



Cross Sound and Icy Strait

- (1) This chapter describes Cross Sound and Icy Strait, which are the northernmost sea connections for the inland passages of southeastern Alaska. Also described are the tributary waterways and the various communities in the area, such as Pelican, Elfin Cove, Gustavus and Hoonah.

(2) **<Deleted Chart Header>**

- (3) Cross Sound and Icy Strait are the northernmost sea connections for the inland passages of southeastern Alaska, separating the mainland between Cape Spencer and Point Couverden, and from Yakobi Island and Chichagof Island between Cape Bingham and Point Augusta. The waterway is about 61 miles long from Cape Spencer at the west entrance to Point Augusta, at its junction with Chatham Strait. It averages 4 to 8 miles wide, but in places this is reduced by islands.

(4) **Currents**

- (5) The current from the sea sets northeast on the flood into Cross Sound and Icy Strait and meets the flood current in Chatham Strait south of Point Augusta. The ebb current sets in the opposite direction. The velocity varies with the range of tide and width of passage. The ebb velocity is stronger than the flood. Currents are also modified by wind; an easterly wind has been observed to reduce predicted flood tide to almost slack water in Cross Sound.
- (6) In the wide parts of Cross Sound, the estimated velocity of the current is 1.2 knots on the flood and 2 knots on the ebb.
- (7) Between the Inian Islands and Point Wimbledon, the current has a velocity of 2.9 knots on the flood and 5.1 knots on the ebb. When the current is strongest, heavy swirls occur northwest of the Inian Islands. Daily predictions for times of slack water and velocity of the current in North Inian Pass are given in the Tidal Current Tables.
- (8) South of the Inian Islands, in the narrowest part of the passage between them and Point Lavinia, the velocity of the ebb current is 6 knots, and heavy dangerous rips and swirls occur, especially with an ebb current and west or southwest winds.
- (9) In North Passage and South Passage of Icy Strait, the estimated velocity of the ebb current is 3.6 to 4.1 knots. There are swirls and tide rips at times off the entrance to Glacier Bay. At Point Augusta the tidal currents usually have little velocity. See the Tidal Current prediction service at tidesandcurrents.noaa.gov for specific information

about times, directions, and velocities of the current at numerous locations throughout the area, including Cross Sound and Icy Strait. Links to a user guide for this service can be found in chapter 1 of this book.

- (10) Strong tide rips occur at the entrance to Swanson Harbor with a slight S breeze.
- (11) On the south side of Icy Strait between Point Sophia and Point Augusta very little current is encountered. Occasionally, when weather indicates a southeast storm along the outer coast in the vicinity of the entrance to Chatham Strait, a current of 2 or 3 knots may be noted, flowing in a west direction along the shore in this locality. Its direction seems to be unaffected by the stage of the tide.

(12) **Weather**

- (13) While Cross Sound is exposed to wind and weather off the Gulf of Alaska, its orientation lessens the effect of the strong southeasterlies and northerlies of fall and winter. It is more exposed to winds and seas from southwest through northwest. These winds are most frequent in summer and fall; fall conditions are roughest. Swells from distant storms often arrive from southwest from October through March. Poor visibilities are most frequent in summer and winter. During July and August, warm air moving across the still-cool waters results in fog. Poor winter visibilities often result from rain and snow and are usually worst from Gustavus westward.
- (14) Cross Sound weather is mostly maritime while Icy Strait reflects some continental influences. Average maximums in Cross Sound range from the mid 30s (°F) in winter to the mid 50s in summer with a 7° to 9° drop to minimum. In Icy Strait, the range is from around freezing to the mid 60s with a 10° to 15° drop to minimum. At Cape Spencer, the extreme low is -1°F compared to -25°F at Gustavus. Cape Spencer receives about twice as much precipitation as Gustavus, on average. Both locations show a peak during October, November and December.

(15) **Cross Sound**

- (16) **Cross Sound** is that part of the passage southwest of the Inian Islands. Icy Strait is that part east of the Inian Islands.
- (17) The north shores of the sound are mostly high, formed by the slopes of the Fairweather range. The south side, formed by the Chichagof group, is comparatively low.

(18)

Caution

- (19) From Cross Sound to Excursion Inlet, shoalings amounting to as much as 6 feet in several critical areas were disclosed during 1959. It is probable that these shoalings and others not yet discovered were due to the major earthquake of July 10, 1958. Accordingly, mariners are urged to use caution in navigating over or near critical depths.

(20)

Cape Bingham to Soapstone Cove

- (21) **Cape Bingham**, the northwest extremity of Yakobi Island and the southeast point at the entrance to Cross Sound, is a low, irregular, rounding, wooded point with a gradual rise for about 1 mile to the interior. Numerous open glades occur in the vicinity. Low timbered islets and points extend offshore for a distance of about 0.4 mile.

- (22) From Cape Bingham to Soapstone Point the shoreline is of a very irregular and broken character and presents an almost continuous line of perpendicular cliffs with numerous indentations and inlets, at the heads of which are gradual sand beaches. Numerous columnlike pinnacle rocks and small rocky islets mark the entire shoreline.

- (23) **Soapstone Point**, on the west side of the entrance to Lisianski Inlet, is the extremity of a neck of land of bold appearance with a shoreline of steep cliffs. West is a small cove open and exposed and with depths of 8 to 9 fathoms at the entrance. East is **Soapstone Cove**, a narrow inlet that has at its head a valley with a stream. Depths shoal rapidly from 25 fathoms at the entrance to less than 1 fathom 0.5 mile within Soapstone Cove. In 1978, an 8-fathom shoal was reported off the entrance to the cove, about 0.5 mile east-northeast from Soapstone Point. From the shoreline in the vicinity of the point the land rises rapidly and is generally timbered to elevations of about 1,500 feet. The bottom is very irregular for a distance of about 1 mile in a northwest direction from this point. Rocks and kelp extend off the point.

(24)

Cape Spencer to Graves Harbor

- (25) **Cape Spencer**, the northwest entrance point to Cross Sound, is a conspicuous headland. Extending from the cape for about 1.2 miles in a south direction is a large shoal area in which there are rocky islets, some of the inner ones wooded, and rocks, the outer ones usually showing as breakers. From the shoreline the cape rises rapidly to timbered ridges.

- (26) **Cape Spencer Light** (58°11'56"N., 136°38'26"W.) 105 feet above the water, is shown from a white square concrete tower on a rectangular concrete building on the outermost large, rocky islet south from Cape Spencer.

- (27) **Dicks Arm**, about 1 mile north of Cape Spencer Light, is a narrow inlet less than 200 yards wide in places that extends in a north direction for about 2 miles. From

the head of the arm is a gradually rising valley, passing over a saddle to Taylor Bay. A narrow channel, with depths of 2½ to 12 fathoms leads east of **Zip Rock**, 20 feet high and bare, through the off-lying rocks and islets to the inlet. Depths of ¾ to 8 fathoms are found in the inlet to within 0.5 mile of the head, where it is shoal.

- (28) **Graves Harbor**, the first main inlet north of Cape Spencer, affords protected anchorage in the southeast arm.

(29)

Taylor Bay to Fern Harbor

- (30) **Taylor Bay** on the northwest side of Cross Sound has its entrance about 6 miles northeast of Cape Spencer. The bay is open to the southeast. **Brady Glacier**, at the head of the bay, has a face about 2 miles long, about 400 feet high, and presents a broken, ragged appearance, with dark streaks. Off the face of the glacier there is an extensive flat that drops off rapidly to 10 to 12 fathoms. The flat at the face of the glacier is extending rapidly down the bay. Vessels proceeding up the bay should use caution and keep sounding. Extensive shoaling has been reported in the upper half of the bay with bare spots in some places. The bottom is mud. The southwest side of the bay is shoal for 0.5 mile offshore. At the entrance to Taylor Bay a rock that exposes at low water is about 0.75 mile off the southwest shore.

- (31) **Taylor Island**, high and hummocky, forms the northeast side of the bay for 1.9 miles from the entrance with small rocky islets up to 0.4 mile off the south end of the island. From Taylor Island a chain of small islets extend northwest. There is no navigable channel between the islets and the shore.

- (32) **Fern Harbor**, the inlet on the east side of Taylor Island, extends about 1 mile in a northwest direction and is about 0.3 mile wide. Depths of 25 fathoms were found at the entrance and depths of 9 to 11 fathoms, sticky bottom, within the cove. A boulder reef closes the head of the bay except a narrow high-water channel near the Taylor Island shore. The harbor affords anchorage for small craft.

(33)

Lisianski Habor to Soloma Point

- (34) **Lisianski Inlet** follows a general southeast direction for about 21.5 miles. There is temporary anchorage for vessels up to 150 feet long off the east side of Miner Island in 20 fathoms, rocky bottom, poor holding ground. The vesselswings to the current, and the effects of wind drawing through the channel are felt. Good anchorage and shelter may be had at the head of Lisianski Inlet in 15 fathoms, soft, sticky bottom. Small boats anchor alongshore where the depths are not too great, particularly in Mite Cove, off Miner Island, and off the flats alongshore.

- (35) **Currents** in Lisianski Inlet are reported slight and set fair with the channel.

(36) In entering, favor the southwest shore until inside the entrance then follow midchannel courses. The chart is the guide.

(37) If bound for Lisianski Strait, round Miner Island at a distance of about 300 yards. This passes close to an 8-fathom spot surrounded by deep water.

(38) If bound for the head of the inlet, pass northeast of Miner Island and Junction Island, follow midchannel courses for about 3 miles beyond Junction Island, then favor the southwest shore until well past the flats off the northeast shore at Pelican and the 5-foot rock almost in midchannel about 0.6 mile beyond. Follow midchannel courses until near the head of the inlet, then favor the southwest shore through the narrows and proceed in midchannel to anchorage.

(39) **Column Point**, the northeast headland of Lisianski Inlet, receives its name from the columnlike masses of rock that extend from its shores. The shoreline is rough and broken and is marked by steep cliffs 20 to 100 feet high. The land east rises rapidly and is timbered to elevations of about 1,500 feet. Small rocky islets and rocks awash, marked by kelp, extend about 0.4 mile offshore, just inside the entrance to Lisianski Inlet. The west extremity of the foul area is marked by a buoy.

(40) The southwest shore of Lisianski Inlet is bold but broken by a number of small bights. **Mite Cove**, 2.5 miles from the entrance, is the best anchorage for small craft. **Mite Island** is off the northwest point of the entrance. Kelp and rocks extend for about 50 yards offshore of the island. Depths of 9.5 to 20 fathoms were obtained in the channel southeast of the island, while to the south depths of 5 and 6 fathoms were found. Protected anchorage may be had in 9 to 10 fathoms, soft bottom, in the center of the cove. There are several freshwater streams, and at the head of the cove and on each side are sand and gravel beaches. **Mite Head**, the southeast point of the entrance, is marked by a light.

(41) A rock awash, marked by a daybeacon, is 350 yards off the southwest shore about 3 miles above Mite Head. There is deep water between it and the southwest shore.

(42) **Basalt Knob**, on the northeast shore about 4 miles above Mite Head, is marked by a light.

(43) The northeast shore of Lisianski Inlet from inside the entrance to opposite Miner Island is clear. The beach is rocky, and the land rises rapidly to mountain ridges, timbered to an elevation of about 1,500 feet. To the head of the inlet the shoreline is generally rocky with several islands and points with flats extending short distances offshore. The slopes of the ridges are moderate and heavily wooded. On the southwest side the slopes are steep and the peaks are bare.

(44) **Pelican**, on the northeast shore of Lisianski Inlet about 4.5 miles southeast of Miner Island, is a community with a cold storage plant, a general store, and two restaurants. Lodging is also available in this community.

(45) **Pelican Entrance Light** (57°57'21"N., 136°13'48"W.), 17 feet above the water and shown from

a post with a red and white diamond-shaped daymark, is about 190 yards off the end of the breakwater.

(46) Dangers

(47) The dangers in the immediate area are two rocky islets and rocks awash south of the light and off the flat that extend from the shore south of the breakwater.

(48) Quarantine, customs, immigration and agricultural quarantine

(49) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(50) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) Pelican is a **customs station**.

(51) Wharves

(52) The wharves at Pelican are city owned and operated, except for a state ferry terminal on the northwest side of the breakwater. The wharves and the small-craft floats are partially protected from southeast winds by the breakwater and the rocky islets.

(53) **Pelican Seafoods Dock** (57°57'34"N., 136°13'53"W.): 140-foot face, 18 feet reported alongside; 2½-ton hoists; shipment and receipt of containerized and conventional cargo, seafood, ice and the handling of supplies for fishing vessels.

(54) **Pelican Seafoods Crab Dock** (57°57'35"N., 136°13'48"W.): about 75 yards east of Seafoods Dock; 95-foot face; 15 feet reported alongside; 3-ton hoist; receipt and shipment of seafood and handling supplies for fueling vessels.

(55) **Pelican Seafoods Fuel Dock** (57°57'36"N., 136°13'46"W.): just east of Crab Dock; 60-foot face; 30 feet both east and west sides; 12 feet reported alongside; offers gasoline, diesel #1, diesel #2 and propane.

(56) **Pelican Ferry Terminal Dock** (57°57'28"N., 136°13'38"W.): on the northwest side of the breakwater; 20 feet reported alongside; owned and operated by the State of Alaska.

(57) Supplies

(58) Provisions and fishing supplies can be obtained at the general store; gasoline, diesel fuel, lubricating oils, greases, aviation fuel and water at the fuel pier; and ice for fishing vessels and water at the cold storage wharf.

(59) Repairs

(60) Vessels up to 75 feet long can be handled at one of the city-operated grids in the mudflats east of the fuel pier. Two other city-operated grids, capable of servicing three vessels, are between the fuel pier and small-boat basin. A nearby machine shop is available to small craft for minor engine repairs.

(61)

Small-craft facilities

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A federal project provides for a small-boat basin dredged to a depth of 12 feet between the wharves on the north and a breakwater 1,000 feet long on the south. The city-operated small-craft floats close southeast of the fuel pier provide about 3,600 feet of float space. In 2007, 12 feet was alongside the floats except for lesser depths along the floats on the north and east outer parts of the harbor. A seaplane float is at the west end of the second float east of the fuel pier. Water and electricity are available at the floats.

(63)

A 60-foot small-craft float, with 10 feet alongside, is about 25 yards northeast of the east corner of Pelican Seafoods Wharf. An 800-pound hoist for transferring supplies for the general store is on the float. Another small-craft float, with 6 to 8 feet alongside, is on the north side of the Pelican Fuel Pier.

(64)

Communications

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Pelican has scheduled year-round seaplane service to Juneau. Seaplane services to Sitka are by charter only. A bi-monthly state ferry service is available during summer and one a month in the winter. Telephone and radiotelephone services are maintained with other parts of Alaska and with other states. Cell phone service is planned for 2019.

(66)

About 1.5 miles from the head, Lisianski Inlet is narrowed to a width of about 330 yards by **Soloma Point**, a grassy point projecting from the northeast shore. Beyond this the inlet widens to about 0.5 mile. At the head of the inlet is a flat that bares for about 0.5 mile. Two streams empty here. The north stream is about 60 yards wide and of considerable volume; the current is swift, but the water is shoal. Beyond the flat is a grass-covered area, the west end of a large valley.

(67)

Port Althorp to Inian Cove

(68)

Port Althorp, on the southeast side of Cross Sound, between Point Lucan and Point Lavinia, with Three Hill Island and George Islands across the entrance, narrows to an inlet about 0.3 mile wide near the head. An aquatic farm (58°07.1'N., 136°17.9'W.) is behind an inlet on the west side of the port 1.3 miles from the head. Three passes lead to Port Althorp.

(69)

Point Lucan, 3 miles northeast of Column Point, is a prominent wooded headland. From Column Point to Point Lucan the shoreline consists of almost unbroken precipitous cliffs 50 to 100 feet high, with the exception of a narrow strip of sand beach 0.5 mile south-southwest of Point Lucan. Heavy masses of kelp extend offshore for 0.2 to 0.5 mile. A small rocky islet is 0.4 mile offshore about 1.2 miles north-northeast of Column Point. From the shore the land rises rapidly and the slopes are heavily timbered.

(70)

Three Hill Island, northwest of Point Lucan, has three prominent wooded hills separated by low saddles; the southeast summit is somewhat flat; the northwest summit appears conical. The southwest shore is fringed with rocks and rocky islets. Off the southeast extremity of the island are two small rocky islets close together, about 25 feet high. **Three Hill Island Light** (58°09'13"N., 136°23'03"W.), 80 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the west islet. Between the light and the rocky islet off Point Lucan is a deepwater channel 0.2 mile wide.

(71)

George Islands, a group of four islands at the entrance of Port Althorp, are about 8 miles northeast of Cape Bingham. The larger islands are sparsely wooded. The two north islands are small with off-lying rocks that extend about 0.1 mile in a north direction. A light is on an islet off the northeasternmost island.

(72)

The westernmost and largest of the George Islands is irregular in shape with a deep indentation. **Granite Cove** on its south side is open to the south. The sides of the cove are irregular cliffs, and the head is a shingle beach. A shoal point extends for about 150 yards from the rock off the point on the west shore of the cove where the shoreline turns west.

(73)

Local magnetic disturbances

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Differences of as much as 3° from normal variations have been observed on George Islands at the head of Granite Cove.

(75)

From a low depression in the center of the island, at the head of Granite Cove, the land rises to the south to an elevation of about 300 feet, steep and with rocky cliffs on the south side; north of the depression the land rises less steeply to an elevation of over 200 feet. The west and south shores are fringed with rocks and kelp.

(76)

The easternmost island, separated from the west island by a narrow channel with a depth of 3¼ fathoms, rises to an elevation of over 100 feet; the shores are fringed with kelp and rocks, and kelp is off the south end, close-to. On the south side of the island is a white gravestone 4 feet high and 30 feet above water cemented to the bare rock outcrop.

(77)

Gaff Rock is about 0.4 mile west of the southwest end of the west George Islands. There is no safe passage between the rock and the island; kelp surrounds the rock, and there is a kelp patch to the east.

(78)

Currents

(79)

Current observations in the entrance east of George Islands indicate that the current usually flows north with a varying velocity that reaches a strength of about 2 knots 2¼ hours before flood strength in North Inian Pass. (See the Tidal Current Tables for daily predictions.)

(80)

Point Lavinia, about 10 miles east of Cape Spencer, is the north headland at the entrance to Port Althorp. The point appears to form a little bluff at its extremity with

rather low land behind it, rising in a southeast direction. It is wooded, and depths of 2¼ to 5¼ fathoms extend 200 yards off the point. The point is marked by **Point Lavinia Light** (58°13'24"N., 136°21'15"W.), 60 feet above the water and shown from a skeleton tower with a red and white diamond-shaped daymark.

- (81) **Elfin Cove** is a narrow inlet in the northeast shore of Port Althorp east of the east George Islands. A large islet with several smaller ones close north is in the middle of the entrance to the cove; channels are on either side of the islet. A light marks the northernmost of the smaller islets.

- (82) The main entrance channel to the cove, southwest of the large islet, is marked by **Elfin Cove Entrance Light 2** (58°11'41"N., 136°21'06"W.), 48 feet above the water, shown from a small house with a red triangular daymark on the south entrance point. The channel then leads southeast between rock ledges and through a narrow cut into the inner harbor.

(83)

Channels

- (84) A federal project provides for two dredged sections in the main channel; a 10-foot section just north of Elfin Cove Entrance Light 2, and an 8-foot section through the narrow cut that leads into the inner harbor.

(85)

Anchorage

- (86) The harbor affords protected anchorage in either of the two basins in the inner harbor and is extensively used by small fishing vessels. Care should be taken when anchoring in the lower basin of the inner harbor; numerous vessels have been reported dragging anchor and often going aground on the eastern shore.

(87)

Dangers

- (88) The principal danger in the approach to the cove is a 1¼-fathom rock, marked by kelp, about 500 yards north-northwest of Elfin Cove Entrance Light 2. The rocky ledges on the sides of the entrance channel are marked by daybeacons.

- (89) **Elfin Cove**, a fishing settlement on the northeast side of the harbor, has a small hotel, restaurant, electronic shop and laundromat open from May through September. A general store maintains limited supplies year round.

- (90) A fuel float with a 250-foot face is in the outer harbor, about 240 yards east of Elfin Cove Entrance Light 2. In 1991, 9 feet was alongside the float. Gasoline, diesel fuel, lubricating oils and greases can be obtained from the float. Water and limited provisions are available in the summer. On the south side of the southwest corner of the float, a fish-buying scow, with ice and a limited amount of provisions and fishing supplies, is docked in the summer.

- (91) The settlement of Elfin Cove operates small-craft floats in both the inner and outer harbors. A 203-foot float with a capacity for 12 boats with 21 feet on the northwest end and 9 feet on the inshore side in 1991 is just east of the fuel float. A 34-foot seaplane float is at the northwest end of the 203-foot float. The floats at the north end of the

inner harbor provide 46 berths for small craft with depths of 13 to 18 feet alongside in 1991. Water is available at the gangway. There is a private float landing on the east shore of the inner harbor.

- (92) A community-operated grid that can handle craft up to 60 feet in length is in the inner harbor west of the small-craft floats. A nearby machine shop is available for minor engine repairs.

- (93) Elfin Cove has scheduled seaplane service with Juneau. Telephone and radiotelephone communications are maintained with other parts of Alaska, and with other states.

- (94) **Althorp Rock**, about 15 feet high and marked by a light, is in the middle of Port Althorp, about 0.5 mile east of Three Hill Island. Several rocks that cover are close-to. A group of rocks, several of which show at high water, are west of Althorp Rock; kelp usually marks the rocks. Deep water is found between the patches, but the use of these channels is not recommended.

- (95) On the northeast shore of Port Althorp, about 5 miles south-southeast of Point Lavinia, is a cove with a small island near the north shore and a small islet with rocks close-to near the east shore. Depths of 18 fathoms near the head to 29 fathoms in the middle were obtained. From the north part of the cove an inlet extends east for about 0.3 mile to a bight about 0.3 mile in diameter; flats extend for a considerable distance off the north shore. Depths of 1 fathom were found in the bight and in the channel.

- (96) The ruins of a pier are on the southwest side of Port Althorp, about 1.5 miles southeast of Point Lucan. Anchorage may be had in 15 to 20 fathoms, mud bottom, at the head of Port Althorp. Small craft anchor closer in, near the head in 5 fathoms, soft bottom. In 1992, local fishermen reported that cable remnants were pulled up in the vicinity of 58°08'12"N., 139°19'18"W. In entering, the channel east of the islet is preferred. At the head of the bay is a flat with a stream emptying into the southeast corner.

- (97) The **Inian Islands**, consisting of five principal islands, five smaller islets and a few rocks, are between Point Wimbledon and Point Lavinia and separate Cross Sound from Icy Strait. They are close together, mountainous and wooded. The northwest island rises to a conical peak with a shoulder on the southeast side. **North Inian Pass Light** (58°16'20"N., 136°24'08"W.), 64 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the northwest point of the northwest island.

- (98) **South Inian Pass** connects Cross Sound and Icy Strait south of the Inian Islands. Two shoal spots are off the point on the south side of the pass at the east entrance; the north one, a rock awash, is marked by a lighted bell buoy; the south spot is covered by 2 fathoms at low water.

- (99) **South Rock**, at the entrance to the bight in the south side of the pass, and **Dad Rock**, at the entrance to the irregular indentation in the north side of the pass, both bare and are marked by kelp. There are no dangers in South Inian Pass proper and no anchorages.

(100) The current is stronger than in North Inian Pass, approaching 9 knots on the ebb at times. The flood is considerably weaker. Severe tide rips and swirls occur, especially at the west entrance, with an ebb current and west or southwest wind.

(101) Coming from the east and rounding into Port Althorp, Point Lavinia should be given a berth of not less than 250 yards to avoid a rock, exposed 3 feet at MLLW, northwest of the point.

(102) **Earl Cove** is the indentation about 400 yards wide in the east side of Inian Islands. It is clear, and a small vessel may anchor here temporarily in 8 to 16 fathoms, but it is exposed east.

(103) **North Inian Pass** is between the north coasts of the Inian Islands and Point Wimbledon. A dangerous rock awash in 58°16'36"N., 136°19'40"W., is about 0.8 mile east-northeast from the northeast entrance point of Inian Cove and about 0.2 mile offshore; a bare rock is between this shoal spot and the shore.

(104) **Point Wimbledon**, about 3 miles east from the south extremity of Taylor Island, is a bold headland rising sharply to about 0.8 mile off the beach, then with less slope to higher peaks to the northwest. It is thickly wooded and presents a continuous shoreline of gray cliffs about 50 feet high. In the bight between Taylor Island and Point Wimbledon is a rather prominent headland off which a shoal extends for about 0.6 mile.

(105) **Inian Cove**, on the north side of Inian Islands, is a secure anchorage with a clear width of about 600 yards. Its entrance is about 0.8 mile east of the northeast point of the westernmost Inian Island. A small grassy islet with steep rocky sides is off the north point of the entrance. Kelp grows in deep water on both sides in the entrance. Ice drifts into the cove, usually along the southwest side, but is not considered dangerous to vessels at anchor.

(106) Approaching from east, pass north of foul ground that extends 0.2 mile off Inian Islands, 0.8 mile east-northeast of the entrance to the cove. A 2½ fathom shoal is in the east side of the entrance in 58°16'13"N., 136°20'50"W. From west the approach is clear. Enter in midchannel and steer east so as to keep the northeast shore aboard, distant 100 yards, in the narrowest part of the cove. Anchor in the wide part of the cove in 4½ to 6½ fathoms, soft bottom.

(107)

Icy Strait

(108) **Icy Strait** extends from Inian Islands in an east direction for about 16 miles to Point Adolphus, where it takes a southeast direction for about 27 miles to its junction with Chatham Strait. It averages 6.5 miles wide, but in places this is reduced by islands.

(109)

Point Dundas to Pleasant Island Reef

(110) **Point Dundas**, the east point of the entrance to Dundas Bay, on the northwest shore of Icy Strait to the north of Inian Islands, is bold, steep and wooded. There

is deep water close to the point; the 50-fathom curve is less than 0.2 mile offshore.

(111) **Dundas Bay** has its entrance on the northwest side of Icy Strait, north of Inian Islands. The main bay is about 2 miles wide and 4 miles long in a north direction. The north end of the main bay is filled by flats to a distance of about 1.3 miles from its head. Between the flats is a channel of very deep water leading north toward the mouth of the **Dundas River**. Southwest of the flats is a channel along the southwest shore of the bay leading into the narrow crooked inlet that extends 5 miles in a northwest direction and then turns abruptly south and reaches to within 1 mile of Taylor Bay, with low land between. Numerous deadheads have been observed in the bay.

(112)

Ice

(113) Ice begins to form in November in the north and southwest arms of the bay and may linger into May if colder weather prevails.

(114)

Anchorage

(115) Anchorage in 8 to 12 fathoms, sticky bottom, can be had about 0.3 mile off the southwest shore, opposite a wooded islet, about 3 miles north of Point Wimbledon. At the anchorage the tidal currents have an estimated velocity of 2.5 knots.

(116) **Idaho Inlet** has its entrance on the south shore southeast of Inian Islands. A shoal extends about 0.2 mile west from the east point at the entrance to Idaho Inlet. Anchorage can be made in 15 fathoms in the entrance to **Gull Cove**, on the east shore of the inlet just south of this point. At low water a small vessel can select an anchorage closer in, with better shelter from north winds in depths of 15 fathoms.

(117) **Shaw Islands**, two in number and wooded, are on the west side about 1.8 miles inside the entrance. The islands are connected by a ledge, but a good channel is on each side of them. A midchannel course leads safely to the head of the inlet, where there is anchorage in 18 fathoms, mud bottom, in the middle about 0.4 to 0.5 mile west-northwest of a wooded islet. Container barges often use this anchorage during foul weather. Small craft find anchorage closer to the head of the bay in 5 to 10 fathoms. A marker at the head of the bay marks a trail that extends inland for about 8 miles to the head to Tenakee Inlet. The trail is maintained by the U.S. Forest Service.

(118) **Lemesurier Island** is in the middle of Icy Strait, 4 miles east of the Inian Islands. **Lemesurier Island Light** (58°19'09"N., 136°02'27"W.), 22 feet above the water, is shown from a small house with a red and white diamond-shaped daymark on the northeast point of the island. **South Passage Light** (58°15'31"N., 136°06'56"W.) marks the southwest point of the Lemesurier Island. The island is heavily timbered and has several summits. A small wooded island is about 200 yards off the northwest shore. A shoal extends 0.4 mile offshore from the east side

of the island and about 0.9 mile south-southeast from the light; a reef extends about 0.2 mile from the southeast point of the island. Tide rips occur off this reef, off **Jacks Cove**, and about 1 mile east of South Passage Light. **Willoughby Cove** on the southeast side of Lemesurier Island affords anchorage in 8 to 10 fathoms in the east part of the cove about 0.2 mile off the beach.

- (119) **North Passage** and **South Passage** lead north and south of Lemesurier Island, respectively. North Passage is more often used, furnishing a more direct passage to sea. A 5.3-fathom reef is in the entrance to North Passage, 2.3 miles 033° from Lemesurier Island Light. South Passage is clear, but the south shore should be given a berth of at least 0.8 mile to avoid the reef and submerged rocks off Goose Island.

(120)

Local magnetic disturbance

- (121) Differences of as much as 7° from the normal variations have been observed in North Passage.

- (122) From the east point at the entrance to Idaho Inlet (58°13.2'N., 136°09.6'W.), the shoreline is low and wooded and trends to the east for 4 miles to **Mud Bay**. Mud Bay River empties through the sandspits at the head of the bay, where flats extend for a considerable distance. The three wooded islands on the west side of the bay are separated from the mainland by a narrow channel that bares. Foul ground, bare in places, extends 0.5 mile offshore from the north side of **Goose Island**, the largest of the wooded islands. There is a depth of 5 fathoms about 1.8 miles east-northeast of **Quartz Point**, the northeast point of Goose Island.

(123)

Anchorage

- (124) Anchorage may be had in 5 to 9 fathoms, 1 mile from the head of Mud Bay, but is exposed from west to northeast, and at times ice is encountered. In entering from the west, give the north shore of Goose Island a berth of at least 0.8 mile and Quartz Point a berth of 0.5 mile.

- (125) **Point Adolphus**, the northernmost point of Chichagof Island, is marked by **Point Adolphus Light** (58°17'10"N., 135°46'59"W.), 20 feet above the water and shown from a small house with a red and white diamond-shaped daymark. It is a bold prominent point covered with timber and rising to a rounded summit. Tide rips occur north of the point. About 1 mile southwest is another rounded peak. The shoreline between Mud Bay and Point Adolphus is fairly regular. **Pinta Cove**, the bight on the east side of Point Adolphus, has been used as a temporary anchorage but is not recommended. A ½-fathom rock is near the center of the cove.

- (126) **Flynn Cove** is on the south side of Icy Strait, about 7 miles southeast of Point Adolphus and about 1.7 miles southeast of **Eagle Point**. A shoal extends 300 yards northwest from the northwest extremity of **Burger Point**, the high wooded peninsula forming the northeast side of the cove. **Harry Island**, small and wooded, is in the

entrance 600 yards northwest of this point. An islet is 0.3 mile west of Harry Island. A submerged rock is reported to be about 50 yards southeast of Harry Island. A 2¾-fathom spot was reported to be about 800 yards north-northwest of the island in about 58°13'23.2"N., 135°36'16.7"W.

- (127) **Pleasant Island**, on the north side of Icy Strait about 4.5 miles northeast of Point Adolphus, is comparatively low. **The Knob**, near the middle of the south shore, is a prominent wooded knob. **Noon Point** is the east extremity of Pleasant Island. Rocks and kelp extend 0.6 mile off the point.

- (128) **Icy Passage Light 2** (58°23'11"N., 135°37'43"W.), 22 feet above the water, is shown from a skeleton tower with a red triangular daymark off the north shore of Pleasant Island and marks the south side of Icy Passage, the channel between Pleasant Island and the north shore. Mudflats extend off the north shore to within 0.8 mile of the north shore of Pleasant Island. The shallow cove on the north shore of Pleasant Island, southeast of the light, offers fair shelter in 1 to 8 fathoms, mud bottom.

- (129) **Gustavus** is a community with an airport on the north shore of Icy Passage at the mouth of **Salmon River**. A lighted buoy, about 3.7 miles west of Icy Passage Light 2, marks the river entrance. River navigation should not be attempted in low or no light situations. Prominent from offshore is the white tank farm south of the community. A state-owned mooring dock, with a 75-foot face and 20 feet reported alongside in 2014, is about 0.3 mile east of the entrance to Salmon River. The dock is connected to shore by a 1,300-foot-long causeway. Alaska Marine Highway ferry service has priority at the mooring dock. Community owned seasonal small-craft floats extend east off the end of the dock. No services are provided and overnight moorage is not allowed. West and southwest swells can make the floats unstable. A paved road connects Gustavus, the airport and Glacier Bay National Park headquarters at Bartlett Cove. Upon advance notice, taxi service is available from the floats or dock to the airport, the community of Gustavus, seasonal lodges and Bartlett Cove. Gustavus is served by air-charter services year round and Alaska Airlines from Juneau in the summer. Satellite phone, VHS and cell phone communications are available with other parts of Alaska and the Lower 48 states.

(130)

Weather

- (131) Gustavus is somewhat protected from the harsh winds of fall and winter by its inside location. Gales are rare while winds of 17 to 27 knots blow about 4 to 7 percent of the time from October through April. The best weather conditions are likely on May through September afternoons, when, on an average of 20 times per month, surface winds range between 4 and 10 knots, temperatures are 33° to 87°F and no precipitation occurs. Poor visibilities are most likely in summer and autumn, falling below 0.5 mile on 2 to 3 days per month from July through September and again from December through

March. During the summer, visibilities are worst in the early morning because of fog, while winter shows less of a diurnal variation since both fog and snow are responsible. Snow is most likely from November through March, averaging 66 inches annually. Precipitation is most frequent during October through February. Temperatures drop to freezing or below on an average of 144 days annually and climb to 70°F or above on about 12 days. Extremes range from -25°F to 87°F.

- (132) **Pleasant Island Reef** is an extensive reef, 1 mile south of Pleasant Island. The reef is marked by a lighted bell buoy. Between the reef and the south shore of Pleasant Island is a $\frac{3}{4}$ -fathom rock (58°19'23.7"N., 135°38'06.4"W.); between this rock and the reef is a narrow channel with depths of 20 to 30 fathoms.

(133)

Porpoise Islands to Tarr Inlet

- (134) **Porpoise Islands**, a group of four islands, are near the east end of Icy Passage, about 2 miles east of Noon Point, Pleasant Island. The southernmost and largest island is high and wooded and has a prominent yellow cliff about 370 feet high on the south side. The northwest end of the island is a long low point, terminating in a clump, beyond which a sandspit extends almost to the next island.

- (135) Foul ground extends off the islands in places for almost 0.3 mile. A $1\frac{1}{2}$ -fathom spot is 0.6 mile northwest of the northernmost island in about 58°20'57.4"N., 135°30'09.6"W. Anchorage may be had in 10 to 17 fathoms, clay and sand bottom, good holding ground, off the west side of the largest island, with the tangents of the largest island bearing 031° and 125°. The strong current and southeast exposure make this area a poor anchorage.

- (136) **Excursion Inlet**, a deep, clear, narrow inlet in the north shore of Icy Strait, has its entrance north of Porpoise Islands. About 2.5 miles northeast of the west entrance point is an extensive area of low land on the east side of the inlet. The inlet divides into two arms 4.5 miles inside the entrance.

- (137) Vessels will find indifferent anchorage near the head of the east arm, 0.2 mile from the east shore, in about 30 fathoms. Small craft can select anchorage in about 10 fathoms in the coves at the head of the west arm.

- (138) **Excursion Inlet**, a small settlement on the east shore about 3.3 miles above the entrance, is the site of a cannery. A wharf at the cannery has a 130-foot face. A seaplane float and a seasonal small-craft float are just north of the wharf. In 1999, 10 feet was reported alongside the small-craft float. Vessels usually stem the current, making either a port or starboard landing at the cannery wharf. The flood current is reported to set about parallel with the face of the wharf; the ebb sets off the wharf, particularly during the first part of the ebb. At low water, large vessels will ground at the bilge keel next to the wharf in soft mud but will have 25 to 30 feet at the keel line, the shoalest water being at the south corner of the wharf. The oil wharf,

165 feet south of the cannery wharf, has a least depth of about 20 feet at the face and a length of 40 feet. During the fishing season provisions and fishing supplies can be obtained at the cannery general store, water and ice at the cannery wharf and gasoline, diesel fuel, distillates, lubricating oils and greases at the oil wharf.

- (139) The cannery maintains radiotelephone communication. Scheduled seaplane service, daily in the summer and weekly in the winter, is maintained with Juneau.

- (140) A caretaker is in charge of the cannery when it is not in operation.

- (141) **Point Carolus**, the west point at the entrance to Glacier Bay, is a low gravel and boulder point, back of which it is low and timbered; high land is west and north.

- (142) An extensive reef and several rocks are off the point. Vessels rounding Point Carolus should give it a berth of over 1 mile in order to stay outside the dangers. A small cove, into which a stream empties, is about 1 mile southwest from the point.

- (143) **Point Gustavus** (58°23'N., 135°55'W.), the east entrance point to Glacier Bay, is low and wooded and does not exceed 120 feet in elevation or 250 feet tree height. The beach is of gravel and boulders. It is advisable for all vessels to stay well outside Ancon Rock when rounding Point Gustavus. Old pilings of fishtraps are in the area east of the point. A shoal bare at low water is 1 mile north of the point; the bottom in this locality is broken and uneven. Depths to 9 fathoms extend 2.7 miles south of the Point.

- (144) **Ancon Rock**, which uncovers more than 1 foot, is about 0.4 mile south-southwest of Point Gustavus and is marked by a buoy 0.3 mile to the west. A rock that uncovers 3 feet is 0.2 mile northwest of Ancon Rock. Another rock area uncovers about 0.2 mile to the southeast of Ancon Rock. Broken ground with depths from 2 to 5 fathoms and a possibility of less extends 1.4 miles south of Point Gustavus; it should be avoided.

- (145) **Glacier Bay** has its entrance on the north side of Icy Strait between Point Gustavus and Point Carolus. It is about 50 miles long to the head of Muir Inlet, 54 miles to the head of Johns Hopkins Inlet and 62 miles to the head of Tarr Inlet, its northwest arm, near the Canadian border. From Point Gustavus to Willoughby Island, the east shore, including Beardslee Islands, is low and quite shelving, and the west shore is low for a short distance back; above Willoughby Island both shores of the bay are steep and foul and should be avoided. All the shoals of less than 6-fathom depth are covered with kelp part of the year, but this kelp cannot be depended upon to indicate the dangers as the strong current tows the kelp under most of the time.

- (146) **Glacier Bay National Park and Preserve**, 4,400 square miles in area, comprises all of Glacier Bay. It has over 20 tremendous glaciers and many others almost equally impressive. They illustrate all stages, from actively moving ice masses to those that are nearly stagnant and slowly dying.

(147) Humpback whales frequent Glacier Bay. The U.S. National Park Service advises that Glacier Bay National Park and Preserve is involved in a management program to minimize the impact of motor vessels on the whales. All motor vessels are prohibited from pursuing or approaching within 0.25 mile of humpback whales. In the period June 1 through August 31, all mariners, except NPS commercial fishermen, are required to have advance permission from the Superintendent, Glacier Bay National Park and Preserve, to enter Glacier Bay past a line extending from Point Carolus to Point Gustavus. The National Park imposes vessel speed limits in the lower bay during the summer to protect humpback whales. Mariners are advised to check with the park for current restrictions.

(148) Requests for entry authorization are submitted to the ranger station in Bartlett Cove, addressed to Superintendent, Glacier Bay National Park and Preserve, U.S. Park Service, Bartlett Cove, Gustavus, AK 99826, or by telephone 907-697-2627 or by VHF-FM radiotelephone or by email: glba_vis@nps.gov. The ranger station, call sign, KWM-20, monitors VHF-FM channel 16, from 0800 to 1700 daily in the summer.

(149) Special regulations govern Glacier Bay National Park and Preserve. (See **36 CFR 13.1** through **13.55** and **13.1102** through **13.1188**, chapter 2, for regulations.) For current regulations and information, mariners are encouraged to read the information board at the Park Service information station at Bartlett Cove or contact the station by telephone or radiotelephone.

(150) A lodge at Bartlett Cove, with accommodations, is open during the summer season. Cruise ships enter the bay frequently during the summer season. In the upper fiords, VHF-FM and AIS transmissions are poor. Alternative communications, like satellite phones and two-way messaging devices provide more reliable connections.

(151)

Currents

(152) The tidal currents from Point Gustavus to Willoughby Island at times attain a velocity of 6 knots or more. Heavy tide rips and swirls occur abreast Beardslee Islands, especially off the channel southeast of the northwest island of the group. From this channel the ebb current sets across the bay and meeting the direct current coming down on either side of Willoughby Island produces heavy swirls and rips during large tides. Above Willoughby Island the currents have little velocity. See the Tidal Current prediction service at tidesandcurrents.noaa.gov for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(153)

Ice

(154) Numerous discharging glaciers enter the bay, and glacial ice is always present, sometimes in enormous quantities in Muir Inlet, Tarr Inlet and Johns Hopkins

Inlet. The quantity of ice discharged into Glacier Bay varies from year to year and is greatly affected by seismic activity and local weather. Variations in ice conditions throughout the bay follow no absolutely predictable pattern. Water circulation near the glaciers is very erratic as freshwater enters at all depths. Swirls and eddies are common and cause the ice to move slowly in all directions. During periods of active calving, ice can be present in dense packs. When the ice falls from the faces of the glaciers, it may create waves 30 feet high. Therefore, small boats should not approach closer than 0.5 mile to active glaciers. Icebergs are unstable and should not be approached closely because, if disturbed by swell from the small boat passing, they may roll over or break apart at any time. Icebergs may have underwater projections that extend far from the visible portion at the surface.

(155) Beginning in January, Glacier Bay is at times frozen in its upper reaches and in the bays and inlets where much freshwater is discharged. In the upper end of all bays and inlets, the ice never gets thick during the winter freeze-over, and it either thaws or is broken by the wind and waves. The greatest amount of float ice is found in the spring, and it lessens as the season advances. In June the ice in front of the glaciers, as seen from mountains farther down, appears to be solid at the head of the bay. More ice comes down the bay on the large tides than the small, and winds also exert a marked influence on the ice movements.

(156)

Caution

(157) The navigation of Glacier Bay outside of the main channels is not considered safe without local knowledge. The shoals are occasionally marked by grounded ice.

(158) Ocean liners and other vessels that cruise the bay are advised to watch for kayaks and small vessels in the area.

(159) Vessels are advised to be wary of ice when navigating Glacier Bay.

(160) **Bartlett Cove**, 4 miles north of Point Gustavus, formed by the mainland on the southeast and **Lester Island** on the northwest, is large and affords good anchorage. It is open to the southwest, but the holding ground is good. The best anchorage in the cove is about 0.2 mile off the southeast side in 7 to 10 fathoms, mud bottom. Take care not to approach too close to the head of the cove. In south weather small boats can anchor close inshore on the southeast side of the cove. The water on the northwest side of the cove is deeper; anchorage for large vessels is recommended in the center of the cove in 8 to 16 fathoms.

(161) To enter Bartlett Cove, follow the east shore of Glacier Bay at a distance of 1 to 1.5 miles offshore for 4 miles from Point Gustavus to the entrance of the cove, and enter in midchannel. No dangers exist that are not connected with the shore except at the head of the cove and off the east and west entrance points. The reef making off the east entrance point is particularly dangerous. Foul ground extends for about the same distance off the west

point of the entrance and is marked at times by kelp. A cable was reported in shallow water near shore along the northern side of Bartlett Cove then across the mouth of Bartlett Cove for a hydrophone; avoid anchoring or dragging in these areas.

- (162) The 300-foot T-head pier of the U.S. National Park Service is on the southeast side of Bartlett Cove. In 2002, 25 feet was reported alongside the 400-foot face with 20 feet along the rear of the face. It has been reported that strong currents run parallel along the face of the pier with a west set on the ebb. Mooring facilities alongside the pier are limited and available on a first-come, first-served basis up to 3 hours during the summer. Mariners are encouraged to anchor out and use skiffs to land. Some slips on the inside of the dock are marked for use by government vessels only. A seaplane float is at the end of the northeast side of the pier. Anchoring is prohibited in the area close to the dock. Warning signs are posted on the T-head pier. Close to the pier, the U.S. National Park Service maintains a headquarters and a ranger station throughout the year. A lodge, close to the ranger station, is available on a seasonal basis for food, showers and laundry. Water is available during the summer. Fuel is available seasonally at the dock close southwest of the T-head pier with 25 feet available alongside and a 2-ton mast-and-boom derrick.

- (163) The U.S. National Park Service at Bartlett Cove maintains radiotelephone and telephone communications. A road connects with Gustavus and the airport. Bartlett Cove is serviced from Juneau by scheduled and charter seaplanes and by a scheduled airline at Gustavus airport in the summer.

- (164) **Beardslee Islands**, low, hilly and sandy, 5 miles above Point Gustavus, extend north along the east shore of Glacier Bay and should be given a good berth. The southwest and west sides are quite shelving, and there are detached shoals north of them for a considerable distance. Beyond these islands the east side of the bay has shoals and sand dunes formed by the glacial debris from the head of the bay; many of these shoals show only at low water.

- (165) **Beardslee Entrance**, about 7.5 miles above Point Gustavus and on the southeast side of Strawberry Island, is the approach to the area among the Beardslee Islands. The shoals at the entrance, although they have comparatively deep water over them, cause numerous swirls and the tide rips.

- (166) **Sita Reef** is about 0.5 mile north of the north side of **Strawberry Island**. A rocky area, about 2 miles north of Strawberry Island, is in the east half of the channel up Glacier Bay.

- (167) A group of reefs about 5.5 miles north of Strawberry Island consists of coarse gravel and scattered boulders and is considered the north extremity of the Beardslee Islands. The tidal currents in Sitakaday Narrows between **Rush Point** (58°28.0'N., 136°04.5'W.) and the Beardslee Islands reach a velocity of 8 knots on spring tides.

- (168) **Berg Bay** is on the southwest side of Glacier Bay, 10 miles above the entrance. In the approach from

southeast, Lars Island shows as detached from the shore and is readily identified. The main entrance is between **Lars Island** and **Netland Island**. Care should be taken in passing a rock, reported to uncover, making out from the north end of Lars Island. It is advisable to make passage at or near high water. Kelp grows in about 6 fathoms, but the strong currents make the kelp tow under most of the time except during slack water. The passage north of Netland Island is not recommended due to several rocks and low water.

- (169) The bay is made up of three arms, north, west and southeast. A narrow, tortuous channel leads into the southeast arm of Berg Bay. This channel is not recommended due to a rocky bottom with many boulders. The currents are strong except for a short time immediately preceding and following high water. Below half tide there is a divided gradient between Berg Bay and the water in the southeast arm.

- (170) Anchorage is good in about 18 fathoms about 1 mile inside the entrance. Small craft can anchor farther inshore for protection from south winds. Good anchorage, with protection from north winds, can be had in the north arm. In the west arm, the best anchorage for small craft with good holding ground is reported to be along the northeast shore near the head of the arm.

- (171) **Willoughby Island**, about 12.5 miles above Point Gustavus, is a densely wooded mountain, and three small islets are close to its north end. **Johnson Cove**, the small indentation at the northeast extremity of Willoughby Island, is partially protected from wind and waves by the small islets and affords some protection for small boats in all but southeast weather.

- (172) The main channel of Glacier Bay passes about 1 mile east of the Willoughby Island shore. **Whidbey Passage**, a well-defined and deep channel, separates Willoughby Island from the mainland to the west.

- (173) **Francis Island** is a densely wooded islet, 1.6 miles northwest of Willoughby Island, with a deep channel between. **Drake Island**, like Willoughby Island, is densely wooded. The shores are rocky and steep, with short stretches of gravel beach; a depth of 8 fathoms is about 2.6 miles 062° from the northeast end of Drake Island.

- (174) **Marble Islands**, high and partially forested, and weathered to a slate color, are 1.4 miles apart; the south one is 3 miles northeast of Willoughby Island. Just off the south end of South Marble Island are some rocks awash, and relatively shoal water extends in a narrow ridge some 750 yards southeast. A shoal, uncovers in extreme low tide and marked by kelp, is midway between **North Marble Island** and **South Marble Island** and makes passage dangerous between them. Shallow water extends northwest from the north end of North Marble Island. Near the north extremity of the shoal, 470 yards from the island, is a rock that uncovers about 6 feet.

- (175) **Leland Islands**, the two islands about 1.7 miles east of the Marble Islands, are low, thickly wooded and have an extensive area of shoal water surrounding them

and a large reef to the south. The channel between these islands and the Marble Islands is navigable, but caution is necessary.

- (176) **Beartrack Cove**, which indents the east shore of Glacier Bay about 13 miles north of Point Gustavus, is very deep throughout, and the bottom slopes steeply from the shore. **Beartrack River**, a stream of considerable size, empties into the upper end of the cove. To anchor in 20 fathoms or less a vessel must lie about 175 yards off the low-water line. Strong north winds bring swells into the cove.

- (177) A deep channel passes north between the Leland Islands and the mainland, and then between North Marble Island and Sturgess Island. It affords good passage from Beartrack Cove to Sandy Cove and Muir Inlet.

- (178) **Spokane Cove** is 6.5 miles northwest of Beartrack Cove. In entering, care must be taken to pass south of the rock off the north shore and to avoid the boulders that fringe the shore of the mainland. The entrance channel has a depth of 10 fathoms. This cove is used by boats with local knowledge but is open to winds from the south. Anchorage can be had in 5 to 8 fathoms, mud and sand bottom.

- (179) There are two rocks 0.5 mile off the south entrance point. The south rock was reported to uncover 19 feet and the north one 2½ feet.

- (180) **Sturgess Island** is 3 miles north of North Marble Island. Sturgess Island has a longitudinal ridge that rises from the water with an even slope. A chain of islets extends southeast from Sturgess Island. A 5-fathom shoal is about 0.5 mile southwest of Sturgess Island. There are shoal areas in the west half of the strait between Sturgess Island and the large island to the east, but deep water is found if the east shore is favored.

- (181) Good holding ground for larger vessels can be found 0.25 mile south of Sturgess Island in 15 fathoms.

- (182) **North Sandy Cove**, between the mainland and the two islands about 1.2 miles east of Sturgess Island, affords anchorage in 4 to 6 fathoms, good holding ground, and good protection from winds from any quarter. Ice rarely drifts into the cove, but is exposed from all directions. Two channels lead into North Sandy Cove. The north channel on the east side of **Puffin Island**, the north island, is preferred. The south channel that leads between the two islands is used to some extent by local vessels.

- (183) **South Sandy Cove**, immediately south of North Sandy Cove, is used by vessels with local knowledge. Excellent anchorage can be had any place in the cove, including the bight at the southeast side of the head, in 5 to 8 fathoms, mud and sand bottom. This anchorage is open to winds from the southwest and swell from the north. In winter, strong southerly winds funneling along the mountain side can blow from the head of the cove. In entering, take care to pass south of the rock about 250 yards south of the small islet on the north side of the entrance and to avoid the boulders that fringe the southeast shore. During the summer, the U.S. National Park Service maintains a ranger station at South Sandy

Cove. The ranger station monitors VHF-FM channel 16. The station is not regularly staffed.

- (184) **Muir Inlet** extends north then west for a distance of over 24 miles from the north side of Glacier Bay. At its entrance the shores are steep and timbered, but in the area of Wachusett Inlet the east shore is an area of terminal moraine with gently sloping beaches. North of Sealers Island the west shore is brushy and steep and continues as described to the head of the inlet. The east shore becomes barren and steep near Riggs Glacier and remains so to the terminus of Muir Glacier. Numerous shifting glacial streams line the moraines, and a number of glaciers empty into the inlet. Good depth is found in midchannel.

- (185) **Muir Glacier**, at the head of Muir Inlet, is no longer a tidal glacier. Recent warming has caused the glacier to retreat out of the waters of Muir Inlet. The face of Muir Glacier is now blocked by a series of low moraines and a large delta. The flats in front of Muir Glacier rise suddenly from deep water, and move seaward each year. Extreme caution should be used when approaching glacial outwash fans. Ice rarely reaches the waters of the inlet.

- (186) **Tlingit Point**, on the west side of the entrance, is a rock outcrop. **Sebree Island**, close to the west shore, at the entrance to the inlet, is heavily wooded and is connected to the mainland by gravel and mud flats. Small vessels can anchor in **Sebree Cove**, between Tlingit Point and the south part of Sebree Island; the holding ground is good. The cove is exposed to south winds, but ice seldom drifts in. An unnamed islet is in the entrance to the cove, about 0.5 mile south of Tlingit Point.

- (187) Heading up the East Arm, **Caroline Shoal**, on the west side of Muir Inlet 2 miles above Tlingit Point, is a gravelly spit that is awash at high water. The north side of the shoal is occasionally marked by grounded icebergs.

- (188) **Garforth Island**, 110 feet high and densely wooded except at the north end, is on the east side of Muir Inlet, about 2.8 miles northeast of Sebree Island. The channel between the island and the east shore of the inlet has a controlling depth of 6 fathoms. The shoal part of the channel usually has a considerable amount of kelp. A good anchorage for vessels too large for most anchorages in the upper reaches of the bay is reported to be about 0.25 mile north of Garforth Island.

- (189) **Adams Inlet**, on the lower east shore of Muir Inlet, is deep at the entrance. However, the remainder of the inlet is dangerous to enter without local knowledge. Strong tidal currents (especially in the entrance) and shoals exist throughout all branches leading to the bays of the inlet. A large rock marks the narrowest part of the entrance channel. It is north of the centerline of the entrance, about 2.7 miles from the mouth. Passage to the north of the shoal is preferred; give equal berth to the shoal and north shoreline of the entrance channel. Controlling depth is 3 fathoms.

- (190) During periods of ebb and flood, the tidal velocity is greatly increased in the vicinity of this rock, because of the constriction in the channel. White water dashes about the rock, and large whirlpools are shed from its sides.

- (191) No glaciers discharge ice into the inlet, and only occasionally will ice be found within the inlet. Casement Glacier outwash has caused significant infilling of Adams Inlet. What once was a large island is in the center of the inlet and now has braided glacial river discharging to the north and west sides of the island to large bays at the east and southwest sections of the inlet. The waters are very muddy, and submerged shoals cannot be seen except for those marked by turbulent currents. At this point, the eastern section of Adams Inlet is considered uncharted.
- (192) **Hunter Cove** on the west side of Muir Inlet, 9 miles above the entrance, is a bight formed by the recession of **Plateau Glacier**; the cove is a good temporary anchorage. When using this bight, take care to avoid two rocks, which uncover 2 feet, close east of the bold point at the north entrance.
- (193) **Wachusett Inlet** is on the west side of Muir Inlet about 6 miles northwest of Adams Inlet. A shoal (58°56.8'N., 136°08.0'W.) with a depth of 10 feet is near the middle of the entrance; large icebergs occasionally ground on this shoal. A berth of 0.25 mile should be given this shoal, because it slopes gently to the deeper depths. A reef, which uncovers 13 feet, is about 1 mile from the entrance of the inlet and about 500 yards from the south shore. Vessels should favor the north shore.
- (194) Wachusett Inlet extends over 9 miles from its entrance, west to a large area of tidal flats in front of the moraine of the distant Carrol Glacier. The mouth and inward to the narrowest part of the inlet have depths ranging from 34 to 42 fathoms at midchannel. The next few miles deepen to over 100 fathoms then gently slope upward to the tidal flats at the end of the inlet and a depth of about 29 fathoms midchannel. The north shore of the inlet is mostly glacial moraine left by the recession of Burroughs and Plateau Glaciers. The south shore is more steep than the north shore; barren rock is interspersed with pebble beaches formed from alluvial fans. The head of the fjord has infilled; caution should be used when approaching the end.
- (195) **Sealers Island**, a small rocky island with steep sides, is close to the east shore of Muir Inlet and about 7 miles north of Adams Inlet. **Goose Cove** is only accessible for very small vessels. The mouth of the cove dries at low water.
- (196) The entrance to **McBride Inlet** is treacherous to navigate without local knowledge, including strong currents, dense icebergs, and shallow rocks through a narrow 0.25 mile long inlet. Entering and exiting near high slack water favoring the southern shore is the preferred route. Entering during a flood may mean the vessel cannot control its course or speed. Turning around in the channel is not recommended. After passing through the entrance channel, favor the northern shore until past the shallow spot 0.5 mile inside the inlet. Expect ever changing conditions near the face of the glacier.
- (197) **Upper Muir Inlet** extends west of Riggs Glacier for 3.5 miles, then northwest for another 3 miles. This section of the inlet is steep-to on both sides and deep. The southern shore is steep and covered with dense alder brush. The north shore is sloping in places, with spare vegetation and a few large alluvial fans. There are no anchorages in Upper Muir Inlet. The inlet ends in a large area of tidal flats in front of Muir Glacier, which has receded far from tidewater. The flats rise suddenly from deep water and build seaward on a continual basis. Extreme care should be exercised when approaching glacial outwash fans.
- (198) All glaciers in this area have now retreated onto land. Expect the continued sediments from these glaciers to cause infilling near them; caution advised.
- (199) The northwest arm of Glacier Bay has a northwest direction, with a width of 2 to 5 miles, and a precipitous shoreline with depths greater than 20 fathoms within 200 yards of the shore. **Lone Island** has a rocky, precipitous shoreline and is in midchannel about 3.4 miles northwest of Drake Island. A rock is reported to be about 0.3 mile south of the island in about 58°43'00"N., 136°17'28"W. **Geikie Rock**, 6 feet high, is off **Geikie Inlet**, 1.8 miles south of Lone Island. The occasional grounding of ice in the vicinity indicates a shoal of some extent. A large rock, which uncovers 11 feet, is 900 yards 042° from Geikie Rock.
- (200) Geikie Inlet extends 8 miles southwest from the south shore of Glacier Bay. Midchannel depths range from 40 to 80 fathoms with unobstructed depths greater than 10 fathoms that extend to within 200 yards of shore.
- (201) **Shag Cove** is 1 mile within the entrance to Geikie Inlet on the south shore. Depths in the 2-mile-long cove range from 1½ to 6 fathoms to within 100 yards of the shore with the exception of two areas: 3 fathoms, 300 yards off the west shore, 0.8 mile within the entrance, and 7 fathoms, midchannel, 0.6 mile within the entrance. These shoals are not a hazard to navigation for any size vessel likely to operate in the cove; however, passage may be made in 10 to 40 fathoms by staying 250 yards off the east shore. An area foul with rocks extends 300 yards offshore from the point and small island at the southwest entrance to the cove. This foul area extends toward the large island 0.2 mile to the north-northeast. Passage may be made by small craft by staying within 100 yards of the large island. Protected anchorage may be had in 5 to 20 fathoms at the head of the cove, soft bottom.
- (202) **Tyndall Cove** is 2 miles southwest of Shag Cove. Unobstructed midchannel depths range from 10 to 40 fathoms with depths greater than 10 fathoms within 100 yards of the shore. A gravel bar extends 400 yards offshore from the large stream on the west shore at the entrance to the cove. Anchorage may be made in 10 to 20 fathoms at the head of the cove, soft bottom.
- (203) An island is 0.4 mile off the southeast shore of Geikie Inlet, midway between Tyndall Cove and Shag Cove. A shoal surrounds the island, which should not be passed closer than 500 yards. A wide berth should be given to a rock awash (58°38.1'N., 136°23.1'W.), 600 yards off the southeast shore, 0.6 mile south-southwest of the island, directly north of the east side of the entrance to Tyndall Cove.

- (204) The head of Geikie Inlet continues to infill; caution is advised when approaching.
- (205) A foul area (58°44.3'N., 136°24.2'W.), awash at low water, is 0.7 mile off the southwest shore of the west arm of Glacier Bay and 3.5 miles west-northwest of Lone Island. A 1½-fathom shoal (58°44.5'N., 136°25.9'W.) is 800 yards off the south shore and 1 mile west of the foul area. Safe passage may be had into **Hugh Miller Inlet** by staying 100 to 600 yards off the south shore, from the prominent point 3.5 miles northwest of Geikie Rock to a small cove called Sundew Cove (58°44.4'N., 136°29.8'W.). Unobstructed depths greater than 5 fathoms extend to within 100 yards of the shore; a gravel bar at the mouth of the stream near the middle of the cove extends 250 yards offshore from the apparent shoreline and should be avoided. Anchorage may be had in 5 to 35 fathoms in the cove, soft bottom. The western bight of the cove offers the best anchorage for small vessels.
- (206) Two unnamed islands 5.6 miles northwest of Lone Island separate Hugh Miller Inlet from **Blue Mouse Cove** to the north. Passage should not be attempted from the southwest or southeast into Blue Mouse Cove. Midchannel depths in Hugh Miller Inlet range from 30 to 57 fathoms. **Division Island** (58°46.2'N., 136°32.5'W.) separates **Charpentier Inlet** and upper Hugh Miller Inlet. No attempt should be made to enter the head of Hugh Miller Inlet between Division Island and Gilbert Peninsula without local knowledge; numerous rocks and foul areas exist in this area. The southwest shore of Hugh Miller Inlet between the unnamed cove and Division Island should be kept at least 500 yards to port when passing from Sundew Cove (58°44.4'N., 136°29.8'W.) to the northwest part of Charpentier Inlet. A rock (58°45.4'N., 136°29.9'W.) is 250 yards offshore 0.7 miles northwest of the northwest entrance point of the unnamed cove. A 3-fathom shoal is 300 yards northeast of a low grassy island just off the prominent point 0.6 mile northwest of the northwest entrance point of the unnamed cove, and a 3½-fathom shoal is 450 yards north of the same island.
- (207) To pass through Hugh Miller Inlet into Charpentier Inlet, follow a midchannel course until the north and westernmost low rocky island is abeam to port and then follow a southwest course so as to pass midchannel between the southeast end of Division Island and the rocky island about 500 yards south of the southeast point of Division Island. Take care to pass well clear of the islands, which are fringed by reefs and shoal areas. Midchannel depths are 4 to 30 fathoms between the rocky islands and Division Island. Rocks and foul areas extend south-southeast from the westernmost rocky island to shore, and the area should be avoided.
- (208) **Charpentier Inlet** extends about 6 miles south-southeast from the south-southwest end of Division Island. Depths in the inlet are 40 to 83 fathoms with unobstructed depths greater than 10 fathoms 100 yards offshore. Two rocks (58°44.9'N., 136°31.4'W.) are 100 yards north of the prominent point on the east shore at the entrance to the southeast arm of the inlet. Anchorage may be had in soft bottom anywhere in the inlet. The southeast arm is navigable to its head where anchorage may be had in 10 to 20 fathoms.
- (209) A small 0.5-mile-diameter tidal basin (cove), 1.3 miles west of Division Island, is separated from the north arm of Charpentier Inlet by a high flat gravel island. The cove is 15 fathoms deep at its center but is separated from the inlet by a bar at low water; passage may be made into the cove by skiff through a 0.7-mile-long northwest-trending channel originating near the center of the gravel bar at the northwest end of Charpentier Inlet and passing north of the flat gravel island.
- (210) **Scidmore Bay** is southeast of **Scidmore Glacier**, northwest of Charpentier Inlet and west of **Gilbert Peninsula**. Depths are 20 to 46 fathoms with depths greater than 5 fathoms within 200 yards of the shore. Two unnamed islands are near the center of the bay. Two rocks (58°48.6'N., 136°37.2'W.) are 100 yards off the north shore of the east island, and a reef is 200 yards west of the northwest point of the east island. A rock (58°48.2'N., 136°37.5'W.) is 30 yards off the southwest shore of the west island. A rock awash (58°48.0'N., 136°37.6'W.) is 500 yards southwest of the south end of the west island. Strong northwest and southeast winds blow through the bay, and best anchorage is made in 10 to 20 fathoms in the lee of the islands, soft bottom. To enter Scidmore Bay, hold a midchannel course from Charpentier Inlet.
- (211) **Blue Mouse Cove**, 3 miles southwest of Tidal Inlet, is at the southeast end of Gilbert Peninsula. Unobstructed depths greater than 5 fathoms extend to within 150 yards of the shore, with central depths of 15 to 30 fathoms. The holding ground here is reported to be fair, with the best anchorages reportedly on the west and east sides, well inside the cove.
- (212) **Tidal Inlet**, about 3 miles east-northeast of Gilbert Peninsula, is 4 miles long, with central depths of 26 to 130 fathoms and unobstructed depths greater than 10 fathoms within 150 yards of the shore. A 3½-fathom shoal is 450 yards east-southeast of the prominent point on the west side of the entrance to the inlet. A prominent scarp can be found on the north side of the inlet 1.2 miles from the entrance. Extensive areas of loose rock on this steep shattered cliff present a continuing hazard of landslides, falling debris and potential avalanches. Destructive waves caused by massive rock falls can occur at any time. A giant wave could result from sudden failure of this scarp with little or no warning to mariners in or near the Tidal Inlet area. Anchorage is possible in 5 to 20 fathoms off the south shore, 2.6 miles from the entrance, and 100 yards northwest of a prominent reef 100 yards from the apparent shoreline; anchorage in other areas is difficult, because of excessive depths.
- (213) **Composite Island** is 6 miles northwest of Tidal Inlet between Rendu Inlet and Queen Inlet. Clear passage may be made on all sides of the island in depths of 60 to 140 fathoms. Unobstructed depths greater than 10 fathoms extend to within 100 yards of the shore. Anchorage may be had 200 yards off the northwest shore in 20 fathoms.

- (214) **Rendu Inlet**, 7 miles long, is northwest of Composite Island; central depths are 40 to 98 fathoms, with unobstructed depths greater than 20 fathoms within 100 yards of the shore.
- (215) **Queen Inlet** is north of Composite Island; central depths are 30 to 80 fathoms, with unobstructed depths greater than 20 fathoms within 200 yards of the shore. **Triangle Island** is at the head of the inlet and is surrounded by outwash plain.
- (216) Neither Rendu Inlet nor Queen Inlet offers safe anchorage, because of the steeply sloping bottom and excessive depths. Take care to avoid the rapidly building bars at the heads of these inlets. These shoals rise suddenly from deep water and build seaward on a continual basis.
- (217) Glacier Bay continues northwest from the Gilbert Peninsula and Composite Island to Russell Island. The principal channel passes to the south of Russell Island with central depths of 120 to 220 fathoms.
- (218) A group of small rocky islets are 1.8 miles east of the southeast point of Russell Island. The largest islet at the southeast end of the group has a prominent, dome-shaped peak that is about 36 feet above mean sea level. Reefs and foul ground extend for 900 yards northwest from the dome for an area 300 yards wide. The southeast end is steep-to.
- (219) A single rocky islet is 1 mile north of the southeast point of Russell Island. A reef extends 500 yards from the southeast end of the islet. A 5-fathom shoal (58°55.6'N., 136°45.3'W.) is 0.6 mile east of the islet.
- (220) The south, northeast and north slopes of **Russell Island** are rocky and steep at sea level. The southwest and west sides are gently sloping.
- (221) Along the east side of Russell Island are several islets and rocks awash, all within 400 yards of the mean high-water line. Bare and submerged rocks extend out 400 yards from the southeast point of the island.
- (222) The north shore of Glacier Bay from Rendu Inlet to Russell Island is steep with gravel and boulder beaches. A large glacial outwash area is north of Russell Island.
- (223) Anchorage may also be found in 15 to 25 fathoms in an area 0.3 miles south of the basin. The anchorage is north of a line running from the northeast corner of Russell Island, southeast, through the islets and reefs to the domed islet 1.8 miles east of the southeast point of Russell Island. Approach is made by following the north shore, keeping midway between the shore and the line of islets and reefs. The offshore side of the channel should be favored to avoid the 4-fathom shoal. Anchorage is in mud with gravel and cobbles anywhere from the islet due north of the easternmost point of Russell Island up to the northeasternmost point of Russell Island.
- (224) To continue through the passage around the north side of the island, stay midchannel, but favor the island side until abeam of the first rocky point on the northwest side of the outwash. Then favor the mainland side, passing about 250 yards off the second rocky point on the north shore. Then steer west-northwest into Tarr Inlet, avoiding the 2-fathom ridge (58°57.1'N., 136°51.4'W.), 650 yards northwest of the north point of Russell Island. This course will also avoid a rocky ridge (58°57.6'N., 136°52.4'W.) that extends 300 yards off the next rocky point on the mainland (third point from the outwash and 1 mile northwest of the north point of Russell Island). Passage is recommended only for vessels with draft sufficiently small to clear the charted shoals.
- (225) Anchorage may be found on the northwest side of Russell Island between the northernmost and the westernmost points, about 0.4 mile offshore. Depths are 5 to 20 fathoms in mud bottom with gravel and cobbles. There is a 6-fathom shoal (58°56.9'N., 136°52.2'W.) 0.7 mile west of the northernmost point of Russell Island and a 2-fathom rock (58°56.5'N., 136°52.1'W.) 500 yards northwest of the westernmost point of the island. The 5-fathom depth curve is from 200 to 500 yards offshore from the north point around to midway along the southwest shore of Russell Island. Ice coming here from Tarr Inlet grounds, melts and deposits gravel, cobbles and occasional boulders on the bottom.
- (226) The south shore of Glacier Bay from the Gilbert Peninsula to Johns Hopkins Inlet is steep and rocky with occasional outwash areas. A rocky reef (58°53.0'N., 136°50.3'W.), 1.4 miles west-northwest of Ibach Point, is 200 yards offshore. Numerous rocks are awash less than 100 yards offshore along the south shore.
- (227) **Ibach Point**, 1.7 miles south of the southeast point of Russell Island, marks the east side of the entrance to **Reid Inlet**. The entrance, 0.5 miles southwest of Ibach Point, is partially blocked by gravel bars that extend 500 yards off the east shore and 200 yards off the west shore. The entrance controlling depth is 3 fathoms for a width of 200 yards. The inlet extends south for about 1.5 miles to the flats in front of Reid Glacier which is no longer tidewater. Anchorage may be had in 10 to 20 fathoms 500 yards past the entrance to either the northeast or southwest.
- (228) To enter Reid Inlet, go west past the entrance; turn and steer **135°** parallel to and about 300 yards off the shoreline northwest of the entrance. Approach is best made at low tide when the channel is well marked by the bars on either side.
- (229) **Johns Hopkins Inlet** leads west and then southwest from Russell Island for about 9 miles to the terminus of **Johns Hopkins Glacier**. **Lamplugh Glacier** is on the south side of the entrance to the inlet. Shoaling exists in front of Lamplugh Glacier. A lagoon in front of the glacier is not safely accessible to vessels. Several smaller glaciers feed into the inlet at various places. Depths range from 200 to 43 fathoms as one proceeds into the inlet. Both shores are steep-to with very few offshore rocks, all of which are within 50 yards of shore. Both shores are mountainous with extremely steep bare rock slopes. Rock and ice falls are very common along the southeast shore in the lower section of the inlet. The inlet has no anchorages.
- (230) **Tarr Inlet** leads northwest from Russell Island for about 9 miles to **Ferris and Margerie Glaciers**.

The northeast shore has several alluvial fans of gravel, cobbles and boulders. The outwash fan at the northeast corner of the inlet rises suddenly from depth and builds seaward on a continual basis. Extreme caution is advised. The southwest shore is steep bare rocks except for one gently sloping valley leading south from a cove about 7 miles northwest of Russell Island. Depths in the cove slope gently offshore so that the 30-fathom line is 1,000 yards north of the high-water line at the head of the cove. Ice collects in the cove in sufficient quantity to interfere with small vessels attempting anchorage. Depths greater than 10 fathoms can be carried to within 200 yards of shore throughout Tarr Inlet. The exceptions to this are the cove described above and the northeast shore at the entrance to the inlet. Depths range from 186 fathoms at the entrance to 127 fathoms 0.5 mile from the face of the glacier.

(231)

Port Frederick to South Bight

(232) **Port Frederick**, on the south side of Icy Strait between Crist Point and Point Sophia, has no known dangers other than those charted. It offers several very good anchorages with good holding ground and shelter.

(233) Small craft approaching from west use Gedney Channel. This channel is not recommended for large vessels because of the unmarked dangers. Large vessels use midchannel courses between Point Sophia and Cannery Point to east and Pinta Rock and Halibut Rock to west.

(234) If bound for Hoonah, give Cannery Point and the shore to east a berth of 200 yards or more. The approach is clear.

(235) **Crist Point**, the west point at the entrance, is marked by two islands about 0.7 mile off its north side. **Hoonah Island**, the northwest and larger one, is 270 feet high and wooded; a reef with 2 fathoms over it extends about 0.3 mile north off the northwest end of Hoonah Island. **Scraggy Island**, 40 feet high and sparsely wooded, is about 0.8 mile southeast of Hoonah Island; a rock awash is midway between Hoonah Island and Scraggy Island. **Pinta Rock**, awash and marked by kelp for about two-thirds of its length, is about 0.8 mile southeast of Scraggy Island. A lighted bell buoy marks the northeast side of Pinta Rock. A $4\frac{3}{4}$ -fathom shoal is about 0.9 mile northeast of Pinta Rock.

(236) **Gedney Channel** is southwest of Hoonah Island and Scraggy Island. Shoal spots are at the edge of the channel.

(237) **Halibut Island** on the west side, about 1 mile inside the entrance to the port, is wooded, and foul ground extends 0.3 mile east from it. **Halibut Rock**, which uncovers, is about 0.6 mile south of Halibut Island. There is kelp for a distance of about 100 yards northeast to west of the rock, but none on its southeast side. A $\frac{1}{2}$ -fathom rock is about midway between Halibut Island and the west shore.

(238) **Point Sophia** shows from east as a wooded hill, somewhat bluff at the water's edge; south of the hill is a V-shaped saddle, from which the hill rises to high land. From Point Sophia to Cannery Point, the shore is free of dangers.

(239) **Cannery Point**, on the southeast side of the entrance to Port Frederick, 2 miles southwest of Point Sophia, is similar in appearance to Point Sophia, but lower. **Port Frederick Light 3** ($58^{\circ}07'56''\text{N.}$, $135^{\circ}27'55''\text{W.}$), 26 feet above the water and shown from a skeleton tower with a green square daymark, marks the entrance to Port Frederick.

(240) **Hoonah Point**, 0.8 mile south of Cannery Point, is a rocky bluff, wooded on top, and appears detached from the hill nearby. About 0.6 mile south of Hoonah Point is **Pitt Island**, the northernmost of several islands near the east shore. The island is wooded.

(241) **Hoonah Harbor** is southeast of Hoonah Point and between Pitt Island and the northeast shore. The anchorage is between, or a little inside, the northwest end of Pitt Island and the west end of the city of Hoonah, in 11 to 14 fathoms, soft bottom. The anchorage is not well protected from southwest, but the holding ground is good. Broad gravel beaches extend from the north side of Pitt Island and off the village.

(242) **Hoonah**, a city on the northeast shore of Hoonah Harbor, has three general stores, a motel, two restaurants, a medical clinic, a crab processing plant, a cold storage company and a support and storage facility for fishing vessels.

(243)

Wharves

(244) The wharves and floats at Hoonah are all on the northeast shore of Hoonah Harbor, except the facility inside Cannery Point.

(245) **Hoonah Cold Storage Dock** ($58^{\circ}06'35''\text{N.}$, $135^{\circ}26'40''\text{W.}$): about 0.7 mile southeast of Hoonah Point; 150-foot face; 20 feet alongside in 2002, water and electricity; two $\frac{3}{4}$ -ton mast-and-boom derricks and three 1- to $2\frac{1}{2}$ -ton forklifts; receipt and shipment of seafood; icing fishing vessels; operated by Hoonah Cold Storage.

(246) **Hoonah Trading Co. Wharf** ($58^{\circ}06'48''\text{N.}$, $135^{\circ}26'51''\text{W.}$): about 0.2 mile northwest of the Hoonah Cold Storage Dock; 100-foot face; 20 feet reported alongside; water and electricity; one $\frac{3}{4}$ -ton mast-and-boom derrick; receipt of petroleum products; fueling vessels; and mooring small vessels; owned and operated by Hoonah Trading Co.

(247) **City Warehouse Wharf** ($58^{\circ}06'54''\text{N.}$, $135^{\circ}26'58''\text{W.}$): about 0.4 mile northwest of the Hoonah Cold Storage Dock; 130-foot face, 130 feet of berthing space; 24 feet alongside in 2002; electricity; 3,800 square feet covered storage; handling supplies for fishing vessels; owned and operated by the City of Hoonah.

(248) **Alaska State Ferry Terminal** ($58^{\circ}07'00''\text{N.}$, $135^{\circ}27'10''\text{W.}$): about 0.5 mile northwest of the Hoonah Cold Storage Dock; 400 feet of berthing space with

dolphins; 25 feet alongside in 2002; steel transfer bridge; landing for passenger and vehicular ferry; owned and operated by the State of Alaska.

(249)

Supplies

(250) Limited amounts of provisions and fishing supplies can be obtained at the general stores in town and at Hoonah Seafoods Pier. Gasoline, diesel fuel, distillates, lubricating oils, greases and water are available at the oil facilities. Ice for fishing vessels can be obtained at the Hoonah Cold Storage Dock.

(251)

Repairs

(252) A grid that can handle vessels up to 100 feet is inside the Inner Harbor. Aluminum repairs, equipment storage and fishing supplies are available. No facilities are available for engine repairs; local mechanics may be found for hire.

(253)

Small-craft facilities

(254) The city-operated small-craft floats, about 120 yards north-northwest of the Hoonah Cold Storage Dock, have berthing space for approximately 61 vessels; contact the harbor master on VHF-FM channel 16 or telephone (907-945-3670). Depths alongside were reported at 17 feet in 2002. It is recommended that only small craft and skiffs moor on the inshore side of the float. A seaplane float extends from shore about 200 yards northwest of the city float approach pier. In the winter, southwest winds sometimes draw through with considerable force.

(255) A boat basin, known locally as the Inner Harbor, operated by the Hoonah **Harbormaster** is close south of Hoonah. The south and west boundaries are formed by a breakwater that connects the south end of Pitt Island to the shore. A second breakwater extends west 300 yards from Hoonah toward Pitt Island and is marked on its western extremity by a light. A short breakwater extends east from Pitt Island and is also marked by a light. The Inner Harbor is entered from the north by passing east of Pitt Island, close aboard the Hoonah Cold Storage Dock, and then turning southwest between the two lighted breakwaters. Floats in the basin provide berthing space for approximately 239 vessels.

(256) At the east end of the southernmost breakwater is a fish pass 60 feet wide. Riprap bottom and strong currents make navigation in the pass dangerous. The waters south of the Inner Harbor and Pitt Island are shallow and foul with rock debris. This area, as well as the fish pass, should only be transitted by skiffs and small vessels with local knowledge.

(257)

Communications

(258) Hoonah maintains daily seaplane and airplane communications with Juneau. A paved landing strip is about 1.2 miles southeast of the city. Three ferries a week stop at Hoonah, connecting this port with Angoon, Kake, Tenakee Springs, Pelican, Sitka, Juneau and

Haines. Telephone and radiotelephone communications are maintained with other cities in Alaska and with other states.

(259)

Southeast of Hoonah is a small inlet, divided by a low wooded point. Mudflats, which uncover, and marsh grass fill the inlet. **False Point** is the low, wooded point south of **Pitt Island**. A rock, covered 5 feet, is 0.3 mile west-southwest of Pitt Island, and shoaling to 2 feet extends 0.2 mile southwest of Pitt Island. **Long Island**, 0.6 mile southwest of Pitt Island, is wooded and connected with the east shore of the bay by flats that have islets and rocks. A reef, awash, and a rock, covered 3 feet, are 0.1 mile northwest of Long Island. A small wooded island, with a reef that extends about 300 yards off its west end, is between Pitt Island and Long Island, 0.2 mile north-northeast of the latter. Local knowledge is required for safe navigation and anchorage between Pitt Island and Long Island. Strangers should stay well clear of this area.

(260)

Game Point, about 2.8 miles south-southwest of Inner Point Sophia, is low and wooded. A narrow neck of land extends about 0.2 mile in a northeast direction from which flats stretch to Long Island. **Game Creek**, a large salmon creek, empties into the flats.

(261)

Humpback Creek empties into the north end of a bight filled by flats on the west shore, about 2.3 miles west of Game Point.

(262)

From Game Point the shore trends in a southwest direction for about 2.2 miles to a wooded point that extends about 0.4 mile in a north direction. In the small inlet, east of the point, are depths of 15 fathoms at the entrance, shoaling to 1 fathom near the head. Two submerged rocks are in the inlet.

(263)

Burnt Point, 3.3 miles southwest of Game Point, is wooded and rises rapidly to higher ground to the southeast. **Grassy Rock**, a small grass-covered rock, is about 0.2 mile off Burnt Point. In the bight east of Grassy Rock are depths of 40 fathoms at the entrance to 13 fathoms near the head. Flats extend off the east side of the bight for 350 yards. **Seagull Creek**, about 1.8 miles south of Burnt Point, has flats that extend offshore about 0.5 mile from its mouth.

(264)

Chimney Rock, about 2 miles southwest of Burnt Point and about 0.5 mile east of the south point of the entrance to Neka Bay, is a small wooded islet. A reef extends from Chichagof Island shore almost to Chimney Rock, leaving a channel about 100 yards wide with a depth of $\frac{3}{4}$ fathom. This reef has a small islet. Rocks, covered and uncovered, are about 0.2 mile north of Chimney Rock in $58^{\circ}01'34''\text{N.}$, $135^{\circ}36'43''\text{W.}$

(265)

Midway Island ($57^{\circ}59.8'\text{N.}$, $135^{\circ}36.5'\text{W.}$), small and wooded, is about 3.3 miles south-southwest of Burnt Point. **Midway Rocks**, 0.5 mile west-northwest of Midway Island, are two rocks, about 0.1 mile apart, that uncover 4 feet. A reef extends from the west shore, inside the rocks, for a distance of about 200 yards. A 1-fathom shoal is close north of the rocks in about $58^{\circ}00'09''\text{N.}$, $135^{\circ}37'25''\text{W.}$

(266) Anchorage may be had in 5½ to 12 fathoms in **Eight Fathom Bight**, which indents the north shore about 3 miles west-northwest of **The Narrows**. A logging camp with a small pier is on the west side of Eight Fathom Bight. The camp monitors VHF-FM channel 16.

(267) The head of Port Frederick is divided into two inlets by a low, wooded peninsula with rocks awash off its northeast end that extend to **Bell Island**, which is low and wooded. Depths of 26 fathoms are found at the entrance to the north inlet, shoaling to 7½ fathoms near the head.

(268) The south inlet is long and narrow with several bends and has depths of 6 to 11 fathoms in the widest part, except near the shores. The channel to the two arms at the head of this inlet leads between the point and the rock and has depths of 5½ fathoms. Tide flats fill the northwest arm, which extends to a canoe portage 70 yards wide to Tenakee Inlet. Depths of ½ fathom are found at its entrance. The southwest arm has depths of 3 to 5 fathoms, sticky bottom.

(269) **Salt Lake Bay**, at the south end of Port Frederick, inside The Narrows, extends in a south direction, with depths of 43 fathoms at the entrance to 9 fathoms off the flats, which extend about 0.2 mile from the southeast corner. The bay then extends southwest to a lagoon, **Salt Chuck**, which is entered through an opening less than 150 yards wide and 0.2 mile long. The opening has depths of about 5 feet; a rock awash is on the east side. Salt Chuck has 8¼ fathoms in the middle. The opening to Salt Chuck has swift currents and riptides during maximum tides; local knowledge is advised.

(270) A logging camp with a small pier and a float is on the east side of the entrance to Salt Lake Bay.

(271) **Neka Bay**, on the west side of Port Frederick about 9 miles from the entrance, extends in a west direction. It is divided into three arms by two low, wooded peninsulas. **Neka Island** is 0.2 mile east from the extremity of the north peninsula. Two rocks, awash and unmarked, are in midchannel south of Neka Island. Rocks covered ¾ fathoms and 1½ fathoms are 0.2 mile southeast and 0.1 mile north of Neka Island, respectively.

(272) From Neka Island, the north arm follows a west-northwest direction, narrowing to less than 0.3 mile, thence the arm follows a west-southwest direction, terminating in a large basin. The greater part of the basin is navigable at high water for vessels of 2- or 3-foot draft; it dries at low water. About 0.4 mile inside the entrance to the north arm are private mooring buoys, used for barge transfer. Tugboats from Seattle and southwestern Alaska exchange barges at this site and at times use the buoys for weather layover. On the south side of the channel, 0.3 mile from the entrance to the narrow part, is a small wooded island with a bight to the south-southwest. A depth of 2¾ fathoms was found in the south channel leading to the bight; a rock is in the west channel.

(273) **North Bight**, the middle arm of Neka Bay, with the entrance south of Neka Island, has depths of 6 to 12 fathoms, sticky bottom. A rocky spot, covered ½ fathom, is about 0.9 mile above the entrance in about

58°02'01"N., 135°39'46"W. At the head it narrows to a small, irregularly shaped bight, shoal except for a very narrow channel with depths of 3 to 6 fathoms.

(274) The entrance to **South Bight** is constricted to a width of about 100 yards by a long narrow point that projects from the south shore. A rock awash is off the north entrance point in about 58°01'34"N., 135°39'05"W.

(275)

The Sisters to Pulizzi Island

(276) **The Sisters**, near the middle of Icy Strait, about 5 miles east-northeast from Point Sophia, consist of two islands connected by a sand beach. The north island is heavily wooded. The south island is very narrow, with a clump of trees at each end, giving the group the appearance of three islands. There is a 1¼-fathom spot 0.4 mile south-southeast from the southeast end of the south island. **The Sisters Light** (58°10'17"N., 135°15'29"W.), 69 feet above the water, is shown from a radio tower at the south end of the north island. An aero radiobeacon is about 190 yards south-southwest of the light.

(277) **Sisters Reef**, 1.1 miles west of the north end of The Sisters, uncovers two heads and has no kelp. At times the tidal current has a velocity of 2 or 3 knots over the reef.

(278) **Spasski Island**, about 2.2 miles south of The Sisters, is marked on its north side by **Spasski Island Light 12** (58°07'58"N., 135°16'18"W.), 30 feet above the water, and shown from a small house with a red triangular daymark. The island is small and divided at high water; the larger part has several trees on it. A reef, showing well in places at low water, extends 0.4 mile south from it. A detached rock, bare at low water, is about 0.6 mile southeast of the island. Shoal spots exist on the following distances and bearings from the light: 0.2 mile 310°, 3½ fathoms; 0.7 mile 301°, 4¼ fathoms; 0.5 mile 277°, 1 fathom; 0.8 mile 134°, 5¼ fathoms.

(279) **Spasski Bay** is on the south shore to the southwest of Spasski Island. **Neck Point**, the north point at the entrance, is a high, rocky, wooded peninsula, connected with the main shore by a low narrow neck. Several submerged rocks are about 700 yards north of Neck Point; the least depth over the rocks is 1½ fathoms. Rocks, usually marked by kelp, extend east of Neck Point. A 1¾-fathom shoal is about 0.6 mile east-southeast of Neck Point. An opposing wind and current causes treacherous sea conditions in the entrance to the bay; exercise caution when entering the bay. In the southeast end of the bay are extensive sand flats, and behind the low point is a grassy flat covered at high water. **Pulizzi Island**, a small triangular wooded island, with rocks 0.1 mile off the northeast end, is off the east end of the bay. The shores of the bight at the west end of the bay are wide sand and gravel beaches.

(280) The anchorage, exposed to the northeast, is in 9 to 10 fathoms in the middle of the west end of the bay, with Neck Point bearing northeast.

(281) The shore east of Point Sophia and the reef northwest of Neck Point should be given a berth of 0.8 mile.

(282)

Whitestone Harbor

(283) **Whitestone Harbor** (58°04'N., 135°04'W.), on the south side of Icy Strait about 7 miles east of Pulizzi Island, is an inlet about 1 mile long in a west direction. The southwest arm of the harbor is foul. The shores at the

entrance are foul. Enter the harbor at midchannel, thence favor the north shore to avoid a reported boulder that bares just south of the center of the harbor. Anchorage for small craft is in the arm on the north side of the harbor, in sand and gravel bottom.

(284) Chatham Strait is described in chapter 10. Lynn Canal is described in chapter 11.