying and above-water rocks; the highest has an elevation of 23 feet (7 m). **Woods Shoal**, 1 mile NNE of Wells Rocks, has 48 feet (14.6 m) over it.

61 **Lombard Rocks** and a rock, with 21 feet (6.4 m) over it, 0.5 mile SE, are 2.4 miles SSE of Woods Shoal and on the west side of Leadman Passage.

62 **Leadman Passage** leads south from Caamaño Sound to its junction with Willis Passage and Beauchemin Channel.

63 **Tidal streams** set north on the flood and south on the ebb and attain 2 to 3 kn in Leadman Passage. The streams change about the time of HW and LW.

64 **Beaven Islands** and **Anderson Islands** are on the east side of Leadman Passage and separate it from Beauchemin Channel.

65 **Knarston Rock** dries 2 feet (0.6 m) and lies on a shoal bank SSE of Anderson Islands, on the north side of Willis Passage.

66 **Directions**. — When entering Willis Passage from Hecate Strait keep Mount Parizeau bearing 064° and open south of the Anderson Islands. This bearing will lead midway between Keith Rock and Verdier Shoal. When the east extremity of Moore Islands, which is a steep conspicuous cliff, bears 152° , alter course to 093° to pass between Richards Shoal and Knarston Rock into Beauchemin Channel.

67 When approaching Leadman Passage from Caamaño Sound, pass through a position about 1.5 miles east of Cliffe Rock and steer for the east extremity of Moore Islands, bearing 174° . This course will lead between Lombard Rocks and the shoal west of the south end of Anderson Islands. When the south extremity of Anderson Islands is abeam, alter course to 135° to pass midway between Richards Shoal and Knarston Rock into Beauchemin Channel.

68 **Parker Passage** ($52^{\circ}48'N$, $129^{\circ}21'W$) separates the north end of the Anderson Islands from **Rennison Island** and leads east from Leadman Passage into Beauchemin Channel. Foul ground, in which there are numerous above-water and

drying rocks, extends 0.8 mile west from the SW side of Rennison Island in the west approach to Parker Passage.

69 **Laundry Rock**, 0.8 mile SW from the SW corner of Rennison Island, dries 2 feet (0.6 m) and lies in the west approach to Parker Passage.

70 **Oswald Point** is the NW extremity of Rennison Island. **Wall Islands**, close-off Oswald Point, have high cliffs on their north sides.



70.1 Wall Islands **light** (628.5), on the NW side of Wall Islands, is shown at an elevation of 43 feet (13 m) from a white tower fitted with a **Racon** (— • — •).

Charts 3726, 3982

Beauchemin Channel and Approach

71 **Rylatt Rock** ($52^{\circ}27'N$, $129^{\circ}05'W$) dries 7 feet (2.1 m) and lies in the approach to Weeteeam Bay. A rock, about 1.5 miles ESE of Rylatt Rock, has a depth of 15 feet (4.6 m) over it and is usually marked by kelp. **Haynes Rocks** are 2 miles east of Rylatt Rock. Between Haynes Rocks and Cummins Islet, 2.2 miles north, numerous islets, drying, above- and below-water rocks extend about 1.3 miles off the SW side of Aristazabal Island. **Rogerson Rock**, 50 feet (15.2 m) high, bare and grey, is 2.3 miles NNW of Rylatt Rock.

72 **Arriaga Islands**, 1 mile north of Rogerson Rock, with drying and below-water rocks between them, are a group of three islands separated from the coast of Aristazabal Island by a narrow boat passage. Numerous above-water and drying rocks lie close-off the shores of these islands. **South Arriaga Island** is the south island of the group.

Chart 3910, 3980

73 **Weeteeam Bay** ($52^{\circ}30'N$, $129^{\circ}02'W$) is entered between **Cummins Islet**, which is bare and grey, and **Ede Island** 0.7 mile NW, which is wooded except for a bare rock ledge at the SE end. **Murray Rock**, 0.4 mile NW of Cummins Islet, has 22 feet (6.7 m) over it and lies on the SE side of the fairway. **Colston Islet**, 0.5 mile north of Cummins Islet, has some bushes on it.

74 **Digby Rock** and **Howell Rock**, SE and east of **Bruce Islet**, are on the west side of the fairway. **Thistleton Islands**, north of Ede Island, offer some protection from west winds.

75 **Meade Point** is 0.5 mile NE of Bruce Islet. **Soar Rock**, 0.5 mile WNW of Meade Point, dries 10 feet (3 m). **Breakenridge Point** is 0.3 mile north of Soar Rock. A shoal, with a least depth of 9 feet (2.7 m) over it, is 0.2 mile ESE of Breakenridge Point. **Archer Islets** and some unnamed islands are at the head of the bay. **Duffy Creek**, **Harrison Lagoon**, **Kdelmashan Creek** and **Noble Lagoon** are NE, north and NW of Archer Islets.



76 **Caution.** — Because of the dangers existing farther in, local knowledge is advised for large vessels

to seek anchorage north of a line between Meade Point and Soar Rock.



77 **Anchorage** can be obtained in 7 to 9 fathoms (13 to 16 m), sand bottom, about 0.2 mile NE of the largest of the Thistleton Islands. This is a good summer anchorage, but a swell comes in with south gales. Anchorage for small vessels can be obtained NW of Archer Islands in the approach to Noble Lagoon in 5 fathoms (9 m), sand bottom. This anchorage offers limited protection from south swells.

78 **Bent Harbour**, on the west side of Weeteeam Bay and north of Thistleton Islands, is entered SW of **Alman Island** through a narrow channel encumbered with rocks and kelp. It is only suitable for small craft and is open to SE winds.

79 The western entrance to Weeteeam Bay is a narrow channel north of the largest Thistleton Islands and south of Alman Island. **This passage is not recommended unless entered at high water and with no swell.** The passage has a limiting depth of 4 feet (1.2 m).

Charts 3910, 3726

80 **Directions.** — If approaching Weeteeam Bay from south steer to keep Rogerson Rock in line with Mount Johnston, bearing 007° , which leads about 0.7 mile west of Rylatt Rock. When the south extremity of Ede Island, which can be difficult to identify, bears 040° steer for it on that bearing until the north end of Cummins Islet bears 100° , when course should be altered to pass about 0.15 mile SE of Ede Island. Pass about 0.2 mile SE of Bruce Islet to clear Digby Rock, then round Bruce Islet at a distance of about 0.2 mile and proceed to the anchorage.

Charts 3726, 3982

81 **Beauchemin Channel** ($52^{\circ}37'N$, $129^{\circ}15'W$) leads close along the west and NW coasts of Aristazabal Island.

82 **Tides.** — Tidal differences in Beauchemin Channel, referenced on Bella Bella, are given for McKenney Islands (Index No. 9077), Borrowman Bay (Index No. 9080) and Beauchemin Channel (Index No. 9082) in the Tide Tables, Volume 7.



83 **Tidal streams** set north on the flood at up to $1\frac{1}{2}$ kn and south on the ebb at up to $\frac{1}{2}$ kn in Beauchemin Channel. The streams change about the time of HW and LW.

84 **Normansell Islands** ($52^{\circ}33'N$, $129^{\circ}10'W$) consist of several islands and rocks with narrow passages between them.

85 **Bowden Islands**, 1.2 miles west of Normansell Islands, are wooded and conspicuous, and have rocks close NW and SW.

86 **Lindsay Rocks**, 1.3 miles NW of Bowden Islands, consist of drying and above-water rocks. Several rock islets,

ENTRANCE TO CLIFFORD BAY (1987)**ENTRANCE TO BORROWMANN BAY VIA MORISON PASSAGE (1987)**

up to 23 feet (7 m) high, are about 0.3 mile south of Lindsay Rocks.

Chart 3910

87 **Benney Islets** ($52^{\circ}35'N$, $129^{\circ}10'W$) lie on the SE side of the approach to Clifford Bay. **Hawkins Rock**, 0.4 mile north, dries 13 feet (4 m).


88 **Babbage Island** is 0.4 mile ENE of Hawkins Rock. **Howse Island**, 0.2 mile NE of Babbage Island, is bold on its north side and conspicuous from the west.

89 **Woodcock Islands** are on the north side of the approach to Clifford Bay. **Dobbs Islets**, ESE of Woodcock Islands, lie on a drying reef. Drying reefs with above-water rocks on them are between Woodcock Islands and Dobbs Islets, and three below-water rocks, marked by kelp in summer, lie up to 0.4 mile SW and WSW of the islets.

90 **Clifford Bay** is entered between Dobbs Islets and Howse Island. The fairway through the entrance is about 0.15 mile wide and free of dangers.

91 **Craft Island** is 0.4 mile ESE of Howse Island. A rock, with 11 feet (3.2 m) over it, is 0.1 mile NNE of Craft Island; the rock is usually marked by kelp. **Turner Rock**, which dries 13 feet (4 m), is 0.4 mile NE of Craft Island. A drying reef and below-water rocks extend 0.1 mile north of Turner Rock. Several drying rocks are along the SE shore of Clifford Bay.

92 **Deasy Point**, on the east shore at the head of the bay, is surrounded by a drying flat over which **Flux Creek** flows.

 93 Good **anchorage** can be obtained in 90 to 102 feet (27 to 31 m), mud, about 0.3 mile NE of the north extremity of Howse Island. Small craft can obtain anchorage in 18 to 36 feet (5.5 to 11 m) about 0.2 mile west of Craft Island.

Charts 3910, 3726

94 **Directions.** — Approaching Clifford Bay from the south, pass 0.5 mile east of Bowden Islands, then steer north

until the north point of Howse Island is in line with the summit of Mount Johnston, bearing 076° ; alter course on to this leading line and pass about 0.4 mile north of Hawkins Rock, then steer to pass midway between Howse Island and Dobbs Islets and proceed to the anchorage.

Chart 3726

95 Along the west side of Beauchemin Channel, 2 to 3 miles offshore, is **McCull Rock** ($52^{\circ}37'N$, $129^{\circ}18'W$) that dries 3 feet (0.3 m). A shoal that dries 2 feet (0.6 m) and a rock with less than 6 feet (2 m) over it lie 1.7 miles WSW of McCull Rock. **Hazel Shoal**, with 30 feet (9.1 m) over it, and **Bridgeman Rock**, which is 13 feet (4 m) high, are 0.9 mile NE and 2.2 miles north of McCull Rock.

96 Between the entrances of Clifford Bay ($52^{\circ}35'N$, $129^{\circ}10'W$) and Kettle Inlet, 7 miles NNW, several islands and dangers lie within 1 mile of Aristazabal Island. **Thurgate Rock**, 1 mile NNW of Woodcock Islands, has less than 6 feet (2 m) over it. **Butler Shoal**, 1.5 miles NNW of Thurgate Rock, has a least depth of 29 feet (8.8 m) and **Bonson Rock**, 1.4 miles NNW of Butler Shoal, dries 3 feet (0.9 m) and has a shoal with a depth of 21 feet (6.4 m) close north of it. **Trenaman Island**, 1 mile north of Bonson Rock, has reefs and a drying rock extending 1 mile SE of it.

Chart 3975

97 **Russell Banks** ($52^{\circ}41'N$, $129^{\circ}20'W$), 2.5 miles NW of Bridgeman Rock, have a least depth of 27 fathoms (49 m).

98 **Kettle Inlet** ($52^{\circ}42'N$, $129^{\circ}15'W$) is a narrow inlet entered 3 miles NW of Trenaman Island. The entrance is encumbered with numerous islets and rocks. A rock awash lies in the middle of the fairway, about 1 mile from the head of the inlet, with shoal depths SE of it. The passage between the large island and the peninsula forming the SW shore of Kettle Inlet dries.

Chart 3910

99 **Borrowman Bay**, between **Wriglesworth Point** ($52^{\circ}44'N$, $129^{\circ}18'W$) and **Pearse Point**, 1.5 miles north, can be entered by Morison or Meiss Passages.

100 **Tides**. — Tidal differences for Borrowman Bay (Index No. 9080), referenced on Bella Bella, are given in the Tide Tables, Volume 7.

101 **Wall Rocks**, 0.3 mile WNW of Wriglesworth Point, are a group of above-water and drying rocks. **Wall Islets** are north of Wriglesworth Point. **Mesher Rock**, with 16 feet (4.8 m) over it, is north of Wall Islets. A rocky area lies close SW of Mesher Rock. **Raby Rock** has a depth of 29 feet (8.7 m) and **Sehl Rock** has 33 feet (10.2 m) over it and are 0.3 and 0.5 mile east of Mesher Rock.

102 **Trickey Islands**, in the centre of the entrance to Borrowman Bay, are wooded and surrounded by drying ledges.

103 **Morison Passage**, between Mesher Rock and Trickey Islands, is about 0.4 mile wide with a least depth of 36 feet (10.9 m).

104 **Meiss Passage**, between Trickey Islands and Pearse Point, is deep in the fairway but is narrowed to less than 0.2 mile wide by shoal ledges on both sides.


104.1 A rock **awash** is at the head of the bay close east of Pearse Point.

105 **Thomson Island** and **Tarte Island** are on the south side of Borrowman Bay. **Switzer Cove**, south of these islands, has not been completely surveyed and local knowledge is advised before entering it.

106 **Turtish Harbour**, at the east end of Borrowman Bay, is east of Wilks Island. The north side of **Wilks Island** has a single stunted tree on a bare rock ledge and is steep-to. **Sere Rock** with 9.5 feet (2.9 m) over it lies in the middle of Turtish Harbour. **Stannard Creek** enters the east side of Turtish Harbour south of **Fox Point**.

107 **Tate Cove** is on the south side of Turtish Harbour east of Tarte Island.

107.1 A sport fishing lodge is in Turtish Harbour between Thomson Island and Tarte Island.

 108 Good **anchorage** can be obtained in 21 fathoms (38 m), clay, with the north extremity of Wilks Island bearing 119° , distant 0.2 mile. Small vessels can anchor in Turtish Harbour, south of Sere Rock, in 10 fathoms (18 m), mud. Tate Cove offers anchorage for small vessels in 6 fathoms (11 m).

109 **Directions**. — Entering Borrowman Bay via Morison Passage, keep Fox Point, bearing 108° , just open north of the north extremity of Wilks Island. This bearing will lead through the centre of Morison Passage, north of Mesher, Raby and Sehl Rocks; the least depth encountered is 45 feet

(13.7 m). Both Fox Point and Wilks Island are difficult to identify beyond a distance of 0.5 mile.

110 Entering Borrowman Bay by way of Meiss Passage, keep in mid-channel.

Chart 3975

111 **Hicks Island** ($52^{\circ}46'N$, $129^{\circ}19'W$), on the east side of Beauchemin Channel, is steep-to on its west side. The narrow passage between it and Aristazabal Island is navigable by small craft.

Chart 3982

112 **Tuzo Islands** are 1 mile NW of Hicks Island at the junction of Beauchemin Channel and Parker Passage.

113 **Nob Hill**, at the north end of Aristazabal Island, is 530 feet (162 m) high. A rock that dries 3 feet (0.9 m) is about 100 feet (30 m) offshore directly west of Nob Hill.

114 **Ulric Point**, the north extremity of Aristazabal Island, is low and steep-to.

Caamaño Sound

Chart 3983

115 **Caamaño Sound** ($52^{\circ}53'N$, $129^{\circ}30'W$) is bounded on the south by Aristazabal Island, Rennison Island and the islets and rocks extending SW from Rennison Island. On the north it is bounded by the Estevan Group and Campania Island and on the east by Princess Royal Island.

116 The Knight Range, on the north end of Aristazabal Island, is the most conspicuous feature from the approach, and Mount Parizeau, a dome-shaped summit, is the highest of this range. **Mount Pender** ($53^{\circ}03'N$, $129^{\circ}25'W$), 6.8 miles from the south end of Campania Island on the north side of Caamaño Sound, is a bare, dome-shaped summit, which makes a conspicuous landmark.

117 **Tides**. — Tidal differences in the south approach to Caamaño Sound, referenced on Bella Bella, are given for McKenney Islands (Index No. 9077) and Beauchemin Channel (Index No. 9082) in the Tide Tables, Volume 7.


 118 **Tidal streams** in Caamaño Sound set 240° except for the period 3 hours before HW until HW at Prince Rupert when they are variable in direction. See chartlets under Laredo Sound later in this chapter.

Chart 3975

Off-lying Rocks and Shoals

119 **Aranzazu Banks** lie in the fairway of the west entrance to Caamaño Sound. **Ness Rock** ($52^{\circ}51'N$, $129^{\circ}44'W$), at the SW end of Aranzazu Banks, is awash. A shoal with 25.6 feet (7.8 m) over it is at the east end of the banks, 6.3 miles ENE of Ness Rock.

119.1 Aranzazu Banks West **light buoy** “EB2” (631.3) is NW of Ness Rock and is a starboard hand buoy.

119.2 Aranzazu Banks **light buoy** “EB4” (631.4) is NE of Ness Rock and is a starboard hand buoy.

120 **Spencer Bank**, 6 miles SE of Ness Rock, has a least depth of 18 fathoms (33 m).

121 **Yates Shoal**, 6.9 miles east of Ness Rock, has a depth of 45 feet (13.7 m) over it. **Evans Rock**, with 21.3 feet (6.5 m) over it, and **Janion Rock**, with a depth of 18 feet (5.5 m), are 1.2 and 1.8 miles SSE of Yates Shoal.

Charts 3975, 3982

122 **Cliffe Rock**, with 12 feet (3.7 m) over it, and **Shakespeare Banks**, with a least depth of 13 fathoms (24 m), are east of Evans Rock in the approach to Leadman Passage.

Chart 3911

Caamaño Sound — North Side

123 **Ecological Reserve**. — **Dewdney Island** (52°59'N, 129°37'W), Glide Islands and surrounding rocks and islands are an Ecological Reserve and is closed to the public.

124 **Jacinto Islands** (52°57'N, 129°37'W) are close-off the SW part of Dewdney Island. Two rocks, with less than 6 feet (2 m) over them, lie slightly more than 0.1 mile east of the east side of these islands.



125 Jacinto Islands **light** (631), on the SE extremity of the largest island, is shown at an elevation of 92 feet (28 m) from a white tower fitted with a **Racon** (— — • —).

126 **Pemberton Bay** is entered between Jacinto Islands and **Porter Island**, 1.7 miles ENE.

128 **Shannon Rock**, which is 13.1 feet (4 m) high, and **Sage Rock**, with 25.9 feet (7.9 m) over it, are 0.7 mile SW and 0.8 mile WSW of Porter Island.

129 **Robertson Rock** is 1.5 miles NNW of Shannon Rock, on the east side of the entrance to Gillen Harbour. Numerous islets, drying reefs and some below-water rocks lie along the east side of Pemberton Bay, east of a line joining Shannon Rock to Robertson Rock. To the NE of this line Pemberton Bay has not been surveyed and local knowledge is advised before entering this area.

130 **Thomson Point**, 0.7 mile NNE of Jacinto Islands, is low and steep-to. A rock that dries 6.2 feet (1.9 m) is 0.4 mile north of Thomson Point.

131 North of Robertson Rock the shores of the narrow channel leading to Gillen Harbour are fronted with islets and rocks. **Peatt Islets** are on the east side of the entrance to the harbour. A rock, with 12 feet (3.7 m) over it, lies in the middle of the passage, about 0.15 mile south of Peatt Islets; east of this rock the passage is only about 120 feet (37 m) wide.

132 **Gillen Harbour** offers sheltered anchorage for vessels of moderate draught. The channel leading to the harbour has a least depth of 22 feet (6.7 m).

133 **Tides**. — Tidal differences for Gillen Harbour (Index No. 9105), referenced on Bella Bella, are given in the Tide Tables, Volume 7.

134 **Carne Island**, with two islets and some drying rocks, is in the NW part of Gillen Harbour; **Adams Island** is in the east part. A rock that dries 7 feet (2.1 m) lies about 65 feet (20 m) NE of the north extremity of Adams Island. A drying rock shelf extends about 65 feet (20 m) from the north side of the island. A rock with 2.3 feet (0.7 m) over it is 300 feet (91 m) NE of the NE extremity of Peatt Islets.



135 **Anchorage** in fine weather can be obtained 0.15 mile west of Robertson Rock in 21 fathoms (38 m), sand and shell. Small vessels can obtain anchorage with good shelter from all winds in the middle of Gillen Harbour in 26 feet (7.9 m), mud.

136 **Directions**. — Approaching Gillen Harbour from east, steer for the east side of the harbour entrance bearing 353° and pass 0.15 mile west of Robertson Rock. If approaching from west, round Jacinto Islands at a distance of 0.3 mile and steer to pass 0.15 mile east of Thomson Point and about the same distance west of Robertson Rock. Keep in mid-channel until about 0.3 mile south of Peatt Islets then keep toward the east shore to pass east of the shoal rock in mid-channel lying 0.15 mile south of Peatt Islets. Pass about 120 feet (27 m) west of the 4 foot (1.2 m) high rock that lies on the west side of Peatt Islets. Do not attempt to enter Gillen Harbour in a gale from SE, except in case of necessity.

Chart 3975

137 **Goodacre Point** (52°57'N, 129°33'W) is the SE extremity of Dewdney Island.

138 **Borthwick Rock**, which dries 14 feet (4.3 m), **Cort Rock**, with 10 feet (3.2 m) over it, and a rock with 34 feet (10.4 m) over it lie up to 2 miles SSE and SE of Goodacre Point. These rocks are steep-to on their south sides.

138.1 Borthwick Rock **light buoy** “EB5” (631.5) is south of Borthwick Rock and is a port hand buoy.

Chart 3982

139 **Dupont Island**, 4 miles ESE of Goodacre Point, has drying reefs and above-water rocks extending 0.5 mile north of it.



140 **Lights**. — Dupont Island West **light** (630.1), on the SW end of the island, is shown at an elevation of 52 feet (16 m) from a white tower.



141 Dupont Island East **light** (630), on the east side of the island, is shown at an elevation of 54 feet (16.6 m) from a white tower.

142 Estevan Sound, Campania Sound, Surf Inlet and Laredo Channel are described later in this chapter.

Estevan Group — West Coast

Charts 3975, 3976

143 **Estevan Group** ($53^{\circ}03'N$, $129^{\circ}40'W$) consists of five large islands and numerous smaller islands. The four south islands, Dewdney Island, **Lotbinière Island**, **Barnard Island** and **Prior Island**, are low and deeply indented. **Trutch Island**, the north and largest of the group, has a maximum elevation of 960 feet (293 m) in **Musgrave Peaks**.

144 **Conspicuous microwave antennas** are on the west summit of Musgrave Peaks.

145 Langley Passage, described later in this chapter, leads south of Trutch Island. The west entrance to Langley Passage is shallow and encumbered with drying rocks; even in moderate weather the sea breaks across this entrance. It is recommended that all vessels enter from the east by Devlin Bay.



146 The only sheltered **anchorage** on the west coast of Estevan Group is Murray Anchorage, in Oswald Bay. Gillen Harbour, previously described, at the south end of Dewdney Island, also offers sheltered anchorage.

Off-lying Banks and Shoals

147 **Cridge Banks** ($52^{\circ}58'N$, $129^{\circ}50'W$) extend 9 miles WSW of Dewdney Island. **Cran Shoal**, on the east end of Cridge Banks, is a rocky area with a depth of 48 feet (14.6 m) over it.

147.1 Cran Shoal **light buoy** “EB7” (631.1) is on the south side of the shoal and is a port hand buoy.

148 **Agassiz Banks** ($53^{\circ}04'N$, $130^{\circ}03'W$) lie in the west approach to Otter Passage, which is at the north end of Estevan Group.

149 **Noot Shoal** ($53^{\circ}07'N$, $130^{\circ}06'W$) is NW of Agassiz Banks and has a depth of 22 feet (6.7 m) over it. Kelp is usually present on the shoal during summer.

150 **Joseph Island** ($53^{\circ}09'N$, $130^{\circ}02'W$) has shoal rocks and depths under 6 fathoms (11 m) extending up to 0.7 mile from it, and a shoal with 24 feet (7.3 m) over it is 1.4 miles west.

Chart 3975

Jacinto Islands to Flynn Point

151 Between Jacinto Islands ($52^{\circ}57'N$, $129^{\circ}37'W$) and a point about 3 miles NNW, the coast and bays are encumbered with islets and drying reefs, and shoal depths extend up to 1.3 miles offshore.

152 **Macdonald Island** is 3.5 miles NW of Jacinto Islands. Several drying rocks are between Macdonald Island and Dewdney Island. Macdonald Island is within the boundaries of the **Ecological Reserve** and is closed to the public.

153 **Bland Rocks**, 2.5 miles NNW of Macdonald Island, are a group of drying and below-water rocks; the highest rock dries 12 feet (3.7 m). Numerous above- and below-water rocks are between Bland Rocks and the coast to the NE.

154 **Oswald Bay** is approached between Bland Rocks and Le Jeune Point, 1 mile ESE. **Le Jeune Point** is steep-to.



155 **Murray Anchorage**, on the south side of Oswald Bay, affords good shelter to small craft. Drying reefs extend 0.4 mile west from the east entrance point of the anchorage. Murray Anchorage is within the boundaries of the **Ecological Reserve**, which is closed to the public.

156 **Nichol Island**, 3.5 miles NW of Le Jeune Point, lies in the west entrance to Langley Passage. **Finnerty Point** is the SW extremity of Nichol Island. The opening on the SE side of Nichol Island leading to Langley Passage is encumbered with islets and rocks.



157 Between Finnerty Point and **Flynn Point**, 2 miles NNW, several below-water and drying rocks lie up to 0.8 mile offshore. The west entrance to Langley Passage, on the north side of Nichol Island, is encumbered with drying rocks between which is a narrow shallow passage. Tidal streams run with considerable strength through this passage and even in moderate weather the sea breaks across the entrance. It is recommended that any vessel wishing to enter Langley Passage should do so through Devlin Bay in Estevan Sound.

158 **Marchant Rock**, 2.5 miles NW of Finnerty Point, dries 9 feet (2.7 m) and has rocks awash and a shoal extending 0.5 mile south from it.

Otter Passage

Chart 3984

159 **Otter Passage** ($53^{\circ}08'N$, $129^{\circ}45'W$) leads from Hecate Strait into Nepean Sound. The fairway is deep and about 0.3 mile wide but because of strong tidal streams and the large number of islands in the passage, local knowledge is advised.

160 **Tides**. — Tidal differences in Otter Passage, referenced on Bella Bella, are given for Block Islands (Index No. 9165) in the Tide Tables, Volume 7.




161 **Tidal streams** are strongest in the east part of Otter Passage where the maximum on both the flood and ebb is 6 kn. The flood sets NE and the ebb SW and the duration of slack water is about 11 minutes. Most of the ebb stream from Nepean Sound runs out through this passage

and, meeting the ocean swell at the west entrance, produces a turbulent breaking sea.

162 Secondary current station Otter Passage (Index No. 8535), referenced on Prince Rupert, is given in the Tide Tables, Volume 7.

163 **Laithwood Island** ($53^{\circ}08'N$, $129^{\circ}47'W$) is on the north side of the fairway at the west end of Otter Passage and has a conspicuous, light grey, bare rock shelf at the south end. A shoal spit extends 0.3 mile SSE from the island, and 6 fathom (11 m) shoals are farther SSE.


164 **Man Island** is 0.5 mile east of Laithwood Island. A drying reef is close south of Man Island and the area between Laithwood and Man Islands is foul.

 165 Otter Passage **light** (740), on the south end of Man Island, is shown at an elevation of 62 feet (19 m) from a white tower.


166 **Crews Rock** and **Breaker Islets** are north of Laithwood and Man Islands; this area is encumbered with numerous islets and drying and below-water rocks.

167 **Cox Point**, 0.8 mile east of Man Island, is the NW extremity of Trutch Island.

168 **Block Islands**, 1.5 miles NE of Man Island, are on the north side of the fairway through Otter Passage. A shoal ridge, on which there are islets, drying and below-water rocks, lies between Man and Block Islands.

 169 Block Islands **light** (741), on an islet on the SE side of the group, is shown at an elevation of 32 feet (9.8 m) from a skeleton tower.

170 **Sisters Islands**, 0.5 mile NNW of Block Islands, lie close-off the SE shore of Banks Island.

 170.1 Banks Island Southeast Sector **light** (739.7), NNW of Sisters Islands, is shown at an elevation of 28 feet (8.5 m) from a skeleton tower.

171 **Trap Islands**, south of Block Islands and on the south side of the fairway through Otter Passage, have drying reefs and below-water rocks off their north and east sides. **Trap Rocks**, extending 1 mile ENE of Trap Islands, consist

of above-water, drying and below-water rocks. The east and highest rock has an elevation of 18 feet (5.5 m).

172 Nepean Sound is described later in this chapter.

Banks Island — West Coast

Charts 3976, 3978

173 **Banks Island** ($53^{\circ}10'N$, $129^{\circ}55'W$), with Otter Passage at its south end and Browning Entrance at its north end, separates Hecate Strait from Principe Channel. The west side of the island is comparatively low with no conspicuous features. The east side of Banks Island, along the Principe Channel shore, is bold and mountainous.

174 The numerous indentations along the west coast of Banks Island, between Terror Point and Kingkown Inlet, are exposed and encumbered with dangers. Kingkown Inlet, although sheltered, is difficult to enter. The only sheltered anchorages along this coast are at the north end, in the vicinity of Griffith Harbour.

Chart 3976

Off-lying Banks and Rocks

175 Joseph Island ($53^{\circ}09'N$, $130^{\circ}02'W$) and Noot Shoal have been described earlier under Estevan Group — West Side.

176 **McKenzie Shoal** ($53^{\circ}13'N$, $130^{\circ}15'W$), 9 miles NW of Joseph Island, has a least depth of 21 feet (6.4 m) over it. **North Danger Rocks** are a group of bare rocks 3.8 miles NW of McKenzie Shoal. **Nicholas Shoal**, 1 mile SSE of North Danger Rocks, has a least depth of 11 feet (3.4 m) over it.

177 **McHarg Bank**, about 4 miles NW of North Danger Rocks, is an extensive bank of irregular depths. The least known depth over the bank is 6 fathoms (11 m).

177.1 McHarg Bank **light buoy** “E88” (740.5) is on the west side of the bank and is a starboard hand buoy.

BONILLA ISLAND FROM NORTH (1984)



178 **South Rocks** ($53^{\circ}24'N$, $130^{\circ}35'W$) consist of three drying rocks; the highest dries 18 feet (5.5 m). Numerous rocks and shoals lie between South Rocks and Banks Island with Stewart Passage separating them from the coast of Banks Island; these are described later with the coastline.

179 **Bonilla Rocks**, between South Rocks and Bonilla Island, consist of several drying, above- and below-water rocks.

Charts 3986, 3976, 3978

180 **Bonilla Island** ($53^{\circ}29'N$, $130^{\circ}37'W$) is surrounded by drying ledges, drying reefs and below-water rocks; they extend up to 1.8 miles offshore on the east side. A sandy beach is on the north side of the island. On the south side of the island are two small bays; the east bay provides a suitable landing place. **Dome Hill**, near the centre of Bonilla Island, is dome-shaped and conspicuous. The summit is bare and the north and south sides of the hill fall away steeply; the west side of the slope is gradual.



181 Bonilla Island Sector light (734) is shown at an elevation of 120 feet (36.6 m) from a white tower, 32 feet (9.8 m) high. White buildings with red roofs stand NW of and below the light.

181.1 A submarine cable (fibre-optic) extends from the Bonilla Island sector light, north through Schooner Passage, to Kitkatla.

182 **Meteorological information** for Bonilla Island is given in the Appendices.

183 **North Rock** ($53^{\circ}31'N$, $130^{\circ}37'W$) is 0.5 mile north of the north point of Bonilla Island. Shoals, with less than 3 fathoms (5.5 m) over them, lie up to 1.8 miles off the NE coast of Bonilla Island. **Northwest Rocks**, 1.5 miles north of Bonilla Island, extend 2 miles north. They consist of a group of above-water, drying and below-water rocks; the highest has an elevation of 41 feet (12.5 m).



184 Northwest Rocks light (735), on the south side of the rocks, is shown at an elevation of 23 feet (7 m) from a white tower.

Chart 3976

Terror Point to Antle Islands

185 **Terror Point** ($53^{\circ}10'N$, $129^{\circ}57'W$), with conspicuous grey cliffs, is the SW extremity of Banks Island. **Calamity Bay**, 4 miles east of Terror Point and on the south side of Banks Island, is encumbered with numerous rocks.

186 **Spearer Point**, 3.5 miles NW of Terror Point, has a hill near its extremity. Above- and below-water rocks extend 0.4 mile south from the point. Between Terror and Spearer Points numerous drying, above- and below-water rocks are within 0.6 mile of the shore.

187 **Grief Point**, 4.5 miles NW of Spearer Point, is low. A flat-topped rock, 29 feet (8.8 m) high, close west of Grief

Point is prominent from the south. **Philliskirk Hill**, 2 miles east of Grief Point, is prominent from south and SW. Between Spearer and Grief Points drying and below-water rocks extend about 0.8 mile offshore.

188 **Waller Bay** is a broad bay extending 4 miles north from Grief Point. Its shores are broken and rugged and numerous drying and below-water rocks extend 1 mile offshore. At the north end of the bay a narrow inlet, encumbered with rocks, extends about 2 miles north.

189 **Wreck Islands** ($53^{\circ}21'N$, $130^{\circ}13'W$) consist of several islands with numerous above-water and drying ledges joining and surrounding them. **Junk Ledge**, extending 1 mile SSE from Wreck Islands, consists of islets, drying and below-water rocks and forms the west side of Foul Bay.

190 **Hart Rock**, the westernmost rock west of Wreck Islands, is 23 feet (7 m) high and steep-to on its west side.

191 **Foul Bay** is obstructed by numerous drying and below-water rocks. A boat passage through Foul Bay leads east and north of Wreck Islands into Survey Bay; it is extremely intricate and should not be attempted without the aid of local knowledge.



192 **Anchorage** for small craft can be obtained in the above-mentioned boat passage in 42 feet (12.8 m) about 0.3 mile NW of the north extremity of the largest of Wreck Islands. Local knowledge is advised to get to this anchorage.

193 **Survey Bay**, NW of Wreck Islands, is fringed with reefs up to 0.4 mile from shore; its middle is deep. The head of the bay has a group of islands in it and from these islands, a narrow inlet extends 1 mile east.

194 **Kelp Point** is the north entrance point of Survey Bay. Drying reefs and foul ground extend about 0.3 mile SW from the point.

195 **Carlo Rock**, 3 miles west of Kelp Point, has less than 6 feet (2 m) over it and lies at the SE end of **Halibut Rocks**. Halibut Rocks consist of drying, above- and below-water rocks. The highest rock is 28 feet (8.5 m) high.

196 **Surge Rocks**, 3.3 miles NNW of Carlo Rock, consist of two groups of drying rocks. Three detached rocks, all marked by kelp, extend 1.8 miles SE from the south Surge Rock.

197 **Cliff Point**, 6.8 miles NW of Kelp Point, is high with conspicuous white cliffs. The coast between Kelp and Cliff Points is fringed with above-water, drying and below-water rocks extending 0.5 mile offshore.

198 **Stewart Passage**, between Banks Island on the NE, and Surge and Carlo Rocks on the SW side, provides a deep route along the SW side of Banks Island. Two 35 foot (10.7 m) shoals lie 0.8 and 1.4 miles west of Cliff Point and a 36 foot (11 m) shoal is 0.9 mile SW of the same point.

Chart 3912

Kingkown Inlet

199 **Antle Islands** ($53^{\circ}29'N$, $130^{\circ}27'W$) lie in the entrance to Kingkown Inlet. **Goring Reefs**, extensive drying boulder banks, extend 0.9 mile NNW from Antle Islands. Numerous drying and below-water rocks extend west from the north Antle Island.

200 **Kingkown Inlet** can be entered by Reverie Passage or Allerton Passage but because of the numerous drying and below-water rocks and drying banks in both passages, local knowledge is advised.

201 **Kirkendale Island** and **Shadforth Islands**, east of Antle Islands, have narrow boat passages between them that can only be navigated at HW.

202 **Reverie Passage**, the south entrance to Kingkown Inlet, leads along the east side of Antle Islands. It is narrowed in places to less than 300 feet (91 m) wide by drying rocks and boulder banks.

203 **Allerton Passage**, the north entrance of Kingkown Inlet, is on the north side of Goring Reefs. A 1 foot (0.3 m) high rock that provides a good mark for entering is at the north end of Goring Reefs. A rock, with less than 6 feet (2 m) over it, lies in mid-channel 0.3 mile ESE of the last-mentioned rock.

204 **Byers Bay**, NE of Shadforth Islands, has several islets, drying and below-water rocks in it. A passage in the SE part of the bay leads to a very narrow arm that is obstructed by drying boulder banks.

Chart 3986

Laverock Point to Larsen Island

205 **Laverock Point** ($53^{\circ}31'N$, $130^{\circ}29'W$) has a group of drying rocks 0.3 mile SSE from it. The coast of Banks Island NW of this point is low, rugged and indented.

206 **East Rock**, 3.2 miles WSW of Laverock Point and 1 mile east of Bonilla Island, is 3 feet (0.9 m) high.

207 **Sneath Islands** are between Laverock Point and **Solander Point**, 3 miles NW. The outermost danger in the vicinity is a rock that dries 10 feet (3 m), 0.3 mile SW of the largest of the Sneath Islands.

208 **Venn Shoal**, 2.5 miles NW of Solander Point, has less than 6 feet (2 m) over it. **Lonely Rocks**, 0.6 mile NW, consist of drying and below-water rocks, the highest of which dries 13 feet (4 m).

209 Between Solander Point and **Larsen Island**, 3.5 miles NNW, there are numerous islets and rocks. **Wells Islet** and **McCoy Rocks**, the outermost named features, are on the south side of the approach to Griffiths Harbour and Rawlinson Anchorage.

Griffith Harbour, Rawlinson Anchorage and Approach

210 **Borrowman Group** ($53^{\circ}36'N$, $130^{\circ}34'W$) are the islands lying in an extensive area of foul ground on the west side of Griffith Harbour. **Chandler Rocks**, at the west extremity of the Borrowman Group, are a group of drying and below-water rocks. **English Rock**, 0.6 mile SSE of Chandler Rocks, has an elevation of 18 feet (5.5 m) and is surrounded by drying rock ledges. Chandler Rocks, **Parlane Islet** and English Rock are on the north side of the approach to Griffith Harbour and Rawlinson Anchorage.

211 **Parker Rocks** extend 0.5 mile east from English Rock along the south side of the Borrowman Group. **Webb Rock**, with a depth of 4.1 m over it, and **Anderson Rock**, with less than 6 feet (2 m) over it, lie south of Parker Rocks, on the north side of the fairway leading to Griffith Harbour and Rawlinson Anchorage.

212 **Hawley Rocks**, the highest of which dries 21 feet (6.4 m), **Webb Island**, which is wooded, and **Johnson Rocks**, the highest of which dries 14 feet (4.3 m), are east of McCoy Rocks on the south side of the fairway leading to Griffith Harbour and Rawlinson Anchorage.

213 **Rawlinson Anchorage** is entered between Johnson Rocks and **Bromley Island**, 0.4 mile east. **Bennett Islet** and **Beadle Rocks** are on the west side of the anchorage. **Butler Rock**, 0.3 mile south of Bromley Island, is on the east side of the anchorage. **Isnor Islets**, 0.6 mile SSW of Bromley Island, are on the south side of the anchorage.



214 **Anchorage** can be obtained about 0.3 mile north of Isnor Islets in 12 fathoms (22 m), sand. Better holding ground of mud and sand can be obtained in 8 fathoms (15 m), about 0.2 mile WNW of Bromley Island. These anchorages do not offer much shelter from the SW.



215 **Tidal streams** in the approach channel to Rawlinson Anchorage, and at the anchorage, attain 1 to 1½ kn.

216 **Askew Islands**, 0.25 mile NE of Bromley Island, lie on a drying flat in **Millar Bay** just south of the entrance to **Norway Inlet**.

217 **Griffith Harbour** is entered between Anderson Rock and **Kettle Rock**, 0.2 mile east. The fairway, leading NE, is about 300 feet (91 m) wide at its narrowest part and has a least depth of 4.6 feet (1.4 m) west of **Whittle Point**. **Laird Rocks**, 0.1 mile NW of Jewsbury Islets, are on the west side of the fairway; the west rocks dry 4 and 5 feet (1.2 and 1.5 m). The concrete base of a former structure, on the highest of the Laird Rocks, is an identifying, but not very prominent, mark. **Whittle Point** is 0.1 mile NE of Jewsbury Islets, on the east side of the fairway. Three drying rocks are close north of Whittle Point. The narrowest part of the fairway lies between these drying rocks and **Deans Rocks**. **Heron Islands**

and **Sladden Island** are west of Deans Rocks. A reef that dries 21 feet (6.4 m) and a rock with less than 6 feet (2 m) over it are 0.1 mile north of Deans Rocks. North of **Appleby Island** and **Birch Point**, 0.2 mile east, the channel opens out in Griffith Harbour.

218 **Tides.** — Tidal differences for Griffith Harbour (Index No. 9230), referenced on Prince Rupert, are given in the Tide Tables, Volume 7.

219 **Ford Rock**, at the east end of Griffith Harbour, dries 23 feet (7 m). **Krone Island** is 0.1 mile north of Ford Rock at the outer end of some drying flats. **Bone Islet** and some drying rocks are at the west side of the harbour north of Appleby Island.



220 **Anchorage** for small vessels can be obtained in 9 fathoms (16 m), mud, about 0.15 mile NE of Appleby Island. Small craft can anchor in 5 fathoms (9 m) about 0.1 mile WSW of Ford Rock. The anchorages are sheltered from all winds.

221 **Directions.** — Local knowledge is advised for entering Griffith Harbour. Draught permitting, the best time to enter is at or near LW on a rising tide, when most dangers are visible.

Browning Entrance

Charts 3978, 3986

222 **Browning Entrance** ($53^{\circ}43'N$, $130^{\circ}35'W$) provides a convenient route from Hecate Strait to the Inner Passages; it lies between Goschen, Dolphin and Spicer Islands on the north side and Banks and McCauley Islands on the south side. Principe Channel heads southward from Browning Entrance; Beaver and Schooner Passages lead northward. Beaver Passage is marked by lights and is the better of the two channels.

223 Browning Entrance is extensively used by tugs towing log scows or rafts crossing from Haida Gwaii.

224 **Tides.** — Tidal differences in Browning Entrance, referenced on Prince Rupert, are given for Larsen Island (Index No. 9232) in the Tide Tables, Volume 7.



225 **Tidal streams.** — A portion of the flood setting north along the west coast of Banks Island rounds the north end of Banks Island and meets the flood setting NW through Principe Channel at the north end of Principe Channel in the vicinity of Deadman Islet and Baird Point. These streams seldom exceed $\frac{1}{2}$ kn. Tide-rips are sometimes encountered off Baird Point.

226 **Aspect.** — The NW extremity of Banks Island appears, from NW, as low bare land, fringed with trees near the coast and fronted by numerous wooded islets. The land begins to rise about 3 miles inland to thickly wooded hills, about 700 feet (213 m) high. **Passage Cone** ($53^{\circ}46'N$, $130^{\circ}24'W$), on the east side of Dolphin Island, is conspicuous. **False Cone** ($53^{\circ}47'N$, $130^{\circ}31'W$), on the largest of the Prager Islands, is wooded and from the west it can be mistaken for Passage Cone.

227 Marks that are more distant are **Anchor Mountain** and **Mount Shields**, both at the NW end of Pitt Island. **Egeria Mountain**, on Porcher Island, is nearly always snow-clad.



228 **Anchorage**s are in Larsen Harbour, on the north coast of Banks Island, and in Willis Bay, on the south coast of Goschen Island.

Chart 3986

Browning Entrance — South Side

229 **Archie Rock** ($53^{\circ}37'N$, $130^{\circ}36'W$), which dries 23 feet (7 m), has drying and below-water rocks extending 0.75 mile south of it.

230 **White Rocks**, 1.5 miles NE of Archie Rock, are white and prominent. Three detached rocks, with depths of


LARSEN HARBOUR (1986)




BEAVER PASSAGE NORTH ENTRANCE (1986)




9, 12 and 33 feet (2.7, 3.7 and 10.1 m) over them, lie between Archie and White Rocks.

 231 **Lights.** — Browning Entrance **light** (742), on the north islet of White Rocks, is shown at an elevation of 41 feet (12.5 m) from a skeleton tower.


 232 Larsen Harbour **light** (736), at the NW end of Banks Island and the east entrance point to Larsen Harbour, is shown at an elevation of 18 feet (5.4 m) from a skeleton tower.

233 **Larsen Harbour** is between the north side of Larsen Island and the islands and drying reefs to the NW. It is only suitable for small craft and local knowledge is advised. The approach is between Larsen Harbour light and the drying rocks 0.1 mile west. Heavy kelp grows on the bank in the approach to the harbour.


 234 **Anchorage** in Larsen Harbour is rather confined in depths of 12 to 18 feet (3.7 to 5.5 m).

235 Drying and below-water rocks lie up to 0.5 mile off the coast between Larsen Harbour and **Deadman Islet**, 2.5 miles east. **Deadman Inlet** is filled with drying flats. **Ludlam Rock**, 0.8 mile north of the west entrance point to Deadman Inlet, has 5.1 m over it.

 235.1 **Deadman Islet Sector light** (736.5) is shown at an elevation of 9.5 m from a skeleton tower.

 236 **Anchorage** in settled weather can be obtained about 1 mile north of Larsen Harbour light or 1 mile west of Deadman Islet in 8 to 20 fathoms (15 to 37 m); holding is reported to be good.

237 **Baird Point**, 3 miles NE of Deadman Islet, is the NE entrance point of Principe Channel. The land NE of the point is low and flat. An islet, close SW of the point and joined to it by a drying ledge, is 95 feet (29 m) high. Drying and below-water rocks extend up to 0.3 mile south and west and 0.5 mile NW of Baird Point.

 237.1 **Baird Point light** (742.5), on the west side of McCauley Island, is shown from a white tower fitted with a **Racon** (— • —).


238 Principe Channel is described later in this chapter.

239 **Sheldon Islet** is 0.3 mile offshore, 0.6 mile north of Baird Point. Numerous islets, above- and below-water rocks lie between it and the shore of McCauley Island.

Beaver Passage


240 **Beaver Passage**, entered from the south between Hankin Rock and Ralph Islands, is the wider and better of the two passages leading to Kitkatla and Ogden Channels.

241 **Tides.** — Tidal differences for Kitkatla Islands (Index No. 9242), referenced on Prince Rupert, are given in the Tide Tables, Volume 7.

 242 **Tidal streams** flood north and ebb south through Beaver Passage and the duration of slack water is, on the average, about 13 minutes. The rate is 2 to 3 kn in the south approach and north entrance and 4 kn within the passage.

243 Secondary current station Beaver Passage (Index No. 8545), referenced on Prince Rupert, is given in the Tide Tables, Volume 7.


244 **Hankin Point** (53°42'N, 130°24'W) is at the SW end of Beaver Passage. The south shore of Beaver Passage for 2 miles NE of Hankin Point is fringed with islets and rocks. **Hankin Rock** is 0.4 mile WNW of Hankin Point.

 245 **Hankin Rock light** (743) is shown at an elevation of 32 feet (9.7 m) from a white tower.

246 **Ralph Islands** are 0.6 mile NW of Hankin Rock. **Friday Island** is 0.5 mile NE of Ralph Islands with a group of rocks between them.

247 **Spicer Island** and **South Spicer Island** separate Beaver Passage from Schooner Passage. The passage separating Spicer and South Spicer Islands is narrow and intricate but suitable for small craft.

248 **Spicer Point** is the east extremity of Spicer Island. **Connis Islet**, 0.3 mile SSE of Spicer Point, is on the west side of the fairway and is covered with bushes. A flat-topped drying rock is 0.2 mile SW of Connis Islet. A rock awash is 0.1 mile NW of the islet.

 249 **Connis Islet light** (744) is shown at an elevation of 22 feet (6.6 m) from a white tower with a green band at the top.

250 **Gurd Rock**, with a depth of 12 feet (3.7 m) over it, is 0.3 mile SE of Connis Islet. Another rock, with 14 feet (4.3 m) over it, is close SE of Gurd Rock. The fairway leads between Connis Islet and Gurd Rock.

251 **Murder Cove**, 1.2 miles SW of Connis Islet, is on the SE side of Beaver Passage and indents the coast of McCauley Island. A waterfall flows into its south side.

252 **Connis Cove**, east of Connis Islet, is almost filled with drying flats.



253 **Anchorage** for small craft can be obtained in Connis Cove, about 0.1 mile NE of a small wooded islet off the south entrance point of the cove. The depth in this anchorage is 16 fathoms (29 m).

254 **Jock Island**, with a rock that dries 11 feet (3.4 m) close NE, lies 2 miles north of Connis Islet and is the outermost of the dangers in the vicinity of **McCauley Point**. Several islets, drying and below-water rocks are 0.4 mile SE of Jock Island.



254.1 Kitkatla Islands East **light** (745.1), 0.75 mile west of Jock Island, is shown at an elevation of 23 feet (7 m) from a white tower.

255 **Bully Island**, 0.4 mile north of Jock Island, is wooded.



256 Bully Island **light** (745) is shown at an elevation of 22 feet (6.7 m) from a white tower. This light is obscured by trees when approaching from the south.

257 **Directions.** — If approaching Beaver Passage from the west side of Banks Island, pass Archie Rock and White Rocks at a convenient distance then steer to pass midway between Hankin Rock and Ralph Islands, taking care to avoid the rock, with 6.4 m over it, 0.8 mile west of Hankin Rock. Then keep in mid-channel and pass slightly less than 0.2 mile SE of Connis Islet to avoid Gurd Rock. When Bully Island light structure is sighted alter course to pass midway between Bully Island and the Kitkatla Islands; a course can then be set to enter Ogden Channel between Comrie Head and Sparrowhawk Point.

Schooner Passage

258 **Schooner Passage**, between Spicer and Dolphin Islands, is entered from the south between Christie Islands and Boys Point.



259 **Tidal streams** in Schooner Passage attain 2 kn in the south entrance and 4 kn in the north entrance, where it is much narrower. The flood sets north and the ebb south.

260 **Dolphin Island** (53°46'N, 130°26'W) has **Boys Point** at its south extremity.

261 **Sentinel Islet** (53°45'N, 130°29'W), 1.6 miles west of Boys Point, is 125 feet (38 m) high. Three drying rocks lie within 0.2 mile west of it. A chain of islets, drying reefs, above- and below-water rocks lies between Sentinel Islet and the SW shore of Dolphin Island. **Terry Rock**, with 24 feet (7.3 m) over it, is 1.2 miles SE of Sentinel Islet at the SE extremity of the above-mentioned chain.

262 **Boys Rock**, which dries 16 feet (4.9 m), and a 20 foot (6.1 m) shoal are 0.2 mile south of Boys Point.

263 **Christie Islands**, 1 mile SE of Boys Point, are on the south side of the approach to Schooner Passage.

264 **Christie Rock**, 0.3 mile WNW of the south island of the group, has 26 feet (7.9 m) over it. Several shoal rocks are 0.5 mile SSW of Christie Rock.

265 **Letts Islets**, 0.7 mile east of Boys Point, consist of two islets connected by a drying reef. A rock that dries 7 feet (2.1 m) is close south, and shoals, with a least depth of 9 feet (2.6 m), extend up to 0.4 mile north of the islets. Two rocks that dry 9 feet (2.7 m) are 0.3 mile ESE of Letts Islets, on the east side of the fairway through Schooner Passage. A rock, with 10 feet (3.0 m) over it, lies 0.8 mile NNE of Letts Islets in the middle of the fairway. A rock with a depth of 8.4 m over it lies in mid-channel abreast Passage Cone.

266 **Shaman Cove**, close NE of Boys Point, is encumbered with rocks; it offers shelter to small craft but local knowledge is advised.

267 **Totem Inlet** is entered 0.3 mile NW of Letts Islet. The narrow entrance passage, about 40 feet (12.2 m) wide, has a clear central track with a least depth of 13 feet (2.3 m) at the north end. However, care must be taken to avoid reported rocks on the NE and NW sides of the end of the narrows. Anchorage for small craft is available inside the inlet with good holding in heavy mud.

268 **Welham Cove**, 1.5 miles NE of Letts Islets, is almost filled with drying flats. An islet on the north side of the entrance is connected to Spicer Island by a drying led ge. A rock with less than 6 feet (2 m) over it is 0.1 mile north of the islet.

269 **Shibasha Island** is connected to the NE end of Dolphin Island by a drying bank. A drying ledge, marked by kelp, extends 0.1 mile south from the south end of the island.



270 **Anchorage** for small craft can be found in the sheltered cove SW of Shibasha Island. It is entered through a narrow passage with a least depth of 15 feet (4.6 m), which leads south of the above-mentioned drying ledge.

271 **Browning Island** is on the west side of the north entrance of Schooner Passage. Below-water rocks and drying ledges are in the channel west of the island.



271.1 Kitkatla Islands West **light** (745.3), 0.45 mile NE of Browning Island, is shown at an elevation of 23 feet (7 m) from a white tower.

272 **Directions.** — If approaching Schooner Passage from SW, keep Letts Islets ahead bearing 049° until the SW Christie Island is abeam then alter course to pass about 0.2 mile SE of the south of Letts Islets. Then steer with the NW tangent of the islet off the north entrance point of Welham Cove ahead, bearing 023°. When Passage Cone bears 270°, and clear of the mid-channel dangers, steer a course in mid-channel. If proceeding north through Ogden Channel, round the north side of Spicer Island in mid-channel between it and the SE point of Kitkatla Islands then pass midway between Kitkatla Islands on the west and Jock and Bully Islands on the east. After passing Bully Island set course to pass into Ogden

Channel midway between Comrie Head and Sparrowhawk Point. If proceeding NW through Kitkatla Channel and the flood stream is running, haul close around Browning Island to avoid being set onto the rocks off the SW end of Kitkatla Islands.

Willis Bay and Approach

273 **Prager Islands** ($53^{\circ}47'N$, $130^{\circ}31'W$) consist of a group of four large and numerous smaller islands joined by drying ledges and surrounded by foul ground.

274 **Barren Rocks** together with several drying and below-water rocks extend 0.4 mile SW of Prager Islands.

275 **Goschen Point**, 2 miles NW of Barren Rocks, is fronted by a drying gravel bank with numerous boulders on it and depths of less than 6 fathoms (11 m) extending 0.6 mile south. **Goschen Spit** is the SW extremity of these ledges. A rock that dries 12 feet (3.7 m) is 0.5 mile east of Goschen Point; a spit of below-water rocks and shoals extends 0.4 mile SE from it.

276 **Viscount Point** is 1.5 miles east of Goschen Point. From 0.5 mile west of Viscount Point to the south entrance point of Willis Bay, 1 mile NE, the coast is fronted by drying and below-water rocks.

277 **Moore Island** is 0.8 mile east of Viscount Point. The channel leading to Willis Bay lies between Moore and Goschen Islands.



278 **Moore Island light** (746), on the NW point of the island, is shown at an elevation of 23 feet (7 m) from a white tower.



279 **Willis Bay**, on the SE side of Goschen Island, and 1 mile north of Moore Island, affords good shelter during west winds. **Anchorage** can be obtained in the middle of Willis Bay in a depth of about 20 fathoms (37 m).

280 **Shakes Islands**, east of Willis Bay, are separated by narrow and intricate channels obstructed by numerous drying reefs and foul ground. No attempt should be made, even by small craft, to pass from Browning Entrance into Kitkatla Channel through any of these channels.

281 The narrow and intricate channel between Prager Islands and Shakes Islands is only suitable for small craft and local knowledge is advised. The SW coast of Dolphin Island, east of Prager Islands, is fronted by numerous islets, drying and below-water rocks.

282 **Dolphin Lagoon** penetrates the west side of Dolphin Island; its entrance dries.

283 **Directions.** — Approach Willis Bay between Prager Islands and Goschen Island by keeping the NW extremity of Moore Island ahead, bearing 054° , to avoid the dangers in the vicinity of Viscount Point. When the south entrance point of Willis Bay bears 000° , steer to pass 0.15 mile west of Moore Island. Round the south entrance point of Willis Bay at a safe

distance, taking care to avoid the foul ground lying off it, then steer for the anchorage.

Freeman Passage and Approach

Chart 3987

284 **Goschen Island** ($53^{\circ}49'N$, $130^{\circ}35'W$) is mountainous with its highest peak lying south of **Nubble Mountain**.

285 **Joachim Point**, the west extremity of Goschen Island, is low. A drying ledge with a small islet on it extends 0.1 mile SW from the point. A shoal with 34 feet (10.4 m) over it is 0.9 mile SW of the point.

286 **Cape George**, 3 miles NW of Joachim Point, is the SW extremity of Porcher Peninsula. **Joachim Rock**, which dries 11 feet (3.4 m), and a rock that dries 5 feet (1.5 m) are 0.5 mile west of Cape George.

287 **Porcher Peninsula** extends south and SE from the SW end of **Porcher Island**. Oval Hill, near the north end of Porcher Peninsula, is prominent and appears oval-shaped from all directions.

288 Shoal depths extend 1.5 miles offshore between Cape George and Fan Point.

289 The east side of Hecate Strait from Fan Point north is described in Sailing Directions booklet *PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound*.

290 **Freeman Passage**, between the NW side of Goschen Island and the SE side of Porcher Peninsula, is narrow and intricate. The fairway is about 300 feet (91 m) wide between the dangers on each side. It is only suitable for small vessels and local knowledge is advised.



291 **Tidal streams.** — Secondary current station Freeman Passage (Index No. 8548), referenced on Prince Rupert, is given in the Tide Tables, Volume 7. The flood sets NE and the ebb SW through the fairway and the maximum rate is 4 kn.

292 **Joachim Spit** extends 0.7 mile into the fairway at the south end of Freeman Passage. The spit consists of sand and boulders, which dry; a boulder, 3 feet (0.9 m) high, lies on the spit about 0.3 mile offshore. A spit of several drying and below-water rocks is on the SW side of Joachim Spit. North of Joachim Spit, a shoal spit extends 0.5 mile south from the south extremity of Porcher Peninsula. A rock with less than 6 feet (2 m) over it lies near the south end of the shoal spit.

293 Freeman Passage Entrance **light and bell buoy** “E98” (746.8), 0.4 mile west of the north end of Joachim Spit, is a starboard hand buoy.



294 Freeman Passage **light** (747), on the SW island of the chain of islands in mid-channel, is shown at an elevation of 16 feet (4.9 m) from a skeleton tower.

295 A rock, with less than 6 feet (2 m) over it, lies 0.3 mile SE of the entrance to the narrow bay.

296 **Absalom Island**, with a group of islets close SW of its south point, and **Coquitlam Island** are on the NW side of the east end of the fairway through Freeman Passage. Drying and below-water rocks fringe the south and east sides of Coquitlam Island; between this foul ground and that which fringes Goschen Island the fairway is at its minimum width. A rock that dries 1 foot (0.3 m) lies close-off the Goschen Island shore, 0.25 mile west of Nubble Point.


Kitkatla Channel and Gasboat Passage

Charts 3986, 3987


297 **Kitkatla Channel** ($53^{\circ}47'N$, $130^{\circ}23'W$) is on the north side of Spicer Island, Dolphin Island, Shakes Islands and Goschen Island, and on the south side of Kitkatla Islands, Pelham Islands, Ewart Island, Porcher Island and the Cessford Islands. At the NW end of Kitkatla Channel, Kitkatla and Porcher Inlets lead NW and north into Porcher Island.

298 **Tides.** — Tidal differences in Kitkatla Channel, referenced on Prince Rupert, are given for Kitkatla Islands (Index No. 9242) in the Tide Tables, Volume 7.

299 **Kitkatla Islands** ($53^{\circ}48'N$, $130^{\circ}21'W$), at the junction of Beaver Passage and Kitkatla Channel, form a semi circular chain consisting of several islands and drying and above- and below-water rocks. A **wreck** is on a 3 foot (0.9 m) rock at the SE extremity of the islands.

 300 A **submarine cable area** crosses Kitkatla Channel from close east of Kitkatla to west of Grassy Island; it is marked by a sign onshore.

301 **Grassy Island**, on the north side of Kitkatla Channel, is 35 feet (11 m) high and surrounded by an extensive drying sand and gravel bank. A reef with drying and below-water rocks and a rock 6 feet (1.8 m) high at its SW end lie up to 0.5 mile WSW of Grassy Island.

 301.1 Stick Islet **light** (745.4), 0.5 mile SE of Grassy Island, is shown at an elevation of 26 feet (8 m) from a white tower with a green band on top.

302 **Sand Island**, 0.8 mile WNW of Grassy Island, is on a drying reef that extends 0.2 mile ESE terminating in a rock that dries 16 feet (4.9 m).


303 **Ewart Island**, close WNW of Sand Island, is the west island of the group that lies in the west end of Kitkatla Channel. An islet, 0.2 mile south of Ewart Island, has a reef of drying and below-water rocks extending 0.5 mile WNW from it. The reef is steep-to on its SW side.

304 **Gilbert Island**, 0.9 mile north of Kitkatla Islands, has two islets and some drying reefs extending 0.2 mile from its east side. **Pelham Islands**, with numerous above- and

below-water rocks, lie on an extensive area of foul ground between Kitkatla Islands, Gilbert Island and Ewart Island. A passage between Pelham and Kitkatla Islands is obstructed at its west end with drying and below-water rocks. Local knowledge is advised to pass between these islands.

305 A **private daybeacon**, constructed from a stake and 2 orange floats, is in the middle of the passage, between Pelham and Kitkatla Islands. It is located on the northern of two HW islets.

306 **Gasboat Passage** ($53^{\circ}50'N$, $130^{\circ}25'W$) separates Pelham Islands and Gilbert Island from Porcher Island. The fairway has a least depth of 42 feet (12.8 m) but drying rocks and rocks with less than 6 feet (2 m) over them, north of Pelham Islands, restrict the channel to less than 0.1 mile wide and make it suitable only for small craft.

 307 A **submarine cable area** crosses the west end of Gasboat Passage; it is marked by a sign onshore.


308 **Billy Islands** and **Gladstone Islands** ($53^{\circ}50'N$, $130^{\circ}27'W$) lie on the west side of the entrance to Billy Bay. Two drying rocks are about 0.1 mile east of Billy Islands and a rock awash is 0.3 mile east, in the approach to Billy Bay.

309 **Billy Bay** is encumbered with drying rocks and its head is filled with an extensive drying flat. The bay is only suitable for small craft. It is reported that the east part of the cove affords good shelter.


310 **Kitkatla** ($53^{\circ}48'N$, $130^{\circ}26'W$) is a thriving First Nations community (Tsimshian nation) of approximately 500 people, on a point of land on the north side of Dolphin Island. It has a post office (V0V 1CO), school, nursing station (250 848-2245), regular float plane service from Prince Rupert, a public dock with mooring for visiting vessels, fuel, fresh water, provisions and accommodation. Kitkatla Channel fronting the community is a water aerodrome.

310.1 A **submarine cable** (fibre-optic) extends from Kitkatla, south through Schooner Passage, to Bonilla Island. Another **submarine cable** (fibre-optic) extends NE, through Ogden Channel, to Oona River.

311 Kitkatla Boat Harbour port hand **light buoy** "E95" (745.5) marks the NW extremity of a drying ledge extending about 0.15 mile off Kitkatla.

 312 The **public wharf** and **floats** at Kitkatla, SW of the above-mentioned drying ledge, are protected by an islet and **breakwater** and have 643 feet (196 m) of berthing space. A least depth of 8 feet (2.4 m) lies along the outside of the main float.

313 A **barge ramp** is close east of the public wharf.

 314 **Anchorage** for vessels of moderate size can be obtained about 0.3 mile NW of Kitkatla in depths of 10 to 18 fathoms (18 to 33 m). The anchorage is indifferent with a mud bottom and strong tidal streams.

315 A detached rock, with 28 feet (8.5 m) over it, lies on the SW side of the fairway 0.8 mile NW of Kitkatla.

316 The passages leading through the Shakes Islands, NW of Kitkatla, are obstructed by rocks and drying reefs and should not be attempted.

317 **Chief Point**, 2 miles west of Gladstone Islands, is low except for a hill near its south extremity. Islets and drying rocks extend 0.5 mile SE from Chief Point and drying rocks and an islet lie up to 0.4 mile NW.

318 **Cessford Islands**, about 1.5 miles NW of Chief Point, are surrounded by drying ledges and reefs. **Whiteley Point** is 0.7 mile NE of Cessford Islands. Several above-water rocks on a drying reef are 0.2 mile SW of Whiteley Point.



319 Small vessels can obtain well-sheltered **anchorage** in about 7 fathoms (12.8 m), about 0.3 mile ENE of the 110 foot (34 m) high islet at the NW end of Cessford Islands.

320 **Nubble Point** (*53°51'N, 130°34'W*), the north extremity of Goschen Island, is the entrance point to Freeman Passage. Several shoals, usually marked by kelp, lie along the NE side of Goschen Island, about 0.2 mile offshore.

Kitkatla Inlet

321 **Kitkatla Inlet** is entered between Nubble and Whiteley Points. **Gurd Island** is in the middle of the inlet. Several islets and drying and below-water rocks lie up to 0.3 mile off the south side of Gurd Island.



322 **Anchorage** can be obtained almost anywhere in Kitkatla Inlet. Depths in the inlet are generally less than 25 fathoms (46 m) with a mud bottom.

323 **Ness Islands**, in the entrance to Kitkatla Inlet, are surrounded by drying and below-water rocks extending up to 0.6 mile from them.

324 **Winter Rock**, 1 mile NNW of Ness Islands, is surrounded by a drying ledge and rocks.

325 **Snass Islands** are 1.4 miles east of Winter Rock. A rock that dries 19 feet (5.8 m) and several below-water rocks lie in the centre of the channel between Snass and Ness Islands. **Phoenix Islands** are east of Snass Islands, off the mouth of **Phoenix Creek**.

326 **Snass Point** is 0.8 mile ENE of Winter Rock. Drying rocks are close SE and close NW of Snass Point.

327 A group of islets, drying and below-water rocks projects from the coast of Porcher Island, about 1.8 miles NW of Snass Point.

328 **Kitkatla Creek**, 2.4 miles NW of Snass Point, is fronted by a drying flat fringed with drying and below-water rocks along its south side.

329 A peninsula on the NE side of Gurd Island, 1 mile east of **Gurd Point**, has a bay on its south side that is fouled by numerous drying and below-water rocks.

330 **Dries Inlet**, at the head of Kitkatla Inlet, has extensive drying sand and gravel flats fronting its shores. **Camp Creek** flows into the inlet at the SE entrance.

331 **Serpentine Inlet**, 2 miles west of Dries Inlet, is very shallow and almost filled with drying flats. Several cabins are on the north shore.

332 The **Wilcox Group**, with **Clamshell Island** and numerous other islets, drying and below-water rocks, extend 2 miles south from the entrance of Serpentine Inlet. A narrow channel leads between the above-mentioned group and the rock and islets off the NW side of Gurd Island; it is only suitable for small vessels as it has a 6.5 m shoal and a rock with 12 feet (3.7 m) over it in the centre of the fairway.

333 **Robert Island**, 0.2 mile south of the west extremity of Gurd Island, is surrounded by a drying sand and gravel flat with drying and below-water rocks close west of it. Numerous drying rocks extending SE from Robert Island lie in the approach to Gurd Inlet.

334 **Gurd Inlet** is entered 0.5 mile SE of Robert Island. The narrow entrance dries at LW; at other stages of the tide there are rapids through it. The inlet is accessible only to small craft at HW slack.

Porcher Inlet

335 **Porcher Inlet** (*53°57'N, 130°26'W*) has generally steep-to shores and depths too great for anchorage, except near its head. It is only suitable for small craft because of the numerous reefs in its narrow entrance; entry should be attempted only at or near HW slack.

336 **Theresa Rock**, on the north side of the entrance, has rocks with less than 6 feet (2 m) over them within 0.4 mile SW, SE and east of it. Several drying rocks, 0.5 mile east of Theresa Rock, are on the north side of the entrance to Porcher Inlet. East of these drying rocks, the entrance is narrow and encumbered with several drying and below-water rocks.

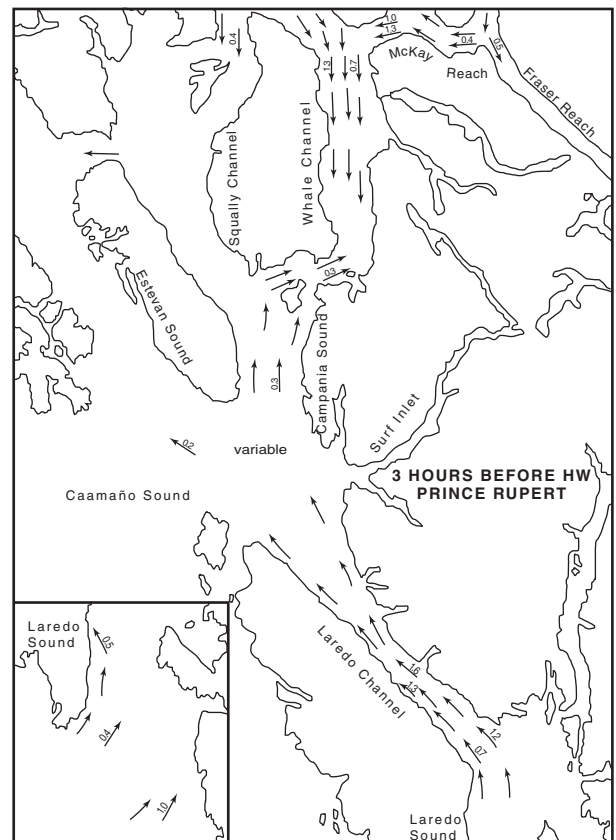
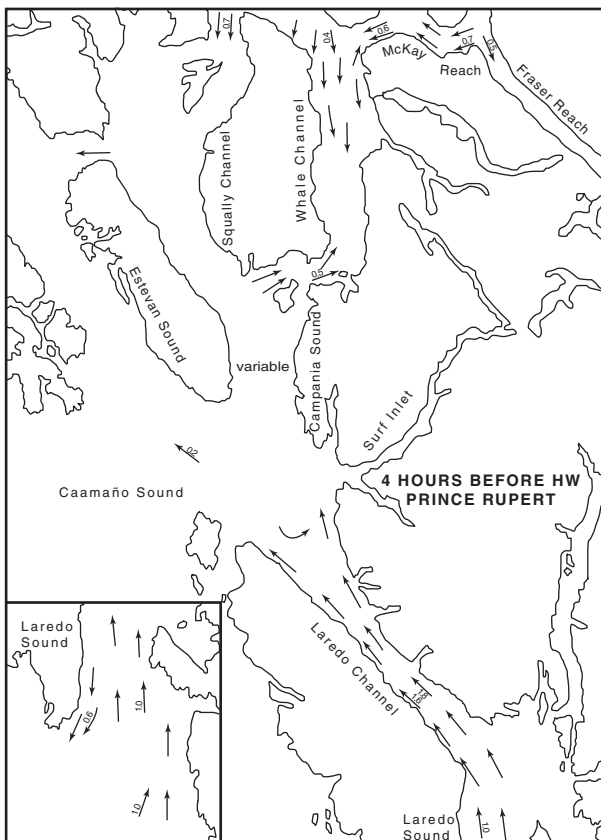
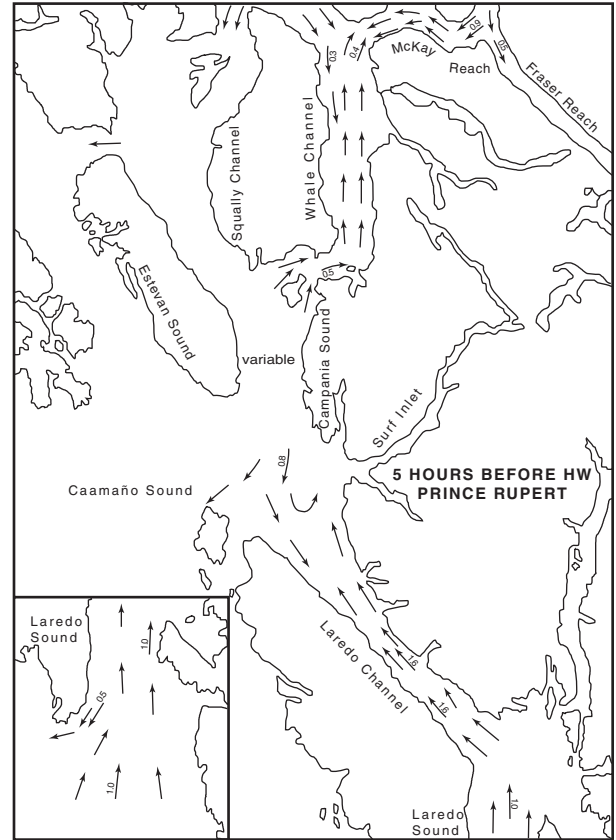
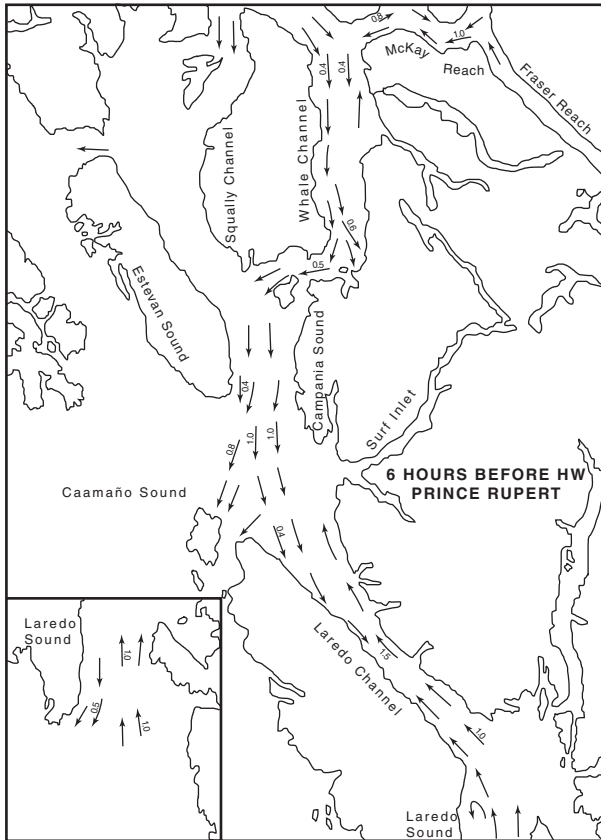
337 **Porcher Narrows**, 2.5 miles within the entrance of Porcher Inlet, is less than 300 feet (91 m) wide between the dangers fringing both shores.

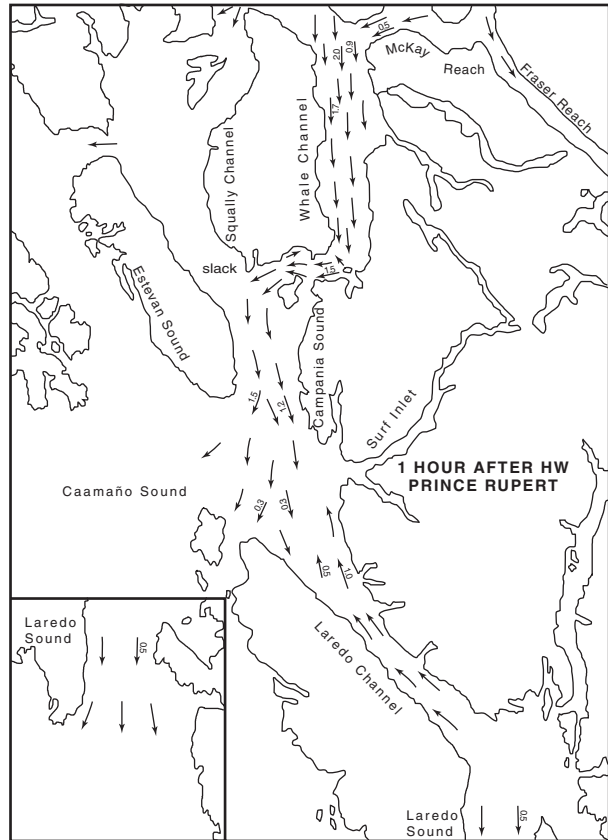
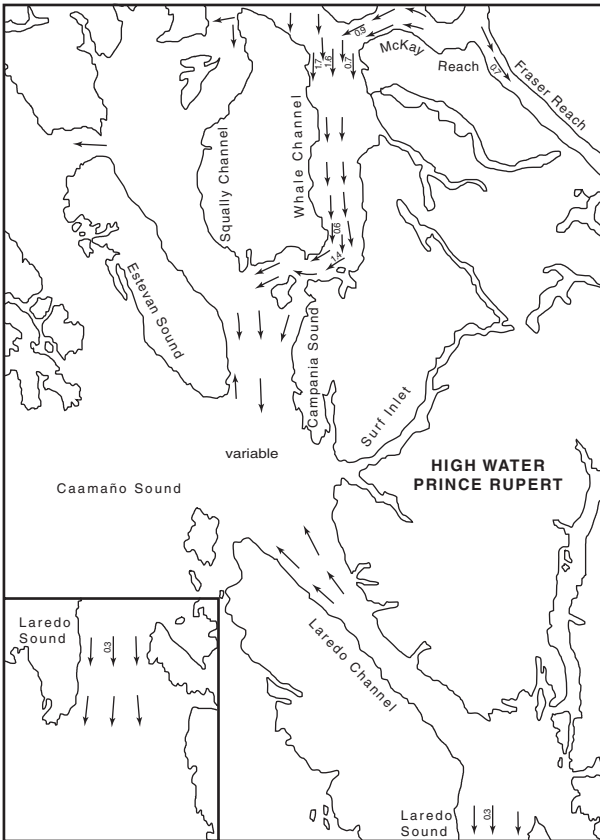
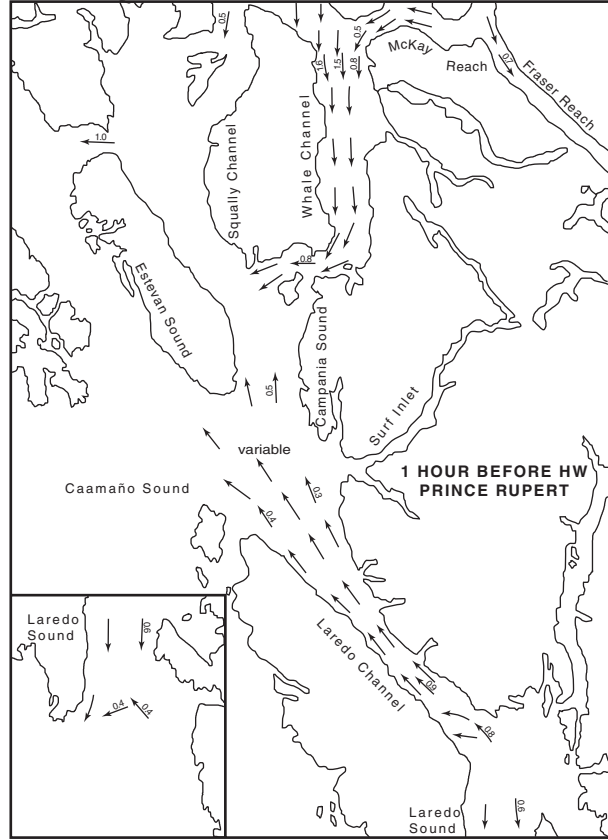
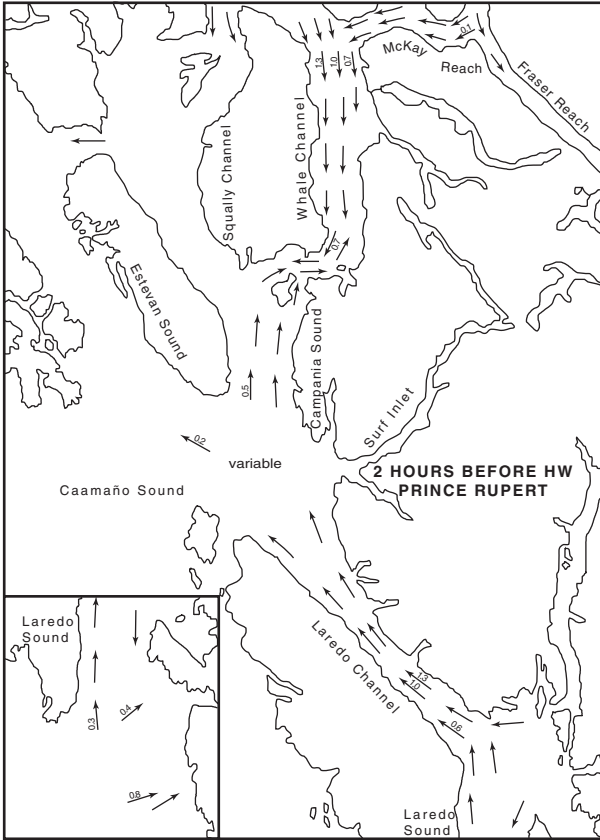


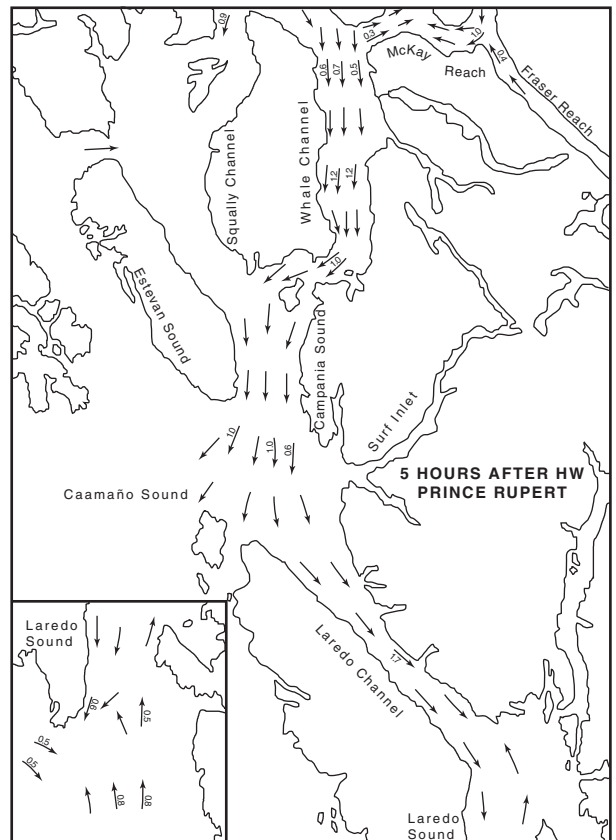
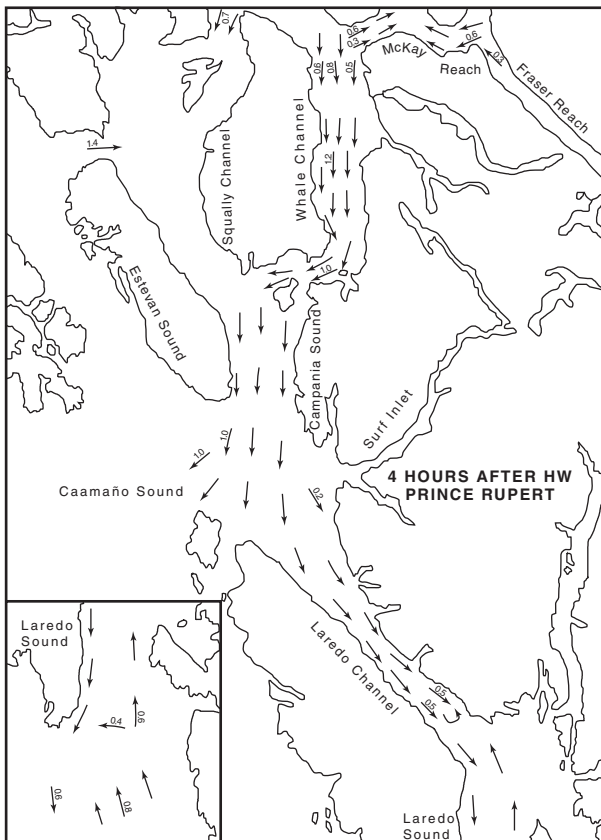
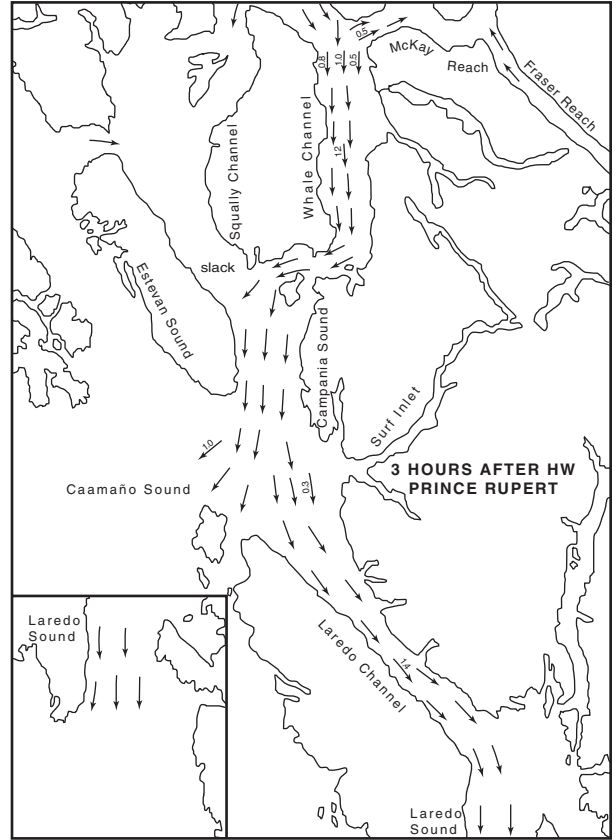
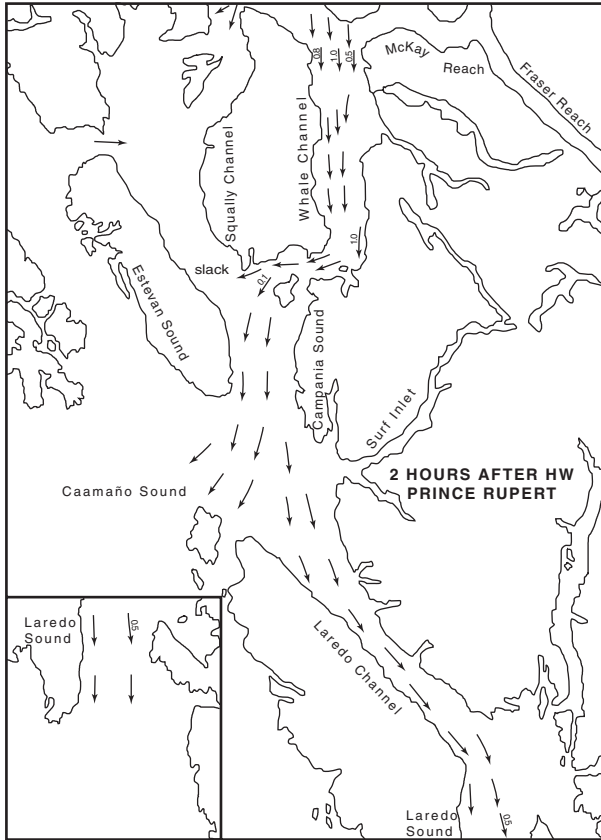
338 **Tidal streams** in Porcher Narrows attain a maximum of 7 kn on the flood and ebb. Secondary current station Porcher Narrows (Index No. 8551), referenced on Prince Rupert, is given in the Tide Tables, Volume 7.

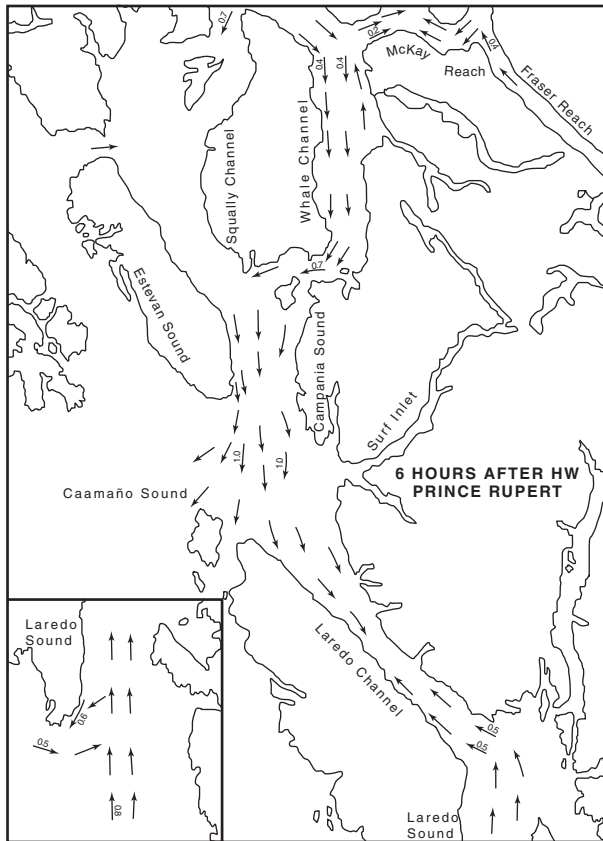
339 Both sides of Porcher Inlet are encumbered with drying and shoal ledges for 1.5 miles NNE of Porcher Narrows. The only other dangers are near the head, where a drying rock is close SE of the west entrance point of the channel leading to Salt Lagoon, and a rock, with less than 6 feet (2 m) over it, lies nearly in mid-channel about 1.3 miles from the head.

340 **Salt Lagoon** is entered through a narrow, intricate channel that dries.









Laredo Sound

Charts 3746, 3728, 3980, 3981

341 **Laredo Sound** ($52^{\circ}20'N$, $128^{\circ}50'W$) is entered from south between McInnes Island, close south of Price Island, and Munro Island which is close south of Aristazabal Island.

342 **Aspect.** — The land on the west side of Price Island and the south end of Aristazabal Island is comparatively low and featureless. Jocelyn Hills, on the east side of Price Island, and **Kitasu Hill**, on the SW side of Swindle Island, are conspicuous. Mount Johnston, 10 miles NNW of the south extremity of Aristazabal Island, is a conspicuous saddle-shaped hill. The west coast of Price Island is fringed by numerous islets and rocks extending up to 2 miles offshore. The east coast of Aristazabal Island is comparatively steep-to; islands and rocks extend 4 miles south from this island.

342.1 **Kitsoo Spirit Bear Conservancy** encompasses the north end of Price Island and the west sides of Swindle Island and **Princess Royal Island**.

343 **Caution.** — Surveys in 1979 found depths shoaler than charted in Laredo Sound, north of $52^{\circ}23'N$, and Laredo Channel. The 1982 edition of *Chart 3728*

embodies this new information. The current editions of *Charts 3975* and *3726* embody new information from these surveys only on least depths over principal shoals and dangers inside the 10 fathom (18.3 m) contour. The new *Chart 3981* contains new information from recent surveys, but it is recommended that the mariner consult the source class diagram on the chart for clarification. Deep draught vessels and tows with deep catenaries should follow the routes described under “Directions”.

344 **Tides.** — Tidal differences in Laredo Sound, referenced on Bella Bella, are given for Higgins Passage (Index No. 9056) and Milne Island (Index No. 9063) in the Tide Tables, Volume 7.

345 **Tidal streams** in Laredo Sound turn about 4 hours after HW and 1 hour before HW at Prince Rupert.

346 Tide-rips, dangerous to small craft, occur with the ebb stream on Moody Banks, especially during south winds, and south of McInnes Island at the junction of the streams from Laredo and Milbanke Sounds.

347 **Tidal stream chartlets** showing the streams in knots from Laredo Sound to McKay Reach are on adjacent pages.

Charts 3726, 3728

Dangers South of Aristazabal Island

Chart 3980

348 **Lempriere Bank** ($52^{\circ}23'N$, $129^{\circ}02'W$), about 2 miles in extent from north to south, has several pinnacles on it; the least depth is 45 feet (13.7 m). **Nab Rock**, which dries 5 feet (1.4 m), is 2 miles east of Lempriere Bank.

349 **Moody Banks**, east of Nab Rock, with depths less than 20 fathoms (36.6 m) are about 5 miles long in a north/south direction. **Luard Shoal** ($52^{\circ}24'N$, $128^{\circ}53'W$), near the NE end of Moody Banks, has a least depth of 36 feet (11 m).

350 Luard Shoal **light and whistle buoy** “E63” (620), near the shallowest part of the shoal, is a port hand buoy.

351 **Munro Island** is 1 mile SW of the south extremity of Aristazabal Island. Drying and below-water rocks extend 1.5 miles SE and 1.3 miles east of the island. Several shoals lie between this area of foul ground and Nab Rock. **Oldham Rock**, 1.3 miles east of Munro Island, dries 15.7 feet (4.8 m).

352 **Prior Passage** separates Munro Island and the foul ground east of it from the islands, islets and rocks off the south end of Aristazabal Island. It is about 0.15 mile wide, intricate and only suitable for small craft. Local knowledge is advised.

HIGGINS PASSAGE LOOKING NW ABEAM NE POINT LOHBRUNNER ISLAND (1986)



Price Island — West Coast

Chart 3980

353 McInnes Island ($52^{\circ}16'N$, $128^{\circ}43'W$), its light and Day Point are described with Milbanke Sound in Sailing Directions booklet *PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound*.

354 Between McInnes and Price Islands and 0.8 mile south of the former, are numerous islets and rocks.

Chart 3733

355 **Catala Passage** ($52^{\circ}16'N$, $128^{\circ}42'W$) leads through the above-mentioned islets and rocks and provides a safe and easy channel for small vessels travelling from Laredo Sound to Milbanke Sound.

356 **Mould Rock**, 1.5 miles NW of McInnes Island, is on the north side of the west approach to Catala Passage and has a depth of 4 m over it. **Linn Rock**, 0.4 mile north of McInnes Island, is 4 m high and lies on the north side of the fairway of Catala Passage. **Bray Island**, 0.5 mile SE of Linn Rock, is 61 m high. The least width through the fairway is between Bray Island and the island, 43 m high, 0.15 mile south of it. A group of islets, 0.5 mile east of Bray Island, are on the north side and at the east end of the fairway through Catala Passage.

357 **Clearing marks**. — Linn Rock in line with the south extremity of Bray Island, bearing 118° , leads about 137 m SW of Mould Rock.

Chart 3980

358 **Morley Creek** and **Lipsett Creek** ($52^{\circ}21'N$, $128^{\circ}44'W$), 5.5 miles north of McInnes Island, have a common entrance.

359 **Rudolf Bay**, 9 miles north of McInnes Island, has several rocks off its narrow entrance but is well-sheltered and suitable for small craft. A rock with a depth of 7 feet (2.1 m) is 1.5 miles west of the north entrance point of Rudolf Bay.

Two rocks, with less than 6 feet (2 m) over them, are 0.1 mile WSW of the same point.

360 **Jaffrey Rock** ($52^{\circ}28'N$, $128^{\circ}50'W$) is 5 feet (1.5 m) high, bare and steep-to on its west side.

361 Jaffrey Rock **light and whistle buoy** “E64” (622), SW of the rock, is a starboard hand buoy.

362 **Seddall Shoals** is an area of foul ground to the east and SE of Jaffrey Rock.

Chart 3910

Higgins Passage

363 **Higgins Passage** ($52^{\circ}28'N$, $128^{\circ}43'W$) leads from Laredo Sound into Milbanke Sound. Its shoalest part, west of **Lohbrunner Island**, dries 5 feet (1.5 m) and is only suitable for small craft near HW on a rising tide; local knowledge is advised. The west entrance, encumbered by numerous islands and rocks, is best approached from the vicinity of Jaffrey Rock where **Kipp Islet** and the approach channel can be identified. Keep north of a line joining Jaffrey Rock and Kipp Islet to avoid being set south to Seddall Shoals. A narrow channel along the south and east sides of Kipp Islet leads NE through the islands then SSE into the west entrance of Higgins Passage. A shoal with a least depth of 26 feet (7.9 m) lies in this narrow channel 0.1 mile south of Kipp Islet.



364 **Grant Anchorage**, east of the island 0.5 mile ENE of Kipp Islet, is in the west entrance of Higgins Passage and affords **anchorage** to small vessels in 20 fathoms (37 m), mud bottom. Less sheltered anchorage with more swinging room can be obtained in the basin 0.6 mile NNE of Kipp Islet in 18 fathoms (33 m).


365 From Grant Anchorage, the fairway through Higgins Passage leads SSE and then east between several drying reefs and islets to Lohbrunner Island. **Fishing boundary markers** are on the south end of the large island 0.4 mile west of Lohbrunner Island and on the north side of the peninsula to the south. The fairway leads north along the west side of

Lohbrunner Island, where a bar dries 5 feet (1.5 m), then SE through a narrow rock infested passage, which is full of kelp. The fairway then leads south along the east side of Lohbrunner Island to a wide basin.

366 The channel that dries 13 feet (4 m) south of Lohbrunner Island has wooded islets in its west and east entrances; the route through this channel lies between Lohbrunner Island and the islets. Do not attempt to pass south of the islets because the channel is obstructed by several large rocks.

367 A narrow channel with drying reefs on both sides leads NE from the basin east of Lohbrunner Island and widens near Higgins Lagoon. A **fishing boundary marker** is on the NW shore of the channel.

368 Higgins Lagoon and the east part of Higgins Passage are described in Sailing Directions booklet *PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound*.


 369 **Tidal streams.** — The north-going tidal streams from Milbanke and Laredo Sounds meet near the middle of Higgins Passage. In the narrowest part of Higgins Passage, north of Lohbrunner Island, the tidal streams attain 5 kn.

370 **Tides.** — Tidal differences for Higgins Passage (Index No. 9056), referenced on Bella Bella, are given in the Tide Tables, Volume 7.

Charts 3726, 3975, 3980, 3981


Aristazabal Island — East Coast

371 **Lombard Point** ($52^{\circ}29'N$, $128^{\circ}57'W$), 2 miles NNE of the south extremity of Aristazabal Island, is steep-to on its east side. Several islets and drying rocks are close offshore between the south end of Aristazabal Island and Lombard Point.

 372 Lombard Point **light** (621) is shown at an elevation of 27 feet (8.2 m) from a skeleton tower.


373 Between Lombard Point and **Tildesley Point**, 7.5 miles north, the coast of Aristazabal Island is steep and rocky. There are no dangers outside 0.2 mile from shore.

374 **Haig Rock**, 0.1 mile east of Tildesley Point, is 20 feet (6.1 m) high and steep-to on its east side. A rock, 7 feet (2.2 m) high, is 0.2 mile north of Haig Rock.

 375 Haig Rock **light** (624) is shown at an elevation of 25 feet (7.6 m) from a skeleton tower.


Swindle Island — West Coast

376 **Larkin Point** ($52^{\circ}31'N$, $128^{\circ}50'W$) is the west extremity of Swindle Island. Between Larkin Point and Kipp Islet, 2.7 miles SE, numerous islets and rocks fringe the SW coast of Swindle Island. **Abrams Island**, 1.3 miles north of Larkin Point, is connected to Swindle Island by a drying rock ledge.

 377 **Abrams Island light** (623) is shown at an elevation of 27 feet (8.2 m) from a skeleton tower.

378 **Wilby Point**, 1.5 miles north of Abrams Island, is low. Drying rock ledges extend 0.3 mile NW and west from the point with a rock, 6 feet (1.8 m) high, at the west extremity.

379 **Kitasu Bay** is entered between Wilby Point and **Jamieson Point**, 2 miles east. **Kwakwa Creek**, **Cann Inlet** and **Osment Inlet**, on the east side of Kitasu Bay, have not been surveyed and local knowledge is advised. Several islets lie in the common entrance of Kwakwa Creek and Cann Inlet; drying rocks encumber the entrance of Osment Inlet.

 380 **Parsons Anchorage**, at the head of Kitasu Bay and south of **Marvin Islands**, affords good shelter to small vessels during SE winds. The **anchorage** is in 15 to 20 fathoms (27 to 37 m), sand and gravel. A rock that dries 3 feet (0.9 m) is 0.1 mile north, a rock with less than 6 feet (2 m) over it is 0.1 mile south and two cabins are on the west side of the easternmost Marvin Island.

381 **Marine farms** are off the east shore of Parsons Anchorage and are reported to be in Osment Inlet (1986).

382 **Directions.** — Approaching Laredo Sound from Hecate Strait keep outside the 20 fathom (37 m) contour along the SE side of Moody Banks by steering for Kitasu Hill ($52^{\circ}30'N$, $128^{\circ}44'W$), bearing 029° . When the north extremity of Munro Island is abeam, bearing 299° , alter course to 352° to pass about 1 mile west of Jaffrey Rock and about 1.3 miles off Haig Rock.

383 If bound for Laredo Channel, alter course when Haig Rock is abeam to pass midway between Wilson Rock and the point on Princess Royal Island about 1 mile NE of it, after which the directions for Laredo Channel, given later in this chapter, should be followed.

384 If bound for Laredo Inlet alter course when Haig Rock light structure bears 308° to bring the south extremity of Croft Island ahead, bearing 047° , after which the directions for Laredo Inlet, given later in this chapter, should be followed.

385 If bound for Parsons Anchorage in Kitasu Bay or through Meyers Passage, then round Wilby Point at a distance of about 1 mile. Approaching Parsons Anchorage follow the shore SE of Wilby Point at a distance of about 0.2 mile, anchoring 0.3 mile south of the east entrance point of the anchorage. If entering Meyers Passage pass either 0.2 mile north of Gaudin Rock or 0.1 mile south of Ellard Rock thence into the entrance of Meyers Passage.


Meyers Passage

Charts 3943, 3980, 3981

386 **Meyers Passage** ($52^{\circ}36'N$, $128^{\circ}39'W$), between Swindle and Princess Royal Islands, leads from Laredo Sound

into Tolmie Channel. It is suitable for small vessels but local knowledge is advised. The least depth through the fairway is encountered in Meyers Narrows.

387 **Tides.** — Tidal differences for Meyers Narrows (Index No. 9060), referenced on Bella Bella, are given in the Tide Tables, Volume 7.


 388 **Tidal streams** flood from Laredo Sound toward Tolmie Channel and the ebb flows in the opposite direction; the maximum rate for both is 3 kn.

389 Secondary current station Meyers Passage (Index No. 8528), referenced on Prince Rupert, is given in the Tide Tables, Volume 7.

390 **Wingate Point** ($52^{\circ}36'N$, $128^{\circ}45'W$) and **Hartnell Point**, 0.5 mile north, are the west entrance points of Meyers Passage.


391 **Draper Islets** ($52^{\circ}35'N$, $128^{\circ}45'W$) (*Charts 3726, 3975*) are 0.3 mile SSW of Wingate Point.


392 **Ellard Rock** and **Gaudin Rock** are bare and, together with several shoals, lie in the west approach to Meyers Passage.


 393 **Corney Cove** indents the north shore 1.5 miles east of Hartnell Point. A rock with less than 6 feet (2 m) over it lies at the head of the cove. It is reported that small craft can obtain sheltered **anchorage** in Corney Cove.

394 **Cullum Point**, 4.5 miles east of Hartnell Point on the north side of Meyers Passage, is the west entrance point to Meyers Narrows.


395 **Meyers Narrows**, between Cullum Point and **Saunders Point**, 1.3 miles east, is less than 0.1 mile wide in its narrowest part and has a least depth of 2.4 m in the fairway. A rock that dries 5 feet (1.5 m) on the south side of the fairway about halfway through the narrows is marked by starboard hand **buoy** “E70” close NW. Two rocks awash are on the north side of the fairway, about 300 feet (91 m) NE and NW of the drying rock. During summer and autumn months, kelp grows thickly in the shoal water on both sides of the narrows.

 395.1 A **wreck** is 0.4 mile SW of Cullum Point, in the vicinity of the anchorage.

 396 **Anchorage** for small craft can be obtained at the west end of Meyers Narrows in 10 fathoms (18 m), mud, about 0.25 mile SW of Cullum Point and 0.1 mile from the south shore. At the east end they can obtain anchorage west of the drying spit that is close west of Saunders Point.


 397 **Anchorage** can also be obtained in the middle of the passage, about 0.25 mile SE of Saunders Point, in 19 fathoms (35 m), mud. All the above-mentioned anchorages are close to the fairway through Meyers Passage.

398 **Jorgensen Harbour** ($52^{\circ}38'N$, $128^{\circ}35'W$), 2.3 miles north of Saunders Point and on the west side of Meyers Passage, is sheltered by an island off its north entrance point.

 399 **Anchorage** for small craft can be obtained in 13 fathoms (24 m) in Jorgensen Harbour.

400 **McRae Cove** is 0.3 mile north of Jorgensen Harbour.

401 The east shore of Meyers Passage is free from off-lying dangers except for a rock with less than 6 feet (2 m) over it abreast Jorgensen Harbour and 0.1 mile off the east shore. A similar rock is close north of an island 0.7 mile to the north.

 402 Considerable **magnetic disturbance** has been reported at the north entrance to Meyers Passage ($52^{\circ}39'N$, $128^{\circ}34'W$). The maximum intensity, amounting to 8° east, was experienced toward the east side of the channel midway between the 40 and 38 m high islands.

403 Tolmie Channel is described in Sailing Directions booklet *PAC 205—Inner Passage—Queen Charlotte Sound to Chatham Sound*.

Laredo Inlet

Chart 3975

404 **Laredo Inlet** ($52^{\circ}40'N$, $128^{\circ}45'W$), entered between Laidlaw and Jessop Islands on the west and Aitken and Croft Islands on the east, has high mountain ranges on both sides.

ENTRANCE TO LAREDO INLET (1972)



The most conspicuous bare peaks are **Mount Parry**, on the west side, and **Mount Learmonth**, **South Needle Peak** and **North Needle Peak** on the east side.

405 **Laredo Inlet** is generally deep in the middle. **Burr Rock**, about 16 miles inside the entrance, is the only danger in mid-channel.

406 **Tides**. — Tidal differences for Milne Island (Index No. 9063), referenced on Bella Bella, are given in the Tide Tables, Volume 7.

407 **Milne Island** ($52^{\circ}37'N$, $128^{\circ}46'W$) has foul ground extending 0.2 mile north and 0.1 mile west of it. **Hastings Island**, north of Milne Island, is separated from it by a boat passage encumbered with islets and rocks.

408 **Thistle Passage**, east of Hastings Island, has several islands and rocks in it; north of Palmer Anchorage it is only suitable for small craft.

 409 **Palmer Anchorage**, in the south part of Thistle Passage, affords **anchorage** for small vessels in 19 fathoms (35 m), shell bottom.

410 **Quigley Creek**, on the east side and at the north end of Thistle Passage, has several islets in its entrance.

411 **Aitken Islands**, about 1 mile west of Milne Island, are a small group of islands, islets, drying and below-water rocks. **Croft Island**, 0.8 mile north of Aitken Islands, has two rocks that dry 5 feet (1.5 m) about 0.1 mile west from its west side. **Deas Rock**, 0.5 mile SSE of Croft Island, has two drying heads; the highest dries 15 feet (4.6 m). **Hilbert Point**, the NW extremity of Hastings Island, is steep-to.

412 **Laidlaw Islands** are 1 mile NNW of Aitken Islands. Foul ground, with two rocks that dry 6 and 7 feet (1.8 and 2.1 m) at its extremity, extends 0.25 mile SE from the south island. **Duffy Rock**, 0.3 mile south of the same island, has less than 6 feet (2 m) over it. A rock that dries 9 feet (2.7 m) is about 0.1 mile east of the NE of the Laidlaw Islands.

413 **Mansell Point**, the south extremity of **Jessop Island**, is steep-to. **Hume Rocks**, which dry 13 and 8 feet (4 and 2.4 m), lie in the passage between Laidlaw Islands and Mansell Point.

414 **Dallain Point**, 2 miles west of Laidlaw Islands, is the SW point of Princess Royal Island. Foul ground, which extends 0.3 mile SE from the point, has two rocks 9 and 3 feet (2.7 and 0.9 m) high at its extremity. Above- and below-water rocks fringe the point.


415 **Monk Bay**, between Dallain Point and **Hague Point**, is too deep for anchorage. An island on the NE side of the bay has drying rocks extending 0.2 mile south and SE from it, and detached shoal rocks are in the north part of the bay. **Prude Rock**, 1.5 miles ESE of Dallain Point, is a pinnacle with less than 6 feet (2 m) over it.

416 **Trahey Inlet**, NE of Hague Point, can be entered on either side of Jessop Island; it is only suitable for small craft. Drying and above-water rocks lie in the approach to and in


the passage on the west side of Jessop Island. **Nares Hills**, east of the head of the inlet, are conspicuous from the entrance and from within Laredo Inlet.


417 **Waser Point**, 1 mile east of Jessop Island and on the west side of Laredo Inlet, is steep-to and can be rounded at a short distance. Conspicuous black cliffs are along the coast about 1.2 miles north of Waser Point. **Powles Creek**, 2.2 miles NNE of Waser Point, is on the east side of Laredo Inlet.

418 **Alston Cove**, 3 miles north of Powles Creek, has a narrow entrance with a depth of 21 feet (6.4 m). **Blee Creek** empties into the head of the cove over a drying flat. **Hards Creek** is on the west shore opposite Alston Cove.


 419 **Anchorage** for small craft can be obtained in Alston Cove and in the unnamed cove 1.5 miles south of Hards Creek. A rock with less than 6 feet (2 m) over it lies in the approach to the unnamed cove and the rock charted in the centre of the entrance to the same cove is a very small treed islet. Pass to the east of the rock and islet.

420 **Busey Creek**, 2.3 miles NNW of Alston Cove, is on the west side of Laredo Inlet. A detached rock that dries 2 feet (0.6 m) is 0.2 mile east of the entrance to Busey Creek.

 421 **Kohl Island** and **Pocock Island**, close north, and an unnamed island close south of Kohl Island lie off the west shore of Laredo Inlet. **Weld Cove**, west of Pocock Island, is reported to afford well-sheltered **anchorage**. The cove can be entered either side of Kohl Island but the passage between Kohl and Pocock Islands is the easiest. Two rocks that dry 7 feet (2.1 m) lie close NW of Kohl Island.

 422 **Bay of Plenty**, 1 mile north of Pocock Island, is encumbered with islets and rocks. It is reported that this is a popular, well-protected **anchorage** for small craft.

423 **Burr Rock**, which dries 8 feet (2.4 m), lies in the middle of the fairway of Laredo Inlet 2.5 miles NNE of Bay of Plenty.

 424 **Fifer Cove**, east of Burr Rock, is entered between **Tuite Point** and the islands in its entrance. The fairway between Tuite Point and these islands is about 450 feet (137 m) wide with a depth of 24 feet (7.3 m). The outlet of **Bloomfield Lake** is at the south end of the cove. **Anchorage** for small craft can be obtained in Fifer Cove.

425 **Mellis Inlet** is entered 1.5 miles north of Burr Rock. **Nias Creek** and **Packe Creek** drain into the head of the inlet.

426 **Brew Island** is separated from a small peninsula at the head of Laredo Inlet by a narrow boat passage. The channels on both sides of the island are deep. An islet lies 0.1 mile south of the south extremity of Brew Island. Several creeks flow into the inlet east and west of Brew Island. **Arnoup Creek** and **Buie Creek** flow into the head of Laredo Inlet.

427 **Directions**. — Enter Laredo Inlet with the south extremity of Croft Island ahead, bearing 047° ; this course will pass midway between Duffy Rock and the west extremity of Aitken Islands. When the south extremity of Laidlaw Islands is


abeam alter course to bring Mansell Point ahead, bearing 005°, and maintain this course until the north extremity of Croft Island is abeam, then alter course NE to pass Hilbert Point in mid-channel and then maintain a mid-channel course up the inlet to Burr Rock. Burr Rock can be passed on either side, but the straighter channel to the east of the rock is preferred.


Laredo Channel

428 **Laredo Channel** ($52^{\circ}40'N$, $129^{\circ}00'W$) connects Laredo Sound with Caamaño Sound. The banks in mid-channel between Wilson Rock and Ramsbotham Islands, 3 miles NW, have several shoals on them which rise steeply from the bottom; soundings will give little warning of these shoals.


429 The coast of Princess Royal Island, between Dallain Point and Kent Inlet, 5.5 miles NW, is fringed by drying and below-water rocks extending 0.3 mile offshore. The coast of Aristazabal Island has several shoals and drying rocks up to 0.3 mile offshore.

430 The fairway through Laredo Channel lies on the NE sides of Wilson Rock and Ramsbotham Islands and on the west side of Morehouse Rock; depths in the fairway are great.

 431 **Caution.** — Surveys in 1979 found shoaler depths than charted in Laredo Sound north of $52^{\circ}23'N$ and in Laredo Channel. The 1982 edition of *Chart 3728* embodies this new information. The current editions of *Charts 3975* and *3726* embody new information from these surveys only on least depths over principal shoals and dangers inside the 10 fathom (18.3 m) contour. The new *Chart 3981* contains new information from recent surveys, but it is recommended that the mariner consult the source class diagram on the chart for clarification. Deep draught vessels and tows with deep catenaries should follow the routes described under “Directions”.

 432 **Magnetic anomalies** of as much as 4° have been reported (1979) in the vicinities of Wilson Rock, Ramsbotham Islands and Morehouse Rock.

433 **Tides.** — Tidal differences in Laredo Channel, referenced on Bella Bella, are given for Smithers Island (Index No. 9067) in the Tide Tables, Volume 7.

 434 **Tidal streams.** — See chartlets under Laredo Sound, earlier in this chapter. At the north end of Laredo Channel, midway between Ulric and McPhee Points, the north-going flood stream from Laredo Channel meets the flood stream passing around the north end of Aristazabal Island and can cause tide-rips in that locality at springs.


435 The ebb stream divides in mid-channel off Ulric Point, one portion sets round the north end of Aristazabal Island, the other sets fairly down Laredo Channel.

436 The tidal stream in Laredo Channel turns to ebb about 1 hour after HW at Prince Rupert off Ulric Point and about 2 hours after HW at Prince Rupert off the Ramsbotham Islands. The stream is fairly constant in direction, setting SE parallel to shore, and attains about 1 kn off Ulric Point, ½ kn in the centre and east part of the channel, and up to 2 kn off Ramsbotham Islands.

437 The tidal stream turns to flood about 4 hours before HW at Prince Rupert off Ulric Point and about 6 hours before HW at Prince Rupert off Ramsbotham Islands. The stream sets NW past Ramsbotham Islands and attains 1½ kn but off Ulric Point it tends to be erratic in direction and attains 1 kn.

438 South of Wilson Rock the flood stream normally runs parallel with shore in a NW direction until about 3 hours before HW slack when it usually sets fairly consistently about 280° across the channel. Between Wilson Rock and Ramsbotham Islands, at about mid-tide, the stream can set diagonally across the channel toward the south shore. In both cases, a backeddy can be present along the shore at this time.

439 **Walsh Rock** ($52^{\circ}38'N$, $128^{\circ}57'W$), which dries 13 feet (4 m) and is steep-to on its east side, is 0.3 mile offshore 2 miles NW of Tildesley Point. **Fernie Point**, 1.6 miles NW of Walsh Rock, is steep-to.

 440 Walsh Rock **light** (624.8) is shown at an elevation of 23 feet (7 m) from a white tower.


441 **Wilson Rock**, 1 mile ENE of Fernie Point, lies nearly in mid-channel. In summer and autumn, it is usually marked by a large area of kelp.

442 Wilson Rock **light and bell buoy** “E75” (625), close east of the rock, is a port hand buoy. Port hand **buoy** “E77” marks a shoal 0.5 mile NW of Wilson Rock.

443 **Richardson Range**, on the NE side of the channel, commences about 2 miles north of Dallain Point, previously described. **Mount Irving**, 7 miles north of Dallain Point, is a conspicuous cone-shaped mountain. A peculiarly shaped promontory, 3 miles NW of Dallain Point, with sandy beaches on each side, was the site of a First Nation village.

444 **Fishing boundary markers** are on Aristazabal Island 1.7 miles SE and 1.4 miles NW of Ramsbotham Islands light. On Princess Royal Island, markers are 2.1 miles east and 1.5 miles north of Ramsbotham Islands light.

445 **Ramsbotham Islands**, on the SW side of the channel and about 3 miles NW of Wilson Rock, consist of three islands and several islets. Foul ground with drying and below-water rocks extends 0.4 mile SE from the SE end of the islands.

 446 Ramsbotham Islands **light** (626), on the east extremity of the islands, is shown at an elevation of 21 feet (6.3 m) from a skeleton tower.

447 The mouth of a creek on Aristazabal Island, west of the south end of Ramsbotham Islands, is filled with drying flats and has the ruins of a bridge across its entrance. An

PHILIP NARROWS LOOKING SOUTH (1987)



ENTRANCE TO LAGOON AT HEAD OF HELMCKEN INLET (1987)



abandoned limestone quarry is 0.4 mile SE of the mouth of the creek.



448 **Anchorage** can be obtained in 15 fathoms (27 m), rock and shell bottom, about 0.2 mile NE of the limestone quarry.

449 **Louis Islands**, 0.7 mile NW of Ramsbotham Islands, extend 1 mile NW along the coast of Aristazabal Island. This chain of islets and rocks has a reef that dries 15 feet (4.6 m) at the SE extremity and the largest islet, 174 feet (53 m) high, at the NW end. A narrow and shallow passage leads between these islands and the shore of Aristazabal Island.

450 **Shotbolt Point**, 1.5 miles NW of Louis Islands, is bold and steep-to. Drying ledges, with some off-lying drying reefs, are 2 miles NW of Shotbolt Point and extend about 0.2 mile off the Aristazabal Island shore. An island, at the

north end of these drying ledges, is 46 feet (14 m) high and joined to shore by drying ledges.

451 **Morehouse Rock**, with 1 foot (0.3 m) over it, is 1.3 miles NNE of Shotbolt Point on the NE side of the fairway. Shoals and irregular depths are north and NNE of this rock, between it and the shore of Princess Royal Island.

452 **Morehouse Rock light and bell buoy** "EC" (627), SE of the rock, is a starboard bifurcation buoy.

Chart 3982

453 **Baker Point**, 5.3 miles NW of Shotbolt Point, is a low sandy point. Three rocky shoals are within 0.5 mile offshore and extend 0.2 mile NW and 1.2 miles SE of Baker Point. A **fishing boundary marker** is on Baker Point.

COMMANDO INLET — EAST END OF ENTRANCE (1987)



454 Baker Point **light** (628) is shown at an elevation of 19 feet (5.8 m) from a skeleton tower.

455 **Ulric Point**, the north extremity of Aristazabal Island, is 2.5 miles NW of Baker Point; it is low and steep-to.

456 **McPhee Point** ($52^{\circ}52'N$, $129^{\circ}08'W$), on Princess Royal Island, is the NE entrance point of Laredo Channel. The bay 0.75 mile south of McPhee Point has a rock that dries 8 feet (2.4 m) close SW of the island in its south part.

457 **Directions.** — Entering the SE end of Laredo Channel, pass midway between Wilson Rock and the point on Princess Royal Island about 1 mile NE, then keep 0.5 mile from the Princess Royal Island shore, passing NE of Ramsbotham Islands and Louis Islands. When abeam Louis Islands steer to pass close-off Shotbolt Point, keeping SW then west of Morehouse Rock, then keep in mid-channel.

Charts 3911, 3975, 3982, 3981

Inlets on NE Side of Laredo Channel

458 Kent, Helmcken, Commando and Evinrude Inlets, which indent the NE side of Laredo Channel, are only suitable for small craft. Local knowledge is advised.

459 **Kent Inlet** ($52^{\circ}42'N$, $129^{\circ}00'W$) is entered south of **Loap Point**. Drying and below-water rocks extend slightly more than 0.1 mile west of Loap Point. A rock awash, 0.1 mile south of Loap Point, lies in the middle of the entrance to the inlet.



460 **Philip Narrows**, a short distance within the entrance, is less than 150 feet (46 m) wide and has a depth of 7 feet (2.1 m). **Tidal streams** in the narrows attain 6 to 8 kn at springs. A rock that dries 8 feet (2.4 m) and a rock with less than 6 feet (2 m) over it close SW are nearly in the middle of the south entrance to Philip Narrows. Pass to the

east of these rocks. Small craft should only enter at or near slack water.

461 Several drying rocks and a rock with less than 6 feet (2 m) over it are at the north end of Kent Inlet.

462 **Helmcken Inlet** ($52^{\circ}46'N$, $129^{\circ}05'W$) has **Smithers Island** in its entrance. The entrance channel north of Smithers Island is obstructed by drying rocks and dense kelp. The channel south of Smithers Island is only 150 feet (46 m) wide and has a least depth of 12 feet (3.7 m). A salt-water lagoon is connected to the head of Helmcken Inlet by a narrow passage in which there are rapids.



463 **Anchorage** and shelter for small craft can be obtained in a small bight in the south shore of Smithers Island in 8 fathoms (15 m).



464 **Commando Inlet** ($52^{\circ}47'N$, $129^{\circ}05'W$) is entered south of **Hawkins Point** through a narrow boat passage. At the east end of the boat passage, an islet is connected to the south shore by a drying ridge; depths north of the islet are 6 feet (1.8 m). **Tidal streams** in the narrow part of the entrance attain 8 to 10 kn at springs. Small craft should only enter at or near HW slack.

465 **Evinrude Inlet** ($52^{\circ}48'N$, $129^{\circ}06'W$) is entered north of Hawkins Point and its entrance is less than 450 feet (137 m) wide at its narrowest part. A rock with 10 feet (3 m) over it is on the north side of the fairway just within the entrance and 0.25 mile NE from it is a shoal with a least depth of 8 feet (2.4 m).

SURF INLET LOOKING NE ABEAM ARGYH COVE (1987)



Surf Inlet

Charts 3975, 3982, 3981

466 **Surf Inlet** ($52^{\circ}53'N$, $129^{\circ}06'W$), at the east end of Caamaño Sound, extends 12 miles NE into the coast of Princess Royal Island. Racey Inlet extends SE and Chapple Inlet and Emily Carr Inlet extend north from the entrance of Surf Inlet.

467 **Tides.** — Tidal differences for Surf Inlet (Index No. 9090), referenced on Bella Bella, are given in the Tide Tables, Volume 7.

468 **Johnstone Point** ($52^{\circ}53'N$, $129^{\circ}08'W$) is the south entrance point of Surf Inlet. **Mallandaine Point** is 1 mile north.

469 **Wearmouth Rock**, with 2 feet (0.6 m) over it, is 0.5 mile WSW of Johnstone Point and usually marked by thick kelp during summer and autumn.

470 **Sager Islands**, 1 mile west of Mallandaine Point, are on the north side of the approach to Surf and Chapple Inlets. A rock that dries 13 feet (4 m) and a rock with less than 6 feet (2 m) over it extend 0.2 mile SW from the islands. A **daybeacon** with a port hand daymark is on the south extremity of the islands.

471 **Holler Rock**, between Mallandaine Point and Sager Islands, dries 2 feet (0.6 m). A rock, with 14 feet (4.1 m) over it, is 0.1 mile south of Mallandaine Point.

Chart 3982

472 **Bryant Point**, 1.3 miles SE of Mallandaine Point, is steep and cliffy and has a rock, with 12 feet (3.7 m) over it, close west. **Argyh Cove**, 2.5 miles ENE of Bryant Point, has a rock that dries 6 feet (1.8 m) in its entrance. A conspicuous white cliff is on the opposite side of Surf Inlet, abreast Argyh Cove.

473 **Adams Point**, 2.8 miles NE of Argyh Cove, is bold. A rock that dries 5 feet (1.5 m) is close offshore just north of the point. **Adams Bay**, south of Adams Point, is too deep for anchoring.

474 **Penn Harbour**, 1.5 miles NNE of Adams Point and on the east side of Surf Inlet, has a narrow entrance, about 180 feet (55 m) wide, with a least depth of 36 feet (11 m) through it. It is well-sheltered from all winds.



475 Penn Harbour affords good **anchorage** for small vessels in 11 to 12 fathoms (20 to 22 m), mud.

476 **Directions.** — Keep in mid-channel when entering Penn Harbour and, when through the narrowest part, keep toward the NW side of the channel and anchor in the middle of the basin that forms the head of the harbour.

477 At the head of Surf Inlet, 4.5 miles NNE of Penn Harbour, are the ruined wharf and buildings of a former mining operation. A small creek, at the head of Surf Inlet, is the overflow from a dam that separates **Bear Lake** from Surf Inlet.



478 Indifferent **anchorage**, with limited swinging space, can be obtained at the head of Surf Inlet in about 17 fathoms (31 m), mud, about 0.2 mile north of the creek. **Caution** is necessary as the bottom drops steeply to depths over 40 fathoms (73 m).

479 **Directions.** — When entering Surf Inlet give Sager Islands a wide berth and pass midway between Johnstone and Mallandaine Points; thereafter maintain a mid-channel course.

480 **Racey Inlet** is entered between Johnstone and Bryant Points. **Hallet Rock**, in the middle of the entrance, has 2 feet (0.6 m) over it.

481 **Jay Islands**, 2 miles SE of Johnstone Point, are close-off the south shore of Racey Inlet.

482 **Carne Bay**, 1.5 miles SE of Jay Islands, is deep and unsuitable for anchorage. High land is on the north side of the bay and a valley extends to the east. A rock awash, opposite the middle of Carne Bay, is about 300 feet (91 m) off the SW shore of Racey Inlet.

483 **Cox Rocks**, south of Carne Bay, are a group of above-water and drying rocks almost in the middle of the fairway leading to Bone Anchorage. The fairway on the SW side of these rocks is only 500 feet (152 m) wide.

484 **Wale Island**, near the head of Racey Inlet, has a rock with 18 feet (5.5 m) over it west of its NW extremity.


A rock that dries 7 feet (2.1 m) is close-off the west shore of the island.

 485 **Bone Anchorage**, NW of Wale Island, is suitable for small vessels and **anchorage** can be obtained in 18 fathoms (33 m), mud.

486 **Directions.** — Do not attempt to enter Racey Inlet at night or in thick weather. Entrance can be made on either side of Hallet Rock, then keep in mid-channel and pass NE of the rock awash opposite Carne Bay and SW of Cox Rocks, then to the anchorage 0.15 mile NW of Wale Island.

Charts 3911, 3975, 3982, 3981

487 **Chapple Inlet** (*52°56'N, 129°08'W*) is entered between Holler Rock and Mallandaine Point. About 0.8 mile north of Mallandaine Point, the fairway is contracted to a width of about 450 feet (137 m) by islands on the west side.

 488 **Doig Anchorage**, between **Webber Island** and the west side of Princess Royal Island, affords good **anchorage** in 16 fathoms (29 m). Two rocks are about 450 feet (137 m) from the east shore of the north part of Doig Anchorage; the south rock has less than 6 feet (2 m) over it and the north one is awash.

489 **Chettleburgh Point**, 1.3 miles north of Doig Anchorage, has a drying ledge with an islet on it extending 0.1 mile north.


490 **Anchorage** for small craft can be obtained in 7 fathoms (12.8 m) in the bay west of Chettleburgh Point.

491 **Baile Island**, 0.8 mile north of Chettleburgh Point, has a drying rock and several below-water rocks close-off its south end. The passage east of a drying ledge on the east side of Baile Island is only 150 feet (46 m) wide with a depth of 12 feet (3.7 m) in the fairway. A 27 foot (8.2 m) shoal is 0.1 mile NW of the north extremity of Baile Island.

492 **Kiln Bay** has two islands on its west side. A rock, with less than 6 feet (2 m) over it, about 300 feet (91 m) NE of these islands, is on the west side of the approach to Kiln Bay.

 493 **Anchorage** for small craft can be obtained north of the islands in Kiln Bay in 11 fathoms (20 m); it is exposed to SE gales.

494 **McKechnie Point** is separated from the north end of Baile Island by a ridge on which there is a wooded islet, drying reefs and below-water rocks. An islet, east of McKechnie Point and connected to it by a drying mud flat, has a rock awash off its east side. The fairway east of the rock awash is about 75 feet (23 m) wide. Several drying and below-water rocks are in the north part of Chapple Inlet, and the head of the inlet is filled with a drying mud flat.

 495 **Emily Carr Inlet**, west of Webber Island, is encumbered by rocks and only suitable for small craft. Well-protected **anchorage** is reported to be obtainable at the head of the inlet and in the cove near the entrance. Both


anchorages have very narrow entrances and local knowledge is advised. **Holgate Passage**, north of Webber Island, is obstructed at its east end by a drying reef projecting from Webber Island.

496 **Groundings** have occurred by vessels attempting to enter the unnamed cove on the west side of Emily Carr Inlet near the entrance. The passage on the north side of the large island in the entrance to this cove is narrow, shallow and obstructed by drying rocks. The west end of this passage has a large drying rock in the centre. Mariners must favour the south side and go close to a large fallen tree. Local knowledge and prior reconnaissance at low water is recommended before any attempt is made to enter this cove.


Campania Sound


Charts 3975, 3982

497 **Campania Sound** (*52°58'N, 129°15'W*), between Campania Island on the west and Princess Royal and Ashdown Islands on the east, leads north from Caamaño Sound to Squally Channel and Whale Channel.

 498 **Tidal streams.** — See chartlets under Laredo Sound, earlier in this chapter. The north-going flood stream enters Campania Sound from Caamaño Sound and runs from 5 to 2 hours before HW at Prince Rupert; for the most part it is weak and variable. The main ebb flows north of Ashdown Island into Campania Sound.

499 **Duckers Islands** (*52°56'N, 129°12'W*) are separated from Princess Royal Island by a boat passage encumbered with drying rocks. Two rocks, 0.4 and 0.2 mile SSE of Duckers Islands, have 22 and 24 feet (6.7 and 7.3 m) over them.

 500 Duckers Islands **light** (629), on the SW extremity of the south island, is shown at an elevation of 30.5 feet (9.3 m) from a white tower.

 501 **Clarke Cove**, 2.3 miles north of Duckers Islands, has a narrow entrance with a depth of 3 feet (0.9 m) in it. A strong **tidal stream** sets through the entrance, which is only suitable for small craft at slack water.

502 **Alexander Islands** are 0.3 mile south of the SE extremity of Campania Island. Several drying and below-water rocks are west and north of these islands.

 503 Alexander Islands **light** (630.2), on the south extremity of the largest island, is shown from a mast with a white base.

504 **Eclipse Point**, 1 mile north of Alexander Islands, is the south entrance of a small bay.

505 **Dougan Point**, 4.2 miles north of Eclipse Point, has a bold and conspicuous white cliff on its SE side.



505.1 Dougan Point **light** (631.6), on the east side of Dougan Point, is shown at an elevation of 23 feet (7 m) from a white tower fitted with a green band on top.

506 **Seabrook Point**, 4.5 miles ESE of Dougan Point, is bold. **Murphy Range** is south and **Mount Cardin** is 4 miles east of Seabrook Point.

507 **Ashdown Island** is on the east side of the north end of Campania Sound. **McNeill Point** is the south extremity of Ashdown Island.



508 Ashdown Island **light** (632), on the west extremity of the island, is shown at an elevation of 29.5 feet (9 m) from a white tower with a red band at the top.

Casanave Passage

509 **Casanave Passage** (53°03'N, 129°11'W) separates Ashdown Island from Princess Royal Island and has a width of about 0.5 mile.



510 **Tidal streams** in Casanave Passage attain 3 kn on large tides with some eddies in the vicinity of Redfern Point. The streams turn to flood about 5 hours before HW at Prince Rupert and turn to ebb about 1 hour before HW at Prince Rupert.

511 **Barlow Point**, the SE point of Ashdown Island, is bold and fronted by cliffs. A rock, 4 feet (1.2 m) high, is close-off the point. Several islets and drying rocks lie between Barlow and McNeill Points.

512 A small group of islets is at the south end and on the east side of Casanave Passage. A rock that dries 19 feet (5.8 m) lies 0.1 mile north of the islets. A small bay, 1 mile NNE of the group of islets, has an island off its west entrance point and a rock, that dries 9 feet (2.7 m), is close west of this island.

513 **Redfern Point**, the NW point of Princess Royal Island, is at the north end of Casanave Passage and is steep-to.

Whale Channel

Chart 3742

514 **Whale Channel** (53°11'N, 129°08'W), between the NW sides of Ashdown and Princess Royal Islands and the south and east sides of **Gil Island**, leads NE and north from Campania Sound into Wright Sound.



515 **Vessel Traffic Services (VTS)**. — McKay Reach, Wright Sound and Grenville Channel, all at the north end of Whale Channel, are part of the main Inner Passage that leads north toward Alaska. Before crossing or joining this main channel, report your intentions in sufficient time to alert any traffic within the main channel. *See* Vessel

Traffic Services in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast* and *Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

516 **Tides**. — Tidal differences in the vicinity of Whale Channel, referenced on Bella Bella, are given for Barnard Harbour (Index No. 9115) in the Tide Tables, Volume 7.



517 **Tidal streams**. — *See* chartlets under Laredo Sound, earlier in this chapter. The flood stream makes its way north at about ½ kn up the east shore of Whale Channel, and at the north end off Home Bay it sets north around Nelly Point into McKay Reach from 6 hours after to 4 hours before HW at Prince Rupert.

518 For the most part the stream sets continuously south in the centre and along the west shore of Whale Channel; it is strongest from 3 hours before to 3 hours after HW at Prince Rupert, averaging 1¼ kn in the centre with a maximum of 2 kn. On the west side rates are ¾ to 1 kn and on the east side, off Home Bay, ½ kn. At the south end the main stream flows north of Ashdown Island into Campania Sound and attains its maximum of 3 kn in this part.

519 The range of tide appears to have little effect on the streams though there are large inequalities in the tidal stream rates; these rates can be increased or decreased by as much as 1 kn due mainly to weather conditions.

520 Due to the amount of fresh water drainage into Whale Channel the subsurface current, at times, can flow in the opposite direction to the surface current.

521 **Fawcett Point** (53°05'N, 129°17'W) is the south extremity of Gil Island. Rocks and shoal water extend 0.2 mile south of the point.



521.1 Fawcett Point **light** (631.9) is shown at an elevation of 23 feet (7 m) from a white tower.

522 **Fish Bay**, close east of Fawcett Point, has rocks on both sides of its entrance and near its head.

523 **Levy Point**, 2.7 miles east of Fawcett Point, is the north extremity of Ashdown Island.



524 Levy Point **light** (633) is shown at an elevation of 23 feet (7 m) from a white tower with a red band at the top.

525 **Taylor Bight**, in the south coast of Gil Island, is deep and exposed. An islet is on the west side of the bight.


526 **York Point**, on the east side of Taylor Bight, is steep-to.



527 York Point **light** (634), on the south extremity of the point, is shown at an elevation of 28 feet (8.4 m) from a white tower with a green band at the top.

528 **Allatt Point**, 1 mile ENE of York Point, is bold.

529 **Borde Island** is on the south side of Whale Channel in the entrance of Barnard Harbour, which is described later. **Drummond Bay** is 0.5 mile east.

 530 **Borde Island light (635)**, on the north side of the island, is shown at an elevation of 23 feet (7 m) from a skeleton tower.

531 **Molly Point** is 1 mile NNE of Allatt Point. **Camp Islet**, 1.3 miles north of Molly Point, is conspicuous. **Shrub Point**, 4.5 miles north of Camp Islet, is comparatively low and wooded. **Maple Point** is 4.8 miles north of Shrub Point.




 531.1 **Maple Point light (635.5)** is shown at an elevation of 23 feet (7 m) from a skeleton tower.

Chart 3945

532 **Leading Point**, on the east side of the channel 2.1 miles ESE of Shrub Point, has a prominent hill close east of it. **River Bight** is north of Leading Point. **Whalen Creek** flows into the north part of River Bight.

 532.1 **Leading Point light (635.3)** is shown at an elevation of 24 feet (7.3 m) from a skeleton tower.

533 **Clement Rapids**, SE of **Salmon Point**, connects River Bight to Cornwall Inlet.

 534 **Tidal streams**. — In Clement Rapids the time of HW slack varies from 1 h 30 min to 2 h 10 min after HW at Prince Rupert; the time of LW slack varies from 1 h 55 min to 3 h 20 min after LW at Prince Rupert.

535 **Cornwall Inlet** extends 6 miles SE from Clement Rapids. **Drake Inlet** extends 2 miles south from Cornwall Inlet.


536 Home Bay, at the NE end of Whale Channel, is described with Wright Sound in Sailing Directions booklet *PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound*.

Charts 3911, 3982

Barnard Harbour

537 **Barnard Harbour (53°04'N, 129°07'W)** can be entered by Aikman or Burnes Passages.

538 **Tides**. — Tidal differences for Barnard Harbour (Index No. 9115), referenced on Bella Bella, are given in the Tide Tables, Volume 7.

 539 A considerable **magnetic disturbance** is in the vicinity of both Aikman Passage and Burnes Passage.

540 **Aikman Passage**, on the west side of Borde Island, is about 0.1 mile wide between **Claudet Point** and the island; it is steep-to on both sides.

541 **Burnes Passage** leads between the east side of Borde Island and **Flett Point**. Shoal ledges on both sides of the passage reduce the fairway to about 360 feet (110 m) wide.

542 **Leighton Point**, 0.4 mile SSE of Claudet Point, is low, bare and fronted by shoal water. The bay, between Claudet and Leighton Points, is filled with drying flats and has a 1 foot (0.3 m) high rock in its entrance.

543 **Cameron Cove** is entered between Leighton Point and **Goodfellow Point**. Two wooded islets, connected to shore by drying ledges, are close-off the west shore of the cove. **Barnard Creek** flows into the head of Cameron Cove, east of **Uren Point**.

544 A floating fishing resort is reported to be in Barnard Harbour.

 545 Good **anchorage** can be obtained in the middle of Cameron Cove in 18 fathoms (33 m), sand and mud bottom.

546 **Directions**. — Enter Barnard Harbour by either Aikman or Burnes Passages keeping in the centre of the fairway. The greater part of Barnard Harbour is too deep for convenient anchorage. Approaching Cameron Cove give Leighton Point a wide berth and keep in the middle of the fairway of the cove when approaching the anchorage.

Squally Channel

Charts 3975, 3976


547 **Squally Channel (53°08'N, 129°23'W)**, between Campania and Gil Islands, is the NW continuation of Campania Sound. **Mount Gil**, near the north end of Gil Island, is a well-defined summit. Violent squalls are often experienced in Squally Channel; they descend from the high land of Campania Island. At the same time calms or light winds are often experienced in Whale Channel.

548 **Skinner Islands** are close-off the SW part of Gil Island. Foul ground and a rock that dries 6 feet (1.8 m) are 0.3 mile SSE of Skinner Islands.

Chart 3742

549 **MacDonald Bay (53°12'N, 129°20'W)**, 6 miles north of Skinner Islands, has a very narrow entrance that dries.


550 **Fernyhough Point**, 4.2 miles NW of Skinner Islands on the Campania Island shore, is steep-to.

 550.1 **Fernyhough Point light (631.7)** is shown at an elevation of 20 feet (6 m) from a white tower with a green band on top.

Lewis and Cridge Passages

Chart 3945

551 **Blackrock Point (53°13'N, 129°21'W)**, on the west side of Gil Island, is on the south side of the junction between Squally Channel and Lewis Passage.

 552 **Blackrock Point light (665.4)** is shown at an elevation of 22 feet (6.6 m) from a skeleton tower.

TUWARTZ NARROWS LOOKING NORTH (1987)



552.1 Blackrock Point Sector **light** (665.41) is shown at an elevation of 27 feet (8.3 m) from a skeleton tower.

553 **Fin Island** is between Gil Island and **Farrant Island**. **Buckle Point**, the west extremity of Fin Island, is low and shelving; it is fronted with below-water rocks. **Brant Bay** is to the south and **Hawk Bay** to the north of Buckle Point.

554 **Lewis Passage**, between Gil and Fin Islands, is entered at its west end between Blackrock Point and **Keld Point**, 1.7 miles NNW.

555 **Fin Rock**, 0.2 mile east of Keld Point, is connected to Fin Island by a drying sand spit. A reef, consisting of drying and below-water rocks, extends 0.3 mile NE of Fin Rock along the coast of Fin Island.



556 **Fin Rock light** (665.3) is shown at an elevation of 20 feet (6.1 m) from a skeleton tower.

557 **Plover Point**, the NE extremity of Fin Island, has a rock that dries 9 feet (2.7 m) and below-water rocks close-off it. **Howard Islet**, south of Plover Point, lies in the entrance of a bay that is filled with drying flats.



558 **Plover Point light** (665.1) is shown at an elevation of 12 feet (3.8 m) from a skeleton tower.



558.1 **Gil Island NW light** (665.6), SW from Plover Point, is shown at an elevation of 22 feet (6.6 m) from a skeleton tower.



558.2 **Lewis Passage light** (665.7), NW from Plover Point, is shown at an elevation of 23 feet (7 m) from a skeleton tower.

559 **Crane Bay**, in the SE part of Lewis Passage, is too deep for anchorage. **Williams Islet** is off the north entrance point to Crane Bay. Two rocks that dry 10 and 17 feet (3 and 5.2 m) are in the south end of the passage between Williams Islet and Gil Island.

560 **Cridge Passage**, between Fin and Farrant Islands, is entered at its west end between **Corbett Point** and Blossom Point. The north side of the passage is steep-to. Four islets and several drying and below-water rocks lie within 0.2 mile of the Fin Island shore of Cridge Passage.



560.1 **Cridge Passage light** (665.5) is shown at an elevation of 23 feet (7 m) from a skeleton tower.

561 **Block Head**, at the NE end of Cridge Passage, terminates in a high, bold, white cliff.



562 **Block Head light** (665.2) is shown at an elevation of 20 feet (6 m) from a skeleton tower.

563 **Blenkinsop Islet**, which has below-water rocks close south of it, is off the NE end of Fin Island and fronts **Curlew Bay**.



564 **Anchorage** for small craft can be found in the entrance to Curlew Bay, SW of Blenkinsop Islet.



565 **Vessel Traffic Services (VTS)**. — McKay Reach, Wright Sound and Grenville Channel, at the north end of Cridge and Lewis Passages, are part of the main Inner Passage that leads north toward Alaska. Before crossing or joining this main channel, report your intentions in sufficient time to alert any traffic within the channel. See Vessel Traffic Services in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast* and *Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

Tuwartz Inlet, Union Passage and Approaches

566 **Dillon Bay** ($53^{\circ}13'N$, $129^{\circ}30'W$), 0.5 mile north of McCreight Point, is a narrow indentation in the SE end of Pitt Island. An islet and a rock with less than 6 feet (2 m) over it are close-off the north entrance point.

567 **Cherry Islets**, 1 mile north, are wooded and connected to Pitt Island by a drying ledge.

568 **Betton Rocks**, 0.8 mile north of Cherry Islets, consists of a group of islets and drying and below-water rocks. Rocks that dry 5 and 8 feet (1.5 and 2.4 m) are 0.2 mile north and 0.4 mile NE of Betton Rocks.

Tuwartz Inlet

569 **Tuwartz Inlet** ($53^{\circ}18'N$, $129^{\circ}31'W$), entered between **Wilman Point** and **Leggeat Point**, extends 3 miles NNW into the SE side of Pitt Island. Detached drying reefs are 0.2 mile east of Wilman Point. Drying rocks are 0.1 mile south and 0.1 mile WSW of Leggeat Point. A bushy islet, 0.2 mile SSW of Leggeat Point, lies in the entrance of Tuwartz Inlet.

570 **Tuwartz Narrows**, 1.7 miles NNW of Leggeat Point, is about 150 feet (46 m) wide at its south end. The passage through the narrows is only suitable for small craft at or near slack water. A rock that dries 15 feet (4.6 m) is just within the south entrance, near the east shore. Three treed islets, on a common drying reef, are at the north end of Tuwartz Narrows; there is a narrow passage on either side of this reef. The passage on the east side of the islets is deeper.

571 **Cridge Lagoon**, at the north end of Tuwartz Inlet, is obstructed by a drying flat at its entrance.

Union Passage

572 **Union Passage**, between Farrant and Pitt Islands, leads from the north end of Squally Channel into Grenville Channel. The least depth in the fairway through Union Passage is 2.3 m, encountered in the middle of Hawkins Narrows.

573 **Mollison Point** ($53^{\circ}17'N$, $129^{\circ}29'W$) is on the west side of the south approach to Union Passage. **Blossom Point**, 2.6 miles ENE, is on the east side of the south approach.

574 **Ascroft Islet** is 0.8 mile north of Blossom Point. Several islands, drying and below-water rocks are NE of Ascroft Islet, between it and the shore of Farrant Island.

575 **Hinton Island**, 2 miles NNW of Blossom Point, separates Union Passage from Payne Channel. **Minnis Bay** penetrates the south side of Hinton Island. **Hale Point** is the west entrance point to Minnis Bay. An islet on a drying ledge, some drying reefs, and a rock with less than 6 feet (2 m) over it, extend 0.3 mile SSE from the point.

Chart 3946

576 **Payne Channel** separates Hinton Island from Pitt Island. **Mitchell Cove**, at the north end of Payne Channel, offers protection from all but south winds. A rock that dries 12 feet (3.7 m) is on the east side of the approach to the cove.

577 **Hoey Narrows**, between the NW end of Hinton Island and an islet west of it, is less than 300 feet (91 m) wide with a depth of 21 feet (6.4 m) in its fairway.

578 **Edwards Islet**, 0.3 mile east of Hinton Island, is surrounded by drying ledges and shoal water, and has depths under 6 fathoms (11 m) between it and Hinton Island.

579 Above Edwards Islet, Union Passage gradually narrows to **Peters Narrows** where it becomes a narrow boat passage about 80 feet (24 m) wide between the 3 fathom (5.5 m) lines. The narrows has a least depth of 21 feet (6.4 m) in the fairway.

580 An islet, 0.3 mile north of Peters Narrows, lies in the middle of the fairway and has a drying ledge extending from its SE side. The coves on both sides of the fairway between Peters and Hawkins Narrows, 2 miles north, provide good shelter for small craft in convenient depths.

581 **Hawkins Narrows**, at the north end of Union Passage, has a least depth of 2.3 m in the fairway. A rock with less than 6 feet (2 m) over it is in the south entrance of Hawkins Narrows and another is 0.1 mile north.

582 **Tidal streams** in Peters Narrows attain a maximum of about 7 kn and in Hawkins Narrows about 8 kn. Slack water in Hawkins Narrows occurs 15 minutes before HW and LW at Prince Rupert; duration of slack is about 5 minutes. The ebb flows north in Hawkins Narrows and south in Peters Narrows.

583 **Union Passage Marine Park** encompasses the north end of Union Passage, Hawkins Narrows and the east shore of Grenville Channel for about 3 miles north of the narrows. It is undeveloped.

584 Grenville Channel is described in Sailing Directions booklet *PAC 205—Inner Passage—Queen Charlotte Sound to Chatham Sound*.

Estevan Sound

Charts 3912, 3982, 3983

585 **Estevan Sound** ($52^{\circ}58'N$, $129^{\circ}26'W$) separates the Estevan Group from Campania Island, and connects Caamaño Sound to Nepean Sound. **Campania Island** has high mountains, some of which are bare, in its SE part. Mount Pender has a bare, dome-shaped, summit which makes a conspicuous landmark. The NW and SW extremities of the island are comparatively low and wooded.

586 **Tidal streams** at the south end of Estevan Sound, between Dupont Island and Estevan Group, set NE on the flood and SW on the ebb. A maximum of 1¼ kn has been observed on the flood; the ebb is generally stronger.

587 **Michael Bank** ($53^{\circ}03'N$, $129^{\circ}31'W$), in the middle of the fairway through Estevan Sound, has 21 fathoms (38 m) over it. This bank is a large mound of bedrock with steep sides.

Charts 3975, 3982



588 **Emergency anchorage.** — An area in the centre of the fairway and at the south end of Estevan Sound was examined in 1977 as a possible emergency anchorage for large vessels. The area examined was a rectangle, approximately 1 mile wide, east of Hickey and Glide Islands. The co-ordinates of the area examined are

52°59.6'N 129°29.0'W

53°00.4'N 129°27.6'W

52°57.3'N 129°25.7'W and

52°58.0'N 129°24.3'W.



589 Seventy bottom samples obtained show the bottom to be a uniform mix of sand, gravel and pebbles. A few core samples taken only penetrated about 6 to 8 inches (15.2 to 20.3 cm) and showed a layer of pebbles on top of sand and shell. Depths in this emergency anchorage area range from 25 to 45 fathoms (46 to 82 m). Although it is possible to anchor in an emergency in the area examined, and the overall holding ground appears to be fairly good, it is exposed to all directions but the east and lies in the middle of the fairway. If it is necessary to **anchor** in this area mariners are reminded to make the anchorage report required by Vessel Traffic Services (VTS). See Vessel Traffic Services in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast* and *Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

Estevan Sound — West Side

590 Dupont Island (52°56'N, 129°26'W) and its lights, at the south entrance to Estevan Sound, are described earlier in the chapter under Caamaño Sound.

591 **Blinder Rock**, 1.7 miles NW of Dupont Island, has less than 6 feet (2 m) over it. A rock that dries 5 feet (1.5 m) is close north and a rock islet 5 feet (1.5 m) high and a below-water rock are 0.4 mile SW of Blinder Rock.

592 **Glide Islands**, 2 miles NW of Dupont Island, have drying and below-water rocks extending 0.2 mile east from their east extremity.

593 **Ecological Reserve.** — Blinder Rock, Glide Islands and Dewdney Island are an Ecological Reserve and is closed to the public.

594 **Estevan Reef**, consisting of several rocks that dry from 3 to 15 feet (0.9 to 4.6 m), lies midway between Glide Islands and the SE side of Dewdney Island. **Hickey Islands**, NW of Glide Islands, lie off the north entrance of the bay between Goodacre and Humphreys Points. The bay is encumbered with numerous above-water, drying and below-water rocks. Passages, which have not been surveyed, lead between Dewdney and Lotbinière Islands from the NW end of the bay.

595 **Humphreys Point**, 1.8 miles north of Hickey Islands, is bold. The bay 1 mile NW of Humphreys Point is encumbered with rocks.

596 **Trouble Passage**, entered 2.2 miles NW of Humphreys Point, is obstructed by islands and rocks; it leads to Langley Passage.

Charts 3976, 3975

597 Devlin Bay (53°04'N, 129°36'W), on the north side of Prior Island, as well as Gillespie Channel and Langley Passage are described later in this section.

598 **Geodetic Cove** is 2.3 miles NNW of Devlin Bay.

599 **Conspicuous microwave antennas** are on the west summit of Musgrave Peaks.

Charts 3912, 3982

Estevan Sound — East Side

600 The SW shore of Campania Island, between Alexander Islands (52°57'N, 129°18'W), previously described, and Cartwright Rocks, 6.5 miles NW, is fronted by numerous islets, drying reefs and below-water rocks that extend up to 0.7 mile offshore.

601 **Cartwright Rocks** (53°02'N, 129°27'W), 0.5 mile off the coast of Campania Island, are a group of above-water, drying and below-water rocks. Rocks that dry 18 feet (5.5 m) and a rock with a depth of 21 feet (6.4 m) over it are 0.5 mile SW and west of Cartwright Rocks. A previously uncharted rock with a depth of 1½ fathoms (2.9 m) over it is on the north

GILLESPIE CHANNEL EAST ENTRANCE (1986)



side of the passage between Cartwright Rocks and the group of rocks 0.3 mile east of Logan Rock light.

602 **Logan Rock**, 0.7 mile SSW of the south extremity of **Jewsbury Peninsula**, has a depth of 15 feet (4.6 m) over it. A group of above-water, drying and below-water rocks is 0.4 mile south of Logan Rock.



603 **Logan Rock light (630.5)**, on a drying rock about 0.4 mile SSW of the rock, is shown at an elevation of 49 feet (15 m) from a white tower.

Chart 3742

604 The west coast of **Campania Island** north of **Jewsbury Peninsula** ($53^{\circ}06'N$, $129^{\circ}30'W$) is fringed by numerous drying reefs and below-water rocks; it should be given a wide berth. The inlets penetrating this coast are described later in this section.

Charts 3742, 3982

605 **Directions.** — Entering **Estevan Sound** from **Caamaño Sound** the best approach is east of **Dupont Island**. If passing west of **Dupont Island** keep close to the islets north of the island to avoid the rocks south and east of **Glide Islands**. Give the coast of **Campania Island** a wide berth by keeping in the fairway, but nearer the west shore. In thick weather soundings will be of assistance.

Charts 3975, 3795

Devlin Bay and Langley Passage

606 **Devlin Bay** ($53^{\circ}04'N$, $129^{\circ}36'W$) is the entrance to **Gillespie Channel**, which leads into **Langley Passage**. An islet in the middle of **Devlin Bay**, 0.3 mile off the south shore, has an elevation of about 50 feet (15 m). Foul ground lies between the islet and the south shore. A rock that dries 6 feet (1.8 m) is close north, two rocks that dry 4 and 9 feet (1.2 and 2.7 m) are 0.25 mile SE of the islet.

606.1 **Narwhal Reef**, with rocks that dry 0.7 and 4.6 feet (0.2 and 1.4 m), lies in SE **Devlin Bay**.

607 **Sekani Reef**, 0.4 mile SW of the above-mentioned islet, has less than 6 feet (2 m) over it. Starboard hand buoy “E86” is close south of the reef.

608 **Sekani Island**, at the west end of **Devlin Bay** and on the NW side of **Gillespie Channel**, has drying reefs extending east and NE from its NE end. The island is connected to **Trutch Island** by a drying ledge at its west end.



609 **Anchorage** for small vessels can be obtained in 8 fathoms (14.6 m) north of the north extremity of **Sekani Island**.

610 **Buoys.** — The fairways through **Gillespie Channel** and the east part of **Langley Passage** are marked in places by starboard and port hand **buoys**, but not all dangers are marked. The upstream direction for buoyage is proceeding from east

to west. White posts on the shore, although appearing to be ranges, do not lead through the fairway.

611 **Gillespie Channel**, between **Sekani** and **Prior Islands**, is entered SE of **Sekani Reef**; it should only be attempted at slack water. A drying reef on which there is a chain of islets lines the SE shore of **Sekani Island**. A wooded islet in the middle of a drying reef lies close-off the **Prior Island** shore of **Gillespie Channel**. The narrow fairway through **Gillespie Channel** lies between the drying reef and islets off the SE shore of **Sekani Island** and the drying reef and wooded islet close-off **Prior Island**. The passage has a least depth of 21 feet (6.4 m) and is marked by starboard hand buoy “ET2”.



612 **Tidal streams** in the narrowest part of **Gillespie Channel** attain at least 7 kn at springs. HW slack occurs 1 h 25 min after the time of HW at **Prince Rupert**. Duration of HW slack is 30 to 45 minutes. LW slack occurs 30 minutes after the time of LW at **Prince Rupert**. Duration of LW slack is 10 to 15 minutes.

613 **Fairchild Point** is the south extremity of **Trutch Island**. A group of drying rocks and rocks with less than 6 feet (2 m) over them extends 0.1 mile SE from **Fairchild Point**.

614 A small islet, 0.15 mile SW of **Fairchild Point**, is on the south side of the fairway and has a few trees on it. A reef with drying and below-water rocks on it extends 0.1 mile NW from the islet.



615 **Anchorage** for small craft can be obtained in 7 fathoms (12.8 m) off the mouth of a small creek in the shore of **Barnard Island**, about 0.3 mile SW of **Fairchild Point**.

616 The channel leading SE from **Fairchild Point**, between **Prior** and **Barnard Islands**, leads to **Trouble Passage**, which is obstructed by islands and rocks, and to the unsurveyed channel, reported to dry, between **Lotbinière** and **Barnard Islands**.

617 **Langley Passage**, entered west of **Fairchild Point**, separates **Barnard** and **Nichol Islands** on its south side from **Trutch Island** to the north. The west entrance to **Langley Passage**, between the SW end of **Trutch Island** and the NW end of **Nichol Island**, is encumbered with drying rocks through which there is a shallow, narrow channel. Even in moderate weather the sea breaks across this entrance, therefore this approach to **Langley Passage** is not recommended.



618 A rock with a depth of 10 feet (3 m) over it and some drying rocks, 0.3 mile NW of **Fairchild point**. A chain of islets and drying and below-water rocks, 0.9 mile NW of **Fairchild Point**, extends across the passage and almost blocks it. The channel between the north end of these reefs and the shore of **Trutch Island** is very narrow with a least depth of 21 feet (6.4 m) in its narrowest part but it is the route used to proceed to **Ethelda Bay**. The channel between the south end of these reefs and the **Barnard Island** shore leads to a well-sheltered **anchorage** south of **Tennant Island**.

619 **Ethelda Bay**, west of Tennant Island, has a facility on the west side that is unoccupied and in a state of disrepair.



620 Ethelda Bay affords good **anchorage** near its head in 14 fathoms (25.6 m), mud bottom.

621 **Meteorological information and frequency of fog information** for Ethelda Bay are given in the Appendices.

622 The unnamed bay 0.4 mile NNE of Ethelda Bay, on the N side of Langley Passage, is used for mooring barges to allow supplies to be delivered by helicopter to communication facilities on the summit of Trutch Island.

623 The shores of Langley Passage west of Ethelda Bay are very indented and fringed with islets and drying rocks. As previously mentioned, the west entrance is not recommended. The entrance between Barnard and Nichol Islands has not been completely surveyed and is encumbered with rocks.

Charts 3912, 3742, 3982

Inlets in Campania Island

624 **McMicking Inlet** ($53^{\circ}03'N$, $129^{\circ}27'W$) is entered south and east of a chain of islets and drying reefs extending 0.3 mile south from the south end of Jewsbury Peninsula. Logan Rock (previously described), several drying reefs and rocks with less than 6 feet (2 m) over them lie in the approach to, and in the entrance of McMicking Inlet. Drying rocks lie close-off the shores throughout the inlet and a rock with less than 6 feet (2 m) over it is in the middle of the north basin. Local knowledge is advised.

625 **Betteridge Inlet**, between Jewsbury Peninsula and **Finlayson Peninsula**, is encumbered with islands and rocks. Numerous islets, drying and below-water rocks encumber its entrance. The best passage leading into Betteridge Inlet is between **Hale Islet** and a rock that dries 0.3 m 450 feet (137 m) west of the south end of the islet. Hale Islet is steep-to on its west side and the rock awash is sometimes marked by kelp.

626 **Clifford Rocks** are a chain of rocks that dry 1 to 15 feet (0.3 to 4.6 m) lying in a NW/SE direction across the west entrance to Betteridge Inlet. A group of islands, connected by drying rock ledges, and numerous drying rocks extend 0.4 mile west of Finlayson Peninsula.

627 **Weinberg Inlet** can be entered either south or north of **Langthorne Island**, through **Dunn Passage** or **Anderson Passage**. Numerous drying and below-water rocks lie throughout the inlet.

628 **Harwood Bay**, 1.2 miles north of Anderson Passage, is open to the SW and too exposed for anchorage.

629 **Harlan Point** ($53^{\circ}09'N$, $129^{\circ}34'W$) is the west extremity of Campania Island.

630 **Lindsay Bay**, north of Harlan Point, is open to the SW and too exposed for anchorage. **Boyko Rock**, with a depth of 18 feet (5.5 m) over it, is off the entrance.

Nepean Sound

Chart 3945

631 **Nepean Sound** ($53^{\circ}14'N$, $129^{\circ}40'W$) is the junction of Estevan Sound, Otter Passage, Principe Channel and Otter Channel.

632 **Ring Point** ($53^{\circ}13'N$, $129^{\circ}36'W$), at the SW extremity of Pitt Island, is high, bold and conspicuous. **Fleishman Point**, 0.8 mile SE, is lower and less conspicuous. **Mount Hulke** rises 3.5 miles NNE of Fleishman Point.

633 **Nepean Rock**, 0.5 mile SW of Ring Point, dries 7 feet (2.1 m) and has shoal rocks extending 0.5 mile SSE.

634 Nepean Rock South Cardinal **light and bell buoy** "EM" (741.5), SW of Fleishman Point at the west entrance to Otter Channel, is fitted with a **Racon** (— •).

Otter Channel

635 **Otter Channel** leads between Campania and Pitt Islands and connects Nepean Sound to Squally Channel, Lewis Passage, Cridge Passage and Union Passage.



636 **Tidal streams** in Otter Channel attain 1½ kn on large tides. The stream sets east fairly constantly through this channel on small tides; on large tides it sets west from 6 hours before to 1 hour after HW at Prince Rupert.

637 **Marble Rock**, off Campania Island at the SW entrance to Otter Channel, is 10 feet (3 m) high and white.

638 **Sharp Bay**, 0.5 mile SE of Marble Rock, has two islets close-off its west entrance point. A rock, with less than 6 feet (2 m) over it, is near the head of the bay.

639 **Paige Point**, 1 mile ENE of Marble Rock, forms the north side of a small unnamed cove.



639.1 Paige Point Sector **light** (741.8) is shown at an elevation of 26 feet (8 m) from a skeleton tower.

640 **Fanny Point**, 1.8 miles east of Paige Point, is the NW extremity of Campania Island. A rock with less than 6 feet (2 m) over it lies close-off the point.



640.1 Fanny Point **light** (741.7) is shown at an elevation of 26 feet (8 m) from a skeleton tower.

641 **McCraith Point**, 1.2 miles NNW of Fanny Point, is the south extremity of Pitt Island. The point terminates in a high, bold, white cliff.



642 McCraith Point **light** (741.3) is shown at an elevation of 39.4 feet (12 m) from a skeleton tower.

Principe Channel

Charts 3984, 3985, 3986

643 **Principe Channel** ($53^{\circ}15'N$, $129^{\circ}43'W$) between the east side of Banks Island and **Pitt Island** and McCauley Island, to the west, leads from Nepean Sound to Browning Entrance. Petrel Channel, on the NE side of Principe Channel, separates Pitt Island from McCauley Island and leads NW to Ogden Channel and the Inner Passage.

644 **Tides.** — Tidal differences for Block Islands (Index No. 9165), referenced on Bella Bella, and for Larsen Island (Index No. 9232), referenced on Prince Rupert, are given in the Tide Tables, Volume 7.



645 **Tidal streams.** — In Principe Channel the NW-going flood stream approaches mainly by Estevan Sound, being joined in Nepean Sound by the flood stream which enters through Otter Passage. At the NW end of Principe Channel, in the vicinity of Deadman Islet and Baird Point, the flood stream setting NW through Principe Channel is met by the flood which has passed up the outside of Banks Island. The ebb tidal stream runs out mainly by Otter Passage. Both streams attain 2 to 3 kn.

Chart 3742

Ring Point to Gale Point

646 Ring Point ($53^{\circ}13'N$, $129^{\circ}36'W$), together with Nepean Rock and its light buoy, are described earlier with Nepean Sound.

647 **Principe Islets** ($53^{\circ}15'N$, $129^{\circ}38'W$), 1.5 miles NW of Ring Point, are wooded and extend 0.4 mile from the Pitt Island shore. An islet between Ring Point and Principe Islets is about 0.2 mile from the Pitt Island shore. Drying and below-water rocks extend 0.4 mile west and SW from this islet.

648 The coast of Pitt Island between Principe Islets and Monckton Inlet, 4.5 miles NW, has several small indentations but most are encumbered with rocks.

649 Monckton Inlet, Port Stephens and Buchan Inlet are described later in this section.

650 **Oar Point** is 7 miles NW of Monckton Inlet. Several drying and below-water rocks lie up to 0.2 mile offshore along this section of the coast.

651 **Deer Point** ($53^{\circ}13'N$, $129^{\circ}45'W$), on the SE side of Banks Island, is a small peninsula which from a distance appears to be an islet.

652 **Gale Point**, 4.5 miles NNW of Deer Point, is high, bold and prominent.



652.1 Gale Point **light** (739.5) is shown at an elevation of 31 feet (9.5 m) from a skeleton tower.

Gale Point to Foul Point

653 **Keecha Point** ($53^{\circ}19'N$, $129^{\circ}50'W$) is 1.5 miles NW of Gale Point. A shoal spit, with a rock that dries 8 feet (2.4 m) near its inner end, extends 0.3 mile east from the point. A group of rocks that dry 8 feet (2.4 m) and a rock with less than 6 feet (2 m) over it are 0.5 mile SE of Keecha Point and about 0.2 mile off the coast.

654 **Kooryet Bay**, 2.3 miles NNW of Keecha Point, with **Kooryet Island** off its north entrance point, is partially blocked by several islets and drying reefs. Confined shelter for small craft can be found in the south end of the bay, clear of the shoal rocks. Local knowledge is advised.

655 **Joseph Hill**, about 1 mile west of Kooryet Bay, is a remarkable bare summit.

656 A small inlet, 0.8 mile NNW of Kooryet Island, offers shelter for small craft. An islet lies in the entrance to this inlet and the passage NW of the islet dries but the entrance south of the islet is clear.



657 Principe Channel **light** (739), about 3 miles NNW of Kooryet Island, is shown at an elevation of 20 feet (6.1 m) from a skeleton tower.

658 A small bay, 1.2 miles NW of Principe Channel light, has drying ledges with islets on them extending off both entrance points. A rock that dries 10 feet (3 m) and a rock with less than 6 feet (2 m) over it lie on the south side of the entrance to the bay. *See Chart 3721.*

659 **Limestone Bay**, 3.7 miles NW of Principe Channel light, has a rock that dries 2 feet (0.6 m) in the centre of it. **Despair Point** forms the north side of Limestone Bay and has a rock that dries 10 feet (3 m) close-off it.

660 **Patsey Cove**, 3 miles NW of Despair Point, is filled with a drying flat. **Donaldson Creek** flows into the head of Patsey Cove.



660.1 Banks Island Middle **light** (738.5) north of Patsey Cove is shown at an elevation of 25 feet (7.7 m) from a skeleton tower.

661 **Anger Island** is on the NE side of Principe Channel, NE of Despair Point. The SW coast of Anger Island, between Ralston Islands and Foul Point, is fronted by drying reefs extending 0.4 mile from shore.

662 **Ralston Islands**, off the SW side of Anger Island, have a drying reef with four islets on it off their SE extremity. **Trade Islets** lie 0.7 mile SE of Ralston Islands and a reef that dries 21 feet (6.4 m) lies between them.



662.1 Ralston Island South **light** (738.7) is shown at an elevation of 30 feet (9 m) from a white tower with a red band on top.

663 **Foul Point** is the west extremity of Anger Island. **Freberg Islet**, 0.1 mile SW of Foul Point, is joined to Anger Island by a drying reef.

Inlets on the SW Coast of Pitt Island


 664 Several inlets, on the NE side of Principe Channel, penetrate the SW coast of Pitt Island and afford **anchorage**. Monckton Inlet, Port Stephens and Moolock Cove offer anchorage to vessels of moderate size. Small craft can find shelter and anchorage in Buchan Inlet, Lundy Cove, Patterson Inlet and Miller Inlet.


Chart 3721

665 **Monckton Inlet** ($53^{\circ}19'N$, $129^{\circ}39'W$) is entered north of Cranston Island. A sill across the inlet about 0.8 mile east of Monckton Point has a depth of 11 fathoms (20.1 m). A **fishing boundary marker** is on the south entrance point.

666 **Cranston Island** is wooded. A small wooded islet 70 feet (21 m) high, 0.25 mile NNE of Cranston Island, is on the north side of the entrance to Monckton Inlet. Drying reefs are 0.1 mile NW of this wooded islet and extend east from it, almost connecting to a larger unnamed island.

667 The bay to the east of **Monckton Point** has a reef that dries 6 feet (1.8 m) about 0.1 mile off its east side, and a 27 foot (8.2 m) shoal in the middle of its entrance.

668 **Roy Island**, 3 miles east of Cranston Island, lies in the entrance of an arm that extends 1 mile north. Numerous below-water rocks lie in the middle of the arm.


 669 **Anchorage** can be obtained about 0.2 mile SE of Roy Island in 13 to 20 fathoms (24 to 37 m), mud bottom. Anchorage can also be obtained near the head of Monckton Inlet in 11 to 14 fathoms (20 to 26 m).

670 **Ettershank Islands** ($53^{\circ}19'N$, $129^{\circ}42'W$) are between Cranston Island and Centre Point. **Centre Point** is the SW extremity of a chain of islets extending from the SW shore of Port Stephens. **Littlejohn Point**, 0.4 mile WNW of Centre Point, is dome-shaped with white cliffs and has a **fishing boundary marker** on it.

671 **Port Stephens** is entered between Centre and Littlejohn Points. A 27 foot (8.2 m) shoal lies on the east side of the fairway, about 0.4 mile ENE of Littlejohn Point. A prominent bare white patch on a cliff face is on the south side of Port Stephens about 1 mile NE of Centre Point.

672 **Stephens Narrows**, 2 miles inside the entrance of Port Stephens, has an island at its east end. The narrow boat passages north and south of this island dry and should only be navigated at or near HW slack. At other stages of tide, the rapids frequently form a waterfall creating considerable foam in the anchorage.

673 East of Stephens Narrows there is a basin with a narrow channel at its NE end that is encumbered with below-water rocks. This narrow channel leads into **Leavitt Lagoon**.

 674 **Anchorage** can be obtained in Port Stephens, west of the entrance to Stephens Narrows, in about 20 fathoms (37 m), sand and rock.

675 **Buchan Inlet**, suitable only for small craft, is entered north of an island close-off **Tweedsmuir Point** ($53^{\circ}22'N$, $129^{\circ}47'W$). Drying reefs and below-water rocks lie close offshore south and north of the entrance.

676 **Elsfield Point**, 0.3 mile north of Tweedsmuir Point, has a rock with less than 6 feet (2 m) over it close east and another 0.1 mile north of it. Drying rocks, the highest of which dries 15 feet (4.6 m), fringe the shore close south of Elsfield Point.


677 A narrow passage, 0.3 mile north of Elsfield Point, has islets and rocks extending from its east side. The fairway through this passage is close to the west shore and has a least depth of 6 feet (1.8 m).

678 **Lundy Cove** ($53^{\circ}25'N$, $129^{\circ}50'W$) has, in its outer part, a narrow drying channel with **tidal rapids** leading north into a lagoon. A rock that dries 3 feet (0.9 m) is 0.2 mile south of the entrance to this lagoon.

679 Drying ledges, on which there are a number of islets, extend across Lundy Cove about 0.5 mile within the entrance. A very narrow boat passage, near the NE end of these drying ledges, leads into the basin at the head of Lundy Cove. **Tidal rapids** run through this passage and local knowledge is advised to navigate it.

680 **Annie Point**, 0.8 mile north of Lundy Cove, has a **fishing boundary marker** on it. The entrance to a lagoon, 0.2 mile south of Annie Point, has **tidal rapids** through it and dries at LW.


681 **Sewell Islet**, NW of Lundy Cove, lies in the approach to Patterson Inlet and Mink Trap Bay. The islet is surrounded by foul ground and has shoals 0.2 mile NNW of it. **Nesbitt Rock**, 0.9 mile NW of Sewell Islet, is wooded.

 682 **Patterson Inlet**, entered between Annie Point and Rungé Island, is 300 feet (91 m) wide at its narrowest part and branches into two arms about 2 miles from its entrance. The fairway up Patterson Inlet is clear and small craft can find **anchorage**, mud bottom, near the head of either arm at its head.

683 **Rungé Island** ($53^{\circ}26'N$, $129^{\circ}51'W$) has drying reefs with small islets on them extending west and north from it and shoals lying up to 0.2 mile west and NW. A shoal, with a least depth of 9 feet (2.7 m), is 0.2 mile west of the north end of Rungé Island.

684 **Mink Trap Bay**, entered north of Rungé Island, has **Burns Bay** at its head.

685 **Moolock Cove** is entered through a narrow channel at the NE end of Mink Trap Bay. Drying and below-water rocks encumber the south end of this cove.

 686 **Anchorage** can be obtained in Moolock Cove, 0.2 mile east of the entrance channel, in 25 fathoms (46 m); the holding ground is indifferent. Small craft can anchor closer to shore. During SE gales, furious gusts blow

over the narrow neck of land that separates Moolock Cove from Patterson Inlet.

687 **Hodgson Cove**, 1.5 miles NW of Rungé Island, is fronted by several large islands and provides shelter for small craft. A drying reef with several islets on it extends 0.1 mile east from the west entrance point and a drying reef is about 200 feet (61 m) NW from its east entrance point. The entrance is narrow; stay in mid-channel between the two drying rocks off the above-mentioned drying reefs.

688 **Becker Point** ($53^{\circ}28'N$, $129^{\circ}54'W$) is the south entrance point of Miller Inlet. Drying and below-water rocks fringe the shores around this point, and a group of wooded islets with drying and below-water rocks lie up to 0.2 mile west and south of it. A bare rock, 8 feet (2.4 m) high, on a drying reef and a rock that dries 19 feet (5.8 m), 0.75 mile south of it, are 0.5 mile south of Becker Point.

689 **Peck Shoal**, 0.4 mile west of Becker Point, consists of a rock that dries 5 feet (1.5 m), a rock awash and several rocks with less than 6 feet (2 m) over them.



690 **Miller Inlet** has several coves, which could provide shelter for small craft. The narrows, about 0.5 mile within the entrance, has a rock that dries 13 feet (4 m) near the middle of its west entrance. Several shoal and drying rocks are nearly in the centre of the fairway of Miller Inlet; extra caution is advised. **Anchorage** for small craft can be found in the basin at the head of the inlet in 8 fathoms (15 m), sand and mud bottom.

Charts 3984, 3985

Ala Passage

691 **Ala Passage** ($53^{\circ}28'N$, $129^{\circ}55'W$) separates Anger Island from Pitt Island. Because of the intricacy of the channels through Ala Narrows and between Ala Narrows and Anger Point, the passage is only suitable for small craft. Local knowledge is advised.

692 **Lock Island** ($53^{\circ}29'N$, $129^{\circ}55'W$) lies in the south end and near the middle of the fairway through Ala Passage. A reef with drying and below-water rocks on it is 0.2 mile SSE of Lock Island and about 0.1 mile off the Pitt Island shore.

Chart 3984

693 A rock that dries 1.8 m ($53^{\circ}30'N$, $129^{\circ}54'W$) lies in the middle of the fairway, 1 mile north of Lock Island.

694 **Ire Inlet** ($53^{\circ}30'N$, $129^{\circ}55'W$), 1.3 miles north of Lock Island, has a very narrow entrance.

695 **Curtis Inlet**, east of Ire Inlet, penetrates Pitt Island for about 1 mile. Depths in the fairway, about 0.3 mile inside the inlet, are 6 feet (1.8 m).

696 **Ala Narrows**, 1.2 miles north of Curtis Inlet, is about 300 feet (91 m) wide. Numerous drying rocks, rocks awash and rocks with less than 6 feet (2 m) over them are in the south and north approaches to Ala Narrows.

697 **Wright Inlet**, east of Ala Narrows, has a very narrow entrance. **Wright Narrows**, 0.7 mile within the entrance, is obstructed by a ridge of boulders that dries 10 feet (3 m). **Tidal falls** occur in Wright Narrows.

698 Between Ala Narrows and **Anger Point**, 1.2 miles north, the fairway through Ala Passage is obstructed by numerous islets, drying and below-water rocks.

699 Between Anger Point and **Logarithm Point**, 2 miles west, the fairway through Ala Passage is deep and clear of dangers.

Chart 3985

West Approaches to Ala Passage



700 **Anger Anchorage** ($53^{\circ}32'N$, $130^{\circ}01'W$), off the NW side of Anger Island, is an extensive bank encompassed by the 50 fathom (91 m) line. In 1977, this bank was examined as a possible emergency anchorage for large vessels; a total of 23 bottom core samples were taken. The bottom consists of 1 to 3 inches (2.5 to 7.6 cm) of sand and/or gravel on top of hard blue-grey clay. This anchorage is protected from the south and east; it is open to winds from the NW blowing down Petrel Channel or from the west down Principe Channel. The tidal range was near its maximum during the survey of Anger Anchorage but the tidal streams across the anchorage were not strong.



701 If it is necessary to anchor in this area, make the anchorage report required by Vessel Traffic Services (VTS). See Vessel Traffic Services in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast and Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

702 **Cosine Island** ($53^{\circ}33'N$, $129^{\circ}59'W$) and **Sine Island**, close north, lie across the west entrance of Ala Passage. **Cosine Point** is the west extremity of Cosine Island. **Cosine Bay**, on the SW side of Cosine Island, is too deep for satisfactory anchorage.

703 **Clear Passage**, between Cosine and Sine Islands, is less than 300 feet (91 m) wide and has a least depth of 3 feet (0.9 m).

704 **Evinrude Passage**, east of Anger Anchorage, is entered between **Azimuth Island** and a rock, 11 feet (3.4 m) high, 0.2 mile NE. Several drying rocks and shoals are in the south portion of Evinrude Passage, around the south end of Cosine Island.

705 **Anger Inlet**, south of Cosine Island, is encumbered with islands and numerous drying and below-water rocks.

706 **Markle Passage**, on the north and east sides of Sine Island, leads to Markle and Wilson Inlets and the west entrance to Ala Passage. **Markle Island**, on the north side of Markle Passage, is the westernmost island of a chain of islands extending from the entrance to Markle Inlet. A rock that dries 6 feet (1.8 m) lies 0.1 mile south of the east extremity of this

chain of islands. Two rocks, both with a depth of 18 feet (5.5 m), lie in mid-channel north and east of **Sine Point**, the NE extremity of Sine Island.

707 **Directions.** — Approaching Ala Passage by way of Markle Passage, round Sine Point at a distance of not more than 0.1 mile to avoid the two 18 foot (5.5 m) rocks lying in mid-channel.

708 **Markle Inlet** is entered 0.5 mile north of Sine Point. The entrance is encumbered with islets, drying reefs and below-water rocks.


709 **Wilson Inlet**, east of Sine Island, has **Tangent Island** in its entrance. A narrow boat passage along the north side of Tangent Island has a least depth of 11 feet (3.4 m) through it. The main entrance to Wilson Inlet is south of **Tangent Point**. About 1.5 miles within the entrance a rock, with 14 feet (4.3 m) over it, lies in the middle of the fairway. East of Tangent Island there are a number of islands and rocks.

Charts 3985, 3912

Principe Channel — NW End


710 **Headwind Point** ($53^{\circ}31'N$, $130^{\circ}06'W$) is on the SW side of Principe Channel.

711 **Colby Bay**, 2.5 miles NW of Headwind Point, indents the NE side of Banks Island. Reefs extend from islets close within the entrance on both sides of the bay.

 712 **Anchorage** for small craft can be obtained in 5 fathoms (9.1 m), mud bottom, in Colby Bay, about 300 feet (91 m) south of a prominent point on the north shore and 0.3 mile inside the north entrance point.


713 **Wright Island** is 2 miles north of Headwind Point. **McCauley Island** forms the NE side of Principe Channel.

714 **Dory Passage** separates Wright Island from McCauley Island; it has a least depth of 6 feet (1.8 m) in the fairway.

 715 The NE side of Principe Channel, between Wright Island and Logan Bay, 5.5 miles NW, is fronted by several islands and shoals. **Anchorage** for small craft can be found among these islands in Port Canaveral.

716 **Alexander Shoal**, with a least depth of 22 feet (6.7 m), is 1 mile WSW of **Gibbons Point**, the SW extremity of Wright Island.

717 **Wheeler Island**, 1.3 miles west of Wright Island, has several islets and below-water rocks off its SE and north sides.

 718 **Wheeler Island light** (738), on the SW extremity of the island, is shown at an elevation of 19 feet (5.8 m) from a white tower with a red band on top.

719 **Dixon Island**, 1.5 miles NW of Wheeler Island, has **Bush Islet** and numerous small islets, drying and below-water rocks extending up to 0.3 mile off its south and SW coasts. **Dark Islet**, 0.2 mile off the west extremity of Dixon Island, has an islet and below-water rock 0.1 mile south of it. Between Dark Islet and **Logan Bay**, 1.5 miles NW, numerous drying and below-water rocks fringe the coast of McCauley Island.


 719.1 **Banks Island North light** (737.5) west of Dixon Island is shown at an elevation of 23 feet (7 m) from a skeleton tower.

Chart 3912

720 **Squall Bay** ($53^{\circ}33'N$, $130^{\circ}07'W$) is entered between Wright Island and **Cliff Islands**, or by way of Dory Passage. Depths throughout the bay are irregular and no good anchorage is afforded.

721 The area between Cliff Islands, Wheeler Island and Squall Island is encumbered with islets and drying and below-water rocks. **Sherman Islet** is the south islet of this group.

722 **Squall Point**, the west extremity of **Squall Island**, is bold and conspicuous. **Hat Hill** is the highest part of Squall Island. **Red Point**, 0.2 mile north of Squall Point, has a reddish brown cliff over it.

723 **Tonkin Point** and **Urquhart Point** are on the south shore of Dixon Island. **Dimple Point** is the east extremity of Dixon Island. **Globe Rock**, 2 feet (0.6 m) high, and numerous drying and below-water rocks fringe the SW, south and SE sides of Dixon Island.

ENTRANCE TO HEVENOR INLET (1986)




ENTRANCE TO NEWCOMBE HARBOUR (1986)



724 **Twain Rocks** have two heads with less than 6 feet (2 m) over them and lie up to 0.4 mile south of Squall Point. **Ethel Rock**, 0.5 mile WSW of Squall Point, dries 4 feet (1.2 m) and has shoals ENE and SW of it.

725 **Alarm Rocks**, 0.2 mile WNW of Squall Point, consist of several pinnacles with a least depth of 10 feet (3 m). **Clown Rock**, west of Alarm Rocks, dries 8 feet (2.4 m) and a rock with less than 6 feet (2 m) over it is 0.1 mile south of it. **Stephen Rocks**, north of Alarm Rocks, are a group of rocks that dry from 4 to 16 feet (1.2 to 4.9 m). The highest rock is on the north side of the group. **Canaveral Rock**, 0.15 mile NE of Squall Point, has 27 feet (8.2 m) over it.

726 **Port Canaveral**, between the NW side of Squall Island and the south side of McCauley Island, is suitable for small vessels but local knowledge is advised. **Canaveral Passage**, encumbered with islets, drying and below-water rocks, is at the east end of Port Canaveral and leads north and east of Squall Island.


 727 **Anchorage** for small vessels can be obtained in Port Canaveral about 0.15 mile SE of Red Point in 14 to 15 fathoms (26 to 27 m), mud bottom. The holding ground is good and the anchorage secure but is uncomfortable in winds from the NW quadrant. Small craft can find anchorage east of **Round Islet**, near the entrance of Canaveral Passage, and in the basin NE of Dixon Island.

728 **Directions.** — The highest of Stephen Rocks (visible only at low to mid-tide) just open east of Dimple Point, bearing 353°, will lead between Ethel and Twain Rocks. When Globe Rock is in line with the south extremity of Bush Islet, bearing 294°, alter course to pass 300 feet (91 m) off Squall Point, and thence to the anchorage.

Chart 3986

Logan Bay to Deadman Islet

729 **Whalen Point** (53°37'N, 130°18'W) is low. **Table Hill** rises 1.5 miles NW.

 729.1 **Table Hill light** (737.1) is shown at an elevation of 26 feet (8 m) from a white tower with a red band on top.

730 **Keswar Point**, 2.5 miles NW of Whalen Point, is bold and fronted with drying reefs. Reefs and shoal water lie up to 0.2 mile off the coast between these two points. Two shoals, with 36 and 27 feet (11 and 8.2 m) over them, lie 0.25 mile off Keswar Point.

732 **Keswar Inlet**, NE of Keswar Point, has several drying reefs in the entrance and within it.

733 **Keyarka Cove** is 1.8 miles south of Keswar Point. **End Hill** rises 1.6 miles WNW of Keyarka Cove.

734 Deadman Islet and Baird Point, 3 miles NE, are described with Browning Entrance earlier in this chapter.

Petrel Channel


Chart 3985

735 **Petrel Channel** (53°34'N, 130°03'W) separates McCauley Island from Pitt Island and leads north from Principe Channel to Ogden Channel. The fairway through Petrel Channel has a least width of 0.3 mile and is deep. The Pitt Island shore is backed by moderately high mountains; those of the McCauley Island shore are relatively lower.

736 Hevenor Inlet and Newcombe Harbour, both on the east side of Petrel Channel and Captain Cove, at the NE end of Petrel Channel, offer anchorage for small vessels and are described at the end of this section.

 737 **Tidal streams** attain a maximum of 3 kn and set fairly through Petrel Channel.

738 **Petrel Point** (53°34'N, 130°01'W) is the SE entrance point to Petrel Channel and has a **fishing boundary marker** on it. **Meet Point**, 2.4 miles west, is the SW entrance point.

 738.1 **Petrel Point light** (738.3) is shown at an elevation of 23 feet (7 m) from a skeleton tower.

739 **Allcroft Point**, 2.8 miles NW of Petrel Point, is prominent.

740 **Mathers Point**, 4.3 miles NNW of Allcroft Point, is a prominent headland; it is fronted by a rock that dries 9 feet (2.7 m). **Morrison Point**, 0.6 mile NW, is also bold and prominent.

741 **Robinson Point**, 1.3 miles NNW of Morrison Point, is fronted by a rock that dries 15 feet (4.6 m). A reef with 17 feet (5.2 m) over it is on the east side of the fairway NE of Robinson Point. A conspicuous hill, 1.3 miles west of Robinson Point, is 1,475 feet (450 m) high.

742 **Petrel Islets**, 1 mile NW of Robinson Point, consist of several above-water, drying and below-water rocks.

743 **Noble Mountain**, 2.5 miles NW of Robinson Point, is prominent.

744 **Elbow Point**, 3.3 miles WNW of Robinson Point, is bold and steep-to.

745 **Strouts Point**, 4.4 miles NNW of Elbow Point, is the NE point of McCauley Island; it is steep-to.

746 Comrie Head, at the junction of Petrel and Ogden Channels, is described later with Ogden Channel.

Inlets in Petrel Channel

747 **Hevenor Inlet** ($53^{\circ}38'N$, $130^{\circ}04'W$) is entered between **Stark Point** and **Hevenor Point**. **Hevenor Islet**, 1.4 miles east of Hevenor Point, has a rock that dries 15 feet (4.6 m) between it and the north shore. **Clark Islet**, at the head of the inlet, has a rock that dries 12 feet (3.7 m) close south, and two rocks, both with 11 feet (3.4 m) over them, 0.2 and 0.3 mile SSE.



748 Small vessels can obtain sheltered **anchorage** at the head of the inlet, east of the last-mentioned rocks.

749 **Hevenor Lagoon**, at the head of Hevenor Inlet, dries 0.4 mile within its very narrow entrance. The lagoon extends 4 miles SE from its entrance.

750 **Newcombe Harbour** ($53^{\circ}42'N$, $130^{\circ}06'W$) is entered east of **McCutcheon Point**. The entrance is only 300 feet (91 m) wide and a shoal spit extends about 300 feet (91 m) south from McCutcheon Point. **Fishing boundary markers** are on both shores at the entrance.

751 An islet, 0.4 mile NNE of McCutcheon Point, is attached to the west shore by a drying ledge. A rock with less than 6 feet (2 m) over it is 300 feet (91 m) south of this islet.

752 A prominent point, 1.2 miles NNE of McCutcheon Point, has islets and drying rocks attached to it by a drying ledge. Above this point drying flats extend from both sides of the harbour leaving a narrow channel between them.



753 **Anchorage** for small vessels can be obtained in Newcombe Harbour, 1 mile within the entrance and about 0.2 mile SW of the prominent point, in 8 fathoms (15 m), mud bottom.

Chart 3987

754 **Captain Cove** ($53^{\circ}49'N$, $130^{\circ}13'W$), entered north of **Captain Point**, is a good harbour, well-sheltered from all winds. A rock that dries 2 feet (0.6 m) and a rock awash are close west and several islets are 0.5 mile east of Captain Point. All have shoal water in their vicinity. A logging camp and **booming ground** are in the cove (1994).



755 **Anchorage** can be obtained in 12 to 13 fathoms (22 to 24 m), mud, at the head of the cove.

Ogden Channel

Chart 3947

756 **Ogden Channel** ($53^{\circ}50'N$, $130^{\circ}19'W$) separates Pitt Island from Porcher Island and leads north from Beaver Passage and Petrel Channel to Grenville Channel and Arthur Passage. It is deep and free of dangers in the fairway.



757 **Vessel Traffic Services (vts)**. — Grenville Channel and Arthur Passage, at the north end of Ogden Channel, are part of the main Inner Passage. Before crossing or joining this main channel, report your intentions in sufficient time to alert any traffic within the channel. *See* Vessel Traffic Services in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast* and *Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

758 **Tides**. — Tidal differences in Ogden Channel, referenced on Prince Rupert, are given for Kitkatla Islands (Index No. 9242) and Seabreeze Point (Index No. 9250) in the Tide Tables, Volume 7.



759 **Tidal streams**. — The north-going flood stream sets into Ogden Channel and near its north end it divides, one part turning SE in Grenville Channel, the other continuing north toward Arthur and Telegraph Passages. The ebb streams from Grenville Channel, Arthur Passage and Telegraph Passage unite off the north end of Ogden Channel and pass out to sea by it. The muddy water of the Skeena River, coming from Telegraph Passage, is usually distinguishable against the blue water of the other channels.

760 **Spoil ground**. — An ocean dumpsite, under permit through the *Ocean Dumping Control Act*, is in $53^{\circ}54'N$, $130^{\circ}16'W$.

761 **Comrie Head** ($53^{\circ}49'N$, $130^{\circ}17'W$) is the SE entrance point to Ogden Channel; **Sparrowhawk Point**, 1.8 miles west, is the SW entrance point.

762 **Skene Cove** is 1 mile north of Sparrowhawk Point, and **Peter Point** is 2 miles farther NNE. **Bareside Point**, 1.7 miles NE of Peter Point, rises steeply to the summit of **Bareside Mountain**.



762.1 Peter Point **light** (672.5) is shown at an elevation of 23 feet (7 m) from a white tower with a green band on top.

763 **Alpha Bay**, 2.3 miles north of Comrie Head, is between **Fish Point** and **Alpha Point**; it is filled with drying flats that front the mouth of **Alpha Creek**. **Swede Point** is 1.4 miles NE of Alpha Point.

764 Rippon Point and Peninsula Point, the north entrance point to Ogden Channel are described with Grenville Channel in Sailing Directions booklet *PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound*.

Dixon Entrance, Portland Inlet and Adjacent Channels

General

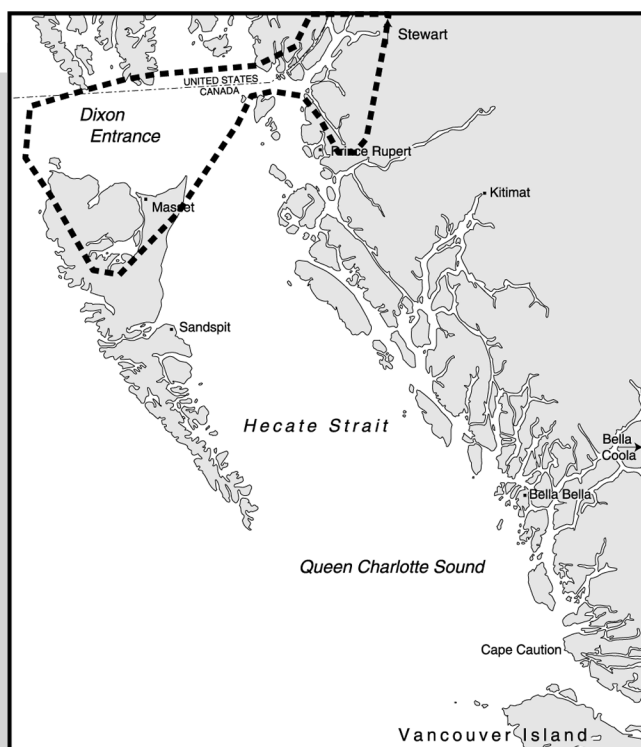
Chart 3002

1 This chapter covers Dixon Entrance, Portland Inlet, Work Channel, Observatory Inlet, Pearse Canal and Portland Canal. Virago Sound, Naden Harbour, Masset Sound and Masset Inlet, on the north coast of Graham Island are also described.

2 Chatham Sound, at the east end of Dixon Entrance and the approach channels, Brown Passage, Hudson Bay Passage, Holliday Passage, Oriflamme Passage and Main Passage are described in Sailing Directions booklet *PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound*.

3 The United States coast of Dixon Entrance, Pearse Canal and Portland Canal is only briefly described; for complete information on United States waters see *United States Coast Pilot 8*.

4 The **International Boundary Line** between the United States and Canada is charted.



Dixon Entrance

Charts 3800, 3960

5 **Dixon Entrance** ($54^{\circ}30'N$, $132^{\circ}30'W$) is the north approach from the Pacific Ocean to the inner channels of British Columbia and the south approach to those of SE Alaska. It is entered between Haida Gwaii on the south, Dall and Prince of Wales Islands on the north, and extends from Langara Island and Cape Muzon for 75 miles east to the mouth of Portland Inlet.

6 **Light buoys.** — Dixon Entrance ODAS **light buoy** “46205” (807.1) ($54^{\circ}09'54''N$, $134^{\circ}16'54''W$) is about 45 miles west of Langara Island.

7 Dixon Entrance ODAS **light buoy** “46145” (801) ($54^{\circ}23'01''N$, $132^{\circ}26'54''W$) is about 17 miles NNW of Wiah Point.


8 The channels and passages on the north side of Dixon Entrance that lead north through the inside waters of the State of Alaska are **Kaigani Strait**, **Cordova Bay**, **Clarence Strait**,

Revillagigedo Channel and **Nakat Bay**, all described in *United States Coast Pilot 8*.

9 When approaching Dixon Entrance from the west or NW, Forrester Island is a good landmark. Along the north side of Dixon Entrance there are high mountains near the south ends of Dall, Long, Prince of Wales and Duke Islands.

10 Approaching Dixon Entrance from the SW, **Pivot Mountain** ($54^{\circ}01'N$, $133^{\circ}00'W$) is conspicuous; it is rounded and somewhat detached from other mountains on the north side of Graham Island. In clear weather it can be seen for about 50 miles. The north coast of Graham Island is generally low, rising to mountainous peaks about 7 miles inland. Between Masset Sound and Rose Spit the country is low, densely wooded and swampy with low sand hills fringing the woods. Taaw Tldáaw ($54^{\circ}05'N$, $131^{\circ}48'W$) is the only valuable landmark in this otherwise featureless part of the coast. Rose Spit, about 7 miles NE, and Overfall Shoal, NE of it, present the greatest dangers on this side of Dixon Entrance. Dundas Island, 30 miles NE of Rose Spit, has several conspicuous mountains on it.

11 **Tides.** — Tidal predictions for Langara Point (Index No. 9964) and tidal differences for McPherson Point (Index No. 9963), Wiah Point (Index No. 9940), referenced on Langara Point, and for Qlawdzeit Anchorage (Index No. 9315), Hudson Bay Passage (Index No. 9327) and Brundige Inlet (Index No. 9333), referenced on Prince Rupert, are given in the Tide Tables, Volume 7.

 12 **Tidal streams.** — Along the south side of Dixon Entrance the flood stream sets east around the north end of Langara Island at up to $2\frac{1}{2}$ kn and then sets along the north shore of Graham Island. In the area about midway between Rose Spit and Dundas Island it divides; the weaker part sets north past Dundas Island toward Portland Inlet and the main flood turns SE into Hecate Strait. The turn of the tidal stream in the vicinity of Rose Spit coincides approximately with the times of HW and LW by the shore, which corresponds very nearly with the times of HW and LW at Prince Rupert. Heavy overfalls are encountered off Rose Spit, principally along its north side near the edge of the deep water; they have the appearance of breakers and occur during the full strength of the streams, which attain $3\frac{1}{2}$ kn between Rose Spit and Overfall Shoal. At the junction of Dixon Entrance and Hecate Strait the flood and ebb are quite regular in the winter; during late summer the flood greatly exceeds the ebb. In August, especially, there can be $2\frac{1}{2}$ to 3 kn of flood, with little appreciable ebb or only slack water.

13 Along the north shore of Dixon Entrance, in the vicinity of Cape Muzon ($54^{\circ}40'N$, $132^{\circ}42'W$), the flood sets NE around the cape and the ebb SW at about $2\frac{1}{2}$ kn. South of Cordova Bay the flood sets east at about $1\frac{1}{4}$ kn and the ebb west at up to $1\frac{3}{4}$ kn.

14 Between Cape Chacon, Zayas Island, Cape Fox and Duke Island the tidal streams are very confused. In bad weather, the heavy and confused sea sometimes looks like breakers.

15 Between Dundas Island and Cape Fox the flood stream sets east at about 2 kn and the ebb west at about 3 kn. The turn of the streams apparently occurs near the time of HW and LW at Prince Rupert.

16 Information from tidal stream observations in 1984 in Dixon Entrance is given below.

17 Four miles north of Langara Island maximum flood sets 085° at $2\frac{1}{2}$ kn and maximum ebb 275° at $2\frac{1}{2}$ kn. Turn to flood here is 1 h 30 min after LW Prince Rupert, turn to ebb 1 h 30 min after HW Prince Rupert.

18 About 10 miles SW of Cape Muzon maximum flood sets 095° at $1\frac{1}{2}$ kn and maximum ebb 265° at 2 kn.

19 Thirteen miles NNE of Klashwun Point maximum flood sets 090° at 2 kn and maximum ebb 250° at 2 kn. Seven miles NE of Klashwun Point maximum flood sets 110° at 2 kn, maximum ebb 270° at $1\frac{1}{2}$ kn.

20 Eleven miles west of Rose Spit Racon maximum flood sets 070° at $1\frac{1}{2}$ kn and maximum ebb 220° at 1 kn. Turn to flood here is at LW Prince Rupert, turn to ebb at HW Prince Rupert. The duration of flood is 6 hours on spring tides and 3 hours on neaps.

21 Twenty miles NW of Rose Spit Racon maximum flood sets 090° at 2 kn and maximum ebb 245° at 2 kn.

22 About 4 miles SW of Cape Chacon ($54^{\circ}41'N$, $132^{\circ}01'W$) maximum flood sets 100° at 2 kn and maximum ebb 265° at $2\frac{1}{2}$ kn. After sustained SE winds, which build up a head of water in Clarence Strait, the flood stream off Cape Chacon is weak and the ebb stream sets SW at 3 kn or more. Strong tide-rips occur in this vicinity.


23 Midway between Celestial Reef and McCulloch Rock maximum flood is 025° at $1\frac{1}{2}$ kn and maximum ebb 290° at $1\frac{1}{2}$ kn.


24 **Weather.** — Dixon Entrance is exposed to the Pacific Ocean. Gales blow frequently out of the SE, up Hecate Strait, from October through April. During winter months northerly gales, known as “Squamish winds”, funnel down Portland Inlet and across the NE end of Chatham Sound; they make the crossing from Dundas Island to Cape Fox hazardous. Strong SW winds create a heavy beam sea on this same crossing.

25 Swells approach Dixon Entrance mainly from the west and SW, particularly in winter. They move through passages, break on shoals or against shorelines and are heavy at times.


26 Advection fog plagues these waters July through September, when visibility of less than 0.5 mile occurs up to 15% of the time, and is often cyclical over a period of several days.

27 **Meteorological information and frequency of fog information** for Langara Point are given in the Appendices.

 28 Along the north side of Dixon Entrance, local **magnetic anomalies** of as much as 4° have been observed at Cape Muzon. Differences of as much as 17½° from the normal variation have been observed in the vicinity of Percy Islands, at the SE end of Clarence Strait. Extreme magnetic disturbances exist in the south entrance to Revillagigedo Channel, SE of Duke Island. In this vicinity the magnetic compass should not be relied upon within the area outlined in magenta on the charts. Differences of as much as 5° from the normal variation have been observed along the west shore of Nakat Inlet.

 29 **Pilotage.** — All the coastal waters of Haida Gwaii along the south side of Dixon Entrance are within Area 5, and the approach channels to Chatham Sound are within Area 4 of the Pacific Pilotage Authority; within these waters pilotage is compulsory. For further information on pilotage areas and obtaining a pilot *see* Sailing Directions booklet *PAC 200 — General Information, Pacific Coast*.

30 In United States waters pilotage is compulsory for the inside waters of the State of Alaska. For further information *see United States Coast Pilot 8*.

 31 **Vessel Traffic Services (VTS).** — The area covered in this chapter is in *Sector 2* of the *Prince Rupert Traffic Zone*. The assigned frequency is 156.575 MHz, Channel 71.

32 A brief description of this Vessel Traffic Services (VTS) System is given in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast*, full details are given in *Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

33 The Calling-in Points are

34 *Calling-in Point No. 19*, called *Wales Island*, is a line joining Wales and Maskelyne Points and is a change line.

35 *Calling-in Point No. 20A*, called *Butterworth Rocks*, is a line from Jacinto Point light (732) to Butterworth Rocks light (751) thence to Seal Rocks light (748). Mariners shall advise *Prince Rupert Traffic* of routeing if not using Browning Passage.

36 *Calling-in Point No. 21*, called *Rose Spit/Seal Rocks*, is a line joining Rose Spit Racon and Seal Rocks light (748) and is a change line between *Sector 1* and *Sector 2* of the *Prince Rupert Traffic Zone*.

37 *Calling-in Point No. 22*, called *Rose Spit*, is a line extending north from Rose Spit Racon to the International Boundary.

38 *Calling-in Point No. 23*, called *International Boundary Dixon Entrance*, is the International Boundary from Cape Muzon light to Wales Island. Mariners shall report to *Prince Rupert Traffic* whether their route is through Holliday Passage, Oriflamme Passage or Main Passage when transiting Chatham Sound.

39 *Calling Point No. 24*, called *Zone Limit*, is a line running from Point Cornwallis light extending on a south-westward arc to a point 270° westward of Cape Knox on the Territorial Sea limit. This line is the western limit of the *Prince Rupert Traffic Zone*.

Chart 3800

40 **Shoals and reefs** in Dixon Entrance that are a particular source of danger to navigation are as follows.

41 **Learmonth Bank** (54°30'N, 133°05'W) lies in the fairway of the west entrance of Dixon Entrance. Depths over this bank are uneven and the bottom is sand, rock and gravel. The least depth is 26.4 m. Overfalls and tide-rips are encountered over the bank; an ebb tidal stream with west winds can create sea conditions hazardous to small craft.

42 Celestial Reef, West Devil Rock and several unnamed shoals, about 20 miles west of Dundas Island, lie in the centre of the fairway of Dixon Entrance. McCulloch Rock lies between the above-mentioned reefs and Zayas Island. East Devil Rock is 3.3 miles north of Zayas Island. These reefs and shoals are a source of danger to all craft.

43 Rose Spit, on the south side of Dixon Entrance, is fairly steep-to on its NW side and soundings may not indicate the danger in sufficient time to take avoiding action; low lying land in the vicinity does not provide adequate radar definition. In the shoal area east of Rose Spit sand waves form on the bottom, careful attention to soundings should be taken in this area.

44 Nunez Rocks, on the north side of Dixon Entrance and south of Prince of Wales Island, should be given a good clearance because of the uncertain tidal streams in the locality.


45 The south and SW sides of Duke Island should be avoided as rocks and reefs extend about 7 miles offshore. Avoid going inside a line joining Hassler Reef, West Rock, Club Rocks and East Island.

 46 **Caution.** — The dangers described above and the strong, and in some areas uncertain, tidal streams make navigation in Dixon Entrance treacherous when visibility is poor.

47 **Radar beacons (Racon)** are at Butterworth Rocks, Hammer Rocks, Rose Spit, Seal Rocks and Stenhouse Shoal.

48 For details of radio aids *see Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

49 The high land of Forrester, Langara, Dall, Prince of Wales and Dundas Islands will assist radar-equipped vessels.

 50 Two **submarine cables** are laid NE around the north end of Learmonth Bank, easterly to Cape Muzon then east to close-off Cape Chacon.


Forrester Island to Cape Chacon

51 **Forrester Island** (54°48'N, 133°31'W) is a ridge of distinctive summits in the north half. The south part is a

wooded flat with a knob on the east side. The island makes a prominent landmark when approaching Dixon Entrance from NW. Forrester Island is a National Wildlife Refuge under the jurisdiction of the United States Fish and Wildlife Service. There are no secure anchorages off Forrester Island, but small craft anchor in several places during the summer.

52 **Petrel Island**, 0.5 mile south of Forrester Island, has two wooded summits; from a distance they look like two islands. **South Rock**, close south of Petrel Island, is not very prominent. The passage between Forrester and Petrel Islands is used by fishermen. The currents are severe at times, and during heavy weather the passage is dangerous.


53 **Lowrie Island**, 1 mile north of Forrester Island, is wooded. **Sea Lion Rock** and **Cape Horn Rocks** lie between Forrester and Lowrie Islands. **North Rocks**, 0.5 mile north of Lowrie Island, have a maximum elevation of 25 feet (7.6 m). The passages between Lowrie and Forrester Islands and between Forrester Island and North Rocks are used only by small fishing craft; local knowledge is advised.


 54 **Lowrie Island light** (*US 995*) is shown at an elevation of 52 feet (15.8 m) from a skeleton tower fitted with a red and white diamond-shaped daymark.


55 **Point Cornwallis** (*54°42'N, 132°52'W*) is a prominent headland on the SW side of Dall Island. **Stripe Mountain**, 1.3 miles NE of the point, is marked by a prominent slide on its NW side.

56 **Dall Island** is mountainous and indented by numerous bays, coves and inlets, some of which are excellent harbours of refuge.


57 **Cape Muzon**, the south extremity of Dall Island, is heavily wooded and rises to a rounded peak about 2 miles NW. A rock, 0.3 mile south of the cape, breaks heavily with a moderate sea. A group of small islands and rocks is off the east end, and depths of 13 and 16 fathoms (24 and 29 m) are reported (1984) to exist 2.3 miles SW of the cape.

 58 **Cape Muzon light** (*US 985*) is shown at an elevation of 80 feet (24.4 m) and is fitted with a red and white diamond-shaped daymark.

 59 **Tidal streams** off Cape Muzon are described at the beginning of this chapter.

 60 A **magnetic anomaly** with differences of as much as 4° from normal variation has been observed at Cape Muzon.

61 **Point Marsh**, 13 miles ENE of Cape Muzon, is a group of low, wooded, rocky islets lying close-off the SW extremity of **Prince of Wales Island**. The land rises evenly and attains an elevation of about 1,000 feet (305 m) between 1 and 2 miles inland from the point. A prominent hill, 3 miles NE of the point, has a round top and is almost bare.

 62 **Point Marsh light** (*US 21855*), on a small islet SE of the point, is shown at an elevation of 74 feet


(22.6 m) from a skeleton tower fitted with a red and white diamond-shaped daymark.

63 **Surf Point**, 4.6 miles ESE of Point Marsh light, rises steeply to a knob, then to higher ground to the north. **Brown Bear Rock**, close south of Surf Point, is prominent.

64 **Bean Island**, 2 miles east of Surf Point, has a number of rounded, steep-sided rocky knobs. From the west they show as a rounded hill standing well above the general level of the island. **Nunez Point**, the SE extremity of Bean Island, has several rocky ridges, with bare bluffs, on the seaward face.

65 **Nunez Rocks**, 1.5 miles south of Nunez Point, consist of a reef that dries 11 feet (3.4 m) and below-water rocks. Because of the uncertain tidal streams in this locality the rocks should be given a berth of at least 1 mile when passing to the south. The passage between Nunez Rocks and Nunez Point is clear.

66 **Cape Chacon**, the SE extremity of Prince of Wales Island, is easily recognized from the NE and SW by three hills. The outer hill appears as a perfect cone, the second hill is slightly higher and somewhat rounded and the third hill has a flat top. The land to the NW of the cape is high and broken. A rock awash is about 0.15 mile SE of the cape.

 67 **Cape Chacon light** (*US 21850*) is shown at an elevation of 50 feet (15.2 m) and is fitted with a red and white diamond-shaped daymark.


 68 **Tidal streams** in the vicinity of Cape Chacon and Nunez Rocks are described at the beginning of this section.

Chart 3868

Langara Island to Rose Spit


69 **Langara Island** (*54°15'N, 133°00'W*) is densely wooded and has a range of rounded hills, of nearly uniform height, extending east and west across its central part. The west and north coasts are rocky and precipitous; cliffs on the west side of the island rise in high pinnacles of sandstone. Shoals and reefs lie up to 0.5 mile off the west and north coasts of Langara Island; when rounding the north side of Langara Island keep outside the 50 fathom (91 m) line.

70 Parry Passage, on the south side of Langara Island, is described later in this chapter.

71 **Tides**. — Tidal predictions for Langara Point (Index No. 9964) and tidal differences for McPherson Point (Index No. 9963), referenced on Langara Point, are given in the Tide Tables, Volume 7.

72 **Meteorological information and frequency of fog information** for Langara are given in the Appendices.

73 **Langara Point** is at the NW end of Langara Island. A group of drying rocks, 0.3 mile east of Langara Point, extends 0.2 mile offshore; the outer rock dries 5 feet (1.5 m).

 74 **Langara Point light** (*807*) is shown at an elevation of 160 feet (48.8 m) from a white tower. It is

fitted with an emergency light. The light is visible from 055° through east and south to 265°.

75 **Langara Rocks**, 1.3 miles east of Langara Point and 0.3 mile off **St. Margaret Point**, are two bare above-water rocks surrounded by drying and below-water rocks. Shoals under 6 fathoms (11 m) are up to 0.5 mile offshore between Langara Point and Langara Rocks. **Tide-rips** occur in this vicinity.

76 **McPherson Point** is the NE extremity of Langara Island. **Andrews Point**, 0.8 mile SE of McPherson Point, has a ledge of above-water rocks extending 0.15 mile NE from it, off which **tide-rips** occur.

77 **Explorer Bay**, on the north side of Andrews Point, and **Dibrell Bay**, entered between Andrews Point and **Cohoe Point**, are deep and exposed to the north and east; they afford indifferent anchorages. Egeria Bay is described later with Parry Passage.

Chart 3800

78 The north coast of Graham Island, between **Seath Point** (54°09'N, 132°53'W) and Cape Naden, about 11 miles east, is generally rocky with occasional low cliffs. The shores are gravel, interspersed with sand beaches.

79 **Nankivell Point**, 3.5 miles east of Seath Point, is a drying ridge of stones and gravel extending north from close east of it. A rock 1 foot (0.3 m) high is at the outer end of the ridge. A rock with less than 6 feet (2 m) over it is 0.5 mile NW of the point and a rock that dries 11 feet (3.4 m) is 1.2 miles NE of the point and 0.9 mile offshore.

80 **Jalun River** is close west of Nankivell Point; its entrance is encumbered with drying rocks.

Chart 3892

81 **Klashwun Point** (54°09'N, 132°40'W) is prominent because of the low, flat character of the adjacent coast. A distinct summit 95 m high near its west part is visible for a considerable distance and provides a useful landmark.

82 **Shag Rock** is 0.4 mile NE of Klashwun Point.



83 **Shag Rock light** (804.6) is shown at an elevation of 7.1 m from a mast.

84 **Cape Naden**, 3.5 miles SE of Klashwun Point, is the west entrance point, and **Cape Edensaw**, which is low but somewhat prominent, is the east entrance point of Virago Sound, described later in this chapter.

85 **Wiah Point** (54°07'N, 132°19'W), known locally as **Seven Mile Point**, is low, wooded and has no distinguishing features.



86 **Wiah Point light** (800), on a drying reef NE of the point, is shown at an elevation of 7.5 m from a cylindrical tower.

87 **Wiah Point light and bell buoy** "C50" (798.8), 0.5 mile north of Wiah Point, is a starboard hand buoy.

88 **Tides**. — Tidal differences for Wiah Point (Index No. 9940), referenced on Langara Point, are given in the Tide Tables, Volume 7.

89 **Refuge Island**, 0.3 mile east of Wiah Point, is near the SW end of a large drying rocky reef.



90 **Refuge Island Boat Harbour Sector light** (799) is on the Graham Island shore about 0.1 mile west of Refuge Island. The white sector indicates the preferred channel.



91 A **boat harbour**, between Wiah Point and Refuge Island, is used during the fishing season, May to September, approximately. A **public float** and dolphins are in the south part of the harbour. A cabin can provide emergency shelter.

92 **Hedden Island**, 1.5 miles SE of Wiah Point, is wooded and has an extensive drying ledge extending north and east from it. Drying and below-water rocks lie off the drying ledge.

Charts 3800, 3892

93 **McIntyre Bay** (54°05'N, 132°10'W), the large bay between Wiah Point and Rose Point, 23 miles east, has dense kelp in its inner part. The beaches, with the exception of a few small rocky points, are almost entirely composed of hard sand with gravel in some places. Low sand hills generally fringe the woods, which densely cover this stretch of low, featureless and swampy coast.

Chart 3800

94 The shore for about 1.5 miles SW of **Yakan Point** (54°04'N, 131°50'W) is an **Ecological Reserve**.

95 **Taaw Tldáaw** (54°05'N, 131°48'W) rises immediately from shore with cliffs about 400 feet (122 m) high; it makes a good radar target. The land in the vicinity is low, which makes it prominent, but it is difficult to identify on certain bearings because of Argonaut Hill, 3.5 miles SE, which is flat-topped and wooded to its summit.

96 **Naikoon Park** is a provincial park at the NE end of Graham Island. Campsites are at Agate Beach, near Taaw Tldáaw, and picnic facilities are at Taaw Tldáaw.

97 **Hiellen River** enters Dixon Entrance close east of Taaw Tldáaw. Except during northerly winds, landing is possible at Hiellen River near HW by keeping very close to the rocky shore under Taaw Tldáaw. A First Nation reservation is on the east side of the river.




98 **Anchorage** can be obtained about 2 miles north of Taaw Tldáaw in about 7 fathoms (13 m) or about the same distance WNW of the extremity of the trees on Rose Point in 7 to 9 fathoms (13 to 16 m).


99 **Rose Point** is a low promontory that forms the NE extremity of Graham Island. The Haida Nation called Rose

Point “Nai”; Rose Spit was “Nai-kun”, the-long-nose-of-Nai, or just **Long Nose**.

100 A survey in 1984 found that although the treeline on Rose Point ends about 1 mile SSW of Rose Spit Racon, the point actually continues above water for about 1½ miles north of the Racon. The elevation near the Racon is 8 feet (2.4 m).

101 **Rose Spit** extends 7 miles NNE from Rose Point to Overfall Shoal at its outer end. The inner portion of the spit is covered with a few stunted bushes and grass-covered sand hills; it continues as a narrow, partly drying, partly submerged sand bank. The survey found that drying areas exist 3.5 miles NE of the Racon and a depth of less than 3 feet (0.9 m) is 0.5 mile farther NE. From about 4.5 miles NE of the Racon to Overfall Shoal depths are generally 23 to 46 feet (7 to 14 m). The least depth over **Overfall Shoal** is 9 feet (2.7 m). Because of dangerous **overfalls** the passage between the drying portion of Rose Spit and Overfall Shoal should not be attempted under any circumstances.

 102 **Caution.** — Rose Spit and Overfall Shoal are fairly steep-to on their NW side; soundings may not indicate the danger in sufficient time to take avoiding action. In the shoal areas east of Rose Spit and Overfall Shoal sand waves form on the bottom and careful attention to soundings should be given in these areas. Heavy **overfalls** are encountered along the NW side of Rose Spit near the edge of the deep water. They have the appearance of breakers and occur during the full strength of the tidal streams, which attain 3½ kn between Rose Spit and Overfall Shoal.

 103 **Tidal streams** in the vicinity of Rose Spit are described with those for Dixon Entrance at the beginning of this section.

104 Rose Spit radar beacon (**Racon**) (— — • —) is on the spit.

105 **Light buoys.** — Rose Point **light and bell buoy** “C26” (791), about 3.25 miles north of Rose Spit Racon, is a starboard hand buoy; the upstream direction is when approaching from Dixon Entrance.

106 Rose Spit **light and whistle buoy** “CUT” (790), NE of Overfall Shoal, is an east cardinal buoy.

107 Rose Spit is an **Ecological Reserve** and is bordered by Naikoon Park.

Dixon Entrance — East End

108 The east end of Dixon Entrance, east of a line drawn from Rose Spit to Cape Chacon, 33 miles NNW, has several shoals lying in the centre of the fairway and to the west of Dundas Islands. Named shoals in this group are Celestial Reef, West Devil Rock and McCulloch Rock. The approach to Hudson Bay Passage and the **pilot boarding station** off Triple Islands in Brown Passage lie between Rose Spit and Celestial Reef. Brown Passage, Hudson Bay Passage and their approaches are described in Sailing Directions booklet


PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound.

109 **Celestial Reef** (54°31'N, 131°28'W), over which seas occasionally break, lies on the SE side of a bank and has three heads with 7, 10 and 53 feet (2.1, 3 and 16.2 m) over them. A 16 fathom (29.3 m) shoal is about 3.5 miles NW of the north head and a 52 foot (15.8 m) shoal is 2 miles south. The bottom is very uneven in this area.

110 **West Devil Rock**, 10 miles NNW of Celestial Reef, dries 11 feet (3.4 m). A rock with less than 6 feet (2 m) over it is 0.5 mile north of West Devil Rock; seas break over this rock with a moderate swell. A shoal with a depth of 48 feet (14.6 m) over it is 2.5 miles SE of West Devil Rock.


111 **McCulloch Rock**, about 10 miles ENE of Celestial Reef, is a shoal pinnacle with a depth of 9 feet (2.7 m) over it. The bank on which McCulloch Rock is situated has several other pinnacle shoals on it.

112 **Barren Island** (54°45'N, 131°21'W), 10 miles NE of Celestial Reef, is 30 feet (9 m) high.

 113 Barren Island **light** (763) is shown at an elevation of 85 feet (25.9 m) from a skeleton tower fitted with a red and white diamond-shaped daymark.

114 **Cape Northumberland**, north of Barren Island, is the south extremity of **Duke Island**. **Mount Lazaro**, 1.8 miles NNW of Cape Northumberland, is a solitary mountain with a broad summit; it is the only part of Duke Island that can be seen from a distance. The remainder of Duke Island is generally low and heavily wooded with a number of scattered round-topped hills.

115 Rocks and reefs extend up to 7 miles off the SW shore of Duke Island. Avoid going inside a line joining Hassler Reef, West Rock, Club Rocks and East Island.

 116 Extreme **magnetic disturbances** exist SE of Duke Island, in the south entrance to Revillagigedo Channel. In this vicinity the magnetic compass should not be relied upon within the area outlined in magenta on the chart.


117 **Hassler Reef**, about 8 miles west of Cape Northumberland, is an extensive shoal area. The reef is covered by heavy kelp in summer and has deep water close-to. A very irregular bottom extends 3 miles to the south of Hassler Reef; passage over this section is not recommended. A rocky shoal with 18 feet (5.5 m) over it is reported (1964) to lie about 2.5 miles SSW of Hassler Reef.

118 **West Rock**, 6 miles SW of Cape Northumberland, is 12 feet (3.7 m) high. A rock with 12 feet (3.7 m) over it is 0.6 mile south of West Rock.

119 **Club Rocks**, 2.8 miles south of Cape Northumberland, consist of two bare above-water rocks surrounded by reefs.

120 **Yellow Rocks**, 5.5 miles SE of Cape Northumberland, consist of two yellowish above-water rocks, the larger with some vegetation.

121 **East Island** is 5 miles east of Cape Northumberland.


 122 East Island **light** (*US 21920*), on the east side of the island, is shown at an elevation of 43 feet (13.1 m) from a skeleton tower fitted with a red and white diamond-shaped daymark. The light is obscured from 014° to 184°.

123 **Zayas Island** (*54°36'N, 131°04'W*) is flat-topped and wooded. The north coast of Zayas Island should not be approached within a distance of 1 mile. **Aranzazu Point**, the NW extremity of Zayas Island, is a low point fronted by extensive drying ledges.

124 **East Devil Rock**, 3.3 miles north of Zayas Island, is a pinnacle rock that dries 5 feet (1.5 m).

Chart 3959

125 **Jacinto Point** (*54°35'N, 131°04'W*) is the SW extremity of Zayas Island. Rocks that dry 6.1 and 1.8 m and shoal shoals extend 1 mile SW from the point. A rock 6 m high is 0.6 mile SW of Jacinto Point (*Chart 3800*).

 126 Jacinto Point **light** (*732*), on the south extremity of Zayas Island 0.6 mile east of Jacinto Point, is shown at an elevation of 10.7 m from a skeleton tower.


127 **Caamaño Passage** separates Zayas Island from the west side of Dundas Island. Drying ledges extend 0.3 mile from Zayas Island and shoal rocks are up to 0.7 mile off Dundas Island. Landing on the west coast of Dundas Island, except at Boat Harbour, is difficult because of the continuous heavy swell.

Chart 3960

128 **Boat Harbour** (*54°36'N, 130°56'W*), 5 miles ENE of Jacinto Point light, is a well-sheltered inlet on the west coast of Dundas Island; it is only suitable for small craft. A rock, about 0.8 mile SW of Boat Harbour entrance, is 1 m high and two shoals with 4.9 and 6.7 m over them are close NNW and north of it.

129 **White Islets** (*54°38'N, 130°55'W*), 0.5 mile off the NW side of Dundas Island, consist of several wooded islets.

130 **Arniston Point** is on the north coast of Dundas Island. A rock awash and two shoals are 0.6 mile north of Arniston Point.

 131 **Goose Bay**, entered east of Arniston Point, offers shelter for small craft in the basin at its head. Two storage tanks are at the SW end of Goose Bay. A scow is moored east of the tanks (1980); mooring **floats** extend south from the scow.

132 A private **daybeacon** is on a drying reef about 0.9 mile SSE of Arniston Point.

133 **Directions.** — Take care to avoid the rock awash 0.5 mile north of Arniston Point. Local knowledge is advised for safe passage into the bay. The bay is entered east of the rocks with less than 2 m over them and east and close south

of the drying reefs marked by the daybeacon, and north of the drying reefs off the north end of the island 36 m high.

134 **Gnarled Islands**, 1.5 miles ENE of Arniston Point, are fringed with drying ledges, drying and below-water rocks.

135 **Whitly Point**, the NE point of Dundas Island, has drying reefs extending 0.3 mile ENE from it. A rock with 6.4 m over it is 0.2 mile north of the point. **Slab Hill**, 0.9 mile south of Whitly Point, is a conspicuous flat-topped knob. Holliday Island with a chain of drying rocks extending NW from it is described in Sailing Directions booklet *PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound*.

Chart 3909

136 **Brundige Inlet** is entered east of **Prospector Point** (*54°37'N, 130°51'W*). **Fitch Island**, 1 mile SW of Prospector Point, has a rock that dries 2.4 m, 0.1 mile west of it. A shoal with 2.1 m over it, 0.6 mile SW of Fitch Island, lies in the middle of the fairway leading to the head of the inlet.

137 **Tides.** — Tidal differences for Brundige Inlet (Index No. 9333), referenced on Prince Rupert, are given in the Tide Tables, Volume 7.




 138 **Anchorage** can be obtained in mid-channel NW of Fitch Island in 27 m. Anchorage for small craft can be obtained at the head of Brundige Inlet in 16 m.

Chart 3960

139 **Tree Point** (*54°48'N, 130°56'W*), on the east side of the entrance to Revillagigedo Channel, is low, but has a steep-to shore.

 140 Tree Point **light** (*762*) is shown at an elevation of 26.2 m from a white square tower. The light is obscured from 158° to 318°.

141 **Cape Fox**, 3.5 miles SE of Tree Point, is mountainous and terminates in remarkable high, white cliffs. **Harry Saddle**, 2 miles north of Cape Fox, is a conspicuous saddle-shaped mountain. **Fox Island** is 0.2 mile south of Cape Fox.

 141.1 Boat Rock **light** (*US 21915*), 2 miles NE of Cape Fox, is shown at an elevation of 38 feet (11.6 m) from a spindle. The light is obscured from 049° to 210°, through east and south.

142 The shoreline between Tree Point and Cape Fox is studded with numerous wooded islets, bare rocks and below-water rocks. This section of the coast should be given a berth of at least 0.5 mile.

143 **Lord Islands**, 2 miles SE of Cape Fox, consist of two groups of islands. The larger islands of each group are wooded. **Thistle Rock**, 0.5 mile west of the north group, is 2 m high. Several drying and below-water rocks lie 0.35 mile from all sides except the NW which is steep-to. Nakat Bay, north of Lord Islands, is described in *United States Coast Pilot 8*.

144 **Lord Rock**, 0.6 mile WSW of the south group of Lord Islands, is 3 m high. A shoal with a depth of 8.7 m over it is 0.35 mile SE of the rock.



145 **Lord Rock light (761)** is shown at an elevation of 11.6 m from a skeleton tower fitted with a red and white diamond-shaped daymark.

146 **Fleece Rock**, 1 mile east of Lord Rock, is 3 m high.

147 **Kanagunut Island**, 2 miles east of Lord Islands, is low and heavily wooded. **Garnet Point** is its south extremity.

148 **Haystack Island**, 2.5 miles east of Garnet Point, is conspicuous. The entrance to Tongass Passage, described later in this chapter, is on the west side of Haystack Island.

149 **Proctor Islands** are close east of Haystack Island and **Boston Islands** are 2 miles SE. Drying and below-water rocks lie between the two groups that form the Procter Islands. Drying reefs and below-water rocks are SW of Procter Islands and above-water and drying rocks lie between Procter and Boston Islands.

150 **Wales Island** east of the Procter and Boston Islands has **Wales Point** at its SE extremity. **Entry Peak**, 0.8 mile north of Wales Point, has a sharp conspicuous summit. A mountain with a flat summit is 1.5 miles NW of Entry Peak.

151 **Tracy Island**, 1 mile WSW of Wales Point, lies in the entrance of a bay locally known as **Tracy Bay**. A rock 1 m high and a reef that dries 7.3 m are in the centre of the passage between Wales Point and Tracy Island.



152 **Anchorage** for small vessels can be found in Tracy Bay; it is sheltered from most winds except those from the south quadrant.

Charts 3800, 3959, 3960

153 **Directions.** — Because of several dangers and the strong, and in some areas uncertain, tidal streams in Dixon Entrance, navigation at night or in thick weather is somewhat treacherous.

154 Approaching Dixon Entrance from SW, and if bound for the Triple Islands pilot boarding station, round the north side of Langara Island, giving it a berth of about 3 miles. Follow along the south side of Dixon Entrance and give a wide berth to Rose Spit and Overfall Shoal while at the same time ensuring that you do not get set too far north toward Celestial Reef; thence to the Triple Islands pilot boarding station in Brown Passage, described in Sailing Directions booklet *PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound*.

155 If proceeding to the north part of Chatham Sound or Portland Inlet, and are exempt from compulsory pilotage requirements, the above directions should be followed until well clear of Rose Spit and Overfall Shoal to the south and Celestial Reef to the north. Once these shoals have been cleared, steer NE for Caamaño Passage, between Dundas and Zayas Islands, then round White Islets at a distance of

about 1.5 miles and steer east, passing between Lord Rock and Gnarled Islands. If proceeding into Portland Inlet, steer a course to pass midway between Tracy Island and Hogan Island. If bound for the north end of Chatham Sound, proceed by way of Main Passage, west of Pointer Rocks, described in Sailing Directions booklet *PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound*.

156 Approaching Dixon Entrance from NW, and if bound for the Triple Islands pilot boarding station, round the south side of Petrel Island, giving it a berth of about 3 miles, then steer direct for Brown Passage, making sure you are not set north toward Celestial Reef or south toward Rose Spit and Overfall Shoal.

157 Approaching Dixon Entrance from NW, and proceeding to the SE Alaska pilot boarding station in Clarence Strait, steer to pass about 3 miles south of Cape Muzon then alter course to pass about 4 miles south of Cape Chacon, rounding this cape at that distance, and proceed into Clarence Strait, following the directions prescribed in *United States Coast Pilot 8*.

158 Approaching Dixon Entrance from NW, and proceeding to Chatham Sound or Portland Inlet, steer to pass 3 miles south of Cape Muzon then alter course to pass about 4 miles south of Cape Chacon. When south of Cape Chacon, alter course to pass 3 miles north of West Devil Rock and when this danger is cleared steer courses to pass 1 mile south of Barren Island and midway between Lord Rock and Gnarled Islands, making sure you are not set south onto East Devil Rock. Thence, proceed into Chatham Sound or Portland Inlet as previously described.

Parry Passage and Approaches

Charts 3868, 3895

159 **Parry Passage** ($54^{\circ}12'N$, $133^{\circ}05'W$) separates Langara Island from the NW end of Graham Island and has a least width of 0.3 mile through the fairway. Navigation of the passage in clear weather presents no difficulty but due regard should be given to the tidal streams, particularly at the east end.

160 **Tides.** — Tidal differences for Solide Passage (Index No. 9960), referenced on Langara Point, are given in the Tide Tables, Volume 7.



161 **Tidal streams** flood east and ebb west through Parry Passage. In the east and west approaches the tidal streams attain 2 kn. In the narrowest part of the passage, abreast the west end of Lucy Island, the flood stream increases to about 5 kn but the ebb stream seldom exceeds 3 kn.

162 Secondary current station Parry Passage (Index No. 8590), referenced on Prince Rupert, is given in the Tide Tables, Volume 7.

163 **Cape Knox**, at the SW entrance to Parry Passage, is the NW extremity of the narrow peninsula forming the north side of T'áalan Stl'áng, described in Chapter 4.



164 **Caution.** — Approaching Parry Passage from the south, take care not to mistake T'áalan Stl'áng for the entrance to Parry Passage, which is not apparent until after passing Cape Knox.

165 **Carew Rock** and **Turner Reef** lie about 1.5 miles SW of Cape Knox.

166 **Ocean Shoal**, 0.9 mile north of Cape Knox, lies in the west entrance of Parry Passage and has a least depth of 14.4 m. There is nearly always a heavy swell on the shoal and with a strong ebb tide combined with heavy weather it is reported to break.

167 **Lacy Island**, 2.4 miles north of Cape Knox at the NW entrance to Parry Passage, is bare and separated from the west extremity of Langara Island by foul ground. **Thumb Islet**, 1.5 miles north of Lacy Island, is 20 m high with some bushes on it; drying and below-water rocks and a rock awash extend 0.4 mile WSW from it. **Lord Bight**, between Lacy Island and Thumb Islet, is encumbered with foul ground.

168 **Rhodes Point**, 1.8 miles east of Lacy Island, has drying reefs extending south and west from it. **Fury Bay**, NW of Rhodes Point, is encumbered with dangers and exposed to the ocean swell; the swell breaks a considerable distance offshore in this locality.

Chart 3895

169 **Swanton Bank** ($54^{\circ}12'N$, $133^{\circ}02'W$), south of Rhodes Point and on the north side of the fairway through Parry Passage, lies in the entrance to Cloak Bay. **Harvey Rock**, on the north part of Swanton Bank, has a depth of 1.8 m over it. Kelp is usually present over the bank during summer and autumn. With a heavy SW sea and swell it breaks heavily and the rollers almost reach Hazardous Cove.

170 **Cloak Bay** is between Swanton Bank and Cox Island; it is best approached from the south, between the SE end of Swanton Bank and the west side of Iphigenia Point. **Cox Island** has precipitous sheer cliffs on its west and south sides; close-off these cliffs are some remarkable conglomerate rock pillars up to 38 m high. Shoal rocks, with 4 and 1.6 m over them, are 0.2 mile SW and west of Cox Island, respectively.



171 **Anchorage** can be obtained in calm settled weather SE of Swanton Bank in 26 m. From this anchorage the summit of Cox Island bears 044° and the extremity of the land near Iphigenia Point bears 147° . Anchorage can also be obtained off the entrance to Hazardous Cove, east of Harvey Rock, in 32 m. From this anchorage the summit of Cox Island bears 107° and the SW extremity of the land near

Iphigenia Point bears 158° . Both anchorages are exposed to the west and are seldom free from the prevailing ocean swell.

172 **Hazardous Cove**, at the NE end of Cloak Bay, is entered between Cox Island and **Hart Point**, 0.5 mile north. Drying ledges fringe the coast in the vicinity of Hart Point. Rocks, 1 to 7 m high, are 0.3 mile SW of Hart Point near the outer end of these ledges.

173 **Sunday Reef**, in the entrance to Hazardous Cove, has a rock 1 m high on it and a rock that dries 3.5 m off its west end. The reef can be passed on either side but the passage on the south side is preferred.

174 **Kusgwai Passage**, on the east side of Cox Island, leads into the south end of Hazardous Cove. The passage is narrow and shallow with drying ledges on both sides.



175 **Anchorage** for small craft can be obtained in Hazardous Cove in 10 to 24 m. The best anchorage is 0.15 mile east of Sunday Reef with the summit of Cox Island bearing 194° and the summit of Lacy Island seen over Rhodes Point bearing about 283° . Be prepared to leave this anchorage immediately on a change of weather.

176 **Iphigenia Point**, at the SW end of Langara Island, is the south extremity of a steep rounded bluff. The south side of the bluff is steep-to, but close-off its west side are some remarkable rock pillars up to 29 m high.



177 Iphigenia Point (Langara Island) **light** (806) is shown at an elevation of 9.6 m from a skeleton tower.

178 **Meares Point**, on the south shore of Parry Passage 2 miles east of Cape Knox, is low and partially cleared. The coast between Cape Knox and Meares Point is rocky with occasional cliffs 15 to 30 m high; it is fringed with above-water, drying and below-water rocks extending up to 0.3 mile offshore. The prevailing ocean swell is felt as far as Meares Point and it is seldom that the coast can be approached in boats or any landing attempted. The former First Nation villages **Yaku** and **Kiusta** are SE of Meares Point; the sites are marked by a few totem poles.

179 **Chanal Reef** extends 0.3 mile north from Meares Point and is separated from it by a narrow, shallow channel. Rocks, 2 and 3 m high, are on the NE side of the reef. The reef is usually marked by large fields of kelp and is steep-to on its north side. Avoid the area within the 10 m line west of Chanal Reef; it has dense kelp and numerous drying rocks that break.

180 **Marchand Reef**, 0.5 mile SE of Meares Point, is a drying rock ledge on the south side of the fairway through Parry Passage. **Astrolabe Rock**, off the east end of Marchand Reef, dries 0.1 m.



181 **Henslung Cove**, on the south shore of Langara Island east of Iphigenia Point, has a small wharf on the west side and dolphins on the east side. Seasonal floating sports fishing lodges and a seasonal fuel barge are on the west side of the cove. **Submerged mooring buoys**,

chains and anchors are reported to foul the east side of the cove and vessels should not anchor. **Beal Cove** is 0.3 mile east of Henslung Cove. These coves are busy with sport and commercial fishing vessels.

182 **Testlatlints Rock** is close to the coast of Langara Island, between Henslung and Beal Coves.

183 **Lucy Island**, on the north side of the fairway through Parry Passage, is densely wooded. A rock with 2.1 m over it and some drying rocks are 0.2 mile SW of the east extremity of the island, and a drying ledge with some above-water rocks on it and a rock with 1.3 m over it extend 0.3 mile east from Lucy Island.



184 Parry Passage **light** (805), on the east extremity of Lucy Island, is shown at an elevation of 7.2 m from a skeleton tower.

185 **Solide Passage** separates Lucy Island from Langara Island and is bordered on both sides by drying rock ledges. The fairway through the passage is about 90 m wide and has a least depth of 5.2 m. **Alert Rock**, which dries 0.8 m, is on the south side of the fairway 0.2 mile SE of Holland Point. **Holland Point**, the SE extremity of Langara Island, is fringed by drying ledges that extend 0.2 mile east from it. The abandoned site of the First Nation village **Dadens** is on **Village Point** on the north shore of Solide Passage.

186 **Tides**. — Tidal differences for Solide Passage (Index No. 9960), referenced on Langara Point, are given in the Tide Tables, Volume 7.



187 **Tidal streams** in Solide Passage attain a maximum of 2¼ kn on the flood and 2¾ kn on the ebb, both being free of eddies. Slack water occurs at the time of slack water in Parry Passage.

188 **Bruin Bay**, south of Lucy Island, is an indentation on the north side of Graham Island. A rock with 6.5 m over it is in the middle of the bay. Anchorage in the bay is not recommended as the flood tidal stream has eddies which cause considerable yawing.

189 **Gunia Point** is the south entrance point at the east end of Parry Passage.

190 **Douglas Rock**, which dries 0.9 m, together with other drying and below-water rocks is 0.3 mile west of Gunia Point. **Coneehaw Rock**, 0.4 mile ENE of Gunia Point, is 2 m high.

Chart 3868

191 **Egeria Bay** (54°13'N, 132°59'W), 1.5 miles north of Holland Point, affords the best anchorage in the vicinity. The bay is sheltered from all except east winds, which if of any strength, raise a sea sufficiently heavy to render anchorage untenable. In summer and autumn months, kelp is visible growing in depths up to 8 fathoms (15 m) along the shore of Egeria Bay and south to Solide Passage.



192 **Anchorage** can be obtained in Egeria Bay in about 15 fathoms (27 m), mud bottom. From this anchorage the head of Egeria Bay bears about 287° and Cohoe Point 017°. Large vessels should anchor farther out in 18 fathoms (33 m) with the above-water rocks off Andrews Point open east of Cohoe Point.

193 **Pillar Bay** (54°09'N, 132°55'W), between Gunia and Seath Points, affords a temporary stopping place during westerly and offshore winds. **Pillar Rock**, in the east part of the bay, is a remarkable column of sandstone and conglomerate rock, 95 feet (29 m) high, surmounted by bushes. It stands near the outer edge of a drying ledge.



194 **Anchorage** can be obtained in Pillar Bay in 13 fathoms (24 m) with Pillar Rock bearing about 152°, distant 0.75 mile. Small craft can find shelter behind some of the rocky points in the bay.

195 **Directions**. — Approaching Parry Passage from SW be careful not to mistake T'áalan Stl'áng for Parry Passage. When Lucy Island has been identified steer for it on a bearing of not less than 030° until Iphigenia Point light structure bears about 110°, then alter course to bring Iphigenia Point light structure ahead, bearing 113°. This course will lead midway between Ocean Shoal and Swanton Bank. On approaching Iphigenia Point, alter course to pass about 0.1 mile south of the point. When Iphigenia Point light structure is abaft the beam, alter course to bring it astern, bearing 316°, and maintain this course until Parry Passage light structure, on the east end of Lucy Island, bears 070°. A course with Gunia Point ahead, bearing 104°, should then be steered until Parry Passage light structure bears 000°, then set a course for the east end of Dixon Entrance, taking care to give adequate clearance to Douglas and Coneehaw Rocks. On approaching the west extremity of Lucy Island, give particular attention to the steering because strong tidal streams in this vicinity create eddies. Approaching Parry Passage from the NE, give the drying reefs extending east from Lucy Island a berth of not less than 0.3 mile and then follow the previous directions in reverse order.

Virago Sound

Charts 3892, 3895

196 **Virago Sound**, the approach to Naden Harbour, is entered between Cape Naden (54°07'N, 132°35'W) and Cape Edensaw, 5 miles ESE.

197 **Hanna Bay**, between Cape Naden and **Jorey Point**, has foul ground extending well offshore and is fronted by large fields of kelp growing in depths up to 11 m. Two rocks that dry 2.4 and 3 m lie centred in Hanna Bay about 0.6 mile offshore.

198 **Mazarredo Islands** lie on a drying stony ridge extending 0.7 mile east of Jorey Point; this ridge covers at about half tide. It has been reported that small vessels can find good anchorage close SSE of the islands. In bad weather, Naden Harbour provides more shelter.

199 The SE shore of Virago Sound, between Cape Edensaw and **Inskip Point**, 4 miles SW, is fringed with drying flats extending up to 0.4 mile offshore. Large fields of kelp generally front this shoreline.

Chart 3895

200 **Hussan Bay** ($54^{\circ}04'N$, $132^{\circ}34'W$) is between Jorey Point and **Mary Point**, 2.5 miles south; extensive drying flats, fronted by drying rocks, sand bars and dense kelp fields line the shores.

201 **The Bar** extending WNW from Inskip Point toward the middle of Hussan Bay consists of stones and gravel; during summer and autumn it is covered in most parts with kelp. There is seldom any appreciable swell on The Bar. **Caution.** — **Depths in this vicinity are subject to change. It has been reported (2005) that depths near and across The Bar are shallower than charted. Least depth across The Bar may be as little as 1.5 m.**

202 **Hastings Reef**, which dries 0.2 m, is near the middle of The Bar.

203 **Hodgson Passage** is the channel leading over The Bar west of Hastings Reef. A least depth of 1.6 m lies 0.4 mile SSW of Hastings Reef.

204 **Smyth Passage** is the channel leading over The Bar east of Hastings Reef. The fairway through this passage is marked by starboard hand **buoy** "C56".

205 **Deepwater Point** and **George Point** are on the SE side of Alexandra Narrows. **Bain Point** is at the SW end of the narrows.

206 **Haswell Reef**, on the west side of Alexandra Narrows, consists of two detached ledges that dry 1 and 1.7 m. The east side of the north ledge is marked by a starboard hand **daybeacon**.



207 **George Point light** (803) is fitted with a port hand daymark.

208 **Alexandra Narrows** is about 0.1 mile wide in the fairway SE of Haswell Reef. The narrows is free from eddies but careful attention is required when rounding George Point.



209 **Tidal streams** in Alexandra Narrows attain a maximum of 2 kn on the flood and 2½ kn on the ebb. Secondary current station Alexandra Narrows (Index No. 8583), referenced on Prince Rupert, is given in the Tide Tables, Volume 7.

210 **Richard III Bank**, south of George Point, is on the east side of the fairway through Alexandra Narrows and dries 1.6 m. **Isabella Point** is east of the bank. It has been reported that good anchorage is available south of George Point but care

must be taken to avoid private buoys. **Caution.** — **Depths in this vicinity are subject to change.**

Chart 3892

211 **Naden Harbour** ($54^{\circ}00'N$, $132^{\circ}37'W$) is a spacious, well-sheltered harbour with general depths in its central part of 10 to 15 m. It affords good protected anchorage and shelter from all winds. Drying flats and marshy ground, backed by low, densely wooded land, border the whole harbour. Several sport fishing lodges with facilities on shore and floats protected by breakwaters are in the harbour.

212 **Craft Bay**, on the east side of Naden Harbour, is entered south of **Observatory Rock**. A **booming ground**, private **mooring buoys** and log slipways are on the SE shore of Craft Bay (1998) and **booming grounds** fill the cove east of Observatory Rock.

213 **Lignite Creek**, flowing into the SE side of the harbour, is marked by **Tee Island** on the drying flats in its entrance. A logging camp (1980) is SW of Tee Island.

214 **Naden River** and **Davidson Creek** flow into the head of the harbour. The mouth of Naden River is fronted by drying flats but the river is navigable by small craft at HW for about 2 miles. **Stanley Creek** flows into the SW corner of the harbour; it is fronted by drying flats that can only be crossed by small craft at or near HW. A **booming ground** with log slipways, a **log breakwater** and a sunken barge are in the mouth of Stanley Creek (1989).

215 **Wadsworth Ledge**, off **Colnett Point**, has three heads that dry 4.2, 2 and 1.7 m and a below-water rock with 0.6 m over it, 0.2 mile north.

216 **Kunlana Point**, **Fraser Point** and **Chittenden Point**, where there is a large logging camp (1985), are at the head of the harbour.

217 The abandoned whaling station Naden Harbour is on the west side of the harbour, about 2.4 miles SW of Bain Point near the mouth of **Germania Creek**. The only visible sign is a conspicuous concrete tower-like structure.

Charts 3892, 3895



218 **Anchorage** for vessels waiting to cross The Bar can be obtained east of Mazarredo Islands in Virago Sound, in about 11 m, with George Point light bearing 200° and Cape Naden bearing 320° . Small vessels can anchor closer to The Bar in the same depth with Mary Point in line with Bain Point bearing 209° , and the above-water rock NE of Mazarredo Islands in line with Cape Naden bearing 327° .




219 **Anchorage** in 10 to 20 m, mud bottom, can be obtained almost anywhere within Naden Harbour.

220 **Directions.** — When approaching Virago Sound, useful landmarks to the west are the distinctive summit at Klashwun Point and the highest part of Langara Island.

Mazarredo Islands and the narrow opening of Alexandra Narrows only become visible as the entrance is approached.

221 If approaching from the west, pass about 1.5 miles north of Klashwun Point and 1 mile NE of Cape Naden then continue SE until George Point light bears 219°. If approaching from the east, round Cape Edensaw at a distance of about 1 mile and steer for Mazarredo Islands until George Point light bears 219°.

 221.1 The **wreck** of the fishing vessel *Pacific Pearl* is reported to have sunk in the vicinity of Cape Naden approximately 300 m NE from the shore. The 21 m vessel with least depth unknown sank in 2020 and may have drifted towards the shore. Mariners are advised to use caution when transiting the area.

222 Smyth Passage is the recommended channel for crossing The Bar. It is marked by a buoy.

223 Entering Naden Harbour by way of Smyth Passage, keep George Point light bearing 219°; this leads across The Bar. When Deepwater Point bears 180°, alter course toward the point and follow the trend of the SE shore between that point and George Point in order to avoid the east extremity of Haswell Reef.

224 After passing George Point, follow the west shore of Alexandra Narrows at a distance of about 0.15 mile until past the south extremity of Richard III Bank; then alter course for the selected anchorage in Naden Harbour.

Masset Harbour and Approaches

225 **Skonun Point** (*54°02'N, 132°03'W*) is fronted by a small cliff from which a drying rock ledge extends a short distance north. Drying rocks and dense kelp line the shore west of Entry Point.


226 **Conspicuous radio towers** near Skonun Point have red air obstruction **lights** and make a good landmark.

Chart 3895

227 **Entry Point** (*54°03'N, 132°11'W*), 5 miles WNW of Skonun Point, is the east entrance point to Masset Harbour; it is a low, densely wooded, rounded promontory. **Estrado Lagoon** is on the NW side of Entry Point. **Venture Banks**, 3.4 miles NNE of Entry Point, have a least depth of 2.1 m over them and are the outermost dangers on the east side of the approach to Masset Harbour. The seas frequently break heavily on these banks, and being steep-to on the north side, soundings give little warning.

228 **Striae Islands** (*54°05'N, 132°15'W*) lie on an extensive drying flat SE of **Jacob Point**. The NW island is thickly wooded and makes a fair landmark when approaching Masset Harbour. The outer islet has a few straggly trees on it. Hidden Island, NW of Jacob Point, is described earlier in this chapter.

Otun River flows into the small bight 0.5 mile south of Striae Islands; it is accessible to small craft near HW.

 229 **Striae Islands light** (798), on the east islet of the group, is shown at an elevation of 6.1 m from a skeleton tower.

230 **Masset Harbour** entered between Entry Point and **Westacott Point**, 2.3 miles NW, leads to Masset Sound and Masset Inlet. The entrance to Masset Harbour is difficult to identify if coming from the NE. In clear weather the radio towers at Skonun Point will be of assistance; otherwise the light structures at Wiah Point and Striae Islands, both on the west side of the entrance, are the only identifiable landmarks. The entrance is encumbered by Outer and Inner Bars.

231 **Davy Ledge**, 0.3 mile NE of Westacott Point, has two heads that dry 2.7 and 1.5 m. Shoal water extends well off the west shore of the entrance to Masset Harbour.


232 **Outer Bar** is on the east side of the entrance channel, 1.8 miles NE of Westacott Point. It is a narrow ridge of sand and gravel with a least depth of 2.1 m at its western end.


233 **Inner Bar** is a narrow ridge of gravel with a least depth of 4 m over it that extends 2.5 miles NNW of Entry Point.

234 **Troup Bank**, which dries in patches, extends 1.5 miles NNE from Entry Point.

235 **Light buoys.** — Masset Harbour **light and bell buoy** “C29” (791.3), WNW of Outer Bar, is a port hand buoy.

236 Masset Harbour Entrance **light buoy** “C31” (791.5), SSW of Inner Bar, is a port hand buoy.

 237 Masset Harbour Entrance **range lights** (792, 792.1), on the west side of Masset Harbour south of Entry Point, in line bearing 165½°, lead west of the two light buoys into the harbour. The lights are shown from skeleton towers fitted with range daymarks.

 238 **Caution.** — Entrance to Masset Harbour is not recommended during the strength of the tidal streams. Northerly winds cause a heavy swell on the bars, which can last for several days; this should be kept in mind if the margin of draught is small.

239 **Tides.** — Tidal characteristics in this area are complex and tidal information given on *Chart 3895* should be treated as an approximation and used with caution. Masset (Index No. 9910) rather than Wiah Point, both in the Tide Tables, Volume 7, should be used when calculating depths in the entrance.

240 **Sturgess Bay**, between Westacott and Rooney Points, 4.3 miles SE, is shallow throughout and affords no anchorage.

241 **Susan Bank**, with two heads that dry 0.6 m, fronts Sturgess Bay and lies on the west side of the fairway in Masset Harbour. **Wimble Rocks**, about 1 mile SE of Susan Bank, dry 2.4 m.

242 **Rooney Point**, 2 miles SSE of Entry Point on the west side of the harbour, is low and wooded; it can usually be identified when nearing Striae Islands.



243 **Rooney Point light** (793.3), 0.3 mile ENE of Rooney Point, is shown from a dolphin.

244 **Maast Island** and **Grassy Islet** lie SE of Rooney Point on an extensive drying bank that extends 0.8 mile SSE to **Crowell Point** (Chart 3892).



244.1 An underwater obstruction with 25 m of water over it is located approximately 0.3 mile east of Maast Island.

245 **Old Masset**, 0.5 mile south of Entry Point, is an First Nation community.

246 **Masset Harbour daybeacon**, on a drying reef 1 mile SSE of Entry Point and close-off the NE side of Masset Harbour, has a port hand daymark.



247 Three **submarine pipelines** extend from the east shore between Old Masset and 1.5 miles SE.

248 **Dal Káahlii**, on the east side of Masset Harbour, is entered between **Dal Kún** and **Skaga Point**. A narrow channel with a depth of 1.5 m in the entrance leads to a boat basin with depths of 2.1 to 3 m. The remainder of Dal Káahlii, north of the boat basin, is filled with drying flats.



249 **Dal Káahlii light** (793.5), on the south extremity of a drying spit extending from Dal Kún, is on a dolphin fitted with a port hand daymark.

250 The south side of the entrance to Dal Káahlii is marked by a **daybeacon** with a starboard hand daymark.

251 A **radio tower** with red air obstruction lights is about 0.9 mile east of Skaga Point (Chart 3892).

252 The south end of Masset Harbour and the north end of Masset Sound is a **water aerodrome**.



253 **Anchorage** outside Inner Bar is not recommended; the bottom is generally hard shingle and gravel, the holding ground is not good, and the anchorage is fully exposed to northerly winds. Vessels usually anchor in the entrance to Masset Harbour, SW of Old Masset, in about 24 m; this anchorage is fully exposed to the strength of tidal streams and the holding ground is poor. Small vessels can obtain anchorage in the small bight on the east shore, south of Skaga Point. The depth here is about 11 m and swinging room is limited but it is out of the main strength of the tidal streams.

Charts 3892, 3895

254 **Directions**. — Approaching from NW, pass about 1 mile north of Wiah Point light and then steer to intersect Masset Harbour entrance range ENE of Jacob Point, giving the coast between Wiah and Jacob Points a berth of no less than 1 mile.

255 Caution is necessary when approaching Masset Harbour from NE; Wiah Point should not be brought to bear

more than 263°, or the largest of Striae Islands more than 239°, in order to clear Venture Banks.

256 **Masset** is a community at the entrance to Dal Káahlii. It has a post office (VOT 1M0), RCMP detachment, a Canadian Forces Base, a hospital, lodges and cottages, a few stores and restaurants, a marine ways, a cannery and a church. There is radio and television reception. Diesel fuel and gasoline are obtainable. An asphalt airstrip, 1,524 m long and a heliport are NE of the community.

257 **Tides**. — Tidal differences for Masset (Index No. 9910), referenced on Bella Bella, are given in the Tide Tables, Volume 7.



258 **Wharves**. — The **public wharf**, 0.3 mile NW of Dal Kún, is 147 m long and has a berthing face of 66 m. A **fuel float**, 24.8 m long, is on the north side of the wharf. Fresh water is available at the float. **Caution**. — **It has been reported (2005) that strong currents can make coming alongside these floats very challenging. Slack water is only of a few minutes duration.**

259 A **cannery wharf**, north of the public wharf, is 98 m long with an L-shaped head 19 m long.

260 **Caution**. — Depths in the channel leading to the boat basin in Dal Káahlii are subject to change. It is reported (August 2007) that silting is occurring on the E side of the channel, and the W side of the channel should be favoured.

261 The **boat basin** inside Dal Káahlii, operated by the **Delkatla Slough Harbour Authority**, has three **public floats**, 152, 121 and 30 m long, with a depth of 2.1 m alongside. A **seaplane float** is on the east side of the boat basin.

262 **Communications**. — Scheduled air service to Sandspit and charter air service to other points operate from Masset water aerodrome and airstrip. Masset is connected by road to Port Clements, Juskatla, the Village of Queen Charlotte and Skidegate.

Masset Sound

Charts 3892, 3893

263 **Masset Sound** (53°59'N, 132°08'W) leads south from Masset Harbour into Masset Inlet and has a navigable width of about 0.3 mile, except in the vicinity of Cook Point, where the width is reduced by foul ground to less than 0.2 mile. The shores are lined with stones, boulders, mud and weeds.

264 **Tides**. — The tidal range decreases south of Masset and along the entire length of Masset Sound the large tide range is about 3 m. HW and LW at Nadu River, about 11 miles south of Masset, occur about 1 h 30 min later than at Masset.



265 **Tidal streams** in Masset Sound are generally always strong because of the large body of water

in Masset Inlet and the relatively narrow passage of Masset Sound. They generally follow the trend of the sound and do not present any great difficulties, although caution is necessary when passing Cook Point. The ebb attains a maximum of 5½ kn and the flood 5 kn; duration of slack water is very brief, particularly at spring tides. Secondary current station Masset Sound (Index No. 8580), referenced on Prince Rupert, is given in the Tide Tables, Volume 7.

266 A **barge loading ramp**, mooring dolphins and a private **mooring buoy** are about 1.5 miles south of Skaga Point, on the east side of Masset Sound.

Chart 3893

267 **Griffith Point** ($53^{\circ}56'N$, $132^{\circ}08'W$), 4 miles south of Skaga Point, is steep-to. A shoal area, with a depth of 8.8 m, lies in mid-channel 1 mile SSE of Griffith Point. A **mooring buoy** is 0.5 mile SSE of the point (1980).

268 **Watun River**, 2 miles SSE of Griffith Point, has a drying bank in its entrance. A shallow bank, with a least depth of 7.2 m over it, projects from the west side of the sound abreast Watun River.

269 **Allan Point** is 5.5 miles south of Griffith Point. **Nadu River** enters Masset Sound 0.8 mile south of Allan Point. A rock with 9.8 m over it lies in mid-channel 0.7 mile SSW of Allan Point.

270 **Hogan Point**, 1.3 miles SSW of Allan Point, is the north extremity of **Kumdis Island**, which is separated from Graham Island by **Kumdis Slough**. Below-water rocks and shoal depths are on both sides of the channel between Hogan and Cook Points.

271 **Cub Island**, 2.5 miles SW of Hogan Point, is the outermost of a group of small islands lying on a drying ledge along the NW side of Kumdis Island.

272 **Foul ground**, with a rock that dries 1 m at its west extremity, extends west from the drying ledge on which Cub Island lies.

273 **Cook Point** is 0.5 mile NW of Cub Island. A drying spit extends east from the point.



274 Cook Point **light** (794), on the outer end of the drying spit extending off Cook Point, is shown at an elevation of 4 m from a skeleton tower.

275 A **daybeacon**, with a port hand daymark, marks the foul ground extending from the east shore.

276 **Collison Point** is 1.5 miles SW of Cook Point. A log dump and **booming ground** are at Collison Point (1989). **Ship Island** is 1.8 miles SW of Collison Point. **Ship Kieta Island** is 0.1 mile west, and **Sloop Islet** 0.3 mile east, of Ship Island.



277 Sloop Islet **light** (795) is shown at an elevation of 5.1 m from a skeleton tower.

278 **Stubbs Rock**, 0.5 mile SW of Ship Island, dries 1.8 m. Below-water rocks lie between Stubbs Rock and Ship

Island. Stubbs Rock starboard hand **light buoy** “C40” (795.5) is close SW of Stubbs Rock.

279 **Borrowman Shoals** consist of two extensive shoal areas on the SE side of the channel, SE of Ship Island. The shoals occupy nearly the whole of the east part of Masset Inlet. Port hand **buoy** “C39” marks the NW end of Borrowman Shoals.

Charts 3892, 3893

280 **Directions**. — After passing the settlement of Masset, maintain a mid-channel course until about 3 miles south of Crowell Point, then favour the east shore, taking care to give adequate clearance to the drying bank off Watun River. When Cook Point light structure bears 236° steer for it on that bearing until Collison Point is in line with the SE extremity of Ship Island, bearing 213° , then alter course and follow this leading line until Cub Island is abeam. When Cub Island is abeam alter course to pass Collison Point in mid-channel then alter course to pass about 0.25 mile SE of Sloop Islet, then alter course slightly to pass midway between the shoal water extending south from Sloop Islet and the shoal areas on the NW side of Borrowman Shoals; thence into Masset Inlet.

Masset Inlet

Chart 3893

281 **Masset Inlet** ($53^{\circ}42'N$, $132^{\circ}20'W$) is encumbered in its central part by islands and shoals; the shore on both sides of the east end of the inlet is relatively low lying. The west end is deep and the shores rise steeply to elevations in excess of 610 m. Port Clements is at the SE end and Juus K̄áahlii is on the south side of Masset Inlet.

282 **Tides**. — Tidal differences in Masset Inlet, referenced on Bella Bella, are given for Port Clements (Index No. 9920) in the Tide Tables, Volume 7.





283 **Tidal streams** in Masset Inlet seldom exceed 1½ kn.

284 **Martin Point**, the south extremity of Kumdis Island, has a drying ledge, with several boulders on it, extending 0.5 mile south of it. Several private **mooring buoys** are in Kumdis Slough east of the point near the entrance to **Kumdis Bay**. A sports fishing lodge and its associated facilities are on the north entrance point to Kumdis Bay.


285 **Port Clements**, at the SE end of Masset Inlet, is a village at **Stewart Bay**. It has a post office (V0T 1R0), restaurants and motel. The village is connected by road to Masset, Juskatla and the Village of Queen Charlotte. Diesel fuel, gasoline, lubricants and groceries are obtainable. A fuel tank farm is on the NW side of the promontory.

 286 A **submarine pipeline** (sewer outfall) extends offshore about 0.3 mile NE of the public wharf.

 287 **Wharves.** — The **public wharf**, at the NW end of the promontory, extends 238 m NW from shore and is 15.2 m wide at its outer end; there is a depth of 5.2 m along the outer end of the wharf.

 288 A **breakwater**, at the NE end of the promontory, extends 137 m NE from shore and then 53 m east. Port Clements breakwater **light** (795.3) is on the east end. The **public float** inside the breakwater, operated by the **Port Clements Harbour Authority**, has a depth of 3 m alongside.

289 **Strathdang Kwun**, 1.6 miles SW of Port Clements, is the west entrance point to **Yakoun Bay**. **Yakoun River**, **Florence Creek** and **Cohoe Creek** flow into the head of the bay.

 290 **Anchorage** in 13 m can be obtained 0.8 mile WNW of Strathdang Kwun.

291 **Ferguson Bay**, 2.5 miles west of Strathdang Kwun, is entered south of **Echinus Point**. A **rock-fill breakwater** extends 183 m east from Echinus Point. A private starboard hand **buoy**, east of the breakwater, marks a rock with 1.3 m over it. Another **breakwater** extends 274 m NW from the south shore of Ferguson Bay; a **boom** joins the two breakwaters and the enclosed area is used for log storage (1980).

292 **Mackie Rock**, 1.5 miles NW of Echinus Point, dries 2.4 m. A **daybeacon** with a bifurcation/junction daymark, preferred channel to right, is on the rock.

293 **Cowley Islands** are 1.5 miles west of Mackie Rock. **Cowley Rock**, which dries 0.3 m, is 0.2 mile east and **Powell Island**, 6 m high, is 0.5 mile SW of Cowley Islands.


294 **Koutz Rock**, 0.8 mile SE of Cowley Islands, dries 0.5 m and is marked by port hand **buoy** "C41".

295 **Ross Islet**, 1 mile SW of Powell Island, has a rock that dries 1.8 m close-off its NE side. **Yestalton Bay** is 0.5 mile SW of Ross Islet. Several drying rocks lie close offshore between Yestalton Bay and Makai Point, 1.9 miles east.

296 **Dawson Islands** ($53^{\circ}43'N$, $132^{\circ}20'W$), a group of islands and rocks, are in the middle of Masset Inlet.

 297 Dawson Islands **light** (796), on the SE island of the group, is shown at an elevation of 9.5 m from a skeleton tower.

298 **Kwaikans Island** is 1.5 miles west of Dawson Islands. Several drying and below-water rocks lie up to 0.7 mile east of Kwaikans Island.

 299 **Anchorage** can be obtained in 34 m about midway between the NW point of Kwaikans Island and the mainland west of it.

300 A chain of islets, drying and below-water rocks extend from the west side of Kwaikans Island toward **Gray Island**. **Sinclair Rock**, which dries 2.7 m, is midway between Gray Island and the above-mentioned chain.

301 **McCreight Island** is 0.4 mile SW of Gray Island. The passage between these two islands is encumbered with an islet and a rock that dries 2.2 m. **McCreight Rock**, with a depth of 1.8 m over it, is 0.1 mile north of McCreight Island.

302 **Ain River** flows into the inlet NNW of Kwaikans Island. **Buckley Cove** and **Parker Point** are 1.5 and 2.7 miles SW of Ain River, and **McKay Range** rises to the west.

303 **Shannon Bay** is fronted by **Wathus Island**, **Wharton Island**, **Smyth Island**, **Simpson Island** and **Learmonth Island**. Drying and below-water rocks lie in the passage between Wathus and Wharton Islands; a rock with 0.9 m over it lies in the middle of this passage.


 304 **Learmonth Island light** (797), on a rock north of the island, is shown at an elevation of 6.4 m from a skeleton tower.

305 **Wiah Island** is on the west side of Shannon Bay. The passage south of the island is encumbered with drying and below-water rocks.

306 The charted booming ground and mooring buoys off the east shore of Shannon Bay have been removed.

307 **Directions.** — Approaching Shannon Bay from the east, the only passage recommended is west of Learmonth Island and thence between Wharton and Smyth Islands. Approaching Shannon Bay from the west, the passage between Wathus and Wiah Islands is free of dangers in mid-channel. The passage south of Wiah Island is encumbered with several dangers.

308 **Awun Bay**, west of Shannon Bay, is best approached north and west of Wathus Island. Several islets and drying reefs are close-off the west entrance point to the bay.

 309 **Anchorage** can be obtained in the entrance to Awun Bay on a bank extending west from Wathus Island; the best position being about 0.6 mile NW of Wiah Island.

310 **McClinton Bay**, 1.5 miles west of Awun Bay, has a logging camp with a log dump and **booming ground** at its head (1985).

311 Two private **daybeacons** are on the west entrance point and two **daybeacons** are near the east entrance of McClinton Bay.

312 **Mutus Island** is in the entrance of Dinan Bay. The passage north of the island is obstructed by islets, drying reefs and a **booming ground** across it. Islets and drying reefs extend 0.5 mile SE, and a shoal spit extends 0.2 mile south, from Mutus Island; the south end of the spit is marked by a private **daybeacon** and starboard hand **buoy**.

313 A private **beacon range**, 0.3 mile west of Mutus Island, when in line bearing $307\frac{1}{2}^{\circ}$, leads through the channel south of Mutus Island into Dinan Bay.

314 **Dinan Bay** has a large logging camp and log storage area on its north side (1985). **Tatzun Creek** flows into the north side of Dinan Bay close west of Mutus Island.



315 **Anchorage** west of Mutus Island is well-sheltered from all directions but west. The bottom in the middle of the bay is flat, soft mud.

316 Prevailing winter **winds** are from the east or NE; strong winds from these directions make navigation difficult in the narrow entrance to Dinan Bay. Strong winds blow down from the mountains to the west.

Juus Káahlíi

317 **Juus Káahlíi** ($53^{\circ}37'N$, $132^{\circ}26'W$) is entered through Juskatla Narrows on the south shore of Masset Inlet.

318 **Tides**. — Due to the shallow, narrow entrance of Juus Káahlíi the tidal range and time differences inside the inlet differ from those in Masset Inlet. Tidal differences for Juskatla (Index No. 9927), referenced on Bella Bella, are given in the Tide Tables, Volume 7.

319 **Richards Island** ($53^{\circ}41'N$, $132^{\circ}21'W$), **Deasy Island**, **Fraser Island** and two small islands east of Fraser Island divide the entrance of Juus Káahlíi into two channels. The channel east of Fraser and Deasy Islands is very shallow and encumbered with drying banks.

320 **Juskatla Narrows**, entered between **Makai Point** and Richards Island, leads west of Fraser and Deasy Islands. It is less than 0.1 mile wide in its narrowest part and a least depth of 1.8 m in the fairway is encountered WSW and SW of Deasy Island. A rock that dries 1.2 m is on the east side of the north entrance of Juskatla Narrows and drying banks and rocks are on the west side of the fairway, west of Deasy Island. Passage through Juskatla Narrows is best attempted at HW slack.



321 **Tidal streams** attain 6 to 9 kn through Juskatla Narrows and on the ebb there is much broken water. The ebb velocity can increase considerably when the rivers and creeks discharging into the inlet are in flood. The time of HW slack in Juskatla Narrows varies from 4 h 30 min to 5 hours after HW at Prince Rupert; LW slack varies from 5 h 15 min to 5 h 45 min after LW at Prince Rupert.

322 **Harrison Islands**, the largest of which is about 2 miles south of Juskatla Narrows, are a chain of islands extending NE to almost join **Harrison Reef**, a ridge of large drying boulders extending from the east shore. An islet 15 m high 0.5 mile SSW of Harrison Reef has a rock with less than 2 m over it 0.4 mile east of it.

323 **Cowhoe Bay** and **Mamin Bay**, in the east arm of Juus Káahlíi, are separated by an extensive drying flat extending from the entrance of **Mamin River**.

324 **Mamin Islets** are close-off the drying flat. A rock that dries 0.3 m is 0.4 mile SW of the west Mamin Islet, on the SW side of the approach to Mamin Bay.



325 Mamin and Cowhoe Bays afford good **anchorage** almost anywhere within them.

326 **Juskatla** is a community on the east shore of Mamin Bay. It is connected by road to Port Clements and has a post office (VOT 1J0), a store and a fully equipped machine shop. A logging camp and **booming ground** are on the east side of Mamin Bay (1985).

327 **Stilique Bay** lies south of the main island of the Harrison Islands, about 2 miles west of Mamin Bay.

328 **Ohala Islets**, which are wooded, are 0.5 mile north and **Steilta Islets** are west of the largest Harrison Island.

329 **Seegay Islets**, SW of Steilta Islets, consist of three wooded islets. Islets together with drying and below-water rocks lie SE and SW of these islets; do not pass between them.

330 **Modeets Islands** are in mid-channel about 2 miles from the head of Juus Káahlíi.

331 **Datlamen Creek** flows into the head of Juus Káahlíi.

332 **Directions**. — Enter Juus Káahlíi at HW slack and give Richards Island a wide berth until Juskatla Narrows is fully open, then steer slightly to west of mid-channel to avoid the drying rock off the west end of Fraser Island. After passing between Makai Point and the drying rock, steer a mid-channel course, until through the narrows, then favour Deasy Island to avoid the drying reefs on the west side of the fairway.

333 When past Deasy Island, and if bound for Juskatla, steer to pass midway between the two eastern islands of the Harrison Islands; one island is 56 m and the other 49 m high. When these two islands are cleared, pass 0.15 mile NE of the island 15 m high and 0.15 mile SW of Mamin Islets, thence to an anchorage in Mamin Bay.

334 Juskatla can also be approached by passing west and then south of Harrison Islands. After clearing Deasy Island, steer to pass midway between Harrison Islands and Ohala Islets, thence between Steilta Islets and Seegay Islets and south of the largest of Harrison Islands. Note the 6.4 m shoal 0.4 mile ENE of Seegay Islets and take care to avoid the drying reefs on both sides of the channel south of Harrison Islands.


335 If bound for the head of Juus Káahlíi, keep in mid-channel and pass on either side of Modeets Islands, but note the 4.3 m shoal east of the north Modeets Island.

Work Channel and Union Inlet

Charts 3960, 3963

336 **Work Channel** ($54^{\circ}39'N$, $130^{\circ}26'W$) extends 28 miles SE along the NE side of the Tsimpsean Peninsula. The shores of Work Channel are generally steep-to and rise to mountains with elevations in excess of 914 m.

337 **Tides**. — Tidal differences in Work Channel, referenced on Prince Rupert, are given for Trail Bay (Index No. 9406) in the Tide Tables, Volume 7.

 338 **Tidal streams** in Work Channel attain 3 to 4 kn. Considerable tide-rips, dangerous to small craft, are encountered in the vicinity of Sager Rock, and in the entrance of Work Channel.

339 **Hogan Island** is on the east side of the entrance of Work Channel. **John Point**, its north extremity, is low. **Father Point**, the west extremity, has a rock 1 m high close SW, surrounded by a drying ledge.


340 **Maskelyne Point**, the north extremity of **Maskelyne Island**, has a white cliff 0.2 mile SW which is 13 m high, prominent and surrounded by three dark cliffy rocks. **Dudevoir Passage**, on the south side of Maskelyne Island, is described in Sailing Directions booklet *PAC 205 — Inner Passage — Queen Charlotte Sound to Chatham Sound*.

341 **Sager Rock**, 0.3 mile WNW of Maskelyne Point, has three peaks with a least depth of 5.8 m over them. Pass north and east of Sager Rock when entering Work Channel taking due caution, particularly when the flood tidal stream is running, to avoid being set on to the rocks off Father Point.


342 **Emma Passage** entered east of John Point is deep and unobstructed.

Chart 3963


343 **Union Inlet** ($54^{\circ}39'N$, $130^{\circ}23'W$) is entered from Emma Passage, NE of **Emma Point**. The land on both sides of the inlet is high, rising to elevations in excess of 914 m, except on the south side near the entrance where the hills are comparatively low. A First Nations reserve is at the south end of the bay half way up the inlet.

 344 **Anchorage** can be obtained in Union Inlet 1.9 miles SE of Emma Point, about 0.1 mile off a mud flat. Depths in this anchorage are 33 to 48 m, mud bottom, but the holding ground is indifferent. Small vessels can anchor about 0.2 mile off the mud flats at the head of Union Inlet in 31 to 35 m, mud bottom.


345 **Paradise Passage** separates the SE side of Hogan Island from the mainland and connects Emma Passage to Work Channel. It is very narrow and only suitable for small craft; local knowledge is advised. The fairway leads on the east side of the rock that dries 5.5 m, 0.4 mile south of Emma Point.

 346 **Tidal streams** in Paradise Passage attain up to 3 kn.

346.1 A First Nations reserve is on the SW side of Hogan Island, 0.5 mile NW of entrance to Paradise Passage. **Floats** are in the bay north of the reserve, 0.8 mile NW of entrance to Paradise Passage.

 347 Temporary **anchorage** can be obtained in the north part of Work Channel, 1.3 miles SE of the south entrance to Paradise Passage, in 49 to 55 m, gravel bottom. The tidal streams are strong in this anchorage. First Nations reserves are on the east and west shores of the channel.


348 **Trail Bay**, 6 miles SE of Maskelyne Point, is entered between **Grace Point** and **Trounce Point**. **Zumtela Bay** is a small cove on the west side of Trail Bay.

 349 **Anchorage** can be obtained in Trail Bay, 1 mile NW of Grace Point, in 40 m, sand and gravel bottom. Small craft can obtain well-sheltered anchorage in Zumtela Bay in 12 m, sand bottom, about 0.1 mile from shore.

350 **Worsfold Bay**, on the east side of Work Channel and 1.5 miles east of Grace Point, is deep and not suitable for anchorage. *Dolphins North Lodge*, a floating sports fishing lodge and its associated facilities are moored at the head of the bay. **Lama Point** forms the west side of the bay. **Pinnacle Rock**, which dries 6.4 m, is 0.2 mile SW of Lama Point.

351 **Eagle Bight**, 2.5 miles SE of Lama Point, is deep and not suitable for anchorage. A First Nations reserve is on the NE shore of the bight.


352 **Legace Bay**, 1.5 miles SE of Eagle Bight, has an island and two islets near its head, connected by drying ridges to the north and south shores. The lagoon east of these islands can be entered by small craft at or near HW.

 353 **Anchorage** can be obtained in the outer part of Legace Bay in 40 m, sand and mud bottom.


354 **Grave Bay**, 1 mile SE of Legace Bay, is almost filled with drying flats. **Ensheshese River** flows into the head of the bay. A First Nations reserve is in the bay.

355 **Sarah Creek**, 2 miles SE of Grave Bay, is fronted by a drying flat of sand and stones. A First Nations reserve is at the creek.

356 **Quottoon Inlet**, 5 miles SE of Sarah Creek, is entered between **Reservation Point** and **Quottoon Point**. The shores of the inlet are bold, steep-to and backed by precipitous mountains. A remarkable high cliff is on the east shore at the entrance. First Nations reserves are close NW of Reservation Point and 2 miles NE of Reservation Point on the east side of the inlet.

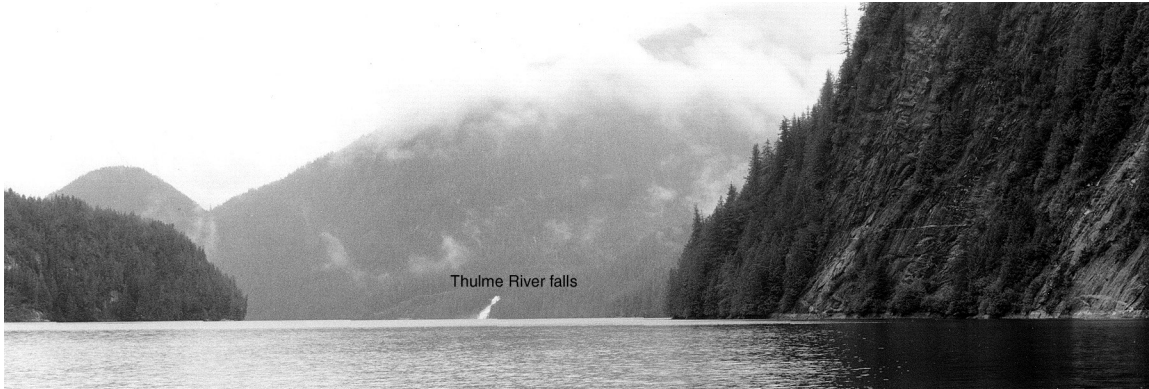
 357 **Quottoon Narrows**, 3.5 miles inside the entrance of Quottoon Inlet, narrows to 137 m abreast an island with shoal water extending 76 m off it. High cliffs overhang the east side of the narrows. When passing through the narrows, favour the east shore, which is steep-to. **Tidal streams** in Quottoon Narrows are strong. A First Nations reserve is in the cove close NE of the narrows.

358 The **Thulme River** enters the inlet on the east shore near the head and the **Toon River** enters the head of Quottoon Inlet. A conspicuous waterfall is at the mouth of Thulme River. A First Nations reserve is along the east side of Toon River.

 359 **Anchorage** is reported to be available in the cove close NE of Quottoon Narrows.

360 **Bill Creek** and **Marion Creek** enter Work Channel 1.4 and 3.4 miles SE of Quottoon Point. First Nations reserves are at Bill Creek and Marion Creek.

HEAD OF QUOTTOON INLET (1988)



361 **Lachmach River** flows into the south end of Work Channel over extensive drying flats that are steep-to. A gravel road along the south shore of the river leads to the Terrace highway. A gravel launching ramp is at the Work Channel end of this road. First Nations reserves are on the west and east side of the river mouth.

362 **Davies Bay**, at the head of Work Channel, is entered south of **Jane Point**. A rock, 1 m high, and another that dries 1.8 m lie close-off Jane Point. A First Nations reserve is on the west side of Davies Narrows.

363 **Davies Lagoon**, at the head of Davies Bay, has a very narrow entrance, which is obstructed by a bar that dries 2.7 m. Small craft can enter the lagoon at or near HW.



364 Small craft can obtain temporary **anchorage** on the east side of the head of Davies Bay. This anchorage is subject to strong tidal streams in and out of Davies Lagoon.

365 **Splitmountain Lake** is connected to the head of Davies Lagoon by a small stream. **Leverson Lake** discharges over some falls into the head of Splitmountain Lake.

Portland Inlet

Charts 3994, 3920

366 **Portland Inlet** ($54^{\circ}41'N$, $130^{\circ}28'W$) leads about 22 miles NE from the east end of Dixon Entrance to its junction with Observatory Inlet and Portland Canal.

367 **Tides**. — Tidal differences in Portland Inlet, referenced on Prince Rupert, are given for Kumeon Bay (Index

No. 9414), Ranger Islet (Index No. 9418) and Kincolith (Index No. 9422) in the Tide Tables, Volume 7.

Chart 3994

368 **Wales Passage** ($54^{\circ}46'N$, $130^{\circ}26'W$), between Wales and Pearse Islands, leads NW from Portland Inlet to Pearse Canal. The fairway is free of dangers. First Nations reserves are on the north point of Wales Island and on Pearse Island in the cove 1.1 miles north of the entrance to the passage.

369 **York Island** lies in the middle of the south entrance of Wales Passage.



370 **Manzanita Cove**, on the west side of the south entrance of Wales Passage, is entered north of **Swaine Point**; it affords **anchorage** for small vessels.

371 **Pearse Island** separates Portland Inlet from Pearse Canal.

372 **Crag Point**, 3.5 miles NE of York Island, has white cliffs.

373 **Pirate Point**, 2 miles NE of Crag Point, has three drying rocks close west of it, the highest of which dries 2.4 m. The bay on the west side of Pirate Point is too deep and exposed for satisfactory anchorage.

374 **Lizard Point**, 1.2 miles NE of Pirate Point, is prominent. **Lizard Cove**, west of the point, is too deep and exposed for satisfactory anchorage. The foreshore in the cove is sand and gravel.



375 **Lizard Point light** (754), on the point, is shown at an elevation of 8.6 m from a white cylindrical tower with a red band on top.

376 **Flat Point** is 5.5 and **Portland Point** 8.5 miles NE of Lizard Point. The land west of Flat Point rises to 736 m and west of Portland Point rises to 660 m.

377 **Somerville Island** ($54^{\circ}43'N$, $130^{\circ}20'W$) is on the SE side of the entrance to Portland Inlet; its coasts are generally bold and the land on its SE side rises very steeply. **Elliott Point** is the SW extremity of the island.

378 **Truro Island** is off the SW end of Somerville Island. **Truro Passage**, which is deep in the fairway, separates Truro Island from Somerville Island.

379 **Nob Islet**, 0.9 mile NE of Truro Island, has a remarkable white cliff a short distance south of it.

380 **Start Point**, the north extremity of Somerville Island, is bold and steep-to.

381 **Somerville Bay**, entered between Start Point and **Yakaskalui Point**, 0.5 mile SE, is sometimes used as a base for fishing operations during the salmon fishery.



382 **Anchorage** for small vessels can be obtained near the head of Somerville Bay in 22 m, sand.

383 **Steamer Passage** leads between Somerville Island and the mainland SE. A First Nations reserve is on the south side of Somerville Island, 2.4 miles NE of Elliot Point.

384 **Kumeon Bay** ($54^{\circ}43'N$, $130^{\circ}15'W$), on the south side of Steamer Passage, has a gravel drying bank on its west side extending 0.1 mile north into Steamer Passage. A First Nations reserve is on the east side of the bay.



385 **Anchorage** for small vessels, with fair holding ground of sand and mud, can be obtained in Kumeon Bay in about 22 m; take care to avoid the gravel drying bank described above.

386 **Spakels Point**, **Keemein Point** and **Welgeegenk Point** are NE of Kumeon Bay. A First Nations reserve is at Spakels Point.

387 **Kwinamass Bay** is at the north end and on the east side of Steamer Passage. **Gadu Point** is the south entrance point to the bay and drying flats, formed by the **Kwinamass River**, fill the major portion of the bay. Two cabins are on the east side of Gadu Point (1988).

388 **Khutzeymateen Inlet**, on the SE side of Steamer Passage, has mainly steep-to shores rising to high wooded mountains.

389 **Crow Lagoon**, 0.5 mile SSE of Keemein Point, has a drying flat extending across its entrance on which there is a **rock** that dries 1.5 m. Another **rock** that dries 2.1 m lies in the centre of its narrow entrance.

390 **Walskakul Shoal**, 4 miles SE of Keemein Point, lies in mid-channel west of **Walskakul Point** and has a depth of 14.1 m over it.



391 **Tsamspanaknok Bay**, 5 miles within and on the south side of Khutzeymateen Inlet, provides **anchorage** for small craft about 0.1 mile off the edge of the drying flat at the head of the bay. Shoal water projects from both sides of the bay, 0.4 mile from the head.

392 **McGregor Point**, a prominent headland, is marked by an abandoned daymark (1988).

394 **Khutzeymateen River**, 8 miles SE of McGregor Point, and **Larch Creek** flow into the head of Khutzeymateen Inlet over an extensive drying flat.

395 The K'tzim-a-deen (Khutzeymateen) group of protected areas includes **Khutzeymateen Park** (a.k.a. **Khutzeymateen Grizzly Sanctuary**), **Khutzeymateen Inlet Conservancy** (unnamed on the chart) and **Khutzeymateen Inlet West Conservancy** (unnamed on the chart). **BC Parks**, the **Coast Tsimshian First Nations** and the **Gitsi'is Tribe** manage these areas. Visiting is restricted and a permit is required. All vessels must register at the K'tzim-a-deen Ranger Station, which is moored off the north shore close NW of Walskakul Point.

396 **Trefusis Point** ($54^{\circ}51'N$, $130^{\circ}10'W$), the south extremity of **Mylor Peninsula**, terminates in high, white cliffs. **Ranger Islet** is 0.3 mile south of Trefusis Point; two drying rocks lie between the point and the islet and shoals project SW and north from the islet.



397 **Nasoga Gulf** lies between the south end of Mylor Peninsula and the mainland. **Anchorage** can be obtained near the head of the gulf, about 0.2 mile from the north shore, in 18 to 33 m, gravel bottom.

Chart 3920

398 **Low Point** ($54^{\circ}59'N$, $130^{\circ}00'W$), the north extremity of Mylor Peninsula, is low and has foul ground extending 0.1 mile north from it.

399 **Arrandale**, close west of Low Point, is the site of a former cannery; only pilings remain.

400 **Ramsden Point** ($54^{\circ}59'N$, $130^{\circ}06'W$), at the north end of Portland Inlet, has a rock ledge that dries 4 m, 0.1 mile east of it.



401 **Ramsden Point light** (755), on the point, is shown at an elevation of 7.1 m from an orange square tower.

Nass Bay

402 **Nass Bay**, entered between Low Point and **Nass Point**, 2 miles north, is the estuary of Nass River. Extensive mud and sand drying flats front the NE and east shores of Nass Bay. **Governors Bar** is the drying flat on the NE side of Nass Bay. **Ripple Tongue** is the west extremity of the drying flats projecting from the east shore of Nass Bay.

403 **Caution.** — **Governors Bar** and **Ripple Tongue** are subject to continual change, therefore caution must be observed when entering Nass and Iceberg Bays.

404 **Tides.** — Tidal differences for Kincolith (Index No. 9422) and Mill Bay (Index No. 9425), referenced on Prince Rupert, are given in the Tide Tables, Volume 7.



405 **Tidal streams** in Portland Inlet, abreast Nass Bay, attain a considerable rate on the south-going ebb stream, the blue inlet water being clearly defined when

GINGOIX (KINCOLITH) WEST (1988)



GINGOIX (KINCOLITH) EAST (1988)




meeting the muddy water from Nass River. At the entrance of Nass Bay, the east-going flood stream attains 2 kn and the west-going ebb about 3 kn. Within Nass Bay there is a strong set toward the south shore on the ebb and in the opposite direction on the flood; an allowance of up to 10° is often required when entering Iceberg Bay to counteract these tidal streams.


406 **Bay Point** is 0.4 mile SE of Nass Point.

407 **Gingolx (Kincolith)**, 1.2 miles ESE of Bay Point at the mouth of **Ksi Gingolx (Kincolith River)**, is a community with a post office (V0V 1B0), two stores and a medical station with resident nurses. The church and a new building close west are conspicuous. Ksi Gingolx (Kincolith River) enters Nass Bay through the **Mission Valley**.


408 The waters of Nass Bay fronting the community are a **water aerodrome** known as Kincolith.


 409 A **submarine pipeline** (sewer outfall) crosses Governors Bar in a SW direction from Gingolx (Kincolith).


410 A road leading from Gingolx (Kincolith) to the public wharf crosses a **bridge** with a vertical clearance of 1.7 m, near the mouth of the river.

 411 The **public wharf**, midway between Gingolx (Kincolith) and Bay Point, has a berthing face of


39.5 m at its outer end with a depth of 5.5 m alongside. A **float**, 20 m long, is attached to the north side of the wharf. A 3 tonne crane is on the wharf.

 412 **Caution.** — Tidal streams are strong alongside the public wharf. When a strong west wind coincides with an ebb tide choppy conditions exist alongside. A backeddy gives the effect when berthing of a flood current under most conditions of tide.

 413 The **public float** at Gingolx (Kincolith) is usable only at certain stages of the tide; caution should be exercised in approaching it over Governors Bar due to the presence of snags.

 414 Two **rock-mound breakwaters** close south of the public wharf protect a **small boat harbour** with two **floats** 45 and 22 m long joined at their north ends by a third **float** 12 m long. The depth alongside the floats is 1.8 m but silting is likely.

415 A **daybeacon** with a port hand daymark on a dolphin marks the NW side of the entrance to the boat harbour.

 416 **Anchorage** in fine weather can be obtained about 0.8 mile SW of Gingolx (Kincolith) community, close west of Governors Bar, but caution must be exercised when approaching this anchorage because Governors Bar

is fairly steep-to; do not let Landslip Mountain bear more than 198°. Depths in the anchorage are 18 to 27 m, mud bottom; Fort Point bears 090° and Landslip Mountain bears 198°.

417 **Fort Point**, 1.5 miles ESE of Kincolith, terminates in white cliffs. **Mill Bay**, 1 mile NE of Fort Point, is the site of an abandoned cannery. A logging camp and log dump are at Mill Bay (1996). **Leading Point** is 2.6 miles east of Fort Point.



418 **Lights**. — Fort Point **light** (755.4) is shown at an elevation of 6.1 m from a skeleton tower with orange vertical stripes.



419 **Mill Bay light** (755.6), on the north shore 1.1 miles NE of Fort Point, is shown at an elevation of 5.8 m from a skeleton tower with orange vertical stripes.



420 **Leading Point light** (755.8), on the south shore 2.3 miles east of Fort Point, is shown at an elevation of 5.5 m from a skeleton tower with orange vertical stripes.

421 **Nass River** flows into the NE part of Nass Bay; its mouth is encumbered by numerous drying sand flats. The channels in Nass River are subject to annual changes caused by freshets; local knowledge is advised. The community of **Laxgalts'ap (Greenville)** is about 15 miles upstream from Gingolx (Kincolith) and the community of **New Aiyansh** is 28 miles farther upstream.

422 **Ice**. — Nass River is reported to freeze over down to its mouth during severe winters.

423 **Stevens Point** is 0.7 mile east of Low Point at the SW entrance to Nass Bay. **Landslip Mountain**, south of Stevens Point, rises to an elevation of 622 m and its north face is bare.

424 **Double Islets**, 1.5 miles SE of Stevens Point, are lightly wooded and connected to **Double Islet Point** by a gravel and boulder drying ledge.



425 **Double Islets light** (755.2), on the NW islet, is shown at an elevation of 7.6 m from a skeleton tower.

426 **Mud Islands**, 1.7 miles ESE of Double Islets, are wooded and on the drying flats fronting **Welda Creek** and

Ksgyukwsa'a (Burton Creek). **Booming grounds** line the shore in this area.

427 **Iceberg Bay** is entered between Double Islets and **Jaques Point**, 1.3 miles south. Except in the entrance to the bay, depths are generally too great for satisfactory anchorage. The land at the head of the bay is swampy and fronted by a drying mud flat.

428 **Echo Cove**, on the east side of Iceberg Bay, is a **booming ground** (1995). **Clemas Point** is 1.2 miles west of Jaques Point. **Chambers Creek** flows into the head of the bay.

429 **Nass Harbour**, on the east side of Jaques Point, has an extensive drying sand flat at its head. A ruined jetty is on the east shore of the harbour and dolphins are at the head of the bay. The entire bay is a **booming ground** (1995) making it unavailable as an anchorage.



430 **Anchorage** can be obtained in the entrance to Iceberg Bay in about 9 m, mud bottom. From this anchorage Double Islets in line with Nass Point bear about 326° and the south side of the south Mud Island bears about 087°.

Observatory Inlet

Chart 3933


431 **Observatory Inlet** (55°00'N, 130°02'W), entered between Ramsden and Nass Points, extends NE from the head of Portland Inlet for a distance of 27 miles to its junction with Alice Arm and Hastings Arm. Mountains, which attain elevations in excess of 4,000 feet (1,219 m) a few miles inland, line both sides of the inlet. **Ashington Range**, on the west side of the inlet, are the mountains along the peninsula which separates Observatory Inlet from Portland Canal. The shores in some parts of the inlet are low and wooded.

432 **Tides**. — Tidal differences in Observatory Inlet, referenced on Prince Rupert, are given for Salmon Cove


ECHO COVE (1988)





(Index No. 9435), Granby Bay (Index No. 9443) and Alice Arm (Index No. 9448) in the Tide Tables, Volume 7.

 433 **Tidal streams** in Observatory Inlet seldom exceed 2 kn with the greatest rates occurring during early summer when land drainage runoff is at its maximum. One to 2 kn can be encountered in the passages leading into Alice Arm, but in Sylvester and Granby Bays the rates are negligible. Tidal streams in Hastings Arm are very weak and during the freshet period nearly always set south with a marked overlay of fresh water.

434 **Mount Tomlinson**, 2.5 miles NE of Nass Point, is conspicuous.

 435 The small bay on the east side of Observatory Inlet, 2.3 miles north of Nass Point, affords **anchorage** protected from down-inlet winds. Depths of 30 fathoms (55 m), sand bottom, lie about 0.3 mile from the head of the bay. A shoal, with a least depth of 5 feet (1.5 m), extends 0.3 mile SW from the north entrance point and a steep-to drying flat extends from the head of the bay. Local knowledge is advised before anchoring in this bay. A First Nations reserve is on the north shore of the bay.

 436 **Observatory Inlet light** (764), 10 miles NNE of Nass Point on a small island close-off the west shore, is shown at an elevation of 14 feet (4.3 m) from an orange square tower.

 437 **Salmon Cove**, 6.5 miles NNE of Observatory Inlet light, has a sand flat extending 0.2 mile from its south shore. **Anchorage** can be obtained in the entrance of Salmon Cove in depths of 31 to 35 fathoms (57 to 64 m), mud and stones.

438 **Dawkins Point** is on the east shore, opposite Salmon Cove. **Richards Point** is on the west shore 1.3 miles NNW of Dawkins Point. **Stagoo Creek**, 2.5 miles NE of Dawkins Point, has a wide mouth filled with drying flats.

 439 **Richards Point light** (765), on the point, is shown at an elevation of 20 feet (6.1 m) from an orange square tower.

Chart 3920


440 **Brooke Point** (55°20'N, 129°45'W) is the south extremity of **Brooke Island**. Conspicuous red cliffs are on the SW and SE sides of the point. **Mumford Cove** is on the west side of the island.

441 **Juggins Bay**, on the west side of Observatory Inlet opposite Brooke Island, has three reefs in its centre that dry 4.6, 0.9, and 1.5 m. The bay affords shelter for small craft but local knowledge is advised. Entrance to Juggins Bay is made between **Frank Point**, a low wooded point on the east side of the bay, and the 4.6 m drying reef in the entrance to the bay.

442 **Thomas Point**, 1.4 miles NE of Frank Point, is the south extremity of Larcom Island.

443 **Williams Point**, the north extremity of Brooke Island, has a rock spit that dries 6.4 m and shoal water extending north and NW from its west side.

444 **Brooke Shoal**, 0.3 mile north of Williams Point, dries 5.8 m.

 445 **Brooke Shoal light** (765.5), on the shoal, is shown at an elevation of 4.7 m from an orange square tower.

446 An islet about 0.5 mile NNW of Brooke Shoal and 0.2 mile off the Larcom Island coast has a rock with 1.2 m over it 0.1 mile SW and a rock that dries 2.1 m close north of it.

447 **Paddy Passage**, on the east side of Brooke Island, is narrowed at its north end to a navigable width of 0.4 mile by Perry Spit and Brooke Shoal.

 448 A **magnetic anomaly**, of undetermined intensity, exists in Paddy Passage.

449 **Perry Spit**, at the north end and on the east side of Paddy Passage, is a gravel and stone drying spit extending 0.2 mile west from the SW end of **Perry Peninsula**.

Alice Arm


450 **Alice Arm**, at the north end of Observatory Inlet, has the settlements of Alice Arm and Kitsault at its head.

451 **Tides**. — Tidal differences for Alice Arm (Index No. 9448), referenced on Prince Rupert, are given in the Tide Tables, Volume 7.

452 The waters of the north end of Alice Arm, for approximately the last 3 miles, are a **water aerodrome**.

453 **Liddle Island** (55°24'N, 129°42'W) is in the entrance of Alice Arm. A chain of drying and below-water shoals extends 0.5 mile SSW from the west side of Liddle Island.

454 **Liddle Channel** leads between the south end of Liddle Island and the north end of Perry Peninsula. A rock with 1.8 m over it lies 0.25 mile off Perry Peninsula in the approach to Liddle Channel and a rock with 9.8 m over it lies on the west side of the fairway.


 455 **Liddle Island light** (765.7), on the SE end of Liddle Island, has two port hand daymarks facing south and north.

456 **Sophy Island**, close NE of Perry Peninsula, is surrounded by drying ledges. Two rocks that dry 2.4 and 0.3 m and a below-water rock with 2.7 m over it lie east of Sophy Island. **Hyde Rock**, close north of Sophy Island, dries 1.5 m.

 457 **Hyde Rock light** (766) is shown at an elevation of 4.8 m from a skeleton tower.

458 **Perry Bay**, on the east side of Perry Peninsula, is obstructed in its entrance by a shoal spit extending about 0.3 mile WSW from its east entrance point and by the drying reef close east of Sophy Island. The navigable entrance,


between these two shoal areas, is very narrow with a least depth of 5.5 m in the fairway.

 459 **Anchorage** can be obtained in Perry Bay, about 0.2 mile SE of Sophy Island, in 24 m, mud bottom.

460 **Davies Passage**, between the north end of Liddle Island and **Davies Point**, is not recommended. **Davies Rock**, which dries 0.9 m, is in the middle of the passage.


461 **Eik Rock**, 0.8 mile NNE of Liddle Island and 0.2 mile off the west shore of Alice Arm, has 2.7 m over it. **Alice Rock**, 0.5 mile NNE of Eik Rock, has 1.5 m over it and is slightly west of mid-channel; keep to the east shore of Alice Arm when passing Alice Rock.

462 **Hans Point**, 0.8 mile NNE of Alice Rock, has an extensive drying flat close east of it that extends 0.1 mile from shore.

 463 Alice Arm **light** (767), 0.4 mile south of Hans Point, is shown at an elevation of 5.7 m from a skeleton tower.


464 **Roundy Creek**, 5.7 miles east of Hans Point, flows into the south side of Alice Arm through an extensive drying flat that extends 0.1 mile into the arm.


465 **Pearson Point** is 0.6 mile north of Roundy Creek. Two rocks that dry 1.5 m are close offshore 0.2 mile north of Pearson Point.

 466 Pearson Point **light** (768) is shown at an elevation of 5.2 m from a skeleton tower.

467 A **booming ground** is on the west side of Alice Arm, north of Pearson Point.


468 **Alice Arm locality**, on the west side of the mouth of the **Kitsault River**, has only one or two families that live here year round.

 469 The **public wharf**, 1 mile NNE of Pearson Point and on the west side of Alice Arm, has a wharf-head, 46 m long, with a depth of 7.3 m alongside. A 3 tonne derrick is on the wharf. A 24.4 m long **float** is attached to the south side of the wharf; part of the float is reserved for aircraft.


 470 Alice Arm wharf **light** (768.2), on the wharf, is fitted with two port hand daymarks.

471 **Kitsault**, on the east side of Alice Arm about 0.7 mile ENE of Pearson Point, is a former mining community. The mine operation closed in 1983. All facilities are private and visitors are discouraged. A siren is on the gate at the float to alert the security staff to visitors. A private gravel road leads to Terrace, 130 kilometres SE.

472 A barge loading facility, a launching ramp, a seaplane ramp and a float with fresh water are on a filled area NE of the mouth of **Lime Creek**.

 473 A **submarine pipeline** (sewer outfall) close NE of the floats extends 200 m offshore. A private **mooring buoy** is near the outer end of the pipeline. Another **submarine pipeline**, which discharged mine tailing, extends

83 m into the arm from a large black tank close-off a point 0.6 mile SSW of the mouth of Lime Creek. The outer end of the pipeline is at a depth of 50 m.

 474 There are no recommended anchorages in the vicinity of Alice Arm or Kitsault. Small vessels can find temporary **anchorage** in about 27 m 0.3 mile NNE of Pearson Point, or about 0.15 mile ENE of the same point in 18 m; neither anchorage is recommended and the holding ground is poor.

475 **Directions**. — Enter Alice Arm by way of Liddle Channel and pass east of Alice Rock. Give the drying flats close east of Hans Point, off Roundy Creek and off Lime Creek a wide berth. The drying flats at the head of Alice Arm should be approached with caution; they extend 0.5 mile offshore and are steep-to.

Hastings Arm

Charts 3920, 3933

476 **Hastings Arm** is entered between **Bocking Peninsula** ($55^{\circ}22'N$, $129^{\circ}47'W$) and Davies Point. **Larcom Island** lies in the entrance of Hastings Arm and divides it into two channels.

477 **Tides**. — Tidal differences for Granby Bay (Index No. 9443), referenced on Prince Rupert, are given in the Tide Tables, Volume 7.



 478 **Tidal streams** in Hastings Arm are very weak and during the freshet period nearly always set south with a marked overlay of fresh water. In Sylvester and Granby Bays they are negligible.

Chart 3920

479 **Aiskew Island** ($55^{\circ}23'N$, $129^{\circ}46'W$) is connected to shore by a drying bank with drying rocks on it. **Aiskew Point** is the NE extremity of the island.

480 **Vadso Rocks**, a group of drying rocks, and **Vadso Island** lie between Aiskew Point and the SW side of Larcom Island. The channel between Aiskew Point and Vadso Rocks is 0.2 mile wide and deep.

481 **Strombeck Bay**, between the north side of Aiskew Island and **Fortier Point**, is encumbered with numerous drying and below-water rocks.

 482 **Anchorage** can be obtained off the entrance of Strombeck Bay, about 0.2 mile west of Aiskew Point, in about 30 m.

483 **Sylvester Bay**, between Bocking Peninsula and **Granby Peninsula**, is entered between Fortier Point and **Cane Rock**. Cane Rock dries 3.7 m and a shoal with depths of 1.8 and 2.1 m over it extends 0.15 mile south from it.

ANYOX (2020)



Numerous drying and below-water rocks encumber the SE part of Sylvester Bay.

484 **Larcom Lagoon**, in the SW part of Larcom Island, is entered 0.5 mile NE of Vadso Island through a narrow channel with a least depth of 0.3 m. A rock that dries 0.9 m lies on the north side of the entrance and several drying rocks lie within the lagoon. Local knowledge is advised to enter the lagoon.

485 **Forward Shoals**, with a least depth of 6.4 m over them, lie in the centre of the fairway between Granby Peninsula and Larcom Island about 1.5 miles north of Vadso Rocks.

486 **Granby Bay** is entered between **Granby Point** and **Johnson Point**, 0.6 mile NNE. **Anyox Rock**, 0.4 mile SE of Granby Point, dries 6.7 m and has rocks that dry 1.5, 0.9 and 5.2 m close north and south of it, respectively.

487 Drying flats extend from the shores of Granby Bay at **Isaac Creek**, **Rodgers Creek**, **Hidden Creek**, **Anyox Creek**, at **Bonanza Point** from **Bonanza Creek**, **Tauw Creek**, **Cascade Creek** and at the head of the bay.

488 **Graves Point**, 0.8 mile SW of Johnson Point, has a conspicuous chimney on it. Two more chimneys are on the south side of Anyox Creek.

489 **Anyox**, west of Graves Point, is the site of a copper smelter and mine that was abandoned in the late 1930's. Most of the buildings and wharves are in ruins and the roads overgrown. *True-Grit Abrasives* are mining the slag dump, south of **Smith Bluff**, of the silica ore exposing a conspicuous black face. A barge loading facility is in front of the slag dump.



490 Depths within Granby Bay are too great for satisfactory **anchorage**. Vessels up to 76 m long have obtained temporary anchorage 0.15 mile SW of Graves Point in about 66 m. Good anchorage for small vessels is reported to be close-off the slag dump in about 20 m.

491 **Stark Islet**, 1.2 miles ESE of Johnson Point, and **McGrath Island**, 0.9 mile north of Stark Islet, are connected to Larcom Island by drying flats.



492 An abandoned **submarine cable** crosses Hastings Arm from south of Johnson Point to Stark Islet and from the middle of the east shore of Larcom Island to the mainland.

493 **Carlson Islets** and **Doben Island** are west of the north end of Larcom Island. The passages on both sides of Doben Island are encumbered with drying and below-water rocks. Local knowledge is advised to navigate these passages.

494 The passage on the east side of Larcom Island has drying and below-water rocks in places, but they are not more than 0.1 mile offshore.

495 **Larcom Point** is the north extremity of Larcom Island. **Guard Islet**, 0.2 mile east of Larcom Point, is connected to Larcom Island by a ridge of drying rocks and gravel. A rock that dries 1.8 m is 0.1 mile north of Larcom Point.

Chart 3933

496 **Carr Point** ($55^{\circ}29'N$, $129^{\circ}45'W$) is 1.1 miles north of Larcom Point. **Campbell Ridge** is the ridge of mountains along the east side of Hastings Arm.

497 **Olh Creek**, 4.2 miles north of Carr Point, has a drying sand and gravel bank extending 0.1 mile off its mouth.

498 **Kshwan River**, 4.5 miles north of Olh Creek, flows into the head of Hastings Arm across an extensive drying flat.

Tongass Passage

Chart 3960

499 **Tongass Passage** ($54^{\circ}45'N$, $130^{\circ}38'W$) separates **Sitklan Island** from Wales Island and connects Dixon

PEARSE CANAL LOOKING NE (1988)



Entrance to the west end of Pearse Canal. It is entered between **Island Point**, the SE extremity of Sitklan Island, and Haystack Island. A **mooring buoy** is 0.5 mile north of Island Point.

500 The **International Boundary Line** runs down the centre of Tongass Passage.

501 **Bartlett Point** is at the north end of Tongass Passage. **Sitklan Passage**, 1 mile WNW of Bartlett Point, and **Fillmore Inlet**, entered about 2 miles NE of Bartlett Point, are described in *United States Coast Pilot 8*.

Pearse Canal

Charts 3960, 3994, 3933

502 **Pearse Canal** ($54^{\circ}47'N$, $130^{\circ}35'W$) leads about 23 miles along the NW sides of Wales and Pearse Islands and connects Tongass Passage to Portland Canal. **Fillmore Island** and the mainland of Alaska form its NW side.

503 The SW end of the fairway through Pearse Canal, between Wales and Fillmore Islands, is encumbered with rocks and shoals; great care is required when navigating this portion of the fairway. The NE end of Pearse Canal between Pearse Island and the mainland of Alaska is deep in the fairway.

504 The **International Boundary Line** runs down the centre of Pearse Canal.

Chart 3960

505 **Phipp Point** ($54^{\circ}47'N$, $130^{\circ}37'W$) is the NW extremity of Wales Island.


506 **Pearse Canal Island**, 0.7 mile NE of Phipp Point, lies in mid-channel and has shoals within 0.1 mile of its north and south sides.


 507 Pearse Canal Island **light** (753.5) is shown at an elevation of 3.6 m from a skeleton tower.

508 **Male Point**, at the SE entrance to Fillmore Inlet, has several islets close south of it.


509 A treed islet with drying rocks close north and NE of it lies in the centre of the fairway between **Safa Islands**, which are mostly wooded, and Pearse Canal Island.

510 Several rocks, the westernmost of which dries 1.9 m, are 0.2 mile south of Safa Islands in the eastern entrance of **Wales Harbour**; follow along the SW shore of the harbour to avoid these rocks. At the head of the harbour are three arms; the west arm is shallow. A rock that dries 2.9 m lies close-off the point separating the centre and east arms and a rock that dries 1.1 m is in the centre of the east arm.

 511 Wales Harbour affords good **anchorage** in 29 to 36 m, soft bottom and is reported to have good anchorage for small craft in the eastern arm.

 512 Two bare islets, 2 and 3 m high, surrounded by drying reefs lie on the south side of the Pearse Canal fairway 1.2 miles east of Pearse Canal Island. **Danger**. — A rock with a depth of 2.2 m over it lies in the fairway of Pearse Canal near the entrance to Regina Cove.


513 **Regina Cove** is 2 miles NE of Safa Islands. Several drying rocks and shoals with 4.9 and 5.6 m over them lie close-off the SW shore of the cove.

 514 **Anchorage** can be obtained in Regina Cove in 19 to 26 m, mud bottom, north of the above-mentioned shoals.

515 A cove on the NW side of Wales Island, 1 mile SE of Regina Cove, is the site of a sports fishing lodge with a float protected by two **log breakwaters**.

516 **Edward Passage**, on the east side of Fillmore Island, is described in *United States Coast Pilot 8*. Wales Passage is described earlier in this chapter.

Chart 3994

 517 **Winter Inlet** ($54^{\circ}49'N$, $130^{\circ}26'W$) affords secure **anchorage** for small craft; the holding ground is good and there is ample swinging room in the widest part of the inlet.

518 A wooded islet connected to shore by a drying flat and fronted by a drying reef lies on the west side of Winter

Inlet, 1.3 miles inside the entrance. A rock with 14 feet (4.2 m) over it lies in the middle of the inlet.

519 **Ice** forms in Winter Inlet during the winter, making it unsafe for small craft shelter.

520 **Getukti Cliff** ($54^{\circ}53'N$, $130^{\circ}24'W$), 3 miles NE of Winter Inlet, is conspicuous from the south.

521 **Yelnu Islets** ($54^{\circ}56'N$, $130^{\circ}20'W$), 7 miles NE of Winter Inlet, are two wooded islets on the NW side of Pearse Canal which stand out prominently from north and south.

522 **Gwent Cove**, 0.6 mile north of Yelnu Islets, is the site of an abandoned cannery and wharf in ruins.

Charts 3994, 3933

523 **Hidden Inlet** ($54^{\circ}57'N$, $130^{\circ}20'W$), entered between Gwent Cove and **Hidden Point**, is of no value as an anchorage and can only be entered at slack water. The main body of the inlet is about 4 miles long; depths vary from 30 to 73 fathoms (55 to 134 m). The entrance is less than 450 feet (137 m) wide and has a depth of 15 feet (4.6 m).



524 **Tidal streams** set through the entrance of Hidden Inlet at 8 to 10 kn, forming swirls that extend well into Pearse Canal.

Chart 3933

525 **Blaine Point** ($55^{\circ}02'N$, $130^{\circ}13'W$) is the NW entrance point of Pearse Canal. **Tree Point**, 1.5 miles east of Blaine Point, is the north extremity of Pearse Island.

Portland Canal

526 **Portland Canal** is a deep, narrow inlet extending 60 miles north from its junction with Portland Inlet and Pearse Canal. The towns of Stewart, B.C. and Hyder, Alaska, are at the head of the inlet. Both shores are bold and mountainous; in places the mountains rise to more than 6,000 feet (1,829 m) and their summits are always snow-clad. Numerous streams flow through wooded valleys into the inlet. The Bear and Salmon Rivers flow into the head of the inlet through low, wooded, swampy land; because of the discharge from these rivers the water at the head of the inlet is nearly fresh.



527 **Anchorage**s in Portland Canal are few and indifferent; they are in Halibut Bay, Fords Cove, and at the head of the inlet off Stewart. Small craft can also obtain anchorage in Tombstone and Maple Bays.

528 **Tides**. — Tidal differences in Portland Canal, referenced on Prince Rupert, are given for Davis River (Index No. 9470) and Stewart (Index No. 9475) in the Tide Tables, Volume 7.



529 **Tidal streams** in Portland Canal have an estimated maximum of 2 kn on the flood and 3 kn on

the ebb, diminishing toward the head of the inlet. The streams by the shore turn shortly after HW and LW.

530 **Winds** of gale force are reported to frequently blow down the inlet from the north during the winter months.

531 **Ice**, which is reported to be troublesome to small craft, forms at the head of Portland Canal during winter months.

532 The **International Boundary Line** runs down the middle of Pearse and Portland Canals.

533 Portland Canal is entered from Portland Inlet between **Stick Point** ($54^{\circ}59'N$, $130^{\circ}09'W$) and Ramsden Point.

534 **Whiskey Bay** is 3.5 miles NNW of Stick Point at the north extremity of Pearse Island. A rock ledge that dries 8 feet (2.4 m) extends north from the east entrance point of the bay.



535 **Dogfish Bight**, 2 miles NE of Whiskey Bay, is useless as an anchorage. **Windy Island** is close-off its north entrance point. Several wooded islets are close offshore between Windy Island and **Spit Point**, 1.5 miles north. A **submarine cable** is laid across the entrance to a small cove 0.6 mile north of Windy Island. A tongue of sand that dries extends 0.3 mile south from Spit Point.

536 **Reef Island** is 1.3 miles west of Spit Point. Two coves, west of Reef Island, have sandy beaches and small craft can find shelter in them.




537 Reef Island **light** (756) is shown at an elevation of 19 feet (5.8 m) from a skeleton tower fitted with two red and white diamond-shaped daymarks. The light is obscured from $020^{\circ}30'$ to $197^{\circ}30'$.

538 **Harrison Point**, 2.5 miles NNE of Reef Island, is high and bold. **Dickens Point**, 2.3 miles NE of Harrison Point, has a ledge of drying rocks extending a short distance from it. A black rock, close south of Dickens Point, is 8 feet (2.4 m) high.

539 **Sandfly Bay**, 1 mile WNW of Dickens Point, is useless as an anchorage; its head is filled with a drying flat. A drying rock and small islet lie close-off its east entrance point. **Fools Point** and **Petrel Point** are on the west side of the canal, north of Sandfly Bay.

540 **Stopford Point**, 3.5 miles NE of Dickens Point, is bold and conspicuous from south.


541 **Halibut Bay**, on the west side of Portland Canal, is entered between **Halibut Point** and **Astronomical Point**. Its shores are generally bold, but on each side near the entrance are sandy beaches with shoal water extending 240 feet (73 m) offshore, and low, grassy land, extending back for 300 feet (91 m). Near the head of the bay drying flats extend from the west shore nearly all the way across, leaving a narrow channel close to the east side, through which a depth of 5 feet (1.5 m) can be carried. The narrow basin north of this passage is only suitable for small craft and has a depth of 24 feet (7.3 m).

 542 **Anchorage**, exposed to southerly winds, can be obtained in Halibut Bay and the holding ground inside the 10 fathom (18.3 m) line is good. Anchor in mid-channel about 0.3 mile within the entrance in 6 to 10 fathoms (11 to 18 m), mud bottom.

543 **Dent Bluff**, 2 miles NE of Halibut Bay, has a drying reef close-off it. **Mount Dent**, 1.8 miles ESE of Dent Bluff, rises to an elevation of 3,820 feet (1,164 m). **Logan Point** and **Azimuth Point** are 1.5 and 3 miles NE of Dent Bluff.

544 **Blunt Point**, 1 mile west of Logan Point, has drying reefs close-off it. **Camp Point**, 2 miles NE of Blunt Point, is wooded and precipitous.


545 **Hattie Island** ($55^{\circ}17'N$, $129^{\circ}58'W$) lies nearly in mid-channel abreast Camp Point; being the same general colour as the high background it is not prominent from south.

 546 **Hattie Island light** (757), on the west side of the island, is shown at an elevation of 21 feet (6.4 m) from a skeleton tower. The light is visible from 336° through north and east to 171° .


547 **Belle Bay**, east of Hattie Island, does not afford anchorage. A floating cabin, owned by the Portland Canal Stewart Yacht Club, is 300 feet (91 m) offshore in the centre of the bay. Between Belle Bay and **Car Point**, 3.5 miles NW, there are several conspicuous landslides. **Rock Point**, 2 miles NW of Hattie Island, has a drying ledge extending from it.

548 **Breezy Point**, 3 miles NNW of Rock Point, is conspicuous. **Bluff Point**, 2 miles NE of Breezy Point, terminates in a high, bold cliff.

549 **Tombstone Bay**, 3 miles north of Breezy Point, divides into two bights. Drying and below-water rocks are in the entrance of its south bight. A wooded valley extends SW from the head of the south bight. **Dome Peak**, 4.5 miles WSW of Tombstone Bay, is one of many snow-clad peaks in the area. A private float and some buildings are located at the head of the bight.

 550 Temporary **anchorage** can be obtained, by small craft, near the head of the north bight of Tombstone Bay in 8 fathoms (15 m).

551 **Maple Bay**, NE of Tombstone Bay, and entered between **Columbia Point** and **Maple Point**, has two drying rocks in it. The bay has a moderately shelving foreshore of stones and gravel and is the site of a former mining camp; ruins of a jetty and the remains of a few houses are all that is left of the camp.

 552 **Anchorage** for small craft can be obtained about 0.15 mile from the south shore of Maple Bay in 9 fathoms (16 m).


553 **Turn Point**, 1.4 miles NW of Maple Point, is high, bold and conspicuous. **Steep Point**, 5.5 miles NNW of Turn Point, is bold and steep-to.


554 **Swamp Point**, 3 miles north of Maple Point, is a low, wooded point, fronted by a drying sand flat formed by

deposits from **Donahue Creek**. A number of piles are along the outer edge of the drying flat.

555 **Pirie Point**, 2 miles NW of Swamp Point, is high, bold and conspicuous. **Raw Point** is 2 miles farther north. **White Point**, 4 miles NNW of Pirie Point, has drying rocks on its south side and white cliffs about 0.5 mile north of it. **River Point** is WNW of White Point. **Bay Islet**, 2.5 miles north of White Point, is wooded and connected to the east shore by a drying ledge. A sports fishing lodge and float protected by a **floating breakwater** are in the bay close south of Bay Islet.

556 **Green Islets**, 1.3 miles north of Bay Islet, are two wooded islets; they are connected to shore by a drying ledge that extends a further 300 feet (91 m) north from them.

 557 **Fords Cove**, east of Green Islets, affords fair shelter from south winds but none from north winds. The south part of the cove is shoal for about 450 feet (137 m) offshore. Old piles and an old **float** are all that remain of a former logging camp in Fords Cove (1997). A floating cabin, owned by the Portland Canal Stewart Yacht Club, is 300 feet (91 m) offshore in the centre of the bay.

 558 A fair **anchorage** can be found in Fords Cove, about 0.2 mile from Green Islets and the same distance from the east shore, in 16 fathoms (29 m).

559 **Slab Point**, NW of Fords Cove, is slate-coloured. **Cliff Point** is 2.3 miles north of Slab Point.

560 **Blue Point**, 1.3 miles NNE of Cliff Point, has high, bold, blue-coloured cliffs. Two streams, close south of Blue Point, flow through a wooded valley; a sand spit extends 0.2 mile from their mouth. A house in ruins is close south of the stream mouth. **Miners Point** and **Round Point** are 1 and 3.5 miles north of Blue Point.

561 A floating cabin, owned by the Portland Canal Stewart Yacht Club, is 250 feet (75 m) offshore in the centre of the bay 0.6 mile south of Round Point. This is known locally as Helen Bay.

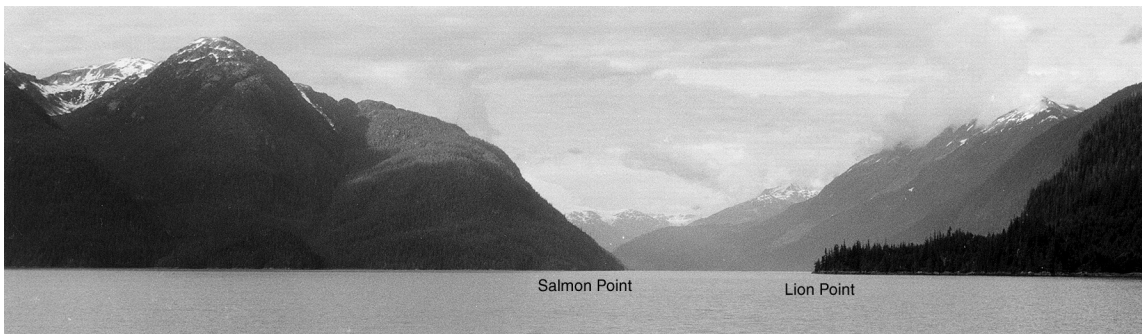
562 **Verdure Point** is SW of Round Point. A small cove with a sandy beach lies close north of the point. The **Davis River** flows into Portland Canal 0.6 mile NW of the point.

563 **Tides**. — Tidal differences for Davis River (Index No. 9470), referenced on Prince Rupert, are given in the Tide Tables, Volume 7.

564 **Glacier Point**, 4.5 miles NNE of Verdure Point, is the south extremity of a small peninsula on which there is a wooded hill, about 350 feet (107 m) high. **Engineers Point** is 1.3 miles SSE.

565 **Seal Rocks** are 0.8 mile NE of Glacier Point; the largest rock is about 3 feet (0.9 m) high. **British Point** is east,

HEAD OF PORTLAND CANAL (1988)



and **Yankee Point** NNE, of Seal Rocks. **Bulldog Creek** flows into Portland Canal 2 miles NE of Yankee Point.

Chart 3794


566 **Lion Point** ($55^{\circ}53'N$, $130^{\circ}01'W$) is low with a grassy flat fronting it; it can be identified by the ruins of an old jetty.

567 **Marmot River**, south of Lions Point, enters Portland Canal across an extensive drying flat. A **booming ground** with dolphins lies along the SW edge of the drying flat.

568 **Marmot Bay**, on the north side of Lion Point, has the ruins of a pier in its NE part. Mooring dolphins and **booming grounds** are south of the ruins. **Salmon Point** is 1 mile west.


569 **Booming grounds** line the shore north of Marmot Bay.

570 The Bear and Salmon Rivers, which flow into the head of Portland Canal, are separated by the **Reverdy Mountains** (Chart 3933); the south peak, **Mount Dolly**, is conspicuous. The discolouration of water caused by the discharge from the Bear and Salmon Rivers extends as far south as Glacier Point.


 571 **Bear River** flows through an extensive wooded flat. The delta at its mouth consists of marshland and steep-to mud flats, which cover at HW. **Caution**. — The mud flats are slowly extending.


572 A **causeway** extends 0.5 mile SSW from the west entrance point of Bear River and then 0.4 mile south to the outer end of the mud flat. Stewart World Port facility is on the south end of the causeway. It has a berthing length of 646 feet (197 m) with a mooring buoy fitted with a radar reflector located at the end of the facility. At the extreme south end of the causeway there is a **launching ramp** with dolphins on the west side of its approach. Drying areas extend up to 500 feet (152 m) south of the public ramp. A rip-rap river training wall close east of the ramp extends southward and is fitted with a radar reflector at the end. Red air obstruction **lights** are shown from hydro poles along the east side of the causeway. A large log dump is on the SW side of the causeway. The outer edge

of the mud flats to the west has numerous dolphins and is an extensive log storage area.

 573 **Salmon River**, on the west shore of Portland Canal, has extensive steep-to drying flats extending from its mouth. The east edge of the flats is marked by two port hand **buoys**. The southernmost of these buoys also marks the entrance channel to Hyder public floats. **Caution**. — Extensive silting is taking place at the mouth of the Salmon River.

574 **Eagle Point** is the east entrance point to Salmon River. A causeway and trestle, close east of Eagle Point, extends from the community of Hyder to the extreme outer edge of the mud flats.

 575 **Lights**. — Stewart **light** (759), on the east side of Portland Canal 0.4 mile south of the drying flat at the head, is shown at an elevation of 15 feet (4.7 m) from a skeleton tower.

 576 Stewart Dolphin West **light** (760), 0.5 mile WNW of Stewart light, is shown from a mast on a dolphin.

577 Privately operated **lights** are on the SE and NW ends and on the wharhead at the Stewart Bulk Terminal wharf.

578 **Stewart**, at the head of Portland Canal, is the northernmost deep-sea port in British Columbia. The principal industries are mining, logging and tourism. The municipality has a small hospital with resident doctor, a visiting dentist, an RCMP detachment, several stores and hotels, a pharmacy, a liquor store, a post office (V0T 1W0) and an airfield with an asphalt runway 3,900 feet (1,189 m) long.

579 **Customs** service is provided from Prince Rupert.

580 Portland Canal in the vicinity of Stewart is a **water aerodrome**.

581 **Ice** forms at the head of Portland Canal, in the vicinity of Stewart, from November to February; it is never heavy enough to stop shipping but can be troublesome to small craft.

582 **Tides**. — Tidal differences for Stewart (Index No. 9475), referenced on Prince Rupert, are given in the Tide Tables, Volume 7.

STEWART FLOATS (1988)



583 **Anchorage** can be obtained off Stewart in 25 to 30 fathoms (46 to 55 m) over a soft mud bottom that provides good holding ground. The anchorage is exposed to the north and south winds that frequently draw through Portland Canal. **Caution** is required approaching the anchorage because the drying flats to the north and west are steep-to and are covered except at the very lowest stages of the tide.



584 **Wharves.** — **Stewart Bulk Terminal wharf**, on the west shore about 1 mile south of the townsite, has a berthing length of 820 feet (250 m) and a least depth alongside of 35 feet (10.9 m). **Mooring buoys** are to the NW and SE. The wharf is equipped with a ship loader capable of handling copper concentrates at about 317 tonnes/hour.



585 The **public wharf** has been decommissioned by the District of Stewart. A **wreck** with a least depth of 17 feet (5.1 m) lies alongside.

587 The **public float**, operated by the **Stewart Harbour Authority**, has 150 feet (46 m) of berthing space with a depth of 16 feet (4.9 m). The east end of the float is reserved for aircraft. Power is laid on the floats and they are protected by **floating log breakwaters**. The Stewart Yacht Club has two **floats** attached to the south side of the public float.

588 **Supplies.** — Provisions and accommodation are available in the town. Fresh water is not available at any of

the wharves or floats. Gasoline and diesel fuel can be obtained in town.

589 **Repair facilities.** — Small engine repairs are available in town.

590 **Communications.** — Stewart is connected by paved road to the main highway that connects Prince Rupert to Prince George. A gravel road also leads north to the Alaska Highway. Regular bus and air service is available. The airfield at Stewart, on the west bank of Bear River, has an asphalt runway.

591 **Hyder** is a community on the United States side of the boundary. It is connected by road to Stewart.



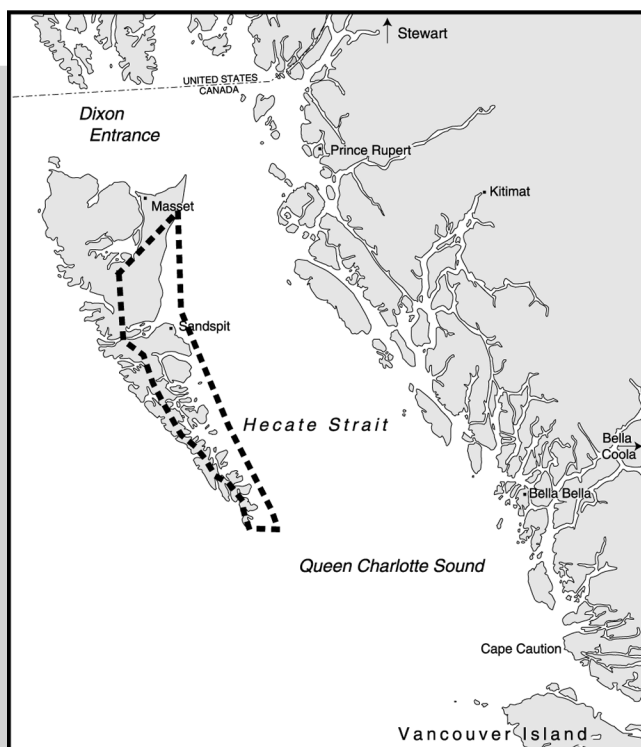
592 A causeway extends 2,100 feet (640 m) SE from the community of Hyder across the mud flats; a trestle extends a further 1,250 feet (381 m) from its outer end to the extreme edge of the mud flats. A **small craft float**, 150 feet (46 m) long, is at the outer end of the trestle. A survey in July 1985 showed depths as shoal as 3 feet (1 m) on the NW side and depths of 17 feet (5.3 m) on the SE side of the floats.

593 On the east side of the trestle, near its outer end, there is a rock-fill parking area, a gravel launching ramp and **small craft floats** with depths of 5 feet (1.6 m) alongside. A **floating log breakwater** is north of the floats.

Haida Gwaii East Coast

Haida Gwaii

Charts 3853, 3902, 3800



1 **Haida Gwaii**, an archipelago of about one hundred and fifty islands and islets, form the south side of Dixon Entrance and are separated from the mainland by Hecate Strait. The two largest islands are Graham Island, in the north, and Moresby Island, in the south. Elevations range from 200 or 300 feet (61 or 91 m) to nearly 4,000 feet (1,219 m), the greatest heights lying along the west shores of Moresby Island.

2 The main islands of Haida Gwaii are separated from each other by narrow passages in some places having fjord like appearance; Houston Stewart Channel, Skidegate Inlet and Channel are transverse to the main mountain axis. The narrowest, Skidegate Inlet, between Moresby and Graham Island, is navigable only by small vessels at HW slack.

3 A remarkable feature of the east coast of this group is that about midway, a marked change occurs. From the south extremity at Cape St. James north to Skidegate Inlet the whole shoreline is a maze of meandering inlets and sounds, all with bold rocky seaboards. Their waters are generally deep and as far north as Laskeek Bay, as is the sea to the east. From here, however, to the extreme NE tip of Graham Island the coastline is almost unbroken; low wooded banks appear, and the waters of the north part of Hecate Strait are comparatively shallow.

4 In this chapter, the east coast of Haida Gwaii is described.

5 **Gwaii Haanas National Park Reserve/Haida Heritage Site** encompasses the south portion of Moresby Island and adjacent islands from south of the Tangil Peninsula on the east and Tasu Sound on the west. The annual number of visitors is limited; reservations, orientation and fees are required before entering the park. Haida Gwaii Watchmen are located at Anthony Island, Ellen Island, Huxley Island, Hotspring Island, Windy Bay, Tanu Island and Skedans Bay. For full information regarding visiting Gwaii Haanas National Park Reserve contact the

Gwaii Haanas National Marine
Conservation Area Reserve,
P.O. Box 37,
Village of Queen Charlotte, BC. V0T 1S0.



6 **Vessel Traffic Services (vts).** — Hecate Strait is in *Sector 1* of the *Prince Rupert Traffic Zone* and the assigned frequency is 156.55 MHz, Channel 11.

7 A brief description of this Vessel Traffic Services (vts) System is given in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast*; full details are given in *Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

8 The Calling-in Points in Hecate Strait are

9 *Calling-in Point No. 21*, called *Rose Spit/Seal Rocks*, is a line joining Rose Spit Racon and Seal Rocks light (748) and is a change line between *Sector 1* and *Sector 2* of the *Prince Rupert Traffic Zone*.

10 *Calling-in Point No. 28*, called *McInnes Island/Cape St. James*, is a line joining McInnes Island light (619) and Cape St. James light (770).

11 *Calling-in Point No. 30*, called *Bonilla Island/Sandspit*, is a line from Bonilla Island Sector light (734) to Sandspit aeronautical beacon (784).

12 *Calling-in Point No. 31*, called *Lawn Point*, is an arc of 3 miles radius from Lawn Point.

13 **Meteorological information and frequency of fog information** are given for Cape St. James and Sandspit in the Appendices.

14 **Tides.** — Along the east coast of Haida Gwaii, tidal predictions are given for Queen Charlotte (Index No. 9850) in the Tide Tables, Volume 7.

15 Tidal differences for Cape St. James (Index No. 9502), referenced on Hunger Harbour; Rose Harbour (Index No. 9713), Copper Islands (Index No. 9724), Section Cove (Index No. 9733) and Sedgwick Bay (Index No. 9753), referenced on Bella Bella; Pacofi (Index No. 9775) and McCoy Cove (Index No. 9790), referenced on Kitimat, and Shingle Bay (Index No. 9808), referenced on Queen Charlotte, are given in the Tide Tables, Volume 7.



16 **Tidal streams.** — In general, the flood coming in from Dixon Entrance meets the flood coming up Hecate Strait from the south in the vicinity of Porcher Island. In late summer, mid July to mid September, they meet some 25 or 30 miles farther south.

17 At springs, or during bad weather, the tide-rips caused by the meeting of the streams are sometimes so great as to convey an appearance of broken water.

18 The flood stream through Dixon Entrance, on reaching the north end of Hecate Strait, divides at a point midway between Rose Spit and Dundas Island. Part of the current sets north past Dundas Island, no doubt because of the indraught toward Portland Inlet, and part turns SE into Hecate Strait; in winter the flood and ebb here are quite regular, but in late summer the flood greatly exceeds the ebb. In August, there can be 2½ to 3 kn of flood, with little appreciable ebb or only slack water.

19 Farther south, where the strait widens in the latitude of Porcher Island, the currents rarely exceed 1 kn in the central part of the strait. However, along the shore of Stephens Island, as far north as Butterworth Rocks, the strongest set is NW with the ebb, and the flood is hardly appreciable.

20 Off the south end of Haida Gwaii, the direction of the flood is NE and the ebb is SW.

21 Information from tidal stream observations in 1984 in Hecate Strait is given below.

22 The tidal stream 17 miles SE of Cape St. James is rotary clockwise. First of flood sets 290° at ¾ kn, maximum flood 025° at 1¼ kn, last of flood 105° at 1 kn and maximum ebb 200° at 1¼ kn. Maximum flood here is at HW Bella Bella, last of flood at 1 hour after LW Bella Bella.

23 Ten miles east of Kunghit Island first of flood sets 280° at 1½ kn, maximum flood 340° at 2½ kn, last of flood 075° at 1 kn, first of ebb 110° at 1¼ kn and maximum ebb 175° at 2¾ kn. Maximum flood here is 1 h 30 min before HW Bella Bella, maximum ebb 2 hours before LW Bella Bella.

24 About 8 miles east of Copper Islands the stream is rectilinear, maximum flood setting 335° at 1½ kn and maximum ebb 155° at 1½ kn.

25 In a position 097° 53 miles from Cape St. James maximum flood sets 010° at 1¼ kn, last of flood 090° at 1 kn, maximum ebb 210° at 1¾ kn and last of ebb 290° at 1 kn.

26 About 27 miles east of Sandspit maximum flood sets 330° at 1½ kn, maximum ebb 130° at 1 kn.

27 Fourteen miles SE of Sandspit maximum flood sets 340° at 1½ kn, maximum ebb 155° at 1¼ kn.

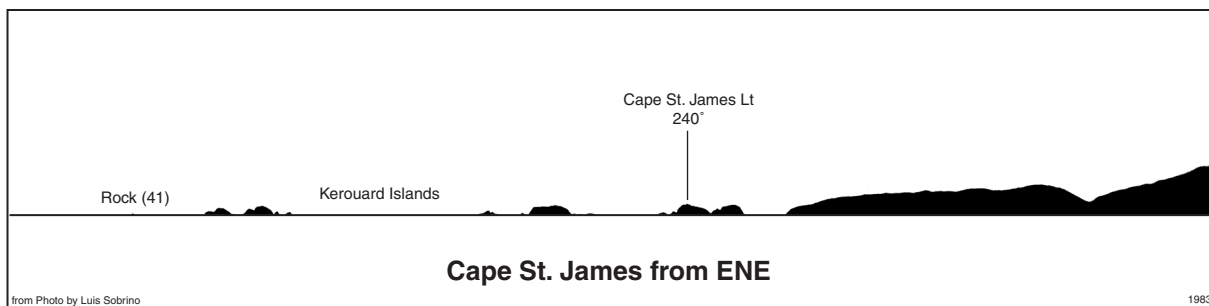


28 **Caution.** — About 16 hours after the passage of a storm through Queen Charlotte Sound, and where the wind veers from SE through SW to NW, the maximum currents at the south end of Hecate Strait will occur about 3 h 30 min after HW at Prince Rupert, and can remain out of phase for three or four days. The initial change of phase is usually accompanied by a surge of current about ½ kn greater than usual. This change in the phase of the currents is caused by a wind driven inertial current of period 15.4 hours and a starting velocity of 30 cm/sec. (0.6 kn). This current slowly decays over a three to four day period.


Kunghit Island — East Side


Chart 3825

29 **Kunghit Island** (52°05'N, 131°05'W) is the first land sighted when approaching Haida Gwaii from south. The island rises to 1,490 feet (454 m) near its south extremity, but its highest peak is in the NE part. The east coast of the island is bold and in many places bordered by steep cliffs.



30 **Cape St. James** ($51^{\circ}56'N$, $131^{\circ}01'W$), so named by Captain Dixon who rounded it in the *Queen Charlotte* on St. James Day, 1787, is the south extremity of **St. James Island**, which is close south of Kunghit Island. The island is saddle-shaped, bare and grassy; the south extremity of the south hummock is a vertical cliff about 100 feet (30 m) high. Heavy tide-rips are sometimes seen south of the cape. A heliport is on the cape.

 31 Cape St. James **light** (770) is shown at an elevation of 315 feet (96 m) from a mast, with two white buildings in close proximity.

 32 South Moresby Island **ODAS light buoy** “46147” (769.5) is 5 miles SW of Cape St. James in $51^{\circ}49'42''N$, $131^{\circ}13'30''W$.

33 **Meteorological information and frequency of fog information** for Cape St. James is given in the Appendices.

34 **Tides.** — Tidal differences for Cape St. James (Index No. 9502), referenced on Hunger Harbour, are given in the Tide Tables, Volume 7.


35 **Kerouard Islands** consist of two groups of islets and rocks, some bare and white, which extend 2.5 miles SE from Cape St. James. These islands are remarkable, standing boldly up with rounded tops, and vertical cliffs on all sides; the smaller rocks have the pillar-like form so frequently found when a rocky coast is exposed to the full sweep of a great ocean. Kerouard Islands are a protected area within the Gwaii Haanas National Park Reserve boundary. The islands are breeding places for innumerable sea birds and sea lions.

36 A deep passage, 0.8 mile wide, leads between the NW and SE groups, but it is only suitable for smaller vessels. Strong winds when blowing against the tidal stream cause a heavy sea in this passage. Tide-rips are sometimes seen south of the islands.

37 **Gray Rock** ($51^{\circ}51'N$, $130^{\circ}56'W$), with a depth of less than 6 feet (2 m) over it, is 3.5 miles SSE of the outermost of the Kerouard Islands. There are heavy **tide-rips** over the rock and the sea breaks over it with a moderate swell.

38 **Woodruff Bay**, between the south extremity of Kunghit Island and **Ballard Point** ($51^{\circ}58'N$, $131^{\circ}00'W$), has rugged north and south shores fringed with drying rocky ledges. An extensive sandy beach is at the head of the bay.

A compact group of above-water rocks, surrounded by a drying rocky ledge, is about 0.1 mile off the north shore. The bay is otherwise free of dangers, and depths within it shallow gradually toward the head. Woodruff Bay affords shelter only from west winds, but there is always some surf at its head.

 39 **Howe Bay**, on the north side of Ballard Point, and **Luxana Bay** are separated by a narrow peninsula of which **Annis Point** ($52^{\circ}01'N$, $130^{\circ}59'W$) is the eastern extremity. An islet with drying and above-water rocks close north and south of it is 0.3 mile NE of Annis Point. **Treat Bay** is an indentation on the north side of Luxana Bay. The shores of these bays and of the peninsula are all rugged and in places are fringed with drying and below-water rocks that do not extend more than 0.15 mile offshore. Depths within the bays are moderate and shoal gradually toward their heads. Howe and Luxana Bays afford shelter from westerly winds, but are seldom free of swell. **Anchorage** can be obtained in either bay in 10 to 15 fathoms (18 to 27 m).

40 Close-off **Lyman Point** ($52^{\circ}06'N$, $130^{\circ}56'W$) are two rocks, 4 and 8 feet (1.2 and 2.4 m) high, close together and surrounded by a drying reef. Close south of these rocks are some drying rocks. A rock that dries 15 feet (4.6 m) is close offshore 0.6 mile NW of Lyman Point.


Chart 3855

Heater Harbour and Approaches

41 **Prevost Point** ($52^{\circ}06'N$, $130^{\circ}57'W$), in the NE part of Kunghit Island, has **Gull Islet** connected to it by a drying rock ledge. A rock awash and a rock that dries 4 feet (1.2 m) are close north of Gull Point, the NE extremity of Gull Islet.

42 **Gull Banks** are between 0.4 and 1.5 miles NW of Gull Islet. A shoal with a depth of 35 feet (10.7 m), 1 mile north of Jenkins Point, is the least depth on the banks.

43 **Blackburn Peninsula** is about 1.7 miles west of Gull Islet. **Keeweenah Bay** and **Montserrat Bay** are separated by **Jenkins Point**. **Marshall Island** lies in the middle of Keeweenah Bay and a shoal with 5 fathoms (9.1 m) over it is in the middle of the entrance to Montserrat Bay.

 44 **Anchorage** can be obtained in Keeweenah Bay, in 12 to 7 fathoms (21.6 to 12.8 m), SE of

Marshall Island. Montserrat Bay is too deep for satisfactory anchorage except close to the head where small craft can obtain temporary anchorage.


45 **Rainy Islands** ($52^{\circ}07'N$, $130^{\circ}59'W$), consisting of four principal islands and some drying, above- and below-water rocks, lie in a chain extending NE of Blackburn Peninsula.

46 **Grant Bank**, between Rainy Islands and High Island, has **Christian Rock**, with 9 feet (2.7 m) over it, on its north side and **Germania Rock**, 18 feet (5.5 m) high, on its west side. Three shoals, with least depths of 16, 22 and 26 feet (4.9, 6.7 and 7.9 m), are within 0.3 mile north and NW of Blackburn Peninsula.

47 **Balcom Inlet** ($52^{\circ}06'N$, $131^{\circ}00'W$) is divided into two arms by **Larsen Point**. Although depths within this inlet are suitable, it is not recommended for anchorage as strong winds from the SE and SW quadrants, often accompanied by “Williwaws”, funnel down the valley at the head, causing violent yawing.

48 **High Island**, on the north side of the approach to Heater Harbour, is conspicuous from NE. A bare rock, 10 feet (3 m) high, is close north of the NW point of the island and a rock that dries 5 feet (1.5 m) and marked by kelp is close-off the NE shore. A boat passage between High Island and **Orion Point**, 0.2 mile SW, is contracted to a width of 0.1 mile by foul ground marked by kelp. A shoal with a least depth of 35 feet (10.7 m) is 0.5 mile NNW of Orion Point.

49 **Heater Harbour**, entered between Orion Point and **Gaowina Point**, has two small arms at its head, a great portion of which dries at LW.


 50 **Anchorage** can be obtained in 11 to 13 fathoms (20 to 24 m), mud, in the basin forming the inner part of Heater Harbour. Small craft can obtain anchorage near the west end of the harbour.

51 Houston Stewart Channel, described in Chapter 4, is entered from the east between **Moore Head** and **Point Langford**.

52 **Haydon Rock** ($52^{\circ}09'N$, $131^{\circ}02'W$) has a rock awash 0.2 mile NE with a rock that dries 5 feet (1.5 m) midway between them and a 21 foot (6.4 m) shoal 0.15 mile WNW.

53 **Langford Shoals**, with depths of 27, 30 and 36 feet (8.2, 9.1 and 11 m), lie up to 0.5 mile south of Point Langford. Another shoal with a least depth of 32 feet (9.8 m) is 0.5 mile east of the same point.

54 **Koya Point**, with a bare rock 16 feet (4.9 m) high close-off it and connected to shore by a drying ledge, is 1.6 miles NE of Point Langford. A rock that dries 10 feet (3 m) is 0.2 mile SW of Koya Point.

 55 **Tidal streams**. — Heavy overfalls occur over the shoals south of Point Langford when strong winds oppose the flood stream.

Moresby Island — East Side

Charts 3853, 3894

56 The east side of **Moresby Island** is indented and fronted by islands of considerable size with passages between them. The interior of the island has many peaks, most of which are bare.

57 **Inshore route**. — From Houston Stewart Channel ($52^{\circ}10'N$, $131^{\circ}03'W$), at the south end of Moresby Island, there are 8 miles of open coastline before Skincuttle Inlet is reached. From Skincuttle Inlet ($52^{\circ}20'N$, $131^{\circ}10'W$) small vessels can follow an inshore, moderately sheltered route as far north as Cumshewa Inlet ($53^{\circ}03'N$, $131^{\circ}50'W$). Moresby Camp at the head of Cumshewa Inlet has a gravel road leading north to Sandspit. This route can be used if it is necessary to proceed north for assistance when strong gales are blowing in Hecate Strait.

58 Two sections of the route, open to the weather, are in Juan Perez Sound and a short section between Logan and Dana Inlets. Two drying channels that must be navigated at or near HW are K'iid Xyangs K'iidaay in GaysiiGas K'iidsii at the south end and Louise Narrows in Carmichael Passage at the north end of the route.

59 The route leads from Skincuttle Inlet into GaysiiGas K'iidsii, then through Juan Perez Sound and Darwin Sound into Logan Inlet. From Logan Inlet the route follows Dana Inlet, Dana Passage and Selwyn Inlet into Carmichael Passage that leads into the west end of Cumshewa Inlet near Moresby Camp.


60 **Logging camps** (1997) where assistance can be obtained in an emergency are in Powrivco Bay, Sewell Inlet and Beattie Anchorage.


Chart 3809

Carpenter Bay and Approaches

61 **Benjamin Point** ($52^{\circ}13'N$, $131^{\circ}00'W$) has a wooded islet close-off it and reefs extend 0.4 mile north, 0.15 mile east and 0.2 mile south of the promontory. An extensive kelp bed is in this locality. The small cove on the west side of the point is too exposed to provide satisfactory anchorage.

62 **Garcin Rocks**, 1.2 miles ESE of Benjamin Point, consist of three large, conspicuous, closely grouped islets, 42 to 48 feet (13 to 15 m) high, which with above-water, drying and below-water rocks form a reef 0.5 mile long.


 63 **Garcin Rocks light** (771), on the centre islet, is shown at an elevation of 64 feet (19.5 m) from a skeleton tower.

 64 **Tidal streams** in the vicinity of Garcin Rocks flood north and ebb south at 1 to 4 kn, accompanied at

times by considerable turbulence, particularly during spring tides.

65 **Huff Rock**, 0.9 mile NE of Benjamin Point, is 10 feet (3 m) high and bare; it is surrounded by foul ground which, on its SW side, extends about 0.4 mile and terminates in a rock that dries 4 feet (1.2 m). Kelp grows profusely on the foul ground during summer and autumn. A rock with less than 6 feet (2 m) over it and two 36 foot (11 m) shoals lie between Garcin Rocks and Benjamin Point.

66 **Langtry Island**, 1 mile north of Benjamin Point, is sparsely wooded and has two bare rocks, 10 and 21 feet (3 and 6.4 m) high close together, about 0.2 mile off its NW side. Numerous drying and below-water rocks extend up to 0.3 mile off the island.

 67 **Caution.** — The inshore passage west of Garcin Rocks, Huff Rock, and Langtry Island has irregular depths and several drying and below-water rocks within it, and is subject to considerable tide-rips and eddies which are dangerous to small craft. Overfalls, which could be dangerous to small craft, form quickly with the wind opposing the tidal streams. Local knowledge is advised to navigate this passage.


68 **Goodwin Point** ($52^{\circ}17'N$, $131^{\circ}05'W$), at the north approach to Carpenter Bay, has **Goodwin Rock**, which is 13 feet (4 m) high and bare, about 0.8 mile east of it.

69 **Rankine Islands**, both wooded, are SE of Goodwin Point in the entrance to Carpenter Bay. Above-water, drying and below-water rocks fringe both islands and extend 0.6 mile north of the west island. Extensive kelp grows in this vicinity. **Note.** — Rankine Islands are a protected area within the boundaries of Gwaii Haanas National Park Reserve and are closed to the public.

70 **Oliver Rock**, 0.8 mile north of the west Rankine Island, is 4 feet (1.2 m) high.


71 The entrance to **Carpenter Bay** ($52^{\circ}14'N$, $131^{\circ}03'W$), between **Ingraham Point** and **Iron Point**, has several shallow areas, most notable the 17 foot (5.2 m) shoal 0.45 mile east and the rock awash 0.9 mile SSE of Iron Point with a 31 foot (9.4 m) shoal midway between them. A rocky drying ledge with two bare above-water rocks on it extends 0.2 mile off Ingraham Point. **Kiju Point**, on the south side of Carpenter Bay, separates **Koya Bay** and South Cove.


72 **South Cove** with irregular depths and several scattered drying and below-water rocks is suitable only for small craft. From the west entrance point of this cove, a rocky ledge with above-water and drying rocks on it extends 0.25 mile north.

 73 **Dangers.** — Numerous detached dangers lie in Carpenter Bay. A rock with 22 feet (6.7 m) over it is 0.8 mile NW of Kiju Point. **Crowell Rock**, which dries 14 feet (4.3 m), lies in mid-channel 0.4 mile NE of **Hancock Point**. A rock with 13 feet (4 m) over it is 0.3 mile east of Crowell


Rock and a rock with less than 6 feet (2 m) over it is 0.1 mile north of Crowell Rock. **Samuel Rock**, which is 12 feet (3.7 m) high, lies off a drying bank extending from the north shore. A rock that dries 9 feet (2.7 m) is 0.15 mile west of Samuel Rock. Some are marked by kelp. Two wooded islets are north of Hancock Point and the head of the bay is encumbered with islands, above-water, drying and below-water rocks.

74 **Fishing boundary markers** are on both sides of Carpenter Bay, 0.4 mile SE of Hancock Point and on the north shore, north of the point.

 75 **Tidal streams** in Carpenter Bay are regular attaining 2 kn in the outer part decreasing to about 1 kn toward the head.

 76 **Caution.** — Anchorage within Carpenter Bay is not recommended because of the numerous dangers in it combined with strong winds which, from the SE and SW quadrants, funnel through the valleys in the south shore.

Collison Bay

 77 **Collison Bay** ($52^{\circ}17'N$, $131^{\circ}07'W$), entered north of Goodwin Point, becomes very narrow west of **Gona Point**. Depths in the entrance are uneven but within the bay the soundings are moderately deep and decrease gradually toward the head. Above-water and drying rocks extend 0.15 mile from the head of the bay. **Anchorage** is suitable only for small craft.


78 **Marion Rock**, which is 10 feet (3 m) high and bare, is on the south side of the entrance to Collison Bay.

79 A rock that dries 18 feet (5.5 m) lies in the fairway 0.3 mile west of Marion Rock. Two rocks that dry 2 and 12 feet (0.6 and 3.7 m) lie up to 0.1 mile off the SE shore SW of Marion Rock.


80 **Nest Islets**, the largest of which is wooded and the other with scrub growth, are near the middle of the entrance to Collison Bay. A wooded island with a rock 9 feet (2.7 m) high close south of it is 0.2 mile WSW of Nest Islets. The passage between this island and Nest Islets is deep and free of dangers. Another wooded island, connected to shore by a drying rocky ledge, is about 0.4 mile from the head of the bay close-off the north shore.

81 **Ikeda Cove** ($52^{\circ}19'N$, $131^{\circ}08'W$) is entered between **Awaya Point** and **Ikeda Point**. A shoal with a depth of 29 feet (8.8 m) lies in the approach 0.2 mile east of Awaya Point. Drying rocks and banks extend a short distance off the east shore and 0.2 mile off the head of the cove. Some old piles line the west side of the river mouth at the head of the cove.

82 **Fishing boundary markers** are on both sides of the cove 0.3 mile inside the entrance.

 83 **Anchorage** can be obtained in 6 to 7 fathoms (11 to 13 m) near the head of Ikeda Cove. During normal weather this anchorage is satisfactory, but a sharp watch is necessary during strong southerly gales, as the cove


is subject to heavy squalls from the valley at its head, which cause considerable down draughts from the surrounding hills. The holding ground is reported to be good.

 84 **Caution.** — During SE gales there is considerable turbulence, accompanied by heavy seas dangerous to small vessels, in the entrance to Ikeda Cove.

Skincuttle Inlet and Approaches

85 The entrance to **Skincuttle Inlet** ($52^{\circ}20'N$, $131^{\circ}10'W$), between **Deluge Point** and **Sk'yaaw Kun**, 3.8 miles NW, is divided by the Copper Islands. The passage north of these islands has a minimum width of 0.25 mile between the east extremity of the rocks extending from Pelican Point and the west islet of the group. The fairway on the south side of Copper Islands is about 1 mile wide between East Copper Island and New England Rocks.


86 Depths are irregular SE of East Copper Island and west of Deluge Point and a number of detached rocks and shoals are south and SW of Bolkus Islands.

 87 **Tidal streams** in the vicinity of Ikeda Point, Joyce and New England Rocks and the Copper Islands attain a rate of up to about 3 kn, the flood flowing north and the ebb south. The turn of the tide takes place abruptly with virtually no slack water. Within the inlet the streams are irregular and decrease in strength toward the south end of GaysiiGas K'iidsii.

88 Swirls are frequently experienced between New England Rocks and the Copper Islands.

89 **Tides.** — Tidal differences for Copper Islands (Index No. 9724), referenced on Bella Bella, are given in the Tide Tables, Volume 7.

90 **Copper Islands** ($52^{\circ}21'N$, $131^{\circ}12'W$) are a chain of five wooded islands and numerous islets and above- and below-water rocks, extending 3.3 miles east and ENE of Pelican Point. The named islands and islets are **East Copper Island**, **Jeffrey Island**, **George Island**, **Skincuttle Island**, **Slug Islet** and **Rock Islet**. An extensive drying rocky ledge on which there is an islet extends 0.3 mile south from Skincuttle Island; drying and below-water rocks lie between it and Slug Islet. A group of islets, surrounded by drying ledges and drying and below-water rocks close-off their SW side, extend about 0.3 mile SE from Rock Islet. Close south of Slug Islet there is a rock 12 feet (3.7 m) high connected to the islet by a drying ledge. Kelp grows profusely in the vicinity of the islands.

 91 East Copper Island **light** (772) is shown at an elevation of 50 feet (15.2 m) from a white tower.

92 **Note.** — East Copper Island and Jeffrey Island are a protected area within the boundaries of Gwaii Haanas National Park Reserve and are closed to the public.

93 The east entrance to Skincuttle Inlet is encumbered with **Joyce Rocks** ($52^{\circ}20'N$, $131^{\circ}08'W$), a compact group of five bare rocks 12 to 27 feet (3.7 to 8.2 m) high, **New England Rocks**, consisting of two drying and one below-water rock, **Bishop Rock**, 3 feet (0.9 m) high and bare, and **Inner Low Rock**, 16 feet (4.9 m) high and bare. Shoal rocks are close to all the above-mentioned rocks and several shoals under 10 fathoms (18.3 m) are up to 1 mile north and NE of Joyce Rocks.

94 Port hand **buoy** "C3", fitted with a radar reflector, is 0.25 mile WNW of New England Rocks.

95 The passage north and west of the Copper Islands narrows to a width of 0.25 mile between the east extremity of the above- and below-water and drying rocks extending 0.5 mile east from **Pelican Point** and Rock Islet. A shoal with 25 feet (7.6 m) over it is situated 0.3 mile north of Skincuttle Island. Within 0.6 mile SE of Sk'yaaw Kun, there are several banks with depths from 34 to 60 feet (10.4 to 18.3 m). Numerous above-water and drying rocks lie up to 0.4 mile north of East Copper and Jeffrey Islands. Kelp grows profusely in this area.

 96 A local **magnetic anomaly** has been reported in this vicinity.

97 A conspicuous cave is 0.1 mile SW of Sk'yaaw Kun. **Bluejay Cove** and **Pelican Cove** are shallow and have extensive drying rock ledges.

98 **Kingfisher Cove** is 0.5 mile west of Pelican Point. A rock, which dries 2 feet (0.6 m) and marked by kelp, is 0.18 mile off the west entrance point of the cove. **Fresh water** is available from a spring in the cove (1988).

99 **Swan Islands** ($52^{\circ}20'N$, $131^{\circ}18'W$) consist of one large and two small islands and several islets and rocks.

100 **Swan Bay**, north of Swan Islands, is too exposed to SE winds for satisfactory anchorage. A cabin (1985) is on Burnaby Island, 0.2 mile west of Swan Islands.

101 **Bolkus Islands** ($52^{\circ}20'N$, $131^{\circ}16'W$), consisting of one large island and several small islands, together with numerous small rocks and reefs, lie in the middle of Skincuttle Inlet east of **Smithe Point**, the south extremity of **Burnaby Island**. Foul ground, on which there are several drying and below-water rocks, extends 0.3 mile south from the west Bolkus Island, and shoal water extends up to 0.15 mile off the other shores of the islands. A reef, with a least depth of 13 feet (4 m) over it, is 0.4 mile north of the east extremity of Bolkus Island. The passage between these islands and the Swan Islands is free of dangers except for a drying rock, an islet and a shoal with 28 feet (8.5 m) over it extending 0.2 mile south of the westernmost Swan Island.


102 **Harriet Harbour** ($52^{\circ}18'N$, $131^{\circ}13'W$), on the south side of Skincuttle Inlet, is entered between **Funter Point** and **Jedway Point**. **Harriet Island**, in the middle of the entrance, is surrounded by a drying bank from which a drying spit


ENTRANCE TO HARRIET HARBOUR (1985)



extends about 0.13 mile SE. The island is not conspicuous as its colours blend into the high background. Harriet Harbour should be entered only by the channel west of Harriet Island. The harbour was formerly the site of a mining development. The ruins of a wharf and two piles of mine waste are on Funter Point. The side of the hill SE of Harriet Harbour is a conspicuous dark bare cliff. Roads and buildings along the east shore are completely overgrown with alder. A reservoir and some potentially dangerous deep shafts, hidden by the alder, are close south of Funter Point.

103 **Fishing boundary markers** are on Jedway Point and 0.8 mile NE of Funter Point.

 104 Because of limited swinging space, Harriet Harbour should be used only by vessels up to 200 feet (61 m) long, which can obtain **anchorage** in about 39 feet (12 m) in the middle of the harbour. The holding ground is good on a bottom of sand and mud.

 105 **Caution.** — During strong southerly gales Harriet Harbour is subject to heavy squalls from the valley at its head which induce violent yawing. A slight swell enters the harbour with north to NE gales.

 106 A local **magnetic anomaly** has been reported in the vicinity of Harriet Harbour.

107 **Kankidas Point**, 0.8 mile WSW of Jedway Point, has above-water and drying rocks lying close-off it and a shoal spit projecting 0.2 mile NW. A rock, with less than 6 feet (2 m) over it, is 0.13 mile offshore midway between this point and Jedway Point. Several shoals are up to 0.3 mile offshore between Jedway and Kankidas Points.

108 **Elswa Rock** ($52^{\circ}19'N$, $131^{\circ}16'W$), which dries 8 feet (2.4 m), lies almost in the middle of the passage south of Bolkus Islands. Port bifurcation **buoy** “CE” marks Elswa Rock. A shoal with 24 feet (7.3 m) over it is 0.2 mile ENE and a rock covered 20 feet (6.1 m) is 0.4 mile WSW of Elswa Rock.

109 **Bush Rock**, which is 15 feet (4.6 m) high with sparse scrub on its summit, is 0.8 mile SW of Elswa Rock and marks the west entrance to **Jedway Bay**. Rocks that dry 2 and 8 feet (0.6 and 2.4 m) lie between Bush Rock and the island south of it.



110 **Bush Rock light** (771.7) is shown at an elevation of 30 feet (9.1 m) from a skeleton tower.

112 A **fishing boundary marker** is on the east extremity of the island 0.7 mile SSE of Bush Rock.



113 Jedway Bay is recommended only as a temporary **anchorage** in fine weather for vessels up to 150 feet (46 m) long. Small craft can obtain anchorage in 5 to 6 fathoms (9 to 11 m) in the indentation on the east side of the bay, close south of Kankidas Point, or at the head of the bay, clear of the rock with less than 6 feet (2 m) over it.

114 A public **mooring buoy** is at the head of Jedway Bay.

115 A **fresh water** hose leads to the mooring buoy from a small spring halfway up the hillside (1985). It is reported that this hose is no longer working (1995).

116 **Huston Inlet** is entered between Bush Rock and **Huston Point** ($52^{\circ}18'N$, $131^{\circ}18'W$).

117 **Low Black Rock**, with a rock which dries 1 foot (0.3 m) close NE, is 0.5 mile NNE of Huston Point. **Boulder Island**, **Sea Pigeon Island** and **Green Rock**, which is grass-covered, lie in the outer part of Huston Inlet.

118 A **fishing boundary marker** is on Huston Point. Fishing boundary markers are on the east and west shores of Huston Inlet about 1.2 miles SE of Sea Pigeon Island.

119 A bank with above-water, drying and below-water rocks on it fills most of the area between Boulder Island and Low Black Rock. Boulder and Sea Pigeon Islands are fringed by rocks and ledges, and a reef with less than 6 feet (2 m) over it is 0.5 mile SE of Sea Pigeon Island. Shoals, drying and below-water rocks are up to 0.3 mile offshore at the head of the inlet.



120 **Anchorage** is available in about 12 fathoms (22 m) near the head of Huston Inlet. Small vessels can anchor in shallower depths nearer the head, but take care to avoid the shoals and rocks in the vicinity. **Caution.** — During SE gales heavy squalls from the valley at the head of the inlet can be expected.

121 **Slim Inlet** ($52^{\circ}18'N$, $131^{\circ}19'W$) is only 300 feet (91 m) wide between the 3 fathom (5.5 m) lines and has a drying flat at its head. On the east side of the entrance, depths of 9 to 36 feet (2.7 to 11 m) extend up to 0.5 mile offshore; on the west side drying and below-water rocks extend 0.2 mile offshore.

122 **George Bay**, at the west end of Skincuttle Inlet, is almost filled with a drying mud flat, and its mouth is encumbered by reefs. Opposite the entrance to the bay, and almost midway between Huston Point and the south entrance to GaysiiGas K'iidsii, there are three shoals with depths of 30, 31 and 36 feet (9.1, 9.4 and 11 m) over them.

GaysiiGas K'iidsii

123 **GaysiiGas K'iidsii** ($52^{\circ}20'N$, $131^{\circ}20'W$) leads north between Burnaby and Moresby Islands into Juan Perez Sound (*Chart 3808*). The strait between its south entrance and K'iid Xyangs K'iidaay is encumbered with numerous drying and below-water rocks, most of them marked by kelp, and is suitable only for small craft, navigated with great caution.

124 A **fishing boundary marker** is on the east bank at the south end of K'iid Xyangs K'iidaay.



125 **Tidal streams.** — Limited observation in this area indicates the tidal streams are very irregular in both direction and strength and vary appreciably with spring and neap tides and weather conditions in Hecate Strait. Within

K'iid Xyangs K'iidaay the streams are relatively weak and seldom exceed $1\frac{1}{2}$ kn.

126 **Tangle Cove**, on the west side of the south entrance to GaysiiGas K'iidsii, is nearly filled with a drying mud flat. Two drying reefs, marked by kelp, are off the entrance and a rock that dries 10 feet (3 m) is in the entrance to the cove.

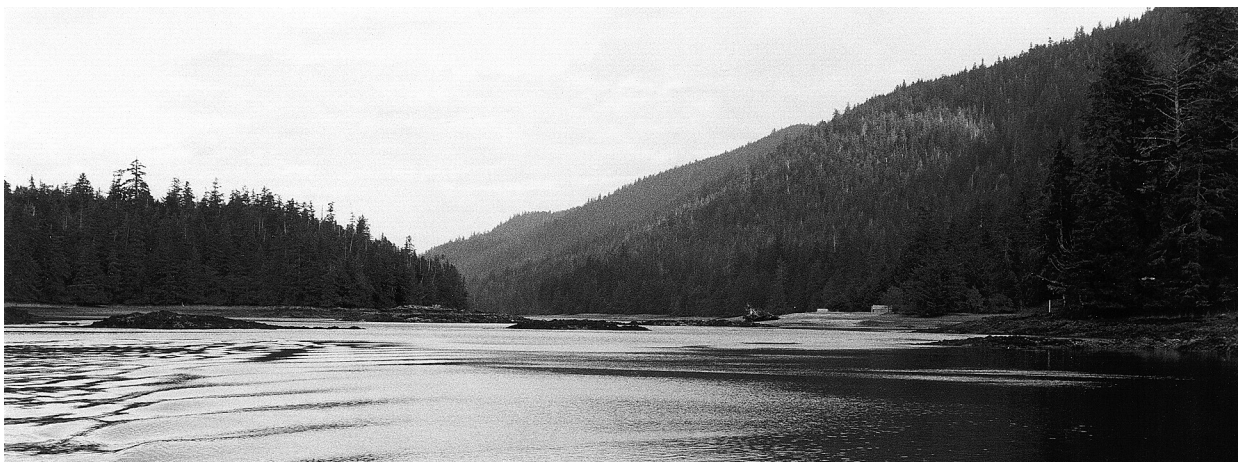


127 **Bag Harbour** ($52^{\circ}21'N$, $131^{\circ}22'W$) affords sheltered **anchorage** to small craft over mud bottom in a basin near its head. A shoal with 18 feet (5.5 m) over it lies in the approach to the bay about 0.2 mile east of the entrance and a rock with less than 6 feet (2 m) over it lies 0.1 mile from the head.

128 **K'iid Xyangs K'iidaay** is known locally as **Burnaby Narrows**. The navigable channel dries, is about 0.3 mile long and has three sharp bends. From the south end the fairway leads NE from the west to east shores then turns sharply NW leading to the west shore where it follows the west shore for a short distance before turning sharply NE which course leads to the north end of the drying area. Vessels up to 70 feet (20 m) long with a draught of 9 feet (2.7 m) are reported to regularly use the narrows, however, local knowledge is advised. Passage should be made on a rising tide, at half tide or better, when most dangers can be seen. The bottom throughout the narrows is rock.

129 **Beacon ranges.** — Private daybeacon ranges (1985) mark the four ranges through K'iid Xyangs K'iidaay. Each set of beacon ranges consist of two white posts driven into the banks. At the south end the daybeacon range on the east bank marks the route NE leading from the west to east banks. Close north of the first range beacons a daybeacon range on the east bank marks the route leading NW from the east to west banks. Daybeacons to the north, on the west bank, mark the route leading north along the west bank. A set of daybeacon ranges on the west bank and another set on the east bank mark

ENTRANCE TO K'IID XYANGS K'IIDAAY LOOKING NORTH (1985)



the range leading NE to the north end of the drying channel. **Note.** — It is reported (1995) that only two daybeacon ranges remain, one on each shore.

130 Two abandoned cabins are on the east shore at the north end of K'iid Xyangs K'iidaay. North of the drying bank, the channel widens and deepens gradually and is about 0.3 mile wide abreast **Dolomite Point** ($52^{\circ}23'N$, $131^{\circ}22'W$). A rock with 10 feet (3 m) over it is 0.2 mile north of Dolomite Point.

131 The entrance to **Island Bay**, west of Dolomite Point, is obstructed by several small islands and numerous above- and below-water rocks. Entry should only be effected west of these obstructions. The head of the bay is encumbered with several islets and rocks. The bottom is mainly mud, except near the islets at the head of the bay, where it is gravel and shells.


132 **Kat Island** is wooded and has islets and rocks extending 0.4 mile north of it. The passage on the west side of Kat Island is foul and should not be attempted.

133 **Limestone Rock** ($52^{\circ}25'N$, $131^{\circ}23'W$), which dries 8 feet (2.4 m), and a rock that dries 3 feet (0.9 m) are 0.8 mile east of **Wanderer Point**. **Nomad Islet** is connected to the point by a drying bank. A narrow passage, available to small craft, separates Nomad Islet from the south extremity of **Wanderer Island**.

134 **Centre Islet**, **Sels Islet** and **Park Island** lie east, west and north of Wanderer Island. **Haida Rock**, which is awash, is west of Wanderer Island and several drying rocks lie up to 0.1 mile off the shores of Wanderer Island. A 25 foot (7.6 m) shoal lies in mid-channel NNW of Sels Islet and drying reefs extend from both Sels Islet and Park Island.

135 A **fishing boundary marker** is on the Moresby Island shore opposite the north end of Park Island.


136 **Skaat Harbour** is entered NW of Park Island. Islets and drying rocks are up to 0.2 mile off the shores at the head of the harbour.

 137 **Anchorage** can be obtained in about 12 fathoms (22 m), generally mud bottom, west of Wanderer Island. Anchorage for medium sized vessels is available in 12 fathoms (22 m), mud, about 0.6 mile from the head of the harbour. Small vessels can anchor in shallower depths closer to shore. The anchorage at the head of the harbour provides the best shelter from all but northerly winds.

138 **Section Cove** ($52^{\circ}25'N$, $131^{\circ}22'W$) is sheltered to the west by **Section Island**. The preferred channel leading into the cove from GaysiiGas K'iidsii leads between Koga Islet and Huxley Island. **Koga Islet** has shoal water extending ESE from its south end. A shoal ridge with a least depth of 18 feet (5.5 m) is in the middle of Section Cove. The NE entrance to the cove is obstructed by **Nakons Islet**, from which a reef with a rock with less than 6 feet (2 m) over it at its extremity

extends 0.3 mile SE. A Haida Gwaii Watchmen basecamp is on the south end of Huxley Island.

139 **Tides.** — Tidal differences for Section Cove (Index No. 9733), referenced on Bella Bella, are given in the Tide Tables, Volume 7.

 140 **Anchorage** can be obtained in Section Cove in 17 fathoms (31 m). A public **mooring buoy** is in the cove.

141 The north part of GaysiiGas K'iidsii, north of Wanderer Island, is deep and clear of dangers in the fairway.

Burnaby Island — East Side

142 The east coast of Burnaby Island features a large indentation, which has Gid Gwaa GyaaGa GawGa at its head. The shore is rugged and fringed with drying rocky ledges extending up to 0.1 mile offshore.

143 **Howay Island** ($52^{\circ}23'N$, $131^{\circ}16'W$), in the approach to Gid Gwaa GyaaGa GawGa, is wooded and has moderately steep-to shores that can be approached to about 0.1 mile.

144 **Sk'yaaw GawGa**, although free of off-lying dangers, is too deep and exposed for satisfactory anchorage.

145 **Rebecca Point** is the extremity of a peninsula, which is fringed with rocky ledges and drying, above- and below-water rocks up to 0.2 mile offshore. Extensive kelp is off the north shore. A shoal with 33 feet (10.1 m) over it is 0.4 mile north of the point.


146 **Gid Gwaa GyaaGa GawGa** is entered east of Rebecca Point. The shores on both sides of the inlet are generally rugged with above-water and drying rocks close offshore in places. About 1 mile SSW of Rebecca Point the fairway is obstructed by a group of islets and rocks; a passage, about 0.1 mile wide and suitable only for small vessels, exists on the NW side of the group.

147 **Fishing boundary markers** are on both sides of the inlet at the entrance and about 1 mile within.

Juan Perez Sound

Chart 3808

148 **Juan Perez Sound** ($52^{\circ}31'N$, $131^{\circ}25'W$), entered between Burnaby and Ramsay Islands, extends NW to Darwin Sound, which continues NW to join the inner ends of the long inlets extending west from Laskeek Bay (Chart 3807).

 149 **Tidal streams** at Scudder Point are irregular in both direction and strength, but up to 3 kn has been encountered. Wind direction and force appear to affect the rate considerably. Some turbulence can be expected in the vicinity

of Scudder Point and overfalls have been encountered on the shallow banks lying 4 miles to the east.

150 Within the sound the tidal streams become regular and attain about 1 kn, the flood setting NW and the ebb SE.

151 Along the shore of Ramsay Island and in the passages NW of it, tidal streams are regular at about 1 kn.

152 **Tides.** — Tidal differences, referenced on Bella Bella, are given for Section Cove (Index No. 9733) and Sedgwick Bay (Index No. 9753) in the Tide Tables, Volume 7.

153 **Scudder Point** ($52^{\circ}27'N$, $131^{\circ}14'W$), the NE extremity of Burnaby Island, is surrounded by drying rocky ledges and shoals extending up to 0.4 mile offshore. Several rocks that dry 2 to 12 feet (0.6 to 3.7 m) lie off the drying ledges and a rock that dries 3 feet (0.9 m) is 0.2 mile offshore 1 mile south of Scudder Point. Large masses of kelp lie off the ledges.

154 A considerable width of comparatively low land stretches back from Scudder Point with an open growth of large but gnarled spruce trees.

155 The north coast of Burnaby Island has several slight indentations and is fringed by drying rocky ledges separated by small beaches of coarse gravel.



156 Scudder Point **light** (773) is shown at an elevation of 18 feet (5.6 m) from a skeleton tower.

157 **Saw Reef**, 2 miles west of Scudder Point, is a large rocky patch that dries with several above-water heads on it, the highest of which is 4 feet (1.2 m) high.

158 **Off-lying banks** with least depths of 12 and 14 fathoms (22 and 26 m) lie between 3 and 4 miles NNE and east of Scudder Point (*Chart 3853*).

159 **Alder Island** ($52^{\circ}27'N$, $131^{\circ}19'W$) is wooded and nearly flat. A wooded islet, a rock 12 feet (3.7 m) high and three rocks that dry 12, 5 and 14 feet (3.7, 1.5 and 4.3 m) are up to 0.4 mile off the north shore. The passage south of Alder Island has shoal depths and should be used only by small craft.

160 **Huxley Island** is bold and remarkable, rising steeply from the beach on its east side. Several shoal areas with depths of 19 to 56 feet (5.8 to 17.1 m) are up to 0.5 mile off the east shore of the island. Close-off its NW point is a rock 3 feet (0.9 m) high with some drying rocks extending 0.1 mile SE of it.

161 **Arichika Island** is 0.6 mile off the NE extremity of Huxley Island. **Arichika Shoal**, 0.4 mile NW, has a least depth of 14 feet (4.3 m) over it. **Monument Rock**, midway between Arichika Shoal and Huxley Island, is bare and resembles a pillar; two drying rocks are close SE of it.

162 **All Alone Stone** ($52^{\circ}29'N$, $131^{\circ}24'W$), a dome-shaped wooded island, is steep-to, conspicuous and forms a good mark for entry into Gaysii Gas K'iidsii. A detached rock, with 1 foot (0.3 m) over it, is about 300 feet (91 m) north of All Alone Stone.

163 **Werner Bay** ($52^{\circ}29'N$, $131^{\circ}27'W$), on the SW side of Juan Perez Sound, is between **Newberry Point** and **Werner**

Point, 2.3 miles NW. Depths within the bay are irregular with shoals in the SE part.



164 **Newberry Cove**, west of Newberry Point, affords temporary **anchorage** for small vessels in about 17 fathoms (31 m).

165 **Matheson Inlet** is entered between **Abraham Point** and **Gottlob Point**. A shoal is on the east side of the entrance and the inlet is obstructed by a bar with 2 feet (0.5 m) over it 0.5 mile within the entrance. About 0.4 mile farther south the fairway is reduced to less than 300 feet (91 m) wide by drying banks on each side. The south portion of the inlet is filled with a drying flat on which is a rock 3 feet (1.0 m) high.



166 A private **mooring buoy** and ruins of a cabin are on the east shore 0.6 mile SW of Abraham Point. Matheson Inlet provides sheltered **anchorage** for small craft near its head.

167 **Fishing boundary markers** are on Gottlob and Abraham Points.

168 **Marshall Inlet** has a rock that dries 8 feet (2.4 m) and a 13-foot (4-m) shoal, both marked by kelp, in the middle of its entrance. The inlet can be entered either side of the rock and shoal. **Fishing boundary markers** are on both sides of the inlet, 0.8 mile inside the entrance.

169 Between Werner Point and Hutton Inlet, 2 miles NW, the coast is rugged and fringed with shoal water and drying reefs.



170 **Marco Island** is separated from Moresby Island by a passage, which is partially obstructed at its west end by an islet and drying rocks south and SW of it; the passage is suitable for small craft but **caution** is required. **Marco Rock** and extensive drying reefs are off the east end of Marco Island.



171 **Hutton Inlet** ($52^{\circ}30'N$, $131^{\circ}33'W$), entered between Marco Island and **Hutton Point**, has **Hutton Island** in the middle of its entrance. A shallow spit extending 0.2 mile north from Hutton Island has a rock that dries 14 feet (4.3 m) at its extremity. The passage on the SE side of the island is obstructed by islets and drying rocks. Close SW of Hutton Island the inlet narrows to less than 0.2 mile with shoal depths near mid-channel. **Fishing boundary markers** are on both sides of Hutton Inlet, about 0.3 mile SW of Hutton Island. **Anchorage** for small vessels can be obtained in about 7 fathoms (12.8 m), mud, 1 mile from the head of the inlet.

172 **Hoskins Islets**, with drying rocks between them, are 0.8 mile NW of Hutton Point.

173 A large bight is between **Hoskins Point** ($52^{\circ}32'N$, $131^{\circ}34'W$) and **Darwin Point**, 2.4 miles NW. **Perez Shoal**, with a least depth of 13 feet (4.1 m) and usually marked by kelp, is 0.7 mile north of Hoskins Point; a 47 foot (14.3 m) shoal is 0.3 mile farther NE.

174 **Sivart Island** has drying and below-water rocks close north and SW of it. **Sivart Rock**, 0.4 mile SW, dries

10 feet (3 m) and a rock with 15 feet (4.6 m) over it lies midway between them. Two shoals with 35 and 34 feet (10.7 and 10.4 m) over them lie NW of Sivart Rock.

175 **Haswell Bay** is entered between Hoskins Point and Sivart Island. A detached rock with 29 feet (8.8 m) over it is 0.5 mile south of Sivart Island. The head of the bay is obstructed by an islet connected to shore by a drying bank. **Fresh water** is obtainable year round from the stream 1 mile SSW of Hoskins Point. The stream forms a small waterfall obscured by trees and is only visible when very close to shore. The best approach is on the north side of the stream where the shore is steep-to rock.



176 Haswell Bay affords good **anchorage** for small craft in 7 fathoms (12.8 m) near the head. Larger vessels can anchor in 12 to 16 fathoms (22 to 29 m) about 0.4 mile SSW of Sivart Island, but take care to avoid the dangers in the vicinity.

177 The approach to **De la Beche Inlet** ($52^{\circ}32'N$, $131^{\circ}40'W$) has irregular depths and is encumbered with drying and below-water rocks in the passages north and south of **De la Beche Island**. A rock with 13 feet (4 m) over it and marked by kelp and a 28 foot (8.5 m) shoal lie near mid-channel north of the island. Entry should be attempted with caution and by small vessels only. The inlet is narrowest at its entrance where the fairway is reduced to about 0.1 mile wide by islets and drying and below-water rocks extending from the north side. The head of the inlet is narrow and foul.

178 **Skittagetan Lagoon** is on the NW side of the approach to the inlet. A rock with less than 6 feet (2 m) over it and a 33 foot (10.1 m) shoal lie in the approach and the entrance is very narrow and almost filled with drying rocks.

179 The entrance to **Sac Bay**, on the south side of the inlet, is very narrow and obstructed by drying, above- and below-water rocks at its entrance.

180 **Ramsay Island** ($52^{\circ}34'N$, $131^{\circ}22'W$), at the NE entrance to Juan Perez Sound, is densely wooded with two bold hills in its east part. The east and SE shores are fringed

with drying reefs and detached rocks. Numerous above-water rocks are scattered on the drying reefs and the shore is fringed with dense kelp.

181 A bare islet, connected to shore by a drying reef, is about 1 mile north of **Yadus Point**, the east extremity of Ramsay Island. A rock with 17 feet (5.2 m) over it is about 0.25 mile NE of the bare islet. A bank, with a least depth of 34 feet (10.4 m), is 1.3 miles east of Yadus Point.

182 **Tatsung Rock**, 1 mile south of Yadus Point, is bare and has a shoal between it and shore with a least depth of 7 feet (2.2 m) over it. Close west of Tatsung Rock, an islet, drying, above- and below-water rocks extend 0.3 mile offshore.

183 A rock that dries 6 feet (1.8 m) is 0.1 mile south of **Crombie Point**, the south extremity of Ramsay Island. The south coast of Ramsay Island is high and rocky.

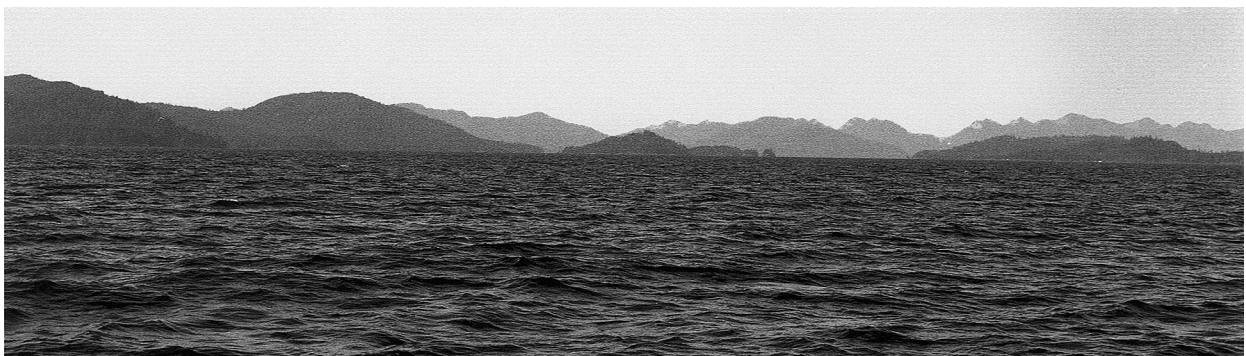
184 **Ramsay Passage** ($52^{\circ}34'N$, $131^{\circ}25'W$) leads between Ramsay Island on the SE and House and Hotspring Islands on the NW. Shoal banks lie in the eastern approach; the shoalest, with 31 feet (9.4 m) over it, is 1.2 miles NW of **Andrew Point**, the north extremity of Ramsay Island. **Kloo Rock**, close-off Andrew Point, is 36 feet (11 m) high and bare. Two rocks, one that dries 4 feet (1.2 m) and the other covered less than 6 feet (2 m), are 0.4 mile east and 0.2 mile ESE, respectively, from Kloo Rock. The passage is obstructed by two shoal fingers extending northward from Ramsay Island. Rocks that dry 1 and 7 feet (0.3 and 2.1 m) and a rock with less than 6 feet (2 m) over it are at the north end of the east finger. A 33 foot (10.1 m) shoal is 0.2 mile NW in the middle of the passage. A rock with less than 6 feet (2 m) over it is 0.3 mile SSW of **Ramsay Point**, the west extremity of the island.

185 **Ramsay Rocks**, 0.9 mile west of Ramsay Point, consist of a rock 21 feet (6.4 m) high, a rock awash, and several drying rocks.



186 **Anchorage** in the coves on the SE side of Ramsay Passage is only suitable for small craft. Public

APPROACH TO RAMSAY PASSAGE LOOKING SW (1985)



LANDING BEACH AT HOTSPRING ISLAND (1985)



mooring buoys are in the cove on the east side of the promontory 1.3 miles SW of Andrew Point.

187 **Hotspring Island** and **House Island**, on the north side of Ramsay Passage, have numerous islets, above-water and drying rocks in their vicinity. A narrow passage, with a least depth of 4 feet (1.2 m) and some drying rocks, exists between the islands but is not recommended; it is reported that aircraft land in this passage. On the south side of Hotspring Island is the spring from which it derives its name. The landing beach on the south side near the springs is easily identified by the prominent cabins, which are change houses. One cabin serves as a shelter for a hot tub. Two main pools have been constructed, one hot and the other warm. There are also several tubs and a picnic area. The spring water has a slight smell of sulphuretted hydrogen and a barely perceptible saline taste. The site has been developed by Haida citizens who live in Skidegate. A Haida Gwaii Watchmen basecamp is on Hotspring Island. Boats usually land on the east side of the island, or in calm weather, on the beach on the south side of the island, immediately in front of the main pool and picnic site.

188 Vessels often anchor south of Hotspring Island; the holding ground is reported to be good, but it is exposed and encumbered with drying and below-water rocks.

189 The passage between Hotspring Island and **Murchison Island** ($52^{\circ}35'N$, $131^{\circ}27'W$) is obstructed at the east end by above-water rocks on a drying reef and a rock with less than 6 feet (2 m) over it. The west end has a rock that dries 3 feet (0.9 m) surrounded by shoal water in mid-channel. Two shoals with 29 and 23 feet (8.8 and 7 m) over them are 0.2 mile off the west coast of Murchison Island.

190 **Faraday Island** is separated from Murchison Island by a passage blocked by above-water and drying rocks.

191 Public **mooring buoys** are in the cove on the NW side of Murchison Island, 0.5 mile west of the 473 foot (144 m) hill. This cove is best entered from the NE; a rock with less than 6 feet (2 m) over it is in the entrance.

192 **Faraday Passage**, between Faraday and Lyell Islands, is not recommended, except for small vessels. **Kogangas Rock**, which dries 4 feet (1.2 m), is in the middle of the west entrance of the passage. A reef with a least depth of 18 feet (5.5 m) over it lies in the middle of the east entrance. Two rocks with 12 and 13 feet (3.7 and 4 m) over them and marked by kelp are 0.15 mile offshore on the south side of the passage.

193 **Lyell Island** forms the north side of Juan Perez Sound, and is separated from Moresby Island by Darwin Sound. The island is composed of hilly land, rising abruptly from the shore, attaining elevations in excess of 2,000 feet (610 m) in its east part. It is densely wooded, and on the low land has some fine timber. The logged off slopes on the east side of the island make it conspicuous from Hecate Strait.

194 **Sedgwick Bay**, which indents the south side of Lyell Island, is deep and free of dangers but too exposed for secure anchorage as southerly winds draw directly up Juan Perez Sound. **Sedgwick Point** is at the west entrance. **Fishing boundary markers** are on both sides of the bay, about 1 mile NW of Sedgwick Point and Kogangas Rock. A logging road on the east side of the bay descends to the beach near a stream entrance, about 3 miles NW of Kogangas Rock. Some bare logging slopes are on the east side of the bay.

195 **Tides**. — Tidal differences for Sedgwick Bay (Index No. 9753), referenced on Bella Bella, are given in the Tide Tables, Volume 7.

196 **Bischof Islands** ($52^{\circ}35'N$, $131^{\circ}34'W$), consisting of one large and several small islands, all wooded, together with numerous above-water and drying rocks, lie off **Richardson**

Point, the SW extremity of Lyell Island. The largest island has a conspicuous dome-shaped hill, 285 feet (87 m) high, in its SW part. A 20 foot (8.8 m) shoal is 0.2 mile ESE of the southern island. The passage between Bischof Islands and Lyell Island is deep and free of dangers in the fairway.

197 **Beresford Inlet** is about 300 feet (91 m) wide with a rock that dries 2 feet (0.6 m) at its narrowest part, which is almost completely blocked by above-water and drying rocks. A rock, with 7 feet (2.1 m) over it and marked by kelp, is 0.3 mile SE of the east entrance point of Beresford Inlet. Entry should be attempted with caution, by small craft only, at or near HW.



198 **Tidal streams** attain 2 to 3 kn in the narrowest part of Beresford Inlet; slack water occurs about the times of HW and LW.

199 A **fishing boundary marker** is on the east shore of the inlet about 0.3 mile inside the entrance.

Darwin Sound

Charts 3808, 3807

200 **Darwin Sound** ($52^{\circ}37'N$, $131^{\circ}40'W$), entered between Darwin Point and Richardson Point, is bounded to the east by Lyell and Richardson Islands and to the west by Moresby Island. The sound extends about 13 miles NW. Its west side is indented by several inlets and coves. Navigation of the sound presents no difficulties and it can be used by deep draught vessels.



201 **Tidal streams**. — The flood stream flows up Darwin Sound from the south into the various inlets, and then east through Richardson and Logan Inlets. The ebb stream sets in the reverse manner. The tidal streams attain 2 kn in the fairway abreast Shuttle Island.

Chart 3808

202 **Fishing boundary markers** are on Darwin Point ($52^{\circ}34'N$, $131^{\circ}37'W$) and Richardson Point.



203 Darwin Point **light** (774), 0.7 mile NW of the point, is shown at an elevation of 42 feet (12.9 m) from a white tower, 43 feet (13 m) high.

204 **Stevenson Cove**, on the west side close within the entrance of the sound, is too deep and confined to provide satisfactory anchorage, except for small craft near the head. An islet is about 0.1 mile north of the east entrance point with a rock awash between it and the point.



205 **Kostan Inlet** ($52^{\circ}35'N$, $131^{\circ}41'W$) is entered between **Kostan Point** and **Bigsby Point**. Foul ground extends 0.13 mile SE from Bigsby Point. A rock with 8 feet (2.4 m) over it lies in the middle of the fairway about 0.5 mile within the entrance; another rock,

about 0.1 mile SE of the previously-described rock, has 6 feet (1.9 m) of water over it. The inlet narrows to about 100 feet (31 m) about 0.6 mile within the entrance, where the least depth is 5 feet (1.5 m). **Tidal streams** in the narrows attain 2 to 4 kn. Passage through the narrows is advised only for small craft at or near HW slack. Sheltered **anchorage** can be obtained in about 4 fathoms (7.3 m) off the sandy beach at the head of the inlet.

206 **Fishing boundary markers** are on Bigsby Point and on the south shore at the entrance to the inlet.

207 **Fresh water** can be obtained at HW from a stream flowing from a lake into the SW corner of an unnamed cove about 1 mile NW of Bigsby Point.

208 **Bigsby Inlet**, entered south of **Jeremiah Point**, extends between high, wooded mountains, precipitous in places. There are no dangers in the fairway but depths are too great for anchorage.

209 Two rocks with 39 and 36 feet (11.9 and 11 m) over them are 0.5 mile ESE and 0.4 mile NE of **Finger Point** in Darwin Sound.

Charts 3808, 3807

210 **Shuttle Island** ($52^{\circ}40'N$, $131^{\circ}42'W$), which is wooded, has a dome-shaped appearance from the south. There are navigable channels on both sides of the island. A rock that dries 2 feet (0.6 m) with rocks covered less than 6 feet (2 m) extend up to 0.35 mile off the south end of Shuttle Island. A 30 foot (9.1 m) shoal is 0.2 mile ESE of the SE point of the island.

211 **Hoya Passage**, on the west side of Shuttle Island, is narrowed to about 0.2 mile at its south end by two shoal rocks and again near its north end by a shoal and a drying rock, all on the west side of the fairway.

212 Public **mooring buoys** are in a cove on the west side of Hoya Passage, 0.5 mile within the north entrance. **Fresh water** is obtainable from two hoses, at a concrete float on the north side of the cove.

213 **Shuttle Passage**, on the east side of Shuttle Island, is preferable, as its fairway is wider. The least depth in the passage is 57 feet (17.4 m) over a small bank in the middle of the south entrance.



214 **Lyell Bay** ($52^{\circ}39'N$, $131^{\circ}39'W$) is foul at the head. A scrub-covered islet about 20 feet (6.1 m) high, cone shaped and a good landmark is 0.25 mile NW of the west entrance point of the bay. An 18 foot (5.5 m) shoal marked by kelp is 0.1 mile farther NW. Shoals, with depths of 31 and 18 feet (9.4 and 5.5 m), lie in the entrance north of the west entrance point. The bay affords **anchorage** for small vessels in about 15 fathoms (27 m) about 0.5 mile from the


head. This anchorage is not recommended during SE gales as the wind draws strongly through it from Beresford Inlet.

Chart 3807

215 **Topping Islands** ($52^{\circ}40'N$, $131^{\circ}41'W$) have 15.5 m in the middle of the passage between them, and foul ground between the east island and the Lyell Island shore. A 10.4 m shoal is 0.2 mile NW of the west island. An unnamed island, with drying rocks close SE and NW of it, is on the east side of Shuttle Passage 0.5 mile NW of Topping Islands.

216 A rock 2 m high is 0.2 mile off the north point of Shuttle Island ($52^{\circ}40'N$, $131^{\circ}42'W$) and a rock that dries 2.4 m lies between it and the point. A detached rock with 9.1 m over it is 0.3 mile farther north. A drying bank of boulders and shingle, with shoal water close around, projects 0.15 mile from the Lyell Island shore 0.9 mile NE from the north point of Shuttle Island.

217 **Shuttle Reef**, in the middle of Darwin Sound north of Shuttle Island, has above-water, drying and below-water rocks on or near it, some marked by kelp. The passages on both sides of the reef are clear of dangers.

 218 **Echo Harbour** ($52^{\circ}42'N$, $131^{\circ}46'W$) is entered between **Amur Point** and **Echo Point**. The harbour is backed by hills which, toward the head, rise to rugged mountains. A rock with 4.6 m over it is in the outer part of the entrance and a rock that dries 1.2 m is close-off Amur Point. The channel abreast Amur Point is about 91 m wide between abrupt rocky shores. At the head of the harbour there is a steep-to drying mud flat and a narrow grassy beach at the HW line. The harbour affords good **anchorage** for small vessels in about 14 m near the head; the bottom is soft mud and good holding ground.

219 **Gil Islet**, 0.5 mile NW of Echo Point, is wooded and connected to shore by a drying boulder bank. A drying bank with two rocks that dry 3 m on it extends about 137 m offshore, 0.25 mile SE of the islet.

220 **Klunkwoi Bay** is between **Bent Tree Point** ($52^{\circ}43'N$, $131^{\circ}48'W$) and **Crescent Point**, 1.4 miles north. The former locality **Lockeport** is on the west side of the bay; all that remains are a few piles cut off near the LW mark.


221 A **fishing boundary marker** is on Bent Tree Point.

222 **Klunkwoi Rocks** consist of two rocks about 0.35 and 0.5 mile north of Bent Tree Point. The south rock dries 0.3 m and the north rock is 3 m high with a concrete base of a former daybeacon on it.


223 **Morgan Rock**, with less than 2 m over it, is 0.3 mile NE of Bent Tree Point and a rock that dries 1.5 m is close-off the point. **Commodore Rock**, 0.1 mile off the west shore of Klunkwoi Bay, has a depth of less than 2 m over it.

224 Klunkwoi Bay is best approached between Klunkwoi Rocks and the NW shore.

225 **McEchran Cove**, on the south side of Klunkwoi Bay, is encumbered by **Raven Island** and an unnamed island, with shoal water between them and the east shore, and also by rocks extending off the west shore close to the head. Reefs extend north and south from the unnamed island. McEchran Cove is not recommended as an anchorage.

 226 **Anna Inlet**, at the head of Klunkwoi Bay, has an islet connected to the west shore by a drying bank in its entrance. The passage on the east side of this islet is about 61 m wide with a least depth in the fairway of 10.7 m. Sheltered **anchorage** for small craft is available near the head in about 15 m, mud bottom.

227 A **fishing boundary marker** is on the east entrance point to Anna Inlet.

 228 **Crescent Inlet**, entered between **Crescent Point** ($52^{\circ}45'N$, $131^{\circ}48'W$) and **Triumph Point**, lies between steep wooded mountains and has considerable stretches of beach. **Redtop Mountain**, 2.5 miles north of the head of Crescent Inlet, is partially bare and the most conspicuous peak in the vicinity. The inlet narrows considerably about 2.5 miles within the entrance. A mud flat with a stream flowing through it extends about 0.5 mile from the head of the inlet. **Anchorage** can be obtained in 12 to 16 m, mud bottom, in the basin SW of the narrows. Small craft can obtain anchorage in about 8 m about 0.1 mile NW of the mud flat at the head.

Lyell Island — East Side

Charts 3808, 3807

229 **Gogit Passage** ($52^{\circ}40'N$, $131^{\circ}26'W$) separates a chain of small islands, about 5 miles long, from Lyell Island. The fairway is narrowed considerably by rocks and shoals. The passages between the islands of the chain should be used with caution only by small vessels.

Chart 3808

230 **Agglomerate Island** ($52^{\circ}38'N$, $131^{\circ}25'W$) has islets, above-water, drying and below-water rocks lying off its south extremity. Three shoals, two with 20 feet (6.1 m) over them and the other with a depth of 26 feet (7.9 m), are off the west side of Agglomerate Island. The south end of Gogit Passage narrows to about 0.25 mile wide between these shoals and Agglomerate Island.

231 **Kawas Islets** have drying, above- and below-water rocks extending up to 0.2 mile off them.

232 **Tar Rock**, 0.5 mile north of Kawas Islets, is 10 feet (3 m) high and bare. A rock covered less than 6 feet (2 m) and marked by kelp is 0.1 mile SW of Tar Rock and two shoals

with depths of 26 and 32 feet (7.9 and 9.8 m) lie 0.15 mile NE and 0.2 mile WSW, respectively, from it.

Charts 3808, 3807



233 **Tar Islands** ($52^{\circ}40'N$, $131^{\circ}25'W$) so named from a report by First Nations that, on one of them, a tar-like substance oozes between stones on the beach. These islands and islets are a scattered group with numerous drying and below-water rocks between and up to 0.4 mile off them. The north and south islands of the group are wooded; the west extremity of the group is marked by a bare rock 13 feet (4 m) high and a rock that dries 10 feet (3 m). A bare rock islet, 38 feet (12 m) high, with drying and below-water rocks extending 0.2 mile NNW and south of it is about 0.5 mile west of the south Tar Island. Abeam this rock and extending eastward from Lyell Island is a wide shoal finger, with 5 to 6 fathoms (9 to 11 m) over it, which could afford temporary **anchorage** in fine weather. Several shoals with depths of 21 to 30 feet (6.4 to 9.1 m) are just to the north. Kelp grows profusely in this area.

Chart 3807

234 The coast of Lyell Island, from about 1 mile SW of **Gogit Point** ($52^{\circ}41'N$, $131^{\circ}26'W$) to **Fuller Point**, is indented and fringed with rocky ledges and drying and below-water rocks on which masses of kelp are present during the summer. In several places, there are islets on the drying reefs. **Windy Bay** is encumbered with drying and below-water rocks and thick kelp. A Haida Gwaii Watchmen basecamp is in Windy Bay.

235 A group of three rocks, the highest of which dries 2.7 m, is 0.3 mile east of Gogit Point; the group can be passed on either side. A bank with a least depth of 9.4 m is about 0.7 mile ENE of Gogit Point.

236 **Skaga Island**, 1.9 miles east of Gogit Point, has a few stunted trees and some scrub on its summit and is steep-to on all sides.

237 **Tuft Islets**, three in number and connected by drying reefs, are 1 mile NW of Skaga Island. The south and highest islet has a few trees and some scrub on its summit; the remainder are bare.

238 **Flatfish Bank** ($52^{\circ}43'N$, $131^{\circ}18'W$) (*Chart 3853*), with a least depth of 39 fathoms (71 m), lies between 4 and 6 miles east of Fuller Point.

239 An unnamed promontory is 0.3 mile ESE of **Dodge Point** ($52^{\circ}44'N$, $131^{\circ}29'W$). A beach of shingle and boulders fringes the shore for about 1 mile SE of this promontory. Depths decrease gradually up to the beach, off which there is considerable kelp. A steep-to rock covered 6.7 m and marked by kelp, with a 6.7 m shoal 0.3 mile north, are 1.5 miles east of Dodge Point. A reef with a rock that dries 0.9 m in its middle extends 0.7 mile NE of Dodge Point. A rock, that dries 5.5 m

and marked by kelp, is 0.8 mile west of Dodge Point and 0.3 mile offshore.

Laskeek Bay

240 **Laskeek Bay** is the wide indentation between Dodge Point and Vertical Point ($52^{\circ}54'N$, $131^{\circ}37'W$), 11 miles NNW. It is the approach to Atli, Richardson, Logan, Dana and Selwyn Inlets.

241 **Lost Islands**, 3.8 miles north of Dodge Point, consist of three islands, two of which are wooded, and several small islets and rocks. A rock that dries 0.3 m is close SE of the islands.

242 **Reef Island** ($52^{\circ}52'N$, $131^{\circ}31'W$) is wooded and cliffy in places on its south side. Three fingers of islets, drying, above- and below-water rocks extend up to 0.6 mile SE from the SE shore.

243 **South Low Island**, 1.8 miles NW of Reef Island, has a rock 4 m high close-off its NW point, connected to it by a drying reef. A rock that dries 5.5 m is close north of the island.

Charts 3807, 3894

244 **Low Island** ($52^{\circ}55'N$, $131^{\circ}32'W$) is wooded and has rocks that dry 5.8 and 5.5 m close-off its SE and east sides. The west side of the island is steep-to. An islet is close NW of Low Island, joined to it by a drying ridge.



245 Low Island **light** (775), on the islet close-off the north end of the island, is shown at an elevation of 16.8 m from a white tower.



246 **Vertical Point** ($52^{\circ}54'N$, $131^{\circ}37'W$) is a narrow peninsula projecting from the SE side of Louise Island. It is remarkable for the shape of the beds of limestone, in excess of 91 m thick, of which it is composed. **Limestone Islands** are NE of the point. The channel between the point and the islands is foul, and a **tide race** is formed in it by the south-going tidal stream.

247 A group of widely separated rocks that dry from 0.3 to 1.4 m, with below-water rocks in the close vicinity, lie in the middle of the passage between South Low Island and the east Limestone Island.

Chart 3807

248 **Kunga Island** ($52^{\circ}46'N$, $131^{\circ}34'W$), on the south side of Laskeek Bay, is a good landmark for making the entrance of the bay. Its shores are fringed with rocky reefs with detached rocks and shoal water up to 0.2 mile offshore. **Kelo Rocks** extend 0.25 mile from the SE point of Kunga Island. A ridge of above- and below-water rocks extends from the middle of the south side of the island. A detached rock, with 7.6 m over it, is 1.1 miles NE of Kelo Rocks.

APPROACH TO DANA AND LOGAN INLETS LOOKING SW (1985)



249 **Nob Rock**, 5 m high, bare and steep-to, is about 0.9 mile NE of Kunga Island. From some directions it has the appearance of a submarine on the surface.

250 **Titul Island**, off the north shore of Kunga Island, has low limestone cliffs. A rock that dries 5.8 m is close-off the south point of the island.

251 **Klue Passage**, entered east of **Klue Point**, leads between Kunga Island and **Tanu Island**. **Tanu Rock**, on the west side of the passage, dries 0.9 m and has foul ground marked by kelp extending 0.15 mile north and SSE from it. About 0.3 mile SW of Tanu Rock, a rocky ledge with below-water rocks close-off it extends 0.1 mile off the shore of Tanu Island. A clearing, close by this ledge, was the site of the former First Nation village **Tanu**. The village, when abandoned in 1887, had numerous totem poles. A Haida Gwaii Watchmen basecamp is at the NE end of the island.

Atli Inlet

252 **Atli Inlet** ($52^{\circ}43'N$, $131^{\circ}37'W$) is entered east of **Tsinga Point** and **Ustas Point**. An islet with a rock that dries 5.2 m close SE is just off Ustas Point.



253 **Powrivco Bay** is on the south side of the entrance to Atli Inlet. A shoal 6.7 m deep, marked by kelp, is on the east side of the entrance. Foul ground, consisting of cables from former logging operations, is reported near the head of the bay. **Anchorage is not recommended.**

254 **Beljay Bay**, the west arm of Atli Inlet, is entered between **Powrivco Point** and **Beljay Point**.

255 A conspicuous landslide is on the north side of the inlet abreast Beljay Point. **Fishing boundary markers** are on Powrivco Point and on the point 0.8 mile SE.

256 **Takelley Cove** is the head of Atli Inlet.



257 Vessels of moderate size can obtain **anchor-
age** in Takelley Cove in about 42 m, mud, about 0.2 mile from the head, or in Beljay Bay in about 46 m, about 0.25 mile from the head. Anchorage in Powrivco Bay is not

recommended as there is insufficient swinging space where depths are suitable.

Richardson Inlet

258 **Richardson Inlet** ($52^{\circ}44'N$, $131^{\circ}40'W$) entered between Tsinga Point and Kelo Rocks leads 5 miles west between Kunga and Tanu Islands on the north and the NW part of Lyell Island on the south. **Richardson Island** is at its western end. At **Skudas Point** and **Tanu Point**, the inlet separates into two passages leading to Darwin Sound and Logan Inlet.

259 **Kul Rocks** are 1 mile inside the entrance and 0.5 mile off the south shore. They consist of two large above-water rocks and some drying and below-water rocks. The highest rock has a few stunted trees and some scrub on its summit. **Stansung Islets**, close SW, extend 0.3 mile from the south shore. **Dog Island**, 0.5 mile farther west, is wooded. A rock 1 m high is 0.1 mile off the north shore and 1.3 miles west of Klue Point.



260 **Richardson Passage** leads SW from Richardson Inlet between Lyell and Richardson Islands into Darwin Sound. An islet and a rock that dries 5.5 m, NW of **Lyell Point**, narrow the passage to less than 0.1 mile wide. The passage should be used only by small craft. **Tidal streams** of considerable strength are encountered in the narrow portion of the passage. **Fishing boundary markers** are on Lyell Point and the south extremity of Richardson Island.

261 **Tanu Passage** leads between Richardson and Tanu Islands into Logan Inlet; it is deep and free of dangers in the fairway. The NE shore between Tanu Point and **Stalkungi Cove**, 1.8 miles NW, is fringed with boulders and shingle extending up to 91 m offshore. Stalkungi Cove is free of dangers within it, but a rock that dries 5.2 m is close south of the west entrance point. **Stalkungi Point** is the north entrance point of Tanu Passage.

ENTRANCE TO LOGAN INLET (1985)



ENTRANCE TO DANA INLET (1985)



Logan Inlet

262 **Logan Inlet** (*52°47'N, 131°40'W*), on the north side of Tanu Island, connects with Darwin Sound between Triumph Point and **Kwun Point**, the north extremity of Richardson Island. **Flower Pot Island**, in the east entrance to Logan Inlet, has a dome-shaped summit and is a conspicuous landmark when approaching from seaward. Take care not to mistake it for Helmet Island in the entrance to Dana Inlet. A rock that dries 0.9 m and a 9.8-m shoal are 0.2 mile east and another 9.8-m shoal is 0.3 mile SE of Flower Pot Island. An islet, from which a drying ledge extends nearly 0.1 mile NW, is close-off the south shore 1.4 miles WSW from Flower Pot Island. When entering the inlet pass north of Flower Pot Island and keep in mid-channel.

Dana Inlet

263 **Dana Inlet** (*52°48'N, 131°43'W*), entered north of **Porter Head**, the east end of **Tangil Peninsula**, is bounded on the north by **Talunkwan Island**. The inlet leads to Dana Passage and Selwyn Inlet. The shores are high and bold, and the fairway is deep with gradual shallowing at its west end.

264 **Helmet Island** and the islet close SE of it are both dome-shaped and make conspicuous landmarks when approaching Dana or Logan Inlets. Take care not to mistake this island for Flower Pot Island, as from most points of view the narrow passage between Helmet Island and the islet is not seen. **Dwight Rock**, with a depth of 5.2 m, is on the north side of the fairway, near the entrance; a large kelp patch covers the area. **McGee Point**, 2.8 miles WSW, is the south extremity of Talunkwan Island.

265 **Dana Passage** (*52°50'N, 131°50'W*) leads from Dana Inlet between Talunkwan and Moresby Islands into the SW part of Selwyn Inlet. The fairway has a minimum width of about 91 m with a least depth of 9.1 m. **Beatrice Shoal**, with a least depth of 3.7 m over it, is almost in mid-channel at the north end of the passage and is connected to the south shore by shoal water. Apart from this shoal there are no dangers in the fairway, and the passage can be navigated by small vessels by keeping in mid-channel until the south shore of Pacofi Bay begins to open up, then favour the east shore to pass east of Beatrice Shoal. The passage is best navigated at or near HW.

APPROACH TO SELWYN INLET LOOKING SW (1985)



Selwyn Inlet

Charts 3807, 3894

266 **Selwyn Inlet**, entered north of **Heming Head** ($52^{\circ}50'N$, $131^{\circ}39'W$), trends 6 miles west to **Kilmington Point**, on its north side, then NW to join Carmichael Passage, which leads into Cumshewa Inlet.

267 **Tides**. — Tidal differences for Pacofi Bay (Index No. 9775), referenced on Kitimat, are given in the Tide Tables, Volume 7.

Chart 3807

268 The coast of Louise Island between Vertical Point ($53^{\circ}54'N$, $131^{\circ}37'W$) and **Nelson Point**, 2 miles SW, is rugged and irregular, with numerous drying and below-water rocks close offshore. A rock with 8.2 m over it and marked by kelp is 0.3 mile NE of Nelson Point. The head of the bay entered west of Vertical Point is foul.

269 **Breaker Bay**, south of Nelson Point, is too exposed to SE to provide satisfactory anchorage. A detached reef with 10.4 m over it is in the north part of the bay and numerous drying rocks are in the south part of the bay.

270 **Haswell Island** ($52^{\circ}52'N$, $131^{\circ}41'W$), the north entrance point of Selwyn Inlet, is joined to **Dass Point** by a shoal ridge. Shoal depths extend 0.1 mile off the north, NE and SE sides of the island. **Kingsway Rock**, which is 10 m high and bare, and a rock covered less than 2 m, marked by kelp, are about 0.5 mile east of Haswell Island. A 6.1 m shoal, marked by kelp, is 0.2 mile south of Kingsway Rock.


 271 Haswell Island **light** (776), on the south extremity of the island, is shown at an elevation of 8.2 m from a skeleton tower.

272 **Procter Rocks** ($52^{\circ}52'N$, $131^{\circ}45'W$) consist of an above-water rock, drying and below-water rocks extending

0.25 mile east from **Harbridge Point**, the north extremity of Talunkwan Island.

Chart 3811

273 **Thurston Harbour** ($52^{\circ}50'N$, $131^{\circ}44'W$) is sheltered to the north by a peninsula of which **Thompson Point** is the SE extremity. A rock that dries 2 feet (0.6 m) is 0.6 mile from the head, close-off a drying bank extending 0.1 mile from the south shore.

 274 Good **anchorage** can be obtained in about 16 fathoms (29 m), mud, about 0.25 mile SE of Thompson Point, or in about 13 fathoms (24 m), 0.2 mile SW of the same point. Small craft can anchor in about 10 fathoms (18.3 m) 0.5 mile west of Thompson Point.

275 **Rockfish Harbour** ($52^{\circ}53'N$, $131^{\circ}48'W$), entered north of **Alfred Point** on the south side of Louise Island, is sheltered to the south by comparatively low land. Rocky ledges extend a short distance from both sides of the entrance, and foul ground, with rocks above and below water, extends a short distance from Alfred Point. The shores of the harbour are fringed with sand and shingle beaches which, on the north side near the head, extend up to 450 feet (137 m) offshore. Low, light coloured cliffs on the north side make a good landmark for identifying the harbour entrance.


 276 Small vessels can obtain **anchorage** in Rockfish Harbour in 9 to 12 fathoms (16 to 22 m) about 0.5 mile from the head. It is not recommended except as a fair weather anchorage.

Chart 3807

277 Between Alfred Point and Kilmington Point, about 1.5 miles SW, drying and below-water rocks are within 0.1 mile of the shore.

278 The SW arm of Selwyn Inlet ($52^{\circ}51'N$, $131^{\circ}50'W$) is entered SE of **Selwyn Point**. A rock with less than 2 m over it is 0.8 mile SE of Selwyn Point, close-off the NW part of Talunkwan Island.

 279 Selwyn Point **light** (777) is shown at an elevation of 5.2 m from a skeleton tower.

280 **Cecil Cove** is entered 0.5 mile SW of Selwyn Point. A 6.7 m shoal is on the south side of the entrance to the cove. **Fishing boundary markers** are on both shores at the entrance to Cecil Cove.


 281 **Anchorage** for small craft is obtainable in 11 to 13 m near the drying flat fronting **Big Goose Creek**.

Chart 3811

282 **Pacofi Bay** is entered south of **Alford Point** ($52^{\circ}51'N$, $131^{\circ}52'W$). A rock that dries 15 feet (4.6 m) lies 0.1 mile ENE of Alford Point. A drying ledge with **Alford Rock** on it extends east from the point. **Swinburne Islet** is close offshore on a drying bank about 0.2 mile SW of Alford Point. Both the north and south shores of the bay are fringed with boulder drying banks up to 300 feet (91 m) offshore. At the head, a stream flows through a drying flat with scattered boulders, which extends about 0.15 mile offshore and covers at half tide.

283 **Fishing boundary markers** are on both shores at the entrance to Pacofi Bay.

284 **McConnachie Shoal**, with a least depth of 17 feet (5.2 m) over it, lies near the middle of Pacofi Bay and can be passed on either side but the passage to the north is recommended. A shoal, close-off the shore to the SSE, has a least depth of 12 feet (3.7 m).

285 **Amur Rock**, with less than 6 feet (2 m) over it, **Locke Shoal**, with a rock that dries 1 foot (0.3 m) at its SW end, and a rock with 3 fathoms (5.5 m) over it, almost fill the south side of Pacofi Bay near the head. A narrow passage south of Locke Shoal leads to the site of the abandoned settlement **Pacofi** where a fishing lodge is now located.

286 **Tides**. — Tidal differences for Pacofi Bay (Index No. 9775), referenced on Kitimat, are given in the Tide Tables, Volume 7.


 287 **Anchorage** can be obtained in Pacofi Bay about 0.15 mile off the drying flat at the head in 9 to 12 fathoms (17 to 22 m), with the SE side of Swinburne Islet in line with Alford Point, bearing 042° , and the extremity of the land on the SW side of the entrance of Dana Passage bearing 097° .

Chart 3807

288 The NW arm of Selwyn Inlet is entered between Kilmington Point ($52^{\circ}52'N$, $131^{\circ}49'W$) and Selwyn Point 1 mile east.


289 **Trotter Bay**, 1.8 miles NW of Selwyn Point, has an 8.5 m shoal in its south approach, a rock with less than 2 m over it in the middle of its entrance and a drying bank at its


head. The bay is suitable only for small craft. An abandoned log dump is on the south side of the bay.

290 A **fishing boundary marker** is on the north entrance point to Trotter Bay.


291 **Selwyn Rocks** ($52^{\circ}54'N$, $131^{\circ}52'W$), a reef of drying and below-water rocks, are on the east side of the fairway. **Traynor Creek** flows into the bay close SE of Selwyn Rocks.

Chart 3894

 292 **Sewell Inlet** ($52^{\circ}53'N$, $131^{\circ}57'W$) is entered south of **Sewell Point**. Both shores are fringed with shallow water and beaches of shingle and boulders that extend up to 91 m offshore. At the head, the inlet narrows to 0.2 mile wide between a drying shingle spit projecting from a low point on the north shore and a drying mud bank, with a low wooded islet on it, extending from the south shore. A shoal with 6.4 m over it is near the middle of the inlet. **Sewell Logging Camp**, on the south side of the inlet near the head, has a **wharf** and **float** protected by a **breakwater** (1985). There is a post office (VOT 1V0), a school, recreation centre and telephone facilities. No fresh water or fuel is available, except for emergencies. Three oil tanks are conspicuous. A logging road across Moresby Island connects the camp with the head of Newcombe Inlet in Tasu Sound on the west coast. Transportation is by water through Louise Narrows to Moresby Camp in Gillatt Arm and then by road to Sandspit. A private **mooring buoy** lies at the head of the inlet, however, this area is a **booming ground** generally filled with logbooms.

 293 **Anchorage** in 27 to 30 m, mud, can be obtained in the middle of the fairway about 1 mile from the head.

294 **Lagoon Inlet** ($52^{\circ}56'N$, $131^{\circ}55'W$) is approached north of Sewell Point. A rock with 7 m over it is 0.3 mile north of Sewell Point. The shores of the inlet are fringed with shingle and boulder beaches. Two shoals with depths of 8.5 and 5.5 m over them lie in the middle of the inlet near the head. A very narrow obstructed passage about 1.5 miles within the entrance leads to a lagoon with an extensive drying flat at its head. **Tidal rapids** are formed in the narrows and entry to the lagoon should be effected only by small craft at HW slack, which occurs at about the same time as HW at Prince Rupert. A rock 2 m high, with a drying rock close WNW, are 0.2 mile ESE of the narrows. The ruins of an abandoned cannery are in a small bight south of the entrance to the lagoon at the mouth of **Dass Creek**.

 295 Lagoon Inlet affords **anchorage** in 48 m, mud, about 0.5 mile within the entrance, or in 29 m, mud, about 0.3 mile east of the cannery ruins. Small craft can obtain anchorage within the lagoon in 12 to 18 m but caution should be observed as heavy squalls can be expected from the valley at the head during periods of bad weather.

LOUISE NARROWS SOUTH ENTRANCE (1985)

Carmichael Passage

296 **Carmichael Passage** leads from the north end of Selwyn Inlet to the west end of Cumshewa Inlet between mountains rising steeply from its shores. Vessels up to 24 m long drawing 3.7 m use the passage, but local knowledge is advised.

297 In the south approach to the passage, a rock with 4.3 m over it is 0.1 mile off the east entrance point, and a rock that dries 2.2 m is on the west side of the fairway, 0.3 mile NW. A rock, 2.4 m high, on the east side of the fairway, is connected to the drying bank at the south entrance to Louise Narrows. About 1 mile north of the narrows the fairway is reduced to less than 0.1 mile wide, first by a gravel bank protruding from the west shore and then by a rock, 1.7 m high, connected to the east shore by a drying bank. A detached rock that dries 0.2 m is close SW of this islet. North of this restriction the passage widens and deepens gradually toward its junction with Cumshewa Inlet.

298 A **fishing boundary marker** is on the Moresby Island shore at the south end of Carmichael Passage.

299 **Louise Narrows** ($52^{\circ}57'N$, $131^{\circ}54'W$), the narrow drying section of Carmichael Passage, is about 0.8 mile long. Except for a dredged channel, the narrows is filled with shingle and stones that dry as much as 2.3 m. This channel passes

east of the wooded islet inside the narrows. At HW the west side of this islet could be mistaken as a passage. Bends in the channel obscure vision of approaching traffic.

300 A **dredged channel** 12 m wide was made in 1967 and redredged in 1981. The channel is reported to be reduced to 9 m wide (1997). The least depth is 0.3 m, abeam the wooded islet. The optimum time to transit Louise Narrows is on the rising tide when the top of the drying banks are just visible and the edge of the channel is well defined.



301 **Tidal streams.** — The flood stream enters Carmichael Passage from north and south and flows at a comparatively low rate until the drying bank in Louise Narrows is covered. After this, due to a slight hydraulic gradient, the flow is entirely south up to 3 kn, gradually decreasing as HW slack is approached. With the falling tide the stream flows north until the bank in Louise Narrows uncovers, after which there is a slight stream north of the bank but very little south of it.

302 A starboard hand **daybeacon** is at the south entrance to Louise Narrows. A port hand **daybeacon**, on the north end of the wooded islet midway through the narrows, faces southbound traffic only. The upstream direction for aids to navigation is when proceeding north.

303 **Mabbs Islet**, close-off the NW point of Louise Island, is steep-to. A rock with 11.7 m over it is in mid-channel

LOUISE NARROWS LOOKING NORTH (NEAR NORTH END) (1985)



0.2 mile SW of the islet, and a drying rocky ledge extends about 0.2 mile north from the south side of an indentation about 0.8 mile SSE and a 3.9 m shoal is 0.4 mile west. A rock with a depth of 1.5 m over it is 0.1 mile NNE of Mabbs Islet.

304 **Nedden Island** is 0.6 mile SSE of **Barge Point**. A rock 1.8 m high is close-off its north side, and a rock that dries 4.5 m is close west of its south extremity. Between Barge Point and a position about 0.5 mile south several drying rocks are up to 0.2 mile offshore. A rock with 3.4 m over it is 0.3 mile SW and a rock with 4.2 m over it is 0.3 mile north of Nedden Island.

Cumshewa Inlet and Approach

305 **Louise Island** ($53^{\circ}00'N$, $131^{\circ}40'W$) is mountainous. The bare logging slopes on its east side are conspicuous from Hecate Strait. In the SE part of the island **Mount Carl**, elevation 937 m, and **Mount Kermode**, a steep bare pinnacle on the west side, are conspicuous. An unnamed peak, 1,015 m high, is about 1 mile WNW of Mount Carl.

306 **Offshore bank.** — An extensive bank ($53^{\circ}00'N$, $131^{\circ}27'W$) with a least depth of 12.8 m over a bottom of rock, gravel and shells, lies in the approach to **Cumshewa**

Inlet. Several shoals with depths between 16.5 and 18.3 m are within 3 miles east and SE of the bank.

307 **Skedans Islands** ($52^{\circ}57'N$, $131^{\circ}34'W$) have above-water rocks and shallow water between them. A rock that dries 2.7 m is 0.4 mile ESE off the south Skedans Island and a rock with 4.4 m over it is 0.4 mile SW of the islands. A navigable passage, 0.3 mile wide, leads between the west island and the islet SSE of Skedans Point through which the **tidal streams** form a race.

308 **Skedans Bay**, SE of Skedans Islands, has an extensive drying ledge with three above-water rocks on it projecting from its north shore. An islet, 71 m high, is on the south side of a sandy beach at the head of the bay. Several rocks that dry from 0.9 to 3.3 m lie up to 0.4 mile east from this islet and two rocks that dry 1.4 and 2.2 m are 0.5 mile NE of the islet. Numerous below-water rocks marked by kelp lie in the approaches to Skedans Bay. A large waterfall, visible for some distance, marks the location where **Skedans Creek** enters the bay.

309 **Skedans Point** ($52^{\circ}58'N$, $131^{\circ}36'W$) forms the south entrance point of Cumshewa Inlet. It is a high bluff, with an elevation of about 31 m, connected to Louise Island by a narrow neck of low land. The point is surrounded by a drying rock ledge. Islets and drying rocks lie offshore south and SW of the point. The abandoned First Nation village **Skedans** is

west of the point. Few remains of the village are visible. A Haida Gwaii Watchmen basecamp is at Skedans.

310 **Cumshewa Island**, close-off **Cumshewa Head** ($53^{\circ}02'N$, $131^{\circ}36'W$), is conspicuous from north. Shoal water with two rocks that dry 5 and 2.2 m projects 0.3 mile off the SE part of Cumshewa Head.

311 **Cumshewa Rocks** are a widely scattered group of rocks lying between 0.4 and 0.9 mile SE of Cumshewa Island. The centre rock is 1 m high and the others dry 0.7, 3 and 2.3 m. Several shoals, marked by kelp, lie on a ridge across the entrance to Cumshewa Inlet between Cumshewa Head and Skedans Point.

312 **Kingui Island** is connected to the south shore of Cumshewa Head by a narrow ridge of boulders that dries at LW. Foul ground, with a rock that dries 3 m on it, extends 0.15 mile south and SE of the island.



313 **Kingui Island light** (778), on the SW extremity of the island, is shown at an elevation of 7.8 m from a skeleton tower.

314 **Girard Point** ($53^{\circ}00'N$, $131^{\circ}40'W$), on the south side of the inlet, is low and sandy.

315 **Fairbairn Shoals**, a 2 mile wide shoal finger, extends northward from the vicinity of Girard Point to within 0.5 mile of the north shore of the inlet. These shoals, on which there is a rock that dries 2.2 m, are covered with thick kelp in summer and autumn. **McLean Shoal**, at the north extremity of Fairbairn Shoals, has a depth of 2.4 m over it.

316 **Haans Islet**, 0.2 mile NW of McLean Shoal, is connected by a drying bank to the north shore abreast the abandoned First Nation village **Cumshewa**. No visible trace of the settlement remains. A rock that dries 0.7 m, close south of Haans Islet, narrows the channel between it and McLean Shoal to about 0.15 mile; the least depth in this channel is 25.2 m.



317 **McCoy Cove**, east of Haans Islet, has a drying bank extending 0.2 mile from its head with rocks that dry 0.9 and 1.3 m, 0.2 mile further off. The cove offers temporary **anchorage**, in fine weather, at its entrance on the edge of the tidal stream.

318 **Tides**. — Tidal differences for McCoy Cove (Index No. 9790), referenced on Kitimat, are given in the Tide Tables, Volume 7.



319 **Tidal streams** between Haans Islet and McLean Shoal attain 3 kn on the flood and 2 kn on the ebb.

320 **Lights**. — **Buoys**. — Starboard hand **buoy** “C8” is on the north side of the fairway 0.5 mile WNW of Kingui Island.

321 Port hand **buoy** “C7” marks McLean Shoal.



322 Haans Islet **light** (780), on a drying ledge south of the islet, is shown at an elevation of 4.4 m from a skeleton tower.



323 **McCoy Cove Sector light** (779) is on the east side of the cove. The white sector indicates the preferred channel between Haans Islet and McLean Shoal.

324 **Davies Shoal**, with a least depth of 6 m, is in the middle of the inlet west of Fairbairn Shoals. Thick kelp is present over the shoal during summer and autumn.

325 **McLellan Island** is connected to the north shore by a drying bank. Shallow water extends up to 0.3 mile off the island. Between McCoy Cove and McLellan Island the land rises gradually to a summit 417 m high.

326 **Kitson Point** is on the south side of Cumshewa Inlet SW of McLellan Island. A drying flat, SE of the point, extends about 0.25 mile offshore; it fronts a small bight into which **Mathers Creek** flows. Shallow depths between this flat and a position about 1 mile SE extend up to 0.4 mile offshore; dense kelp is present during summer and autumn.

327 Between Kitson Point and **Renner Point**, a bold point 3.5 miles west, the shore is steep-to.



328 **Beattie Anchorage** is about 1.3 miles SW of Renner Point. Two islets, the highest with an elevation of 8 m, and a rock that dries 4.7 m lie close-off the south side of the bay. Beattie Anchorage has a logging camp with a **booming ground** marked by **buoys** connected by cables on the bottom. Small craft can find good shelter at the head of the anchorage, south of the islets.



329 A **submarine pipeline** (sewer outfall) extends from the east part of the bay.

330 **Conglomerate Point** ($53^{\circ}04'N$, $131^{\circ}51'W$) rises abruptly to the summit of a small hill, 98 m high, which provides identification. Between this point and McLellan Island there are several small bays with sand and gravel beaches and shallow water extending up to 0.25 mile offshore.



331 **Duval Rock**, with 0.9 m over it, is 1.3 miles WSW of Conglomerate Point. Two rocks, both 1 m high, and shoal water lie between Duval Rock and the shore NW. **Dawson Cove**, about 1 mile west of the rock, has a reef that dries 2.4 m in its centre. Temporary **anchorage** in fine weather can be obtained in 18 to 29 m off the entrance to the cove.

332 **Oliver Islet** ($53^{\circ}02'N$, $131^{\circ}56'W$) is wooded and appears as a tall narrow column with a dome-shaped summit when viewed from east of Renner Point. A rock that dries 4.1 m is 0.15 mile west of the islet.

333 **Newcombe Peak**, 1.5 miles SW of Barge Point, is a bare rocky pinnacle that makes a good landmark.

334 **Gillatt Arm**, entered north of Barge Point, has high land on its south side. A drying gravel spit projects 0.2 mile from shore about 0.5 mile NW of Barge Point. **Davey Islets** are the outermost of several islets connected to the north shore by drying banks. A rock with less than 0.9 m over it and two rocks that dry 3.7 m are up to 0.3 mile west of Davey Islets.

335 **Aero**, on the north side of Gillatt Arm, is an abandoned logging camp. The ruins of a wharf are all that remain. The remains of another wharf are onshore 0.3 mile NW of Davey Islets.

336 **Marine farm** facilities are on the north side of the point 1.2 miles WNW of Davey Islets (1986).

337 **Gordon Cove**, on the south side of the head of the arm, has **Braverman Creek** flowing into it. North of the cove **Pallant Creek** flows into a bay filled by an extensive mud flat.



338 Gillatt Arm affords **anchorage** in about 25 m, mud, in mid-channel about 0.5 mile from the head. A private **mooring buoy**, used by log barges, is near the head.



339 Small craft can obtain **anchorage** with good shelter in the middle of Gordon Cove in 10 m, mud.



340 **Moresby Camp**, at the head of Gillatt Arm, although unoccupied (1988) is a base for supplying logging camps south of Louise Narrows. A gravel road connects it to Sandspit and there is a large shed in disrepair, a large parking lot and several picnic tables. A causeway extending along the north side of the drying flats north of Gordon Cove has a large float with an approach ramp on its north side. The camp **float** has a notice (1988) stating “Use at own risk”. A logging road crosses Moresby Island from Moresby Camp to Peel Inlet on the west coast.

341 A rock, with 5.5 m over it, is 0.1 mile offshore in the approach to Moresby Camp.

Cumshewa Inlet to Spit Point

Charts 3894, 3890

342 Between Cumshewa Head ($53^{\circ}02'N$, $131^{\circ}36'W$) and Spit Point, 16 miles NNW, the land is densely wooded, low and fringed with beaches. Near Cumshewa Head the beaches are almost entirely composed of boulders, but toward Spit Point they show more gravel and sand.

343 **Depths**. — With the change in character of the land, shallow water extends farther offshore, the 10 m line running close-off Cumshewa Head and 5 miles off Spit Point.



344 Mariners are advised to exercise **caution** when navigating within the 10 m line north of Cumshewa Head as uncharted shoals may exist; the bottom consists of shingle and boulders and is subject to change after winter gales.

345 **Gray Point**, 5 miles NNW of Cumshewa Island, is low; a boulder beach with a flat islet, 3 m high, at its extremity extends nearly 0.3 mile from the point. Depths of less than 5 m lie within 1 mile of the point and kelp grows profusely in the shallow water off it and along the coast south and west.

346 **Gray Bay**, on the west side of Gray Point, has a sandy beach extending up to 0.4 mile from shore with depths less than 5 m almost 1 mile off it.

Chart 3890

347 **Sheldens Bay** ($53^{\circ}10'N$, $131^{\circ}45'W$) is the south part of a large bight entered north of an unnamed point with a large boulder bank and numerous detached drying and below-water rocks surrounding it. **Dogfish Bay** and an unnamed bay, both of which dry, indent the south shore of Sheldens Bay.

348 **Copper Bay**, west of Sheldens Bay, is so named because of several copper mines, which were once worked in this area. It is filled with a drying flat through which flows **Copper Creek**. A rock pillar 19 m high is on the north side of the bay, near an old mine shaft.



349 **Dangers**. — A rock awash surrounded by several large boulders with depths less than 2 m over them, as well as numerous shoals, with depths of 2.1 to 4.6 m, lie in the approaches to Copper and Sheldens Bays. Isolated uncharted boulders may exist.



350 **Caution**. — Anchorage on the flats off Copper Bay is not recommended because of the rocks and shoals.



351 **Cape Chroustcheff**, 3.5 miles north of Copper Bay, is low, dark in appearance and conspicuous from the SE; it should not be passed nearer than 6 miles except by small craft, with **caution**.

352 **Spit Point** ($53^{\circ}16'N$, $131^{\circ}49'W$), the south entrance point of Skidegate Inlet, is low, wooded and composed of sand deposits. A sand spit that dries 0.6 m at its north end extends 2.5 miles north and NW of Spit Point; the south half is steep-to on its west side. Depths of less than 5 m extend 3.5 miles east and ESE of the point.



353 Sandspit Aeronautical Beacon **light** (784) is shown from a tower at Sandspit Airport. This beacon is activated only during poor visibility. To activate call Prince Rupert Coast Guard Radio (VAJ).

354 **Radiobeacons**. — Sandspit radiobeacon, 2 miles SSE of Cape Chroustcheff, is a continuously operating radiobeacon.

355 Sandspit Differential Global Position System (DGPS) transmitter is 1 mile NW of Cape Chroustcheff. *See Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

356 Numerous towers with red air obstruction **lights** are at the Sandspit Airport.

APPROACH TO SKIDEGATE INLET (1985)



Skidegate Inlet

Charts 3890, 3891

357 **Skidegate Inlet** ($53^{\circ}16'N$, $131^{\circ}55'W$), entered between Spit Point and **Dead Tree Point**, 7 miles NW, and Skidegate Channel, which is narrow and shallow, separate Moresby and Graham Islands. The shores of the entrance are fringed by beaches, but within the inlet the land is high and densely wooded on both sides. On the north side of the inlet **Slatechuck Mountain** ($53^{\circ}16'N$, $132^{\circ}14'W$), with twin peaks, is conspicuous, as is **Turner Peak**, on the north side of Skidegate Channel 6 miles south of Slatechuck Mountain.

358 **Tides.** — Tidal predictions for Queen Charlotte (Index No. 9850) and tidal differences for Shingle Bay (Index No. 9808), referenced on Queen Charlotte, are given in the Tide Tables, Volume 7.

Chart 3890

359 The approach to Skidegate Inlet lies between an extensive shallow bar, with depths of less than 5 m, extending parallel to the coast for 10 miles north from Spit Point ($53^{\circ}16'N$, $131^{\circ}49'W$) to nearly abreast Lawn Point, on Graham Island, where there is a shallow bar. The approach from seaward across this bar is marked by a sector light close south of Lawn Point. A buoyed channel leads southward between the offshore bar and the shallow water fronting the coast of Graham Island. Shallow draught vessels frequently cross the bar, at or near HW, close north of the drying bank extending from Spit Point.

360 **Bar Rocks**, 7 miles north of Spit Point, dry 0.4 and 1.9 m and are the only detached drying feature on the entrance bar. The sea sometimes breaks on these rocks. Several widely separated depths of less than 3 m lie on the bar between these rocks and Spit Point but depths are subject to change caused by wave action.



361 **Tidal streams.** — In general, the flood stream from the south meets that from Dixon Entrance between Lawn Point and Cape Ball, 18 miles north, the position varying with the season of the year and weather conditions.

362 The flood stream from the south flows generally north until about 3 miles north of Spit Point, where it gradually turns NW and west toward Dead Tree Point; it then turns abruptly south into the fairway. At Lawn Point the flood sets slightly toward the coast.

363 On the flats east of Dead Tree Point and in the vicinity of Lawn Point up to $1\frac{1}{4}$ kn can be expected, increasing to 2 or 3 kn in the fairway abreast Dead Tree Point.

364 The ebb stream, in general, follows a direction approximately the reverse of the flood, but some increase in rate can be expected when the land drainage runoff from the mountains to the west is at its maximum.

365 **Lawn Point** ($53^{\circ}26'N$, $131^{\circ}55'W$) is, in general, green with a sandy cliff. About 0.55 mile south of the point and nearly 0.1 mile off the foot of the cliff, there is a large black boulder 6 m high. **Lawn Hill**, about 1.3 miles SSW of Lawn Point, is 171 m high and has **Lawn Creek** on its south side.

366 Between Lawn Creek and **Chinukundi Creek**, about 5 miles south, the land is low, flat and wooded, but farther south it rises gradually. A shallow bank with depths less than 3 m up to 1 mile offshore lies along the coast from **Halibut Bight** ($53^{\circ}23'N$, $131^{\circ}55'W$) for about 4 miles southward with numerous drying rocks just off the LW line. The shore between Lawn Point and Rooney Bay is fringed by a drying bank, covered with boulders, which extends up to 0.4 mile offshore. Between 1 and 3 miles north of Rooney Bay, there is a large logged off area on which second growth timber is visible.



367 Lawn Point Sector **light** (787.5) is shown from a skeleton tower with white rectangular slat work daymark.

368 Dead Tree Point **radiobeacon**, 0.7 mile SW of Dead Tree Point, is a continuously operating radiobeacon. *See Radio Aids to Marine Navigation (Pacific and Western Arctic).*

369 The channel between Lawn Point and a position 1 mile south of Dead Tree Point is marked on the west side by Lawn Point **light and whistle buoy** “C16” (787), Lawn Point **light and bell buoy** “C18” (786), and starboard hand **buoys** “C14” and “C20”. The east side of the south end of the narrow part of the channel is marked by Dead Tree Point **light and whistle buoy** “C19” (785).

370 **Shingle Bay** ($53^{\circ}15'N$, $131^{\circ}52'W$), on the south side of the entrance to Skidegate Inlet, lies between Spit Point and **Onward Point**, known locally as **Welcome Point** 3.8 miles WSW. Its shores are for the most part fringed by a shingle beach extending up to 0.3 mile offshore.

371 **Tides**. — Tidal differences for Shingle Bay (Index No. 9808), referenced on Queen Charlotte, are given in the Tide Tables, Volume 7.



372 A **submarine cable area** (power) crosses Skidegate Inlet from Onward Point WNW to Graham Island. A second **cable area**, reported to be abandoned telegraph cables, runs between Kwuna and Image Points. A **submarine cable** (telephone) is laid from west of Kwuna Point to Haida Point.

373 **Gillatt Island**, 3.4 m high and covered with low vegetation, is near the west end of Shingle Bay, about 0.5 mile offshore. It is connected to shore by a drying bank.



374 Gillatt Island **light** (783), on the west end of the islet, is shown at an elevation of 7.1 m from a white tower.

375 **Sandspit**, on the SE shore of Shingle Bay, has a post office (V0T 1T0), bank, grocery and liquor stores, hotel and accommodations. A nurse is in Sandspit; doctors, dentists and the hospital are in the Village of Queen Charlotte.



376 The **public wharf**, 0.35 mile south of Spit Point, is 39.6 m long along its head. Depths alongside range from 6.4 m at the north end to 5.5 m at the south end. A notice on the wharf states that it is inadvisable to berth overnight. A launching ramp is close north of the wharf.



377 A **boat harbour** protected by a **rock breakwater** is 1.5 miles east of Gillatt Island, east of the mouth of **Haans Creek**. The harbour is entered by a channel dredged to 3 m in 1997. The harbour can accommodate vessels to 30.5 m long and has a float reserved for aircraft. **Marina** facilities are listed in the Appendices.

378 Coast Guard has a **year-round rescue unit** based in the boat harbour. It is equipped with a 14 m search and rescue vessel and a rigid hull inflatable, telephone 250 637-5331.

379 A privately operated **light** is on the outer end of the breakwater and **daybeacons** with a starboard hand and a port hand daymark mark the entrance to the dredged channel.

380 **Meteorological information** and **frequency of fog information** for Sandspit are given in the Appendices.

381 **Communications**. — The airport at Sandspit has scheduled services to Vancouver and Prince Rupert; charter services are available. Sandspit is connected by road to Alliford Bay from where there is an automobile and passenger ferry to Skidegate. A paved highway connects Skidegate to the Village of Queen Charlotte and Masset.



382 Vessels can obtain **anchorage** in Shingle Bay about 0.3 mile off the public wharf in about 36 m, or at the head of the bay about 0.4 mile offshore, in about 35 m. Strong morning westerly winds are experienced during summer months and the anchorage and public wharf are exposed to them. Small vessels can anchor closer inshore.

383 **Rooney Bay** ($53^{\circ}16'N$, $131^{\circ}59'W$) is a bight at the south end of the east coast of Graham Island into which **Slarkedus Creek** flows. Its shores are, for the most part, fringed by a drying bank of shingle and boulders extending about 0.2 mile offshore. Boulders that dry 2.6 and 1 m and a rock with a depth of 3.2 m over it and marked by kelp lie at the north entrance to the bay, and extend 0.3 mile offshore.



384 A **submarine pipeline** (sewer outfall) extends, from an outfall sign, in a ESE direction passing close north of the shoal at the north entrance to the bay. Another **submarine pipeline** extends 0.15 mile offshore about 0.5 mile further south.



385 **Anchorage** can be obtained in Rooney Bay but it is somewhat exposed.

386 **Skidegate** is the First Nation community on the shore of Rooney Bay. The church spire, charted toward the north end of the community, has been removed.

387 **Torrens Island** has a rock that dries 0.4 m and covered by kelp close south and a rock with 9.4 m over it about 0.2 mile SSW.

388 **Jewell Island** has a drying shelf off its north and west coasts and a rock with 1.2 m over it close SE. The passage between the island and shore can be used by small vessels.

389 **Skidegate Landing** is a locality at the SE extremity of Graham Island, in a cove between **Image Point** and **Haida Point**. A rock that dries 0.1 m and marked by kelp is about 0.1 mile south of Haida Point with shallow water to the east and between it and shore. A conspicuous microwave tower 28 m high is on Haida Point.



390 A **public wharf** with a depth of 10.5 m alongside has a **landing float** for small craft on its west side. A **B.C. Ferry berth** is close west of the public wharf. A **ferry landing ramp**, close east of the public wharf is used by the local ferry to Alliford Bay. A **fuel wharf** is SE of the landing ramp, close west of Image Point. **Marine farm** facilities are in the cove (1988).

391 A privately owned **light**, fitted with a radar reflector, is shown from the SW side of the B.C. Ferry berth.

392 **Ferries.** — B.C. Ferries operate ferry service to Alliford Bay. The B.C. Ferry Corporation operates a scheduled car and passenger ferry service between Skidegate and Prince Rupert.

393 **Fuel and water.** — Diesel fuel, stove oil, gasoline and lubricants are obtainable at the Imperial Oil Company's wharf, east of the public wharf. Fresh water is scarce but is sometimes available in limited amounts.

394 **Kwuna Point** ($53^{\circ}13'N$, $131^{\circ}59'W$) is on the south side of Skidegate Inlet. A chain of drying and above- and below-water rocks extends about 0.4 mile NW of the point. At the outer end of the chain is a rock with a depth of 0.9 m over it.

395 **Flowery Islet** is 0.6 mile NW of Kwuna Point. Close-off its NW and east sides are rocks that dry 1.2 to 7.5 m with shallow water surrounding them. A rock with a depth of 9.8 m is 0.35 mile NE.


 396 **Flowery Islet light** (781), on the highest point of the island, is shown at an elevation of 7.2 m from a skeleton tower.


397 A narrow shoal area, 0.3 mile long, in the approach to Alliford Bay, has **Bush Island**, 2 m high, on the north end and **Bare Rocks** that dry 0.5 to 7.5 m, on the south end. This shoal area can be passed on either side when entering Alliford Bay but the passage on the NE side is most frequently used.


398 **Transit Island**, on the west side of Alliford Bay, is wooded, dome-shaped and connected to shore by a drying bank on which there are several islets. A rock with a depth of 2.6 m is 0.1 mile off the north end of Transit Island.

399 **Alliford Bay** ($53^{\circ}13'N$, $132^{\circ}00'W$) is fronted by an islet and some above-water rocks on its NE side and in the extreme SW corner there are islets and rocks. Shoals with depth of 0.7, 6.4 and 8.3 m are close east of the NE end of Transit Island. The south and SE shores are fringed with sand and mud flats, extending up to 0.1 mile offshore, with rocky outcrops in places. **Oliver Point** projects from the south shore of the bay. The SE portion of the bay is a **booming ground** marked by several private **mooring buoys**. On the east side, at the head of the bay, are the buildings connected with the logging operation.



400 Alliford Bay is a **water aerodrome**.

 401 A **public float**, 17 m long with a depth of 2.7 m alongside, attached to the south side of a **pier**, 70.1 m long, is about 0.1 mile south of Kwuna Point. It is reported that this float is for loading/unloading and moorage is not permitted. About 0.25 mile SE of the public pier is the **ferry landing** for the ferry from Skidegate Landing. An **aircraft float** is 0.15 mile south of the ferry landing.

 402 **Lights.** — Kwuna Point **light** (782), on rocks NW of the public dock, is shown at an elevation of 6.4 m from a white tower.


 403 Alliford Bay **light** (782.1), on the island 0.3 mile south of Kwuna Point, is shown at an elevation of 3.7 m from a white tower.

404 A privately operated **light** fitted with a radar reflector is on an outer dolphin at the ferry landing.

  405 Well-sheltered **anchorage** can be obtained almost anywhere within Alliford Bay; the best position for a large vessel is in the middle of the bay in about 15 m, mud. Small vessels can anchor closer inshore. **Caution.** — It is reported that these anchorages are fouled by old logging cables.

406 **Transportation.** — Alliford Bay is connected by road with Sandspit where air transportation to the mainland is available; ferry service operates to Skidegate Landing.

407 **Maude Island** ($53^{\circ}12'N$, $132^{\circ}04'W$) has **Robber Island** connected to its NE shore by a drying flat. Rocks that dry 1.2 m are close south of Robber Island. Rocks that dry 1.2 and 1 m are close NE of **Belle Point**, the north extremity of Maude Island.

 408 **Bearskin Bay** is between the north shore of Skidegate Inlet and Maude Island. **Lina Island**, at the west end of the bay, is separated from the north shore by a drying passage, the narrowest part named **Lina Narrows**. A **submarine pipeline** (water) is laid between the 36 m high islet and the east extremity of Lina Island. The north shore of Bearskin Bay is fringed by a drying mud flat, with some rock outcrops.

409 **Tides.** — Tidal predictions for Queen Charlotte (Index No. 9850) are given in the Tide Tables, Volume 7.


410 Bearskin Bay is a **water aerodrome** known as Village of Queen Charlotte.

411 **Maple Island** is about 0.35 mile south of **Smith Point**. A rock that dries 7.4 m, close east of the island, is connected to it by a drying bank. A shoal area with a least depth of 3.9 m is 0.1 mile NNE of the rock.

412 **Gooden Island** and **Roderick Island**, both wooded and surrounded by drying banks, are west of Maple Island. A reef that dries 2.9 m is 0.1 mile SSW of Gooden Island and a rock with 4.8 m over it is 0.28 mile SSE of the east point of Roderick Island.


413 **Booming grounds** with **mooring buoys** and boomsticks are south and west of Roderick Island.



414 **Robertson Island** is connected to the north shore by a drying flat with some above-water and drying rocks on it.

 415 A **submarine pipeline** (sewer outfall) extends about 0.8 mile SE from Smith Point. A **submarine cable** and an overhead cable, vertical clearance of 9.9 m, cross the drying flat from Robertson Island to the point NW.


416 The **Village of Queen Charlotte**, the principal settlement in Skidegate Inlet, is on the north shore of Bearskin Bay. Facilities include a post office (VOT 1S0), an RCMP detachment, several stores, hotels, restaurants, a liquor store,


a hospital with resident physicians and a dentist. A fisheries patrol vessel is based here.

 417 **Wharf.** — **Floats.** — A **public wharf**, with a berthing length of 59.4 m at its head and depths alongside of 4.9 to 7 m, extends south from **Beattie Point**, at the east end of the settlement. A **float**, 12 m long for the use of small craft, is attached to the north side of the head of the wharf.

  418 A **floating breakwater** extends about 183 m west from the center of the west end of the public wharf and is marked at its west extremity by the *Queen Charlotte Breakwater light* (782.7), which is fitted with a radar reflector and starboard hand daymark. The breakwater protects a **boat harbour** to the north with three **public floats** with a total length of about 260 m connected to a pier at the southern end of a causeway. A **seaplane float**, about 24 m long, extends from the outer end of the west float. Power is available on the floats. **Fresh water** is obtainable.

419 **Communications.** — A paved highway connects the Village of Queen Charlotte to Skidegate Landing and Masset.

 420 **Caution.** — Vessels leaving the public wharf should keep SW of a line joining the head of the wharf with the NE side of Maple Island to avoid the shoal water and the drying reef 0.1 mile east of the wharf. A rock that dries 0.4 m is 0.15 mile west of the wharf.

 421 Vessels of moderate draught can obtain **anchorage** in 7 to 9 m, mud, about 0.2 mile south of the public wharf. Anchorage for deep draught vessels can be obtained in 29 m about 0.5 mile south of Maple and Gooden Islands.

422 **Maude Channel** ($53^{\circ}13'N$, $132^{\circ}06'W$) leads from Bearskin Bay to Kagan Bay and Long Inlet. **Balch Islands** and numerous drying and below-water rocks and shoals encumber the east end of the channel. A narrow but deep channel lies along the Maude Island shore.

423 **Fleury Island** is connected to Lina Island by a drying bank. A rock that dries 2.4 m is 0.15 mile south and a rock awash is 0.45 mile ESE of Lina Island. **Withered Point** is the SW extremity of Lina Island. A rock that dries 1.2 m is 0.25 mile SSE of Withered Point.

 424 Sheltered **anchorage** can be obtained in less than 20 m about 0.6 mile SE of Withered Point.

Chart 3891

425 **Kagan Bay** ($53^{\circ}13'N$, $132^{\circ}12'W$) and its entrance, at the west end of Maude Channel, are encumbered with islands, rocks and shoals. Access to the bay is confined to narrow passages suitable only for small vessels.


426 **Tree Islet**, 13 m high, is 1 mile south of Withered Point. Two rocks that dry 2.6 m lie midway between the islet and the western extremity of Maude Island. A drying rocky

ledge extends almost 0.1 mile NW of Tree Islet. A shoal with 9.9 m over it lies midway between Tree Islet and Angle Island.

427 **Angle Island, Claudet Island, Burnt Island, Noble Rock and Meyer Island** are the named features of a chain of islands, islets, drying rocks and shoals leading NW from Tree Islet into the head of Kagan Bay. A deep water channel leads between this chain and Lina Island but it is narrowed by an islet, drying and below-water rocks up to 0.25 mile NE of Claudet Island and numerous drying rocks and shoals up to 0.4 mile off **Dyer Point**, the west extremity of Lina Island. **Weed Rock**, 1 m high, is 0.35 mile NW of Dyer Point. Drying rocks fill the area between Angle and Claudet Islands. Narrow passages with shallow bars exist between all other adjacent named features and this chain.

428 A **booming ground** and log dump is NE of Meyer Island.


429 **Legace Island** is 1.1 miles west of Burnt Island. A shoal ridge extends 0.2 mile ENE from the north end of the island. **Danube Rock**, which dries 1.2 m, is 0.3 mile north of the island.

 430 Rocks that dry 0.4 m and shoal depths of 3.8 and 4.5 m lie in the passage between the SW point of Legace Island and **Canoe Point**. A rock that dries 4 m is close NE of Canoe Point. **Christie Bay**, entered south of Canoe Point, is shallow and has wooded islets at its west entrance. Small craft can obtain sheltered **anchorage** with good holding.

431 **Treble Island**, about 0.4 mile NNW of Canoe Point, has two rocks covered 1.9 and 3.9 m off its NW extremity and several islets on a drying flat between it and the NW shore of Kagan Bay. **Slatechuck Creek** flows onto the drying flat. A quarry, a few miles within the entrance, is where the First Nations obtained a dark shale material for making their carvings.

432 **Hallet Island**, 3 m high, is south of Slatechuck Creek. Two rocks that dry 2 and 7.2 m are south of Hallet Island and a rock with 2.7 m over it is 0.2 mile SE of the island.

433 **Anchor Cove** is a small indentation between **Random Point** and **Pier Point**.

 434 Small vessels can obtain **anchorage** in 12 m, 0.2 mile NE of Treble Island, or off Anchor Cove in about 10 m. Good anchorage is also available in 13 m about 0.5 mile south and SW from Burnt Island.

435 **Long Inlet** ($53^{\circ}13'N$, $132^{\circ}18'W$) is entered between **Anthracite Point** and **Scalus Island**.

436 **Sandstone Islands**, a scattered group of islands and drying rocks, lie south of Anthracite Point. **Gust Island**, close NW, has two reefs that dry 4 and 5.7 m close west of it on a shoal ridge connected to the north shore of the inlet. These islands divide the entrance to Long Inlet into three narrow passages, each of which have depths less than 6 m in

mid-channel. **Saltspring Bay**, SE of Sandstone Island, and **Gosset Bay**, between Anthracite Point and **Josette Point**, are filled with drying flats.

437 **Berry Islands**, 1 m high, and rocks that dry 1.2 and 5.2 m are about 0.2 mile off the SW shore of the inlet, on a large drying bank connected to shore.

438 A rock with a depth of 2.5 m over it is near mid-channel 0.3 mile north of Berry Islands.

439 The west shore south of **Young Point** has shoal water and several drying rocks and a 4.7 m shoal close offshore.

440 Northwest of Young Point, Long Inlet is deep and steep-to with an extensive drying bank at its head.

Skidegate Channel and Approach

Chart 3890

441 The approach to Skidegate Channel ($53^{\circ}12'N$, $132^{\circ}02'W$), south of Maude and Sandilands Islands, is deep and free of dangers as far as the middle of the south coast of Sandilands Island.

442 **Lillihorn Island** ($53^{\circ}11'N$, $132^{\circ}02'W$) is wooded, steep sided and a drying rock shelf extends NE from it. **Macmillan Creek** flows onto a drying flat 0.4 mile south of the island. A finger of shoal water, with a rock that dries 1.8 m at its extremity, extends NW from **Whiteaves Bay** close north of the creek.

443 **Sandilands Island** is connected to the SW point of Maude Island at LW. The east side of the island is fringed with islets and drying rocks extending 0.25 mile offshore. A rock with 4.8 m over it is 0.5 mile NE of the island. Shallow depths extend nearly 0.2 mile off the west side; a rock with 0.8 m over it is close-off the SW point.



444 A well-sheltered **anchorage**, clear of the tidal streams, is available in 30 m NE of the island. To clear the 4.8 m shoal close north of the group of drying rocks keep the SE and north extremities of Sandilands Island bearing 180° and 270° , respectively.



445 **South Bay**, south of Sandilands Island, has a drying flat in its SW part at the mouth of **Deena Creek**. A similar flat is off its SE shore. A 9.6 m shoal is in the middle of the bay. **Anchorage** can be obtained in South Bay in 27 m.



446 **South Bay light** (782.3), on an islet at the east end of the bay, is shown at an elevation of 3.6 m from a skeleton tower.

447 A **booming ground** with several private **mooring buoys** fills the bay inshore of South Bay light (1988).

448 Sandilands Island **daybeacon**, on a drying rock south of the island, is fitted with a bifurcation/junction daymark, preferred channel to the left.

449 An 8.2 m shoal is in mid-channel 0.45 mile west of the daybeacon.


450 A passage, which is narrow and shallow at its north end, leads west of Sandilands and Maude Islands, providing a convenient route for small vessels from Skidegate Channel to Kagan and Bearskin Bays, by way of Maude Channel. On the east side of the north end of the passage, NE of **Leonide Point**, a rock that dries 2.3 m is marked by starboard hand **buoy** "C22".

451 A **booming ground** is in the bay 0.5 mile south of Leonide Point (1988).

Chart 3891

Skidegate Channel

452 **Skidegate Channel** ($53^{\circ}10'N$, $132^{\circ}09'W$) has shores which, for the most part, rise steeply to mountain tops a short distance inland on each side. East Narrows, the central portion of Skidegate Channel, is narrow and winding with strong tidal streams. Although this very shallow narrows is navigated regularly at HW by fishing vessels with ample power, drawing up to 3 m, it is recommended only for mariners with local knowledge. West Narrows, although shallow, is deeper, less winding and has weaker tidal streams than East Narrows.

 453 **Caution.** — Skidegate Channel is narrow and winding with strong **tidal streams**. It is shallow, especially in the eastern and central portions and best navigated only with significant local knowledge and at higher water levels. Siltation, dredging and deposition may produce drying flats in some areas at lower water levels. Aids to navigation have been placed to provide the safest channel at higher water levels. Mariners are advised to exercise extreme **caution** when navigating in this area.

454 **Tides.** — There is a great difference in tide range between the east and west portions of Skidegate Channel. At Queen Charlotte, to the east of East Narrows, the range on a large tide is 7.8 m, but at Trounce Inlet, to the west of East Narrows, it is only 4.5 m. Therefore, the levels to which the tide rises above datum at various positions in East and West Narrows are much less than at Queen Charlotte (*see table on chart*). The times of HW at the positions in the table are up to 1 hour later than at Queen Charlotte.

455 Tidal predictions for Queen Charlotte (Index No. 9850), and tidal differences for Armentières Channel (Index No. 9605) and Trounce Inlet (Index No. 9625), referenced on Hunger Harbour (Index No. 9570), are given in the Tide Tables, Volume 7.



456 **Tidal streams.** — The differences between the water levels at the east and west ends of Skidegate Channel at HW and LW create strong currents: there is a strong west current in conjunction with HW, and a weaker east current near LW. These currents are strongest in the narrow channel near McLellan Point, where they can attain 7 kn.

McLELLAN POINT LOOKING WEST (1985)



NARROWS WEST OF McLELLAN POINT LOOKING EAST (1985)



457 **Navigation of East Narrows.** — Because of the narrow and tortuous fairway through East Narrows and the strong currents, particularly near McLellan Point, vessels with low power are advised to navigate the narrows so as to pass McLellan Point at or near slack water. However, because slack water near McLellan Point occurs 3 to 3.5 hours after HW or LW at Queen Charlotte (*see* slack water note on chart), the depth of the water through East Narrows will decrease considerably between HW and the following slack water, thus limiting the draught at which a vessel can pass through safely. Accordingly, Masters of low powered vessels are strongly advised to navigate East Narrows only at or near the slack water preceding a HW at Queen Charlotte.

458 **Fishing boundary markers** are on both shores 2.5 miles west of Sandilands Island. A **booming ground** and log dumps are on the north shore west of the marker.

459 The navigable channel narrows west of the fishing boundary markers. Drying rocks and shoal water extend into the channel from both shores. Drying rocks and shoals, marked by a **daybeacon** with a port hand daymark, lie in mid-channel 3.25 miles WSW of Sandilands Island.

460 **East Narrows** has extensive drying banks, with drying rocks in places, extending from its shores. The fairway is narrow and tortuous but well marked with beacon ranges. The least depth in the fairway lies 0.25 mile west of Mid Beacon. Two rocks with 1.6 and 0.9 m over them lie in the fairway close west and a shoal area with a least depth of 1.1 m lies


WEST NARROWS (WEST ENTRANCE) LOOKING NNE (1985)



in mid-channel 0.4 mile west of **McLellan Point**. A drying ledge with an islet on it is connected to the south shore SE of the shoal area.

461 **Note.** — The upstream direction for aids to navigation in East and West Narrows is when proceeding west.

462 **Beacons.** — **Beacon Ranges.** — The channel through East Narrows is marked by daybeacons and beacon ranges. Because of silting and dredging, aids to navigation may be changed to indicate the best channel. Charted aid to navigation data may not be up to date. Notices to Mariners and Navigational Warnings should be consulted.

 463 **Trounce Inlet** ($53^{\circ}10'N$, $132^{\circ}19'W$) is deep and free of dangers. The head of the inlet affords **anchorage** for small vessels in 14 to 18 m about 0.1 mile off a drying mud flat, which is steep-to.

464 **Tides.** — Tidal differences for Trounce Inlet (Index No. 9625), referenced on Hunger Harbour, are given in the Tide Tables, Volume 7.

465 **West Narrows** is very narrow where it leads past **Downie Island**. An extensive drying flat, with two wooded islets on it, extends from the north shore. A boulder, with a least depth of 0.7 metres, is in the middle of the channel 0.6 mile ENE off the NE extremity of Downie Island. Two rocks that dry 0.9 and 0.4 m are on the south of the channel further west. The westernmost of the two wooded islets on the north side of the channel provides a good clearing mark for these dangers.


466 Two drying gravel patches are 0.1 mile NNW of Downie Island and a drying spit extends off the NW side of the island. A drying reef, with an above-water rock at each end, is off the SW extremity of Downie Island.

467 **Fishing boundary markers** are on each shore at both the east and west entrances to West Narrows.

468 **Beacons.** — A **daybeacon** with a port hand daymark on a dolphin is 0.15 mile north of the NE extremity of Downie Island and another port hand **daybeacon** is 0.15 mile west of the north side of Downie Island.

469 A **daybeacon** with a starboard hand daymark is on the west shore of West Narrows abreast the north side of Downie Island.

470 A **daybeacon** with a port hand daymark is on the south end of the mid channel reef in the west entrance to West Narrows.

 471 The bay SE of Downie Island is very shallow and filled with kelp during summer and autumn. A rock that dries 0.4 m lies between this bay and a deeper bay to the south. **Anchorage** for small craft can be obtained in about 25 m in the south bay. A shoal finger, with a rock that dries 1 m on it, is covered with kelp and extends from the south shore west of the anchorage.

472 Skidegate Channel, west of Downie Island, is described in Chapter 4.


Skidegate Inlet to Rose Point

Charts 3902, 3800

473 The coast between Lawn Point ($53^{\circ}26'N$, $131^{\circ}55'W$) and Rose Point, the NE extremity of **Graham Island**, is fronted by the shoal flats of **Dogfish Banks** and should be approached with caution. There are no harbours or protected coves for small craft along this coast. The beach is composed mainly of gravel or stones as far as Tlell; beyond this it is mainly sandy as far as Rose Point. For a considerable distance along the coast north of Lawn Point there are cliffs of clay and

sand which, between Tlell and about 7 miles north of Cape Ball, rise to heights between 200 and 400 feet (61 and 122 m). Farther north the coast is bordered by sand hills covered with coarse vegetation; behind these are woods, in some places burnt, interspersed with patches of swampy land.


Chart 3902

 474 **Depths.** — Between Lawn Point ($53^{\circ}26'N$, $131^{\circ}55'W$) and Cape Ball, 17 miles north, depths of less than 6 fathoms (11 m) extend up to 6.5 miles offshore and depths of less than 10 fathoms (18.3 m) exist up to 24 miles offshore. There is evidence of sand ridges in this area, which change position and depth due to severe weather conditions. **Caution** is advised when navigating in this vicinity.

475 The entrance of **Tlell River** is about 11 miles north of Lawn Point. From its mouth, the river runs nearly parallel to the coast for almost 4 miles, separated from the sea by a low swampy strip of land about 0.5 mile wide. Numerous drying and below-water rocks lie within a 4 mile radius of Tlell River.

476 **Tlell**, about 2 miles south of the mouth of Tlell River, has a post office (VOT 1Y0). The road from the Village of Queen Charlotte to Port Clements and Masset passes through the community.

Chart 3800


 477 **Cape Ball** ($53^{\circ}43'N$, $131^{\circ}53'W$) has some conspicuous sand cliffs, 420 feet (128 m) high, about

1 mile north of it. **Tidal streams** in the vicinity of the cape are irregular.

478 Drying gravel patches together with numerous boulders that dry from 1 to 3 feet (0.3 to 0.9 m) extend 2 miles east and SE of Cape Ball.

479 **Coast.** — The mouth of the **Oeanda River** ($53^{\circ}57'N$, $131^{\circ}43'W$) is about 15 miles NNE of Cape Ball. Close to the coast nearly 6 miles north of the river mouth is **Argonaut Hill**, flat-topped and wooded to its summit. This hill, and a group of somewhat lower hills within 4 miles of it, are the only features on an otherwise low and featureless portion of the coast. **Fife Point**, 3.5 miles NNE of Argonaut Hill, can only be distinguished by **Swan Hill**, 230 feet (70 m) high and thickly wooded, which rises above it. From Fife Point to Rose Point the coast is low and featureless.

480 The shoal waters of Dogfish Bank extend well offshore north to Rose Spit and Overfall Shoal. Many depths of less than 5 fathoms (9 m) lie on ridges, running north and south, scattered over the bank and up to 9 miles offshore.

 481 **Anchorage**, well-sheltered from westerly winds with good holding ground, is available in 7 fathoms (13 m) about 2 miles east of Rose Point, abreast the end of the trees.

482 Rose Point, Rose Spit and Overfall Shoal, and the tidal streams in this vicinity are described in Chapter 2.

Haida Gwaii West Coast

General

Charts 3853, 3854, 3868

1 The west coast of Haida Gwaii is rugged and indented with many inlets, some of which penetrate a considerable distance inland. The coast is generally mountainous and rises to heights in excess of 1,700 feet (518 m) a short distance inland. Mountain ranges and peaks over 3,000 feet (914 m) in elevation, some of which are conspicuous, are farther inland. The entrances to many of the inlets, with the background of high land and with the sea breaking round them, are not distinguishable at night from the remainder of the coast, even in fine weather and bright moonlight.

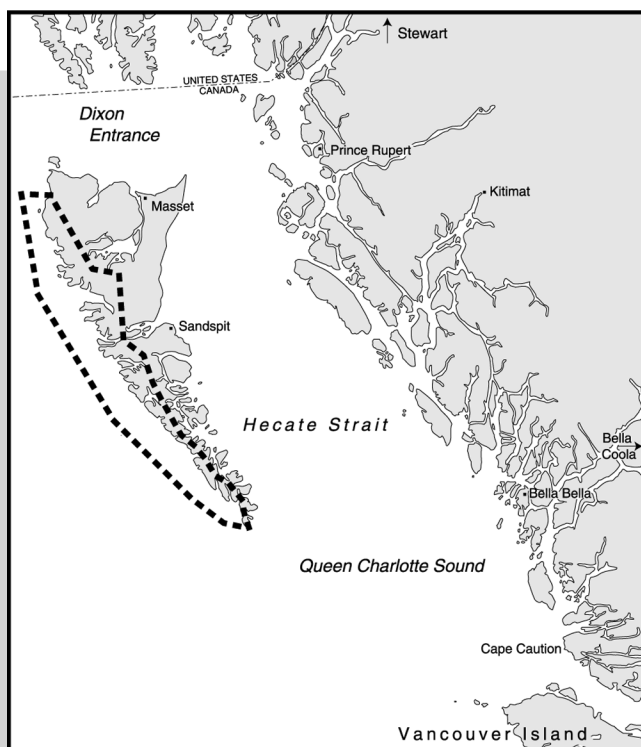
2 **Surveys.** — **Caution.** — On the west coast of Haida Gwaii the larger inlets have been surveyed, but many of the smaller inlets have not been examined or have been only partially surveyed. Large stretches of the outer coast have not been surveyed inside a distance of 1 or 2 miles. Unsurveyed areas are inadvisable to enter without local knowledge.

3 **Depths.** — Off the west coast, from Cape St. James ($51^{\circ}56'N$, $131^{\circ}01'W$) to Rennell Sound, 110 miles NW, depths are quite uniform. The 100-fathom (183-m) line lies about 1 to 3 miles offshore, and a short distance farther off the bottom falls rapidly to great depths. About 10 miles off the entrance to Rennell Sound there are areas of less than 100 fathoms (183 m). North of Rennell Sound the 100-fathom (183-m) line of the coastal bank gradually increases in distance from the coast, passing about 2 miles off Hippa Island, about 14 miles WNW of Frederick Island ($53^{\circ}56'N$, $133^{\circ}10'W$) and then closing the coast to pass about 2.5 miles west of Langara Island.

4 For information on the continental margin west of Haida Gwaii see Sailing Directions booklet *PAC 200 — General Information, Pacific Coast*.

4.1 A **Voluntary Protection Zone** for Shipping on the West Coast of Haida Gwaii is currently in effect. In the Voluntary Protection Zone, commercial vessels of 500 gross tonnage or greater shall observe a minimum distance of 50 nautical miles offshore when transiting along the West Coast of Haida Gwaii with the following exceptions:

- Cruise vessels, to observe a minimum 12 nm distance from shore;




- Vessels transiting between Pacific Northwest ports (Washington, Alaska, BC), to observe a minimum 25 nm distance from shore;
- Tugs and barges (including pushing and towing alongside), no minimum distance; and
- Fishing vessels, no minimum distance.

Vessels are requested to adhere to these distances on a voluntary basis and only when it does not jeopardize the safety of navigation, the vessel, the persons aboard, and the cargo. For more information on the Voluntary Protection Zone project, visit *haidagwaii-vpz.ca* or see monthly *Notice to Mariners*.

5 **Gwaii Haanas National Park Reserve/Haida Heritage Site** encompasses the south portion of Moresby Island and adjacent islands from south of the Tangil Peninsula on the east and Tasu Sound on the west. The annual number of visitors is limited; reservations, orientation and fees are required before entering the park. Haida Gwaii Watchmen are located at Anthony Island, Ellen Island, Huxley Island, Hotspring Island, Windy Bay, Tanu Island and Skedans Bay. For full information regarding visiting Gwaii Haanas National Park Reserve contact

Gwaii Haanas National Marine Conservation Area
Reserve,
P.O. Box 37,
Village of Queen Charlotte, B.C. V0T 1S0.

 6 **Vessel Traffic Services (vts)**. — The west coast of Haida Gwaii is in *Sector 1* of the *Prince Rupert Traffic Zone* and the assigned frequency is 156.55 MHz, Channel 11.

7 A brief description of this Vessel Traffic Services System is given in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast*; full details are given in *Radio Aids to Marine Navigation (Pacific and Western Arctic)*.

8 The Calling-in Points are

9 *Calling Point No. 25*, called *Cape Knox*, is a line extending 270° from Cape Knox to the limit of the Territorial Sea.


10 *Calling-in Point No. 26*, called *Tasu Sound*, is a line extending 220° from Davidson Point light (809) to the limit of the Territorial Sea. Mariners shall report at Davidson Point when entering/exiting Tasu Sound.

11 *Calling-in Point No. 27*, called *Cape St. James*, is a line extending 220° from Cape St. James light (770) to the limit of the Territorial Sea.

12 *Calling-in Point No. 35*, called *Triangle Island*, is a line extending 220° from Triangle Island to the limit of the Territorial Sea; it is for changing from the *Prince Rupert Traffic Zone* to the *Tofino Traffic Zone*.

13 **Tides**. — Along the west coast of Haida Gwaii tidal predictions for Hunger Harbour (Index No. 9570) and Langara Point (Index No. 9964) are given in the Tide Tables, Volume 7.

14 Tidal differences for Cape St. James (Index No. 9502), Gordon Islands (Index No. 9512), Armentières Channel (Index No. 9605), Trounce Inlet (Index No. 9625), referenced on Hunger Harbour, Rose Harbour (Index No. 9713), referenced on Bella Bella, and Shields Bay (Index No. 9650) and Port Louis (Index No. 9671), referenced on Langara Point, are given in the Tide Tables, Volume 7.

 15 **Tidal streams and currents**. — The following information is from tidal stream observations made in 1984.

16 The tidal stream 4 miles WNW of Cape St. James is rotary clockwise. First of flood sets 280° at ¼ kn, maximum flood 015° at 1 kn, maximum ebb 140° at 2 kn and last of ebb 215° at ½ kn.


17 In position 300°, 6 miles, from Nagas Point the tidal stream is rectilinear, flooding 340° at up to 1½ kn and ebbing 145° at up to 1 kn. Two miles to the SW the stream floods 325° at up to 1 kn and ebbs 145° at up to 1½ kn.

18 The tidal stream about 3 miles off Kitgoro Point is rotary clockwise with maximum flood 330° at ¼ kn, last of flood 040° at ¼ kn, maximum ebb 155° at 1 kn and last of ebb 245° at ¼ kn. Three miles farther offshore maximum flood sets 310° at ½ kn, last of flood 050° at ½ kn, maximum ebb 145° at 1½ kn and last of ebb 230° at 1 kn.

19 About 12 miles WSW of Kitgoro Point maximum flood is 300° at ¾ kn and maximum ebb 135° at 1 kn.

20 About 8 miles off Athlow Bay maximum flood is 340° at 1 kn and maximum ebb 155° at ½ kn.

21 About 7 miles west of White Point maximum flood is 030° at ¼ kn and maximum ebb 220° at 1 kn. About 14 miles off White Point the stream is rotary clockwise with first of flood 290° at 1 kn, maximum flood 020° at 2 kn, first of ebb 120° at 1 kn and maximum ebb 215° at 2 kn. Maximum flood here is 1 hour after LW Prince Rupert, turn to ebb 1 hour before HW Prince Rupert.

 22 The **non-tidal current** sets NW along the west coast of Haida Gwaii at about ½ kn during normal weather, increasing to 1 or 1½ kn with strong SE gales. This current will generally accentuate the flood stream and conversely affect the ebb.


23 **Meteorological information** for Cape St. James, Tasu Sound and Langara and **frequency of fog information** for Cape St. James and Langara are given in the Appendices.


Chart 3000

24 **Offshore banks**. — A depth of 13 fathoms (24.3 m) has been found on a sharp pinnacle on **Bowie Seamount** (53°18'N, 135°40'W), about 100 miles west of Graham Island. **Hodgkins Seamount**, a bank with a least known depth of 326 fathoms (596 m), lies with its shallowest part about 19 miles NW of Bowie Seamount. These banks rise sharply from the depths surrounding them.



ANTHONY ISLAND LOOKING SE (1985)



 25 **Caution.** — During heavy weather it would be prudent to give Bowie Seamount a wide berth; wave studies indicate that shallow water effects can be experienced near seamounts at these depths.

 26 Moresby Island ODA's **light buoy** “46208” (812) is in $52^{\circ}30'54''N$, $132^{\circ}41'30''W$ about 26 miles SW of Tasu Sound.

27 **Winds.** — From about October 1 to the latter part of December the prevailing winds are from the SE and east, and are frequently of gale force, accompanied by heavy rainfall. From the latter part of December to February in most years, the change to offshore winds from the NW or north and NE occurs. During February, March and April, the prevailing winds are from SE and east. During May there are generally westerly winds, while during June, July, August and September, the more usual winds are from the south, SW and west. No fixed rules can be applied, as strong SE or NW breezes can occur in any season. NE winds during summer months are rare. A description of localized winds known as “Williwaws”, are given in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast* and wind information for Cape St. James is given in the Appendices.

  28 **Caution.** — Although a number of well-enclosed **anchorages** are available in various inlets on the west coast of Haida Gwaii, these are subject during strong SE gales to violent squalls from the valleys leading into them and, although no heavy seas are raised, the force of the squalls induces violent yawing. A sharp lookout should therefore be kept to guard against dragging.

Kunghit Island — West side

Chart 3825

29 Cape St. James ($51^{\circ}56'N$, $131^{\circ}01'W$) and the off-lying islands and dangers are described in Chapter 3.

30 From 1 to 2 miles SE of **Barber Point** ($52^{\circ}00'N$, $131^{\circ}06'W$), in the SW part of Kunghit Island, the coast is fronted by foul ground extending 0.5 mile offshore.

31 **Gilbert Bay** is entered north of Barber Point. **Bowles Point** is the west extremity of a small island 2 miles NNW of Gilbert Bay.


Houston Stewart Channel and Louscoone Inlet — South Approach

32 **Anthony Island** ($52^{\circ}06'N$, $131^{\circ}13'W$), 335 feet (102 m) high with some white cliffs on its west side, is on the west side of the approach to Houston Stewart Channel and Louscoone Inlet. On the east side of the island are a few totem poles marking the site of a former First Nations village. A group of islets, some of which are sparsely wooded, together with drying, above- and below-water rocks, extends up to 1.3 miles south and SW of the island. A similar group of islets and rocks lie up to 0.6 mile off the north coast.

33 **Note.** — Anthony Island and the surrounding islets are a protected area within the boundaries of Gwaii Haanas National Park Reserve. A Haida Gwaii Watchmen basecamp is on Anthony Island.

Chart 3855

34 **Gordon Islands** ($52^{\circ}06'N$, $131^{\circ}09'W$), a compact group of mostly wooded islands fringed with kelp, are on the east side of the approach to Houston Stewart Channel, about 0.5 mile off **Arnold Point**. Foul ground, marked by kelp, with above-water and drying rocks on it, extends 0.25 mile NW of the islands. A least depth of 8 fathoms (14.6 m) lies in the fairway between Gordon Islands and the west side of Kunghit Island, but depths under 6 fathoms (11 m) extend 0.25 mile south of Arnold Point.

 35 Vessels of moderate length can obtain **anchorage** in about 15 fathoms (27 m), 0.38 mile WNW of Arnold Point. The swinging space is somewhat restricted but the holding ground is good and the anchorage well-sheltered from southerly winds. However, strong northerly or NW winds in opposition to a strong flood tide render it untenable.

36 **Ibbertson Banks**, over which there is a least depth of 9 fathoms (16.5 m), are 0.8 mile west of Gordon Islands.

37 **Flatrock Island**, 0.7 mile NW of the Gordon Islands, is bare with a flat summit and has shoal depths extending east and west of it. A bare rock, 16 feet (4.9 m) high, is about 0.1 mile south of **Cape Fanny**, the south extremity of Moresby Island.



38 Flatrock Island **light** (769) is shown at an elevation of 81 feet (24.8 m) from a skeleton tower.

39 **MacLeod Shoal**, 0.5 mile west of Flatrock Island, has a least depth of 37 feet (11.3 m) over it, is steep-to and marked by kelp.

Houston Stewart Channel

40 **Houston Stewart Channel** ($52^{\circ}09'N$, $131^{\circ}07'W$) is entered from south between Gordon Islands and Cape Fanny; on both sides of the entrance the shores are bold, densely wooded and the country in the vicinity is mountainous.

41 **Foul ground**, on which are several drying and below-water rocks marked by kelp, lies along the west shore about 1 mile NE of Cape Fanny. **Washington Rock**, 3 feet (0.9 m) high, with a rock covered less than 6 feet (2 m) off its NW side are off the east shore 1.3 miles north of Arnold Point.

42 The fairway is otherwise clear of dangers as far north as **Catherine Point** and **Hornby Point** where the channel turns east to join Hecate Strait.

43 Several below-water rocks are in and near the middle of the channel NE of Hornby Point. Kelp is present on most rocks during summer and autumn but is frequently drawn below the surface by the strength of the tidal streams.



44 **Tidal streams** in the east arm of Houston Stewart Channel reach 5 kn.

45 **Tides**. — Tidal differences in Houston Stewart Channel, for Rose Harbour (Index No. 9713), referenced on Bella Bella, and Gordon Islands (Index No. 9512), referenced on Hunger Harbour, are given in the Tide Tables, Volume 7.

46 **Ross Island**, on the east side of the entrance to Rose Inlet, is connected to Moresby Island by a drying flat. A shoal with 23 feet (7 m) over it is 0.1 mile south of the SW extremity of Ross Island. Two shoals, each with a depth of 30 feet (9.1 m), are in mid-channel 0.3 mile NNE of Hornby Point.

47 **Ellen Island** ($52^{\circ}09'N$, $131^{\circ}06'W$) is about 0.6 mile ENE of Hornby Point. Midway between the island and point a wooded islet lies close-off the south shore with foul ground between it and the point.



48 Hornby Point **light** (768.6), on the above-mentioned islet, is shown at an elevation of 18 feet (5.5 m) from a skeleton tower.

49 A narrow boat passage, leading between Ellen Island and the south shore, is encumbered with drying and below-water rocks.

50 A bank, with depths of less than 36 feet (11 m), extends 0.15 mile NW from Ellen Island. Near the outer edge of the bank is a rock with 12 feet (3.7 m) over it.

51 **Quadra Rocks** consist of two rocks in mid-channel NNE of Hornby Point light. The north rock is awash and the south one has a depth of less than 6 feet (2 m) over it. A rock with 14 feet (4.3 m) over it is 0.1 mile NE, a 15-foot (4.6-m) shoal is 0.15 mile west and a rock with 24 feet (7.3 m) over it is 0.1 mile SSE of Quadra Rocks. Depths under 6 fathoms (11 m) extend up to 0.2 mile west, north and NE of Quadra Rocks.

52 **Trevan Rock**, north of Ellen Island, dries 10 feet (3 m). A **daybeacon** with a bifurcation/junction daymark, preferred channel to the right, is on the rock. Shoal water extends as far as 0.1 mile from the rock and detached shoals are WNW and NE of the rock.

53 **Gaudin Passage** leads between Ellen Island and the bank extending NW from it on the south, and Quadra Rocks and Trevan Rock, to the north. The fairway through the west end of the passage is less than 0.1 mile wide between the south Quadra Rock and the 24-foot (7.3-m) shoal SSE. When the tidal streams are running, Quadra Rocks are marked by tide-rips and overfalls, and when kelp is present, it is visible at slack water.

54 **Annette Island**, **Fairfax Island** and some drying and below-water rocks lie up to 0.3 mile off the south shore 0.5 mile east of Ellen Island. The passage between these islands can be used by small craft but local knowledge is advised.

55 **Rose Harbour** ($52^{\circ}09'N$, $131^{\circ}05'W$) is entered between Ellen Island and the rocks that dry 10 and 4 feet (3 and 1.2 m), 0.4 mile east. Numerous above-water and drying rocks are in its SW part. A drying bank with an island at its NW extremity fills the SE part. Two guesthouses, the ruins of a whaling station and public **mooring buoys** with fenders are at the head of the harbour.



56 Vessels up to 250 feet (76 m) long can obtain **anchorage** in about 14 fathoms (26 m), out of the strength of the tidal streams, in the outer part of Rose Harbour, 0.2 mile east of Ellen Island. North to NE gales funnel down a valley and into the anchorage.

57 **Charles Islands**, with some drying and below-water rocks extending 0.15 mile SE from them, are off the south shore east of Annette Island. The passage south of Charles Islands is encumbered with below-water rocks, but can be used by small craft.

58 **Forsyth Point** is on the north shore NNE of Annette Island. **Raspberry Cove**, 0.6 mile NW, has a stream flowing into it and is fronted by drying rocks. A campsite with toilets is


situated to the west of the creek running into Raspberry Cove. A rock, with less than 6 feet (2 m) over it, is 0.3 mile WNW of Forsyth Point. A rock that dries 11 feet (3.4 m) surrounded by shoal water is 0.35 mile east of Forsyth Point.


59 **Rose Inlet** ($52^{\circ}11'N$, $131^{\circ}08'W$) rises boldly along the west shore south of Pincher Rocks and has no dangers beyond 0.1 mile from shore. The east shore, although high, is fringed with drying sand banks and has depths under 3 fathoms (5.5 m) extending up to 0.25 mile offshore. Beyond **Kendrick Point** the inlet contracts in width and is encumbered with drying, above- and below-water rocks, and some wooded islets. The head of the inlet is separated from South Cove in Carpenter Bay, to the NE, by a neck of low wooded land. The land on the north and west sides of the head is mountainous, whilst that on its east side is low. **Sedmond Creek**, a small stream, flows into the head of the inlet.

60 A **fishing boundary marker** is on the west side of Rose Inlet, 0.8 mile NW of Ross Island.

61 **Rocks.** — **Denny Rocks**, the largest of which dries 14 feet (4.3 m), lie on a shoal area with depths less than 6 fathoms (11 m) projecting 0.35 mile off the east side of the entrance to Rose Inlet. A rock with less than 6 feet (2 m) over it is 0.1 mile SW of Denny Rocks. Two rocks that dry 5 feet and 1 foot (1.5 and 0.3 m) are 0.2 mile off the east shore 0.6 mile north of Ross Island. A rock with 13 feet (4 m) over it and marked by kelp is 0.25 mile farther north.

62 **Pincher Rocks**, in mid-channel SW of Kendrick Point, are the outermost of the numerous drying and below-water rocks that almost fill the head of Rose Inlet. Shoal depths extend almost 0.2 mile south of Pincher Rocks.

 63 **Anchorage** can be obtained in 8 to 10 fathoms (15 to 18 m) in the middle of Rose Inlet 0.8 mile north of Denny Rocks. North to NE gales funnel down the valley at the head of the inlet creating rough seas.

 64 **Caution.** — Because of the strong tidal streams and numerous dangers that lie in the portion of Houston Stewart Channel, lying to the east of Hornby Point, it should be taken only by vessels less than 200 feet (61 m) in length, and not more than 20 feet (6.1 m) draught, during daylight and at slack water.


Louscoone Inlet

Chart 3857

65 **Louscoone Inlet** ($52^{\circ}10'N$, $131^{\circ}14'W$) is entered between Cape Fanny and **Louscoone Point**. About 5 miles north of Cape Fanny, on the east side of the inlet, a bare summit, 2,155 feet (657 m) high, conspicuous from SW, is a convenient mark by which to identify the approach to Houston Stewart Channel and Louscoone Inlet; two other bare summits

(Chart 3853), 2,240 and 2,290 feet (683 and 698 m) high, are about 1 and 1.3 miles, respectively, farther NNW. The inlet is generally deep with gradual shallowing toward the head where there is a drying mud flat.

66 **Adam Rocks** ($52^{\circ}07'N$, $131^{\circ}14'W$), consisting of a group of above- and below-water rocks, lie midway between the islets off the NW coast of Anthony Island and Louscoone Point. The passages north and south of Adam Rocks are scattered with shoal rocks and not recommended. The largest rock is scrub-covered; the remainder are bare.

 67 **Tidal stream.** — A strong tidal stream runs through the channel between Adam Rocks and Anthony Island.

68 **Tuga Point**, on the west shore of Louscoone Inlet, is steep-to and is 1.6 miles north of Louscoone Point; between them is a bight which is fronted by a small island and above-water and drying rocks to about 0.15 mile offshore. The remainder of the west shore of the inlet is comparatively steep-to and clear of off-lying dangers, except near the head.


69 Close-off the east shore 0.55 mile WNW of Cape Fanny is a sparsely wooded islet with a rock awash between it and shore. Farther NW two above-water rocks are within 0.1 mile of the shore.

70 **Ninstints Point** is on the east side of the inlet about 1.3 miles NW of Cape Fanny. Rocks that dry 1 and 11 feet (0.3 and 3.4 m) and shoal water extend almost 0.13 mile off the point, and the bays to the north and SE are shoal and filled with drying and below-water rocks.

71 **Small Cove**, east of **Crooked Point**, is encumbered with drying rocks in its entrance and an above-water rock near its head. A group of islets and rocks lies within 0.15 mile of the east shore off the north entrance point of the cove.

72 **Etches Point** is low and has two rocks that dry 6 and 14 feet (1.8 and 4.3 m) close-off it. **Cadman Point**, 1.1 miles north, has a drying ledge, with a rock 1 foot (0.3 m) high on it, extending from its south side. A rock that dries 4 feet (1.2 m) lies close-off the SW point of the ledge.

73 In the bight between Etches and Cadman Points are low, wooded islands, several islets and drying rocks. The south island has a rock that dries 9 feet (2.7 m) close west of its south extremity and two others that dry 7 and 8 feet (2.1 and 2.4 m) within 300 feet (91 m) of its NW side. The north island is fronted by a chain of rocks that dry from 1 to 15 feet (0.3 to 4.6 m) about 0.1 mile off its west side and a rock, with less than 6 feet (2 m) over it, is close-off its NW extremity. A chain of islets connected to one another by drying rock ledges and to the shore by a sand bank, which dries, extends about 0.3 mile north from Cadman Point terminating in two rocks that dry 1 and 3 feet (0.3 and 0.9 m).

 74 **Anchorage** for small vessels, mud bottom and protected from north and south winds, can be obtained in the small basin between the two larger islands

lying between Etches and Cadman Points. A public **mooring buoy** with fenders is in the basin.

75 **Skindaskun Island** ($52^{\circ}12'N$, $131^{\circ}14'W$), low and wooded, is joined to the east shore of the inlet by a drying sand bank. A compact group of rocks, the highest of which dries 6 feet (1.8 m), is 0.18 mile north of the NW point of the island and detached shoals with depths under 6 fathoms (11 m) are 0.3 mile south of its SE point.

76 **Head Rock**, which dries 13 feet (4 m), is near mid-channel 1 mile NW of Skindaskun Island. NW of Head Rock the inlet narrows gradually to its head, with numerous drying and below-water rocks and beaches of sand and stones fringing the shores on each side. Shoal water lies up to 0.2 mile from the west shore and there are several mid-channel shoals of less than 6 fathoms (11 m).

77 **Fishing boundary markers** are on both shores of Louscoone Inlet, abreast Head Rock.



78 Indifferent **anchorage** can be obtained in 16 fathoms (29 m) about 0.25 mile south of Head Rock, or in 17 fathoms (31 m) about 0.55 mile NNW of the NW point of Skindaskun Island. Small vessels can obtain **anchorage** in 13 fathoms (24 m) about 0.5 mile NW of Head Rock. **Anchorage** for small craft is available in 3 to 4 fathoms (5.5 to 7.3 m) about 0.2 mile from the edge of the drying flat at the head of the inlet. North to NE gales funnel down the valley at the head of Louscoone Inlet making anchorage in the open inlet uncomfortable.

79 An islet, 38 feet (12 m) high, is 0.3 mile off the SW extremity ($52^{\circ}07'N$, $131^{\circ}16'W$) of the peninsula forming

the west side of Louscoone Inlet. Shoals covered less than 6 fathoms (11 m) surround the islet.

Chart 3853

80 The coast between the islet ($52^{\circ}07'N$, $131^{\circ}16'W$) and Cape Freeman, 2.4 miles NW, is bold and indented with no known dangers more than 1 mile offshore.

Flamingo Inlet

Chart 3858

81 **Flamingo Inlet** is entered east of **Nagas Point** ($52^{\circ}11'N$, $131^{\circ}22'W$). Its west shore is bold and comparatively steep-to; the east shore, south of Staki Point, is lower and indented. Off-lying rocks, most of which are marked by kelp, narrow the south part of the entrance to a width of about 0.3 mile. Several dangers lie in the approach, some a considerable distance offshore. The inshore areas of Flamingo Inlet, south of Staki Bay, have not been completely sounded and local knowledge is advised before entering.

82 **Nagas Rocks**, with above-water and drying rocks close by, are on the west side of the fairway 0.3 mile SE of Nagas Point. A rock that dries 10 feet (3 m) is 0.25 mile north of Nagas Rocks.

83 **Cape Freeman**, about 2.8 miles SE of Nagas Point, is the SW point of a low, wooded and indented promontory. Numerous islets and rocks are within 0.4 mile of the south side of the promontory.

84 **Billington Rocks**, consisting of an above-water rock 1 foot (0.3 m) high, another that dries 2 feet (0.6 m) and other rocks awash and below-water, are 1.3 miles NNW of Cape Freeman. **Henderson Rocks** are two bare rocks 28

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and 5 feet (8.5 and 1.5 m) high 0.4 mile NW. Several rocks, drying, below-water and awash, are within 0.1 mile south and east of the east rock.

85 **Snub Point**, the east entrance point of Flamingo Inlet, is fronted by several bare islets and drying rocks. Between this point and Henderson Rocks there are several scattered rocks that dry from 1 to 14 feet (0.3 to 4.3 m).

86 **Anvil Cove**, entered 0.5 mile north of Snub Point, has not been surveyed. A chain of above-water rocks extends west from the SE entrance point of the cove, and an island with drying banks on either side of it fills its NW part.

87 **Anvil Rock**, 10 feet (3 m) high and bare, is on the east side of the fairway west of Anvil Cove. Two detached shoals, both marked by kelp, are 0.3 mile SSW and 0.45 mile SSE from Anvil Rock.

88 **Short Inlet**, entered NNE of Anvil Rock, is too narrow and confined to provide any anchorage; it has not been surveyed.

89 **Sargison Reef**, consisting of two rocks that dry 8 and 15 feet (2.4 and 4.6 m) and others with less than 6 feet (2 m) over them, is on the east side of the fairway west of Short Inlet. A rock with a depth of 26 feet (7.8 m) over it is 0.1 mile SSE of the reef.



90 **Sperm Bay**, 0.8 mile north of Sargison Reef, has a wooded island and rocks that dry 1 foot (0.3 m) in its entrance and a wooded island is connected to its west shore by a drying bank. The bay has not been sounded but it is reported that small craft can obtain **anchorage** off a bluff in its NW part.

91 A 33-foot (10.1-m) shoal lies in the middle of the fairway 0.3 mile SSW of **Staki Point** ($52^{\circ}14'N$, $131^{\circ}21'W$).

92 **Staki Bay**, at the head of the inlet, has depths in the fairway of 4 to 10 fathoms (7.3 to 18.3 m) but is encumbered with shoals and foul ground. A **fishing boundary marker** is on the east shore 0.5 mile NE of Staki Point.



93 Vessels up to 200 feet (61 m) long can obtain **anchorage** in 8 fathoms (15 m) in mid-channel 0.5 mile north of Staki Point; take care to clear the shoals extending NNW from Staki Point, and note the 19-foot (5.8-m) shoal close NNW of this berth. Anchorage for small vessels is available in 4 fathoms (7.3 m), 0.2 mile south of the drying flat at the head of the inlet, and there is good shelter for small craft off the edge of the drying flat that fringes the SE corner of Staki Bay. Local knowledge is advised before attempting any of these anchorages.

Chart 3853

94 The coast from Nagas Point to **McLean Fraser Point** ($52^{\circ}13'N$, $131^{\circ}25'W$), and beyond to Gowgaia Bay, is irregular and drying rocks extend up to 0.2 mile offshore. **Tide-rips** occur off McLean Fraser Point. The bays and inshore areas

along this coast have not been surveyed, and should not be approached within 1 mile.

95 **Wells Cove**, the northerly of the bays, is encumbered with islets and rocks, and a reef extends about 0.4 mile SW from its north entrance point.

96 Several depths of 102 to 121 fathoms (187 to 221 m) are reported to lie 8 miles south and west of Nagas Point.

Chart 3864

97 **Gowgaia Bay** ($52^{\circ}25'N$, $131^{\circ}35'W$) is entered between Nangwai Islands on the north and Gowdas Islands on the south. The shores on the north side of the entrance and on both sides of the head of the bay rise fairly steeply to hills more than 1,200 feet (366 m) in elevation; elsewhere the land is lower. Depths within the bay are generally less than 35 fathoms (64 m), with a few deeper soundings in places, and gradual shallowing toward the head.

98 **Gowdas Islands**, both wooded, together with some above-water and drying rocks, extend about 0.5 mile off the south side of the entrance to the bay. The bay between these islands and **Gowgaia Point** ($52^{\circ}24'N$, $131^{\circ}35'W$) is not completely surveyed and too exposed to have any value as an anchorage.



99 **Gowgaia Point light** (811.9) is shown at an elevation of 98 feet (30 m) from a skeleton tower, 6 feet (1.8 m) high.

100 **Gowdas Rocks**, the largest of which is 19 feet (5.8 m) high, are about 0.5 mile west of Gowdas Islands; two rocks that dry 13 feet (4 m) are about 0.3 mile SSE of the rocks.

101 **Nangwai Islands** are two wooded islands on the north side of the entrance to Gowgaia Bay. A reef that terminates in rocks that dry 7 to 11 feet (2.1 to 3.4 m) extends about 0.2 mile SSW from the southern island. At or near HW, the extremity of this reef can usually be identified by breakers.

102 **Nangwai Rock**, which dries 8 feet (2.4 m), is 0.4 mile east of the south extremity of Nangwai Islands. The fairway lies between this rock and a 5-fathom (9.1-m) depth 0.15 mile north of Gowgaia Point. Between Nangwai Rock and the north shore are two wooded islands, several islets and numerous rocks and shoals.

103 **Commander Point**, 1 mile ENE of Gowgaia Point, is steep-to and can be approached safely to a distance of about 300 feet (91 m).

104 **Goski Islet**, sparsely wooded, light grey in colour and steep-to on its SW side, is off the east entrance point of **Goski Bay**, with shoal depths of 9 to 18 feet (2.7 to 5.5 m) between it and the point. Two shoals with least depths of 27 and 33 feet (8.2 and 10.1 m) are 0.2 mile NW and 0.25 mile north from the islet.

105 The NE arm of Goski Bay has a wooded islet in the middle of its entrance with a drying rocky ledge and sandy

spit extending north from it. Depths on either side of the spit are shallow and drying rocks lie off its east side. The north half of the arm dries. A wooded islet close-off the west entrance point of this arm is connected to shore by a broad drying rocky ledge that dries. An islet 15 feet (4.6 m) high, with some grass and scrub on its summit, is 0.13 mile off the west shore of Goski Bay. Although depths in Goski Bay are suitable, it is not recommended as an anchorage except during north or NW winds.

106 **Yakulanas Point**, which is comparatively steep-to, is 0.8 mile east of Commander Point; between them lies **Soulsby Cove**, whose shore is fringed with rocky ledges interspersed with sandy beaches. There are no off-lying dangers in the cove.

107 **Yakulanas Bay**, which occupies the head of Gowgaia Bay, has a shoal with a least depth of 25 feet (7.6 m), 0.2 mile off its east shore and a rocky ledge projecting about 0.1 mile from the east shore near the head.




 108 **Anchorage** can be obtained in Soulsby Cove in 10 to 15 fathoms (18.3 to 27 m) about 0.3 mile west of Yakulanas Point. Yakulanas Bay provides anchorage in about 23 fathoms (42 m), 0.75 mile east of Yakulanas Point, or in 19 fathoms (35 m), 0.6 mile from the head of the bay. During strong SE gales, Gowgaia Bay is subject to heavy squalls that funnel down the valleys leading into it. Under these circumstances, the anchorage in Soulsby Cove affords the best shelter.

Chart 3853


 109 **Coast. — Surveys. — Caution.** — Between Gowgaia Bay ($52^{\circ}25'N$, $131^{\circ}35'W$) and Tasu Sound, 27 miles NW, the coast is rugged and irregular with numerous coves and inlets. The inshore waters and inlets have not been surveyed and local knowledge is advised before entering.

110 A small cove ($52^{\circ}27'N$, $131^{\circ}38'W$) 2.3 miles NNW of Nangwai Islands has some rocks, which break, in the middle of its entrance; this cove does not afford shelter. About 0.5 mile NW of the entrance of the cove there is a low flat point, and 1 mile farther north an islet lies off the entrance of another cove which is encumbered with rocks in its entrance and is of no use as a harbour. Three miles farther NW there is a conspicuous cone-shaped islet, 490 feet (149 m) high, forming the west side of a broad cove with a boulder beach and a salt lagoon on its east side. The cove is open to the SE and there is shoal water inside the entrance. A high pinnacle rock is between the west entrance point of the cove and the islet. A low rocky point is 1 mile SE of Mike Inlet.

 111 The entrance to **Mike Inlet** ($52^{\circ}32'N$, $131^{\circ}48'W$) is about 0.2 mile wide between a steep bluff on the SE and a shelving point on the NW side. A bare islet is close within the entrance with some above-water rocks about 0.1 mile ENE; passages exist on both sides of the islet and

rocks, that on the NW side being the better. A wooded islet is near the head of the inlet. The surrounding land is high, and about 0.9 mile ESE of the inlet there is a conspicuous bare peak with an elevation of 2,830 feet (863 m). During bad weather, the inlet is subject to heavy squalls. **Anchorage** can be obtained by small craft near the head in 16 to 25 fathoms (29 to 46 m); local knowledge is advised.

112 About mid-way between Mike Inlet and Barry Inlet, 2.5 miles NW, is an indentation that has some low rocks on its west side extending 300 feet (91 m) offshore.

 113 **Barry Inlet** ($52^{\circ}34'N$, $131^{\circ}51'W$) is entered between a low rocky point on the SE and a sloping point on the NW side. Inside the entrance on the south side there is a high, bare, granite bluff. A depth of 13 fathoms (23.8 m) lies just inside the entrance and 22 fathoms (40 m) close to the bluff. The inlet is winding and there is a sandy beach at the head from which a flat extends 300 feet (91 m). The land surrounding the inlet is generally high and rises steeply from the head to bare high mountains. The NW shore is partially wooded. **Anchorage** can be obtained by small craft on the NW side of Barry Inlet opposite the bluff.

114 Between Barry Inlet and Pocket Inlet, 4 miles NW, the coast is rugged and indented, and there are high cliffs; many of the points have pinnacle rocks lying close offshore.

115 **Murray Cove**, 2 miles NW of Barry Inlet, has a high and remarkable pinnacle rock close-off its SE entrance point. The cove, which has a boulder beach at its head, affords no shelter as it is exposed to the SW.


116 The entrance to **Pocket Inlet** ($52^{\circ}37'N$, $131^{\circ}54'W$) is about 0.1 mile wide between a low, bare ridge about 200 feet (61 m) high on the SE and rather higher land on the NW side. There are no known dangers in the inlet but, like the others along this stretch, it has not been surveyed. The land surrounding the inlet is high, with no trees other than scrub. On the north side of the entrance is a summit, 1,835 feet (559 m) high, with a conspicuous white scar.

117 Between Pocket Inlet and the entrance to Sunday Inlet, 2 miles NW, the coast is rugged with high cliffs and large detached pinnacle rocks. A cove with a sandy beach on the NW side, about 0.5 mile NW of the entrance of Pocket Inlet, is too exposed to afford any shelter. A drying rock about 1 mile NW of the cove, 0.35 mile offshore, usually breaks at HW in a moderate sea.

118 **Kwoon Cove**, entered north of a low point with a bare above-water or drying islet 0.2 mile SW of it, is too exposed for shelter.

119 The entrance to **Sunday Inlet** ($52^{\circ}39'N$, $131^{\circ}56'W$) is about 0.2 mile wide, with a high rounded point on the south side and a sloping point on the north.

120 **Rocks.** — Two drying rocks are in the middle of the approach to Sunday Inlet. A rock that breaks at half tide is about 0.2 mile ENE of the NW entrance point.

 121 About 0.8 mile inside the entrance, Sunday Inlet narrows to about 200 feet (61 m) between a low flat rock on the SE side and an islet on the NW side, with a deep channel in the middle. **Anchorage** can be obtained by small craft, in about 15 fathoms (27 m), in the entrance to a small cove, on the south side, at the head of the inlet. A creek flows into the inlet 0.5 mile NE of the anchorage. Nothing is known of the inlet that extends north from the mouth of Sunday Inlet.

122 **San Christoval Range** are the bare and rugged peaks rising to more than 3,000 feet (914 m) a short distance inland between Barry and Sunday Inlets. The highest peak, about 1.5 miles north of the head of Barry Inlet, has an elevation of 3,505 feet (1,068 m).

123 Between Sunday Inlet and the entrance to Tasu Sound, about 8 miles NW, there are several bays, none of which afford shelter. Midway between Sunday Inlet and Tasu Sound, and about 0.8 mile inland, **Mount De la Touche** rises to 3,685 feet (1,123 m) with a sharp, bare, conspicuous summit.


Tasu Sound

Chart 3859


124 From the offing the entrance to **Tasu Sound** ($52^{\circ}44'N$, $132^{\circ}07'W$) is difficult to detect, but in clear weather Mount De la Touche, described above, is an excellent landmark by which it can be identified. The sound is entered between **Tasu Head** and **Davidson Point**, about 0.4 mile NW, and then by

Tasu Narrows, a narrow, deep channel about 1 mile long with a least width of 0.28 mile. A swell, heavy at times, is usually present in the entrance, but this is spent before reaching the north end of the narrows. Within the narrows the sound expands into an extensive basin from which several inlets and bays extend, some providing good anchorage.

125 **Meteorological information** for Tasu Sound is given in the Appendices.

 126 **Pilotage** is compulsory. The nearest boarding station is off Triple Islands but special arrangements can be made for the pilot to board off Tasu Sound by helicopter if the ship is suitable. For information on obtaining a pilot, see Pilotage in Sailing Directions booklet *PAC 200 — General Information, Pacific Coast*.

127 **Customs.** — The nearest port of entry is Prince Rupert.

 128 **Tidal streams.** — Observations show that with a range of 13 feet (4 m) at Tofino, a maximum velocity of $1\frac{3}{4}$ kn can be expected on the flood and $1\frac{1}{2}$ kn on the ebb. Maximum flood and ebb are reached about 2 h 30 min before HW and LW, respectively. Lower velocities can be expected with smaller tide ranges.

129 The times of slack water are somewhat indefinite. Velocities of less than $\frac{1}{2}$ kn were observed from about the time of local LW to about 1 h 30 min after. On the turn to ebb, less than $\frac{1}{2}$ kn occurred from the time of local HW to about 1 hour after. Strong winds affect velocities and the times of slack water.

130 On the seaward approach to Tasu Narrows, the current tends to set toward and away from the narrows rather than parallel to the Haida Gwaii coast.

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131 **Tides.** — Tidal predictions in Tasu Sound are given for Hunger Harbour (Index No. 9570) in the Tide Tables, Volume 7.



132 The best **anchorage** in Tasu Sound for small vessels and small craft is in Two Mountain Bay.

133 **Islets.** — **Rocks.** — The SE shore of the entrance is cliffy and steep-to; a small rocky islet is close west of Tasu Head, the SW entrance point. The NW shore is also cliffy, but is fringed with drying and below-water rocks. A small, wooded islet is close to the west shore at the north end of the narrows.



134 **Lights.** — Davidson Point **light** (809) is shown at an elevation of 122 feet (37.3 m) from a white tower.



135 Tasu Narrows **light** (809.3) is on the west shore of the narrows.



136 Tasu Sound **light** (810), on the east side at the north end of the narrows, is shown at an elevation of 27 feet (8.1 m) from a skeleton tower.

137 **Lomgon Bay**, the first indentation within the narrows on the NW side of the sound, is encumbered by **Lomgon Islets** and several scattered rocks, drying and below-water, which render it useless as an anchorage.

138 **Horn Island** ($52^{\circ}46'N$, $132^{\circ}03'W$), which is wooded, is 0.4 mile west of **Magneson Point**. The island is connected to shore by a reef of above-water and drying rocks. A shoal area with a least depth of 12 feet (3.7 m) is 0.2 mile east of its north point.



139 Horn Island **light** (810.2), on the north tip of the island, is shown at an elevation of 16 feet (4.8 m) from a skeleton tower.

140 **Horn Rock**, 0.5 mile north of Magneson Point, is 8 feet (2.4 m) high and bare, with drying and below-water rocks close to it.

141 **Reid Point**, 1.1 miles NE of Horn Rock, is the north extremity of a narrow peninsula.

142 **Gowing Island** is on the SW side of the entrance of **Fairfax Inlet**, which is deep throughout and useless as an anchorage. Two drying rocks and a shoal rock are within 0.1 mile of the NE side of the island. A rock-fill causeway crosses the channel west of Gowing Island.

143 Wesfrob Mines, on Magneson Point, shipped its last cargo of iron and copper concentrate in 1984. The marine facilities are in ruins.

144 **Hunger Harbour**, on the south side of Gowing Island, is too deep for satisfactory anchorage and the bottom is reported to be fouled by abandoned cables. **Fresh water** is obtainable from a stream on the west side of the harbour.

145 **Newcombe Inlet**, on the north side of Tasu Sound, is entered east of **Shearer Point**. **Shearer Rock**, 0.2 mile SE of Shearer Point, has 18 feet (5.5 m) over it and is marked by kelp. **Ariel Rock**, 7 feet (2.1 m) high, and a rock that

dries 15 feet (4.6 m) close south of it lie in the middle of the channel close within the entrance to the inlet. Shoals, marked by kelp, are 0.2 mile north and 0.5 mile west of Ariel Rock.

146 **Winnifred Rocks**, which dry from 1 to 9 feet (0.3 to 2.7 m), are 0.4 mile ESE of Ariel Rock. A shoal with a least depth of 25 feet (7.6 m) is 0.15 mile south. Drying rocks fringe the east shore north of the rocks.

147 The inlet is generally deep in the fairway but narrows to a width of 0.25 mile between **Blunt Point**, on the east shore, and some above-water and drying rocks extending about 0.1 mile offshore from **McAlmond Point**, on the opposite side of the inlet.

148 **Tasu Creek** flows into the eastern of two bays at the head of the inlet; this bay has rocks on either side of its entrance. The west bay is free of off-lying dangers.

149 Logging roads, which follow both east and west shores of Newcombe Inlet, branch east at the head of the inlet, crossing Moresby Island and ending at Sewell Camp on Sewell Inlet.



150 Vessels can obtain **anchorage** at the head of Newcombe Inlet in 11 to 18 fathoms (20 to 33 m), 0.2 mile SW of the point separating the two bays, or in 23 fathoms (42 m), 0.3 mile ESE of the same point.

151 **Two Mountain Bay**, on the north side of Tasu Sound 1.3 miles east of Winnifred Rocks, is entered NE of **Flyaway Islet**, which is joined to a narrow peninsula to the NW by a drying ledge. A reef with rocks that dry 7 and 13 feet (2.1 and 4 m) on it extends about 450 feet (137 m) east from the east extremity of Flyaway Islet, and about 300 feet (91 m) farther SE there is a detached rock that dries 3 feet (0.9 m). A rock with a depth of 9 feet (2.7 m) over it lies in the middle of the entrance to Two Mountain Bay. Within the bay, a wooded islet is close-off the north side, west of the mouth of **Edwards Creek**.



152 Small vessels can obtain good sheltered **anchorage** in Two Mountain Bay, in about 13 fathoms (24 m), west of the wooded islet on its north side.


153 **Barrier Bay**, in the NE part of Tasu Sound, has a drying, steep-to sand bank extending off its east side.

154 **Wester Point** is the NW extremity of **Botany Island**. Passages on both sides of the island lead into **Botany Inlet**, but these are encumbered with rocks at their south ends and can only be used by small craft.

155 **Wilson Bay**, on the east side of Botany Island, is generally deep with gradual shallowing toward a drying sand and gravel bank at its head. **Wilson Islet** is on the west side of the bay.

156 **Rocks.** — **Amethyst Rock**, with a depth of 9 feet (2.7 m) over it, is about 0.7 mile ENE of Wester Point; between the rock and the point are four shoals with depths of 21 to 33 feet (6.4 to 10.1 m). A 20 foot (6.0 m) shoal is 0.2 mile NNE of Amethyst Rock. A rock with less than 6 feet (2 m) over it


is 0.18 mile NNW of Wilson Islet. A reef with rocky islets on it, a rock awash, and drying rocks extend up to 0.2 mile off a point on the south shore, SSE of Wilson Islet. A wooded islet, with a 21-foot (6.4-m) shoal 0.2 mile SSE, is on the east side of Wilson Bay, abreast Wilson Islet.

 157 **Anchorage** can be obtained in about 19 fathoms (35 m) at the head of Wilson Bay but fierce squalls sweep down from the mountains.

158 **Directions.** — Caution is necessary when entering Tasu Sound during strong westerly winds as the heavy swell is liable to cause a vessel to yaw. A mid-channel course should be kept through Tasu Narrows until abreast Tasu Sound light, after which a course should be steered for a position about midway between Horn Rock and Shearer Point.

159 A small vessel entering Two Mountain Bay should round the 3-foot (0.9-m) drying rock SE of Flyaway Islet at a prudent distance, and then steer to pass NE of the rock covered 9 feet (2.7 m) lying in the middle of the entrance.

Chart 3854

 160 **Surveys.** — **Caution.** — The coastal waters, bays and inlets between Tasu Sound ($52^{\circ}44'N$, $132^{\circ}07'W$) and Englefield Bay, 15 miles NW, have not been surveyed and local knowledge is advised before entering.

161 The narrow inlet entered 0.5 mile NW of Davidson Point, the north entrance point of Tasu Sound, has drying rocks charted in its entrance but nothing is known of depths within it.


162 **Portland Bay**, entered about 1.8 miles SE of **Chads Point** ($52^{\circ}48'N$, $132^{\circ}14'W$), has a waterfall at its head. Between this bay and the entrance to Kootenay Inlet, the mountains rise to high bare summits. **Mount Russ** has an elevation of 3,010 feet (917 m).

163 An island, 0.5 mile north of **Kootenay Point**, is at the south entrance point of **Kootenay Inlet** ($52^{\circ}52'N$, $132^{\circ}15'W$). A shoal that breaks is close-off this island. In the middle of the entrance to the inlet there are two islets about 0.1 mile apart with the fairway lying east of them. Farther in are some reefs, partially above-water, in the middle of the channel. A narrow channel, about 1 mile long, leads into an inner harbour with depths of 8 to 10 fathoms (14.6 to 18.3 m) over the greater part of it. An arm leads north from the main inlet but its entrance is encumbered with islets. No attempt should be made to enter Kootenay Inlet in a heavy sea.

164 **Bottle Inlet** ($52^{\circ}54'N$, $132^{\circ}19'W$), entered north of **Bottle Point**, is only 150 feet (46 m) wide between kelp extending about 60 feet (18 m) from both sides. A depth of 40 fathoms (73 m) lies just outside its mouth. Inside, the inlet widens gradually and appears to be clear of dangers. The land on both sides is high and bare, with some timber at the heads of the arms where the land is low.

Englefield Bay

Chart 3865

 165 **Surveys.** — **Caution.** — Some of the waters covered by *Chart 3865* are unsurveyed or only partially surveyed and local knowledge is advised before entering.

166 **Antiquary Bay** is 0.8 mile SE of **Cape Henry** ($52^{\circ}56'N$, $132^{\circ}22'W$). Nothing is known of the depths within it.

167 **Englefield Bay** ($52^{\circ}59'N$, $132^{\circ}25'W$) is between Cape Henry and **Annesley Point**, 7.5 miles to the NW. **Hibben Island** fills the east part of the bay.

168 A group of above-water rocks lie on a reef close west of Cape Henry. **Denham Point**, 1.3 miles north, has a group of islets within 0.25 mile west of it.

169 **Denham Shoals** is an area of irregular bottom extending up to 2.8 miles offshore between Cape Henry and Denham Point. At the west end there is a 12-foot (3.7-m) shoal which is the outermost danger; between this shoal and the coast is a rock with less than 6 feet (2 m) over it and several shoals of 4 to 6 fathoms (7.3 to 11 m).


170 **Moresby Islets**, a group of islets and rocks, are 1.2 miles north of Denham Point.

171 **Pay Bay** is on the west side of Hibben Island, sheltered by **Cape Kuper**, **Luxmoore Island** and **Rogers Island**.

172 **Augustus Rock**, with drying and below-water rocks extending about 0.15 mile west of it, is 0.65 mile south of **Bone Point**, the west extremity of Hibben Island.

173 **Lihou Island** is 0.6 mile west of Bone Point. Two above-water rocks and a 6-fathom (11-m) shoal are 0.3 mile south and above-water rocks extend 0.2 mile from the NW extremity of the island.

174 **Carswell Island**, **Helgesen Island**, **Saunders Island**, **Willie Island** and several islets lie up to 1 mile off the north side of Englefield Bay. **Note.** — This area is mainly unsurveyed. A rock with less than 6 feet (2 m) over it is 0.3 mile SSW and a 6-fathom (11-m) shoal lies 0.2 mile east of Willie Island. A ledge with 30 feet (9.1 m) over its extremity extends 0.1 mile south from Carswell Island. Deep channels are west, north and east of Lihou Island, but care is necessary to avoid the dangers.

 175 **Kaisun Harbour** ($53^{\circ}02'N$, $132^{\circ}28'W$), which has not been surveyed, is north of Saunders Island. The entrance channel, which is about 240 feet (73 m) wide, lies between the two bare islets lying west of Saunders Island. Kelp grows nearly all over the harbour and in the entrance. Vessels should not attempt to enter when a heavy sea is running, and when approaching from the NW should keep 0.5 mile offshore before turning toward the entrance. Good **anchorage** can be

obtained in Kaisun Harbour in 17 fathoms (31 m), mud; local knowledge is advised.

176 **Boomchain Bay**, NE of Helgesen Island, has not been surveyed; some above-water and drying rocks lie almost in the middle of the channel between the west entrance point of the bay and a wooded islet close NE of Helgesen Island.

Moore Channel and Adjacent Inlets

177 **Moore Channel** ($52^{\circ}58'N$, $132^{\circ}18'W$) has not been surveyed, but a line of track soundings in mid-channel indicates deep water except on the north side of the fairway, 1 mile east of **Archer Point**, where a spit with a depth of 11 fathoms (20.1 m) near its outer end extends about 0.3 mile south from Hibben Island.

178 Two rocks that dry 11 and 4 feet (3.4 and 1.2 m) are on the north side of the entrance 0.5 mile west of **Freshfield Point**.

179 **Hewlett Bay**, on the south side of Moore Channel opposite Freshfield Point, is entered east of an islet lying close offshore. A rock that dries 4 feet (1.2 m) is close NW of this islet.

180 **Roe Point** projects from the south side of the channel, 1.5 miles east of Hewlett Bay.


181 **Douglas Inlet** entered between **Herbert Head** and **Bell Point**, 1 mile east, has not been surveyed. **Leslie Point** and **McNutt Point** are 1.5 and 2 miles inside the inlet.

182 **Josling Point** is at the extremity of **Josling Peninsula**.

183 **Mitchell Inlet** is entered between **Work Point** and **Macneill Point**, 0.85 mile east. The inlet, which has not been completely surveyed and may have uncharted dangers, is backed by precipitous and densely wooded hills.

184 Rocks with less than 6 feet (2 m) over them (position doubtful) are charted close west of Macneill Point and along the shore SE of the point. Rocks with 8 and 9 fathoms (14.6 and 16.5 m) over them are 0.2 mile NW of Macneill Point. **Thorn Rock**, with less than 6 feet (2 m) over it, is close NW of **Una Point**.

185 **Sansum Island** ($52^{\circ}57'N$, $132^{\circ}09'W$), which is wooded, lies in the approach to Thetis Anchorage, SE of **Niven Point**.

 186 **Thetis Anchorage** has a sandy beach at its head. A rock, with less than 6 feet (2 m) over it, (position approximate) is reported (1981) to lie in the middle of Thetis Anchorage. Squalls, frequently accompanied by rain, blow over the hills with considerable force. **Anchorage** can be obtained about 0.5 mile SE of Sansum Island; pass on the SW side of the island where the channel is deep.


187 **Baylee Bluff** is on Hibben Island north of Work Point.

188 **Sangster Point**, the east extremity of Hibben Island, is bold and can be approached safely to a distance of 0.1 mile

on its north side. Shoal water fringes the east shore of the point.

189 **Mudge Inlet**, similar in appearance to Mitchell Inlet, is entered between **Recovery Point** and **Colton Point**.

190 **Foul ground**. — A chain of drying, above- and below-water rocks, about 0.5 mile long, is about 0.1 mile off the south shore west of Recovery Point.

 191 **Colton Islet**, close within the entrance, has an apparently deep passage on its west side. The inlet has not been fully examined and may have uncharted dangers. A small vessel can obtain **anchorage** in 18 fathoms (33 m) about 0.2 mile from the head of the inlet.

192 **Winds**. — The high land on both sides of Mitchell and Mudge Inlets influences the direction of the wind, which usually blows directly through them; during periods of bad weather, violent squalls can be expected.

193 **Leopold Islands** ($52^{\circ}59'N$, $132^{\circ}10'W$) are a group of wooded islets with drying and below-water rocks close by. A rock, with less than 6 feet (2 m) over it, is at the west end of the group, 0.5 mile NE of Sangster Point.

194 **Peel Point**, 0.55 mile ESE of Leopold Islands, has a reef of drying rocks projecting 0.18 mile west from it.

195 **Peel Inlet** is entered between Leopold Islands and Peel Point. An islet, about 100 feet (31 m) high, is close-off the south shore about 0.9 mile within the entrance; close SE of this islet the inlet contracts to less than 0.2 mile wide with shallow depths on its north side. A rock with less than 6 feet (2 m) over it lies in the middle of the fairway 0.3 mile east of the islet described above. From this rock, SE to **Laing Point**, the inlet is encumbered by several islets and rocks with a drying sand bank extending more than 0.1 mile from the east shore. The SE end of the inlet has not been surveyed. A logging road on the east side of Peel Inlet, near the entrance, leads across Moresby Island to Moresby Camp at the head of Cumshewa Inlet. Moresby Camp is connected by road to Sandspit.

Inskip Channel and Security Inlet

196 **Inskip Channel** ($53^{\circ}01'N$, $132^{\circ}19'W$), entered south of **Fairlie Point**, leads north of Hibben Island and is not completely surveyed and may have uncharted dangers.

197 **Baylee Bay** 1.2 miles ENE of Fairlie Point with **Instructor Island** in its entrance has not been surveyed.

198 A 34-foot (10.4-m) shoal is on the south side of the channel 0.4 mile WNW of **Susan Sturgis Point**. **Hastings Point** is 3 miles east and a 12-fathom (21.9-m) shoal area is in the middle of the fairway 0.4 mile SW of the point.

199 **Security Inlet** ($53^{\circ}03'N$, $132^{\circ}19'W$), approached either north or east of Lihou Island, is entered north of **Percy Point**. **Mackenzie Cove**, which is unsurveyed, **Bland Point** and **Kennedy Point** are features in the outer part of the inlet.


 200 **Security Cove** has creeks fronted by extensive mud flats in its NW and NE parts. A rock awash is in the NE part of the cove, close-off the north shore. Good, well-sheltered **anchorage** can be obtained in 6 fathoms (11 m) in the middle of Security Cove, about 0.5 mile ENE of **Security Point**.

Chart 3854

201 From Annesley Point ($53^{\circ}02'N$, $132^{\circ}30'W$) past **Kitgoro Point** to Buck Point, 5 miles NW, the coast is rugged, with a few islets and rocks close offshore.

202 **Kitgoro Inlet**, which is unsurveyed, has a narrow, shallow channel leading into it, suitable only for small craft entering in fine weather. Local knowledge is advised. Kelp patches extend up to 0.15 mile offshore along the inlet.

Chart 3891

203 **Buck Point** ($53^{\circ}06'N$, $132^{\circ}34'W$) is high and bold. Drying rocks extend 0.2 mile west from the point, and a reef, on which there are rocks with less than 2 m over them, is NNW of the point and 0.2 mile offshore.

204 **Buck Channel** leads south of **Chaatl Island** and is connected to Armentières Channel by **Chaatl Narrows**. This narrows dries over a distance of about 1 mile, but small craft can pass through at about half tide.

205 The west side of Chaatl Island is fringed by foul ground extending up to 0.15 mile offshore with kelp patches extending for a considerable distance. An islet with a flat summit and a few trees on it is on the north side of the entrance, with some rocks between it and the shore NE.

206 **Directions.** — Buck Channel has not been surveyed and should only be used with the aid of local knowledge. Vessels approaching Buck Channel should keep well over toward the north side until 0.5 mile from the islet with a flat summit, and then should close the south shore and follow it as far as the islet; then keep in mid-channel.

Cartwright Sound

207 **Cartwright Sound** ($53^{\circ}12'N$, $132^{\circ}40'W$) is between Tcenakun Point and Hunter Point, 7.8 miles NW. The bare summit of **Mount La Pérouse** is conspicuous from seaward.

208 **Tcenakun Point** ($53^{\circ}09'N$, $132^{\circ}35'W$) is the NW extremity of Chaatl Island. Shoal depths of 15 and 12.8 m lie on a bank of irregular depths extending about 2 miles WNW of the point. Above-water and drying rocks are close-off the point and shoal depths of less than 9 m are up to 0.8 mile to the west.

 209 Tcenakun Point **light** (808), on the north side of the point, is shown at an elevation of 27.7 m from a skeleton tower.

210 **Marble Island**, centred in the entrance to Cartwright Sound, is 4 miles NW of Tcenakun Point. A reef of rocks with less than 2 m over them extends about 0.4 mile NW of the island, and a shoal with a least depth of 11.9 m, and marked by kelp during summer months, is 0.8 mile farther NW.

 211 Marble Island **light** (807.6), on the west side of the island, is shown at an elevation of 34.5 m from a skeleton tower.

212 **Marble Rock**, which is 6 m high, white and bare, is 0.3 mile SW of Marble Island. A 9.1-m shoal is close NW of the rock. **Gagi Rock**, which is bare, is 0.4 mile NE of Marble Island.

213 **Hunter Point** ($53^{\circ}15'N$, $132^{\circ}43'W$) is low, wooded and fringed on all sides by foul ground. Large beds of kelp extend about 0.65 mile WSW and 0.4 mile south of the point. A rock that dries 0.9 m is near the SW extremity and a rock that dries 2.7 m is south of this foul ground.

214 **Skidegate Channel**, at the SE end of Cartwright Sound, leads between Moresby and Graham Islands and is entered north of Tcenakun Point. The channel connects Cartwright Sound to Skidegate Inlet. Skidegate Channel east of Downie Island is described in Chapter 3.

215 **Newton Point** ($53^{\circ}09'N$, $132^{\circ}30'W$) has a rock 10 m high close west of it.

216 **Dawson Inlet** is entered between Newton Point and **Mercer Point**. A 9-m shoal is close-off Mercer Point. A reef of above-water and drying rocks lies in mid-channel, 1.2 miles within the entrance.

217 A kelp covered shelf of shoal water extends from the west shore past mid-channel in the narrows 1.5 miles north of Mercer Point. **Fishing boundary markers** are close inside the entrance and on both shores of Dawson Inlet at this narrows. **Booming grounds** are on the east shore of the inlet.


218 On the east shore, 0.5 mile further north is a cabin on a float with a **fresh water** hose fed by a nearby stream (1985).

219 **Dawson Harbour**, which extends east from Dawson Inlet, is too deep for good anchorage. **Yovanovich Bight** is on the north side at the head of the harbour. A **fresh water** hose is on a logboom, which is connected to shore (1985).

220 **Georgianna Point** and **Exact Point** are 1 and 3.5 miles ESE of Newton Point.

221 **Armentières Channel** extends south to Chaatl Narrows, at the head of Buck Channel. A rock with 2.8 m over it is 0.1 mile NNW of **Demariscove Point**, the east entrance point of the channel. **Fishing boundary markers** are on both shores of the channel, close inside the entrance.

222 **Tides.** — Tidal differences for Armentières Channel (Index No. 9605), referenced on Hunger Harbour, are given in the Tide Tables, Volume 7.

 223 Small vessels can obtain good **anchorage** in the middle of Armentières Channel in 42 m, 0.3 mile from the entrance, or farther south in 33 m.

224 **Tana Bay** ($53^{\circ}11'N$, $132^{\circ}39'W$) is entered between **Tana Point** and **Ells Point**. A shoal area with a least depth of 2.8 m is 0.5 mile WSW of Ells Point and a 7.3-m shoal is near the middle of the bay. Numerous drying and below-water rocks are at the head of the bay. **Gudal Bay** north of Tana Bay has **Stiu Rock** and a rock with less than 2 m over it centred in its entrance. **Gudal Creek** flows into the head of the bay. Both bays are open to seaward and do not afford anchorage.



 225 **Van Inlet**, in the NE part of Cartwright Sound and entered between **Van Point** and **Stiu Point**, has high land on either side. Apart from the entrance and a line of reconnaissance soundings in mid-channel the inlet has not been surveyed. A rock that dries 2.4 m is on the west side of the entrance off Van Point, and a 6.4-m shoal is on the east side about 0.25 mile SW of Stiu Point, with foul ground and kelp between them. About 0.3 mile within the entrance, a shoal area with rocks on it lies in mid-channel. At the west end of this shoal is a rock 1 m high. The better channel appears to be between this rock and the NW side of the inlet. Small vessels can obtain **anchorage** in about 22 m off a flat at the head of Van Inlet; local knowledge is advised. A **booming ground** is on the north shore (1988) at the head of the inlet.

Chart 3869

226 Between Hunter Point and **Fame Point** ($53^{\circ}17'N$, $132^{\circ}42'W$), 2 miles NNE, the shore is fringed by foul ground and kelp extending up to 0.6 mile offshore. **Kano Inlet** is entered between Fame Point and **Kindakun Point**, which is low, featureless and has a rocky ledge with several bare islets on it projecting about 0.33 mile WSW. A rock with less than 6 feet (2 m) over it is 0.2 mile farther SW. **Kindakun Rock** 2 feet (0.6 m) high and a rock covered less than 6 feet (2 m), 0.3 mile north of it, are 1 mile west of Kindakun Point.

 227 **Kindakun Point light** (807.7), on an islet close-off the point, is shown at an elevation of 67 feet (20.4 m) from a skeleton tower.


228 **Cadman Island**, joined to the south shore of Kano Inlet at LW, has some islets north and west of it. A rock with 14 feet (4.3 m) over it is 0.1 mile NW of the north islet.

Chart 3860

229 **Carew Bay** ($53^{\circ}18'N$, $132^{\circ}38'W$) is entered between Cadman Island and **Kano Point**. Above-water and drying rocks extend 0.13 mile west of Kano Point. Sunken mooring buoys and chains have been reported (October 2004), in vicinity of the anchorage at the head of Carew Bay.

230 **Givenchy Anchorage** is at the head of Kano Inlet. On the west side of the approach an area of foul ground, in which there are islets and rocks, extends 0.25 mile offshore. The anchorage is entered east of the wooded islet 215 feet (66 m) high. The fairway at the entrance is reduced to about 300 feet (91 m) wide by a drying reef projecting from the east


shore. The passage on the west side of the islet is obstructed by rocks.

 231 A berth about 0.3 mile north of the wooded islet in the entrance to Givenchy Anchorage affords good anchorage in about 21 fathoms (38 m). Small vessels can obtain well-sheltered anchorage in about 12 fathoms (22 m) in Givenchy Anchorage about 0.25 mile from the head.

Rennell Sound

Chart 3869

232 **Rennell Sound** is entered between Kindakun Point and **Kunakun Point** ($53^{\circ}28'N$, $132^{\circ}54'W$). Its shores are wooded and backed by mountains rising to high peaks. Rennell Sound, with Shields Bay at its SE end, affords the most accessible shelter for larger vessels on the west coast of Haida Gwaii, and the physical features of its approach render it more easily identified than most of the other sounds and inlets along this coast.

 233 **Kunakun Point light** (807.5) is shown at an elevation of 70 feet (21.3 m) from a skeleton tower.

234 **Hippa Island** ($53^{\circ}32'N$, $132^{\circ}58'W$), 4 miles NW of Kunakun Point, and **Mount Emmons**, which rises above **Cone Head**, on the south side of the sound 4 miles NNE of Kindakun Point, are conspicuous features. Mount Emmons has a pyramidal peak, which appears symmetrical from all directions except north.

235 **Freeman Rock**, on which the sea breaks occasionally, is on the north side of the entrance to Rennell Sound, 2.3 miles SW of Kunakun Point.

236 **Rennell Reef**, consisting of a rock that dries 5 feet (1.5 m) with shoals close north and south, is 1.3 miles NW of Cone Head, with a deep channel between.

237 **Gospel Island** ($53^{\circ}23'N$, $132^{\circ}35'W$) has foul ground, in which there are above-water, drying and below-water rocks, extending 0.5 mile NW from it. A shoal with 27 feet (8.2 m) over it is 1.3 miles west of the west extremity of Gospel Island with a 36-foot (11-m) shoal between them; a shoal finger extends 0.3 mile SE from the NE end of the island. Vessels can pass either north or south of these dangers.

238 **Gospel Point**, 2 miles east of Gospel Island, is steep-to. A bight north of the point has two coves with sandy beaches on which the sea breaks heavily during strong westerly winds. A similar cove is close south of the point. A rock that dries 14 feet (4.3 m) is 1.1 miles NW of Gospel Point and below-water rocks with depths of 10 and 18 feet (3 and

5.5 m) over them are 0.3 mile SSW. A 24-foot (7.3-m) shoal is 0.4 mile north of Gospel Point.

Chart 3860

239 **Shields Bay** ($53^{\circ}20'N$, $132^{\circ}27'W$) has **Richardson Head**, which is bold and steep-to, on its west side about 1 mile within the entrance. **Clonard Bay**, on the south side of Richardson Head, is fringed by a beach of boulders extending up to 0.1 mile offshore; otherwise, it is free of dangers.

240 **Tides**. — Tidal differences for Shields Bay (Index No. 9650), referenced on Langara Point, are given in the Tide Tables, Volume 7.

241 **Shields Island** is in the inner part of Shields Bay with its south extremity connected to shore by a drying reef. **Clapp Islands** extend SE from the SE extremity of the island.

242 **Shields Rock**, which dries 14 feet (4.3 m), is 0.7 mile west of **Dawson Head**, the NE point of Shields Island; two rocks, one with a depth of 8 feet (2.4 m) over it and the other with less than 6 feet (2 m) over it, are 0.1 mile SE and 0.2 mile south of Shields Rock. A 39-foot (11.9-m) shoal is 0.3 mile NNW of Dawson Head.

243 **Ells Bay**, SW of Shields Island, has **Ells Rocks** in the middle of its entrance with deep passages on either side.

244 **MacKenzie Passage**, on the east and south sides of the Clapp Islands, leads into **Clapp Basin**, at the head of Shields Bay. A drying bank on the south side of the passage restricts the fairway to a width of about 350 feet (107 m). A rock that dries 8 feet (2.4 m) is at the north extremity of a shoal ridge extending north from the NE entrance point of MacKenzie Passage. **Rockrun Creek** and **Shields Creek** flow into a bight lying east of the drying rock.

245 Logging activities can be encountered in Shields Bay. A logging road leads across Graham Island from the head of Shields Bay and connects with the road between the Village of Queen Charlotte and Masset.



246 **Anchorage** can be obtained in Clonard Bay in about 15 fathoms (27.4 m) or in Ells Bay in about 23 fathoms (42 m). Small vessels can obtain well-sheltered anchorage in about 9 fathoms (16.5 m) in the middle of Clapp Basin, but caution should be observed when rounding the south end of Clapp Islands.

Seal and Tartu Inlets



247 **Seal Inlet** ($53^{\circ}29'N$, $132^{\circ}45'W$), entered between **Skwakadancee Point** and **Seal Point**, has high land on both sides. The entrance is encumbered with drying and below-water rocks extending 0.85 mile west and WNW of Seal Point, with a deep channel between their west extremity and other below-water rocks lying within 0.4 mile east and NE of Skwakadancee Point. **Caution** is advised.

248 A microwave **tower** ($53^{\circ}29'N$, $132^{\circ}50'W$) (*Chart 3869*) is 1 mile north of Skwakadancee Point.

249 **Lauder Island**, connected by a drying bank to a small promontory projecting from the north shore, lies within the entrance on the north side of the fairway. A rock that dries 17 feet (5.2 m) is 0.33 mile SW from the south extremity of Lauder Island, with drying and below-water rocks between it and the island.

250 An islet, 145 feet (44 m) high, is close within the east side of the entrance. Above-water, drying and below-water rocks, between 0.6 and 0.9 mile NE, lie up to 0.25 mile offshore. The head of the inlet is encumbered with several islets and a drying flat. Depths within Seal Inlet are too great for anchorage, except for small craft, at the head.

251 **Tartu Inlet** is entered between **Tartu Point** ($53^{\circ}27'N$, $132^{\circ}42'W$) and **Clonard Point**. A 27-foot (8.2-m) shoal lies almost midway between the entrance points, and foul ground exists 0.25 mile south of Clonard Point and fringes the shore ESE of the point for 1.5 miles. An islet 15 feet (4.6 m) high, with a rock covered less than 6 feet (2 m) close SE, is close-off the west shore of the inlet 2 miles within the entrance. A drying rock (position approximate) is reported (1986) to lie close-off the west shore 1.4 miles north of the 15-foot (4.6-m) island. A **booming ground** and logging camp, on the east side of the head of the inlet, is reported (1985) to be closed with only a watchman remaining; telephone service may be available.



252 Small vessels can obtain **anchorage** in about 13 fathoms (24 m), 1.2 miles from the head of the inlet.

Charts 3869, 3860

253 The coastal waters between Kunakun Point ($53^{\circ}28'N$, $132^{\circ}54'W$) and **Skelu Point**, 3 miles NNW, are unsurveyed and local knowledge is advised. From Kunakun Point to the south entrance point of **Skelu Bay** the coast is, for the most part, high and rugged, with shoals and kelp patches extending up to 0.5 mile from it. **Sadler Island** is off the south entrance point of Skelu Bay with foul ground between them. Skelu Bay is unsuitable for anchorage as it is fully exposed west and SW.

Hippa Island — Hippa Passage

Chart 3860

254 From south, the outer end of **Hippa Island** ($53^{\circ}32'N$, $132^{\circ}58'W$) appears as a low point and the inner end high and bold, but from a position near Frederick Island, 26 miles north, the island appears high and bold. There are high cliffs at the east end of the south side of the island. Foul ground surrounds Hippa Island. **Quequitz Reefs**, an area of drying

and below-water rocks, are west of Hippa Island and a shoal finger extends NW from the islets off the NW end of the island.



255 Hippa Island **light** (807.4), on the NW side of the island, is shown at an elevation of 103 feet (31.5 m) from a skeleton tower.

256 Hippa Island and the north shore of Nesto Inlet are within the boundaries of an **Ecological Reserve**.

257 **Hippa Passage** can be entered east or north of Hippa Island. A conspicuous rock pinnacle, 115 feet (35 m) high, is on the east side of the south entrance.

258 A rock, 23 feet (7 m) high, lies in the middle of the fairway in the south entrance of the passage, 0.5 mile SSE of **Hippa Point**. A rock with a depth of 23 feet (7 m) over it is 0.5 mile west of the last-mentioned rock, with drying and below-water rocks between them.

259 **Hippa Rocks**, consisting of two above-water rocks, 31 and 20 feet (9.4 and 6.1 m) high, and several drying and below-water rocks, lie in the middle of the NW entrance to Hippa Passage.

260 **Marchand Point** (53°34'N, 132°59'W) is low and a reef, terminating in a rock awash, extends 0.28 mile NW. Foul ground, extending about 0.15 mile offshore, fringes the coast for about 0.5 mile SE of the point.

261 A shoal ridge with below-water rocks on it and a rock covered 21 feet (6.4 m) at its south extremity extends from the north side of Hippa Passage just off the entrance to Nesto Inlet.

262 About 0.7 mile south of the south entrance point of **Nesto Inlet**, is an islet, 145 feet (44 m) high, with drying rocks off its north end and connected to shore by a drying ridge. A rock, with less than 6 feet (2 m) over it, and a 14-foot (4.3-m) shoal are 0.2 mile NNW of the islet. The north shore of Nesto Inlet is encumbered with islets and drying and below-water rocks from the middle to the head of the inlet. Depths within Nesto Inlet are too great for anchorage, but small craft can find shelter off the gravel beach at the head of the inlet, clear of the rocks mentioned above.

263 Between Marchand Point and **Selven Point**, 1.8 miles north, is an exposed bay with a shoal, marked by kelp, in the middle of its entrance. A rock, 10 feet (3 m) high, 0.65 mile SW of Selven Point, is the south end of a reef which extends about 1.3 miles north, terminating in two rocks with less 6 feet (2 m) over them; this reef has not been examined.

Athlow Bay

Chart 3869

264 **Athlow Bay** (53°38'N, 133°00'W) is unsurveyed except for a few lines of track soundings; local knowledge is

advised before entering. **Hosu Cove**, encumbered with islets and rocks, is in the NE part of the bay; the south shore of this cove is formed by a peninsula of which **Gillan Point** is the SW extremity.

265 **Selven Island**, a wooded island, is close to the coast north of Selven Point; a rock that dries 13 feet (4 m) is 0.4 mile north of the island. A large kelp bed covers the reef with a rock awash on it lying offshore to the west of Selven Point and Selven Island. **Flamingo Rock**, with less than 6 feet (2 m) over it and which breaks in heavy weather, is in the middle of the entrance to Athlow Bay.

266 **Hughes Point**, high and cliffy with some drying rocks close-off it, is 1 mile ENE of Selven Island. A detached rock that dries 3 feet (0.9 m) is 0.25 mile NE of the point.

Chart 3863



267 **Surveys.** — **Caution.** — The waters covered by Chart 3863 are not completely surveyed and uncharted dangers may exist.

268 **Port Chanal** is entered between Hughes Point and **Barry Island** (53°37'N, 132°56'W), which has a 33-foot (10.1-m) shoal 0.1 mile off its west side. **Freeman Island**, in the middle of the entrance, has a rock that dries 3 feet (0.9 m) and shoals with depths of 9 and 15 feet (2.7 and 4.6 m) extending about 0.2 mile north from **Notch Point**, its north extremity. The passage into Port Chanal leads north of Freeman Island. There is, apparently, deep water in mid-channel to the anchorage about 1 mile from the head of the inlet.


269 Port Chanal and the surrounding area is an **Ecological Reserve**.


270 **Celestial Bluff** is east of Freeman Island. **Cameron Range**, a conspicuous range of mountains, is on the north side of Port Chanal.

271 **Mallard Rock**, 6 feet (1.8 m) high, is 0.1 mile NW of a point on the south side of the channel, 1.3 miles from the head of the port. Shoals with depths of 18 to 34 feet (5.5 to 10.4 m) lie up to 0.15 mile NNE of Mallard Rock.

272 **Chanal Rock**, 4 feet (1.2 m) high, is off the SE shore, 0.6 mile from the head of the inlet; drying rocks extend ENE of Chanal Rock to a flat fringing the SE shore. A shallow spit with depths of less than 6 fathoms (11 m) over it extends off the north shore, WNW of Chanal Rock. A rock with less than 6 feet (2 m) over it is near the south extremity of a reef north of Chanal Rock.


273 **Empire Anchorage** (53°35'N, 132°54'W), on the south side of the channel SE of Freeman Island, is a bay encumbered with drying rocks at the head. A rocky ledge is parallel to the east shore of the bay and joined to it by a drying gravel flat. **Mount Hobbs** is close east of Empire Anchorage.

 274 Empire Anchorage provides only temporary **anchorage** for small vessels in about 21 fathoms (38 m) in the middle of its entrance.

 275 Good sheltered **anchorage** can be obtained in about 22 fathoms (40 m) about 1 mile from the head of Port Chanal. Small craft can obtain anchorage in about 30 feet (9.1 m), 0.1 mile off the edge of the flats at the head of the port.

276 **Goose Cove**, SE of Freeman Island, is unsurveyed.

Charts 3869, 3811

 277 **Coast.** — Between the north entrance point of Athlow Bay ($53^{\circ}40'N$, $133^{\circ}00'W$) and Louis Point, 2 miles NW, the land is low and the coast rocky and irregular. **Dangers.** — Three rocks (position approximate) with less than 6 feet (2 m) over them lie up to 1.6 miles SSW and SW of Louis Point. The SW rock breaks heavily in a moderate sea.

Port Louis

Chart 3811

278 **Louis Point** ($53^{\circ}42'N$, $133^{\circ}02'W$) is the north extremity of an islet connected to Graham Island by a drying ledge.

279 **Louis Rocks**, consisting of two heads 1 and 6 feet (0.3 and 1.8 m) high, are on a drying reef 0.6 mile WNW of Louis Point. Several shoals and drying rocks lie between Louis Rocks and Louis Point.

280 **Taylor Shoal**, 1 mile NNE of Louis Point, is a rocky bank with two shallow areas on it with least depths of 10 and 13 feet (3 and 4 m). A shoal with a least depth of 18 feet (5.5 m) lies nearly midway between the south end of Taylor Shoal and some islets to the south. These shoals, all of which break in a westerly swell, are on the west side of the fairway leading to Kiokathli Inlet.

281 **Brock Islands** and **Mackenzie Island**, which is connected to the shore SE by a drying bank, are on the east side of the approach to Kiokathli Inlet. A shoal with 21 feet (6.4 m) over it is in the middle of the approach, WSW of Brock Islands, and reefs extend 300 feet (91 m) west and north of the north end of Mackenzie Island.

282 **Kiokathli Inlet** widens south of Mackenzie Island into a basin encumbered in its centre by shoals with a least depth of 19 feet (5.8 m) over them.

283 Between Mackenzie Island and **Ogilvie Island**, 0.15 mile NE, is the entrance to an inlet which is encumbered in its west half by foul ground. A drying rock is reported (1986) to lie in the middle of this inlet, SSW of the east end of Ogilvie Island.

284 **Solide Islands** are 1.5 miles ENE of Louis Point in the middle of the approach to Port Louis. Banks with depths under 6 fathoms (11 m) extend 0.12 mile NNW and ENE from the NW island. Two rocks that dry 6 feet (1.8 m) lie within 0.15 mile of the east and NE sides of the SE island.

285 **Port Louis** ($53^{\circ}42'N$, $132^{\circ}57'W$) is entered through a channel leading south of **Chanal Point** and **Turner Point**. The bay between these points has several islets and foul ground in its east part.

286 **Tides.** — Tidal differences for Port Louis (Index No. 9671), referenced on Langara Point, are given in the Tide Tables, Volume 7.


287 **Newington Rock**, which dries 4 feet (1.2 m), has deep water close south of it and is on the north side of the approach channel. **Barnes Shoal**, with a least depth of less than 6 feet (2 m), is on the south side of the channel.

288 **Queen Island**, on the west side of Port Louis, has a drying reef extending about 450 feet (137 m) north of it. A detached shoal area with a least depth of 19 feet (5.8 m) is near mid-channel. Depths of 3 to 9 fathoms (5.5 to 16.5 m) exist between Queen Island and Barnes Shoal. Two shoal areas, 0.15 mile SE of Queen Island, have least depths of less than 6 feet (2 m) and 21 feet (6.4 m).

289 **Tingley Cove**, the south extension of Port Louis, is encumbered in its entrance by foul ground on which are the **Pip Islets**.

290 **Rocks.** — A drying rock (position approximate) 50 feet (15 m) in diameter was reported (1980) to lie 0.1 mile NW of Pip Islets. A rock awash (position approximate) lies SE of Pip Islets, midway between a shoal ledge extending from the islets and a drying spit projecting from the shore to the SE. In addition to this rock, shoal water has been found to extend across this passage. For vessels entering Tingley Cove, the passage between Pip Islets and **Alured Point** is recommended, but caution is necessary as uncharted rocks may exist.

291 **Virgalias Cove**, **Coates Creek** and **Steel Creek** are at the head of Port Louis. A shoal, with two heads with less than 6 feet (2 m) over them, is in the approach to Virgalias Cove.

 292 **Anchorage** can be obtained in the middle of Port Louis, in about 14 fathoms (25.6 m), mud.

293 About 0.5 mile NW of Chanal Point, an island is connected to Graham Island by a drying bank. Foul ground extends about 0.1 mile and a shoal ridge is 0.2 mile NW of the island. An island connected to the shore by a drying bank is 1 mile farther north. Between these two islands, foul ground with thick kelp overlaying it extends up to 0.35 mile offshore.


Otard Bay and Approaches

294 **Otard Bay** ($53^{\circ}45'N$, $133^{\circ}01'W$) is entered between **McIntosh Point** and **Beavis Point**, 0.9 mile west.

295 **Benson Rock**, with a depth of less than 6 feet (2 m) over it, lies on a large shoal area, 0.9 mile SSW of Beavis Point. Two shoals, with depths of 14 and 27 feet (4.3 and 8.2 m), are 0.1 mile WNW and 0.25 mile SSW, respectively, from Benson Rock. These shoals are steep-to on their east and west sides.

296 **Beavis Islets**, close south of Beavis Point, are connected to the point by a drying reef. A shoal with a depth of 36 feet (11 m) is 0.25 mile east of Beavis Islets, and foul ground, on which there are some above-water and drying rocks, extends 0.2 mile WNW from the islets.


297 **Thomas Rock**, which dries 10 feet (3 m), is 0.28 mile west of McIntosh Point. Shoal water lies all around the rock except the south side, which is steep-to. A 9-foot (2.7-m) shoal is 0.15 mile west and depths of less than 18 feet (5.5 m) are the same distance east of Thomas Rock. A detached shoal with 18 feet (5.5 m) over it is 0.2 mile SE of Thomas Rock.

 298 **Anchorage** can be obtained about 0.4 mile from the head of Otard Bay in 33 feet (10.1 m), sand, but a considerable sea rolls in with SE and SW gales.

299 **Tian Bay** ($53^{\circ}46'N$, $133^{\circ}04'W$) is entered between Beavis Point and the **Tian Islets**, 1.7 miles west. A rock 4 feet (1.2 m) high is 0.25 mile SE of the south islet, with a 29-foot (8.8-m) shoal north of it and a shoal of similar depth about 0.2 mile west. A detached shoal with 25 feet (7.6 m) over it is 0.2 mile ENE of the north Tian Islet. A group of drying rocks is 0.2 mile off the east shore of Tian Bay, 0.7 mile NW of Beavis Point.

Tian Head to Cape Knox

Chart 3868

 299.1 **Caution.** — Recent surveys (2018) have found shoaler depths than charted and horizontal discrepancies of up to 656 feet (200 m) along the west coast of Graham Island.

300 **Tian Head** ($53^{\circ}47'N$, $133^{\circ}07'W$) is a prominent point with a conspicuous wooded summit 500 feet (153 m) high 0.7 mile NE of it. **Tian Rock**, 25 feet (7.6 m) high, is 0.3 mile SW of Tian Head, with shoal water, a rock that dries 2 feet (0.6 m) and a drying reef between them. A detached 36-foot (11-m) shoal is 1.1 miles west, and a rock that dries 1 foot (0.3 m) is 1.3 miles NW of Tian Head.


301 **Joseph Rocks**, 2 miles NNW of Tian Head, are 31 feet (9.4 m) high and have submerged reefs extending about 0.15 mile NW and SE and shoals lying within 0.4 mile all

around. A rock with less than 6 feet (2 m) over it and several shoals with depths from 15 to 36 feet (4.6 to 11 m), some marked by kelp, lie between 1 and 2 miles west and NW of Joseph Rocks. A rock with 15 feet (4.6 m) over it is in the approach to Ingraham Bay, 1 mile north of Joseph Rocks.

302 **Ingraham Bay** ($53^{\circ}49'N$, $133^{\circ}07'W$) has a sandy beach at its head. A rock that dries 11 feet (3.4 m) is on the north side of the entrance to the bay and shoals with depths of 24 to 36 feet (7.3 to 11 m) lie in the middle of the entrance.

303 Between Ingraham Bay and **Kennecott Point**, about 5 miles NNW, the coast is rocky and irregular. Its south part is steep-to but within 1.8 miles of Kennecott Point it is fronted by rocky ledges extending nearly 0.4 mile offshore at the foot of some cliffs 30 feet (9.1 m) high. **Cave Creek** flows into the sea about 1 mile north of Ingraham Bay. **Omega Mountain** rises to a conspicuous summit, 1,220 feet (372 m) high, 1 mile east of Kennecott Point and on the south side of an extensive valley extending SE from the head of Peril Bay.


304 **Frederick Island** ($53^{\circ}56'N$, $133^{\circ}11'W$) is densely wooded with rocky coasts. **Ellis Point** is its south extremity. In clear weather the island is conspicuous from the west approach to Parry Passage, about 15 miles north, appearing as a part of Graham Island. A rock with less than 6 feet (2 m) over it is 0.15 mile SW of a bare rocky islet close south of Ellis Point. A rock, with 18 feet (5.5 m) over it and marked by kelp, with deep water close all around is 1.5 miles SW of Ellis Point; the sea breaks heavily over this rock. From **Hope Point**, the NW extremity of the island, a rocky ledge with an islet on it projects nearly 0.2 mile west. A group of above-water rocks, the outermost of which is 25 feet (7.6 m) high, extends about 0.2 mile north from **Dalton Point**, the NE extremity of Frederick Island; uneven depths of less than 6 fathoms (11 m) extend about 0.4 mile farther north and NE.

 305 Frederick Island **light** (807.2), on Hope Point, is shown at an elevation of 55 feet (16.8 m) from a skeleton tower.

306 **Morgan Point**, east of Frederick Island, rises steeply to a summit of 440 feet (134 m) a short distance inland. **Beehive Hill**, to the south, is conspicuous.

307 **Peril Bay** is entered from north between Frederick and Morgan Points. The south entrance is used only by small craft, as there are mid-channel depths of less than 2 fathoms (3.7 m). Local knowledge is advised.


308 **Boussole Rock** is 1.5 miles NW of Morgan Point on the north side of the approach to Peril Bay. Boussole Rock has a depth of 18 feet over it and two shoals with depths of 27 and 33 feet (8.2 and 10.1 m) lie within 0.25 mile NE and SE of it. The water is deep on the seaward side of this shoal area and it breaks heavily in a moderate swell.

 309 Temporary **anchorage** is obtainable in Peril Bay for vessels of moderate draught in about 33 feet (10.1 m), sand, in a position with Morgan Point in line with

Conspicuous Cone bearing 038°, and the rocky point under Beehive Hill bearing 097°. This anchorage, which should be used with caution, is protected from most directions, but with strong west or NW winds, the swell, which is nearly always present, becomes heavy and a vessel should be prepared to leave.

310 **Directions.** — A vessel from the north bound for the anchorage in Peril Bay should pass about 1.5 miles west of La Pérouse Reef and then steer with Hope Point ahead, bearing 170°. When the north extremity of Morgan Point bears about 115°, alter course to bring that point ahead, bearing 112°, to pass about midway between Dalton Point and Boussole Rock. When Omega Mountain bears 154°, steer for it on that bearing which will lead to the anchorage. A vessel from south proceeding to Peril Bay should, after clearing the 18-foot (5.5-m) rock SW of Ellis Point, round Hope Point at a distance of about 0.5 mile and then steer a course with Conspicuous Cone ahead, bearing 065°, until the north extremity of Morgan Point bears 112°; then follow the latter part of the directions given above.

311 There is no harbour or landing place between Peril Bay and Cape Knox, the NW point of Graham Island.

 312 **Tidal streams** offshore between Frederick Island and Parry Passage are not strong, seldom attaining more than 1 kn.

313 **Haines Creek** flows into a small bight on the east side of Morgan Point; it is difficult to access by boat, except at HW in calm weather.

314 Islets, drying rocks and shoal water lie up to 1 mile offshore between Morgan Point and **White Point** (54°00'N, 133°07'W), which has conspicuous white cliffs near it.

315 **La Pérouse Reef**, 2 miles WNW of White Point, dries 8 to 9 feet (2.4 to 2.7 m) and is the outermost danger between Frederick Island and Cape Knox. Foul ground extends 0.3 mile NE of the reef; the west side of the reef is steep-to, but it should be given a wide berth. Breakers are charted 1.3 miles to the south. Between the reef and White Point, and as far south along the coast as Boussole Rock, there are numerous below-water rocks over which the sea generally breaks, so

that even small craft should pass to seaward of La Pérouse Reef.

316 **Conspicuous Cone** and **Pivot Mountain** rise 1.8 miles SE and 4.5 miles ENE of White Point. The latter mountain is somewhat detached from the others, and is easy to identify from the NE part of Dixon Entrance. A microwave **tower** is on Pivot Mountain.

317 Between White Point and **Sadler Point** (54°06'N, 133°06'W), 6 miles north, is **Beresford Bay**, which is fringed by foul ground and thick kelp; it is of no use as an anchorage. **Hana Koot Creek** flows into the south part of the bay east of White Point. **Beresford Creek** flows into the SE part of the bay 0.6 mile NNE of **Pyramid Hill**. **Caswell Point** and **Fleurieu Point** are two projections on the east side of Beresford Bay. **Sialun Bay**, close south of Sadler Point, has a rock 10 feet (3 m) high in its middle and **Sialun Creek** at its head.


318 **Lauder Point** is 1.2 miles north of Sadler Point, and **Newcombe Hill**, which is conspicuous, rises about 1.3 miles farther NE. Several rocks, above water, drying and awash, on which the sea breaks heavily, extend up to 1.5 miles offshore between Sadler Point and Newcombe Hill. **Gatenby Rock**, which is awash and usually breaking, is the outermost of these dangers.

319 The coast from Sadler Point to T'aalan Stl'áng, 4 miles NNE, is formed of precipitous cliffs.

320 **T'aalan Stl'áng**, which is free of dangers, is on the south side of a peninsula whose NW extremity is **Cape Knox**. A heavy swell is always present in the bay making it unsuitable as an anchorage, even in fine weather.

321 The islet, 100 feet (30.5 m) high, at the head of T'aalan Stl'áng is an **Ecological Reserve**.

322 Dixon Entrance including Parry Passage, Carew Rock, Turner Reef and the passage between them and Cape Knox are described in Chapter 2.

 323 Attention is directed to the **caution** in Chapter 2 regarding the approach to Parry Passage from south in thick weather.

Sail Plan

Adapted from Transport Canada Publication TP 511E.

Fill out a sail plan for every boating trip you take and file it with a responsible person. Upon arrival at your destination, be sure to close (or deactivate) the sail plan. Forgetting to do so can result in an unwarranted search for you.

Sail Plan

Owner Information

Name: _____

Address: _____

Telephone Number: _____ Emergency Contact Number: _____

Boat Information

Boat Name: _____ Licence or

Registration Number: _____

Sail: _____ Power: _____ Length: _____ Type: _____

Colour _____ Hull: _____ Deck: _____ Cabin: _____

Engine Type: _____ Distinguishing Features: _____

Communications

Radio Channels Monitored: HF: VHF: MF:

MMSI (Maritime Mobile Service Identity) Number: _____

Satellite or Cellular Telephone Number: _____

Safety Equipment on Board

Lifejackets and PFD's (include number): _____

Liferafts (include type and colour): _____ Dinghy or Small Boat
(include colour): _____

Flares (include number and type): _____

Other Safety Equipment: _____

Trip Details — Update These Details Every Trip

Date of Departure: _____ Time of Departure: _____

Leaving From: _____ Heading To: _____

Proposed Route: _____ Estimated Date and

Stopover Points (include date and time): _____ Time of Arrival: _____

Number of People on Board: _____

Search and Rescue Telephone Number: _____

The responsible person should contact the nearest Joint Rescue Coordination Centre (JRCC) or Maritime Rescue Sub-Centre (MRSC) if the vessel becomes overdue.

Act smart and call early in case of emergency. The sooner you call, the sooner help will arrive.

JRCC Victoria (British Columbia and Yukon) 1-800-567-5111

+1-250-413-8933 (Satellite, Local or out of area)

727 (Cellular)

+1-250-413-8932 (fax)

jrcvictoria@sarnet.dnd.ca (Email)

JRCC Trenton (Great Lakes and Arctic) 1-800-267-7270

+1-613-965-3870 (Satellite, Local or Out of Area)

+1-613-965-7279 (fax)

jrcctrenton@sarnet.dnd.ca (Email)

MRSC Québec (Quebec Region) 1-800-463-4393

+1-418-648-3599 (Satellite, Local or out of area)

+1-418-648-3614 (fax)

mrscqbc@dfo-mpo.gc.ca (Email)

JRCC Halifax (Maritimes Region) 1-800-565-1582

+1-902-427-8200 (Satellite, Local or out of area)

+1-902-427-2114 (fax)

jrcchalifax@sarnet.dnd.ca (Email)

MRSC St. John's (Newfoundland and Labrador Region) 1-800-563-2444

+1-709-772-5151 (Satellite, Local or out of area)

+1-709-772-2224 (fax)

mrscsj@sarnet.dnd.ca (Email)

MCTS Sail Plan Service

Marine Communications and Traffic Services Centres provide a sail plan processing and alerting service. Mariners are encouraged to file Sail Plans with a responsible person. In circumstances where this is not possible, Sail Plans may be filed with any MCTS Centre by telephone or marine radio only. Should a vessel on a Sail Plan fail to arrive at its destination as expected, procedures will be initiated which may escalate to a full search and rescue effort. Participation in this program is voluntary. *See Canadian Radio Aids to Marine Navigation.*

Marina Facilities

Location and Name	Telephone	Depths(m)			Facilities										Supplies									
		Approaches	Dock	Fuel Pump	Berthing for visiting craft (m)	Power	Repairs Hull/Engine	Hoist (tonnes)	Marine Railway	Laundry, Toilets, Showers	Garbage Disposal	Sewage Pumpout	Accommodation	Meals Restaurant/Snack Bar	Car Park	Launching Ramp	Groceries	Water/Ice	Gasoline/Diesel	Naphtha/Propane	Kerosene/Lubricants	Bait/Tackle	Marine Hardware	Authorized Chart Dealer
<p><i>Depths given in this Appendix are the depths at Lowest Low Water claimed by the marina operator.</i></p> <p>Note: this information, while correct at the time of publication is subject to frequent change and should not be relied upon implicitly.</p>																								
CHAPTER 2																								
Masset Harbour																								
Delkatta Sough Harbour	250-626-5487	3	3	3	1500	P	E																	
CHAPTER 3																								
Village of Queen Charlotte																								
Queen Charlotte Small Craft Harbour	250-559-4650				75		HE																	
Sandspit																								
Sandspit Harbour Marina						B	P	E	H		TS													
Accommodation = H - Hotel C - Cabins M - Motel Cp - Camping																								

DISTANCES: PRINCE RUPERT TO PORTLAND AND OBSERVATORY INLETS AND THE HEAD OF ALICE AND HASTINGS ARMS

Prince Rupert

19	Lucy Islands							
37	19	Pointer Rocks						
39	20	5	Port Simpson					
67	49	30	33	Kincolith				
92	74	55	58	27	Brook Shoal Light			
103	85	66	69	37	11	Alice Arm		
95	77	58	61	29	5	16	Anyox	
107	89	70	73	42	15	26	19	Head of Hastings Arm

The distances are approximate and expressed to the nearest even nautical mile. They are based on the most frequently used tracks which may not be suitable for all vessels.

DISTANCES: PRINCE RUPERT TO STEWART VIA PORTLAND INLET AND CANAL

Prince Rupert

65	Ramsden Point Light			
87	22	Hattie Island Light		
111	46	24	Cliff Point	
128	63	41	17	Stewart

The distances are approximate and expressed to the nearest even nautical mile. They are based on the most frequently used tracks which may not be suitable for all vessels.

U.S. PORTS

Prince Rupert to Ketchikan 131 miles
 Ketchikan to Skagway 276 miles

DISTANCES: PRINCE RUPERT TO LANGARA POINT VIA BROWN PASSAGE

Prince Rupert

13	Rachel Islands				
27	14	Triple Islands			
49	36	22	Rose Spit Buoy		
81	64	50	23	Masset Bar	
99	86	72	50	33	Langara Point

The distances are approximate and expressed to the nearest even nautical mile. They are based on the most frequently used tracks which may not be suitable for all vessels.

DISTANCES: PRINCE RUPERT TO HAIDA GWAI

Prince Rupert

9	Holland Rocks				
28	19	Seal Rocks			
80	71	52	Lawn Point Buoy		
91	81	63	11	Sandspit	
99	89	71	19	8	Queen Charlotte

The distances are approximate and expressed to the nearest even nautical mile. They are based on the most frequently used tracks which may not be suitable for all vessels.

DISTANCES: PRINCE RUPERT TO EAST COAST OF HAIDA GWAI

Prince Rupert

9	Holland Rocks							
28	19	Seal Rocks						
95	86	67	Cumshewa Head					
99	90	71	11	Reef Island				
122	113	94	38	27	Scudder Point			
128	119	100	44	33	6	Copper Islands		
136	127	108	56	45	18	12	Garcin Rocks	
158	149	130	73	62	35	29	17	Cape St. James

The distances are approximate and expressed to the nearest even nautical mile. They are based on the most frequently used tracks which may not be suitable for all vessels.

**DISTANCES: WEST COAST HAIDA GWAI
CAPE ST. JAMES TO LANGARA POINT**

Cape St. James

14	Anthony Island						
39	25	Gowgaia Bay (entrance)					
67	53	28	Tasu Sound (entrance)				
101	87	62	34	Marble Island			
126	112	87	59	25	Hippa Island		
151	137	112	84	50	25	Frederick Island	
172	158	133	105	71	46	21	Langara Point

N.B. 3 to 5 miles offshore
The distances are approximate and expressed to the nearest even nautical mile. They are based on the most frequently used tracks which may not be suitable for all vessels.

CANADIAN CLIMATE NORMALS

The meteorological data in the following tables is supplied by Environment Canada, Atmospheric Environment Service.

Starting and ending dates given with each station are the total period of observation. Values of the climate elements are averages for the period 1961-90, or for a portion of that period no shorter than 20 years. Extreme or maximum values are the highest or lowest occurrence for all years that data is available.

Bonilla Island 53°30'N 130°38'W 1960 to 1990

Elevation 16 m (52 ft)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)													
Daily average	3.5	4.4	5.3	6.6	8.9	11.0	12.9	13.3	12.2	9.6	6.3	4.4	8.2
Daily maximum	5.3	6.3	7.2	8.7	10.8	13.0	14.8	15.2	14.0	11.3	8.1	6.2	10.1
Daily minimum	1.6	2.5	3.3	4.6	6.8	9.1	10.9	11.5	10.4	7.9	4.5	2.5	6.3
Extreme maximum	15.5	15.6	15.0	19.5	22.0	20.0	23.3	22.0	26.5	18.0	18.9	14.5	
Extreme minimum	-13.3	-14.5	-8.9	-2.8	2.0	5.5	7.8	7.2	4.4	-5.0	-18.5	-15.0	
Precipitation													
Rainfall (mm)	192.2	173.9	170.7	162.2	118.0	98.9	83.0	106.7	171.7	278.5	251.5	221.2	2028.6
Extreme daily rainfall	54.1	80.5	52.8	50.6	56.4	49.0	62.6	47.5	65.5	87.6	63.5	63.8	
Days with rain	20	19	21	20	17	16	15	16	18	24	23	22	228
Snowfall (cm)	17.0	12.0	6.2	1.2	T	0.0	0.0	0.0	T	0.4	5.7	16.8	59.3
Extreme daily snowfall	17.8	25.0	19.5	10.7	0.2	0.0	0.0	0.0	0.0	4.4	15.2	45.7	
Days with snow	4	3	2	*	*	0	0	0	0	*	1	3	13
Days with precipitation	22	20	22	20	17	16	15	16	18	24	23	23	235
Wind (knots)													
Speed	x	x	x	x	x	x	12	x	x	x	x	x	x
Most frequent direction	x	x	x	x	x	x	SE	x	x	x	x	x	x
Maximum hourly speed	56	77	64	56	45	44	36	42	47	57	68	63	
Direction	SE	S	SE	S	SE	SE	SE	SE	SE	SE	SE	S	

* = Average of less than one but greater than zero

T = Trace

X = Some data exists but not enough to derive a value

Cape St. James 51°56'N 131°01'W
1925 to 1990

Elevation 92 m (302 ft)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)													
Daily average	4.6	5.2	5.7	6.8	8.8	10.8	13.0	14.1	13.2	10.1	6.9	5.2	8.7
Daily maximum	6.3	7.0	7.8	9.2	11.3	13.3	15.5	16.6	15.6	12.2	8.7	6.9	10.9
Daily minimum	2.9	3.3	3.4	4.4	6.2	8.3	10.4	11.5	10.7	8.0	5.0	3.4	6.4
Extreme maximum	12.5	12.9	17.8	19.0	23.3	28.3	24.4	24.1	25.0	20.3	15.4	12.6	
Extreme minimum	-12.2	-13.7	-11.7	-2.2	1.1	1.1	5.0	5.6	5.0	-2.2	-12.6	-10.0	
Precipitation													
Rainfall (mm)	156.9	129.4	118.8	109.9	88.6	80.8	61.6	76.5	119.0	196.4	184.5	165.0	1487.4
Extreme daily rainfall	56.6	54.6	54.4	59.4	44.5	63.5	47.8	61.0	59.2	59.9	63.0	54.6	
Days with rain	23	20	21	21	18	16	15	15	17	24	24	23	235
Snowfall (cm)	17.0	9.1	8.2	4.1	0.3	T	0.0	T	T	0.2	4.6	12.2	55.7
Extreme daily snowfall	22.6	16.3	28.4	7.6	4.6	0.0	0.0	0.0	0.0	4.6	19.6	23.9	
Days with snow	6	5	5	3	*	0	0	0	0	*	2	5	26
Days with precipitation	25	21	22	21	18	16	15	15	17	24	24	25	243
Wind (knots)													
Speed	22	21	18	17	16	15	14	13	15	18	20	21	17
Most frequent direction	S	S	NW	NW	NW	NW	NW	NW	NW	S	S	NW	NW
Maximum hourly speed	83	86	86	85	60	62	50	46	66	96	77	86	
Direction	NW	S	NE	S	W	S	E	NW	SE	SE	SE	W	
Maximum gust speed	102	104	91	76	83	66	56	66	74	103	98	103	
Direction	SE	SE	SE	SE	SE	E	SE	SE	W	SE	SE	SE	

* = Average of less than one but greater than zero
T = Trace

Ethelda Bay 53°03'N 129°41'W
1957 to 1990

Elevation 8 m (26 ft)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)													
Daily average	2.4	3.7	4.5	6.3	8.7	11.1	13.1	13.6	12.0	8.7	5.0	2.9	7.7
Daily maximum	4.7	6.4	7.8	10.0	12.7	15.1	16.9	17.5	15.8	11.7	7.4	5.2	10.9
Daily minimum	0.0	1.0	1.1	2.5	4.5	7.1	9.3	9.7	8.1	5.6	2.6	0.6	4.3
Extreme maximum	16.1	15.0	16.7	23.6	28.3	29.4	26.4	28.4	27.5	20.6	17.8	16.1	
Extreme minimum	-16.7	-14.5	-8.9	-7.8	-2.2	-1.1	2.6	1.5	-1.1	-7.6	-18.4	-14.4	
Precipitation													
Rainfall (mm)	325.1	278.4	256.5	262.0	195.5	142.3	123.5	156.7	254.0	424.1	414.8	325.9	3158.8
Extreme daily rainfall	118.6	107.4	104.6	103.4	95.3	88.6	77.7	76.2	85.4	111.5	106.7	129.8	
Days with rain	19	18	20	20	18	16	15	15	17	24	23	21	225
Snowfall (cm)	40.0	25.2	16.4	5.3	T	0.0	T	0.0	0.0	0.7	10.6	29.1	127.2
Extreme daily snowfall	72.7	50.8	22.9	14.0	0.0	0.0	0.0	0.0	0.0	13.5	36.1	33.0	
Days with snow	7	5	4	2	0	0	0	0	0	*	3	5	26
Days with precipitation	22	20	22	20	18	16	15	15	17	24	24	23	234
Wind (knots)													
Speed	9	8	7	7	6	5	5	5	5	8	8	9	7
Most frequent direction	NE	SE	SE	SE	SE	SE	NW	SE	SE	SE	NE	NE	SE
Maximum hourly speed	50	70	35	40	35	35	30	35	48	45	50	50	
Direction	NE	NE	SE	SE	SE	SE	SE	S	SE	SE	SE	SE	

* = Average of less than one but greater than zero
T = Trace

Langara 54°15'N 133°03'W 1936 to 1990

Elevation 41 m (135 ft)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)													
Daily average	3.0	3.8	4.4	5.8	8.1	10.3	12.3	13.2	12.1	9.0	5.4	3.7	7.6
Daily maximum	4.8	5.7	6.6	8.3	10.5	12.5	14.4	15.3	14.3	11.1	7.3	5.5	9.7
Daily minimum	1.1	1.9	2.2	3.3	5.5	8.0	10.2	11.0	9.9	6.9	3.5	1.8	5.4
Extreme maximum	13.7	12.8	14.4	19.4	25.0	25.6	22.2	24.2	22.8	20.0	15.0	12.8	
Extreme minimum	-14.4	-12.0	-11.7	-3.3	0.0	3.3	5.6	5.6	1.1	-4.5	-15.9	-12.8	
Precipitation													
Rainfall (mm)	162.2	127.0	124.7	129.1	105.2	92.8	83.3	112.1	179.0	269.5	202.1	185.3	1772.1
Extreme daily rainfall	71.2	46.0	52.0	54.9	65.3	38.9	53.6	46.0	56.8	67.8	88.4	57.0	
Days with rain	20	19	21	21	20	18	18	18	21	27	24	22	249
Snowfall (cm)	29.8	19.3	14.2	5.3	0.1	0.0	0.0	0.0	T	1.2	8.4	23.3	101.6
Extreme daily snowfall	56.1	30.2	23.8	14.0	1.4	0.0	0.0	0.0	0.6	10.9	22.9	31.6	
Days with snow	6	4	4	2	*	0	0	0	*	*	2	5	23
Days with precipitation	23	21	23	21	20	18	18	18	21	27	24	25	259

* = Average of less than one but greater than zero

T = Trace

Sandspit 53°15'N 131°49'W 1945 to 1990

Elevation 5 m (16 ft)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)													
Daily average	2.8	3.7	4.5	6.2	8.8	11.6	14.1	14.9	13.0	9.1	5.3	3.5	8.1
Daily maximum	5.3	6.3	7.4	9.2	11.8	14.5	16.8	17.7	15.9	11.9	8.0	5.9	10.9
Daily minimum	0.3	1.1	1.6	3.1	5.7	8.8	11.3	12.0	10.1	6.2	2.6	1.0	5.3
Extreme maximum	12.4	13.4	13.9	18.9	21.7	25.9	27.8	26.7	24.1	20.6	16.3	13.4	
Extreme minimum	-13.9	-12.3	-12.2	-2.8	-1.1	2.2	5.0	5.6	-0.6	-3.1	-15.5	-12.8	
Precipitation													
Rainfall (mm)	139.9	109.2	96.5	92.7	62.3	57.1	44.7	54.3	94.2	195.5	184.4	158.2	1289.0
Extreme daily rainfall	61.6	45.8	41.5	79.5	48.3	39.1	22.1	41.0	48.5	58.6	66.2	65.6	
Days with rain	18	17	18	18	17	15	13	14	17	23	22	20	213
Snowfall (cm)	27.9	15.6	7.8	2.3	0.1	T	0.0	0.0	0.0	T	6.3	15.3	75.2
Extreme daily snowfall	35.6	27.4	19.6	8.6	1.5	0.0	0.0	0.0	0.0	2.0	22.9	23.4	
Days with snow	6	4	3	2	*	0	0	0	0	*	2	4	21
Days with precipitation	22	19	19	19	17	15	13	14	17	23	23	22	222
Sunshine (hours)	52.1	81.1	119.6	156.7	200.1	181.5	185.3	180.9	137.2	93.2	63.5	44.6	1495.8
Wind (knots)													
Speed	11	11	10	10	10	9	8	8	9	10	11	11	10
Most frequent direction	SE	SE	SE	SE	SE	SE	W	W	SE	SE	SE	SE	SE
Maximum hourly speed	70	57	54	61	52	42	39	39	50	74	65	65	
Direction	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	
Maximum gust speed	87	89	65	76	66	52	50	50	61	80	87	82	
Direction	SE	SE	E	SE	SE	SE	SE	SE	SE	SE	SW	SE	

* = Average of less than one but greater than zero

T = Trace

**Tasu Sound 52°46'N 132°03'W
1963 to 1984**

Elevation 15 m (49 ft)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)													
Daily maximum	5.2	N	7.3	N	N	N	16.3	17.5	N	12.2	N	N	N
Daily minimum	N	N	N	N	N	N	10.4	N	N	N	N	N	N
Extreme maximum	16.0	15.0	20.6	21.0	25.6	28.3	33.3	28.9	27.5	19.4	17.2	13.9	
Extreme minimum	-11.1	-6.7	-7.2	-2.2	-1.7	1.7	5.0	4.4	3.9	-4.0	-6.1	-10.0	
Precipitation													
Rainfall (mm)	443.1	N	355.0	358.9	238.6	154.3	128.1	182.3	327.2	N	494.5	476.5	N
Extreme daily rainfall	192.5	154.4	182.6	194.0	150.9	99.6	159.0	189.7	130.5	179.1	190.8	126.5	
Days with rain	17	19	21	20	18	14	14	14	18	24	22	21	221
Snowfall (cm)	32.4	15.0	8.0	1.2	T	0.0	0.0	0.0	0.0	0.3	3.8	14.1	74.8
Extreme daily snowfall	45.7	23.2	14.7	5.1	1.3	0.0	0.0	0.0	0.0	3.0	15.2	35.6	
Days with snow	5	3	2	*	*	0	0	0	0	*	1	3	15
Days with precipitation	21	20	22	20	18	14	14	14	18	24	22	22	229

* = Average of less than one but greater than zero
 N = Some data exists but not enough to derive a value
 T = Trace

FREQUENCY OF FOG

Station	Observations		Percentage of observations when fog was present											
	Years	No.Per Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Cape St. James 51°56'N 131°01'W	1953-80	24	22.3	24.1	16.8	16.1	14.9	18.6	21.5	20.5	23.3	26.3	19.5	24.3
Cape Scott 50°47'N 128°26'W	1966-81	8	12.3	11.1	11.8	10.6	12.3	14.7	19.3	24.7	20.0	17.7	13.4	14.4
Ethelda Bay 53°03'N 129°41'W	1957-80	4	12.3	13.8	11.4	9.2	9.8	10.8	12.3	14.7	16.6	20.0	14.0	14.3
Langara 54°15'N 133°03'W	1954-80	4	4.9	4.3	4.4	4.3	4.2	8.5	14.6	13.8	9.9	6.1	5.1	5.3
Sandspit 53°15'N 131°49'W	1953-80	24	9.4	10.8	7.4	6.2	5.4	6.2	5.4	5.4	8.2	12.7	12.2	11.2
Triple Islands 54°18'N 130°53'W	1953-67	4	1.2	1.8	0.9	1.2	2.6	5.2	7.1	8.5	6.9	1.3	0.9	1.6

- Abraham Point**, C3/P165
 Abrams Island, C1/P376
 Absalom Island, C1/P296
 Adam Rocks, C4/P66
 Adams Bay, C1/P473
 Adams Island, C1/P134
 Adams Point, C1/P473
 Aero, C3/P335
 Agassiz Banks, C1/P148
 Agglomerate Island, C3/P230
 Aikman Passage, C1/P540
 Ain River, C2/P302
 Aiskew Island, C2/P479
 Aiskew Point, C2/P479
 Aitken Islands, C1/P411
 Ala Narrows, C1/P696
 Ala Passage, C1/P691
 Alarm Rocks, C1/P725
 Alder Island, C3/P159
 Alert Rock, C2/P185
 Alexander Islands, C1/P502
 Alexander Shoal, C1/P716
 Alexandra Narrows, C2/P208
 Alford Point, C3/P282
 Alford Rock, C3/P282
 Alfred Point, C3/P275
 Alice Arm, C2/P450
 Alice Arm (Locality), C2/P468
 Alice Arm light, C2/P465
 Alice Rock, C2/P461
 All Alone Stone, C3/P162
 Allan Point, C2/P269
 Allatt Point, C1/P528
 Allcroft Point, C1/P739
 Allen Rocks, C1/P48
 Allerton Passage, C1/P203
 Alliford Bay, C3/P399
 Alman Island, C1/P78
 Alpha Bay, C1/P763
 Alpha Creek, C1/P763
 Alpha Point, C1/P763
 Alston Cove, C1/P418
 Alured Point, C4/P290
 Amethyst Rock, C4/P156
 Amur Point, C3/P218
 Amur Rock, C3/P285
 Anchor Cove, C3/P433
 Anchor Mountain, C1/P227
 Anderson Islands, C1/P64
 Anderson Passage, C1/P627
 Anderson Rock, C1/P211
 Andrew Point, C3/P184
 Andrews Point, C2/P76
 Anger Anchorage, C1/P700
 Anger Inlet, C1/P705
 Anger Island, C1/P661
 Anger Point, C1/P698
 Angle Island, C3/P427
 Anna Inlet, C3/P226
 Annesley Point, C4/P167
 Annette Island, C4/P54
 Annie Point, C1/P680
 Annis Point, C3/P39
 Anthony Island, C4/P32
 Anthracite Point, C3/P435
 Antiquary Bay, C4/P166
 Antle Islands, C1/P199
 Anvil Cove, C4/P86
 Anvil Rock, C4/P87
 Anyox, C2/P489
 Anyox Creek, C2/P487
 Anyox Rock, C2/P486
 Appleby Island, C1/P217
 Aranzazu Banks, C1/P119
 Aranzazu Point, C2/P123
 Archer Islets, C1/P75
 Archer Point, C4/P177
 Archie Rock, C1/P229
 Argonaut Hill, C3/P479
 Argyh Cove, C1/P472
 Arichika Island, C3/P161
 Arichika Shoal, C3/P161
 Ariel Rock, C4/P145
 Aristazabal Island, C1/P43
 Armentières Channel, C4/P221
 Armiston Point, C2/P130
 Arnold Point, C4/P34
 Armoup Creek, C1/P426
 Arrandale, C2/P399
 Arriaga Islands, C1/P72
 Ascroft Islet, C1/P574
 Ashdown Island, C1/P507
 Ashington Range, C2/P431
 Askew Islands, C1/P216
 Astrolabe Rock, C2/P180
 Astronomical Point, C2/P541
 Athlow Bay, C4/P264
 Atli Inlet, C3/P252
 Augustus Rock, C4/P172
 Awaya Point, C3/P81
 Awun Bay, C2/P308
 Azimuth Island, C1/P704
 Azimuth Point, C2/P543
Babbage Island, C1/P88
 Bag Harbour, C3/P127
 Baile Island, C1/P491
 Bain Point, C2/P205
 Baird Point, C1/P237
 Baker Point, C1/P453
 Baker Shoal, C1/P48
 Balch Islands, C3/P422
 Balcom Inlet, C3/P47
 Ballard Point, C3/P38
 Ball, Cape, C3/P477
 Banks Island, C1/P173
 Barber Point, C4/P30
 Bare Rocks, C3/P397
 Bareside Mountain, C1/P762
 Bareside Point, C1/P762
 Barge Point, C3/P304
 Barlow Point, C1/P511
 Barnard Creek, C1/P543
 Barnard Harbour, C1/P537
 Barnard Island, C1/P143
 Barnes Shoal, C4/P287
 Barran Island, C2/P112
 Barran Rocks, C1/P274
 Barrier Bay, C4/P153
 Bar Rocks, C3/P360
 Barry Inlet, C4/P113
 Barry Island, C4/P268
 Bar, The, C2/P201
 Bartlett Point, C2/P501
 Bay Islet, C2/P555
 Baylee Bay, C4/P197
 Baylee Bluff, C4/P187
 Bay of Plenty, C1/P422
 Bay Point, C2/P406
 Beadle Rocks, C1/P213
 Beal Cove, C2/P181
 Bean Island, C2/P64
 Bear Lake, C1/P477
 Bear River, C2/P571
 Bearskin Bay, C3/P408
 Beatrice Shoal, C3/P265
 Beattie Anchorage, C3/P328
 Beattie Point, C3/P417
 Beauchemin Channel, C1/P81
 Beaven Islands, C1/P64
 Beaver Passage, C1/P240
 Beavis Islets, C4/P296
 Beavis Point, C4/P294
 Becker Point, C1/P688
 Beehive Hill, C4/P306
 Beljay Bay, C3/P254
 Beljay Point, C3/P254
 Belle Bay, C2/P547
 Belle Point, C3/P407
 Bell Point, C4/P181
 Benjamin Point, C3/P61
 Bennett Islet, C1/P213
 Benney Islets, C1/P87
 Benson Rock, C4/P295
 Bent Harbour, C1/P78
 Bent Tree Point, C3/P220
 Beresford Bay, C4/P317
 Beresford Creek, C4/P317
 Beresford Inlet, C3/P197
 Berry Islands, C3/P437
 Betteridge Inlet, C1/P625
 Betton Rocks, C1/P568
 Big Goose Creek, C3/P281
 Bigsby Inlet, C3/P208
 Bigsby Point, C3/P205
 Bill Creek, C2/P360
 Billington Rocks, C4/P84
 Billy Bay, C1/P309
 Billy Islands, C1/P308
 Birch Point, C1/P217
 Bischof Islands, C3/P196
 Bishop Rock, C3/P93
 Blackburn Peninsula, C3/P43
 Blackrock Point, C1/P551
 Blaine Point, C2/P525
 Bland Point, C4/P199
 Bland Rocks, C1/P153
 Blee Creek, C1/P418
 Blenkinsop Islet, C1/P563
 Blinder Rock, C1/P591
 Block Head, C1/P561
 Block Islands, C1/P168
 Bloomfield Lake, C1/P424
 Blossom Point, C1/P573
 Bluejay Cove, C3/P97
 Blue Point, C2/P560
 Bluff Point, C2/P548
 Blunt Point (Newcombe Inlet), C4/P147
 Blunt Point (Portland Canal), C2/P544
 Boat Harbour, C2/P128
 Bocking Peninsula, C2/P476
 Bolkus Islands, C3/P101
 Bonanza Creek, C2/P487
 Bonanza Point, C2/P487
 Bone Anchorage, C1/P485
 Bone Islet, C1/P219

- Bone Point, C4/P172
 Bonilla Island, C1/P180
 Bonilla Rocks, C1/P179
 Bonson Rock, C1/P96
 Boomchain Bay, C4/P176
 Borde Island, C1/P529
 Borrowman Bay, C1/P99
 Borrowman Group, C1/P210
 Borrowman Shoals, C2/P279
 Borthwick Rock, C1/P138
 Boston Islands, C2/P149
 Botany Inlet, C4/P154
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 Bottle Inlet, C4/P164
 Bottle Point, C4/P164
 Boulder Island, C3/P117
 Boussole Rock, C4/P308
 Bowden Islands, C1/P85
 Bowie Seamount, C4/P24
 Bowles Point, C4/P31
 Boyko Rock, C1/P630
 Boys Point, C1/P260
 Boys Rock, C1/P262
 Brant Bay, C1/P553
 Braverman Creek, C3/P337
 Bray Island, C1/P356
 Breakenridge Point, C1/P75
 Breaker Bay, C3/P269
 Breaker Islets, C1/P166
 Breezy Point, C2/P548
 Brew Island, C1/P426
 Bridgeman Rock, C1/P95
 British Point, C2/P565
 Brock Islands, C4/P281
 Bromley Island, C1/P213
 Brooke Island, C2/P440
 Brooke Point, C2/P440
 Brooke Shoal, C2/P444
 Brown Bear Rock, C2/P63
 Browning Entrance, C1/P222
 Browning Entrance light, C1/P231
 Browning Island, C1/P271
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