

National Report of Iceland

Executive summary

This report gives an overview of the work of the Hydrographic and Maritime Safety Department (HMSD) of the Icelandic Coast Guard (ICG) for the period from ARHC10 in August 2020 to date.

1. Hydrographic Office / Service

The Hydrographic Office in Iceland is a department within the ICG. The Hydrographic and Maritime Safety Department (HMSD) carries out the tasks the Icelandic Coast Guard is responsible for according to Icelandic law i.e. hydrographic surveying and nautical charting in the waters around Iceland. Current number of staff of the HMSD is eight people.

2. Surveys

It was mentioned in the ARHC10 report that survey-focus shifted from Breiðafjörður to Ísafjarðardjúp and northern parts of the West fjords. Before heading further north, the start of the 2020 survey season saw the surveying the narrow approach to Reykhólar, a small but locally significant port in the easternmost part of Breiðafjörður.

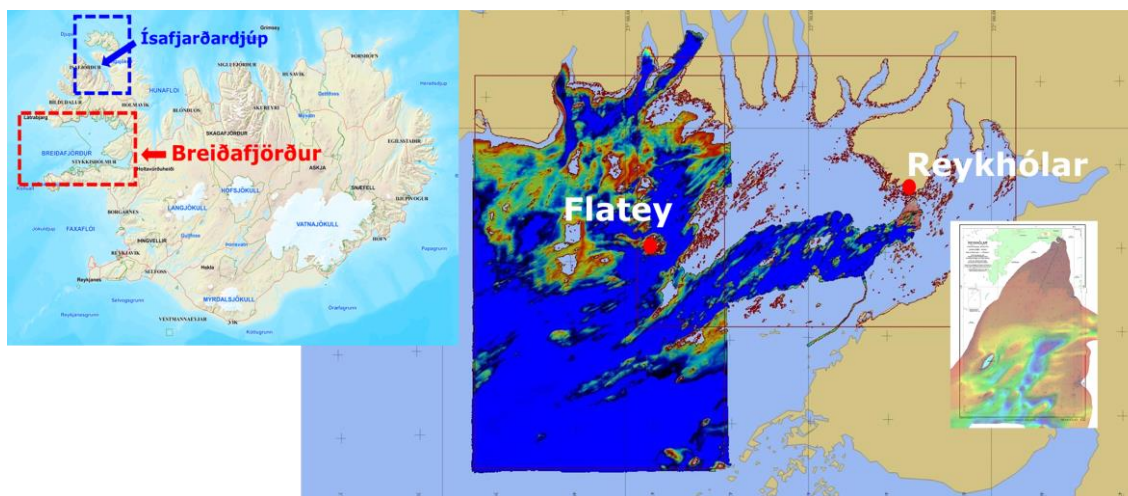


Fig. 1 The coverage of 2017-2019 surveys and the 2020 survey of the approach to Reykhólar in Breiðafjörður.

The northernmost part of the Westfjords, is remote, uninhabited, and lacking all modern infrastructure making conventional tidal corrections troublesome. ICG-HMSD decided therefore to use GNSS RTK positioning for surveying and height models for vertical correction of sea level in the area.

The lesson learned by initiating surveying using GNSS RTK positioning and height models is that vertical height models, either on land or at sea in Iceland, need to be re-established for optimal outcome. The ICG intends to join forces with the responsible counterparts; the National Land Survey of Iceland (NLSI) and the Icelandic Road and Coastal Administration (IRCA) to improve vertical height models for Iceland.

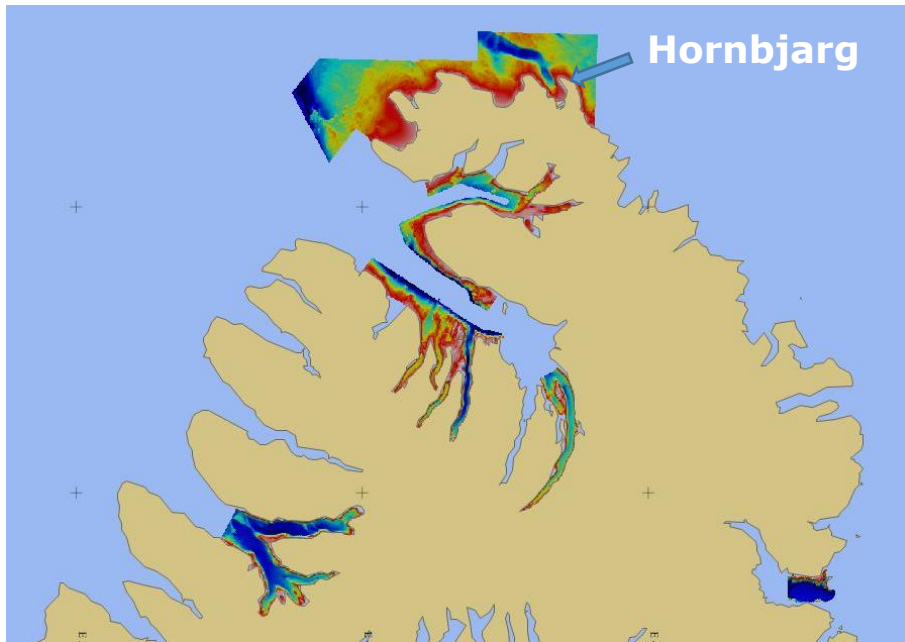


Fig. 2 Surveyed areas in 2020 and 2021. Parts added to previously planned surveys are on lower left and lower right hand side of image.

The survey vessel BALDUR returned to Reykjavík in 2020 on September 25 having covered a stretch of some 180 nautical miles from port in Ísafjörður. The 2020 survey season started on May 11. The 2021 season was a little longer. BALDUR left Reykjavík on May 10 and returned on October 6. Weather hardly ever hindered surveying these two survey seasons. If sea state north of the Westfjords was too bad for surveying, which happened a few times, the sheltered fjords of Ísafjarðardjúp offered optimal conditions.



Fig. 3 BALDUR north of the Westfjords. Hornbjarg (534 m) in the background.

In addition to scheduled survey activities some contract work was carried out for the port authorities in Reykjavík in relation to works in progress, dredging and key extensions.

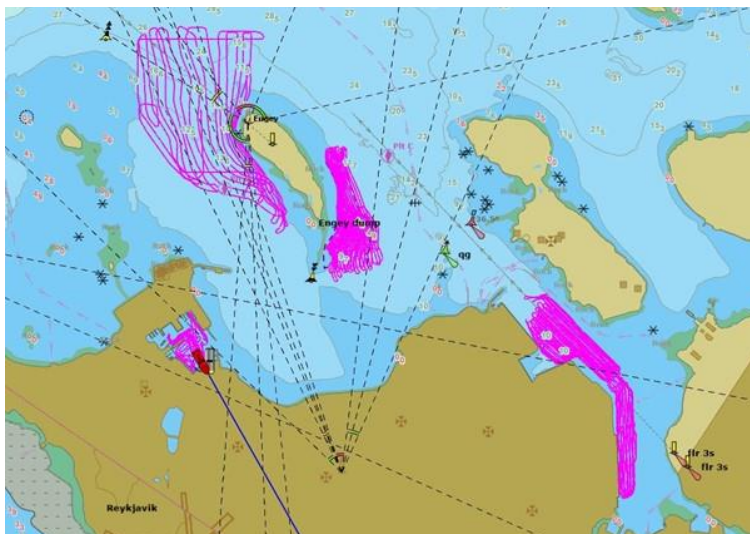


Fig. 4 Contract work for the port authorities in Reykjavík,

In the years from 2017 to 2020 the department experienced a painful fall in number of staff to mere six people. The survey section which now has two hydrographic surveyors plus a surveyor to be, has therefore to deal with extensive backlog. The future is looking brighter though. Current estimate is that it will take 2-3 years to get survey processing back on track.

3. New charts & updates

ENCs

International Centre for ENC (IC-ENC) distributes Icelandic ENCs. New editions and updates were 6 and 6 in 2020. In 2021, two new cells have been issued, 16 new editions made and 14 updates. Iceland produces and maintains 73 ENC cells.

National paper charts

Two new charts and ten new editions have been published since last report. The tables below list this and planned new editions.

New charts

| National No. | Title | Scale | Pub. month |
|--------------|-------------|----------|------------|
| 432 | Reykhólar | 1:10.000 | 05/2021 |
| 433 | Brjánslækur | 1:10.000 | 05/2021 |

New editions

| National No. | Title | Scale | Pub. month |
|--------------|-------------------------|-----------|----------------|
| 422 | Ólafsvík | 1:10.000 | 01/2021 |
| 423 | Grundarfjörður | 1:10.000 | 01/2021 |
| 316 | Sandgerði | 1:10.000 | 03/2021 |
| 530 | Akureyri (INT 1118) | 1:10.000 | 05/2021 |
| 714 | Norðfjörður | 1:10.000 | 05/2021 |
| 417 | Ísafjörður | 1:10.000 | 06/2021 |
| 518 | Skagaströnd | 1:10.000 | 06/2021 |
| 712 | Seyðisfjörður | 1:10.000 | 06/2021 |
| 418 | Súðavík | 1:10.000 | 07/2021 |
| 810 | Höfn í Hornafirði | 1:10.000 | 07/2021 |
| 362 | Reykjavík (INT 1113) | 1:10.000 | Planned Q4 '21 |
| 365 | Hafnarfjörður-Akranes | 1:35.000 | Planned Q4 '21 |
| 45 | Bjargtangar - Stigahlíð | 1:100.000 | Planned Q4 '21 |

Planned new harbour plans

Charts for a handful of ports in small villages in parts of Iceland haven't been updated for a very long time. Some have even never existed. Eight new harbour plans or new editions (size A3) are planned for publication before spring 2022 i.e. Q1 or Q2 2022.

Once published these harbour plans mark a milestone for publication of Icelandic harbour plans. Almost all active ports will by then have been covered. Harbour plans A3 size will be available for all medium and almost all small size ports in Iceland.

| National No. | Title | Scale | Planned |
|--------------|----------------------|----------|------------|
| 322 | Arnarstapi | 1:10.000 | Q1-Q2 2022 |
| 517 | Blönduós | 1:10.000 | Q1-Q2 2022 |
| 513 | Drangsnæs | 1:10.000 | Q1-Q2 2022 |
| 525 | Hrísey | 1:10.000 | Q1-Q2 2022 |
| 526 | Árskógssandur | 1:10.000 | Q1-Q2 2022 |
| 527 | Hauganes | 1:10.000 | Q1-Q2 2022 |
| 531 | Grenivík | 1:10.000 | Q1-Q2 2022 |
| 536 | Kópasker | 1:10.000 | Q1-Q2 2022 |
| 612 | Bakkafjörður | 1:10.000 | Q1-Q2 2022 |
| 710 | Borgarfjörður eystri | 1:10.000 | Q1-Q2 2022 |

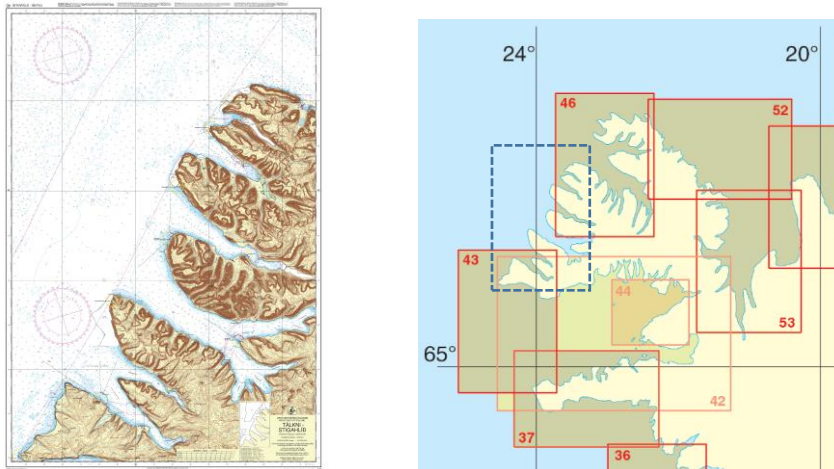


Fig. 5 A new chart, 45 Bjargtangar – Stigahlíð fills a gap in the 1:100.000 Coastal chart series on the NW coast.

4. New publications & updates

The annual publications, *Tide Tables 2022*, and *Tide Almanac 2022* will be distributed by November 15th.

The pdf-publication, *List of Lights* and *Catalogue of charts* had yearly updates. Both are available for download at www.lhg.is. The List of Lights is published on behalf of the Road and Coastal Administration.

Three issues of *Notices to Mariners* were published in 2020, 29 NMs in total. Three issues of NMs have been published so far in 2021, total of 29 NMs. In connection with NMs 1/2021 a new form of the *Cumulative list of Notices to Marines for Icelandic Charts* was launched. The document list charts in numerical order and the headings of NMs that apply to current edition.

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| Kort nr./ Chart No. | Titill/Title | Mælikv./ Scale 1: | Útg. m/á Ed. M/Y | Nr. tilk./ NM No. | Efni tilkynningar | Subject of NM |
|------------------------|------------------------------|----------------------|---------------------|--|---|---|
| 10 INT 112 | Ísland – Grænland | 500.000 | 12/2011 | 2020: 23(T) | (T) A-land. Seley. Radarsvari óvirkur. | (T) E-Coast. Seley. Racon out of order. |
| 15 | Ísland - efnahagslögsaga | 2.000.000 | 12/2011 | 2020: 23(T) | (T) A-land. Seley. Radarsvari óvirkur. | (T) E-Coast. Seley. Racon out of order. |
| 21 INT 1010 | Ísland | 1.000.000 | 03/2008 | 2008: 5 2008: 23 2008: 25 2008: 30 2009: 11 2012: 8 2012: 9 2020: 23(T) | Dýpi. Leiðrétting. Kort nr. 21, 31, 51 og 61. Ísland. Suðurströnd. Neðansjárstrengur. V-land. Breiðálfjörður. Dýpi. Ísland. Suðurströnd. Neðansjárstrengur. NA-land. Hístífljörður. Ásmundarstaðaei. Radarsvari laður niður. SV-land. Faxaflói. Þormóðsker. Radarsvari laður niður. SV-land. Faxaflói. Gröttuviti. Radarsvari settur upp. | Depths. Correction. Charts No. 21, 31, 51 and 61. Iceland. S-Coast. Submarine cable. W-Coast. Breiðálfjörður. Depth. Iceland. S-Coast. Submarine cable. NE-Coast. Hístífljörður. Ásmundarstaðaei. Racon discontinued. SW-Coast. Faxaflói. Þormóðsker. Racon discontinued. SW-Coast. Faxaflói. Grötta. Racon established. (T) E-Coast. Seley. Racon out of order. |
| 31 INT 1103 | Dyrhólaey - Snæfellsnes | 300.000 | 01/2020 | 2020: 5 | (T) A-land. Seley. Radarsvari óvirkur. | (T) E-Coast. Seley. Racon out of order. |
| 32 | Alvírhamrar - Vestmannaeyjar | 100.000 | 05/2017 | 2019: 14 2020: 5 | S-land. Eyjasund. Öldudúfi. | S-Coast. Eyjasund. Wave rider buoy. |
| 33 | Selvogur - Vestmannaeyjar | 100.000 | 10/2015 | 2019: 14 | S-land. Dyrhólaey. Viti. sjónmál. | S-Coast. Dyrhólaey. Light. range. |
| 35 | Fuglasker | 100.000 | 05/2008 | 2020: 5 | S-land. Eyjasund. Öldudúfi. | S-Coast. Eyjasund. Wave rider buoy. |
| 36 INT 1112 | Selvogur - Hjörsey | 100.000 | 10/2016 | 2017: 1 2017: 12 2017: 35 2019: 6 2021: 1 2021: 8 | SV-land. Faxaflói. Borgarfjörður. Dýpi. V-land. Hvalfjörður. Sæstrengir. SV-land. Kollafjörður. Akkerlægi. SV-land. Reykjavík. Viti laður niður. SV-land. Flak. SV-land. Kollafjörður. Vatnsleiðsla færð. | SW-Coast. Faxaflói. Borgarfjörður. Depth. SW-Coast. Hvalfjörður. Submarine cables. SW-Coast. Kollafjörður. Anchor berths. SW-Coast. Reykjavík. Delete light. SW-Coast. Wrecks SW-Coast. Kollafjörður. Pipeline. Amend. |
| 37 | Hjörsey - Stykkishólmur | 100.000 | 01/2020 | | | |
| 41 INT 1104 | Vestfirðir | 300.000 | 03/2014 | 2014: 27 2015: 13 2017: 2 2017: 3 2019: 29 2021: 6 2021: 21(T) | V-land. Amarfjörður. Sæstrengur. Vestfirðir. Norðan Ísafjarðardjúps. Vestur af Aðalvík. Flak. V-land. Ísafjarðardjúp. Dýpi. V-land. Amarfjörður. Sæstrengur. V-land. Sjókort nr. 41 Vestfirðir. Dýpi. NV-land. Amar-, Tákna- og Patreksfjörður. Fiskeldi. (T) NV-land. Amarfjörður. Dúfi. | NW-Coast. Amarfjörður. Submarine cable. NW-Coast. North of Ísafjarðardjúp. West of Aðalvík. Wreck. NW-Coast. Ísafjarðardjúp. Depths. NW-Coast. Amarfjörður. Submarine cable. NW-Coast. Chart No. 41 Vestfirðir. Depths. NW-Coast. Amar-, Tákna- and Patreksfjörður. Marine farms. (T) NW-Coast. Amarfjörður. Buoy. |
| 42 | Breiðálfjörður | 160.000 | 08/2005 | 2007: 17 2008: 25 2013: 3 2013: 7 2021: 2 | V-land. Breiðálfjörður. Skeri og dýpi. V-land. Breiðálfjörður. Dýpi. V-land. Breiðálfjörður. Öldumælisdúfi. V-land. Breiðálfjörður. Leiðrétting á Tts. nr. 3/2013 NV-land. Flak | W-Coast. Breiðálfjörður. Rock and depths. W-Coast. Breiðálfjörður. Depth. W-Coast. Breiðálfjörður. Wave rider buoy. W-Coast. Breiðálfjörður. Wave rider buoy. Correction to NM No. 3/2013. NW-Coast. Wrecks. |
| 43 | Öndverðames - Tálkni | 100.000 | 06/2011 | 2020: 20 2021: 6 | NV-land. Tálknafjörður. Patreksfjörður. Fiskeldi. NV-land. Amarfjörður. Tálknafjörður. Patreksfjörður. Fiskeldi | NW-Coast. Tálknafjörður. Patreksfjörður. Marine farms. NW-Coast. Amarfjörður. Tálknafjörður. Patreksfjörður. Marine farms. |
| 44 | Norðurfloi (Breiðálfjörður) | 70.000 | 06/2004 | 2006: 8 | V-land. Breiðálfjörður. Norðurfloi, sjókort nr. 44 | W-Coast. Breiðálfjörður. Norðurfloi. Chart No. 44. |

Fig. 6 New form of the Cumulative list of Notices to Marines for Icelandic Charts. The document lists charts in numerical order and lists headings of NMs that apply to current chart edition.

5. MSI

The Icelandic Coast Guard runs VTS. MSI service is an integrated part of that operation. The ICG VTS services Iceland and Greenland. NAVTEX messages in 2020 were in total 11.748 for Iceland and 5.063 for Greenland. The figures include storm and ice warnings.

6. C-55

Last update made in November 2016. Update is planned Q1 2022.

7. Capacity Building

The staff of the department received training in use of *CARIS BASE Editor* (BE) in June 2020 and for the setup and initialization of *CARIS Bathy DataBase* (BDB) in March 2021.

In February 2021 Iceland had an online meeting with representatives of the Faroese Environment Agency which is now responsible for charts and nautical publications. A Bilateral Arrangement between Iceland and the Faeroes will be signed later this month and be effective from December 1st, 2021. The Bilateral Arrangement between Iceland and Denmark will at the same time be updated to reflect changes in relations between the Faeroes and Denmark regarding hydrography and nautical charting.

Head of the HMDS was invited to observe the EMODnet Bathymetry–High Resolution Seabed Mapping 2020 – 2022 (HRSM3) in March 2021. Iceland is considering joining EMODnet Bathymetry.

8. Oceanographic activities

The project of surveying the EEZ of Iceland, which the *Marine & Freshwater Research Institute* (MFRI) leads, and ICG takes part in, continues. The focus of ICG-HMSD lies approx. within the circular extent of the 200 m depth contour, which is somewhat larger than the area of the Territorial Waters. Red line on the image on the right below shows the TW (12 NM) and the extent of ICG-HMSD modern hydrographic surveys in red and blue.

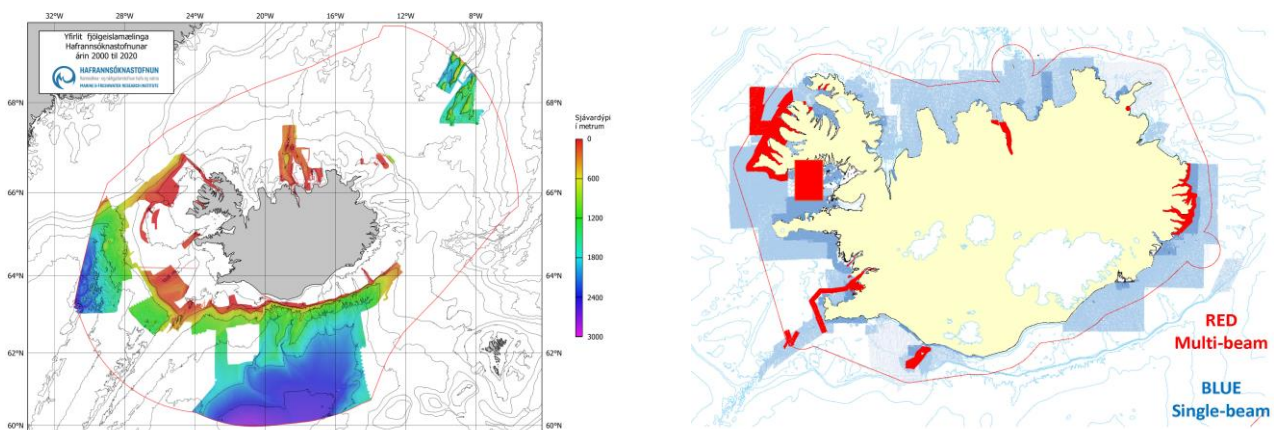


Fig.7 Status of surveying the EEZ of Iceland 2020. The image on left shows data from MFRI.

Image on right shows coastal surveying by the ICG.

The MFRI data is available for download at <https://www.hafogvatn.is/en/research/seabed-mapping>

9. Spatial data infrastructures

The ICG-HMSD has been more of an observer than a player for the past 5 to 10 years when it comes to MSDI. The department hasn't had capacity to put any effort in MSDI matters. Representatives of ICG-HMSD have in the past however taken part, on and off, in the work of the ARHCs ARMSDIWG and the BS-NSMSDIWG.

The ICG-HMSD has good relations with the NLSI which is responsible for SID in Iceland since 2011 when the Icelandic Parliament passed the Digital Spatial Data Infrastructure Act. Marine Spatial Planning and SDI/MSDI awareness and interest is gradually growing on ministry, organizational and municipality level in Iceland.

Current plan of ICG-HMSD looks 3-5 years ahead from now with the intention to determine how the department can best serve its MSDI related commitments.

10. Innovation

Print on Demand (PoD)

Conventional offset printing of Icelandic charts was terminated as of June 1st. A Print on Demand (PoD) service was launched at the same time. All Icelandic paper charts affected by NMs are now available updated to the latest NMs. Preparations are being made for a full PoD service for overseas chart agents that have previously offered Icelandic charts and have established PoD services. Fully functional PoD for Icelandic charts is scheduled for January 1st, 2022.

CARIS BDB

Work on incorporating *CARIS Bathy DataBASE* (BDB) into the Data management and Chart Production Processes will continue as planned and extend well into 2022.

11. Other activities.

IHO RHCs, WGs and other work

Representatives of ICG-HMSD participated in the following VTCs of IHO bodies:

- BS-NSMSDIWG8 in August 2020
- IRCC12 in October 2020
- NHC EO3 in November 2020
- IHO A2 Virtual Assembly in November 2020
- NHC64 in April 2021
- NSHC34 in April 2021
- BS-NSMSDIWG9 in September 2021

Representatives of ICG-HMSD participated in the following held by IC-ENC:

- IC-ENC 5th Technical Conference in October 2020
- IC-ENC SC Online Sessions in November 2020.
- IC-ENC TC21_1 in May 2021
- IC-ENC TC21_2 in October 2021
- IC-ENC SC22 meeting in November 2021

Maritime Administration in Iceland

The tasks and obligations of Maritime Administration in Iceland is divided between two government agencies. The *Icelandic Road and Coastal Administration* (IRCA) and *Icelandic Transport Authority* (ICETRA).

IRCA <http://www.vegagerdin.is/>

ICETRA <https://www.samgongustofa.is/>

IRCA takes care of all harbour and lighthouse operations and responsibilities including surveying of ports. POCs at ICG and IRCA exchange information and data on a regular basis.

ICETRA is responsible for the administration and supervision of aviation, maritime and road traffic safety and the safety and supervision of transport infrastructure and navigation systems. POCs at ICG and ICETRA exchange information and data as and when needed.

12. Conclusions:

This report highlights activities of the Hydrographic and Maritime Safety Department of the Icelandic Coast Guard for the period from August 2020 through October 2021.