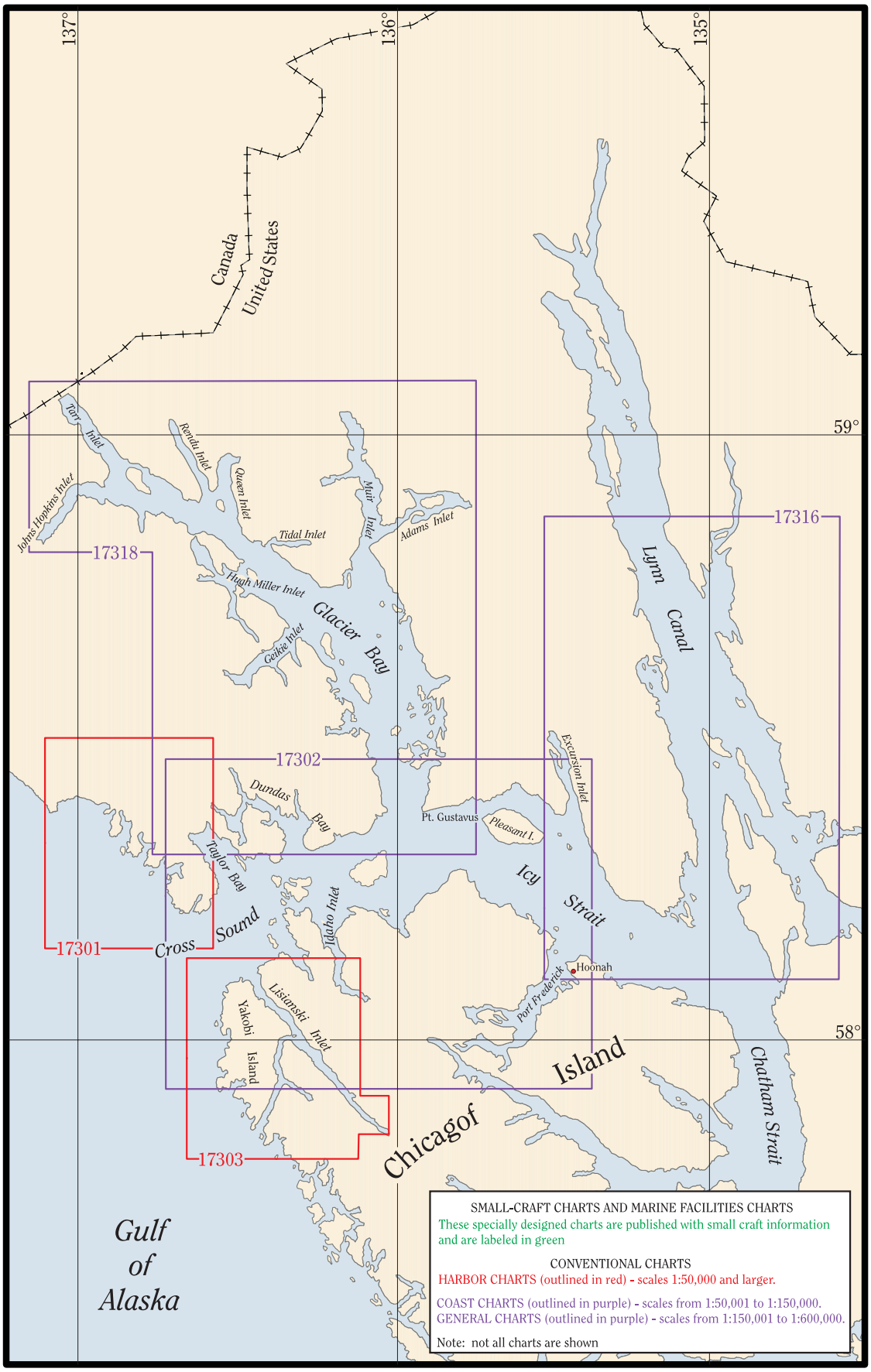
137°
136°
135°
59°
58°
Canada
United States
Tarr Inlet
Johns Hopkins Inlet
Reyndt Inlet
Queen Inlet
Muir Inlet
Adams Inlet
Tidal Inlet
Hugh Miller Inlet
Geike Inlet
Glacier Bay
17318
17316
17302
17301
17303
Lynn Canal
Excursion Inlet
Pleasant I.
Pt. Gustavus
Dundas Bay
Taylor Bay
Cross Sound
Idaho Inlet
Icy Strait
Hoonah
Port Frederick
Lisianski Inlet
Yakobi Island
Chicagof Island
Chatham Strait
Gulf of Alaska
SMALL-CRAFT CHARTS AND MARINE FACILITIES CHARTS
These specially designed charts are published with small craft information and are labeled in green
CONVENTIONAL CHARTS
HARBOR CHARTS (outlined in red) - scales 1:50,000 and larger.
COAST CHARTS (outlined in purple) - scales from 1:50,001 to 1:150,000.
GENERAL CHARTS (outlined in purple) - scales from 1:150,001 to 1:600,000.
Note: not all charts are shown

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.

Chart 17300

(2) 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 W 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.

Currents

(3) The current from the sea sets NE on the flood into Cross Sound and Icy Strait and meets the flood current in Chatham Strait S 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.

(4) 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.

(5) Between 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 NW 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.

(6) S 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 W or SW winds.

(7) 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 Tables for daily predictions for places in Cross Sound and Icy Strait.)

(8) Strong tide rips occur at the entrance to Swanson Harbor with a slight S breeze.

(9) On the S side of Icy Strait between Point Sophia and Point Augusta very little current is encountered. Occasionally, when weather indicates a SE 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 W direction along the shore in this locality. Its direction seems to be unaffected by the stage of the tide.

Weather

(10) 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 SW through NW. These winds are most frequent in summer and fall; fall conditions are roughest. Swells from distant storms often arrive from SW 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.

(11) Cross Sound weather is mostly maritime while Icy Strait reflects some continental influences. Average maximums in Cross Sound range from the mid 30's (°F) in winter to the mid 50's in summer with a 7° to 9° drop to minimum. In Icy Strait, the range is from around freezing to the mid 60's 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.

(12) **Glacial ice** in varying quantities is prevalent in Icy Strait and Cross Sound throughout the year. The ice comes from Glacier Bay, and most of it is usually found at Glacier Bay entrance and from there to Inian Islands. It is quite thick in Cross Sound, and ice has been seen 10 to 15 miles seaward of Cape Spencer and as far E as Point Augusta. The pieces are large enough to make them dangerous to navigation. Ice at times piles up

heavily along the shore from Point Adolphus to Eagle Point.

Chart 17302

(13) **Cross Sound** is that part of the passage SW of the Inian Islands. Icy Strait is that part E of Inian Islands.

(14) The N shores of the sound are mostly high, formed by the slopes of the Fairweather range. The S side, formed by the Chichagof group, is comparatively low.

Caution

(15) 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.

Chart 17303

(16) **Cape Bingham**, the NW extremity of Yakobi Island and the SE 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.

(17) 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.

(18) **Soapstone Point**, on the W side of the entrance to Lisianski Inlet, is the extremity of a neck of land of bold appearance with a shoreline of steep cliffs. W is a small cove open and exposed and with depths of 8 to 9 fathoms at the entrance. E 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 October 1978, an 8-fathom shoal was reported off the entrance to the cove, about 0.5 mile ENE 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 NW direction from this point. Rocks and kelp extend off the point.

Chart 17301

(19) **Cape Spencer**, the NW entrance point to Cross Sound, is a conspicuous headland. Extending from the cape for about 1.2 miles in a S 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.

(20) **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 S from Cape Spencer.

(21) **Dicks Arm**, about 1 mile N of Cape Spencer Light, is a narrow inlet less than 200 yards wide in places that extends in a N 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 E 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.

Chart 17302

(22) **Taylor Bay**, on the NW side of Cross Sound has its entrance about 6 miles NE of Cape Spencer. The bay is open to the SE. **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 SW 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 SW shore.

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

(24) **Fern Harbor**, the inlet on the E side of Taylor Island, extends about 1 mile in a NW 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.

Chart 17303

(25) **Lisianski Inlet** follows a general SE direction for about 21.5 miles. There is temporary anchorage for vessels up to 150 feet long off the E side of Miner Island in 20 fathoms, rocky bottom, poor holding ground. The vessel swings 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.

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

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

(28) 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.

(29) If bound for the head of the inlet, pass NE of Miner Island and Junction Island, follow midchannel courses for about 3 miles beyond Junction Island, then favor the SW shore until well past the flats off the NE 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 SW shore through the narrows and proceed in midchannel to anchorage.

(30) In November 1989, a rock, covered 9¾ fathoms, was reported about 0.3 miles SE of the 5-foot rock in about 57°56'24.2"N., 136°12'16.1"W.

(31) **Column Point**, the NE 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 E 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 W extremity of the foul area is marked by a buoy.

(32) The SW 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 NW point of the entrance. Kelp and rocks extend for about 50 yards offshore of the island. Depths of 13 to 20 fathoms were obtained in the channel SE of the island, while to the S depths of 5 and 6 fathoms were found. Protected anchorage may be had in 11 to 12 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 SE point of the entrance, is marked by a light.

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

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

(35) The NE 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 SW side the slopes are steep and the peaks are bare.

(36) **Pelican**, on the NE shore of Lisianski Inlet about 4.5 miles SE of Miner Island, is a community with a cold storage plant, a general store, and a restaurant. Lodging is also available in this community.

(37) **Pelican Entrance Light** (57°57'21"N., 136°13'48"W.), 17 feet (5.2 m) 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.

Dangers

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

Quarantine, customs, immigration, and agricultural quarantine

(39) (See chapter 3, Vessel Arrival Inspections, and appendix for addresses.)

(40) **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**.

Wharves

(41) The wharves at Pelican are privately owned and operated, except for a State ferry terminal on the NW side of the breakwater. The wharves and the small-craft floats are partially protected from SE winds by the breakwater and the rocky islets.

(42) 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.

(43) Pelican Seafoods Service Pier (57°57'35"N., 136°13'51"W.): about 40 yards E of Seafoods Dock; 20-foot face; 75-foot W side; 60-foot E side; 10 feet

reported alongside; ½-ton hoist, handling supplies for fishing vessels.

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

(45) Pelican Seafoods Fuel Dock (57°57'36"N., 136°13'46"W.): just E of Crab Dock; 60-foot face; 30 feet both E and W sides; 12 feet reported alongside; receipt of petroleum products for fueling vessels.

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

Supplies

(47) 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.

Repairs

(48) Vessels up to 75 feet long can be handled at one of the city-operated grids in the mudflats E 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.

Small-craft facilities

(49) A Federal project provides for a small-boat basin dredged to a depth of 12 feet between the wharves on the N and a breakwater 1,000 feet long on the S. The city-operated small-craft floats close SE of the fuel pier provide about 3,600 feet of float space. In May 2003, 12 feet was alongside the floats except for lesser depths along the floats on the N and E outer parts of the harbor. A seaplane float is at the W end of the second float E of the fuel pier. Water and electricity are available at the floats.

(50) A 60-foot small-craft float, with 10 feet alongside, is about 25 yards NE of the E 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 N side of the Pelican Fuel Pier.

Communications

(51) Pelican has scheduled year-round seaplane service to Juneau and Sitka. A supply boat calls monthly from Seattle. Telephone and radiotelephone services are maintained with other parts of Alaska and with other States.

(52) 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 NE 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 N 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 W end of a large valley.

Chart 17302

(53) **Port Althorp**, on the SE 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 W side of the port 1.3 miles from the head. Three passes lead to Port Althorp.

(54) **Point Lucan**, 3 miles NE 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 SSW 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 NNE of Column Point. From the shore the land rises rapidly and the slopes are heavily timbered.

(55) **Three Hill Island**, NW of Point Lucan, has three prominent wooded hills separated by low saddles; the SE summit is somewhat flat; the NW summit appears conical. The SW shore is fringed with rocks and rocky islets. Off the SE extremity of the island are two small rocky islets close together, about 25 feet high. **Three Hill Island Light** (58°09'13"N., 136°23'05"W.), 80 feet (24.4 m) above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the W islet. Between the light and the rocky islet off Point Lucan is a deepwater channel 0.2 mile wide.

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

(57) The westernmost and largest of the George Islands is irregular in shape with a deep indentation. **Granite Cove**, on its S side is open to the S. 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 W shore of the cove where the shoreline turns W.

Local magnetic disturbances

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

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

(60) The easternmost island, separated from the W 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 S end, close-to. On the S side of the island is a white gravestone 4 feet high and 30 feet above water cemented to the bare rock outcrop.

(61) **Gaff Rock** is about 0.4 mile W of the SW end of the W 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 E.

Currents

(62) Current observations in the entrance E of George Islands indicate that the current usually flows N 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.)

(63) **Point Lavinia**, about 10 miles E of Cape Spencer, is the N 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 SE 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°13'20"N., 136°21'17"W.), 60 feet (18.3 m) above the water and shown from a skeleton tower with a red and white diamond-shaped daymark.

(64) **Elfin Cove** is a narrow inlet in the NE shore of Port Althorp E of the E George Islands. A large islet with several smaller ones close N 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.

(65) The main entrance channel to the cove, SW of the large islet, is marked by **Elfin Cove Entrance Light 2** (58°11.7'N., 136°21.1'W.), 48 feet above the water, shown from a small house with a red triangular daymark on the S entrance point. The channel then leads SE between rock ledges and through a narrow cut into the inner harbor.

Channels

(66) A Federal project provides for two dredged sections in the main channel; a 10-foot section just N of Elfin Cove Entrance Light 2, and an 8-foot section through the narrow cut that leads into the inner harbor. In May 2003, a depth of 7.7 feet (10 feet at midchannel) was available in the N channel and 7.8 feet (8 feet at midchannel) was available in the S channel.

Anchorages

(67) 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.

Dangers

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

(69) **Elfin Cove**, a fishing settlement on the NE 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.

(70) A fuel float with a 250-foot face is in the outer harbor, about 240 yards E 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 S side of the SW corner of the float, a fish-buying scow, with ice and a limited amount of provisions and fishing supplies, is docked in the summer.

(71) 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 NW end and 9 feet on the inshore side in 1991, is just E of the fuel float. A 34-foot seaplane float is at the NW end of the 203-foot float. The floats at the N 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 E shore of the inner harbor.

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

(73) Elfin Cove has scheduled seaplane service with Juneau. Telephone and radiotelephone communications

are maintained with other parts of Alaska, and with other states.

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

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

(76) The ruins of a pier are on the SW side of Port Althorp, about 1.5 miles SE 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 fisherman reported that cable remnants were pulled up in the vicinity of 58°08'12"N., 139°19'18"W. In entering, the channel E of the islet is preferred. At the head of the bay is a flat with a stream emptying into the SE corner.

(77) 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 NW island rises to a conical peak with a shoulder on the SE side. **North Inian Pass Light** (58°16'20"N., 136°24'08"W.), 64 feet (19.5 m) above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the NW point of the NW island.

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

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

(80) 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 W entrance, with an ebb current and W or SW wind.

(81) Coming from the E 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, NW of the point. Ice is occasionally encountered.

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

(83) **North Inian Pass** is between the N 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 ENE from the NE entrance point of Inian Cove, and about 0.2 mile offshore; a bare rock is between this shoal spot and the shore.

(84) **Point Wimbledon**, about 3 miles E from the S 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 NW. 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. Ice from Glacier Bay is frequently encountered.

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

(86) Approaching from E, pass N of foul ground that extends 0.2 mile off Inian Islands, 0.8 mile ENE of the entrance to the cove. A 2½ fathom shoal is in the E side of the entrance in 58°16'13"N., 136°20'50"W. From W the approach is clear. Enter in midchannel and steer E so as to keep the NE 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.

Chart 17300

(87) **Icy Strait** extends from Inian Islands in an E direction for about 16 miles to Point Adolphus, where it takes a SE 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.

(88) Glacial ice from Glacier Bay may be found in the strait in small quantities mainly in the winter. Some of these isolated bergs are dangerous to small- and medium-sized vessels.

Chart 17302

(89) **Point Dundas**, the E point of the entrance to Dundas Bay, on the NW shore of Icy Strait to the N 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.

(90) **Dundas Bay** has its entrance on the NW side of Icy Strait, N of Inian Islands. The main bay is about 2 miles wide and 4 miles long in a N direction. The N 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 N toward the mouth of the **Dundas River**. SW of the flats is a channel along the SW shore of the bay leading into the narrow crooked inlet that extends 5 miles in a NW direction, and then turning abruptly S and reaches to within 1 mile of Taylor Bay, with low land between. Numerous deadheads have been observed in the bay.

(91) Ice begins to form in November in the N and SW arms of the bay and may linger into May if colder weather prevails.

(92) Anchorage in 8 to 12 fathoms, sticky bottom, can be had about 0.3 mile off the SW shore, opposite a wooded islet, about 3 miles N of Point Wimbledon. The only danger is the flat about 0.8 mile NE of the islet. The anchorage is exposed to the SE, and heavy ice drifting with the current is sometimes troublesome. At the anchorage the tidal currents have an estimated velocity of 2.5 knots.

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

(94) **Shaw Islands**, two in number and wooded, are on the W 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 WNW 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.

(95) **Lemesurier Island** is in the middle of Icy Strait, 4 miles E of the Inian Islands. **Lemesurier Island Light** (58°19'08"N., 136°02'27"W.), 42 feet (12.8 m) above the water, is shown from a small house with a red and white diamond-shaped daymark on the NE point of the island. **South Passage Light** (58°15'31"N., 136°06'56"W.) marks the SW point of the Lemesurier Island. The island is heavily timbered and has several summits. A small wooded island is about 200 yards off the NW shore. A shoal extends 0.4 mile offshore from the E side of the island and about 0.9 mile SSE from the light; a reef extends about 0.2 mile from the SE point of the island. Tide rips occur off this reef, off **Jacks Cove**, and about 1 mile E of South Passage Light. **Willoughby Cove** on the SE side of Lemesurier Island, affords anchorage in 8 to 10 fathoms in the E part of the cove about 0.2 mile off the beach; a strong eddy occasionally sweeps in a small iceberg.

(96) **North Passage** and **South Passage** lead N and S 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 S shore should be given a berth of at least 0.8 mile to avoid the reef and submerged rocks off Goose Island.

Local magnetic disturbance

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

(98) From the E 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 E 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 W 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 N side of **Goose Island**, the largest of the wooded islands. There is a depth of 5 fathoms about 1.8 miles ENE of **Quartz Point**, the NE point of Goose Island.

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

(100) **Point Adolphus**, the northernmost point of Chichagof Island, is marked by **Point Adolphus Light** (58°17'10"N., 135°46'59"W.), 20 feet (6.1 m) 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 N of the point. About 1 mile SW is another rounded peak. The shoreline between Mud Bay and Point Adolphus is fairly regular. **Pinta Cove**, the

bight on the E 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.

(101) **Flynn Cove** is on the S side of Icy Strait, about 7 miles SE of Point Adolphus and about 1.7 miles SE of **Eagle Point**. A shoal extends 300 yards NW from the NW extremity of **Burger Point**, the high wooded peninsula forming the NE side of the cove. **Harry Island**, small and wooded, is in the entrance 600 yards NW of this point. An islet is 0.3 mile W of Harry Island. A submerged rock is reported to be about 50 yards SE of Harry Island. A 2¾-fathom spot was reported to be about 800 yards NNW of the island in about 58°13'23.2"N., 135°36'16.7"W.

(102) **Pleasant Island**, on the N side of Icy Strait about 4.5 miles NE of Point Adolphus, is comparatively low. **The Knob**, near the middle of the S shore, is a prominent wooded knob. **Noon Point** is the E extremity of Pleasant Island. Rocks and kelp extend 0.6 mile off the point.

(103) **Icy Passage Light 2** (58°23'11"N., 135°37'43"W.), 22 feet (6.7 m) above the water, is shown from a skeleton tower with a red triangular daymark off the N shore of Pleasant Island, marks the S side of Icy Passage, the channel between Pleasant Island and the N shore. Mudflats extend off the N shore to within 0.8 mile of the N shore of Pleasant Island. The shallow cove on the N shore of Pleasant Island, SE of the light, offers fair shelter in 1 to 8 fathoms, mud bottom.

(104) **Gustavus** is a community with an airport on the N shore of Icy Passage at the mouth of **Salmon River**. A lighted buoy, about 3.7 miles W of Icy Passage Light 2, marks the river entrance. Prominent from offshore is the silver tank farm SE of the community. A State-owned pier, with a 48-foot (14.6 m) face and 12 to 15 feet (3.7 to 4.6 m) reported alongside in 2002, is about 0.3 mile E of the entrance to Salmon River. Seasonal small-craft floats extend E off the end of the pier. A W swell makes the pier and float a poor moorage for small craft. Freight boats call during the summer. A highway connects Gustavus and the airport with the headquarters of the U.S. National Park Rangers and a lodge at Bartlett Cove. Upon advance notice bus service is available from the airport to Bartlett Cove, which is part of the Glacier Bay National Monument. Gustavus is served by a scheduled airline from Juneau in the summer. Radiotelephone and telephone communications are maintained with other parts of Alaska, and with other States.

Weather

(105) 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. (See Page T-7 for **Gustavus climatological table**.)

(106) **Pleasant Island Reef** is an extensive reef, 1 mile S of Pleasant Island. The reef is marked by a lighted bell buoy. Between the reef and the S shore of Pleasant Island is a ¾-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.

Charts 17302, 17316, 17318

(107) **Porpoise Islands**, a group of four islands, are near the E end of Icy Passage, about 2 miles E 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 S side. The NW end of the island is a long low point, terminating in a clump, beyond which a sandspit extends almost to the next island.

(108) Foul ground extends off the islands in places for almost 0.3 mile. A 13½-fathom spot is 0.6 mile NW 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 W side of the largest island, with the tangents of the largest island bearing 031° and 125°. The strong current and SE exposure make this area a poor anchorage.

(109) **Excursion Inlet**, a deep, clear, narrow inlet in the N shore of Icy Strait, has its entrance N of Porpoise Islands. About 2.5 miles NE of the W entrance point is an extensive area of low land on the E side of the inlet. The inlet divides into two arms 4.5 miles inside the entrance.

(110) Vessels will find indifferent anchorage near the head of the E arm, 0.2 mile from the E shore, in about

30 fathoms. Small craft can select anchorage in about 10 fathoms in the coves at the head of the W arm.

(111) **Excursion Inlet**, a small settlement on the E 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 N 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 S corner of the wharf. The oil wharf, 165 feet S 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.

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

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

(114) **Point Carolus**, the W 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 W and N.

(115) 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 SW from the point.

(116) **Point Gustavus** (58°23'N., 135°55'W.), the E entrance point to Glacier Bay, is low and wooded and does not exceed 200 feet in elevation. 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 E of the point. A shoal bare at low water is 1 mile N of the point; the bottom in this locality is broken and uneven. Depths to 9 fathoms extend 2.7 miles S of the Point.

(117) **Ancon Rock**, which uncovers 1 foot, is about 0.4 mile SSW of Point Gustavus and is marked by a buoy 0.3 mile to the W. A rock that uncovers 3 feet is 0.2 mile NW of Ancon Rock. Broken ground with depths from 2 to 5 fathoms and a possibility of less, extends 1.4 miles S of Point Gustavus; it should be avoided.

(118) **Glacier Bay** has its entrance on the N 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 John Hopkins Inlet, and 62 miles to the head of Tarr Inlet, its NW arm, near the Canadian border. From Point Gustavus to Willoughby Island, the E shore, including Beardslee Islands, is low and quite shelving, and the W 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.

(119) **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.

(120) 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 0.5 mile of humpback whales. In the period June 1 through August 31, all mariners, except 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. A 10 knot speed limit and mid-channel travel requirements are in effect in the lower bay during the summer whale use season.

(121) 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, Alaska 99826, or by telephone (907) 697-2268 or by VHF-FM radiotelephone. The ranger station, call sign, KWM-20, monitors VHF-FM channel 16, from 0800 to 1600 daily.

(122) (See **36 CFR 13.1 through 13.31 and 13.65**, chapter 2, for regulations governing Glacier Bay National Park and Preserve.) 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.

(123) A lodge at Bartlett Cove, with accommodations, is open during the summer season. Cruise ships enter the bay frequently during the summer season.

Currents

(124) 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 SE of the

NW 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 Tables for daily predictions of times and velocities of the current.)

Ice

(125) 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. After a dry spell, rain causes calving and dense ice 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.

(126) 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.

(127) Occasionally in the winter the great mass of ice from Muir Glacier is congested in Muir Inlet as far S as Wachusett Inlet, and in the summer as far S as Muir Point. Icebergs are frequently in Glacier Bay off Tlingit Point, and occasionally a few small bergs are S of Willoughby Island.

(128) The ice from Lamplugh Glacier and Reid Glacier is so scattered that vessels usually have little difficulty in passing. Tarr Inlet almost never has a dense ice pack except at the face of Margerie Glacier and Grand Pacific Glacier. Usually ice cover in Johns Hopkins Inlet is dense in the winter as far E as Lamplugh Glacier. It covers only the SW leg of the inlet in the summer. Ice may occasionally be thick as far SE as Drake Island. Fog is frequently in the bay, particularly in late summer.

Caution

(129) 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.

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

(131) Vessels are advised to carry extra propellers aboard when navigating Glacier Bay, and single-screw vessels should not attempt to navigate the bay at all.

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

(133) To enter Bartlett Cove, follow the E 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 E and W entrance points. The reef making off the E entrance point is particularly dangerous. Foul ground extends for about the same distance off the W point of the entrance and is marked at times by kelp.

(134) The 300-foot T-head pier of the U.S. National Park Service is on the SE side of Bartlett Cove. In 2002, 25 feet (7.6 m) was reported alongside the 400-foot (121.9 m) face with 20 feet (6.1 m) along the rear of the face. It has been reported that strong currents run parallel along the face of the pier with a W set on the ebb. Mooring facilities alongside the pier are limited and available on a first-come-first-served basis up to 3 hours. Mariners are encouraged to anchor out and use skiffs to land. Government vessels have priority alongside the pier. A seaplane float is at the end of the NE side of the pier. Close NE of the pier is a seaplane takeoff/landing area marked by private seasonal buoys and used from May 15 to September 30. Anchoring is prohibited. 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 and electricity are available during the summer. Water can also be obtained at the mouth of the stream that empties into the head of the cove. Fuel is available at the dock close SW of the T-head pier with 25 feet (7.6 m)

available alongside and a 2-ton mast-and-boom derrick.

(135) 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.

(136) **Beardslee Islands**, low, hilly, and sandy, 5 miles above Point Gustavus, extend N along the E shore of Glacier Bay and should be given a good berth. The SW and W sides are quite shelving, and there are detached shoals N of them for a considerable distance. Beyond these islands the E 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.

(137) **Beardslee Entrance** about 7.5 miles above Point Gustavus and on the SE 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. Among the islands are a number of anchorages, but local knowledge is necessary for their approach.

(138) **Sita Reef** is about 0.5 mile N of the N side of **Strawberry Island**. A rocky area, about 2 miles N of Strawberry Island, is in the E half of the channel up Glacier Bay.

(139) A group of reefs about 5.5 miles N of Strawberry Island consists of coarse gravel and scattered boulders and is considered the N 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 at times reach an estimated velocity of 5 knots.

(140) **Berg Bay** is on the SW side of Glacier Bay, 10 miles above the entrance. Two channels enter the bay. The passage N of Netland Island is not recommended, because rocks constrict the Glacier Bay end and low water the Berg Bay end of the channel. The controlling depth is 5 feet. The main entrance is between **Lars Island**, on the SE side of the entrance, and **Netland Island**, on the NW side. A shoal, reported to uncover, obstructs the channel at the Glacier Bay end. In entering Berg Bay, a vessel should pass midway between the ¾-fathom spot and the low-water line on the N side of the channel. The controlling depth is 22 feet. Care should be taken until past the shoal area making out from the S shore. 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.

(141) A narrow, tortuous channel leads into the SE arm of Berg Bay but its use is not recommended, because the bottom is rocky 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 this arm.

(142) In the approach to Berg Bay from SE, Lars Island, on the SE side at the entrance, shows as detached from the shore and is readily identified.

(143) Anchorage is good in about 18 fathoms about 1 mile inside the entrance. Small craft can anchor farther inshore for protection from S winds. Good anchorage, with protection from N winds, can be had in the N arm. Small craft also have good anchorage in the W arm.

(144) **Willoughby Island**, about 12.5 miles above Point Gustavus, is a densely wooded mountain, and three small islets are close to its N end. **Johnson Cove**, the small indentation at the NE 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 SE weather.

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

(146) **Francis Island** is a densely wooded islet, 1.6 miles NW 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 NE end of Drake Island.

(147) **Marble Islands**, high and sparsely forested, and weathered to a slate color, are 1.4 miles apart; the S one is 3 miles NE of Willoughby Island. Just off the S end of South Marble Island are some rocks awash, and relatively shoal water extends in a narrow ridge some 750 yards SE. A shoal, reported to uncover and marked by kelp, is midway between **North Marble Island** and **South Marble Island** and makes passage dangerous between them. Shallow water extends NW from the N end of North Marble Island. Near the N extremity of the shoal, 470 yards from the island, is a rock that uncovers about 6 feet.

(148) **Leland Islands**, the two islands about 1.7 miles E of the Marble Islands, are low, thickly wooded, and have an extensive area of shoal water surrounding them and a large reef to the S. The channel between these islands and the Marble Islands is navigable, but caution is necessary.

(149) **Beartrack Cove**, which indents the E shore of Glacier Bay about 13 miles N 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 W winds bring swells into the cove.

(150) A deep channel passes N 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.

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

(152) There are two rocks 0.5 mile off the S entrance point. The S one uncovers 12 feet and the N one 2½ feet.

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

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

(155) **North Sandy Cove**, between the mainland and the two islands about 1.2 miles E 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. Two channels lead into North Sandy Cove. The N channel on the E side of **Puffin Island**, the N island, has a depth of 29 fathoms and is preferred. The S channel that leads between the two islands has a controlling depth of 5 fathoms and is used to some extent by local fishing vessels.

(156) **South Sandy Cove**, immediately S of North Sandy Cove, is used by fishing vessels with local knowledge. Excellent anchorage can be had any place in the cove, including the bight at the SE side of the head, in 5 to 8 fathoms, mud and sand bottom. This anchorage is almost always free of ice, but is open to winds from the SW. In entering, take care to pass S of the rock about 250 yards S of the small islet on the N side of the entrance, and to avoid the boulders that fringe the SE shore. The entrance channel has a depth of 10 fathoms. There are two rocks 0.5 mile W of the S entrance point. The S one uncovers 12 feet, and the N one 2 feet. Do not attempt passage between the rocks and the point.

(157) **Muir Inlet** extends N then W for a distance of over 24 miles from the N side of Glacier Bay. At its entrance the shores are steep and timbered, but in the area of Wachusett Inlet the E shore is an area of terminal moraine with gently sloping beaches. N of Sealers Island the W shore is barren and steep and continues as described to the head of the inlet. The E 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.

(158) **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. Ice rarely reaches the waters of the inlet.

(159) **Tlingit Point**, on the W side of the entrance, is rock outcrop. **Sebree Island**, close to the W 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 S part of Sebree Island; the holding ground is good. The cove is exposed to S winds, but ice seldom drifts in. An unnamed islet is in the entrance to the cove, about 0.5 mile S of Tlingit Point.

(160) **Caroline Shoal**, on the W side of Muir Inlet 2 miles above Tlingit Point, is a gravelly spit that is barely awash at high water. The N side of the shoal is occasionally marked by grounded icebergs.

(161) **Garforth Island**, 85 feet high and densely wooded except at the N end, is on the E side of Muir Inlet, about 2.8 miles NE of Sebree Island. The channel between the island and the E 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 N of Garforth Island.

(162) **Adams Inlet**, on the lower E 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 N of the centerline of the entrance, about 2.7 miles from the mouth. Passage to the N of the shoal is preferred; give equal berth to the shoal and N shoreline of the entrance channel. Controlling depth is 3 fathoms.

(163) 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.

(164) No glaciers discharge ice into the inlet, and only occasionally will ice be found within the inlet. A large island is in the center of the inlet just past the entrance

channel. Channels lead around the N and S sides of the island to large bays at the E and SW sections of the inlet. Controlling depths are 1¼ fathoms for the N channel and 3½ fathoms for the S channel. The waters are very muddy, and submerged shoals cannot be seen except for those marked by turbulent currents.

(165) **Hunter Cove** on the W 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 E of the bold point at the N entrance.

(166) **Wachusett Inlet** is on the W side of Muir Inlet about 6 miles NW of Adams Inlet. A shoal (58°56.8'N., 136°08.0'W.) with a depth of 3½ fathoms is near the middle of the entrance; large icebergs frequently 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 9 feet, is about 1 mile from the entrance of the inlet and about 500 yards from the S shore. Vessels should favor the N shore.

(167) Wachusett Inlet extends over 9 miles from its entrance, W to the terminus of Plateau 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 face of the glacier and a depth of about 29 fathoms midchannel. The N shore of the inlet is mostly glacial moraine left by the recession of Burroughs and Plateau Glaciers. The S shore is more steep than the N shore; barren rock is interspersed with pebble beaches formed from alluvial fans.

(168) **Sealers Island**, a small rocky island with steep sides, is close to the E shore of Muir Inlet and about 7 miles N of Adams Inlet. Small fishing vessels can anchor in **Goose Cove**, the small cove E of the island. The cove is narrow and shoal, but generally free from ice during the summer.

(169) The NW arm of Glacier Bay has a NW 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 NW of Drake Island. A rock is reported to be about 0.3 mile S 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 S 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.

(170) Geikie Inlet extends 8 miles SW from the S 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.

(171) **Shag Cove** is 1 mile within the entrance to Geikie Inlet on the S 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 W 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 E shore. An area foul with rocks extends 300 yards offshore from the point and small island at the SW entrance to the cove. This foul area extends toward the large island 0.2 mile to the NNE. 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.

(172) **Tyndall Cove** is 2 miles SW 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 W shore at the entrance to the cove. Anchorage may be made in 10 to 20 fathoms at the head of the cove, soft bottom.

(173) An island is 0.4 mile off the SE 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 SE shore, 0.6 mile SSW of the island, directly N of the E side of the entrance to Tyndall Cove.

(174) A foul area (58°44.3'N., 136°24.2'W.), awash at low water, is 0.7 mile off the SW shore of the W arm of Glacier Bay and 3.5 miles WNW of Lone Island. A 1½-fathom shoal (58°44.5'N., 136°25.9'W.) is 800 yards off the S shore and 1 mile W of the foul area. Safe passage may be had into **Hugh Miller Inlet** by staying 100 to 600 yards off the S shore, from the prominent point 3.5 miles NW of Geikie Rock to a small unnamed cove on the S shore just within the mouth of the inlet. 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.

(175) Two unnamed islands 5.6 miles NW of Lone Island separate Hugh Miller Inlet from **Blue Mouse Cove** to the N. Passage should not be attempted from the SW or SE 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 SW shore of Hugh Miller Inlet between the unnamed cove and Division Island should be kept at least 500 yards to port when passing from the unnamed cove to the NW part of Charpentier Inlet. A rock (58°45.4'N., 136°29.9'W.) is 250 yards offshore 0.7 miles NW of the NW entrance point of the unnamed cove. A 3-fathom shoal is 300 yards NE of a low grassy island just off the prominent point 0.6 mile NW of the NW entrance point of the unnamed cove, and a 3½-fathom shoal is 450 yards N of the same island.

(176) To pass through Hugh Miller Inlet into Charpentier Inlet, follow a midchannel course until the N and westernmost low rocky island is abeam to port and then follow a SW course so as to pass midchannel between the SE end of Division Island and the rocky island about 500 yards S 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 SSE from the westernmost rocky island to shore, and the area should be avoided.

(177) **Charpentier Inlet** extends about 6 miles SSE from the SSW 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 N of the prominent point on the E shore at the entrance to the SE arm of the inlet. Anchorage may be had in soft bottom anywhere in the inlet. The SE arm is navigable to its head where anchorage may be had in 10 to 20 fathoms.

(178) A small 0.5-mile diameter tidal basin (cove), 1.3 miles W of Division Island, is separated from the N 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 NW-trending channel originating near the center of the gravel bar at the NW end of Charpentier Inlet and passing N of the flat gravel island.

(179) **Scidmore Bay** is SE of **Scidmore Glacier**, NW of Charpentier Inlet and W 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 N shore of the E island, and a reef is 200 yards W of the NW point of the E island. A rock (58°48.2'N., 136°37.5'W.) is 30 yards off the SW shore of the W island. A submerged rock (58°48.0'N., 136°37.6'W.) is 500 yards SW of the S end of the W island. Strong NW and SE 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.

(180) **Blue Mouse Cove**, 3 miles SW of Tidal Inlet, is at the SE end of Gilbert Peninsula. Unobstructed depths greater than 5 fathoms extend to within 150 yards of the shore, with central depths from 15 to 30 fathoms, good holding ground. During the summer, the U.S. National Park Service maintains a ranger station at Blue Mouse Cove. A patrol boat is at the station. The patrol boat and ranger station monitor VHF-FM channel 16 (156.80 MHz).

(181) **Tidal Inlet**, about 3 miles ENE 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. An 8¼-fathom shoal is 450 yards ESE of the prominent point on the W side of the entrance to the inlet. Anchorage is best in 5 to 20 fathoms off the S shore, 2.6 miles from the entrance, and 100 yards NW of a prominent reef 100 yards from the apparent shoreline; anchorage in other areas is difficult, because of excessive depths.

(182) **Composite Island** is 6 miles NW 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 NW shore in 20 fathoms.

(183) **Rendu Inlet**, 7 miles long, is NW of Composite Island; central depths are 40 to 98 fathoms, with unobstructed depths greater than 20 fathoms within 100 yards of the shore.

(184) **Queen Inlet** is N 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 tidal mud flats. In 1992, Triangle Island was reported to be covered by sand and silt.

(185) 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.

(186) Glacier Bay continues NW from the Gilbert Peninsula and Composite Island to Russell Island. The principal channel passes to the S of Russell Island with central depths of 120 to 220 fathoms.

(187) A group of small rocky islets are 1.8 miles E of the SE point of Russell Island. The largest islet at the SE 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 NW from the dome for an area 300 yards wide. The SE end is steep-to.

(188) A single rocky islet is 1 mile N of the SE point of Russell Island. A reef extends 500 yards from the SE end

of the islet. A 4-fathom shoal (58°55.6'N., 136°45.3'W.) is 0.6 mile E of the islet.

(189) **Russell Island** has two rocky peaks and is covered with alderbrush on the lower slopes and moraine areas. The S, NE, and N slopes are rocky and steep at sea level. The SW and W sides are gently sloping.

(190) Along the NE 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 SE point of the island.

(191) The N shore of Glacier Bay from Rendu Inlet to Russell Island is steep with gravel and boulder beaches. A large glacial outwash area is N of Russell Island. A small natural basin with a controlling depth of 1 fathom at the entrance is on the far E flank of the outwash, 2 miles N of the SE point of Russell Island.

(192) Anchorage may also be found in 15 to 25 fathoms in an area 0.3 miles S of the basin. The anchorage is N of a line running from the NE corner of Russell Island, SE, through the islets and reefs to the domed islet 1.8 miles E of the SE point of Russell Island. Approach is made by following the N 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 N of the easternmost point of Russell Island up to the northeasternmost point of Russell Island.

(193) To continue through the passage around the N side of the island, stay midchannel, but favor the island side until abeam of the first rocky point on the NW side of the outwash. Then favor the mainland side, passing about 250 yards off the second rocky point on the N shore. Then steer WNW into Tarr Inlet, avoiding the 2¾-fathom ridge (58°57.1'N., 136°51.3'W.), 650 yards NW of the N point of Russell Island. This course will also avoid a 2-fathom submerged 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 NW of the N point of Russell Island). Passage is recommended only for vessels with draft sufficiently small to clear the charted shoals.

(194) Anchorage may be found on the NW 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 4½-fathom shoal (58°56.9'N., 136°52.2'W.) 0.7 mile W of the northernmost point of Russell Island and a 4-fathom rock (58°56.5'N., 136°52.1'W.) 500 yards NW of the westernmost point of the island. The 5-fathom depth curve is from 200 to 500 yards offshore from the N point around to midway along the SW shore of Russell Island. Ice coming here from Tarr Inlet grounds, melts and deposits gravel, cobbles, and occasional boulders on the bottom.

(195) The S 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 WNW of Ibach Point, is 200 yards offshore. Numerous rocks are awash less than 100 yards offshore along the S shore.

(196) **Ibach Point**, 1.7 miles S of the SE point of Russell Island, marks the E side of the entrance to **Reid Inlet**. The entrance, 0.5 miles SW of Ibach Point, is partially blocked by gravel bars that extend 500 yards off the E shore and 200 yards off the W shore. The entrance controlling depth is 3 fathoms for a width of 200 yards. The inlet extends S for about 2 miles to the face of Reid Glacier. Anchorage may be had in 10 to 20 fathoms 500 yards past the entrance to either the NE or SW. Several abandoned wooded structures of an ore processing operation are on the W side of the entrance.

(197) To enter Reid Inlet, go W past the entrance; turn and steer 135° parallel to and about 300 yards off the shoreline NW of the entrance. Approach is best made at low tide when the channel is well marked by the bars on either side.

(198) **Johns Hopkins Inlet** leads W and then SW from Russell Island for about 9 miles to the terminus of **Johns Hopkins Glacier**. **Lamplugh Glacier** is on the S side of the entrance to the inlet. 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 SE shore in the lower section of the inlet. The inlet has no anchorages.

(199) T**arr Inlet** leads NW from Russell Island for about 9 miles to **Grand Pacific Glacier**, the largest glacier entering Glacier Bay. The glacier has advanced slowly for the past few years, and the face was 0.7 mile SE of the United States-Canadian border in 1972. **Margerie Glacier** is on the SW shore of the inlet and adjacent to Grand Pacific. The NE shore has several alluvial fans of gravel, cobbles, and boulders. The SW shore is steep bare rocks except for one gently sloping valley leading S from a cove about 7 miles NW of Russell Island. Depths in the cove slope gently offshore so that the 30-fathom line is 1,000 yards N 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 NE 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.

Chart 17302

(200) **Port Frederick**, on the S 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.

(201) Small craft approaching from W 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 E, and Pinta Rock and Halibut Rock to W.

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

(203) **Crist Point**, the W point at the entrance, is marked by two islands about 0.7 mile off its N side. **Hoonah Island**, the NW and larger one, is 270 feet high and wooded; a reef with 2 fathoms over it extends about 0.3 mile N off the NW end of Hoonah Island. **Scraggy Island**, 40 feet high and sparsely wooded, is about 0.8 mile SE 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 SE of Scraggy Island. A lighted bell buoy marks the NE side of Pinta Rock. A 4¾-fathom shoal is about 0.9 mile NE of Pinta Rock.

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

(205) **Halibut Island** on the W side, about 1 mile inside the entrance to the port, is wooded, and foul ground extends 0.3 mile E from it. **Halibut Rock,** which uncovers, is about 0.6 mile S of Halibut Island. There is kelp for a distance of about 100 yards NE to W of the rock, but none on its SE side. A ½-fathom rock is about midway between Halibut Island and the W shore.

(206) **Point Sophia** shows from E as a wooded hill, somewhat bluff at the water's edge; S 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.

(207) **Cannery Point**, on the SE side of the entrance to Port Frederick, 2 miles SW of Point Sophia, is similar in appearance to Point Sophia, but lower. **Port Frederick Light 3** (58°07'56"N., 135°27'55"W.), 26 feet (7.9 m) above the water and shown from a skeleton tower with a green square daymark, marks the entrance to Port Frederick. A support and storage facility for fishing vessels is a short distance inside of Cannery Point. The wharf for this facility is discussed later in this chapter, under wharves at Hoonah.

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

(209) **Hoonah Harbor** is SE of Hoonah Point and between Pitt Island and the NE shore. The anchorage is between, or a little inside, the NW end of Pitt Island and the W end of the city of Hoonah, in 11 to 14 fathoms, soft bottom. The anchorage is not well protected from SW, but the holding ground is good. Broad gravel beaches extend from the N side of Pitt Island and off the village.

(210) **Hoonah**, a city on the NE 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.

Wharves

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

(212) Hoonah Cold Storage Dock (58°06'35"N., 135°26'40"W.): about 0.7 mile SE of Hoonah Point; 150-foot (45.7 m) face; 20 feet (6.1 m) alongside in 2002, water and electricity; two ¾-ton mast-and-boom derricks and three 1- to 2½-ton forklifts; receipt and shipment of seafood; icing fishing vessels; operated by Hoonah Cold Storage.

(213) Hoonah Trading Co. Wharf (58°06'48"N., 135°26'51"W.): about 0.2 mile NW of the Hoonah Cold Storage Dock; 100-foot (30.5 m) face; 20 feet (6.1 m) reported alongside; water and electricity; one ¾-ton mast-and-boom derrick; receipt of petroleum products; fueling vessels; and mooring small vessels; owned and operated by Hoonah Trading Co.

(214) City Warehouse Wharf (58°06'54"N., 135°26'58"W.): about 0.4 mile NW of the Hoonah Cold Storage Dock; 130-foot (39.6 m) face, 130 feet (39.6 m) of berthing space; 24 feet (7.3 m) alongside in 2002; electricity; 3,800 square feet covered storage; handling supplies for fishing vessels; owned and operated by the City of Hoonah.

(215) Alaska State Ferry Terminal (58°07'00"N., 135°27'10"W.): about 0.5 mile NW of the Hoonah Cold Storage Dock; 400 feet (121.9 m) of berthing space with dolphins; 25 feet (7.6 m) alongside in 2002; steel transfer bridge; landing for passenger and vehicular ferry; owned and operated by the State of Alaska.

(216) Point Sophia Development Co. Dock (58°07'44"N., 135°27'42"W.): about 1.3 miles NW of the Hoonah Cold

Storage Dock on the S side of Cannery Point; 85-foot (25.9 m) face; 30 to 32 feet (9.1 to 9.8 m) alongside in 2002; water and electricity; one 5-ton mast-and-boom derrick; handling supplies and equipment; owned by Huna Totem Corp. and operated by Point Sophia Development Co.

Supplies

(217) 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.

Repairs

(218) 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.

Small-craft facilities

(219) The city-operated small-craft floats, about 120 yards NNW of the Hoonah Cold Storage Dock, has berthing space for approximately 61 vessels; contact the harbormaster 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 NW of the city float approach pier. In the winter, SW winds sometimes draw through with considerable force.

(220) A boat basin, known locally as the Inner Harbor, operated by the Hoonah **Harbormaster** is close S of Hoonah. The S and W boundaries are formed by a breakwater which connects the S end of Pitt Island to the shore. A second breakwater extends W 300 yards from Hoonah toward Pitt Island and is marked on its western extremity by a light. A short breakwater extends E from Pitt Island and is also marked by a light. The Inner Harbor is entered from the N by passing E of Pitt Island, close aboard the Hoonah Cold Storage Dock, and then turning SW between the two lighted breakwaters. In April 2002, the controlling depth was 15 feet (17 feet at midchannel) in the entrance channel with depths of 10 to 18 feet in the basin. Floats in the basin provide berthing space for approximately 239 vessels. Electricity and water are available.

(221) At the E 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 S 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.

Communications

(222) Hoonah maintains daily seaplane and airplane communications with Juneau. A paved landing strip is about 1.2 miles SE 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.

(223) SE 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 S of **Pitt Island**. A rock, covered 5 feet, is 0.3 mile WSW of Pitt Island, and shoaling to 2 feet extends 0.2 mile SW of Pitt Island. **Long Island**, 0.6 mile SW of Pitt Island, is wooded, and connected with the E shore of the bay by flats that have islets and rocks. A reef, awash, and a rock, covered 3 feet, are 0.1 mile NW of Long Island. A small wooded island, with a reef that extends about 300 yards off its W end, is between Pitt Island and Long Island, 0.2 mile NNE 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.

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

(225) **Humpback Creek** empties into the N end of a bight filled by flats on the W shore, about 2.3 miles W of Game Point.

(226) From Game Point the shore trends in a SW direction for about 2.2 miles to a wooded point that extends about 0.4 mile in a N direction. In the small inlet, E 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.

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

(228) **Chimney Rock**, about 2 miles SW of Burnt Point and about 0.5 mile E of the S 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 ¾ fathom. This reef has a small islet. Rocks, covered and uncovered, are about 0.2 mile N of Chimney Rock in 58°01'34"N., 135°36'43"W.

(229) **Midway Island** (57°59.8'N., 135°36.5 'W.), small and wooded, is about 3.3 miles SSW of Burnt Point. **Midway Rocks**, 0.5 mile WNW of Midway Island, are two rocks, about 0.1 mile apart, that uncover 4 feet. A reef extends from the W shore, inside the rocks, for a distance of about 200 yards. A 1-fathom shoal is close N of the rocks in about 58°00'09"N., 135°37'25"W.

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

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

(232) The S 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 NW arm, which extends to a canoe portage 70 yards wide to Tenakee Inlet. Depths of ½ fathom are found at its entrance. The SW arm has depths of 3 to 5 fathoms, sticky bottom.

(233) **Salt Lake Bay**, at the S end of Port Frederick, inside The Narrows, extends in a S direction, with depths of 43 fathoms at the entrance to 9 fathoms off the flats, which extend about 0.2 mile from the SE corner. The bay then extends SW 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 E 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.

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

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

(236) From Neka Island, the N arm follows a WNW direction, narrowing to less than 0.3 mile, thence the arm follows a WSW 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 N 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 S side of the channel, 0.3 mile from the entrance to the narrow part, is a small wooded island with a bight to the SSW. A depth of 2¾ fathoms was found in the S channel leading to the bight; a rock is in the W channel.

(237) **North Bight**, the middle arm of Neka Bay, with the entrance S 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.

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

Chart 17316

(239) **The Sisters**, near the middle of Icy Strait, about 5 miles ENE from Point Sophia, consist of two islands connected by a sand beach. The N island is heavily wooded. The S 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 SSE from the SE end of the S island. **The Sisters Light** (58°10'18"N., 135°15'30"W.), 69 feet above the water, is shown from a radio tower at the S end of the N island. An aero radiobeacon is about 190 yards SSW of the light.

(240) **Sisters Reef**, 1.1 miles W of the N 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.

(241) **Spasski Island**, about 2.2 miles S of The Sisters, is marked on its N side by **Spasski Island Light 12** (58°07'58"N., 135°16'18"W.), 30 feet (9.1 m) 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 S from it. A detached rock, bare at low water, is about 0.6 mile SE 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.

(242) **Spasski Bay** is on the S shore to the SW of Spasski Island. **Neck Point**, the N 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 N of Neck Point; the least depth over the rocks is 1½ fathoms. Rocks, usually marked by kelp, extend E of Neck Point. A 1¾-fathom shoal is about 0.6 mile ESE 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 SE 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 NE end, is off the E end of the bay. The shores of the bight at the W end of the bay are wide sand and gravel beaches.

(243) The anchorage, exposed to the NE, is in 9 to 10 fathoms in the middle of the W end of the bay, with Neck Point bearing NE.

(244) The shore E of Point Sophia and the reef NW of Neck Point should be given a berth of 0.8 mile.

Chart 17300

(245) **Whitestone Harbor** (58°04'N., 135°04'W.), on the S side of Icy Strait about 7 miles E of Pulizzi Island, is an inlet about 1 mile long in a W direction. The SW arm of the harbor is foul. The shores at the entrance are foul. Enter the harbor at midchannel, thence favor the N shore to avoid a reported boulder that bares just S of the center of the harbor. Anchorage for small craft is in the arm on the N side of the harbor, in sand and gravel bottom.

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