



Implementation status 2020

March 2020

Estonian Maritime Administration



As of January 1, 2018,
Estonia switched to the
BSCD2000

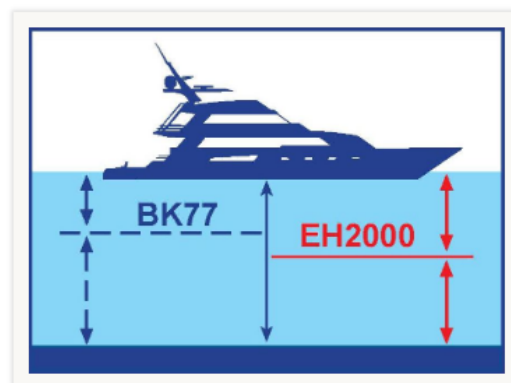


Home > Height System EH2000 Now Used in Estonia

INFORMATION FOR NAVIGATORS AND PORTS

As of January 1, 2018, Estonia switched to the common European height system EVRS (European Vertical Reference System), whose reference point is the Amsterdam Ordnance Datum (NAP). Previously, the 1977 Baltic height system BHS-77 was used, in which the Kronstadt Tide Gauge served as zero point of the height system.

In Estonia, EVRS heights are marked with the abbreviation EH2000, with EH referring to Estonian Heights and 2000 to the land uplift of Fennoscandia in 2000. The Baltic Sea states agreed to start using on the charts of the Baltic Sea and in navigational information a common vertical chart datum called the Baltic Sea Chart Datum 2000 (BSCD2000), so all charts and reference books that give heights and depths according to EH2000 are now marked by the Maritime Administration (MA) as Baltic Sea Chart Datum 2000 EH2000.



In simple terms, Estonia switched from the Kronstadt Tide Gauge to the Amsterdam Ordnance Datum.

On the left: illustration of the position of the old and new zero level
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Why the switch?

With the new height system, all Baltic Sea states that are members of the European Union can use navigational charts and port and waterway data according to the same system. There is no more need for calculations to switch from one height system to another when navigators are visiting countries that use the same system, and no need for considering the differences between the height systems adopted in foreign countries when navigating between their ports, for instance. A common height system also simplifies the planning and

executing of international projects.

What has changed in navigational information?

The transition brought about changes in MA databases and navigational information issued by us:

- ◆ Converted heights are used in the following MA databases: hydrographic information system HIS, AtoNs database NMA, the State Port Register, and all navigational information containing information on depths, such as navigational charts and reference books.
- ◆ As the zero level in EH2000 is lower than the zero level of BHS-77, all the figures indicating depths in the water bodies in Estonia have decreased and the figures indicating heights on land have increased.

The new height system

As of January 1, 2018, Estonia switched to the common European height system EVRS (European Vertical Reference System). Previously, the 1977 Baltic height system BHS-77 was used, in which the Kronstadt Tide Gauge served as zero point of the height system.

In Estonia, EVRS heights are marked with the abbreviation EH2000, with EH referring to Estonian Heights and 2000 to the land uplift of Fennoscandia in 2000.

The Baltic Sea states have agreed to start using on the charts of the Baltic Sea and in navigational information a common vertical chart datum called the Baltic Sea Chart Datum 2000 (BSCD2000), so all charts and reference books that are going to give heights and depths according to EH2000 will be marked by the Estonian Maritime Administration as Baltic Sea Chart Datum 2000^{EH2000}.

In simple terms, Estonia will switch from the Kronstadt Tide Gauge to the Amsterdam Ordnance Datum.

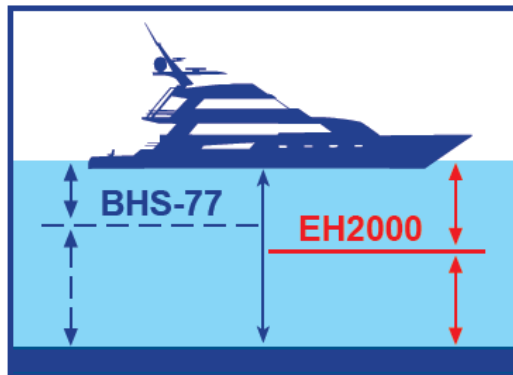


Illustration of the position of the old and new zero level.
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Why the switch?

With the new height system, all Baltic Sea states that are members of the European Union can use navigational charts and port and waterway data according to the same system.

There will be no need for calculations to switch from one height system to another when navigators are visiting countries that use the same system, and no need for considering the differences between the height systems adopted in foreign countries when navigating between their ports, for instance.

A common height system will also simplify the planning and executing of international projects.

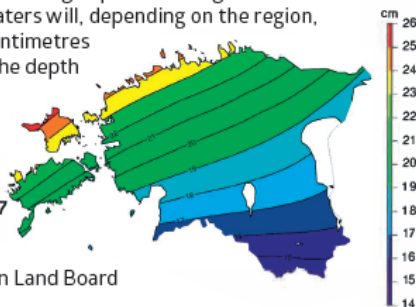
What will change in navigational information?

The conversion will bring about changes in the Maritime Administration's databases and navigational information issued by us:

- ▶ As the zero level in EH2000 is lower than the zero level of BHS-77, all the figures indicating depths in the water bodies in Estonia will decrease and the figures indicating heights on land will increase 14-26 centimetres.
- ▶ The height will be changed in the following MA databases: hydrographic information system HIS, AtoNs database NMA, the State Port Register, and all navigational information containing information on depths, such as navigational charts and reference books.
- ▶ The figures indicating depths on navigational charts for coastal waters will, depending on the region, be 14 to 26 centimetres smaller, and the depth contours will change accordingly.

The difference between BHS-77 and EH2000 in centimetres.

Source: Estonian Land Board



When will it all change?

MA databases will switch to the new system within a three-month transition period (1 January to 31 March 2018). Issuing navigational charts in accordance with the new system will take years, as it is a labour-intensive and time-consuming process. During the transition period navigational charts in both systems will be used simultaneously.

Navigational charts compiled in accordance with both systems are suitable for navigation. It is simply necessary to make sure which system the particular chart or reference book is based on.

The MA will add a reference to the system used to all charts, reference books and GIS applications containing data on depths.

What will change for ports?

Ports will be compelled to review all their data media that contain data on depths (such as their websites together with all figures, surveys and plans, port rules, etc.) and make sure that by the end of the transition period at the latest all data on depths have a reference to the particular height system used.

Whenever possible, it is advisable to give data on depths in both height systems simultaneously, so that navigators would have time to get used to the new system.

The height systems must be marked with BHS-77 and/or EH2000, as appropriate.

There will also be changes in the State Port Register regarding depth data. In 2018 the possibility of showing depths in two height systems will be introduced.

The MA will initiate the changing of the data of all ports in the Register during the transition period and convert the depths in the Register according to the EH2000 system.



Alates 01.05.2011 ilmub Teadaanded Meremeestele ainult digitaalsel kujul Veeteede Ameti kodulehel <https://veeteedeamet.ee> ja asendab paberväljaanne. Starting from 01.05.2011 Notices to Mariners is issued only in digital form on the Estonian Maritime Administration web page <https://veeteedeamet.ee/en>



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For information

New vertical chart datum BSCD2000 - Baltic Sea Chart Datum 2000

On 01 January 2018, the common European height system EVRS (European Vertical Reference System) also known as Amsterdam Ordnance Datum (*Normaal Amsterdams Peil*, NAP) was adopted in Estonia.

There is an international agreement to start using on the charts of the Baltic Sea and in navigational information a common vertical chart datum that corresponds to the new height system and is called the **Baltic Sea Chart Datum 2000** (BSCD2000). In Estonia, EVRS heights are marked with the abbreviation EH2000, with *EH* referring to *Estonian Heights* and 2000 to the land uplift in 2000. Navigational charts and reference books about Estonian waters, on which heights are given in accordance with EH2000, will be marked by the Estonian Maritime Administration as Baltic Sea Chart Datum 2000 ^{EH2000} (BSCD2000^{EH2000}).

The transition from the 1977 Baltic height system BHS-77 to the common European height system means that 14 to 26 centimetres will be added to the absolute heights, depending on the area, and subtracted from the depths in coastal waters.

The new navigational charts compiled starting from 01 January 2018 will give the data in accordance with the new height system and refer to the new vertical chart datum BSCD2000. At first, electronic berthing and harbour charts will be updated, and on the basis of these corresponding paper charts will be compiled.

Introducing the new height system on all navigational charts is a time-consuming process. During that period, navigational charts in the old and the new height system will be used simultaneously. It is extremely important therefore to consider both the zero point on the chart and the actual water level while navigating in areas with small under keel clearance.

Link: <https://www.maaamet.ee/en/news/estonia-switches-baltic-height-system-european-vertical-reference-system>

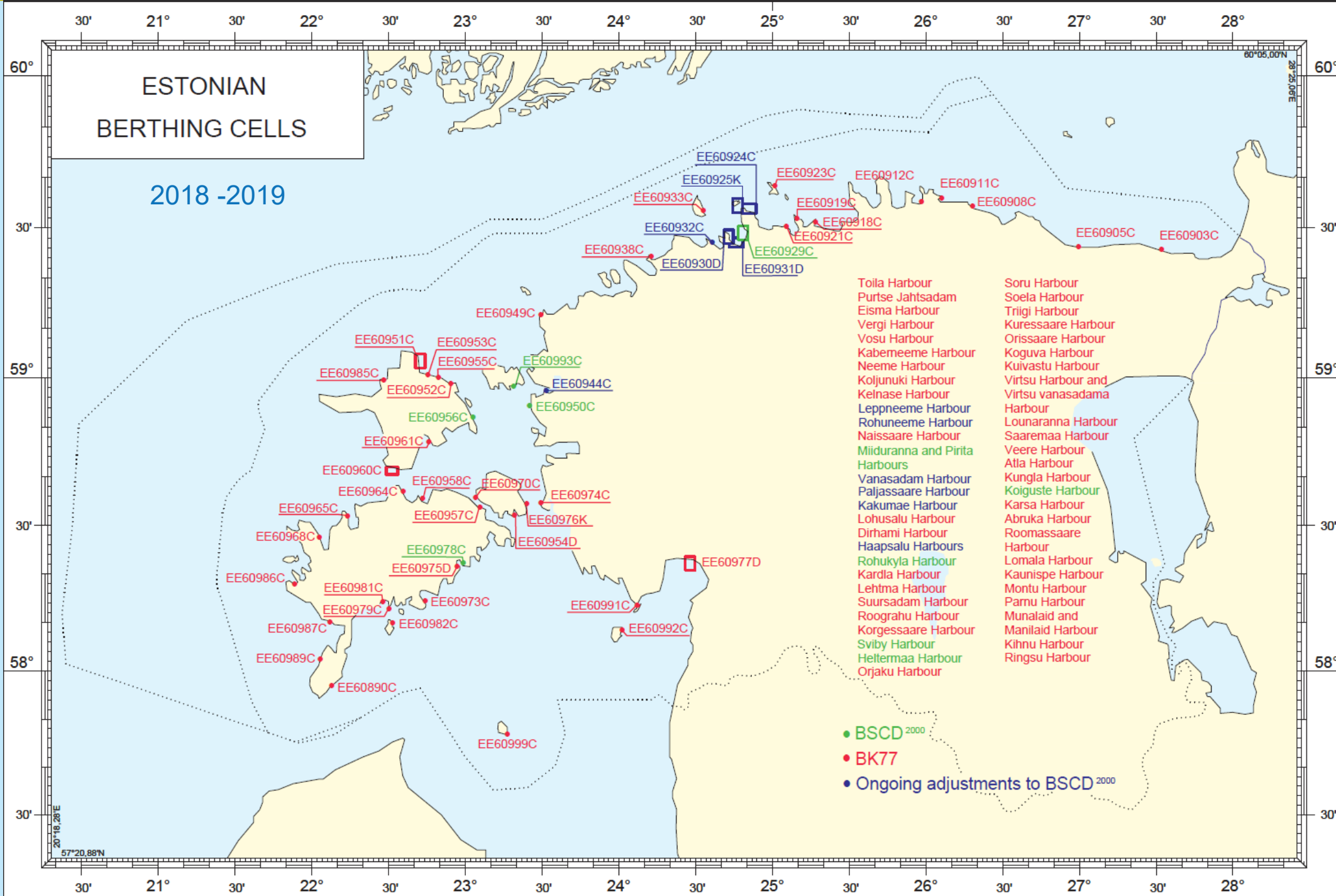


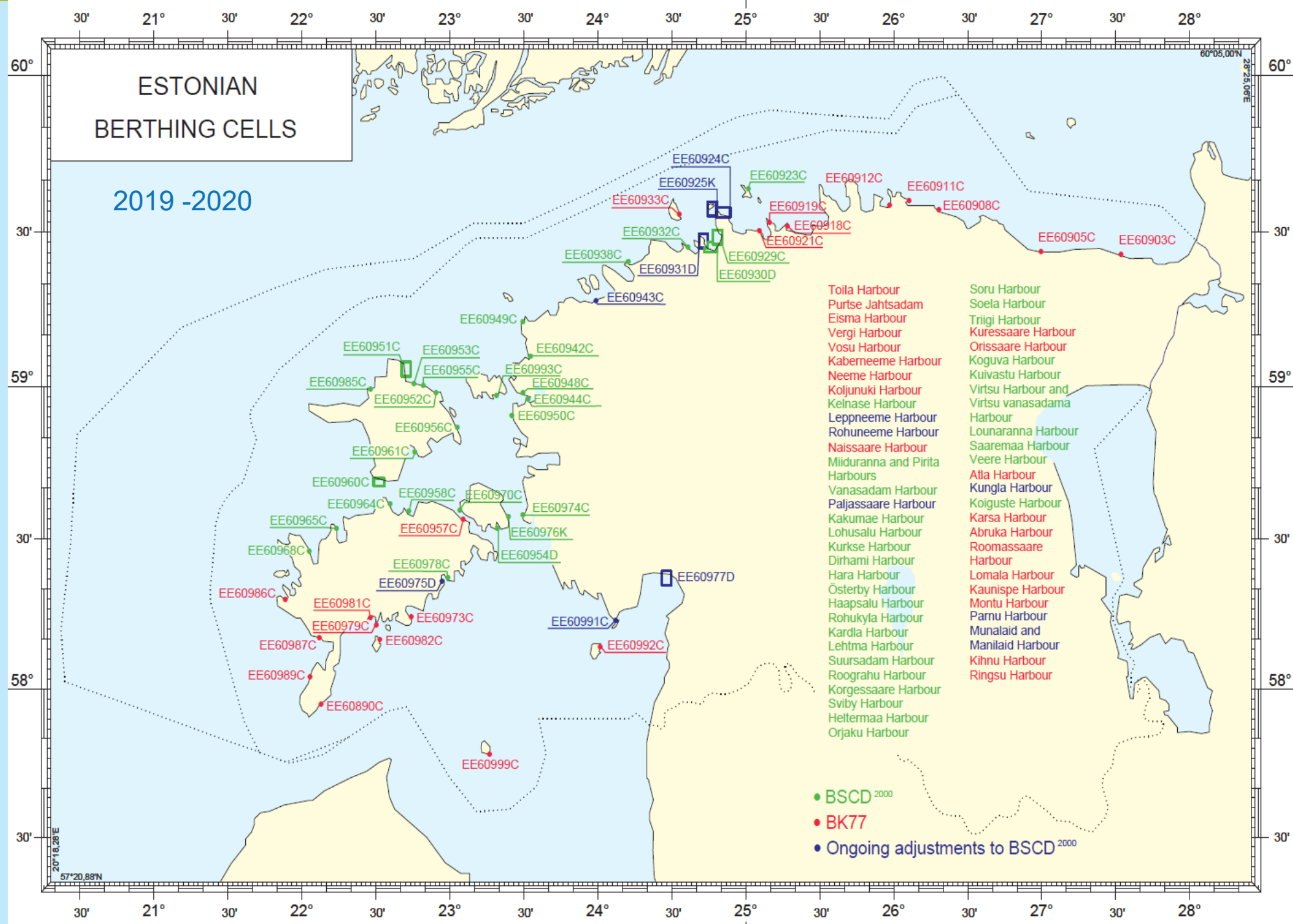
We started our transition process from Berthing and Harbour ENC-s and Berthing, and Harbour paper charts.

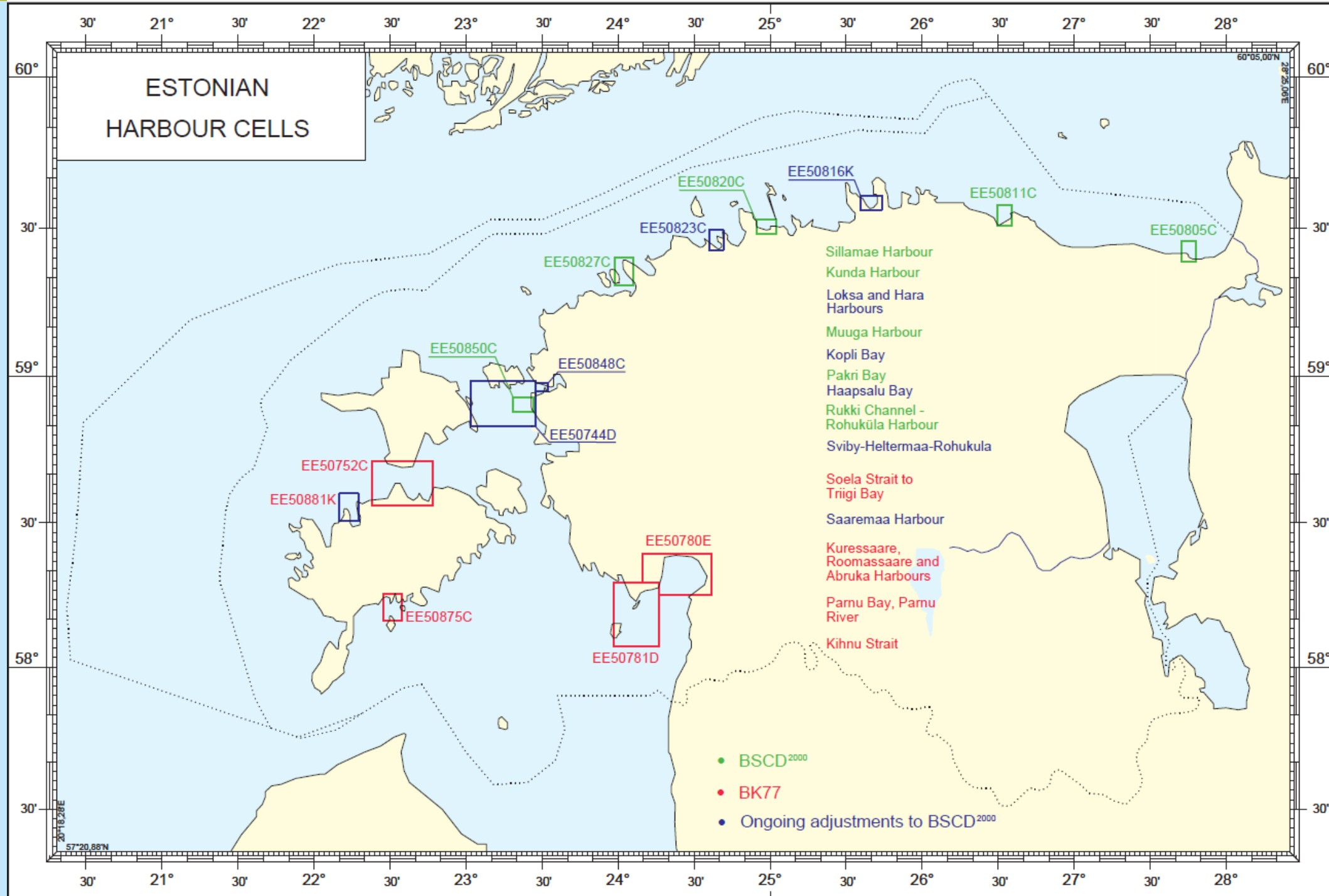
We have 54 Berthing, 14 Harbour, 21 Approach, 14 Coastal and 7 General ENC-s, 66 paper charts and 3 chart albums.

2018-2019 we completed 3 Harbour ENC-s, 5 Berthing ENC-s, 4 Harbour paper charts and Berthing paper charts.

2019-2020 we completed 3 Harbour ENC-s, 25 Berthing ENC-s, 1 Harbour paper charts and 4 Berthing paper charts.



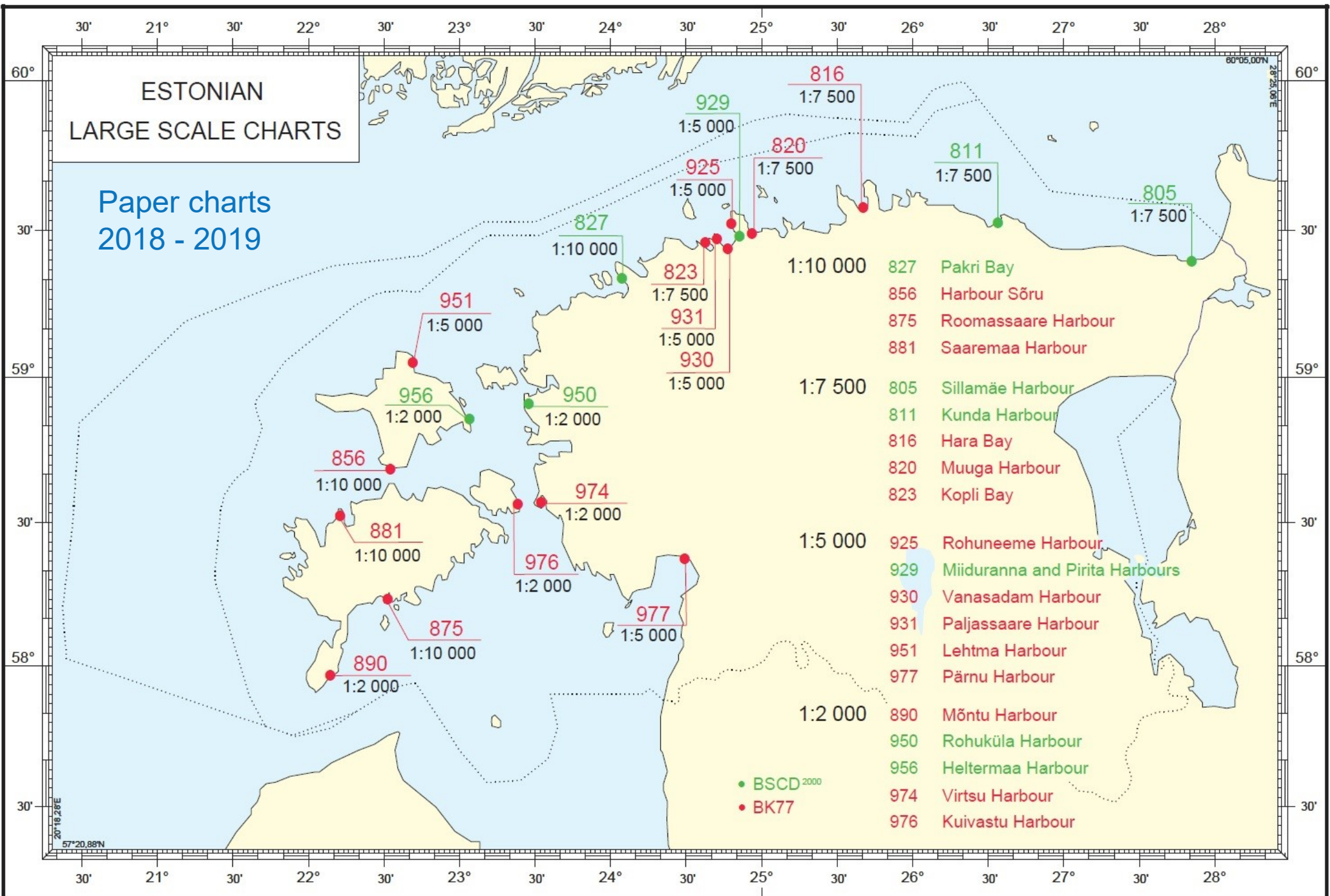


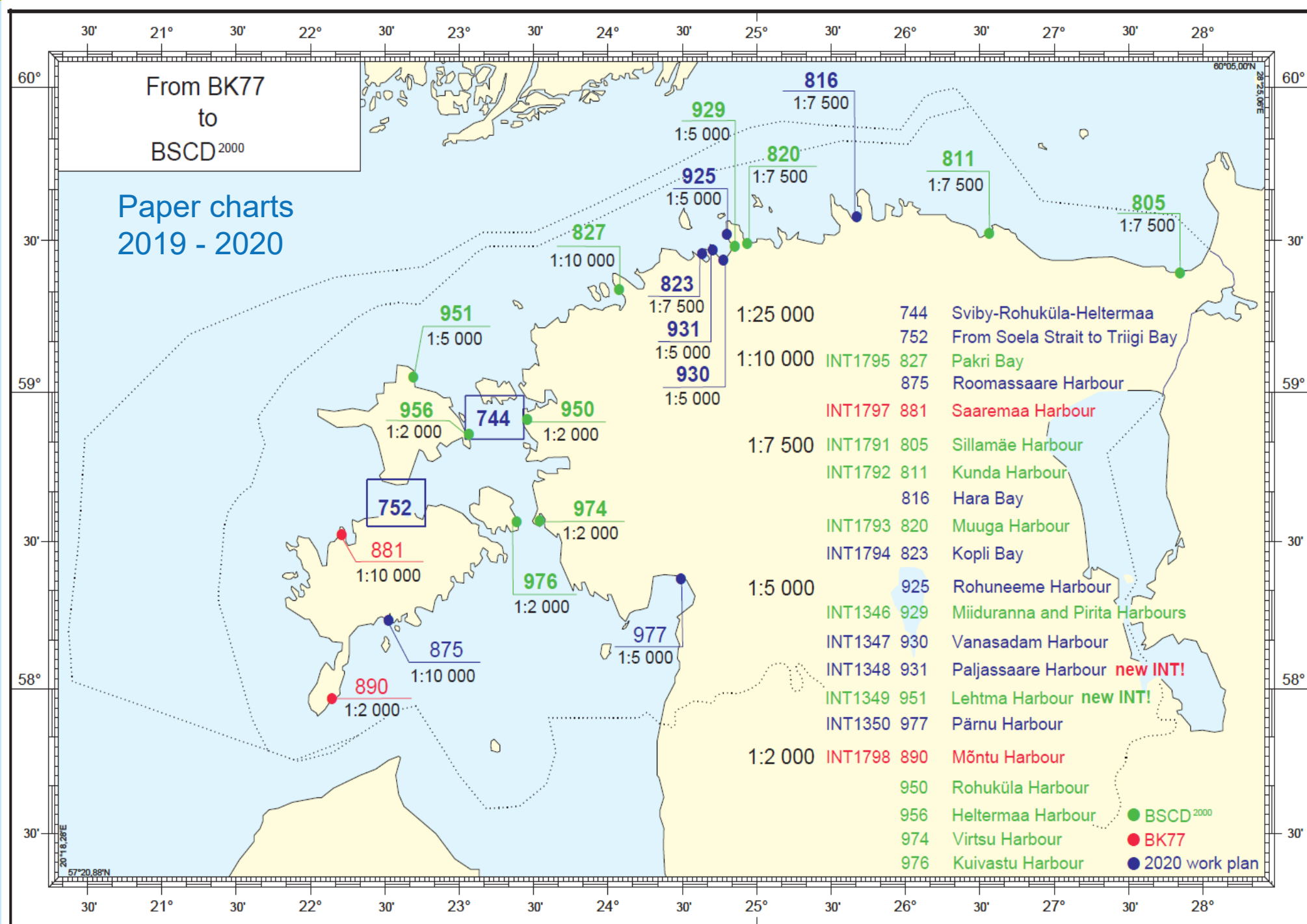




ESTONIAN LARGE SCALE CHARTS

Paper charts
2018 - 2019





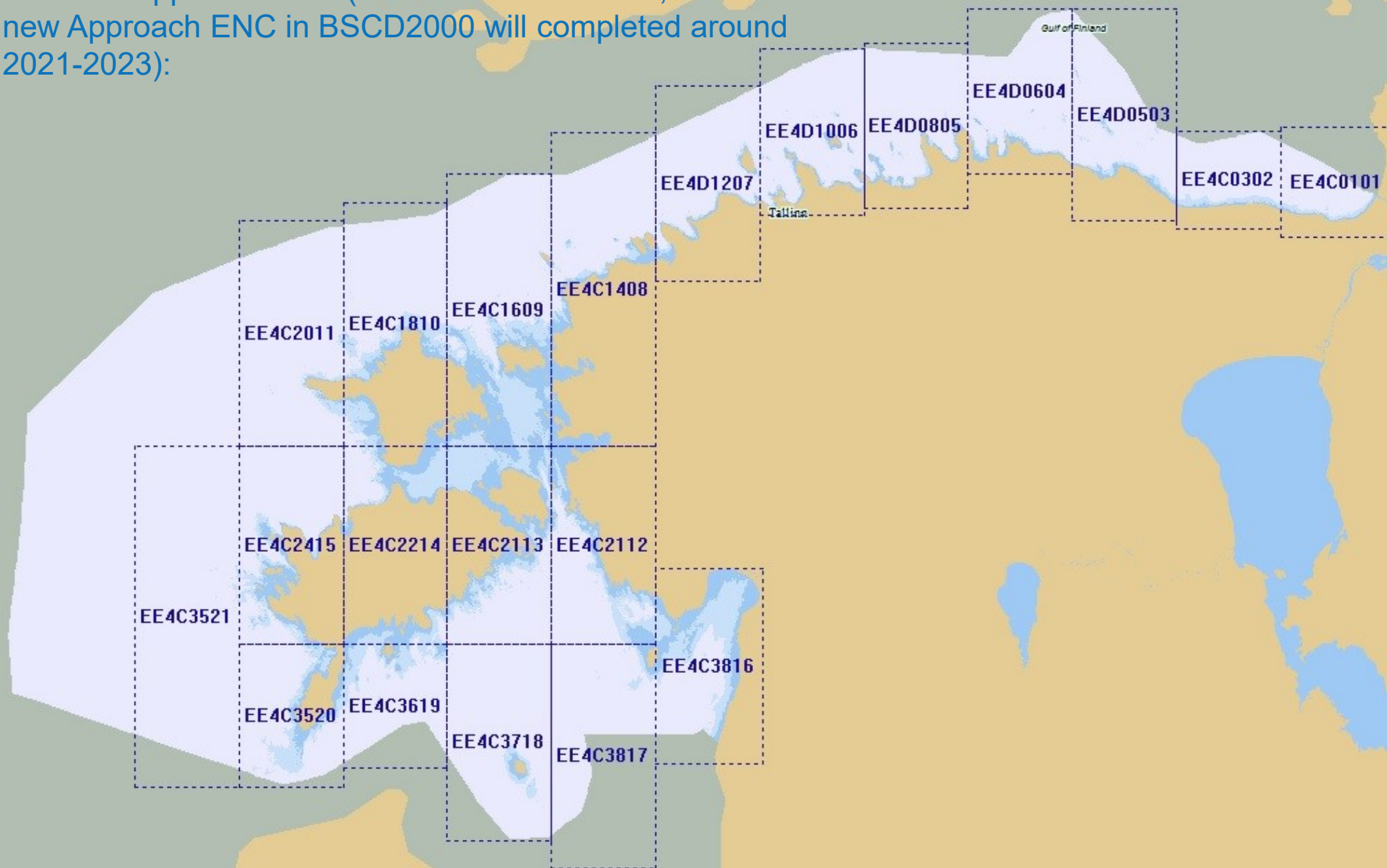
We hope finish all Berthing and Harbour cells by the end of 2020 and start Approach cells in 2021.

Our Approach cells are now in the scale 1: 45 000

Plan is to do Approach cells in the scale 1: 22 000 in new height system and complete them by the end of 2023. And then we make plan about Coastal and General cells



Estonian Approach cells (scale is now 1:45 000, 1:22 000
new Approach ENC in BSCD2000 will completed around
2021-2023):

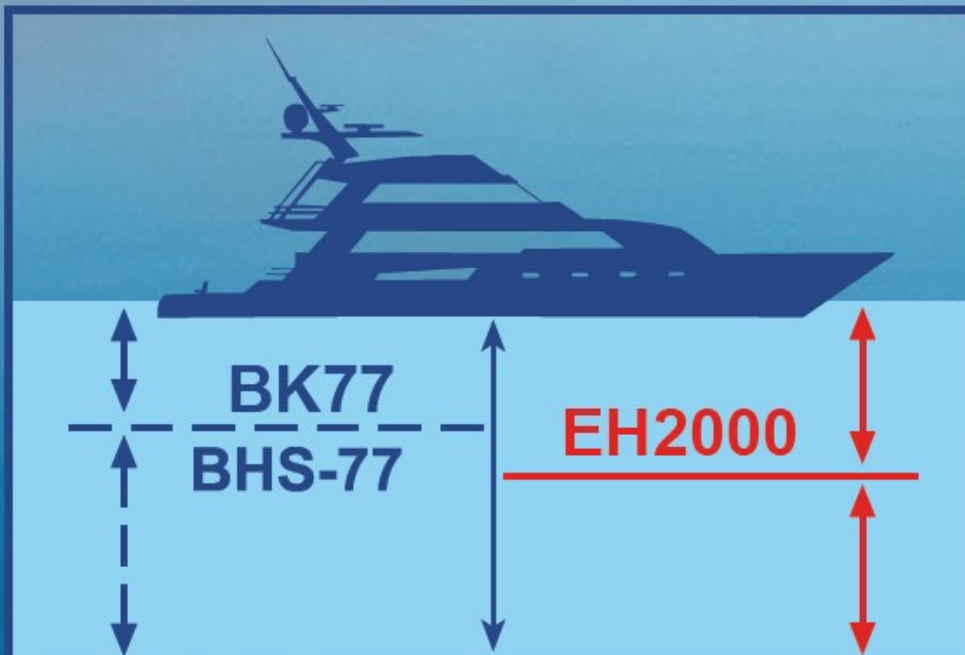




We have 3 chart albums, which are quite popular amongst mariners, using small crafts.

Each album contains charts with scale 1:250 000, 1:50 000 and large scale charts.

Chart album 2 was quite old – 2013, and small correction 2015, so we decided to publish new Chart Album 2 with charts from two height systems.



Laeva joonis: freevector.com

Tähelepanu!

Kaardiatlases on navigatsioonikaardid kahes kõrgussüsteemis.

Täpsem info kasutaja lehel.

Attention!

The navigational charts in the chart album use two height systems.

For specific information, see „For the user“ page.



Laeva joonis: freevector.com

Tähelepanu!

Kaardiatlases on navigatsioonikaardid kahes kõrgussüsteemis.

Täpsem info kasutaja lehel.

Attention!

The navigational charts in the chart album use two height systems.

For specific information, see „For the user“ page.



met
administration

FOR THE USER

This edition of "Charts of Estonia", Vol 2, "Suurupi Peninsula to Saaremaa" is mostly intended for the use on small craft. The charts were compiled using the information of the Estonian Maritime Administration database as of 1st January 2020. The charts contain information about water depths, aids to navigation, harbour approaches, navigational hazards, nature of the coast, seabed and other relevant information.



In marking the depths and heights, two different height systems are used: BSCD2000^{EH2000} for charts in scale 1:2000 to 1:7500 and BHS-77 for charts in scale 1:50 000 and 1:250 000. Mariners need to consider sea level variations when navigating. In coastal waters the difference between two vertical systems can be 14-26 cm. More information: <https://veeteedeamet.ee/en/height-system-eh2000-now-used-estonia>

Within shallower areas (~0...2 m) outside harbour approaches and harbour areas the displayed depth figures and seabed characteristics may vary from the actual due to obsolete survey data. Navigational charts in the scale of 1 : 250 000 - 1 : 50 000 are not to be used in areas requiring high navigation precision due to low level of detail.

In the interest of safety, charts must be corrected. Chart corrections are published in monthly Notices to Mariners, available on the Estonian Maritime Administration's website <https://veeteedeamet.ee/en>. Corrections apply to the latest chart edition.

Chart Notes

NOTE 1

MARINE RESERVES (MR). Additional information regarding restrictions and prohibitions in the protected areas is available in the navinfo.eelis.ee

NOTE 2

HISTORIC WRECKS (*Historic WK*). Trawling, anchoring, dredging and solid material dumping is prohibited on an underwater heritage site and its protected zone 300 m. Diving is forbidden without a permit issued by the Estonian National Heritage Board.

NOTE 3

CABLES. Anchoring, trawling and any other activity which may damage cables or pipelines is prohibited in the cable area, on the cable or pipeline track and 0.5 NM on either side of these.

The limits of this chart atlas fall within a former mined area; mines could still present a hazard for vessels anchoring, fishing or engaged in submarine or seabed operations. They are not considered hazardous to surface navigation.

Please inform the Estonian Maritime Administration on aids to navigation out of order or out of position, situations dangerous to vessel traffic or breach of regulations of safety of navigation, pollution and security incidents at 24h emergency telephone (+372) 620 5665 or at navinfo@vta.ee.





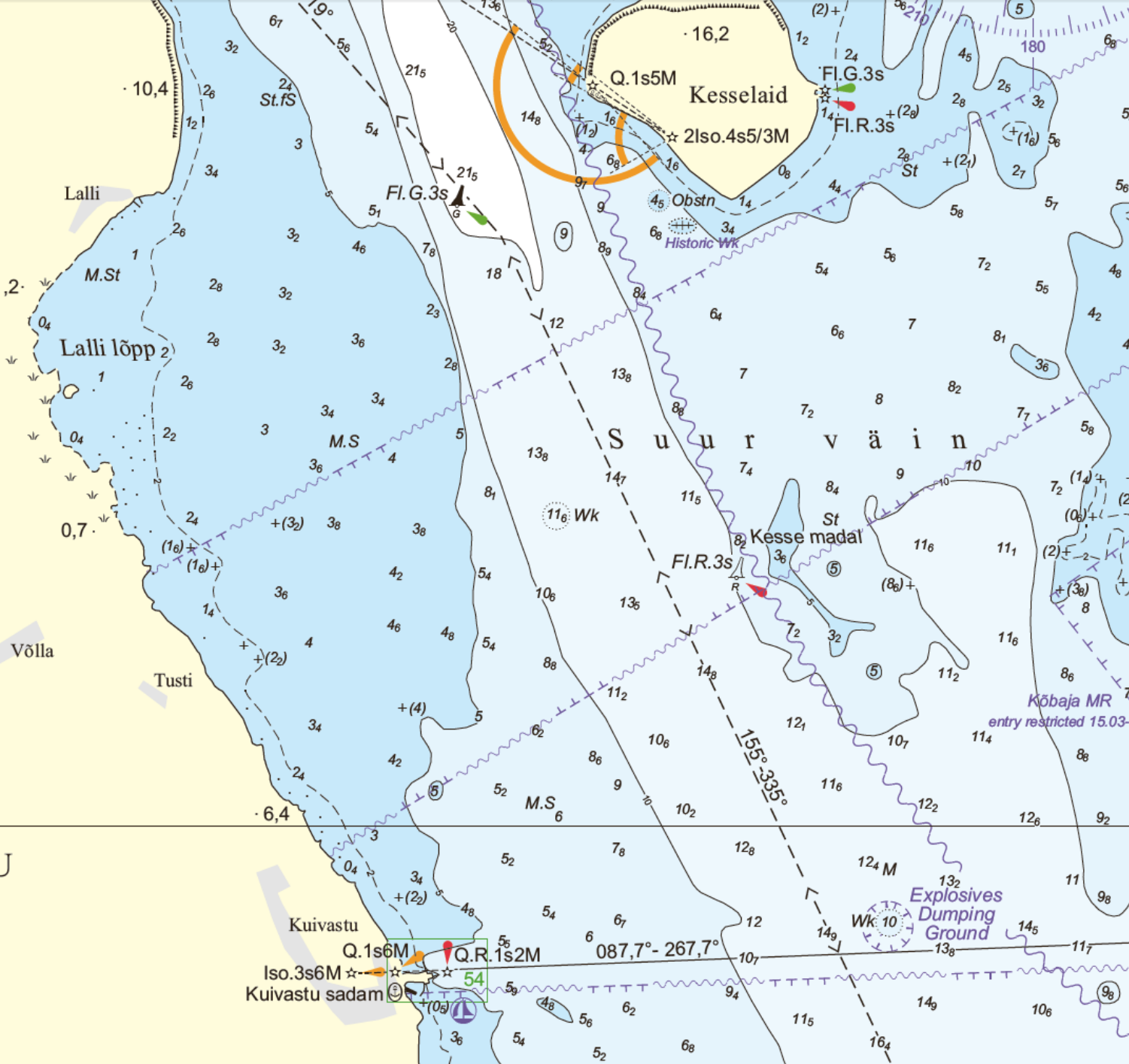
Raugi sihi alumine tulepaak
Raugi Idg.I. Front light beacon



Raugi sihi ülemine tulepaak
Raugi Idg.I. rear light beacon

Lehtmetsa

Hellamaa



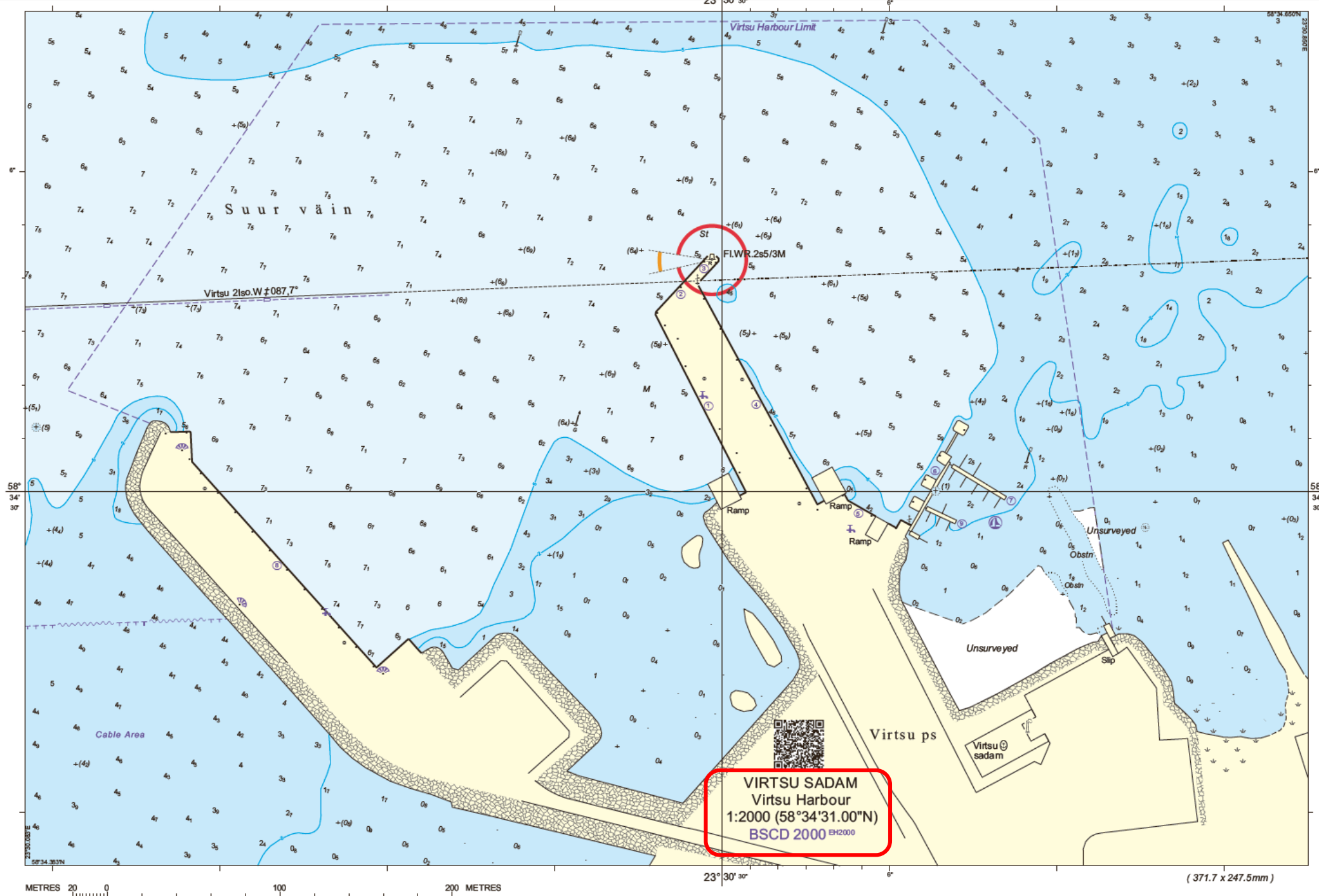
M U H U

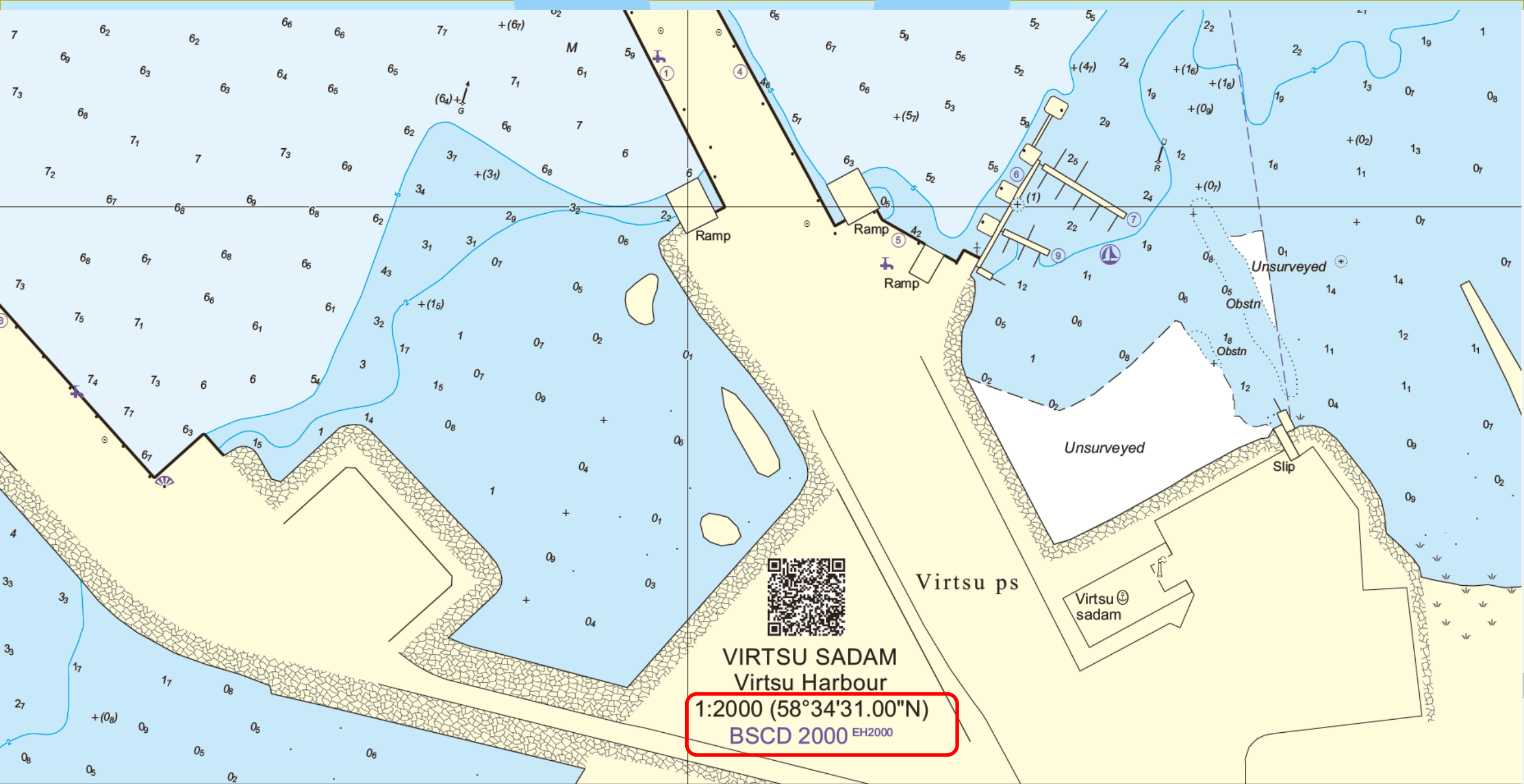
26

BK77/BHS-77
1:50 000 (59°00'00.00"N)

23°15.08'E

58°34.04'N





VIRTUSU SADAM
Virtsu Harbour
1:2000 (58°34'31.00"N)
BSCD 2000 EH2000



VEETEDE AMET
ESTONIAN MARITIME
ADMINISTRATION

2020

KALENDER • CALENDAR

20. aasta kalender on
aafiale. Tihti seostuvad
sega esmalt tuletornid,
ja roolirattad – kõik üsna
bolid. Kuid laevad ei jõuaks
navigatsioonikaartideta.
idnud veidi avada seda
da pakub kartograafia.

„Tallinnast Helsingini“ on
pulaarseim navigatsiooni-
bruarist alates on seda
emplari.

The 2020 calendar of the Estonian Maritime
Administration is dedicated to cartography.
People typically imagine lighthouses, watercraft,
anchors and ships' wheels when thinking about
maritime affairs – all the obvious items and
symbols traditionally associated with the sea.
However, it would be extremely difficult for
seafarers to reach home without navigational
charts. This calendar is our attempt to bring
closer to its owners the exciting world of nautical
cartography.

Paper chart no. 507 “From Tallinn to Helsinki”
is our most popular navigational chart. Since
February 1994, more than 2800 copies have
been sold.

INTERNATIONAL CHART SERIES



Soome laht

TALLINNAST HELSINKI

Gulf of Finland

Tallinn to Helsinki

1:100 000 (60°00'00.00"N)

Mercatori projektsioon (60°00'00.00"N)

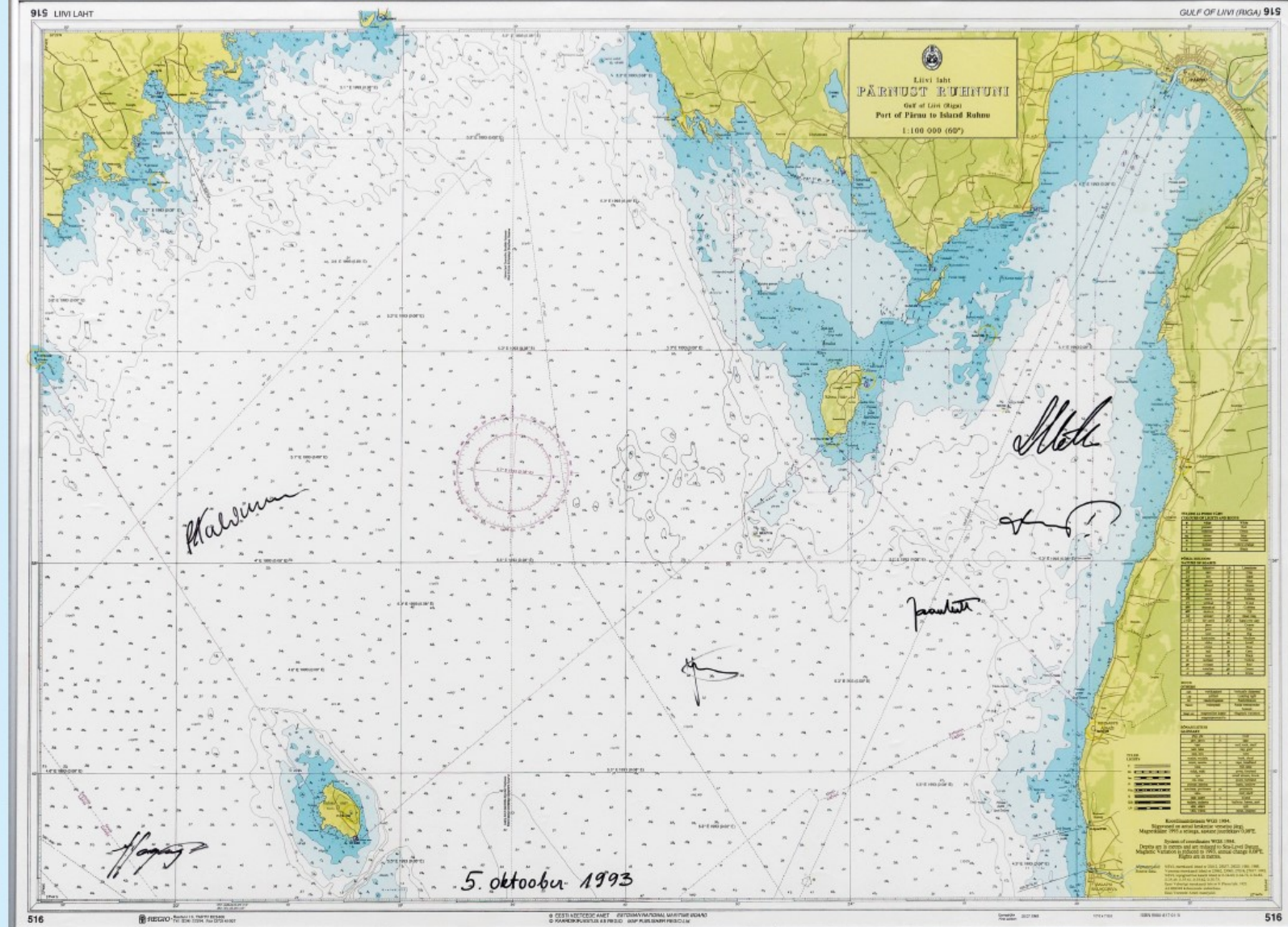
Horisontaaldaatum WGS-84

Sügavused ja kõrgused on antud keskmise veetaseme järgi
Navigatsioonimärgid: IALA ujumärgistuse süsteem - Regiooni

Chart projection: Mercator (60°00'00.00"N)

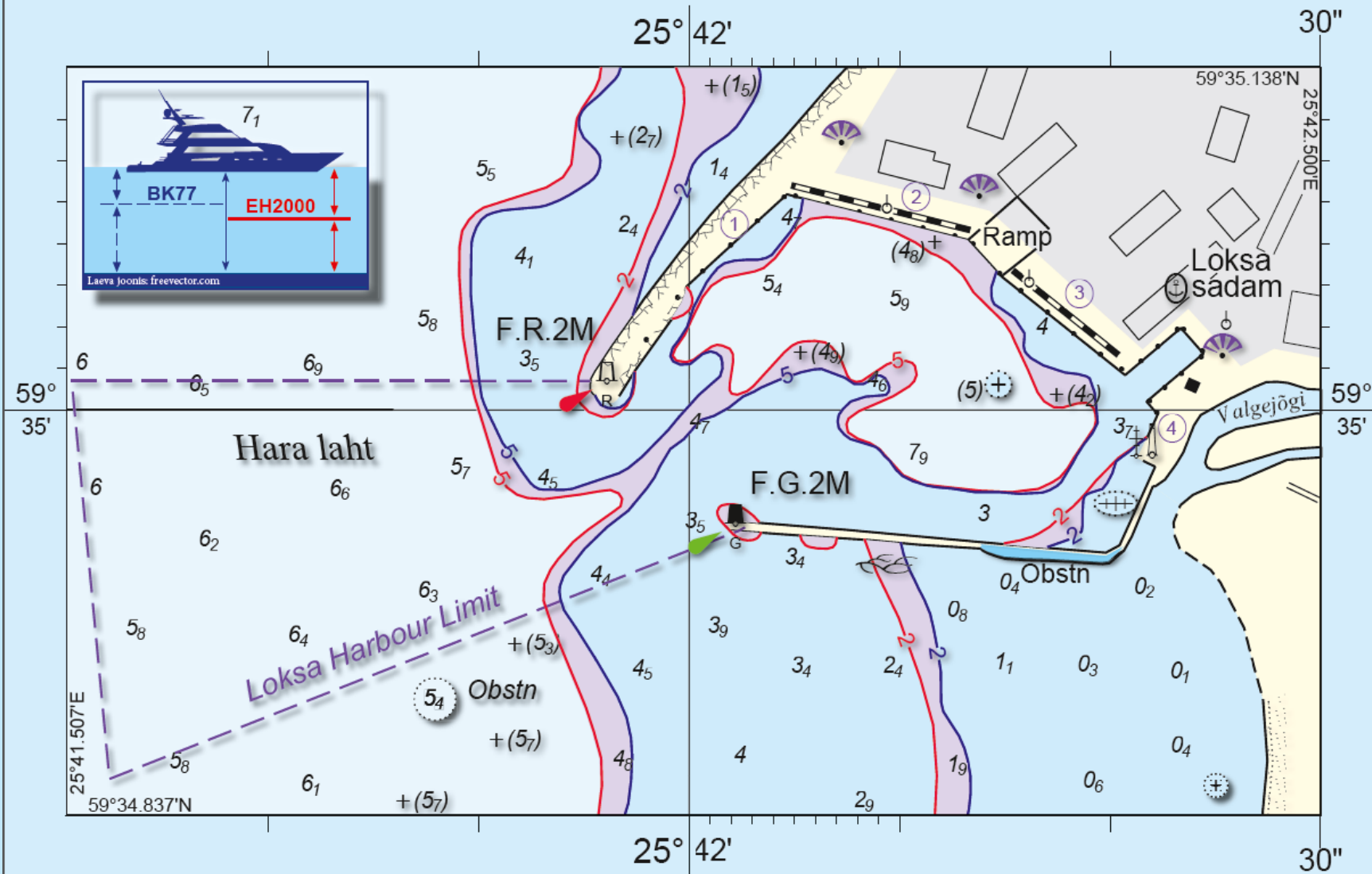
Horizontal Datum: WGS-84

The depths and heights are reduced to Mean Sea-Level Datum
Navigational marks: IALA Maritime Buoyage System - Region



Taasiseseisvunud Eesti esimene navigatsioonikaart, nr 516
 „Pärnust Ruhnu“ anti välja 1993. aastal koos AS-iga Regio.
 Kaardile on oma allkirjad jäädvustanud selle koostajad Veeteede
 Ametist ja Regiost.

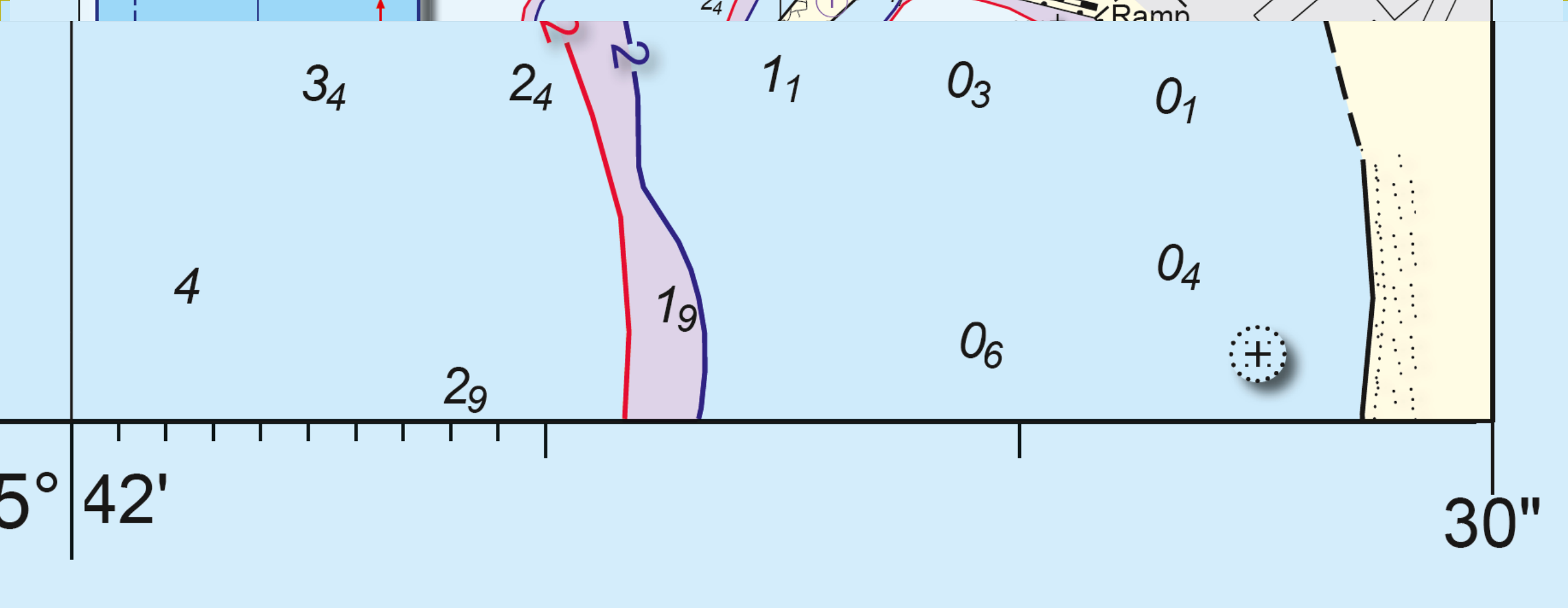
The first Estonian navigational chart after regaining independence, chart no.
 516 “From Pärnu to Ruhnu”, was issued in 1993 in cooperation with AS Regio.
 On the chart the signatures of the compilers from the Maritime Administration
 and AS Regio can be seen.



2018. aasta 1. jaanuaril läks Eesti mere sügavuste ja maapinna kõrguste määramisel Kroonlinna nullilt üle Amsterdami nullile. Sõltuvalt piirkonnast muutuvad uue süsteemiga Eesti rannikuvetes sügavusnumbrid 14–26 cm väiksemaks, mistõttu kaartidel madalad alad laienevad ning kaardi järgi sõites jääb kiilu alla senisega võrreldes täiendav sügavusvaru. Kaardil on punasega kujutatud uus sügavusala, sinine tähistab olukorda eelmise kõrgussüsteemi järgi.

On 1 January 2018, Estonia adopted the European Vertical Reference System whose reference point is the Amsterdam Ordnance Datum. Earlier, the Kronstadt Tide Gauge had been used to measure depths in the sea and heights on the land. The figures indicating depths on navigational charts for Estonian coastal waters are, depending on the region, 14 to 26 centimetres smaller now, so shallow areas on charts get wider and there is some additional safety clearance under keel now when sailing by charts. On the chart, the red lines mark depth areas in the new system, while the blue lines show the same depth areas in the previous system.

VEEBRUAR  FEBRUARY



On 1 January 2018, Estonia adopted the European Vertical Reference System whose reference point is the Amsterdam Ordnance Datum. Earlier, the Kronstadt Tide Gauge had been used to measure depths in the sea and heights on the land. The figures indicating depths on navigational charts for Estonian coastal waters are, depending on the region, 14 to 26 centimetres smaller now, so shallow areas on charts get wider and there is some additional safety clearance under keel now when sailing by charts. On the chart, the red lines mark depth areas in the new system, while the blue lines show the same depth areas in the previous system.



Veeeteede Ameti suurim kaart valmis 2017. aasta meremessiks. Hiigelsuurel (12 × 8 meetrit) on kujutatud Tallinna lahte. Kaardil saab ringi kõndida ja infot uurida ilma suurendusklaasita.

The largest chart of the Maritime Administration was created for the 2017 Marine and Leisure Fair. The huge navigational chart (12 × 8 metres) depicting the bay of Tallinn can be walked on, and the information is readable without a magnifying glass.

MÄRTS  MARCH



Thank you!

Estonian Maritime Administration