



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 1 — CHART INFORMATION

SECTOR 1

WEST COAST OF HOKKAIDO AND TSUGARU KAIKYO

Plan.—This sector describes the W coast of Hokkaido from Soya Misaki, the N extremity of Hokkaido, to Orido Saki, its SW extremity; the arrangement of this part is from N to S. Then Tsugaru Kaikyo, the deep strait between Hokkaido and Honshu, connecting the Pacific Ocean to the Sea of Japan, is described; the arrangement of this part is from E to W.

General Remarks

1.1 Japan consists of four large and many small islands. The four large islands are named from NE to SW, respectively, Hokkaido, Honshu, Shikoku, and Kyushu. The islands are mountainous and there are many volcanoes forming distinct volcanic chains. Earthquakes occur frequently in different parts of Japan. The rivers of Japan are comparatively short, their flow rapid, and none are navigable by large ocean-going vessels. Large plains are few in Japan, but there are a number of small, alluvial plains, and the valleys of the larger rivers are especially fertile.

The Naikai, or Inland Sea, bounded N by Honshu and S by Shikoku and Kyushu, constitutes an important passage for vessels, foreign and domestic, between the large ports of Kobe and Osaka at its E end and Moji, Shimonoseki, and Wakamatsu at its W end, and numerous other harbors in between. The Naikai, which contains an immense number of islands and islets, is famous for its scenery. Many of the channels are narrow and the tidal currents in them are strong, but heavy seas are seldom experienced.

Winds—Weather.—The climate along the W coast of Hokkaido is influenced by the Tsushima Current, which gives its relatively warm temperatures. In winter, however, it bears the full impact of the Northwest Monsoon, with the heaviest snowfall, a low percentage of days with sunshine, and extremely cold temperatures. In summer since the Southeast Monsoon is blocked by mountains, there is relatively little rainfall, and the climate is characterized by stretches of good weather and moderate land and sea breezes.

The Northwest Monsoon prevails in winter and the Southeast Monsoon prevails in summer. The winter wind is generally strong, and the summer wind relatively weak. The cold Northwest Monsoon from the Continental High dominates the winter climate, but these strong winds are not necessarily continuous. Periods of weak and strong currents generally alternate at intervals of 5 to 10 days. As one low pressure system moves E and out to sea the weather moderates until another storm moves in from the Sea of Japan. Winds are not very strong until the low pressure system passes through, and a cold front brings the monsoon winds in its wake. These strong winds may persist for several days until the low pressure system moves E out to sea and relatively calm weather is once again restored.

The Northwest Monsoon gradually begins to weaken in March, and by April, S winds become dominant.

During the summer season, an E wind is sometimes generated in June, the Sea of Okhotsk High. Generally, the Pacific Ocean High dominates and a mild Southeast Monsoon prevails.

The winter Northwest Monsoon winds tend to persist for long periods over a wide area, and generally attain velocities of

most are blizzards. Like heavy fogs, blizzards obstruct visibility, but they are much more dangerous to navigation due to the extremely cold and strong winds that accompany them. It appears that snowfall generally drops sharply beyond a distance of 10 miles from shore.

On the W and S coasts of Hokkaido, fog occurs on the average of less than 1 day per month from about September to April, increasing in the summer months to a maximum of 5 days per month in July. It is most frequent in the vicinity of Rashiri Suido and Okushiri Kaikyo.

In the Sea of Japan during the winter months, the Northwest Monsoon normally ensures that the air temperature is below that of the sea surface, a condition which discourages fog formation.

Ice.—Drift ice passing through La Perouse Strait from the E does not usually extend farther SW than the vicinity of Rishiri To, where it disappears. Most of this ice is brought from the Sea of Okhotsk by NE winds, but some occasionally arrives from the W coast of Ostrov Sakhalin. Winds from between the S and W tend to clear the ice way.

The harbor of Wakkanai is occasionally frozen over. There are occasional years in which neither fast ice nor drift ice appears on this part of the W coast of Hokkaido. There is practically no fast ice along the mainland coast S of Rishiri To.

Tides—Currents.—Tides along the W coast of Hokkaido are very small. The maximum daily tidal range does not exceed 0.3m. Diurnal inequality is marked all along the coast, with often only one HW and one LW per day.

The tidal currents of the W coast of Hokkaido are generally weak and irregular. They are influenced by the ocean currents that set N along the coast.

The Tsushima Current, a branch of the warm Kuro Shio, flows in a N direction off the W coasts of Honshu and Hokkaido, and branches of this ocean current set E through Tsugaru Kaikyo and La Perouse Strait. In summer, the time of greatest strength, the velocity is generally less than 0.5 knot, though it may attain more than 1 knot in places, with much greater strength in the straits. The Tsushima Current is extremely weak in winter.

Directions.—The Japanese Coast Guard has instituted the Japanese Ship Reporting System (JASREP). Purpose and participation in this system is similar in intent and format to the AMVER system. Any vessel desiring to participate in both JASREP and AMVER may do so by sending notice of dual participation to the appropriate coastal station. The service area of the JASREP system is the area N of latitude 17°N and W of longitude 165°E.

The Maritime Traffic Safety Law established traffic routes in Tokyo Wan, Ise Wan, and the Naikai. Waters along the coast of

Japan are congested with vessels, especially in the above-mentioned areas which are extremely crowded with large and small vessels. In order to maintain safety of traffic, the Maritime Safety Law establishes special rules to regulate shipping traffic in these traffic congested areas. See Pub. 120, Sailing Directions (Planning Guide) Pacific Ocean and Southeast Asia for Maritime Traffic Safety Law; also see appropriate sections of this publication for rules and signals of Maritime Traffic Safety Law.

Pub. 158, Sailing Directions (Enroute) Japan, Volume I describes the coasts of Japan which border the Sea of Okhotsk, the Pacific Ocean, and the Philippine Sea; it also includes Nampo Shoto and Nansei Shoto (Ryukyu Islands).

Caution.—Fish havens, which may be on the seabed, at intermediate mid-layer depths, or floating on the surface, are numerous in Japanese waters and are continually being augmented. Concentrations of fishing vessels can be expected in their vicinity. Caution should be exercised as the placement of fish havens may well precede their inclusion in the Notice to Mariners.

Hokkaido—West Coast

1.2 Soya Misaki (45°31'N., 141°56'E.), the N extremity of Hokkaido, is grass-covered and 50m high. It rises about 2 miles inland to the summit of Maru Yama, a rounded hill, 168m high, which can sometimes be seen when the cape itself is obscured by fog. A light, 17.1m high, is shown from a tower on the cape. Benten Shima, a light brown rock, 11m high, stands about 0.8 mile W of Soya Misaki, on a reef.



Soya Misaki Light

The cape is fringed by rocky ledges and the bottom is uneven in the vicinity. Depths of less than 20.1m extend up to about 2 miles off the cape, which should be given a wide berth due to the currents.

Caution.—Large vessels approaching from the E should avoid a reef, with depth of 15.8m, about 13 miles E of the cape. Due to the dangers in the vicinity of Soya Misaki the tidal currents in La Perouse Strait, Soya Misaki should at all times be passed at a distance of at least 5 miles.

La Perouse Strait, known to the Japanese as Soya Kaikyo and to the Russians as Proliv Laperuza, separates Hokkaido from Sakhalin, and is described in Pub. 155, Sailing Directions (Enroute) East Coast of Russia. The passage is about 23 miles wide between Soya Misaki and Mys Kril'on (Nisi-Notoro Misaki), the S extremity of Sakhalin. Ostrov Kamen Opasnosti (Nizyo Gan) (Nijo Gan), an isolated rock, lies in the N part of the strait, about 8.5 miles SE of Mys Kril'on. The strait joins the Sea of Japan and Gulf of Tartary, to the W, and the Sea of Okhotsk, to the E.

Soya Wan is entered between Soya Misaki and Noshappu Misaki (Nosyappu Misaki), about 12 miles WSW. The bay is divided into two parts. Koetoi Saki projects N from the head of the bay. Wakkanoi Ko occupies the SW part of the bay. Wakkanoi Ko is suitable for vessels of up to 5,000 dwt.

Anchorage.—The bottom of Soya Wan is either rock or sand, and affords such poor holding ground that dragging is likely in strong winds.

1.3 Noshappu Misaki (45°27'N., 141°39'E.), the NW extremity of Hokkaido, is the N extremity of a peninsula connected to the mainland of Hokkaido by a low isthmus. The peninsula appears as an island from a distance; its central range of hills rises to an elevation of 211m and falls sharply to a tongue of low land at its N end. A light is shown from Noshappu Misaki. Houses about 0.5 mile S of the light structure are brightly illuminated and can be seen over 20 miles offshore, and are visible before Noshappu Misaki Light.

Esandomari Gyoko, protected by breakwaters, from one of which a light is shown, is situated close S of Noshappu Misaki. The light is shown from a red tower, 11m high. A radio tower, 220m high, is conspicuous about 2.5 miles SSE of Noshappu Misaki. Several white domes and blue domes are conspicuous about 0.8 mile to 2 miles S of the point.

Rocks and shoals, with depths of less than 4.9m, extend up to about 0.7 mile off Noshappu Misaki. The point should be given a berth of at least 1 mile.

Koetoi Saki (45°25'N., 141°45'E.) can be identified by the houses on it and by a flat treeless hillock behind them. A spit, on which there are several rocks with depths of less than 1.8m, extends about 1.5 miles N of Koetoi Saki. A light is shown nearly 1 mile N of the point.

Caution.—Fish traps are laid (August to December) from 0.8 to 1.5 miles seaward of the E side of Koetoi Saki and the SE side of Noshappu Misaki. Seaweed farms lie within 0.8 mile of the shores of Koetoi Saki and Noshappu Misaki.



Wakkanai Ko Breakwater Lights

Wakkanai Ko (45°25'N., 141°41'E.)

[World Port Index No. 61260](#)

1.4 Wakkanai Ko has primarily been a fishing center and the terminal for the ferry service from Hokkaido to Rebun-jima and Rishiri To. Domestic and foreign vessels enter and cargo volume is increasing steadily as port facilities are expanded.

The port is sheltered by North Breakwater extending 1 mile ESE from the shore. A light is shown on its head from a red round tower, 14m high. East Breakwater, detached, lies with its NW head 0.2 mile SSE of the head of North Breakwater. It extends SE and then E. A light is shown at its NW end.

A detached breakwater, 0.35 mile long, is situated 0.2 mile N of the head of North Breakwater. A light is shown from its E end.

North Wharf, Central Wharf, and Hokuyo Wharf, N to S respectively, lie on the W side of the harbor. Tenpoku Wharf extends N from the shore S of the head of North Breakwater.

Winds—Weather.—West and NW winds are most frequent in winter; sea conditions are most frequent in winter; sea conditions are particularly poor from September to April. In the prolonged westerlies of winter, large swells sweep around Noshappu Misaki and penetrate the harbor. North to NE winds quickly generate high seas in the anchorage, and seas and swell penetrate the harbor through the large opening to the E.

Spring and summer winds are generally from SSW and E.

Fog forms from mid-June to early August. Their frequency is low and average about 6 or 7 times per month in June and July. The visibility in fog is about 0.2 mile. No fog forms in March. Fog forms in April around sunrise and after May, from 0300 to 0800 and from 1600 to 2100.



Wakkanai Light

Fog often follows misty rain and disappears within 1 to 2 hours. It also forms frequently in light easterlies, and they dissipate with an increase in wind velocity or a change of wind direction. The visibility in fog is at times about 0.1 mile.

Fog in this area persists for 2 to 3 hours and rarely lasts for more than 10 hours. Fog, which forms with Southwesterly winds, is said to persist for a long time.

Tides—Currents.—The tidal rise at Wakkanai is 0.3m at MHHW.

Depths—Limitations.—The fairway and the approach to Tenpoku Wharf No. 1 has been dredged to a depth of 10m. The draft limit is approximately 9m. The port has four main berths.

North Pier, adjoining the foot of North Breakwater, has a length of 130m and a depth of 5.5m.

The Center Pier has three berths. North Wharf and East Wharf each have a length of 130m and an alongside depth of 6.5m. South Wharf has a length of 133m and an alongside depth of 5.2m.

Hokuyo Pier has a 325m long berth, with a depth of 5.5m.

Tenpoku Pier No. 1 has three wharfs. West Wharf has a pier with a length of 185m and an alongside depth of 9m, and also a pier with a length of 165m and a depth of 3.5m alongside. North Wharf has a pier 185m in length and an alongside depth of 10m. East Wharf, 260m long, has depths of 7.6 to 8.2m alongside.

The area on the E side of Tenpoku Wharf No. 1, S of the quay on the E side, has been reclaimed. Tenpoku Wharf No. 2 has alongside depths of 4.1 to 7.7m on its W face, 3.4 to 3.8m on its N face, and 3.6 to 5.6m on its E face.

Aspect.—Cranes and white oil tanks are conspicuous on Hokuyo Wharf.

The Combined Port Affairs Building, a four-storied building with a radio tower and yellow dome on the roof, and with radio towers in the compound, lies at the foot of Central Wharf.

Pilotage.—Pilots are available at Rumoi; VHF channel 16 is used.

Anchorage.—The best anchorage for large vessels is in about 14m, sand, about 0.6 mile ENE of the head of North Breakwater. The bottom is a thin layer of sand over rock, and there is risk of dragging with strong winds or swell. The anchorage is susceptible to winds from the NW to NE.

The quarantine anchorage is centered about 0.8 mile N of the head of North Breakwater.

Directions.—Entry is made between the head of the N breakwater and the NW end of East Breakwater. The fairway leading to the entrance at the breakwaters has been dredged to a depth of 12.8m; from the entrance to Tenpoku Wharf, the fairway has been dredged to a depth of 11.9m. Irregular seas occur at the entrance with prolonged NW to N winds.

Islands and Dangers Off the Northwest End of Hokkaido

1.5 Rebun To (Ruben Shima) (45°22'N., 141°01'E.), about 25 miles W of Noshappu Misaki, rises to an elevation of 490m at Rebun Take, near the center of the island. The top of Rebun Take is covered with pine trees, and appears conical from the N or S, but the descent on the N side is gradual.

The E coast consists of a sand and shingle beach; the W side consists of eroded cliffs, 100 to 200m high.

Todo Shima, an islet 42.7m high, lies about 0.8 mile N of Sukoton Misaki, the N extremity of Rebun To. A light is shown from the W side of the islet. Todo Shima lies on the foul ground extending N of Sukoton To. A bare rock, 3.4m high, lies about 1.5 miles N of Todo Shima, and a rock, Oki-no Syo, with a depth of 1.2m, lies about 0.5 mile farther N.

Gorota Yama, a hill, 179m high, lies about 1.5 miles S of Sukoton Misaki.



Kanedano Misaki Light

Kanedano Misaki, the NE extremity of Rebun To, and marked by a light, has depths of less than 4.9m extending about 0.4 mile N. An isolated rock, with a least depth of 0.1m and surrounded by deep water, lies about 1.5 miles N of Kanedano Misaki; it is constantly awash and easy to identify by day. A shoal having a least depth of 7.4m lies about 2.3 miles NE of Kanedano Misaki.

Funadomari Wan, entered between Sukoton Misaki and Kanedano Misaki, has depths of 20.1m in the entrance, gradually shoaling to 4.9m about 0.3 mile off the head. There is good anchorage, sheltered from the S winds, in 14m, with Kanedano Misaki bearing 032°, and with Oshonnai Yama, a 171m high hill, about 2 miles SSE of the point, bearing 119°.

Funadomari Ko, a small harbor, sheltered by breakwaters, lies on the E side of Funadomari Wan. A berth, 100m in length, with a depth of 4.9m alongside, lies on the S side of the S breakwater.

Uedomari Saki, the E extremity of Rebun To, and about 2.8 miles SSE of Kanedano Misaki, is marked by a light.

1.6 Kafukai Byoshi (Kahukai Byoti) (45°20'N., 141°03'E.) is an open roadstead formed by a slight indentation on the W side of Rebun To. Komayano Saki, the N entrance point, is a red cliffs headland. A fishing harbor, formed by breakwaters, with an entrance in its NE corner, lies in the S part of the roadstead. A rock, with a depth of 6.4m, lies about 0.3 mile NE of the fishing harbor entrance. The best anchorage, sheltered from W winds, is in about 14m, sand, about 0.2 mile NE of the fishing harbor entrance, clear of the above-mentioned rock. Caution is also necessary as the bottom is rocky in



Uedomari Saki Light

places. Anchorage, in about 33m, sand, good holding ground, lies farther offshore.

Stationary fish traps extend about 1 mile off the N and S sides of Kafukai Byoshi from March to November on the N side and from March to July on the S side.

Kafuka Ko (Kahuka Ko) is a small port about 2 miles S of Kafukai Byoshi. Karrannai Misaki is situated 4 miles SSW of Kafukai Byoshi.

The entrance to Kafuka Ko, which faces SE, lies between two detached breakwaters and the heads of the North Breakwater and South Breakwater. A light is shown on the South Breakwater.

The E detached breakwater extends about 0.2 mile S from a position 0.15 mile S of the head of South Breakwater. South Outer Breakwater extends 0.25 mile WSW from a position 0.4 mile S of the head of South Breakwater. All breakwaters are lit.

Anchorage, sheltered from W winds, can be taken, in 10.1m or more, outside of the breakwaters at Kafuka Ko.

Kufuka Ko and Funadomari Ko are terminals for the ferries to Hokkaido.

Nairo Ko Light is shown from the head of a breakwater 7 miles N of Karannai Misaki.

Rebun Suido, 5 miles wide between Rebun To and Rishiri To, is deep and free of dangers. The currents set NE.

1.7 Rishiri To (Rishiri Shima) ($45^{\circ}11'N.$, $141^{\circ}15'E.$) is a volcanic island, rising to Rishiri San, a conical mountain, 1,719m high, at its center. The summit of the mountain is



Kafuka Light

usually in clouds or mist, but with NE winds or after a heavy rain it is visible for about 80 miles.

The coasts of the island are mostly low and backed by dense woods. The NW side of the island facing Rishiri Suido has depths of less than 10.1m extending about 0.3 to 0.5 mile offshore. The remainder of the island has no dangers less than 10.1m beyond 0.25 mile offshore.

Beshi Misaki ($45^{\circ}15'N.$, $141^{\circ}14'E.$), a small peninsula with a steep outer cliff and a sharp summit, 93m high, lies about 1.5 miles ESE of Hontomari Misaki (Motodomari Misaki), the N extremity of Rishiri To. Oshidomari Light is shown on Beshi Misaki. Oshidomari Ko (Osidomari Ko), a small port, lies close S of Beshi Misaki.

Oshidomari Wan, entered between Beshi Misaki and Notsuka Misaki (Nozuka Misaki), about 1.8 miles ESE, is sheltered from winds from the SE through S to NW, and partially sheltered from winds between E and SE by the mainland; at times there are strong winds from Rishiri San. The holding ground in most places is good. Depths of less than 10.1m extend about 0.2 to 0.4 mile offshore.

Ishi Saki (Isi Saki), the E extremity of Rishiri To, is marked by a light shown from a round tower, 32m high.

Oniwaki Ko ($45^{\circ}09'N.$, $141^{\circ}19'E.$), a small port, lies about 1.5 miles SW of Ishi Saki.

The harbor, in which there are general depths from 3 to 5m, is entered from the NNE between the N breakwater and the W head of the S breakwater, which is Y-shaped.

A light is shown from the W head of the S breakwater and on a beacon on the head of the N breakwater.

A light is shown on the N head of a detached breakwater, 0.2 mile ENE of the W head of the S breakwater.

The best anchorage off Oniwaki Ko is in about 13m, sand, about 0.3 mile E of the S breakwater head. During winds from the W, anchorage should be obtained as close inshore as possible.



Oshidomari Light



Senhoshi Saki Light



Ishi Saki Light

Caution.—Submarine cables extend from the foot of the E breakwater at Oshidomari Ko. Another detached breakwater is under construction 0.15 mile SSE of the head of the E breakwater. A light is shown from its N head.

Senhoshi Saki (Senposi Saki), the S extremity of Rishiri To, is marked by a light. Senposhipon Yama, a hill, 320m high, is conspicuous with its barren top, about 1.8 miles NNE of Senhoshi Saki. Oniwakipon Yama, 411m high, about 1.8 miles farther NE, has a prominent wooded summit, which from the S appears as two.

Senhoshi Ko, a fishing port, lies about 1.5 miles NW of Senhoshi Saki. The lighthouse on the E breakwater is an excellent landmark day and night when approaching Rishiri To from the S.

Senhoshi Tai (Senposi Tai), SW of Rishiri To, consists of two parts, with a deep trough between Rishiri Ne (Risiri Ne), with a least depth of 56m, lies about 10 miles SW of Senhoshi Saki. Orikomino Ne, with a least depth of 42m, lies about 7 miles WNW of Rishiri Ne.

Musashi Tai is an extensive bank, with its least depths in position 44°46'N, 140°21'E, about 46 miles WSW of Rishiri San. This shoal area has four shoals, with depths of 4.9 to 34m, within a radius of 1.75 miles. On the NE side of this shoal area there is a shoal 10.1m deep, 180m long, and 18m wide. The shoal area has a thick growth of seaweed and is surrounded by deep water. The remainder of Musashi Tai, with depths of less than 200m, extends about 20 miles NW and 30 miles SE of the shoal area, and is about 20 miles wide.

Rishiri Suido (Risiri Suido), between Rishiri To and Hokkaido, is 10 miles wide, deep, and free of dangers. Conspicuous landmarks on Rebun To and Rishiri To make

navigation easy; however, Rishiri Suido is relatively shallow on the mainland side, where depths of less than 10.1m extend from 1 to 1.5 miles offshore. There are no conspicuous landmarks on the mainland side and it is advisable to navigate nearer to Rishiri To.

The current sets NE in Rishiri Suido, attaining velocities of 1 to 1.5 knots in summer, and increasing markedly with strong SW winds.

Noshappu Misaki to Tampake Misaki

1.8 The coast from **Noshappu Misaki** (45°27'N., 141°39'E.) to Tampake Misaki, about 68 miles S, is generally low, with very few conspicuous landmarks. Depths of over 19.8m lie from 1 to 2 miles offshore, except off Haboro, where depths over 19.8m lie 3 miles offshore; there are no detached off-lying dangers. There are no harbors suitable for large vessels. However, with E winds, temporary anchorage can be obtained in suitable depths, sand or mud, nearly anywhere along this coast.

Bakkai Misaki, about 8 miles S of Noshappu Misaki, is a small projection, 1m high, with a village on it, providing an excellent radar target. A rock, with a depth of 10.1m, lies about 1.3 miles NW of Bakkai Misaki.

The mouth of Teshio Gawa (Teshio Kawa) lies about 26 miles farther S; a light is shown near the entrance. A white chimney, 38m high, is conspicuous about 0.5 mile N of the light. The town of Teshio (Tasio), E of the river mouth, is an excellent landmark day or night. There are low tablelands and plains N of the Teshio Gawa estuary, while S of the estuary is a series of low hills. Owing to the fluctuating depths in the entrance, the port is used by vessels of not more than 150 grt.

The coast for about 15 miles S of Teshio Gawa consists of low, flat, sandy beach, then changes to brown, sea-eroded cliffs, 30 to 50m high, for about 4 miles to Toyosaki Misaki.

At Embetsu (Onbetsu), about 10 miles S of Teshio Gawa, a railway bridge, painted green and crossing a river, is conspicuous. A radio tower, 135m high and marked by red lights, is visible from 10 miles offshore.

The coast between Toyosaki Misaki and Tomamae Saki, about 16 miles SSW, consists of intermittent light brown cliffs, 20 to 30m high, backed by plateau-like hills. Inland there is dense, dark forest.

Tomamae Saki (44°19'N., 141°39'E.) is a headland with a small bare hill, 64m high; there are cliffs on its seaward side, with houses at the foot of the cliff.

Tomamae Saki is foul on its W and N sides; from it a reef extends about 0.9 mile NNW. The bottom in the vicinity is rocky and very uneven; depths of about 5m are found up to 1 mile NNW of the point.

Pisshiri Yama (Pissiri San), a mountain, 1,032m high, is conspicuous about 17 miles E of Tomamae Saki. Maru Yama, a small, wooded hill, 179m high, lies about 5 miles SSE of Tomamae Saki and 1.75 miles inland; its round black summit forms a good landmark, but from a distance, especially from the N, it is difficult to distinguish it from the mountains behind.

Haboro Syo (Haporo Sho) lies with its least depth of 5.4m about 3.5 miles N of Tomamae Saki, and about 2.5 miles offshore. The shoal extends about 1.3 miles in a N-S direction.

1.9 Yangeshiri Shima (44°26'N., 141°25'E.) lies about 12 miles NW of Tomamae Saki and rises to an elevation of 93m at its W end. The island is bordered by rocks and reefs. A light is shown from the SE end of the island. Kamoi Iwa, a rock, 4.9m high and marked by a beacon, lies about 0.5 mile E of the SE end of Yagishiri-jima; it is illuminated by an auxiliary light at the lighthouse. A reef, awash in any sea, extends about 0.1 mile E of Kamai Iwa, and a rock, with a depth of 5.7m, lies about 91m farther E. Higano Se, with a depth of 4.8m at its outer end, extends about 0.3 mile W from the W end of the island.

Teuri-jima (Teuri To) (Teure Shima), about 2 miles W of Yagishiri-jima, rises to an elevation of 185m near its SW end. Teuri-jima Light is shown about 0.4 mile SW of Gome Saki, the N extremity of the island. Gome Iwa, a jagged rock 2.5m high and marked by a light, lies on a reef extending nearly 0.5 mile N of Gome Saki; the reef is usually marked by breakers. A light is shown from Akaiwa Saki, the SW end of Teuri-jima. A light is shown from a white tower, 9m high, on the head of a breakwater at **Maehama Ko** (44°25.4'N., 141°20.3'E.) on the E side of the island.

Nishino Se, a ridge with a depth of 4.5m at its outer end, extends nearly 0.5 mile E from the E extremity of Teuri-jima. Nakano Se, a detached rock with a depth of 3.5m, lies about 1 mile ESE of the same extremity.

Musashi Suido (Musasi Suido), the channel between the islands, has a navigable width of 1 mile, with depths over 10.1m, between Higano Se to the E, and Nishino Se and Nakano Se to the W. The N current in Musashi Suido is very weak with a velocity of less than 0.5 knot. Strong N winds may cause a S set in the passage.

Caution.—Vessels without radar should not attempt the passage in low visibility, as it is difficult to determine the position by soundings.

Rumoi Ko (43°57'N., 141°38'E.)

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1.10 Rumoi Ko, an artificial harbor, lies E of Rumoi Saki and W of the mouth of Rumoi Gawa. South Breakwater extends N from Rumoi Saki, while North Breakwater extends W from the training wall on the W side of the mouth of Rumoi Gawa. West Breakwater, detached and lying in a NE-SW direction, is situated about 0.3 mile W of the head of South Breakwater. It is reported that West Breakwater is being extended N. The harbor is divided into four areas, as follows:

1. Area No. 4—The roadstead outside the breakwaters.
2. Area No. 3—Within the breakwaters.
3. Area No. 2 and Area No. 1—Within the jetties lying E of Rumoi Saki.

Winds—Weather.—The sea around Rumoi Ko is usually calm from late April to early August, becoming stormy from late August to late March. The prevailing winds are from the ESE. Rumoi Ko is noted for its strong winds, particularly in winter when W to N winds sometimes accompany blizzards; waves over 5.8m high batter the breakwaters, sometimes penetrating the Inner Harbor. A fierce winter storm lasting 10 days has been recorded for this area. Rainfall is heaviest from August to December. Snowfall in the area is also heavy.



Rumoi Ko

Depths—Limitations.—The channel leading to the Inner Harbor has been dredged to 8m; however, shoaling up to 3.5m has been reported at the entrance 0.2 mile either side of the North Breakwater. Vessels tend to remain seaward of the 10m line in Area No. 4.

Onoda Cement Company Berth, on the W side of Area No. 2 has a depth of 7.2m alongside. Berths farther SE have depths of 6.5 to 7.4m alongside.

Berths on the N side of Area No. 1 have depths of 8m alongside.

Kotanhama Quay is located on the SE side of Area No. 3. The N side is 185m long, with 10m alongside; the W side is 130m long, with 7.5m alongside.

Aspect.—The coast from Rumoi Ko to Tomamae Saki, about 22 miles N, is a straight, sandy beach with low, rolling hills inland. **Rumoi Saki** (43°57'N., 141°38'E.) is the N extremity of a plateau, about 20m high, which is conspicuous due to the houses on it. A group of oil tanks about 0.4 mile S of Rumoi Saki is conspicuous. Rumoi Light is shown about 0.8 mile NE of Rumoi Saki; another light is shown about 0.4 mile SSW of Rumoi Saki. Two white concrete masts, the highest 67m high with triangular topmark, are conspicuous nearly 1.5 miles N of Rumoi Light. A light marks the SW end of West Breakwater. A lighted buoy is moored 0.15 mile N of the head of West Breakwater.

A breakwater extends W from a position on the shore about 0.9 mile N of Rumoi Light; a light is shown from its head.

Pilotage.—Pilotage is available, not compulsory, but recommended. Requests for pilotage should be sent 24 hours in advance. Pilots board in the quarantine anchorage in summer and in Area No. 3 in winter.

Anchorage.—The quarantine anchorage, centered about 0.5 mile NNW of Rumoi Saki, has depths of 13 to 20.1m. There is risk of dragging in strong W to N winds.

Area No. 3 has a sand bottom, with poor holding ground, with risk of dragging in strong W to N winds. There are depths of 5.2 to 10.4m in the W part of Area No. 3; obstructions, with depths of 9.8m and 10.1m, lie in this part of the area.

Rumoi Ko to Ishikari Wan

1.11 The coast from Rumoi Ko to Notsuka Saki, about 7 miles SW, is bordered by cliffs about 40m high, with low hills covered with grass inland. Notsuka Saki is the N extremity of a relatively flat headland; the town of Mashike on the headland and Mashike Ko Light on its E side are conspicuous from a distance.

Mashike Ko (43°51'N., 141°32'E.) ([World Port Index No. 61240](#)) lies E of the headland. The harbor provides berths with a total length in excess of 600m, with depths of up to 5.6m alongside. Reclamation is in progress in the S part of the harbor.

Anchorage.—Local vessels generally anchor, in 8 to 11m, gravel over soft bedrock, poor holding ground, with Mashike Light bearing between 225° and 270°, distant about 0.5 mile. The anchorage is exposed to winds from the N to E, but sheltered from W to NW winds. There is risk of dragging with strong SE winds.

The coast from Notsuka Saki to Ofuyu Misaki, about 12 miles SW, consists of a low sandy beach on the shores of a shallow bay for about 3 miles, then a high mountain range backs the coast, descending abruptly seaward with cliffs, 100m high. Futatsu Iwa, two rocks 1.4m high, lie about 0.5 mile offshore, about 2.5 miles WSW of Notsuka Saki.

Ofuyu Misaki (Ohuyu Misaki) (43°43'N., 141°20'E.) is a cliffy headland, 90m high. Ofuyu Misaki Light is shown from a hill, 235m high, about 0.3 mile E, and is conspicuous day or night; the light structure is difficult to distinguish when snow accumulates. A waterfall on the N side of the headland is conspicuous when viewed from the W. Ofuyu Yama, 1,19m high, about 2.5 miles ENE of Ofuyu Misaki, is conspicuous from a distance, and Shokambetsu Dake (Syokambetu Take), 1,491m high, about 5.3 miles farther ESE, is the highest mountain in the vicinity and also conspicuous. The summits of both mountains are often hidden in clouds or mist. Tengu Dake, a mountain 983m high, about 5 miles NW of Ofuyu Misaki, has a bare ridge sloping NW, flanked by wooded slopes, and ending in a gray cliff, 494m high, conspicuous from the NE or SW.

Okino Se, with a depth of 3.7m, lies about 1.5 miles offshore at the outer end of foul ground extending NNW of Ofuyu Misaki. Chino Se, with a least depth of 1.3m, and Todo Shima, a large boulder 2m high, lie between Okino Se and the shore to its SE.

Tides—Currents.—The currents in the vicinity of Ofuyu Misaki are generally weak. From late March to early May, a strong current flows N with velocities of 2 to 6 knots; it is believed this current is influenced by the discharge of spring flood waters from Ishikari Gawa.

Caution.—Ofuyu Misaki should be given a berth of at least 3 miles to ensure clearing Okino Se, 2 miles NNW of Ofuyu Misaki. This shoal is the outermost of several dangers, above and below-water, which lie on foul ground NNW of Ofuyu Misaki.

Ofuyu Misaki to Otaru Ko

1.12 Aikappu Misaki (43°31'N., 141°22'E.), about 13 miles S of Ofuyu Misaki, is a cliffy headland; the elevated outer tip of the headland appears like a detached island when



Ishikari Bay New Port

viewed from the N or S. A flat-topped mountain, 486m high, on top of the headland, is radar conspicuous. The coast recedes between the two headlands to sand and gravel beaches. Kogane Yama, a cone-shaped mountain, 740m high, is conspicuous about 9 miles SE of Ofuyu Misaki.

An open bay lies between Aikappu Misaki and Takashima Misaki, about 23 miles SW. Otaru Ko lies S of Takashima Misaki.

The coast between Aikappu Misaki and Atsuta, about 8 miles SSE, is bordered by cliffs and backed by a range of steep, densely wooded mountains. From there to the mouth of Ishikari Gawa, the coast consists of gravel beaches backed by a series of low treeless hills. Asoiwa Yama, 418m high, with a dome at its summit, lies about 7 miles ENE of the mouth of Ishikari Gawa, and is conspicuous as it is surrounded by low, bare hills.

Ishikari Gawa, the largest river in Hokkaido, is accessible only to boats. The small port of Ishikari Ko lies in the mouth of the river. The bar at the river mouth is constantly changing, and the river is tidal for about 8 miles upstream.

A submarine cable runs in a NW direction close N of Ishikari Gawa.

Depths—Limitations.—A T-shaped pier, East Wharf, lies on the SW side of East Breakwater. There is a lumber quay on the SW side of East Wharf, with an alongside depth of 10.1m. The fairway to the lumber quay is being dredged to 10.1m. One tug of 2,500 hp is available. Additional tugs are available from Otaru, if required.

Aspect.—The coast from the mouth of Ishikari Gawa to Zenibako, about 12 miles SW, is a series of low sandy beaches. The land W of Zenibako consists of plateau-type hills, the

coastline alternating between stretches of cliffs and gravel beaches.

Anchorage.—Temporary, exposed anchorage can be taken, in 11 to 12.8m, mud bottom, about 1 mile off the mouth of the river.

1.13 Ishikari Bay New Port (43°13'N., 141°17'E.), an artificial harbor on reclaimed land about 4.5 miles SW of the mouth of Ishikari Kawa, is a principle port. It was built to support the Sapporo area and Hokkaido as a whole.

Depths—Limitations.—The entrance channel is dredged to 10m, marked by buoys, and has a draft limitation of 9m. East Wharf has three berths, one with a length of 185m and 10m depth alongside, the other two with a total length of 260m and 7.5m depths alongside. West Wharf has one berth with a length of 280m and a 14m depth alongside. Central Wharf has six berths with a total length of 865m and 7.5m depths alongside. This is a private wharf used for oil and gas.

Bannaguro Wharf, situated 0.2 mile SW from East Wharf, has five berths, two with a total length of 370m and a 10m depth alongside. The other three have a total length of 390m and a 7.5m depth alongside. There are plans for three more berths at this wharf, with a total length of 510m and a depth of 10m alongside.

Tarukawa Wharf has five berths, two with a total length of 370m and a 10m depth alongside. The other three berths have a total length of 390m and a 7.5m depth alongside. There are plans for two more berths with a total length of 200m and a 5.5m depth alongside.



Ishikari Bay New Port—East Wharf



Ishikari Bay New Port—Central Wharf



Ishikari Bay New Port—Tarukawa Wharf and Bannaguro Wharf

Aspect.—Range lights bearing 167.75° lead to Bannaguro Wharf and Tarukawa Wharf. The harbor is protected by artificial breakwaters. The E breakwater extends 0.5 mile NW from the shore, about 4.25 miles SW of the entrance to Ishikari Kawa. A detached breakwater extends 0.75 mile WNW close off the head of the E breakwater. The N breakwater, also detached, extends 2 miles SW from a position 0.3 mile NNW of the W end of the detached breakwater.

A light is shown from each end of the N breakwater. Another light is shown from the W head of the detached breakwater. The harbor is the focal point for the distribution of commodities in the central region of Hokkaido.

A light has been established 5.5 miles NE from the mouth of Ishikari Kawa.

Pilotage.—Pilotage is not compulsory, but is recommended for arrival. Pilots are available at the Otaru quarantine anchorage during daylight hours only.

Ishikari Wan

1.14 Ishikari Wan (Isikari Wan), a large bay, is entered between **Ofuyu Misaki** ($43^\circ 43'N$, $141^\circ 20'E$.) and Shakotan Misaki, about 43 miles WSW. The E side of the bay is backed by mountains, and the S side of the bay is backed by the volcanic plateau of Shakotan Hanto (Syakotan Hanto). Therefore, there are no significant coastal plains on the E and S sides of the bay, which are almost entirely bordered by sea-eroded cliffs.

1.15 At the head of the bay is a low, sandy beach, behind which is the Ishikari Plain, where Ishikari Gawa flows into the sea.



Ishikari Light

At the head of the bay, depths of less than 20.1m extend from 2 to 3.5 miles offshore. The E and S sides of the bay are relatively steep-to, with depths of less than 20.1m no more than 1 mile offshore. There are no detached islands or dangerous reefs farther offshore.

Landmarks visible from outside the bay are Ofuyu Yama (previously described in paragraph 1.11), on the E side of the bay, and, on the S side of the bay, Shakotan Dake (Syakotan Take), 1,255m high, about 6 miles S of Shakotan Misaki, and Yobetsu Dake, 1,299m high, about 1 mile farther SW.

The important port of Otaru Ko is situated on the S side of the bay.

Shakotan Misaki to Benkei Misaki

1.16 Kamui Misaki (Kamoi Misaki) (43°20'N., 140°21'E.), the NW extremity of Shakotan Hanto, lies about 5.5 miles WSW of Shakotan Misaki; it is a narrow, gray, treeless point, 83m high, and strewn with boulders. A light is shown from the point from a round tower, 11m high. A rocky ridge extends about 0.6 mile NW of Kamui Misaki. Several pointed rocks lie on this ridge, and extend about 0.4 mile NW of the point.



Kamui Misaki Light

Kamui Iwa, 41m high, the middle rock, is easily recognized by its sharply pointed top. Menoka Iwa, 9.2m high, the outermost rock, is low and flat. A sunken rock, at the outer edge of the ridge, lies about 0.2 mile NW of Menoka Iwa.

Yobetsu Ko, a small fishing harbor, lies about 1.5 miles E of Kamui Misaki.

Yobetsu Take (Yobetsu Take), 1,299m high, about 6.5 miles SE of Kamui Misaki, and Shakotan Dake (Syakotan Take), 1,260m high, about 1 mile NE of Yobetsu Take, are the two highest mountains of Shakotan Hanto.

A rocky bank, with a least depth of 96m about 8 miles NW of Kamui Misaki, might prove useful in determining a vessel's position in dense fogs or blizzards; that part of this bank with depths of less than 120m is 1 mile wide.

The coast between Kamui Misaki and Kawashiri Misaki, about 7 miles S, consists of sandy beaches backed by hills

rising so steeply as to give the appearance of cliffs. It is comparatively steep-to, with no off-lying dangers, but there are rocks within 0.4 mile of the coast.

A large bay is formed between Kawashiri Misaki and Benkei Misaki, about 24 miles SSW. Iwanai Ko lies at the head of the bay; Suttu Wan, a smaller bay, lies on the S side of the bay.

The coast between Kawashira Misaki and the mouth of Hori-kappu Gawa, at the head of the bay, forms the SW side of Shakotan Hanto. The coast is cliffy for about 4 miles SE of Kawashira Misaki, then the terrain lowers gradually and becomes a series of pebbly beaches. The vicinity of Iwanai Ko, at the head of the bay, consists of low, sandy beaches, backed by low, flat country.

Kamuenai Ko, a small fishing harbor, lies about 6.5 miles SE of Kawashira Misaki. Kabuto Misaki, a headland about 3.5 miles farther SE, is conspicuous from the NW. Tomari Ko, a small fishing harbor, lies about 1.5 miles SE of Kabuto Misaki.

Takashima Misaki to Shakotan Misaki

1.17 The coast between **Takashima Misaki** (43°14'N., 141°01'E.) and Shakotan Misaki, about 26 miles WNW, consists of precipitous cliffs, some over 150m high, rising from the sea. The shoreline is irregular and deeply indented by many bays and inlets, alternating with cliffy headlands. The heads of the bays are generally shallow, but the coast in general is steep-to, with deep water close offshore. There are no detached dangers, with depths of less than 10.1m, lying over 0.5 mile offshore.

Madoiwa Hana, about 4 miles W of Takashima Misaki, rises to an elevation of 182m; its seaward side is a precipitous cliff with a window-like cave in its lower part. Maru Yama, 629m high, has a sharp, grass-covered peak, and is easily identified about 2.8 miles farther S.

A peninsula, about 3 miles W of Madoiwa Hana, has a hill, 88m high, covered with trees and grass on its E side. A helmet-shaped rock, 38m high, lies at the NW extremity of the peninsula.

Yoichi Wan is entered between the above peninsula and **Shiriba Saki** (43°13'N., 140°47'E.), about 3.5 miles to the W. Shiriba Saki rises to a thickly-wooded and pointed summit, 296m high; it is faced by a steep cliff, and slopes gently on its landward side. Daikoku Yama, 725m high, the W of twin thickly-wooded peaks, lies about 7 miles S of Shiriba Saki; the land slopes gently from these peaks to the head of Yoichi Wan. Tengu Yama, 876m high, about 5.5 miles WSW of Shiriba Saki, is the highest mountain in the vicinity.

Yoichi Wan has depths of 29m in the middle of its entrance, and shoals gradually to the head of the bay. The bottom is sand and free of obstructions. The bay is not suitable for anchorage with winds from the NW through N to E, when swells penetrate the bay. Yoichi Ko, a fishing harbor, lies on the W side of the bay. Anchorage can be taken, in about 14m, about 0.3 mile SE of the head of the N breakwater at Yoichi Ko; the bottom is sand, good holding ground, and the anchorage was reported satisfactory even in winter in strong Northwest Monsoon winds.

Maruyama Misaki (43°17'N., 140°39'E.), about 7 miles WNW of Shiriba Saki, has a steep, black cliff on its N side, and rises to a pointed summit, 195m high, covered with trees. The headland is fringed with rocks; the outermost rock, with a

depth of 2.7m, lies about 0.2 mile N of the headland. Furubira Ko, a small fishing harbor, lies SW of the headland.

Three fish havens lie within 1.5 miles of the coast between Furubira Wan and Yochi Wan.

Atsutoma Misaki, a black headland, 84m high, lies about 1 mile NW of Maruyama Misaki; a rock, 3.1m high, lies about 0.2 mile N of the headland.

Bikuni Wan lies between Atsutoma Misaki and Kogane Misaki, about 1.3 miles farther WNW. Takara-jima, an island 104m high, lies about 0.2 mile N of Kogane Misaki.

Makka Misaki (Makkano Misaki), a cliffy headland, 166m high and covered with grass, lies about 4.8 miles NW of Kogane Misaki; two pinnacle rocks, 105m and 80m high, respectively, close off the headland, are conspicuous from the SE or NW.

De Misaki, the N extremity of Shakotan Hanto (Syakotan Hanto), lies about 2.3 miles WNW of Makka Misaki; Shakotan Misaki lies about 1 mile farther WSW.

Shakotan Misaki (Syakotan Misaki) (43°22'N., 140°28'E.) is faced by a cliff, 120m high. A radiobeacon tower is situated on Shakotan Misaki, and a light is shown at an elevation of 143m on De Misaki.



Shakotan Misaki Light

Otaru Ko (43°12'N., 141°01'E.)

World Port Index No. 61230

1.18 Otaru Ko is entered between Kayashiba Misaki, about 1 mile S of **Takashima Misaki** (43°14'N., 141°01'E.), and Haraiso Misaki, about 2.8 miles farther SSE. The harbor is formed by a N breakwater and a S breakwater, with a detached breakwater at the N end of the S breakwater. A small detached breakwater extends about 0.2 mile seaward of the S end of the

N breakwater. A short detached breakwater extend from the N end of the S breakwater.

Lights are shown marking the harbor entrance. The harbor is surrounded by hills on its N, W, and S sides, and is well-sheltered. The city of Otaru, W of the harbor, has many hilly streets due to the mountainous terrain close to the shore. Benten Shima, 17.1m high, about 0.5 mile SSW of Kayashiba Misaki, has breakwaters extending N and S of it, forming a fishing harbor.

Winds—Weather

At Otaru, SW to W winds predominate for most of the year, though in June, E winds slightly exceed those from the SW, and in July E winds roughly equal those from SW. Snowstorms may delay cargo operations during the winter.

From November to March the sea is usually rough, but from April to October, it is generally calm. When strong N winds persist for 4 or 5 hours, swells tend to penetrate into the harbor.

Sea fog forms in the vicinity of Otaru Ko from early April to late August. The peak season is June and July. Fogs usually start to form about 1400, reach maximum density from 1600 to 1700, and dissipate by 1900. The incidence of fog is low, and the moisture content is barely enough to dampen one's clothes. In winter, Otaru is sometimes covered with haze.

Depths—Limitations

Outside the breakwaters, the depths are generally over 14.9m. The fairway into the harbor has least depths of about 11.9m.

Central Wharf, WSW of the harbor entrance, has depths of 7.5 to 12m alongside and can accommodate vessels up to 25,000 dwt on its N side. Wharf No. 1, Wharf No. 2 and Wharf No. 3 all have alongside depth of 9m and can accommodate vessels up to 10,000 dwt.

Katsunai Pier has depths of 9 to 13m alongside. Wakatake Dolphin Berth has a length of 311m, with a depth of 10.1m, and can accommodate vessels of up to 15,000 dwt. Ironai Wharf is 335m long with a depth alongside of 6.7m, and is situated about 0.5 mile NW of Central Wharf.

Aspect

Takashima Misaki (43°14'N., 141°01'E.) rises to Hiyori Yama, a hill 44m high, from which a light is shown. A white building, on the E slope of a hill, is conspicuous nearly 0.5 mile W of the light structure; the building, which is illuminated by mercury lights at night (usually until midnight), and being higher and brighter than Hiyori Yama Light, should not be mistaken for the light. Todo Iwa, a black rock, 22m high, lies about 0.4 mile NW of Takashima Misaki.

Akaiwa Yama, a hill, 371m high, with a conspicuous cliff on its seaward side, lies about 1.5 miles WSW of Takashima Misaki; a radio tower, painted in red and white bands, marked by red lights and with an elevation of 436m, is conspicuous on its summit.

Kayashiba Misaki is a useful landmark for vessels approaching from the N, as the headland is silhouetted against the city lights in the background.



Hiyori Yama Light

Haraiso Misaki, at the S end of the port, has a cliff at its outer end, which is easy to identify even in poor visibility; a building on the headland is conspicuous day or night.

Teine Yama, 1,024m high, with a TV relay station near its summit, lies about 9.5 miles SE of Haraiso Misaki. The mercury lights of the station are visible from off Shakotan Misaki, distant 40 miles. Six TV relay towers are conspicuous. Another tower is reported conspicuous 2.5 miles W of the summit.

Tengu Yama, 533m high, and Maru Yama, 629m high, lie about 3 miles WSW and 5 miles W, respectively, of Haraiso Misaki, and are excellent landmarks when approaching Otaru Ko.

The Combined Port Affairs Office Building, an eight-storied building with radio masts on the roof, is situated on the W side of the area between Wharf No. 2 and Wharf No. 3, about 1 mile W of harbor entrance.

Ishi Yama, 145m high, with a cliffy, pointed summit and a round, glass-walled building, is conspicuous about 0.8 mile farther WNW.

Fish traps may be laid within 1 mile of the shore from August to November. A fish haven lies 5 miles WNW of Ishikari Ko.

Pilotage

Pilotage is not compulsory, but pilots are available and usually board about 1 mile NE of the harbor entrance. In rough weather, pilots board and disembark near the harbor entrance. The harbormaster can be contacted by telegraph or VHF radio, call sign "OTARU-HO-AN," on VHF channels 16 and 12.

Anchorage

Anchorage is available within the breakwaters, in 9.1 to 12.8m; the holding ground is generally poor. The bottom in the N part of the harbor is sand and mud, while in the S part of the harbor the bottom is often bare bedrock. A dangerous cargo anchorage lies W of the S part of the detached breakwater.

A quarantine anchorage is established 1 mile SSE of Kayashiba Misaki, as indicated on the chart.

Caution

At night, the lights at the heads of the breakwaters are not easily distinguished due to the city lights in the background.

Vessels should not approach the coast within 0.75 mile between Takashima Misaki and Kayashiba Misaki from March to November, due to the possible presence of fish traps, marked by towers, 3.1m high, and red lights.

Iwanai Ko (42°59'N., 140°31'E.)

World Port Index No. 61220

1.19 Iwanai Ko is a fishing harbor and small port at the head of the bay. The harbor is sheltered by West Breakwater ex-tending N from Iwanai, and East Breakwater extending W from the mainland. A detached breakwater extends 0.2 mile NNE from a position 183m WNW of West Breakwater Light. A light is shown at both ends. Both detached breakwaters are being extended. An inner port for fishing vessels and sheltered by breakwaters, occupies the S part of the harbor. Central Wharf, extending NW, occupies the SE part of the harbor. A boat basin, NE of Central Wharf and sheltered by a breakwater, occupies the E side of the harbor.

Winds—Weather.—Winds from the W and WNW predominate from November through February, and SSE winds predominate from March through October. Fog occurs about 2 days per month in June and July. Snow falls about 26 days per month in December and February, 30 days in January, and 22 days in March.

Tides—Currents.—Weak tidal currents set SW on the flood and NE on the ebb.

Depths—Limitations.—The NW section of the W side of Central Wharf has depths of 4 to 7.5m and a length of 240m. Fisheries Wharf, situated 183m SW of Central Wharf, has a length of 275m, with an alongside depth of 3 to 5m on its N side. East Wharf is 328m long, with 8m alongside.

Aspect.—Iwanai Take (Poronupuri Yama), 1,086m high, lies about 3.5 miles S of Iwanai Ko. Shiribeshi Yama, 1,893m high, lies about 16 miles SE of Iwanai Ko. Both are conspicuous in the approach.

A white oil tank is conspicuous at the root of Central Wharf.

Anchorage.—Open anchorage can be taken, in 11.9m, about 0.4 mile NNE of the head of W breakwater; care should be taken to avoid obstructing the fairway into the harbor. Small vessels can anchor in the outer harbor with the head of W breakwater bearing 340°, distant about 0.2 mile.

The bottom inside the harbor is sand, with relatively good holding ground. The bottom in the harbor approach is fouled. There is a risk of dragging with strong W winds.

Anchorage within the breakwater becomes impossible with strong Northwest Monsoon winds, which cause waves to pass over West Breakwater and combine with the seas entering from the N. Small vessels may then seek shelter in Suttu Wan.

Caution.—It is reported that a dangerous obstruction exist approximately 940m W of West Breakwater Light. The inner



Benkei Misaki Light

port is heavily congested with fishing vessels in the fishing season (June to August).

1.20 Raiden Misaki (42°55'N., 140°24'E.), about 7 miles SW of Iwanai Ko, is a headland flanked by a black cliff connecting it to another headland about 2.5 miles NE; steep cliffs between the headlands are conspicuous from seaward. Several buildings of a hot springs resort are conspicuous day or night, E of Raiden Misaki. The mouth of Shiribetsu Gawa, about 3 miles SSW of Raiden Misaki, is bordered by low, sandy beaches. A reef, with a depth of 1.5m, lies about 0.5 mile NW of the river mouth.

A light is shown on the coast about 2 miles farther SSW; it illuminates a white beacon about 0.3 mile W of it.

Biyano Misaki (Biyano Saki) lies about 2 miles farther SSW. Suttu Wan is entered between Biyano Misaki and Benkei Misaki, about 5.3 miles W.

Benkei Misaki (42°49'N., 140°12'E.) is a low, black, rocky point, rising to a thickly wooded summit, and marked at its N end by a light. Horozuki Yama, 504m high, lies about 3 miles SSE of the point. A drying reef extends about 0.2 mile N from the W side of the point.

Suttu Wan (Suttu Wan) (Sutsu Wan), open N, has shores lined with fishing villages, except along the sandy beach at its head. Shubuto Gawa (Shuputo Kawa) enters the SW corner of the bay, near the W end of the beach. Daimaru Iso, a dangerous reef about 2 miles SE of Benkei Misaki, is marked by a light.

1.21 Suttu Ko (Sutsu) (42°47'N., 140°14'E.) ([World Port Index No. 61210](#)), a small fishing harbor, lies about 1 mile

farther SSE; the port is congested with fishing boats during the fishing season (June to September).

The outer harbor is protected by the N breakwater which extends about 400m in a generally ESE direction from the N side of the harbor; a light is shown near the head of this breakwater.

The harbor entrance, which faces E, lies between the head of the N breakwater and a detached breakwater extending NNE from near the rocky side of Iwa Saki. A light is shown from the detached breakwater.

Wind—Weather.—Winter winds generally are out of the W or NW, with S winds prevailing during the remainder of the year. A local wind, the Dashi, blows out of the S from the valley of Shubuto Gawa. Average maximum velocities range from 25 to 32 knots, with gusts up to 38 knots. The Dashi is particularly strong during May and June; it blows more during the night than the day, and is strongest at 0600 and 2200. The effects of this local wind are felt in the anchorage and up to 4 or 5 miles offshore. Its impact is greater on the W shore of Suttu Wan than on the E shore, and it is not felt W of Benkei Misaki.

Fogs are infrequent in this vicinity.

Anchorage.—Fair anchorage can be taken, in 18.3m, about 1 mile N of the mouth of Shubuto Gawa.

Caution.—Fish traps extend 1 mile W of Biyano Misaki from April to December. Fish traps extend about 1.4 miles NE of Suttu Ko, and up to 1 mile offshore in the inner part of the bay from June to December. Mariculture farms for seaweed and scallops are situated in the S part of the bay. Red flags and lights mark the scallop farms E of Suttu Ko.

Benkei Misaki to Hogoshi Misaki

1.22 The coast between Benkei Misaki and Shiraito Misaki, about 17 miles SW, is mostly sandy beach, backed by high land. Then to Motsuta Misaki, about 3.5 miles farther SE, the coast consists of precipitous cliffs.

Honme Misaki, a low point marked by a light, lies about 6 miles SW of Benkei Misaki. Kimaki Misaki, about 9 miles farther WSW, is also marked by a light.



Honme Misaki Light

Shiraito Misaki (42°40'N., 139°52'E.) is faced by a black cliff, 46m high, and is thickly wooded above the cliff. A waterfall drops from the top of the cliff, E of the headland. The headland is difficult to identify from a distance.

Motsuta Misaki, a headland with a steep red cliff, is conspicuous from a distance. Its summit is a plateau, 200 to 300m high. A light is shown on its N side. Kariba Yama, a wooded mountain, 1,515m high, lies about 5 miles E of the headland. Kasube Take, a pyramid-shaped mountain, 1,049m high, about 8 miles SE of Motsuta Misaki, is conspicuous from the SW.

Setana (Setanai), surmounted by a 95m hill, lies about 10 miles S of Motsuta Misaki. Rosuka Iwa, 28m high and connected to the mainland by a causeway, is the largest of numerous rocks on the coastal bank abreast the town.

Three vertical rocks, the N and highest being 39m high, lie close NE of Rosuka Iwa.

1.23 Setana Ko (Setanai Ko) (42°27.5'N., 139°50.5'E.), a small harbor between Rosuka Iwa and the mainland, is



Kimaki Misaki Light

sheltered N by the causeway and entered S between breakwaters. Detached breakwaters lie 0.2 mile SW of the harbor entrance. The detached breakwaters have been extended.

A reef, with a depth of less than 1m, lies about 1.3 miles SSW of Setana Ko, and about 0.5 mile offshore; it is the outermost reef in the vicinity.

A stretch of sandy beach, backed by low land, lies S of Setana Ko.

Midare Misaki (Mitare Misaki), marked by a light, lies about 6.5 miles SSE of Setana Ko. Obana Misaki, about 3 miles farther S, is a steep-to red cliffy headland; it is very conspicuous from the SW. Matsukura Yama, 805m high, about 2 miles E of Obana Misaki, is densely wooded, with a sharp peak; its summit is deep green in summer. Kenashi Yama, 816m high and round-topped, lies about 2 miles S of Matsukura Yama; its summit is light green in summer.

Hogoshi Misaki (Hokoshi Saki) (42°16'N., 139°47'E.), about 2.5 miles S of Obana Misaki, is a low headland rising to a cone-shaped hill, 318m high; it is steep-to and a good landmark from the N or S. Hogoshi Misaki is also known as Ota Misaki. Ota Yama, 483m high, about 1 mile NE of Hogoshi Misaki, has a red cliff near its summit, very conspicuous from the SW.

Okushiri To

1.24 Okushiri To (Okushiri Shima) (Okusiri To) attains an elevation of 584m at **Kamui San** (Kamui Yama) (42°09'N., 139°27'E.), slightly W of the center of the island. Depths over 20.1m lie within 0.5 mile of the island, except for the shoal area at the S end of the island.

Inaho Misaki (42°15'N., 139°34'E.), the N end of the island, lies about 10 miles W of Hogoshi Misaki and is marked by a



Midare Misaki Light

light from which a ramark transmits. It rises to a round hill, 71m high, conspicuous from the NW or SE, about 137m S of the light structure. A rock, 22m high, lies about 0.1 mile N of the light structure. A steep-to reef, on which there are several above-water rocks, extends about 0.4 mile N of the point. Anchorage, sheltered from S winds, can be taken on the W side of Inaho Misaki, in depths of about 17.1m, with the light structure bearing 068°, distant about 1 mile.

Okushiri Ko (42°11'N., 139°31'E.), a small port, lies about 5 miles SSE of Inaho Misaki. This small harbor is enclosed by South Breakwater, which extends 150m E from the shore at the S end of the harbor, and by East Breakwater, which extends 800m NNE from the outer end of South Breakwater.

A detached breakwater lies with its S extremity close SE of the head of East Breakwater and extends about 0.2 mile NE. A light is shown from this breakwater.

A light is shown about 0.5 mile SE of Okishiri Ko, close off Akaishi Misaki.

Aonae Misaki (42°03'N., 139°27'E.), the S extremity of Okushiri To, is a low spit with a monument, 17.1m high, at its extremity. A light is shown from the point. A reef, with a depth of 3.6m at its outer end, extends about 1 mile S of the point.

Murotsu Shima (Murotu Shima), about 2.3 miles S of Aonae Misaki, is a group of large, black rocks, lying on a drying ridge. Moriiso Shima, 7.9m high, adjoins the largest rock, 6.3m high, close E, on which there are over a dozen houses. A light is shown from the latter rock. A rock, 0.8m high, and a rock, with a depth of 3.6m, lie nearly 1 mile ENE and about 0.3 mile W, respectively, of Moriiso Shima.

The passage between Murotsu Shima and the reef extending S of Aonai Misaki is about 0.8 mile wide with depths of about 14.9m, but it should not be attempted by large vessels.

Aonae Wan, a sandy bay, is entered between Aonae Misaki, and a point about 1.8 miles NE. Aonae Ko, a fishing harbor, lies on the W shore of the bay. It is enclosed by two breakwaters.

Anchorage.—Aonae Wan affords the best anchorage on Okushiri To in winds from the W to N. However, a heavy swell enters the bay with winds from the NE to SW, making anchorage impossible. Good anchorage can be taken, in 15m, sand, with the S extremity of the N breakwater at Aonae Ko bearing 255°, distant about 0.5 mile. The holding ground is fair.

Kuki Misaki (Gunrai Misaki), about 2 miles NW of Aonae Misaki, is bordered by numerous rocks; Todo Shima, 8.1m high, is a steep-to, detached rock, about 0.7 mile W of Kuki Misaki. Two rocks, each about 1.4m high, lie about 1 mile farther N and about 0.4 mile offshore.

Mui Shima, about 2.5 miles N of Kuki Misaki, is a conical islet, 65m high, with a smaller islet close N; it is conspicuous from the N or S.

Kamuiwaki Ko, a small fishing port, lies about 3.5 miles N of Mui Shima.

A reef, with a rock, 4.2m high at its outer end, extends nearly 0.5 mile NNW of Isoya Misaki, the NW extremity of Okushiri To.

Okushiri Kaikyo

1.25 Okushiri Kaikyo (Okusiri Kaikyo), the deep strait between Okushiri To and the W coast of Hokkaido, is the usual route for passing up or down the coast. It is about 9.5 miles wide at its narrow end between Inaho Misaki and Hogoshi Misaki. Both sides of the strait are steep-to with no detached dangers beyond 1 mile offshore, except for the reefs extending S of Aonae Misaki.

Currents are erratic in the N part of Okushiri Kaikyo. During the summer, the N current has velocities of 0.5 to 1.5 knots, and the S current has velocities of 0.3 to 0.5 knot.

Hogoshi Misaki to Shirikami Saki

1.26 The coast between **Hogoshi Misaki** (42°16'N., 139°47'E.) and Shirikami Misaki, about 55 miles SSE, consists mainly of sand or gravel beaches interspersed with stretches of low cliffs. The land inland consists of relatively high terrain, with very little flat country. This coast, bordered by many rocks and reefs, is relatively steep-to with depths of over 20m from 0.5 to 1 mile offshore, except in the vicinity of Esashi Ko.

Kouta Misaki, a low headland marked by a light, lies about 3 miles SE of Hogoshi Misaki. Kuda Ko, a small fishing harbor, lies about 1 mile farther E.

A submarine cable from Aonai Ko is landed in the vicinity of Kouta Misaki.

Usubetsu Take, 1,236m high, and Yurabu Take (Yurappu Take), 1,276m high, are very conspicuous about 8.5 miles E of Kouto Misaki.

Kudo Wan is entered between Kouta Misaki and Yoriki Misaki, about 3.5 miles SE. Anchorage, sheltered from N and E winds, can be taken by large vessels, in 12.8 to 18.3m, sand, off the beach at the head of the bay. It is not safe with W winds. Care should be taken to avoid the submarine cable extending from the NW end of the beach to Kouta Misaki at Okushiri To.



Pommoshiri Misaki Light

1.27 Pommoshiri Misaki (Pommoshiri Saki) (42°08'N., 139°55'E.), a low, dark rocky headland, marked by a light, is very conspicuous nearly 7.5 miles SE of Kouta Misaki, and is the SE entrance point of Okushiri Kaikyo. A white tower, 504m high, is very conspicuous atop Anama Yama, about 2 miles N of Pommoshiri Misaki. A radio tower, 115m high, is conspicuous nearly 0.5 mile NE of the same point. Reefs and rocks extend about 0.3 mile offshore in the vicinity of the point.

Kumaishi Ko, a small fishing harbor, lies about 2.5 miles E of Pommoshiri Misaki. It consists of a camber with depths of 3 to 4m, within two breakwaters, each marked by a light. A light is also shown from a round tower, 6m high.

Between Kumaishi Ko and Pommoshiri Misaki, numerous houses stand on the coast.

Otobe Ko (41°58'N., 140°08'E.), a small fishing harbor, lies about 13.5 miles SE of Pommoshiri Misaki. It is close N of Otobe Hana, a headland with a white cliff. Another headland, Tateno Misaki, about 1.3 miles N of Otobe Hana, has a white cliff, 60 to 100m high, on its N side; it is very conspicuous and visible 15 miles from seaward, even when the surroundings are snow-covered. Two TV towers, with elevations of 175m and marked by red lights, stand on a 157m hill about 1 mile SE of Otobe Ko. They are visible 7 miles offshore by day and 25 miles offshore at night.

1.28 Esasi Ko (Esashi Ko) (41°52'N., 140°07'E.) ([World Port Index No. 61205](#)), fronted by Kamome Shima, consists of two parts connected by a low neck of land and appears as two islands from W. The N part of the island is 26.8m high. The

island is connected to the mainland E by a breakwater, with South Wharf on its N side.

Esasi Ko is formed by the W breakwater extending ENE from the N end of Kamome Shima, and a breakwater extending W from the mainland. A boat harbor lies on the S side of the harbor, E of South Wharf. North Wharf, extending NNW, lies on the E side of the breakwater which forms the E side of the harbor.

West Outer Breakwater extends 60m N from a position 60m N of West Breakwater Light; a light is shown from its head.

Depths—Limitations.—North Wharf has alongside depths of 4.7 to 5.1m; North Quay has alongside depths of 3.6 to 5.4m. Central Wharf has alongside depths of 4.7 to 5.2m on its E side and 3.1 to 4.8m on its W side. South Wharf has alongside depths of 1.4 to 4m.

Awabisori, with a depth of 2.4m, lies about 0.7 mile NE of the harbor entrance and about 0.2 mile offshore.

Aspect.—Kamome Shima Light is shown from the N part of the island. A shrine, with a red roof, lies about 0.1 mile farther NNE. Moto Yama, a mountain 522m high, light green, and with a bare summit, is very conspicuous about 3.5 miles E of Esasi Ko.

Anchorage.—Good anchorage can be taken, in 14.9 to 15.8m, fine sand, about 0.2 mile NW of the head of W breakwater. Strong winds from the SSW through W to N, set up a heavy sea in the anchorage.

Fair anchorage, sheltered from the N and E, can be obtained S of Kuzure Hana, the SW extremity of Kamome Shima, in depths of about 14m, having regard to a fish haven which lies 1 mile SSW of Kuzure Hana. Another fish haven lies 1 mile W of Kamome Shima.

Caution.—A wreck is reported to lie 2 miles WNW of Esashi Ko West Breakwater Light.

1.29 Sunego Misaki (Suneko Misaki) (O Saki) (41°48'N., 140°05'E.), about 4.5 miles SSW of Kamome Shima, is a very conspicuous, dark, rocky headland, 33m high, and covered with grass; a light is shown from the headland. Io Yama, 159m high, about 1.3 miles E of Sunego Misaki, appears as a sharp peak from the N.

Anchorage.—Temporary anchorage can be taken off Kaminokuni, a small village about 1.5 miles E of Sunego Misaki. It is comparatively safe in all winds except those from the W and N; with SW winds, strong squalls sometimes blow down from the hills. The recommended anchorage is in 12.3 to 14.6m, sand, about 0.5 mile NE of Omana Hana, a point about 1.3 miles ENE of Sunego Misaki.

The coast between Sunego Misaki and the mouth of Ishizaki Kawa, about 6 miles SSW, consists of sandy beach, then to Eramachi, about 10 miles farther S, it is cliffy coast. Between Eramachi and Shirikami Saki, about 13 miles SE, the coast is mainly gravel beach. The terrain inland is mountainous. Rocks and reefs extend 0.5 mile offshore along this coast, then the water deepens abruptly.

A light is shown on the S side of the mouth of Ishizaki Kawa. Sankaku Yama, 652m high, with a pointed top, lies about 2.5 miles ENE of the river mouth, and is a good landmark from the NW.

Hatsukami Yama, a twin-peaked mountain, 567m high, lies about 1.8 miles S of the river mouth; it is hard to distinguish from the background, but is a good landmark for coasting vessels.

Hikatomari Misaki (Higatomari Misaki), a cliffy headland, 35m high and marked by a light, lies about 3.5 miles SSE of Ishizaki Kawa; detached rocks lie close off the headland.

Sasa Yama, 583m high, with a bare round summit, appears isolated and is fairly conspicuous about 7.5 miles SSE of Hikatomari Misaki.

Yoshiga-jima (Yoshi Shima), about 12.5 miles S of Hikatomari Misaki, is a rock, 6.1m high, and almost joined to the coast by reefs; a light is shown from its summit. Yoshiga-jima fronts Tatehama Ko, a small fishing harbor.

Orido Saki, about 2.3 miles SE of Yoshiga-jima, rises to a conspicuous rock, 42m high, about 0.3 mile NE. A radio tower stands about 0.2 mile NE of the headland, and another radio tower, 130m high and marked by red lights, stands about 0.3 mile farther NE.

Mitsu Ishi, three rocks, 0.8m high, lie about 0.5 mile offshore, midway between Yoshiga-jima and Orido Saki.

1.30 Benten Shima (41°25'N., 140°06'E.), about 0.8 mile WNW of Orido Saki, is a small island, 18.9m high, connected to the mainland. Matsumae Light is shown from the island. Two radio masts are conspicuous about 0.3 mile N of the light structure. Reefs and foul ground extend about 0.3 mile S of Benten Shima, and it should be given a wide berth. Benten Shima and the surrounding rocks are reported difficult to detect on radar except when the sea is calm. A light is shown on the coast, 3.8 miles ESE of Benten Shima.

Matsumae Wan (Fukuyama Wan) indents the coast between Benten Shima and Shirikami Saki, about 5 miles ESE. The depths in the bay are irregular, and reefs and shoals extend up to 0.3 mile from the shores of the bay. Matsumae Ko, a small port, lies on the W side of Matsumae Wan, close N of Benten Shima. The town of Matsumae has many temples and shrines, with Hokkeji, the most conspicuous temple, about 1.3 miles ENE of Benten Shima; Matsumae Castle, with a tower, 45m high, lies about 0.2 mile WNW of Hokkeji.

A small detached breakwater lies on a NW-SE axis in the harbor entrance, 100m NW of the breakwater projecting from Benten Shima. A light is shown from its SE end.

Anchorage.—Large vessels can obtain good anchorage, sheltered from NW to NE winds, in about 22m, with Hokkeji bearing 014°, and with Matsumae Light bearing 267°, distant 1 mile. The bottom consists of a layer of sand and shells over rock, and there is danger of dragging in heavy seas. Anchorage can also be taken, in about 27m, sand and shells, with Matsumae Light bearing 277°, distant about 0.5 mile.

Tidal currents are variable, and in the anchorages there appears to be a strong SW current.

Caution.—A wave meter is laid on the sea bed 0.5 mile SE of Benten Shima, and is connected with the shore NW by a submarine cable.

1.31 Ko Shima (Ko-Jima) (41°22'N., 139°49'E.), a volcanic island, lies about 13 miles SW of Benten Shima, and is commonly known as Matsumae-Ko Shima. It has three peaks of almost identical height on the W, N, and E sides of a crater in the middle of the island; the W peak, 306m high, is slightly higher than the others. The coasts of the island are precipitous and the only landing place is a gravel beach at the NE end of the island. Depths of over 20m lie 0.5 mile offshore.

A cylindrical rock, 152m high, lies about 0.4 mile WNW of the W end of the island. Two above-water rocks, 46m and 34m high, respectively, lie between the rock and the island.

Ko Shima Light is shown from a white tower, 24m high. The light is shown from the NE end of the island. It is obscured from the W and S of the island.

O Shima (41°31'N., 139°22'E.), a volcanic island, lies about 21 miles WNW of Ko Shima, and is commonly known as Matsumae Oshima. It has two peaks, about 0.5 mile apart on an E-W axis, rising from the center of the island. The E peak is 755m high and cone-shaped. The W peak is 708m high and has a crater fringed with brown lava and rocky outcrops; in summer, small amounts of white smoke may be emitted from the crater.

The island is steep-to, with depths of over 200m close off the N shore, and with depths of 200m lying 0.5 to 1 mile offshore elsewhere.

The island is uninhabited, but sometimes visited by fisherman who land, in calm weather only, at places on the E, S, and W sides.

Tsugaru Kaikyo

1.32 Tsugaru Kaikyo is the deep strait separating Hokkaido from Honshu, and joining the Pacific Ocean and the Sea of Japan. The strait is considered a junction point in Pub. 151, Distances Between Ports. It is entered from the E between **Shiriyu Saki** (41°26'N., 141°28'E.) and Esan Saki, about 26 miles NW, and from the W between **Tappi Saki** (41°15'N., 140°21'E.) and Shirakami Saki, about 10 miles NW. The strait is roughly about 50 miles long, and has a least width of about 10 miles at its W end, and between Oma Saki and Shiokubi Saki.

The only ports which can be used by large vessels are Hakodate Ko, on the N side of Tsugaru Kaikyo, and Aomori Ko and Ominato Ko, both of which are situated in Mutsu Wan, on the S side of the straits.

The N side of the strait is generally deep inshore, with no dangers beyond 1 mile offshore, except where there are bays or indentations. The S side is similar, but there are reefs in the vicinities of Shiriyu Saki and Oma Saki.

Winds—Weather.—Sea fog in Tsugaru Kaikyo is rare from November through February, occasional between late spring and summer, and most frequent in June and July. In July and August, heavy fog may completely cover the entire strait, but is generally localized. Fog occurrence is more frequent towards the E rather than the W end, and along the N side rather than the S side of the strait. Sea fogs usually form at sunrise and last 1 to 3 hours. Incisive fogs are often long-lasting; the longest ones occur mostly in July, and occasionally last for several days, even during rainy days.

Tides—Currents.—The diurnal inequality of the tides in Tsugaru Kaikyo are fairly marked. There is rarely only one tide per day. Along the N side of the strait the inequalities of period and range are roughly equal at both HW and LW. Higher HW is directly followed by LLW, and HHW usually occurs in the morning in the spring and summer, and in the afternoon in the fall and winter.

The MHW interval is 4 to 4.5 hours, and the spring rise ranges from about 0.6m in the W part to 1.3m in the E part.

A major branch of the Tsushima Current, which flows N along the W coast of Honshu, flows in a NE and E direction through Tsugaru Kaikyo. There are fairly strong tidal currents in Tsugaru Kaikyo as the tides in the Sea of Japan and the Pacific Ocean are different. The current in the strait is a combination of the ocean and tidal currents. However, since the ocean current is normally stronger than the tidal current, the general set of the ocean current governs, and the flow is always E. The effect of the tides merely increases or decreases the velocity of the ocean current. The mainstream of the ocean current flows through the center of the strait, creating countercurrents along the shores.

The width of the mainstream varies somewhat with the strength of the current. The net current flow in the strait, since the E ocean current is stronger overall than the tidal currents, it is always E at velocities which may exceed 6 knots. The resultant E flow has one maximum and one minimum each day, except when the moon's declination is low there are two maximums and two minimums. On rare occasions a reversal flow to the W may occur for a short period. Strong, prolonged E winds reduce the flow of the current, while strong W winds increase the flow, but rarely more than 1 knot.

There are countercurrents on both sides of the strait, but there are no clear boundaries between the main E current and the countercurrents. The latter are greatly influenced by the fluctuations in the velocity of the main current and secondary tidal influences. Some of the principle countercurrents are:

1. Between Shirikami Saki and Yagoshi Saki, the countercurrent is not very strong when the main current is weak, but has a substantial W set when the main current is strong.

2. Between Yagoshi Saki and Shiokubi Saki, when the main current is weak, the countercurrent increases and a S current develops off Yagoshi Saki; the flow is shoreward in the remainder of the area. When the main current is strong the countercurrent decreases and there is only a faint countercurrent. In winter there is a marked W flow along the coast.

3. Between Shiokubi Saki and Esan Saki, two ocean currents join and the countercurrent area is clearly defined. The W flow along the coast increases and diminishes under the influence of the Oyashio.

4. The countercurrents S of a line connecting Tappi Saki and Oma Saki diminish when the main current is weak. It is a weak but wide countercurrent that includes the W flow hugging the shore from Takano Saki to Tappi Saki. When the main current is strong, the countercurrent increases and there are at least two countercurrents, one on each side of Takano Saki. A S inshore current develops between Oma Saki and Fukuura Saki. Tappi Saki-Tappano Saki, the W shore current, becomes especially strong, occasionally attaining a velocity of 3 knots. The set of the currents in the extensive central part of this area is indeterminate.

5. The currents between Oma Saki and Shiriya Saki is extremely indeterminate. The currents in the vicinity of Shiriya Saki are extremely unstable.

Oyashio, a cool current, flows SW along the SE side of the Kuril Islands, then continues along the SE side of Hokkaido and the E coast of Honshu.

Near Shiokubi Saki, the main current approaches the shore and frequently causes tide rips that extend S of Muino Shima, and sometimes over 2 miles offshore.

The tidal currents between Shiokubi Saki and Esan Saki are noticeable only near the shore, but near Esan Saki they extend about 3 miles offshore. They set W at flood and E at ebb, occasionally reaching a velocity of 2 knots.

Directions.—Westbound vessels, by keeping within the countercurrent areas, are able to avoid the strong E main current, but this is recommended only with good visibility. The N track outside the main current leads about 3 miles offshore from Esan Saki to Shiokubi Saki, then N of a line approximately joining Shiokubi Saki and Yagoshi Saki to Shirakami Saki. A course should then be steered midway between Benten Shima and Ko Shima.

Vessels running through the N side of the entrance, and bound W through the S side of the strait, should proceed through the N track described above until they are SE of Shiokubi Saki. They should then make good a course across the strait until a position about 3 miles NW of Oma Saki is reached, after which they should steer 230° for Tappi Saki, and in a position 5 or 6 miles NE of that cape, a W course should be shaped to clear the entrance.

Eastbound vessels, by keeping mid-channel, can take advantage of the E current setting through the strait. After passing Shirakami Saki at a distance of more than 3 miles, vessels should steer for Shiokubi Saki, and when Oma Saki is abaft the beam, course should be altered E and the N shore should not be approached within 3 miles.

Caution.—Passage through the strait presents no difficulties by day or at night in clear weather. Vessels proceeding E should keep in the main E current. Vessels proceeding W in clear weather should take advantage of the eddies and countercurrents on either side of the main E current. However, there are complex currents caused by the interaction of the ocean and tidal currents, and considerable cross traffic as well as through strait traffic. Cross traffic includes the Japan National Railways Aomori-Hakodate rail, auto, and passenger ferries, with speeds of 15 to 21 knots, as well as numerous other vessels plying between the N and S sides of the strait. Caution is especially necessary in bad visibility during heavy summer fogs or winter blizzards.

The vessel's position should be accurately fixed before navigating the strait in low visibility. Varying depths in the strait, plus the configuration of the 200m line, facilitate navigation by depth finder, and soundings can be combined with radar and radio direction finder bearings. Care must be taken to avoid collision with squid fishing boats which fish at night off Hakodate and Esan Misaki during the summer to winter squid fishing season, as well as the fishing fleets that work by day all year round near Muina Shima and Hiura Misaki.

North Side of Tsugaru Kaikyo—Esan Saki to Hakodate Wan

1.33 Esan Saki (Esan Misaki) (41°49'N., 141°11'E.), the NE entrance point of Tsugaru Kaikyo, is a steep headland, 260m high; Esan Misaki Light, equipped with a ramark, stands on a low flat ground on the NE side of the promontory.

E San, an active volcano, 618m high, lies about 1 mile SW of Esan Saki; it constantly emits sulfurous fumes, and its summit is occasionally enveloped in clouds. The E side of the summit is covered with red boulders, and on the W side there are patches of sulfur resembling clouds from a distance. Todo Yama, a round-topped mountain, 570m high, lies about 1.5 miles WNW of E San; it is shaped like E San, but is entirely green in color. There is flat terrain between E San and Todo Yama.

The coast between Esan Saki and Shiokubi Saki, about 12 miles WSW, is mostly steep cliffs, with mountains near the coast. Then it curves to Ohana Zaki, about 12 miles farther W, and consists mainly of a sandy beach, except for the ends of the curve. There are drying and sunken rocks near the shore, but no dangers lie beyond 0.25 mile offshore. Depths over 20.1m lie close off the capes and headlands.



Esan Saki Light

Seven large rocks, the outermost 6.9m high, lie about 0.1 mile off Nanatsuiwa Hana, about 2 miles SW of Esan Saki.

Hiura Misaki, about 6 miles farther SW, is a bold headland, rising to an elevation of 220m. Three pyramidal boulders, the largest 20.1m high, stand on the extremity of the point.

Muino Shima, a cone-shaped islet, 57m high, lies about 1 mile WSW of Hiura Misaki; it is covered with guano, and is conspicuous from the E or W. Toi Ko, a small fishing harbor, lies close N of the islet.

Shiokubi Saki (Shiokubi Misaki) (41°43'N., 140°58'E.), about 3 miles farther W, is a high, cliffy headland, with a light on its summit. Two radio towers are conspicuous from a distance on a 292m hill, about 0.5 mile NNW of the light struc-



Hiura Misaki Light

ture. Kinasi Yama rises to an elevation of 415m about 3 miles N of Shiokubi Saki.

Hakodate Wan

1.34 Hakodate Wan is entered between **Ohana Zaki** (41°44'N., 140°43'E.) and Kattoshi Misaki, about 4.5 miles W. Ohana Zaki is the S extremity of Hakodate Hanto, which is connected to the mainland by a low isthmus, on which stands the city of Hakodate.

Aspect.—Four radio towers, painted white and showing white obstruction lights, are situated about 0.5 mile NE of Ohana Zaki. Hakodate Yama rises near the middle of Hakodate Hanto; its highest part, known as Goten Yama, rises to an elevation of 335m, about 1 mile N of Ohana Zaki. Three TV relay towers, marked by red obstruction lights, stand on the summit of Goten Yama. Two radio towers, with an elevation of 85m, are conspicuous about 1 mile E of Goten Yama.

Kattoshi Misaki, the W entrance point of Hakodate Wan, is marked by a light. Maru Yama, a cone-shaped mountain, 482m high and thickly wooded on its E side, lies about 2 miles W of Kattoshi Misaki, and is a good landmark from the S.

Seven gray chimneys of the Nihon Cement Company stand about 4.8 miles NNE of Kattoshi Misaki, and about 0.8 mile WSW of the mouth of Ari Gawa; the constant smoke emissions



Shiokubi Saki Light



Kattoshi Misaki Light

are visible from a distance, and the plant lights are excellent landmarks at night.

The Nihon Cement Company Pier, marked by a light at its extremity, extends about 1.1 miles from a point on the shore, 3.5 miles NNE of **Moheji Ko** (41°46'N., 140°37'E.), and is connected to the plant NW by a belt conveyor.

Three aluminum-colored radio masts, the S mast marked by a red light, are conspicuous about 1 mile ENE of the mouth of Ari Gawa.

Hakodate Wan has depths of 50 to 60m in the middle of the bay entrance, gradually decreasing shoreward. Depths of over 10.1m lie about 0.5 mile offshore, except in its NW part, where they lie about 1 mile offshore.

Anchorage.—When entry into Hakodate Ko is delayed, anchorage can be taken, in 18m, sand, about 0.8 mile SE of the head of Nihon Cement Company Pier.

Hakodate Ko (41°47'N., 140°43'E.)

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1.35 Hakodate Ko occupies the E side of Hakodate Wan and lies N of Hakodate Hanto. It is sheltered W by breakwaters, and is the best harbor in Hokkaido. It is used by ferries of the Japan National Railways plying between Aomari Ko and Hakodate Ko, car ferries, and very large numbers of fishing vessels. Winds from the NW to N raise some sea in the harbor, but this rarely interferes with harbor traffic.

The tidal rise at Hakodate Ko is 0.9m at MHHW, and 0.8m at MLHW.

Winds—Weather

At Hakodate, WNW and W winds predominate from October to April, and S from May to September. The mean wind speed is about 7.5 knots from November through April, and about 6 knots from June through October. Winds of 19 knots and above occur about 3 days per month in the summer months, increasing to about 11 days per month in March and April. There are about 23 days per month, with snow from December to March.

Depths—Limitations

The greater part of the port area has depths of 10.1m or more.

Bandai Wharf has a berthing length of 180m on its front side with a depth of 10m alongside. The south side has a length of 130m, with a depth alongside of 7.5m.

The Asia Oil Company Single Mooring Buoy, about 1 mile WNW of the S entrance to the harbor, can accommodate a tanker of 84,000 dwt, in a depth of 14.9m. The mooring buoy is a special tanker mooring lighted buoy, with radar reflector and fog signal.

Hakodate Dock has three berths. Berth No. 1 has a 25,000 dwt capacity and an alongside depth of 9m. Berth No. 2 has an 18,000 dwt capacity and a depth of 7.5m. Berth No. 3 has a 250,000 dwt capacity and a depth alongside of 10.5m.

Nihon Cement Company Pier can accommodate two 10,000 dwt vessels at its pierhead in a depth of 10.1m. Lighted spar buoys surround the pierhead.

The largest drydock in the port is 156m long and 24m wide, with a depth of 9.5m, and can accommodate vessels of 17,100 grt. There are mooring berths and anchorage berths within the breakwater in depths of 10.1 to 11.9m.

Aspect

A tank farm, within the Asia Oil Company refinery, is conspicuous at the N end of the harbor, about 5 miles N of Ohana Zaki. A chimney, 56m high, with red and white stripes, is very conspicuous.

The Combined Port Affairs Building, an eight-storied building, stands on Central Wharf, about 1.5 miles SE of the S entrance to the harbor; a signal mast and 4 radio towers stand on the roof.

Two gantry cranes, 70m high, 110m wide, red and white stripes, are very conspicuous at Drydock No. 4; they are marked by red lights on top on both ends, and white lights below.

Pilotage

Pilotage is not compulsory. Pilots board 1.5 miles SW of the S harbor entrance; in rough weather they board nearer the entrance. Tankers bound for the Asia Oil Company Single Buoy Mooring board pilots farther outside the harbor.

Vessels may communicate with the harbormaster by radio or VHF radiotelephone on VHF channel 12 and 16. The signal station is situated on the roof of the Combined Port Affairs Building. Berths and anchorages are assigned by the harbormaster, and the signals designating them are shown from the signal station. Vessels should retain onboard the most recent edition of Japan Maritime Safety Laws and Regulations, obtainable through the Japanese Coast Guard. This publication should be kept as a reference for signal station communiques and their meanings, appropriate answering signals, and other local or specific regulations.

Regulations

Vessels of 500 grt and over may not enter the harbor at night.

Vessels of 500 grt and over intending to anchor inside the harbor should request an assignment from the harbormaster while still outside the breakwaters.

Vessels proceeding to an assigned anchorage or berth should indicate their intention by the appropriate signals.

Anchorage

Depths inside and outside the harbor provide excellent anchorage. The quarantine anchorage lies W of the W breakwater; the holding ground is reported good.

The mooring buoys in the S portion of the harbor provide anchorage, in 6.1 to 12.2m, good holding ground.

A good berth for temporary anchorage is in a depth of 18m, sand, 2.8 miles SSE of the mouth of **Ari Kari** (41°49'N., 140°39'E.).

Caution

When a winter NW wind brings snow to the Kamiiso area, vessels are occasionally caught in snowstorms when approaching the inner harbor. Careful attention should be paid to weather conditions and entrance into the harbor should be delayed when the smoke or flames emitted by the Nihon Cement Company chimneys cannot be seen.

Between September and December, stationery fish traps are set up within 1 mile of the coast between Kattoshi Misaki and the N shore of Hakodate Wan.

Departing Japan National Railway ferries and car ferries frequently meet incoming vessels starboard-to-starboard so that they can make a sharp turn to port as soon as they clear Passage 1 to take up their prescribed course.

Hakodate Wan to Shirakami Saki

1.36 Saraki Misaki (41°42'N., 140°32'E.) is a sandy point about 4 miles SW of Kattoshi Misaki. A reef, with a depth of 4.6m near its outer end, extends about 0.8 mile SE of Saraki Misaki. A light is shown on the coast about 2 miles W of Saraki Misaki.

Kikonai Wan is entered between Saraki Misaki and Kitsunegoe Saki, a rocky headland 25.9m high, about 9.5 miles SW. A rounded hill, 214m high, is conspicuous about 0.4 mile WNW of Kitsunegoe Saki. Three above-water rocks, the outermost 17.1m high, extend about 0.2 mile off Takasu Misaki, about 1.3 miles SW of Kitsunegoe Saki.

Yagoshi Saki (Yakoshi Zaki), about 1.5 miles farther SW, is a cliffy, steep-to point, with two thickly wooded hills on its summit; the outer hill, 121m high, is marked by a light on its side. Okumaru Yama (Maru Yama), a densely-wooded mountain, 826m high, lies about 2 miles NW of Yagoshi Saki, and is the highest peak in the vicinity; its summit is frequently enveloped in clouds during the summer.

Anchorage.—Kikonai Wan provides anchorage for large vessels; the mountains behind the bay offer shelter from W to N winds. Excellent anchorage can be taken E of Kikonai and S of Satsukari, in 12.8 to 15.8m, sand, keeping clear of the submarine cables extending E and SE from the mouth of Kikonai Kawa; this anchorage is sheltered from strong currents.

Good anchorage can be taken off Wakimoto in deep water, good holding ground. The high ground W of Kitsunegoe Saki offers protection from SW to W winds. This is the best shelter area in Tsugaru Kaikyo during strong W winds, when it is used by numerous vessels.

1.37 The coast between Yagoshi Saki and Shirakami Saki, about 12 miles SW, is backed by mountains forming cliffs and rocky shores. The coast is comparatively steep-to, except in the vicinity of **Fukushima Ko** (41°28'N., 140°16'E.) ([World Port Index No. 61200](#)), midway along this stretch, where the depths are shallow enough to provide anchorage for large vessels. Mo Yama, a cone-shaped peak, 526m high and sparsely wooded, is conspicuous about 2 miles NNE of Fukushima. Maru Yama, a 308m peak, lies near the coast, about 1.4 miles NE of Fukushima Ko.

The best anchorage is in 12m, sand, about 0.5 mile offshore, with Maru Yama bearing 030°. This anchorage is sheltered

from W to N winds, but is sometimes affected by large swells coming from the W end of Tsugaru Kaikyo.



Shirakami Saki

Shirakami Saki (Shirakami Misaki) (41°24'N., 140°12'E.), the S extremity of Hokkaido, is faced with a high cliff, rising to a hill, 179m high, about 0.4 mile N. Shirakami Take, a grass-covered mountain, 352m high, is conspicuous about 1.3 miles NNE of Shirakami Saki. A light is shown on the point from a white square structure, 17m high.

Rocks and reefs extend up to about 0.3 mile for about 1 mile on either side of Shirakami Saki. The currents in the vicinity are very strong, and the point should be given a berth of at least 0.5 mile. Strong W winds raise a heavy sea off the point.

South Side of Tsugaru Kaikyo—Shiriya Saki to Mutsu Wan

1.38 Shiriya Saki (Shiriya Zaki) (41°26'N., 141°28'E.), the NE extremity of Honshu, is the SE entrance point of Tsugaru Kaikyo. It is the termination of a promontory, which for the first mile inland is level, then rises to Hitogata Yama, 166m high, with odd-shaped rocks on its summit, about 1.5 miles SW of the point, then to Kuwabata Yama, 400m high, with twin peaks, about 1.3 miles farther S.

An orange observation buoy lies 58 miles E of Shiriya Saki.

Todo Shima, a black islet, 15.8m high, is conspicuous about 0.3 mile NNE of Shiriya Saki, near the extremity of rocks and reefs extending NNE of the point. O Ne, with a least depth of

0.3m, lies nearly 1 mile ENE of Shiriya Saki; it is covered with seaweed and the sea in the vicinity sometimes appears reddish in color. O Ne is marked by breakers in rough weather, but at other times it is difficult to distinguish. A rock, with a depth of 1.8m, lies about 0.2 mile W of O Ne. Tide rips and whirlpools are formed up to 2 miles NNE of Shiriya Saki.

Benten Shima, an islet, 21m high and joined to the coast by an embankment, lies about 1.5 miles SW of Shiriya Saki. Shiryamisaki Ko is formed by a detached breakwater extending WSW from Benten Shima and a pier extending NW from the coast S of the islet. A dolphin pier, on the inner side and near the foot of the breakwater, has depths of 6 to 7.9m alongside. An elevated conveyor, which loads limestone, extends to Benten Shima, then SE to the coast. There are depths of 6 to 10.1m inside the breakwater, and the holding ground is reported good.

Another breakwater extends NW from the shore, 0.3 mile S of the root of Shiryamisaki Ko.

The coast between Shiriya Saki and Iwaya, about 3.5 miles SW, consists of steep cliffs terminating with sandy beaches, and bordered by reefs. Continuing to Ohata Ko, a small fishing port at the mouth of Ohata Kawa, about 11 miles farther W, the coast consists of sandy beaches and earthen cliffs, backed by a plain; many rivers, accessible only to boats, enter the sea along the latter section of coast. Lights are shown from the breakwaters at Ohata Ko.

The coast from Ohata Ko to Oma Saki, about 14 miles NW, is bordered by reefs and rocks. It is backed by densely-wooded mountains, culminating in Hiuchi Dake, 781m high, and Metakisawa Yama, 618m high, about 9 miles SE and 7 miles SSE, respectively, of Oma Saki.

Kabuto Saki, about 4 miles NW of Ohata Ko, is faced by a red cliff. Sankaku Yama, a pyramidal hill, rises to an elevation of 292m, about 0.7 mile WSW of Kabuto Saki, and is conspicuous from the NW.

Oma Saki (Oma Zaki) (41°33'N., 140°55'E.), the N extremity of Honshu, is a low sandy spit on which stand some farm buildings. Oma Saki Light is shown on the summit of Benten Shima from a round tower, 25m high; it is equipped with racon and a horn.

Oma Se, with a depth of 2.6m, and a rock, with a depth of 7.7m, lie about 1 mile N and 1.3 miles NNW of Benten Shima, at the outer end of a rocky ridge, with depths of less than 20m extending N of Oma Saki. The edges of the reef are steep-to, and strong E currents flowing over the ridge may generate whirlpools, tide rips, and overfalls. Wakazekara Se and Kaigara Se, with depths of 4.4m, lie on this ridge, about 0.8 mile NE and NW, respectively, of Benten Shima.

Anchorage.—Temporary anchorage can be taken, in 18.3 to 36m, about 1 mile E of Oma Saki to avoid the ocean and tidal currents, but the bottom is rocky.

Oma Ko, a small harbor sheltered by breakwaters, lies about 1 mile S of Oma Saki. Rocks, with depths of less than 9.2m, lie within 0.5 mile of the coast in the approach to the harbor. Anchorage can be taken about 1 mile W of the harbor by vessels awaiting favorable tides to enter Tsugaru Kaikyo.

1.39 The land in the vicinity of Oma Saki is low; farther S the coast is backed by mountains which gradually approach the coast. From Yagosi Saki to **Yakeyama Zaki** (Yakeyama

Misaki) (41°15'N., 140°47'E.), the coast consists of steep cliffs, backed by wooded mountains. The cliffs between **Fukuura Saki** (41°19'N., 140°48'E.) and Yakeyama Zaki are especially steep and reflect various colors of light. Many large and small odd-shaped rocks lie along this coast.

A light stands on the head of a breakwater, protecting Ushitaki Ko, a small harbor 2.5 miles N of Yakeyama Zaki.

The coast between Oma Saki and Yakeyama Zaki is mostly steep and deep except in the vicinity of Oma Saki. Oyo Shima and Tate Ishi are the only off-lying dangers.

Tsubana Zaki (Zaimoku Hana) (41°28'N., 140°53'E.), about 5 miles SSW of Oma Saki, consists of columnar rocks and rises to Hatsumori Yama, a conspicuous hill, 67m high on its summit. Kuraiwa Hana, about 0.7 mile NE, has a black, steep-to rock close off it.

Sai Ko, a small fishing harbor, lies about 2.3 miles SSW of Tsubana Zaki.

Yagosi Saki (41°25'N., 140°51'E.), about 1.5 miles farther SW, is a conspicuous cliffy point, with a small shrine on its summit. Kankake Iwa, two odd-shaped rocks, lie off the point.

Oyo-jima, a black rock, 11.9m high, and marked by a light at its summit, lies about 1.7 miles SW of Yagosi Saki. Tate Ishi, a rock 0.6m high, on which the sea breaks, lies about 0.3 mile N of Oyo-jima.

Ozukuri Yama (41°19'N., 140°52'E.), 776m high, lies about 3 miles E of Fukuura Saki, and is the highest peak in the vicinity. Nuidoshi Yama, 628m high, about 1 mile SW of Ozukuri Yama, has a large rock on its summit.

Nii Yama, 483m high, pointed, and with a red cliff on its side, is conspicuous about 1 mile NE of Yakeyama Zaki. A red clay cliff, S of Yakeyama Zaki, is the most conspicuous in the area.

Mutsu Wan

1.40 Mutsu Wan (Mutsa Wan) is entered between Yakeyama Zaki and **Takano Zaki** (41°14'N., 140°33'E.), about 10.5 miles W, via Tairadate Kaikyo. The shores of the bay have depths of 10.1m close offshore to within 1 mile offshore. Depths in the middle of the bay are over 40m. A sharp peninsula projects into the center of the bay from the S side and divides the bay into E and W parts. Aomori Ko lies in the W part, and Nobeji Ko and Ominato Ko lie in E part.

Scallop beds, seaweed beds, and fixed fishing nets are laid up to 4 miles offshore in the bay throughout the year. Mariners are also advised that shellfish culture equipment may be found as far as 3 miles offshore along the coast of Muta Wan.

Tairadate Kaikyo, the deep entrance into Mutsu Wan, has fairway depths of 50 to 90m in the fairway. It has a least width of 5.5 miles, providing easy passage in general. However, thick fog in summer and snow in the winter may render passage somewhat difficult. Fog, especially frequent in June and July, tends to envelop the mountains on the W side of the strait, rather than those on the E side.

Tides—Currents.—Tidal currents in Tairadate Kaikyo seldom exceed velocities over 1 knot. The directions are not quite regular, but in general the flood tidal current sets S and the ebb tidal current sets N. The directions are particularly irregular in the N part of the strait, where the strait meets the area of circular currents of Tsugaru Kaikyo. Off Takano Zaki, the N current, which may attain a velocity of 2.5 knots, ordinarily

flows longer and with greater strength than the S current, there occasionally being no S flood for an entire day. In the vicinity of Yakeyama Zaki the S current usually flows longer than the N current and with greater velocity, a rate of 1.5 knots sometimes being attained. At the inner end of the strait, the velocity is somewhat greater on the E side than on the W.

The flood tidal current sets into the bay and the ebb tidal current sets out of the bay, neither current attaining any great rate. The tide turns soon after HW and LW.

Tairadate Kaikyo—East and West Sides

1.41 The E side of Tairadate Kaikyo is steep-to, and consists mainly of steep cliffs, backed by wooded mountains. From Yakeyama Zaki the coast extends about 3.5 miles SSW to O Saki, then 3 miles S to **Kai Saki** (Kai Zaki) (41°09'N., 140°46'E.). Kai Saki, steep-to, is conspicuous from the N or S; fishing nets are sometimes laid off this point.

Iboiwa Saki, about 1.3 miles SE of Kai Saki, has a nipple-shaped rock at its extremity, which is conspicuous when viewed from the W.

Ushikubi Saki, a low rocky point, lies about 1.4 miles E of Kai Saki. Shiroywa Saki, a steep-to rocky point, lies midway between the latter two points.

Tai-jima (Benten-jima), about 0.5 mile S of Ushikubi Saki, is 27.1m high and marked by a light; it is precipitous on its N side and has a small shrine on its summit. Another rocky islet, 31m high, lies close by. Todo Shima, which dries 0.6m, lies about 0.2 mile S of Tai-jima. Asa Ne, with a depth of 0.6m, lies midway between Ushikubi Saki and Tai-jima, and passage between the islet and the point should not be attempted.

Takano Zaki (41°14'N., 140°34'E.), the W entrance point of Tairadate Kaikyo, is a low, rocky point, marked by a light. Bozu Dake (Boju Yama), 498m high, pointed and wooded, lies about 2.5 miles S of Takano Zaki, and is conspicuous from a distance. O Ne, a rock with a depth of 14.9m, lies about 0.7 mile NE of Takano Zaki, and is marked by tide rips at times.

The coast between Takano Zaki and Ishi Saki, about 4.5 miles ESE, slopes gently, is fringed with reefs and rocks, and is backed by mountains.

Between Ishi Saki and Myojin Saki, about 1 mile SSE, the coast is densely wooded by pine trees and backed by a flat rice field. Tairadate Light is shown from Myojin Saki. Hakamagoshi Take, a flat-topped mountain, 707m high, is very conspicuous about 3 miles W of Myojin Saki. Maruyagata Take, 718m high, the highest mountain in the vicinity, lies about 1 mile SSE of Hakamagoshi Take.

Tairadate Ko, a small fishing harbor, lies nearly 1 mile S of Myojin Saki. Anchorage, sheltered from W winds, can be taken off the breakwaters at Tairadate Ko. It is reported that winds and seas are less here than at other locations in the vicinity, even when there is a NE wind, locally called the "yamase."

Aomori Wan

1.42 Aomori Wan, in the W part of Mutsu Wan, is entered between **Kanita Gawa** (Kanida Gawa) (41°03'N., 140°39'E.) and O Shima, about 10.5 miles ESE. Aomori Ko is situated at the head of the bay. Fishing nets are laid 1 to 2 miles off the W shore of the bay during the summer.

The W shore of Aomori Wan consists of a pebble beach, backed by well-cultivated land for 3 miles S of Kanita Gawa; there are a number of villages and many small rivers.

A light is shown from the head of a breakwater at Kanita Gawa. A port hand lighted buoy is moored 2.25 miles E of Kanita Gawa.

A light is shown from a breakwater 7 miles S of Kanita Gawa.

A light is shown from the head of a breakwater, protecting a small harbor (Okunai Ko), 9.5 miles S of Kanita Gawa.

A white building is conspicuous on the summit of a hill N of the mouth of Kanita Gawa. Okura Dake (Okura Take), 678m high, lies about 6 miles SW of the mouth of Kanita Gawa, and is the highest peak on the W side of Aomori Wan.

O Shima, the E entrance point of Aomari Wan, is 72m high and marked by a light at its N end; it is joined to the peninsula SE by a sandspit and rocks awash.

A light is shown from the head of a breakwater, protecting a small harbor, 2 miles S of O Shima.

Futago Hana, about 4 miles SSW of O Shima, is the W extremity of a promontory, rising about 0.2 mile SE to a wooded hill, 109m high. Futago Iwa (Futago Shima), 11m high, close WNW of the point, is steep-to on its W side.

Mora-jima (Moura Shima), about 1.3 miles SE of Futago Hana, is 106m high; it is clifty on its W side, and has a shingle spit on its E side.

Mora Ko (Moura Ko), NNE of Mora-jima, is sheltered from N, E, and S winds. Large vessels can anchor, in 14.6 to 16.5m, mud, in the central part of Mora Ko. Kamome-jima (Gomi Shima), about 1.3 miles S of Mora-jima, is 106m high; its W side is clifty, and its E side consists of a shingle beach.

Yuno Shima, about 0.7 mile farther S, is 123m high to the tops of the trees; its E side is clifty, and it is almost joined to the mainland E by a sandy spit. O Se, with a least depth of 8.2m, lies about 0.7 mile W of Yuno Shima.

Aomori Ko (40°50'N., 140°45'E.)

World Port Index No. 61270

1.43 Aomori Ko, at the S end of Aomori Wan, consists of an outer harbor and an inner harbor. The inner harbor is sheltered by W breakwater extending NE from the coast, by N breakwater, a detached breakwater E of the head of W breakwater, and another detached breakwater extending farther E. Ferry Wharf lies on the E side of the root of West Breakwater. Depths in the entrance channel are between 17 and 27m.

Aomori Ko is the gateway of traffic between Honshu and Hokkaido, and ferries of Japan National Railways and car ferries, plying between Hakodate Ko and Aomori Ko, arrive and depart from Ferry Wharf.

East Passage and West Passage, providing access to the harbor, are entered about 1.3 miles NNE, and 1 mile N, respectively, of North Breakwater.

Winds—Weather

Snow begins to fall in the latter part of November, and snow storms may be encountered until the end of March. The severe

blizzards of December, January, and February may interrupt shipping operations. In May and June during the prevailing SW winds the visibility may be lowered by a thin haze. Dense fog may be encountered between June and August, with port operations being suspended as a result.

Tides—Currents

The tidal rise at Aomori Ko is 0.6m at MHWS, and 0.5m at MHWN. Tidal currents are generally insignificant.

Depths—Limitations

Tsutsumi Wharf, close W of Tsutsumi Kawa, has a length of 260m with a depth of 7.5m alongside.

No. 2 Wharf, close W of Tsutsumi Wharf, has depths of 7.5 to 9.1m alongside.

Bridgestone Pier, a T-head pier with dolphins off each end, lies E of Bakkono Saki, and can accommodate 50,000 grt vessels in 12.8m.

Two dolphin piers, sheltered by a breakwater, lie about 1.3 miles WNW of the head of West Breakwater, and have depths of 5.6 to 9.2m alongside Aomari Wan to Ominato Ko.

Ferry Wharf has adepth of 6m alongside.



Aomori Ko

Aspect

Hanakuri Zaki (Hanaguri Zaki) (40°59'N., 140°57'E.) is an odd-looking point about 3 miles ESE of O Shima. A sand spit, thickly covered by pine trees, lies about 0.5 mile farther ESE.

Yasui Saki, about 2.5 miles farther SE, rises to a hill about 15.2m high, and is marked by a light.

Kominato Wan, entered S of Yasu Saki, dries out at its head.

The coast between Kominato Wan and Nobeji Ko is backed by gently rising land.

Nobeji Ko (Noheji Ko), a small port, lies at the mouth of a river, at the head of Noheji Wan; breakwaters project from the mouth of the river, and lighted buoys mark the approach. Anchorage can be taken in Nobeji Wan, in 9.2 to 15.8m, shingle, about 0.8 mile offshore. The holding ground is moderate and the bay is open N.

The E shore of Nobeji Wan from Nobeji Ko to Yokohama, about 14 miles NNE, consists of sandy beach backed by grassy land rising to low hills about 2 miles inland.

Fukikoshi Eboshi, 508m high, and Kanatsu Yama (Kanetsu Yama), 520m high, are two peaks about 4 miles ESE and E, respectively, of Yokohama.

Nakanosawa Saki, the E entrance point of Ominato Ko, lies about 2.8 miles NNE of Yokohama.

A light is shown from the head of a breakwater, protecting a small harbor, 4.5 miles N of Nakanosawa Saki. It was reported (1998) that a breakwater has been constructed close N of the head of the W breakwater.

A new breakwater has been constructed close NW of the head of Okidate East Breakwater. A light is shown from the head of the breakwater.

Hanaguri Saki (40°52'N., 140°50'E.), about 1.5 miles SSW of Yuno Shima, is 141m high to the tops of the trees, and has a small shrine and pine trees on its summit; the harbor limit extends W from Hanaguri Saki. A hill, 132m high, with an odd-shaped peak (quarry site), lies about 0.5 mile SW of Hanaguri Saki. Bakkono Saki, about 0.5 mile farther SW, is 86m high, and steep-sided. A sandy beach extends SW of Bakkono Saki to the city of Aomori.

The city of Aomori extends from the root of West Breakwater to Tutsumi Kawa, about 1 mile E, and beyond.

Three radio towers, 60m high, lie about 1 mile WNW of the head of West Breakwater.

A radio tower, marked by red lights, lies about 0.8 mile SSE of North Breakwater. It was reported (1998) the tower may no longer be conspicuous.

The Aomori Bay Bridge is situated S of Hachikoda Maru; its E and W pillars are marked by flashing lights.

Lighted buoys mark the entrances to East Passage and West Passage.

Pilotage

Pilotage is available. Pilots board at the quarantine anchorage. Pilots can be contacted on VHF channels 12 and 16.

Anchorage

Good anchorage for large vessels can be taken, in 18m, sand and mud, good holding ground, NNW of W breakwater.

A circular quarantine anchorage, with a radius of 0.25 mile, is centered about 2 miles bearing 012° from the mouth of Tutsumi Kawa, and about 1 mile NNE of the entrance to East Passage.

Caution

East Passage and West Passage have been replaced by new passages marked by lighted buoys. The breakwater lights,

being low, are reported difficult to distinguish from a distance against the lights of the shore.

Vessels should approach Aomori Ko with the radio tower, about 0.8 mile SSE of N breakwater, bearing 180°. Then alter course left to approach the entrance to East Passage. Then a course of about 200° is steered through the passage.

Some ferries enter through East Passage and depart via West Passage.

Depths of up to 7m less than charted may exist S of Kita Breakwater within Section I and Section II.

In order to prevent accidents vessels, other than tankers, are prohibited from entering a sea area within 30m of any tanker berthed at Bridgestone Liquid Gas Terminal or Aomori Plant Private Jetty

Aomori Wan to Ominato Ko

1.44 Hanakuri Zaki (Hanaguri Zaki) (40°59'N., 140°57'E.) is an odd-looking point, about 3 miles ESE of O Shima. A sand spit, thickly covered by pine trees, lies about 0.5 mile farther ESE.

Yasui Saki, about 2.5 miles farther SE, rises to a hill about 15.2m high, and is marked by a light.

Kominato Wan, entered S of Yasu Saki, dries out at its head.

The coast between Kominato Wan and Nobeji Ko is backed by gently rising land.

Nobeji Ko (Noheji Ko), a small port, lies at the mouth of a river, at the head of Noheji Wan; breakwaters project from the mouth of the river, and lighted buoys mark the approach. Anchorage can be taken in Nobeji Wan, in 9.2 to 15.8m, shingle, about 0.8 mile offshore. The holding ground is moderate and the bay is open N.

The E shore of Nobeji Wan from Nobeji Ko to Yokohama, about 14 miles NNE, consists of sandy beach backed by grassy land rising to low hills about 2 miles inland.

Fukikoshi Eboshi, 508m high, and Kanatsu Yama (Kanetsu Yama), 520m high, are two peaks about 4 miles ESE and E, respectively, of Yokohama.

Nakanosawa Saki, the E entrance point of Ominato Ko, lies about 2.8 miles NNE of Yokohama.

A light is shown from the head of a breakwater, protecting a small harbor, 4.5 miles N of Nakanosawa Saki.

Ominato Ko (41°15'N., 141°09'E.)

World Port Index No. 61275

1.45 Ominato Ko is entered between **Kuro Saki** (41°11'N., 141°05'E.) and Nakanosawa Saki, about 9.8 miles ESE. The E shore of Ominato Ko consists of low sandy beaches, backed by marshland or low wooded plains. The W side of the port is backed by high mountains. Tanabu Kawa flows into the head of Ominato Ko, and a sand spit, with Ashi Saki at its N extremity, extends about 2 miles NNE from the W shore. An airfield is situated near the root of the sand spit. A breakwater extends SW from the SE side of the mouth of Tanabu Kawa.

The principle facilities are situated in the mouth of Tanabu Kawa and in the inner bay formed by the sand spit.

Tides—Currents.—The tidal rise at Ominato Ko is 0.7m at MHWS and 0.5m at MHWN.

Depths—Limitations.—A wharf on the SE side of the mouth of Tanabu Kawa has a berth on its SW end, with a length of 178m and depths of 6.9 to 7.9m alongside.

The inner bay has general depths of 7 to 8m, and its entrance is about 0.2 mile wide. The SE side of the inner bay dries out about 0.2 mile.

Jetty No. 5, on the NW side of the inner bay, has a berthing length of 130m and depths of 4.9 to 7.9m alongside its NE side.

A pier on the SE side of the inner bay has a dolphin off its end and a depth of 5.5m alongside.

Aspect.—There are four mooring buoys in the inner bay.

A light is shown from Kuro Saki, and a lighted buoy is moored NW of Ashi Saki.

Kamafusa Yama, 878m high, with twin summits, is conspicuous about 6.5 miles NNE of Kuro Saki. It can be recognized from any location in Mutsu Wan.

Anchorage.—Ominato Ko affords anchorage, in 7.3 to 9.2m, near its head. There are suitable anchorage depths throughout the bay. The bottom is generally mud with shells.

Ominato Ko to Benten Shima

1.46 Kawauchi Wan, with Kawauchi Ko at its head, lies between Kuro Saki and Shukunobe Saki, about 5 miles W. The latter point is a sandspit with pine trees, 26m high, near its extremity. Asa Se, with a depth of 8.6m, lies about 0.5 mile SE of Kuro Saki.

Tono Saki, a sandy projection, about 2.5 miles WSW of Shukunobe Saki, has two conspicuous clumps of pine trees on it, one of which is on a small hill.

Wakinosawa Ko, a small port, lies about 1.5 miles NNE of Benten Shima. It consists of a basin protected by three breakwaters. A light is shown from a square metal framework tower, 8m high, on the head of one breakwater.

Takano Zaki to Tappi Saki

1.47 Minmaya Wan (Mimmaya Wan) is entered between **Takano Zaki** (41°14'N., 140°33'E.) and Tappi Saki, about 9.5 miles WNW. Takano Zaki was previously described with Mutsu Wan in [paragraph 1.40](#).

Reefs lie along the shores of the bay; however, depths of over 20.1m lie from 0.2 to 0.8 mile offshore.

Minmaya Wan is an area of countercurrents caused by the ocean currents running through Tsugaru Kaikyo. The directions of the currents are unpredictable, but seldom exceed a velocity of two knots.

Minmaya Ko (Mimmaya Ko), a small port sheltered by a breakwater, lies about 5.5 miles WSW of Takano Zaki. The black chimney of a saw mill in Masukawa is conspicuous about 0.8 mile SE of Minmaya Ko. Anchorage, sheltered from W winds, can be taken, in 12m, about 0.5 mile offshore, off the breakwater at Minmaya; the holding ground is poor with rocky bottom in places.

Kabuto Iwa, a rock, 8.9m high, with a round reddish top, lies about 135m offshore, about 0.3 mile N of Minmaya Ko.

Misago-jima, consisting of several dark, pointed rocks, the highest of which is 11.9m, is conspicuous about 3 miles NW of Minmaya Ko.

Tappi Saki (Tappi Zaki) (41°15'N., 140°21'E.), about 2.8 miles farther NW, lies on the S side of the W entrance to Tsugaru Kaikyo. A light is shown on the summit of the point. Obi Shima, a rocky islet, 35m high, is the outermost of two islets extending about 0.2 mile NE of the point. Rocks, some which dry, and some awash, extend up to 0.2 mile N of the point.

There is a harbor for small craft, protected by breakwaters, situated between Obi Shima and Tappi Saki.

Strong tide rips and eddies are formed in the vicinity of Tappi Saki, which should be given a berth of at least 2 miles.