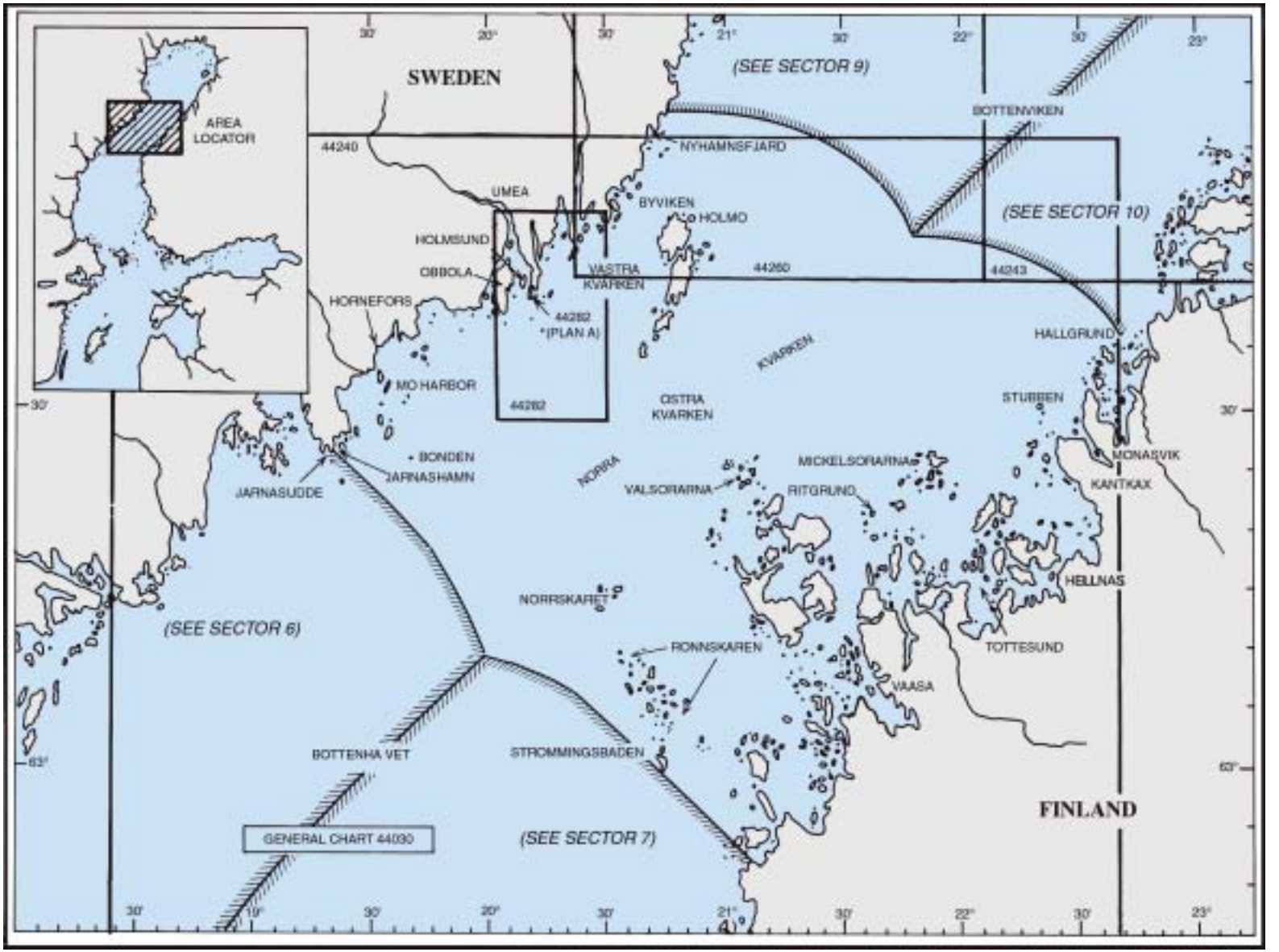
Click on "See Sector" to be hotlinked to that Sector.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts

SECTOR **8** — CHART INFORMATION

Table of Contents

Table of Contents

SECTOR 8

NORRA KVARKEN AND THE ADJACENT SWEDISH AND FINNISH COASTS

Plan.—This sector describes Norra Kvarken and the parts of the E coast of Sweden and the W coast of Finland bordering on that passage. The descriptive sequence is NE from Jarnasudde, on the Swedish side, then N from Strommingsbadan, on the Finnish side. The routes through Norra Kvarken are then described.

General Remarks

8.1 Norra Kvarken, the narrowest part of the Gulf of Bothnia, connects Bottenhavet (Selkameri), the S part of the gulf, with Bottenviken (Perameri), the N part. This passage comprises the waters on either side of Holmoarne, a group of islands lying between 4 and 10 miles off the Swedish mainland. These islands divide Norra Kvarken into two main channels, Vastra Kvarken and Ostra Kvarken. Norra Kvarken extends about 40 miles NE from Bonden (63˚26'N., 20˚03'E.) and Norrskar Light (63˚14'N., 20˚36'E.), and is encumbered with numerous islands, rocks, and shoals.

The Swedish coast, between Jarnasudde (63˚26'N., 19˚39'E.) and Ratan (64˚24'N., 20˚54'E.), about 48 miles NE, is indented by numerous fjords, bays, and coves into which several rivers flow. Many detached dangers front the coast.

On the Finnish side of Norra Kvarken, to the SE, an extensive area, containing numerous islands, rocks, and shoals, extends about 60 miles NE between Strommingsbadan (62˚59'N., 20˚45'E.) and Hallgrund (63˚39'N., 22˚25'E.). The coast here is also indented by many fjords, bays, and coves. A few streams discharge along this coast.

Several commercially-important ports and loading places are situated in the inlets on both coasts. The principal ports are Umea, in Sweden, and Vaasa, in Finland.

The channels leading to the ports are marked by aids. Lights and buoys mark some of the dangers adjacent to the main channels of Norra Kvarken.

Both coasts are comparatively low and heavily wooded.

Winds—Weather.—Winds from the S to SW prevail over the Gulf of Bothnia in the summer months, but N winds are quite common in June. The winds show a tendency to flow parallel to the coasts in either direction in the Gulf of Bothnia.

There is a tendency for cloud coverage to be greater with onshore winds than with offshore winds; this, combined with the fact that the predominant winds are from a W quarter, explains the more cloudy conditions on the Finnish coast, compared with the Swedish coast of the Gulf of Bothnia.

Fog is most frequent in April and least frequent in August. Good or very good visibility is common over this sector. Records show that about 80 per cent of observations show visibility greater than 10 miles during summer.

Snowfall is a common cause of poor visibility, especially from December to April.

The region is very cold during winter and the average air temperature is below freezing from late October to the middle of April.

Humidity is usually high in the winter and comparatively low in spring and summer.

Pilotage.—See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea for general information on pilotage within Finnish and Swedish waters. See also paragraph 1.1 and paragraph 5.1.

Deep-sea pilots for the Baltic Sea should be ordered through the Malmo, Lulea, or Stockholm pilot stations at least 24 hours in advance.

The main pilot stations along this part of the coast are situated at Umea and Ornskoldsvik (63˚17'N., 18˚44'E.). All requests for pilotage must be made through the VTS station at Lulea.

The pilotage area for Ornskoldsvik lies between a line bearing 140 ˚through Norrbyskar (63˚33'N., 19˚52'E.) and latitude 62˚ 50'N (see paragraph 6.48).

The pilotage area for Umea lies between a line bearing 140˚ through Norrbyskar (63˚33'N., 19˚52'E.) and latitude 64˚03'N (see paragraph 8.8).

Regulations.—See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea for regulations pertaining to vessels within the waters of Sweden and Finland.

See paragraph 10.1 for information concerning the Bothnia Vessel Traffic Servive (VTS) system, which operates off the NW coast of Finland. This system is mandatory and includes the routes leading to Vaasa and the main shipping routes situated in the S part of Norra Kvarken.

See paragraph 1.1 for details of restricted areas and semi-restricted areas in these waters.

Several offshore islands, islets, and rocky shoals within these waters have been designated as nature reserves. Landing is prohibited and many restrictions apply.

Caution.—The coast of Finland, bordering on the Gulf of Bothnia, has not been thoroughly surveyed. Dangers may exist outside the charted and described off-lying dangers. Vessels should proceed with care when approaching this coast.

During the winter, many buoys are removed while others may be damaged or break adrift.

In the coastal waters within this sector, numerous logs may be found adrift at all times of the year.

Areas dangerous due to mines laid during World War II exist within these waters. There is still a risk of danger in these areas when anchoring or carrying out any seabed activities.

Sweden—Jarnasudde to Ratan

8.2 The depths lying between Jarnasudde and Ratan are very irregular. The depths surrounding the detached offshore dangers may vary between 11m and 90m.

Foul ground fringes the coast, and numerous shoals and rocky patches, lying close together in some places, extend up

Return to paragraph 6.51

Table of Contents

to 8 miles offshore. Other detached rocks and shoals lie up to 13 miles offshore.

The dangers fronting the coast may best be seen on the chart and only the outermost are described below.

Most of these off-lying dangers are steep-to and great care is necessary when navigating in their vicinity.

Jarnasudde (63˚26'N., 19˚39'E.), the E entrance point of Nordmalingsfjarden, is low and wooded.

Jarnashamn (63˚26'N., 19˚41'E.), a small harbor, lies in an inlet on the E side of Jarnasudde. Small vessels, with drafts up to 4.5m, can use the narrow entrance channel. Ice obstructs navigation in the fairway from the middle of December to May. Local pilots may be obtained through the pilotage area of Ornskoldsvik. Anchorage can be taken within the harbor, in depths of 4 to 7m, clay and mud. Local knowledge is advised.

Norra Langrogrundet (63˚19'N., 19˚41'E.), a bank with shallow ledges and rocks awash at its N end, lies 6.5 miles S of Jarnasudde. A main light, equipped with a racon, is shown from a prominent tower, 21m high, standing at the N end of this bank.

Sodra Langrogrundet, a rocky bank with a least depth of 4.9m, lies 2 miles S of Norra Langrogrundet and is marked by a buoy at its W end.

Elinsgrund (63˚18'N., 19˚53'E.), an isolated shoal, has a depth of 5.9m and lies about 5.5 miles E of Norra Langrogrundet Light.

8.3 **Bonden** (63˚26'N., 20˚03'E.) is a moderately-high, red rock resembling, from a distance, the ruins of an old castle. This rock lies 10.5 miles E of Jarnasudde and is fronted by a reef on its S side. A main light is shown from a prominent tower, 20m high, standing on the rock.

A detached shoal patch, with a depth of 8m, lies about 3 miles NE of Bonden.

The area surrounding Bonden is a designated nature reserve and numerous restrictions apply. Landing is prohibited without permission.

Bonden

Sydvastbrotten (63˚25'N., 20˚02'E.), consisting of two light-colored rocks lying close together, is located about 1.5 miles SSW of Bonden Light and fronted by foul ground on its N side. A shoal, with a depth of 7.9m, lies 0.4 mile S of these rocks.

Tjaruskarssund (63˚28'N., 19˚46'E.) is the SW entrance point of Orefjarden. The coast extending between this point and Jarnasudde is thickly wooded. The shore is fronted by several islets and numerous rocks and shoals.

Efesgrund (63˚23'N., 19˚47'E.), a detached shoal with a depth of 6.4m, lies about 5 miles S of Tjaruskarssund and is marked by a buoy.

Lordagshallan (63˚26'N., 19˚54'E.), a rocky shoal area, lies centered about 3.5 miles W of Bonden. It dries in places and is marked by a beacon.

Bondensgrund (63˚28'N., 19˚46'E.), a detached shoal patch, lies 4 miles ESE of Bonden Light and has a least depth of 2.4m.

Sydostbrotten Light (63˚21'N., 20˚11'E.), equipped with a racon, is situated 7 miles SE of Bonden Light. It is shown from a prominent tower, 34m high, standing on Vernersgrundet, a detached shoal patch.

Sydostbrotten (63˚23'N., 20˚07'E.), an extensive chain of shoals, lies with its NE end located about 4.3 miles NNW of Sydostbrotten Light. It extends SW for about 5 miles and is awash in places.

8.4 The coast between Tjaruskarssund and Blagrundsudde (63˚36'N., 20˚00'E.), about 10 miles NE, is indented by many shallow inlets. The shore is fronted by small islands, islets, and numerous shoals, which extend up to about 8 miles seaward and may best be seen on the chart.

Orefjarden (63˚30'N., 19˚48'E.), a fjord, lies between the mainland, on the W side, and a chain of islands and islets extending S, on the E side.

Snoan (63˚29'N., 19˚54'E.) lies 5 miles NW of Bonden Light and is the most easily-recognized island of the chain. It is 1.3 miles long, moderate high, and has a flat top with light-colored slopes. A chapel is situated near the S end; a light is shown from the SE side of the island.

Orefjarden may be approached from the S by a buoyed channel, which is authorized for drafts up to 4m. Local knowledge is required. There are also a number of shallow alternate passages, which lead through the offshore dangers. This fjord is usually closed by ice from the middle of December to the middle of April.

Kylorn (63˚32'N., 19˚46'E.), a former timber-loading place, is situated on the NW side of Orefjarden and provides an anchorage, in depths of 5 to 10m, mud and sand.

8.5 **Norrbyskar** (63˚33'N., 19˚52'E.), a former timber-loading place, is situated in the NE part of the fjord. It is now only used by small craft, including a ferries and recreational boats. There is a quay, 53m long, with depths of 3.7 to 4.3m alongside. The anchorage has depths of 7 to 13m, clay, mud, and stones. Local knowledge is required.

Hornefors (63˚37'N., 19˚54'E.), a former timber and pulp-loading place, is situated in Vasterfjarden, an inlet indenting the mainland about 3 miles NNE of Norrbyskar. Although commercial traffic ceased, it is reported that local coasters occasionally enter the harbor.

The main quay provides 170m of berthage at its outer end, with a depth of 6.9m alongside. It can handle vessels up to 105m in length and 6.3m draft. The main approach channel, which is authorized for drafts up to 6.3m, leads NW from a position 5.5 miles NE of Bonden Light.

Ice usually obstructs the harbor from January to April. Entry is only permitted by day and local knowledge is required.

An outer anchorage lies N of Ronnskar, an island located close S of the harbor entrance, with a depth of 8m, clay and mud.

Table of Contents

Prominent radio masts, 60 to 75m high, stand 4.5 miles SW, 1.5 miles NNE, and 7 miles ENE of Hornefors.

Approach to Umea

8.6 The coast between Blagrundsudde and the SW entrance point of Umeafjarden, about 6.5 miles NE, is very irregular. The shore is fronted by numerous dangers, which may best be seen on the local chart.

Norrmjole, a small fishing harbor, lies about 3 miles W of the SW entrance point of Umeafjarden.

Umea (63˚49'N., 20˚16'E.), a moderate sized town, stands at the head of Umeafjarden, about 10 miles above the entrance.

This fjord is divided near the mouth into Osterfjarden and Vasterfjarden by Obbolaon, the largest of several islands lying within it. Both of these fjords are encumbered by numerous islets, rocks, and shoals.

The commercial port facilities, which are described in paragraph 8.8, are situated within Osterfjarden, the easternmost fjord. Vasterfjarden, the westernmost fjord, is only navigable in Strombacksfjarden, its S part.

Simphamn (63˚40'N., 20˚14'E.), a pleasure craft harbor, is situated on the W side of Vasterfjarden, near the S end of Strombacksfjarden. An approach channel, which is authorized for drafts up to 4m, leads N from seaward to the harbor. Small vessels may anchor, in depths of 4 to 5.5m, mud, off the harbor. Local knowledge is advised.

Gunvorsgrund Light (63˚29'N., 20˚27'E.), equipped with a racon, is shown from a prominent tower, 23m high, standing on a shoal 11.5 miles ENE of Bonden Light.

Vaktaren Light (63˚37'N., 20˚25'E.), equipped with a racon, is shown from a prominent tower, 21m high, standing on a shoal 7.5 miles N of Gunvorsgrund Light and 4 miles SE of the S end of Obbolaon.

Numerous dangers lie in the approach to Umeafjarden. They extend up to about 5 miles seaward and may best be seen on the chart.

Bredskar (63˚39.6'N., 20˚19.3'E.), a moderately-high and mostly bare island, lies close off the SE end of Obbolaon. Range lights and range beacons are situated on this island.

Storbranningen Light (63˚38.3'N., 20˚22.0'E.) is shown from a prominent tower, 8m high, standing 2 miles NW of Vaktaren Light.

Lillbadan Light (63˚38.9'N., 20˚20.5'E.) is shown from a prominent white hut, with a radar reflector, standing on an above-water rock 0.9 mile NW of Storbranningen Light.

Petlandskar (63˚39.3'N., 20˚23.9'E.), a small island, lies 1.3 miles NE of Storbranningen Light. Range lights are situated on this island.

Revet Light (63˚39.3'N., 20˚20.4'E.) is shown from a prominent floodlit tower, 11m high, standing 0.4 mile N of Lillbadan Light.

Fjardgrund Light (63˚40.1'N., 20˚20.5'E.) is shown from a prominent floodlit tower, 21m high and adjoining a house, standing 0.8 mile N of Revet Light.

8.7 **Directions.**—There are three channels leading into Umeafjarden, all of which join at a position W of Fjardgrund Light (63˚40.1'N., 20˚20.5'E.).

The main deep-water channel leads NNW from SE of Vaktaren Light (63˚37'N., 20˚25'E.).

The main coastal passage leads to the vicinity of Vaktaren Light. Vessels should steer in a NE direction to pass SE of the S end of Lordagshallan Shoal and NW of Bonden Light. They should then steer in an ENE direction for a position about 1.5 miles N of Gunvorsgrund Light. From this position vessels should steer in a NE direction for about 4.5 miles, using the white sector of Bergudden Light (63˚47.5'N., 20˚50.5'E.), situated on the NW side of Holmen Island, until they reach a position about 5 miles SE of Vaktaren Light.

Vessels should then head in a NNW direction and pass 0.3 mile WSW of Vaktaren Light. They should continue NNW, using the white sector of Fjardgrund Light or the Hillskar lighted range (63˚40.8'N., 20˚20.7'E.), until the alignment of Bredskar lighted range (63˚39.7'N., 20˚19.9'E.), is reached.

Vessels proceeding to the ferry terminal should remain on the Hillskar lighted range and continue in a NNW direction for about 3 miles.

Other vessels should steer in a NW direction, using the Bredskar lighted range, and pass close NE of Storbranningen Light (63˚38.3'N., 20˚22.0'E.) and close SW of Revet Light (63˚39.3'N., 20˚20.4'E.). When within about 0.3 mile of Bredskar Island, vessels should change course and steer in a N direction in order to pass about 0.3 mile W of Fjardgrund Light. They should then continue to follow the buoyed fairway into the port.

A secondary channel leads in a N direction from a position about 6 miles SSW of Vaktaren Light. Vessels should use the Bredskarssund lighted range (63˚39.8'N., 20˚18.8'E.) until they reach a position about 2.8 miles W of Vaktaren Light. They should then continue in a N direction through the buoyed fairway, using the range beacons situated on the W end of Bredskar Island. When within about 0.3 mile of Bredskar Island, vessels should change course as necessary to pass W of it. After passing between the NW side of the island and the SE end of Obbolaon, vessels should steer NE and join the main channel at a position about 0.3 mile W of Fjardgrund Light.

Another secondary channel leads in a W direction from a position about 6 miles E of Petlandskar Island. Vessels should approach, using the Petlandskar S and E range lights, and pass close N of the island. They should then steer in a WNW direction, using the Petlandskar W and E range lights astern, and pass close SSW of Fjardgrund Light. Vessels should then join the main channel at a position about 0.3 mile W of Fjardgrund Light.

Vessels may also approach the port via the recommended track (Deep-Water Route) that is used for passing through Ostra Kvarken (see paragraph 8.21). Such vessels should depart the recommended track when about 2.5 miles SW of Nordvalen Light. They should head NNW and then in a NW direction using the white approach sector of Vaktaren Light.

Umea (63˚42'N., 20˚21'E.)

World Port Index No. 26890

8.8 The commercial facilities of Umea are situated at the S end of Osterfjarden. The town of Holmsund stands at the E side and is fronted by the harbor of Umea Hamn. Hillskar ferry

Return to paragraph 8.8 Return to paragraph 8.20

Table of Contents

terminal is situated at the E side of a narrow peninsula, which extends SSW from Holmsund. The town of Obbola stands at the W side. Timber products are exported; and cement, grain, and petroleum products are imported.

Ice.—Generally, the port is kept open year round. During severe ice conditions, the harbor may be closed for short periods.

Tides—Currents.—There is a range of about 0.6m between mean and ordinary low water. Strong S and SE winds cause higher water levels; N and NW winds cause lower water levels. The greatest range occurs in the spring and fall.

Within the harbor entrance channels, there is always a strong outgoing current. At the beginning of June, during the spring flood, this current attains a velocity of 4 knots.

Depths—Limitations.—The main approach channel is authorized for drafts up to 11m as far as a position W of Fjardgrund Light. The secondary channel leading from S through Bredskarssund is authorized for drafts up to 4m. The secondary channel leading from E via Petlandskar is authorized for drafts up to 4.3m.

There are three main berths, with ro-ro ramps, at Umea Hamn (Holmsund).

Pirkajen Quay is 168m long and has a depth of 10m alongside; North Quay is 360m long and has depths of 5.5 to 7.9m alongside; and South Quay is 150m long and has a depth of 11m alongside. The fairway leading to these berths is authorized for drafts up to 10.2m.

Stormskar Oil Terminal, in the S part of Umea Hamn, consists of a berth, 80m long, with a depth of 11.1m alongside. The fairway leading to this terminal is authorized for drafts up to 10.2m.

At Obbola, there is a T-shaped oil terminal jetty, 70m long, with a depth of 11m alongside. The fairway leading to this jetty berth is authorized for drafts up to 10.2m. Vessels up to 40,000 dwt and 200m in length have been handled.

There is also a chemical quay, 85m long, with depths of 4.5 to 6m alongside. The fairway leading to this quay is authorized for drafts up to 4.7m.

The ferry terminal at Hillskar has four berths. The largest berth is 160m long and has a depth of 7.5m alongside.

Holmen road bridge spans the port at the N end of Holmsund. The W section has a vertical clearance of 10m; the E section has a vertical clearance of 7m. The channel leading N of the bridge is used only by small craft.

Patholmensviken, a small craft harbor, lies 1 mile NNE of Hillskar ferry terminal. It is protected by a breakwater and has depths of 2 to 4m. Bredvik, a yacht harbor, lies close S of Obbola.

There are facilities for general cargo, bulk, ferry, tanker, and ro-ro vessels in the port. Tankers up to 57,000 dwt, 215m in length, and 10.2m draft have been accommodated.

Aspect.—Djaknebolsklinten, 132m high, stands 5 miles SW of Umea. This wooded hill has three peaks, of which the westernmost is the tallest. It is conspicuous from seaward, particularly from the S.

A water tower and a factory building standing in Obbola are conspicuous from seaward. A water tower surmounted by a structure resembling a beacon, a radio mast, and a watch tower stand in the N part of Holmsund and are all prominent.

A conspicuous wind generator, 53m high, stands on a breakwater, which extends S from the vicinity of Hillskar ferry terminal.

The approach channels are marked by lighted ranges, buoys, and beacons (see paragraph 8.6 and paragraph 8.7).

Pilotage.—The pilotage area for Umea lies between a line bearing 140˚ through Norrbyskar (63˚33'N., 19˚52'E.) and latitude 64˚03'N. All requests for pilotage must be made through the VTS station at Lulea (see paragraph 9.19).

Pilotage is compulsory, as follows:

1. All Category 1 vessels.
2. Category 2 vessels of 80m in length and over or 15m beam and over.
3. Category 3 vessels of 90m in length and over or 16m beam and over.

In certain channels between Vaktaren and Skagsudde/Rundvik, pilotage is compulsory, as follows:

1. All Category 1 vessels.
2. Category 2 vessels of 80m in length, 15m beam, and 5m draft and over.
3. Category 3 vessels of 90m in length, 15m beam, and 5.5m draft and over.

The pilot can be contacted by VHF and boards in the vicinity of Vaktaren Light (63˚37'N., 20˚25'E.). In bad weather, the pilot generally boards in the entrance fairway.

Regulations.—It is reported that tankers over 13,000 dwt and 7.6m draft bound for Stormskar Oil Terminal and cargo vessels over 8.5m draft bound for Umea Hamn are restricted to daylight movements.

Anchorage.—Vessels waiting for the pilot may anchor, in depths of 18 to 25m, about 1.5 miles SE of Vaktaren Light.

Anchorage can be taken, in depths of 14 to 18m, close N of Bredskar Island. Anchorage can also be taken, in depths of 15 to 16m, clay and mud, close E of Obbola, about 0.8 mile below the Holmen road bridge.

Directions.—Three entrance channels, which may best be seen on the chart, lead into the port (see paragraph 8.7).

Caution.—Several submarine cables, which may best be seen on the chart, lie across the channel close S of the Holmen road bridge.

A submarine outfall pipeline, which may best be seen on the chart, extends SE into the fairway from the S part of Obbola. Anchorage is prohibited within 150m above and 100m below this pipeline.

A mined area, which may best be seen on the chart, lies across the main fairway about 0.7 mile N of Bredskar Island. Navigation is permitted, but anchorage and fishing are prohibited due to the possible presence of sub-surface mines. Passage through the area during thunderstorms may also be dangerous.

8.9 Norrfjarden (63˚52'N., 20˚45'E.), a small local ferry harbor, is situated about 15 miles NE of Osterfjarden. The coast between, which forms the W side of Vastra Kvarken, is indented by several other fjords and is mostly low and thickly wooded. The shore is fronted by numerous small islands, rocks, and shoals. Norrfjarden is protected by a curved breakwater, 100m long, and has depths up to 4m.

Taftelandet (63˚47'N., 20˚33'E.) is an irregularly-shaped peninsula, which separates Taftefjarden, on the W side, from

Return to paragraph 8.1 Return to paragraph 8.6

Table of Contents

Safvarfjarden, on the E side. A lighted range, for the use of fishing vessels, is shown from Rovogern (63˚ 44'N.,20˚32'E.), one of several islets lying close off the SW side of the peninsula.

Bjuren (63˚45'N., 20˚36'E.), an island, lies in the SW part of Safvarfjarden. Anchorage can be taken by small vessels between this island and the Taftelandet peninsula, in a depth of 5m, mud. Local knowledge is required as the channel is narrow and intricate. It can be used by small vessels with drafts up to 3.9m. Several pairs of range beacons mark the fairway.

Tarngrunden (63˚48'N., 20˚47'E.) lies 2.5 miles offshore, 6.2 miles NE of Bjuren. This shoal lies at the edge of the coastal bank and is marked by a buoy.

Karingskar (63˚54'N., 20˚51'E.), a high and almost bare islet, lies about 1 mile offshore, 3.3 miles NE of Norrfjarden. A rocky shoal extends about 1 mile E from this islet and is marked by a buoy.

Brednoret (63˚56'N., 20˚48'E.) (World Port Index No. 26940), a small loading place, is situated on the W side of Nyhamnsfjard, 2 miles NW of Karingskar. Ice usually obstructs this fjord from December to the middle of May. Anchorage can be taken, in a depth of 6m, sand and clay, close SW of Farskaren, two islets lying about 0.5 mile SE of the village. Two entrance channels, available to small vessels with drafts up to 5m, lead to the anchorage. Vessels may approach from E and pass N of Karingskar or from S and pass W of this islet. Numerous dangers lie in the approaches and local knowlege is required.

Ratan (64˚24'N., 20˚54'E.), a small natural harbor, is situated about 5 miles NNE of Karingskar and is described in paragraph 9.2.

For Vastra Kvarken and Ostra Kvarken, see paragraph 8.20 and paragraph 8.21, respectively.

Finland—Strommingsbadan to Hallgrund

8.10 The Finnish coast, from a point on the mainland 15 miles SE of Strommingsbaden, trends very irregularly NE for about 60 miles to a point on the mainland located 2.5 miles E of Hallgrund (63˚39'N., 22˚25'E.), which is described in paragraph 10.2.

Many fjords, bays, and coves, which may best be seen on the chart, indent this entire stretch of coast. Hundreds of islands, islets, rocks, and other dangers encumber these inlets, fringe the shore, and extend up to about 30 miles seaward. Several large areas lying among these dangers have not been fully surveyed.

Only the outermost dangers are described below. These dangers form the SE side of Ostra Kvarken, which is the E part of Norra Kvarken. Most of the outermost dangers, islands, and islets fronting this coast are located near the entrances to several channels leading to the port of Vaasa.

Vaasa is the only place of commercial importance along this coast. Several small loading places are situated in the fjords NE of Vaasa. A description of the coast extending N of Hallgrund begins in paragraph 10.2.

Caution.—This part of the Finnish coast is low and wooded, and lacks good natural landmarks; it appears to passing vessels to be farther away than it actually is.

8.11 Strommingsbadan (62˚59'N., 20˚45'E.), an outer danger, lies about 25 miles WSW of the port of Vaasa and is described in paragraph 7.21.

Depths among the maze of islands and dangers extending between Strommingsbadan and Hallgrund are very irregular.

Ronnskaret (63˚05'N., 20˚48'E.), a large group of islets and rocks, lies centered about 6 miles NNE of Strommingsbadan. Storsanden, the outermost islet is located 5.8 miles N of Strommingsbadan.

Ronnskar Tower (63˚04'N., 20˚48'E.), a prominent landmark, stands on the islet of Falliskar, within the group, 5.3 miles NNE of Strommingsbadan. This red wooden structure is 21m high, with a pointed roof.

Ronnskar Tower

Norrskar (63˚14'N., 20˚39'E.), lying 16 miles NNW of Strommingsbadan, consists of two islands and several rocky islets, which are located on a reef about 3.5 miles in diameter.

Norrskar Light (63˚14'N., 20˚36'E.), a main light, is shown from a prominent tower, 21m high, standing on the westernmost island.

Norrkallan Light is shown from a tower, 9m high, standing on a rock awash about 0.6 mile W of Norrskar Light, at the outer edge of the reef.

Vasterkallan, with a depth of 8m, lies about 2 miles WNW of Norrskar Light. This isolated shoal is marked by a buoy. A detached shoal patch, with a least depths of 8.9m, lies about 4 miles NW of Norrskar Light.

Nygrund, with a depth of 2.9m, lies 1.5 miles S of Norrskar Light. This outer shoal is marked by a buoy.

8.12 Lotsgrund Light (63˚11'N., 20˚43'E.) is shown from a beacon structure standing 4 miles SE of Norrskar Light.

It is reported (2001) that a racon is situated at Skvattan Beacon (63˚07.8'N., 20˚41.9'E.), about 3.2 miles S of Lotsgrund Light.

Vaasa Light (63˚14'N., 20˚55'E.), equipped with a racon, is shown from a prominent tower, 20m high, standing 8.5 miles E of Norrskar Light.

Utgrynnan Light (63˚21'N., 20˚46'E.), equipped with a racon, is shown from a prominent tower, 23m high, standing on an outer reef 8.1 miles NNE of Norrskar Light.

Rabergskallan, a detached shoal with a least depth of 0.7m, lies about 2.5 miles SSE of Utgrynnan Light and is marked by a buoy.

Valassaaret (63˚25'N., 21˚05'E.), a group of islands and islets, lies centered about 10 miles NE of Utgrynnan Light and is surrounded by reefs.

Valassaaret Light (63˚25'N., 21˚04'E.) is shown from a prominent framework tower, 36m high, standing on the S part of Storskar, the largest island.

Reefs, with above-water rocks, extend up to about 3.5 miles NE of Storskar and are marked by two buoys.

Return to paragraph 7.21 Return to paragraph 8.20

Table of Contents

Vaasa Light

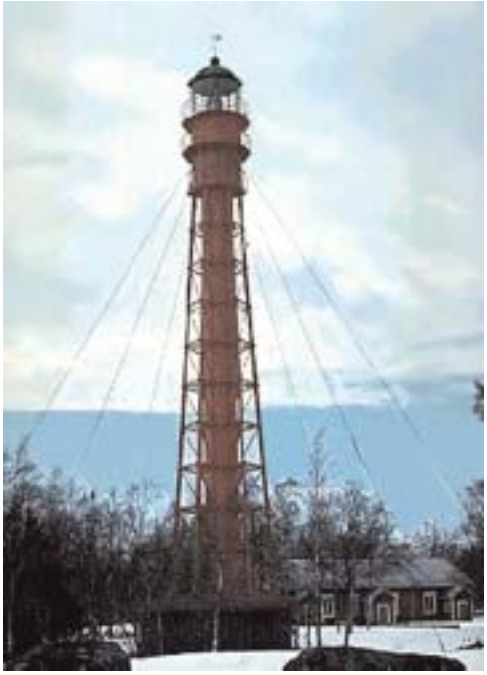
Utgrynnan Light

An area of foul ground and shallow rocks extends up to about 8.5 miles W of Valassaaret Light and may best be seen on the chart. Medelkallen, a group of above-water rocks, lies in this area, 6 miles WSW of the light.

Ritgrund Light (63˚26'N., 21˚30'E.) is shown from a prominent pyramidal tower, 18m high, standing on an islet 12 miles E of Valassaaret Light. The islet is fronted by shoals and foul ground, which may best be seen on the chart.

Detached shoal patches, with depths of 9.7m, lie about 4 miles NNE and 9.5 miles NW of Ritgrund Light.

Mickelsorar (63˚26'N., 21˚46'E.) is a large group of islands, islets, rocks, and shoals lying centered about 7 miles E of Ritgrund Light. Detached shoal patches, with depths of less than 10m, extend up to 4 miles N of this group. They lie about 11 miles NE of Ritgrund Light and may best be seen on the chart.



Valassaaret Light

Stubben (63˚31'N., 22˚10'E.), located about 18 miles ENE of Ritgrund Light, consists of Lillskar and Storskar, two small islands; a small islet; and several rocks. A shoal, with a depth of 9m, lies about 1 mile N of Lillskar and is marked by a buoy.

Stubben Light

A main light is shown from a prominent square tower, 14m high, standing on Lillskar, the westernmost island. A conspic-

Table of Contents

uous wooden tower, 17m high, is situated on the middle of Storskar, the easternmost island.

Helsingkallan (63˚36'N., 21˚50'E.), a group of rocky shoals with a least depth of 2.2m, lies about 9 miles NW of Stubben Light and 13 miles offshore. This group is marked near the center by two buoys and at the NW side by a lighted buoy.

Caution.—Numerous uncharted dangers may lie between Helsingkallan and the Mickelsorar group.

A nature reserve area, within which numerous restrictions apply, surrounds the Valassaaret group.

8.13 **Kantlax** (63˚25'N., 22˚17'E.) (World Port Index No. 27590), a village, stands on the mainland and is fronted by a loading roadstead. Good sheltered anchorage can be taken, in a depth of 11m, sand and clay, close off the NE extremity of Storon, an island lying close offshore. Local knowledge is required and pilots are available from Vaasa. The anchorage can be reached by using a branch channel, which is authorized for drafts up to 3m. It leads from the NE approach route to Vaasa at a position about 1.7 miles SSW of Stubben Light and is marked by buoys and beacons.

Munsalan (63˚23'N., 22˚18'E.), situated 1.5 miles S of Kantlax, consists of an oil jetty, 30m long, and two mooring buoys. It is approached via a buoyed fairway, authorized for drafts up to 7m, which branches off from the outer part of the channel leading to Hellnas.

Hellnas (63˚17'N., 22˚14'E.) (World Port Index No. 27610), a village situated on the mainland about 20 miles NE of Vaasa, is the loading place for the sawmills in the vicinity. The protected roadstead lies about 0.7 mile N of the village. A branch channel leads from the NE approach route to Vaasa. Vessels with drafts up to 7m can be taken to within 3.2 miles NNE of the roadstead; vessels with drafts up to 3.8m can be taken to the anchorage area in the roadstead.

Monassundet (63˚29'N., 22˚19'E.), an inlet extending about 4 miles SE, is entered 4 miles SE of Stubben Light. An anchorage, with depths of 9 to 11m, lies about 1 mile within the entrance near the village of Monas. An approach channel, suitable for vessels with drafts up to 4m, leads 3 miles SE to the narrow entrance. The inlet is only used by small craft and recreational boats.

Hallgrund (63˚39'N., 22˚25'E.), a small islet, lies about 10 miles NE of Stubben Light and is described in paragraph 10.2.

Approaches to Vaasa

8.14 Several approach routes lead toward Vaasa through the many islands, islets, and dangers lying off the coast. The two main channels and the two secondary channels are described below. The other inshore passages are only used by small craft with local knowledge.

Two main routes, both authorized for drafts up to 9m, lead from the NW and are about 27 miles in length.

Norrskar South, the first main route, leads from a position about 4 miles S of Norrskar Light (63˚14'N., 20˚36'E.). It leads 6 miles NE, using the white sector of Vaasa Light (63˚14'N., 20˚55'E.), and passes close NW of Lotsgrund Light (63˚11'N., 20˚43'E.). The route then leads about 5 miles ESE, using the Norrskar lighted range astern, until a position 3 miles SE of Vaasa Light is reached. It continues for 6.3 miles in a SE direction through a partly-buoyed channel. The route then leads 1 mile ESE and passes close NNE of Glasrund front light (63˚06'N., 21˚11'E.), which is equipped with a racon. It con-tinues 3.7 miles ENE, 1 mile SE, and 5.5 miles ESE through a narrow channel to the port.

Norrskar North, the second main route, leads from a position about 4.3 miles SW of Utgrynnan Light (63˚21'N., 20˚46'E.) and 4.4 miles NNE of Norrskar Light. It leads in a SE direction for about 9 miles to a position close NE of Vaasa Light. The route then continues in a SE direction for about 3 miles and joins the first main channel.

An alternate fairway, which is authorized for drafts up to 4.5m, leads SE for 11 miles from a position 0.7 mile SE of Vaasa Light. It passes close SW of Korso Light (63˚11'N., 21˚09'E.) and joins the main channel about 4 miles ENE of Glasrund front light.

Ronnska, a secondary route, which is authorized for drafts up to 4m, leads from a position 6 miles WSW of Ronnskar Tower (63˚04'N., 20˚48'E.). It is mostly used by small vessels with local knowledge. The route leads in a general ENE direction for about 17 miles and passes through the Ronnskaret group of islets. It then joins the first main channel close NNE of Glasrund front light.

Ritgrund, another secondary route, which is authorized for drafts up to 4.8m, leads from a position 5 miles NNW of Ritgrund Light (63˚26'N., 21˚30'E.). The route leads in a general S direction for about 25 miles, passing between the island of Vallgrund and the mainland, to join the main channel. A road bridge, with a vertical clearance of 24m and an opening 60m wide, spans the channel. It connects the SE end of the island of Vallgrund to a causeway extending W from the mainland.

Stubben, an inshore route, used in daylight only, leads from a position about 2 miles N of Stubben Light (63˚31'N., 22˚10'E.). It leads S and SW for 26 miles, passing S of the Mickelsorar group (63˚26'N., 21˚46'E.), and then joins the secondary channel leading S from Ritgrind Light. This inshore route is authorized for drafts up to 7m as far as Stor Ljusen (63˚26.0'N., 22˚05.5'E.) and then for drafts up to 3.6m.

Regulations.—The approach route leading to Kristinestad (Kristiinankaupunki) is situated within Sector A of the Bothnia Vessel Traffic Service (VTS) system. This system operates off the NW coast of Finland and is mandatory. For further details of the VTS system, including reporting procedures, see paragraph 10.1.

Caution.—It is reported that, due to more frequent surveys, the Finnish Board of Navigation advises deep-draft vessels approaching from the NW to use the route leading N of Norrskar in preference to the one passing to the S.

A designated restricted area surrounds the island of Norrskar (63˚14'N., 20˚36'E.).

Vaasa (63˚06'N., 21˚35'E.)

World Port Index No. 27650

8.15 Vaasa, formerly known as Nikolaistad, is situated on the Finnish coast bordering on Norra Kvarken. The port area comprises the facilities at the outer harbor of Vaskiluoto, those at Palosaari to the N, and those at the inner or town harbor.

Return to paragraph 8.15

Table of Contents

Ice.—The harbors have been closed to navigation because of ice on dates varying between December 25 and January 25, and were reopened on dates ranging from March 31 to May 16. Icebreaker service is furnished at the beginning and end of the ice season.

Tides—Currents.—The water level in the harbors rises with S winds and falls with N winds.

Depths—Limitations.—The main approach channel is authorized for drafts up to 9m (see paragraph 8.14).

The island of Vaskiluoto lies close W of the town of Vaasa and is connected to it by a causeway. A road bridge links the island to the town and also to the mainland on the S side.

Palosaari Harbor lies close NW of the N part of the town. It provides a quay, 65m long, with a depth of 3.7m alongside. The main fairway leading to this harbor from Vaskiluoto is authorized for drafts up to 4.2m.

Town Harbor fronts Vaasa. It provides 500m of total quayage, with depths up to 5m alongside.

Vaskiluoto Harbor is situated on the SW side of the island and is the site of the main commercial facilities. It is protected by a detached breakwater lying on the N side of the entrance channel.

Coal Quay is 145m long and has a depth of 10m alongside.

Reins Quay is 240m long and has depths of 6 to 8m alongside.

Ferry Pier has two ro-ro berths, 128m and 140m long, with depths of 5.7m alongside.

North Pier is 180m long and has depths of 6.4 to 9.6m alongside. It has ro-ro berths on each side of its root.

South Pier is 180m long and has depths of 6.4 to 9.6m alongside.

Oil Pier is 105m long and has a depth of 10m alongside.

There are facilities for ro-ro, passenger, automobile ferry, bulk, tanker, and general cargo vessels. Vessels up to 200m in length and 9m draft can be accommodated.

Aspect.—The approach channels are marked by directional sector lights, lighted ranges, buoys, and beacons (see paragraph 8.14).

Pilotage.—Pilotage is compulsory. Pilots are stationed at Ronnskar, Norrskar, Ritgund, and the harbor station at Vaskiluoto.

Vessels should send a request for pilotage at least 6 hours in advance, confirming 3 hours before arrival (2 hours for the NW approach). Pilots may be contacted by VHF and board about 1.8 miles NE of Lotsgrund Light (63˚11'N., 20˚43'E.) and 2.5 miles NW of Vaasa Light (63˚14'N., 20˚55'E.).

Pilots are provided by the station at Tankar (63˚57'N., 22˚51'E.) (see paragraph 10.4) for the NE approach and board in the vicinity of Stubben Light (63˚31'N., 22˚10'E.). Vessels should send a request for pilotage 24 hours in advance. For the S approach, pilots are provided by Kaskinen and board about 5.5 miles SW of Salgrund Light (62˚20'N., 21˚12'E.).

Regulations.—A speed limit of 10 knots is in effect for the section of the channel between Nygrund (63˚07.6'N., 21˚20.2'E.) and the port. It is reported (2000) that a speed limit of 8 knots applies to vessels with drafts over 8m.

At night, tankers carrying more than 4,000 tons of oil are prohibited in the section of the channel between Nygrund (63˚07.6'N., 21˚20.2'E.) and Vaasa.

Anchorage.—Anchorage may be taken as directed by the pilot.

Caution.—A submarine track guide cable has been established in the fairway between Nygrund (63˚07.6'N., 21˚20.2'E.) and Nagelprick, 3.5 miles ESE, to assist navigation. The use of this guide system is only possible with a special receiver. Anchoring and fishing are prohibited in this part of the channel.

Norra Kvarken

8.16 Norra Kvarken, the narrowest part of the Gulf of Bothnia, includes the waters extending about 40 miles NE from a line joining Bonden (63˚26'N., 20˚03'E.), Sydostbrotten (63˚21'N., 20˚11'E.), and Norrskar (63˚14'N., 20˚36'E.). It is encumbered with numerous islands, islets, rocks, and shoals.

The part of the Gulf of Bothnia situated S of Norra Kvarken is known in Swedish as Bottenhavet and in Finnish as Selkameri. The part of the gulf situated N of Norra Kvarken is known in Swedish as Bottenviken and in Finnish as Perameri.

Holmoarne (63˚40'N., 20˚52'E.), a group of islands and rocks, divides Norra Kvarken into two channels or passages. Vastra Kvarken, on the W side, leads between the group and the dangers fronting the coast of Sweden; Ostra Kvarken, on the E side, leads between the group and the dangers fronting the coast of Finland.

Great care is necessary when navigating within both Vastra Kvarken or Ostra Kvarken, particularly during foggy weather, which is not infrequent. Mariners should bear in mind that the currents are uncertain and their movements sometimes precede the wind.

8.17 **Holmon** (63˚47'N., 20˚54'E.), the northernmost and largest island of the Holmoarne group, lies about 4 miles off the Swedish coast. The summit of this island is situated in the N part. It is 24m high and consists of a bare ridge surrounded by woods. Several houses, a lookout tower, and a church, with a high pointed tower, stand on this ridge and are prominent from seaward.

A chain of small islets, rocks, and shoals extends about 5 miles NE from the N end of the island and is marked at its outer edge by a buoy.

Byviken (63˚48'N., 20˚52'E.), a small harbor protected by breakwaters, lies within a narrow bay at the NW end of the island. It has a depth of 4m and is used by fishing vessels and pleasure craft. The bay is exposed to winds and heavy seas from the N and NE. Vessels with local knowledge can anchor, in a depth of 20m, sand, close off the W shore of the bay.

A conspicuous radio mast stands close E of Byviken harbor.

Bergudden Light (63˚47.5'N., 20˚50.5'E.) is shown from a prominent wooden tower, 18m high, standing on the NW side of Holmon Island.

Lillhallansgrund (63˚49'N., 20˚52'E.), a shoal with a least depth of 5.9m, lies about 1 mile N of Byviken and is marked on its SW side by a buoy.

Falkgrund (63˚51'N., 20˚53'E.), a shoal with a least depth of 9.9m, lies 2.3 miles NNW of the N extremity of Holmon and is marked by a buoy. Shoal patches, with depths of 7.6m and 9.4m, lie about 0.6 mile ESE and 0.7 mile SSW of Falkgrund.

Return to paragraph 8.20

Table of Contents

Stora Fjaderagg (63˚48'N., 21˚00'E.), a mostly barren island, lies 1.5 miles NE of the NE extremity of Holmon Island. A chapel, some fishing huts, and a beacon, 7m high, are situated on the S side of the island. A main light is shown from a prominent tower, 13m high, standing on the summit of the island.

An extensive shoal bank fronts the N and E sides of Stora Fjaderagg. Lillgrund, an above-water rock, and Osterbadan, a shoal with a depth of 6.9m, lie about 1 mile N and 1 mile E, respectively, of the island.

Vessels can take anchorage, in depths of 9 to 16m, sand, about 0.3 mile S of the S end of Stora Fjaderagg. They must approach from the E and take care to avoid the reef extending up to about 1.5 miles from the E side of the island.

Angeson (63˚44'N., 20˚54'E.), low and wooded, lies close S of Holmon Island. Rocks and shoals extend up to about 1.8 seaward of the W side of this island and up to 4 miles seaward of the E side. These dangers are marked by buoys and may best be seen on the chart.

Grossgrunden (63˚39'N., 20˚51'E.), low and wooded, lies close S of Angeson and is fronted by shoals on each side. A beacon, with a radar reflector, stands on a group of above-water rocks about 1.5 miles WSW of the N end of this island.

Jagaroren (63˚41'N., 20˚55'E.), a shoal, lies about 1.6 miles ENE of the N end of Grossgrunden. A disused light tower, 12m high, stands on this shoal and is equipped with a racon.

8.18 Holmogadd (Gadden) (63˚36'N., 20˚47'E.), the southernmost island of the group, is bare except for a few clusters of low trees and bushes. It is separated from the S end of Grossgrunden by Gaddstrommen. A conspicuous tower, 8m high, stands on the N part of the island.

A main light is shown from a prominent granite tower, 20m high, standing on the S end of the island. Some dwellings are situated close to the light tower and a cain stands on the beach close S of them.

Gaddstrommen, a narrow passage leading between reefs, is the only navigable channel through the island group. It is marked by beacons and only used by small craft with local knowledge.

A rocky coastal bank extends about 2 miles S and 2.5 miles SE from the S end of Holmogadd. It is marked by buoys and may best be seen on the chart.

Huginsgrund (63˚34'N., 20˚46'E.), a shoal with a depth of 5.9m, lies 2 miles S of Holmogadd Light, at the edge of the bank, and is marked by a buoy.

Regulations.—The main shipping route in the S part of Norra Kvarken is situated within Sector B of the Bothnia Vessel Traffic Service (VTS) system. This system operates off the NW coast of Finland and is mandatory. Northbound vessels entering Norra Kvarken, with destinations of Tornio, Rahja, Raahe, Pietarsaari, Oulu, Kokkola, or Kemi, are requested to make an advance report when 20 miles S of Nordvalen Light (63˚32'N., 20˚47'E.). For further details of the VTS system, including reporting procedures, see paragraph 10.1.

Caution.—Submarine cables, which may best be seen on the chart, extend between the NE side of Holmon and Stora Fjaderagg, and between the SE side of Holmogadd and Nordvalen Light.

A restricted area, within which entry is prohibited without permission, surrounds the island of Holmogadd and the S part of Grossgrunden.

A designated nature area, within which numerous restrictions apply, has been established around the E part of Holmon, most of Angeson, Grossgrunden, Holmogadd, and a large number of the adjacent skerries and rocks.

Due to the numerous off-lying dangers, vessels proceeding N in the gulf are advised to keep at least 4 miles from the E side of the Holmoarne group.

8.19 Nordvalen Light (63˚32'N., 20˚47'E.), equipped with a racon, is shown from a prominent floodlit tower, 26m high, standing 3.5 miles S of Holmogadd Light and 11 miles N of Utgrynnan Light.

A chain of rocks and shallow shoals extend up to about 7 miles S of Nordvalen Light. The outer shoals are marked by buoys and may best be seen on the chart.

Gerdasgrundet lies 1.5 miles SSW of Norvaken Light. This shoal has a least depth of 4.8m and is marked by a buoy.

Vastra Snipansgrundet, with a least depth of 2.3m, lies 6.2 miles SSW of Nordvalen Light. This shoal, which is the southeasternmost danger lying in the entrance to Ostra Kvarken, is marked by two buoys.

Odelgrund (63˚25.5'N., 20˚34.0'E.), with a depth of 11.9m, lies about 7 miles NW of Utgrynnan Light (63˚21'N., 20˚46'E.) and 8.5 miles SW of Nordvalen Light. This shoal lies at the outer edge of a bank extending SE from the vicinity of Gunvorsgrund Light (63˚29'N., 20˚27'E.) and is marked by a lighted buoy.

Waldersgrund, a detached shoal with a depth of 11.9m, lies about 1 mile ESE of Odelgrund and is marked by a buoy.

8.20 Vastra Kvarken (63˚42'N., 20˚43'E.) is bordered on the W side by the dangers fronting the Swedish coast and on the E side by the Holmoarne group (see paragraph 8.16). This passage leads in a general NNE direction for 23 miles from a position 5 miles SE of Vaktaren Light (63˚37'N., 20˚25'E.) to the vicinity of Karingskar shoal (63˚54'N., 20˚51'E.).

A coastal passage leads to the vicinity of Vaktaren Light (see paragraph 8.6 and paragraph 8.7).

The recommended route, which may best be seen on the chart, leads NNE using the white sector of Bergudden Light (63˚47.5'N., 20˚50.5'E.). When about 2 miles from the light tower, vessels should steer more to the N and adjust their course in order to pass WNW of the light and ESE of Tarngrunden shoal (see paragraph 8.9).

The route then leads in a NNE direction and passes close WNW of Lillhallansgrund and Falkgrund shoals. After passing Falkgrund, vessels should steer more to the NE and head for a position 2.3 miles ESE of Karingskar. They should then head NNE using the white sector of Bergudden Light astern.

Vessels entering from the N should head in a SSW direction using the white sector of Bergudden Light. When about 7 miles from the light structure and E of Karingskar, they should head SW to pass close W of Falkgrund shoal. The route then leads SSW and passes close WNW of Lillhallansgrund and about 0.4 mile WNW of Bergudden Light. When about 1.5 miles SSW of the light, vessels should adjust course and steer in a SSW direction using the white sector of Bergudden Light astern.

Return to paragraph 8.9

Pilotage.—The pilotage area for Umea lies between a line bearing 140˚ through Norrbyskar (63˚ 33'N., 19˚ 52'E.) and latitude 64˚ 03'N.The main boarding station is in the vicinity of Vaktaren Light. All requests for pilotage through Vastra Kvarken must be made through the VTS station at Lulea (see paragraph 9.19).

Caution.—Submarine cables, which may best be seen on the chart, lie across the N part of the passage. They extend NW between the NE side of Holmon, in the vicinity of Byviken harbor, and the mainland coast of Sweden.

A submarine cable, which may best be seen on the chart, lies across the S part of the passage. It extends WNW between the W side of Holmogadd and the mainland coast in the vicinity of Umea.

Buoys moored within Vastra Kvarken are sometimes displaced by drift ice in the early part of the navigation season, and may also be fouled by timber rafts.

An area, within which anchoring, fishing, and diving are prohibited, extends across Vastra Kvarken in the vicinity of Bergudden Light and may best be seen on the chart.

8.21 Ostra Kvarken (63˚33'N., 20˚51'E.), the main offshore passage in Norra Kvarken, is bordered on the NW side by the dangers fronting the S and E sides of the Holmoarne group and on the SE side by the dangers fronting the coast of Finland.

Depths—Limitations.—A Deep-Water Route, which is marked by buoys, has been established through Ostra Kvarken. It extends for about 8 miles SW and 7 miles ENE of Nordvalen Light (63˚32'N., 20˚47'E.) and has a least depth of 16.2m.

The recommended track passing through Ostra Kvarken is authorized for drafts up to 13m.

Directions—Vessels should proceed in a N direction up the gulf to a position located about 8 miles WNW of Norrskar Light (63˚24'N., 20˚36'E.). The recommended track then leads NE from this position to the S entrance of the Deep-Water Route. It passes about 6 miles SE of Sydostbrotten Light (63˚21'N., 20˚11'E.), close SE of Odelgrund (63˚25.5'N., 20˚34.0'E.), and close NW of Waldersgrund, using the white sector of Nordvalen Light (63˚32'N., 20˚47'E.).

From a position about 5 miles SW of Nordvalen Light, the recommended track (Deep-Water Route) leads in a NE direction to pass close WNW of the shoals lying SW of the light. It then rounds the light, at a distance between 0.2 mile and 0.6 mile, and leads ENE toward a position located 11.7 miles NNE of Valassaaret Light (63˚25'N., 21˚04'E.), using the white sector of Nordvalen Light astern.

Vessels bound for Umea or intending to use the coastal route through Vastra Kvarken should depart the recommended track (Deep-Water Route) in a NW direction when about 2.5 miles SW of Nordvalen Light.

Caution.—A submarine cable, which may best be seen on the chart, lies across the passage. It extends NNW from the vicinity of Ritgrund Light (63˚26'N., 21˚30'E.), rounds the island of Stora Fjaderagg, and extends W to the mainland coast of Sweden.

Care should be taken when approaching the S part of the passage as the Swedish side, being high, may tend to appear closer than the low Finnish side.

Table of Contents

Return to paragraph 8.7

Return to paragraph 8.9