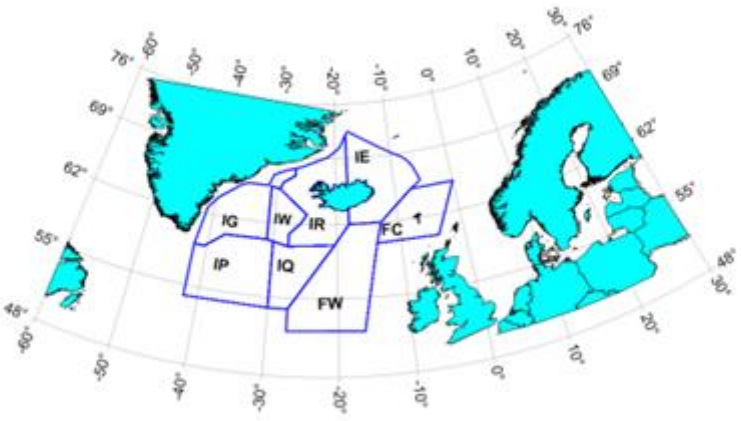
NASS 2024 Scientific Planning Committee, Post-Survey

October 22nd, 2024
Online

REPORT

Presented to the 31st Meeting of the Scientific Committee as NAMMCO/SC/31/08



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NAMMCO

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Update on the NASS 2024 survey

1. BACKGROUND

The NASS 2024 Scientific Planning Committee (SpC) held an online debriefing meeting on October 22nd, following the successful completion of all survey components. Minutes are available in Appendix A. The lead from each NAMMCO country presented a cruise report (available in Appendix B) for their respective survey platforms, which included:

- **Faroe Islands**: a dedicated vessel survey of waters south and west of the Faroes and an "opportunistic" platform on board the IESSNS (International Summer Survey in the Nordic Seas) mackerel survey in Faroese waters
- **Greenland**: dedicated aerial surveys of the East and West coastlines of Greenland;
- **Iceland**: a dedicated vessel "filling the gaps" between the Icelandic, Faroese, and Greenlandic surveys; an opportunistic platform on board the IESSNS mackerel survey in Icelandic waters, and an opportunistic platform on board the ICES redfish survey southwest of Iceland;
- **Norway**: the dedicated NILS survey around Svalbard and an opportunistic platform on board the IESSNS mackerel survey in the Norwegian sea and from around Jan Mayen north toward Svalbard.

2. SURVEY COMPLETION

The planned survey design and achieved coverage are shown in Figure 1, while the duration of the surveys and observer effort are shown in Table 1.

Table 1. Survey dates and achieved coverage for each of the platforms used in NASS 2024. "On-effort" refers to those parts of the survey that will be used in the calculation of abundance estimates. Full details have not been provided for all platforms yet.

Survey/platform	Survey start	Survey end	"On-effort" coverage
Faroe Islands dedicated	27 June	16 July	1,947 nm (80% of planned)
Faroe Islands mackerel	27 June	14 July	84 hours
Greenland (East) aerial	8 August	22 August	63.63 hours (75% of planned transects)
Greenland (West) aerial	31 August	18 September	96.63 hours (56% of planned transects; 79% if excluding fjords)
Iceland dedicated	1 July	19 July	TBC
Iceland redfish	4 June	26 June	TBC
Iceland mackerel	1 July	2 August	TBC
Norway dedicated (NILS)	19 June	14 August	TBC
Norway mackerel (Leg 1)	2 July	16 July	655 nm (double platform)
Norway mackerel (Leg 2)	18 July	1 August	953 nm (single platform)

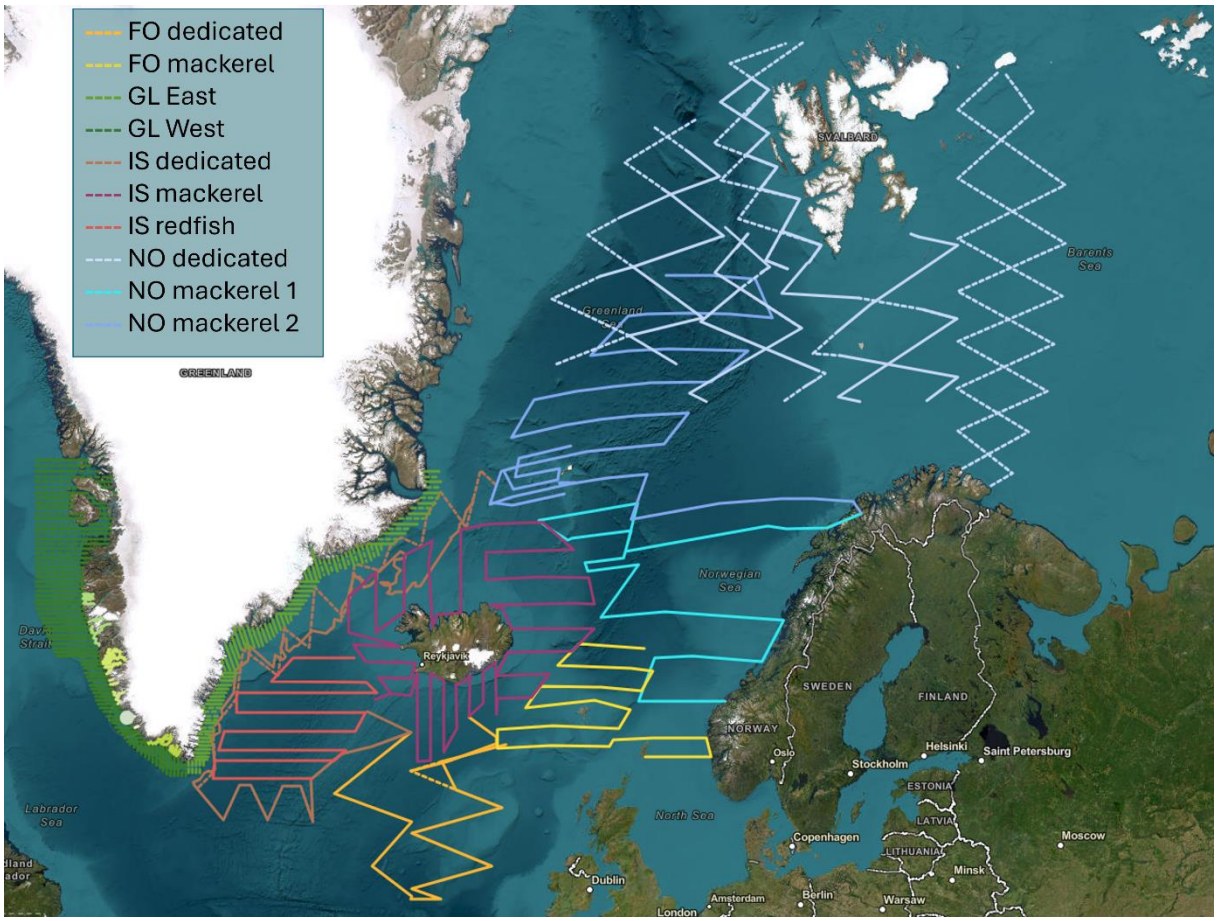


Figure 1. Planned (dashed lines) and achieved (solid lines) transects of NASS 2024 survey platforms.

Overall, despite frequent interference from the weather and sudden illnesses, the surveys achieved satisfactory coverage compared to the original design.

The opportunistic vessels (redfish and mackerel surveys) did not provide many (or any) logistic accommodations for cetacean survey needs, with the exception of the Icelandic mackerel survey. This resulted in "gaps" in the observer effort, e.g., where the vessel performed trawl stations during the day or continued sailing during the night and bad weather.

The Norwegian mackerel survey did not cover some planned track-lines in areas where fish were not detected, leading to further missed effort. Furthermore, some modifications to the observer setup had to be made, e.g., switching from double- to single-platform configuration on the second leg of the Norwegian mackerel survey.

The Faroe Islands were able to fund the dedicated vessel thanks to the Norwegian MFA's contribution towards using the mackerel survey as a platform. Opting for a larger vessel to maximise stability in offshore waters for the dedicated survey resulted in higher running costs and therefore less time at sea than planned (this may have been further compounded by not securing said vessel until a few days before the survey start). As such, time and weather constraints led to the re-designing of some track-lines at the last minute, which put a lot of pressure on the contracted transect designer and the whole Spc group.

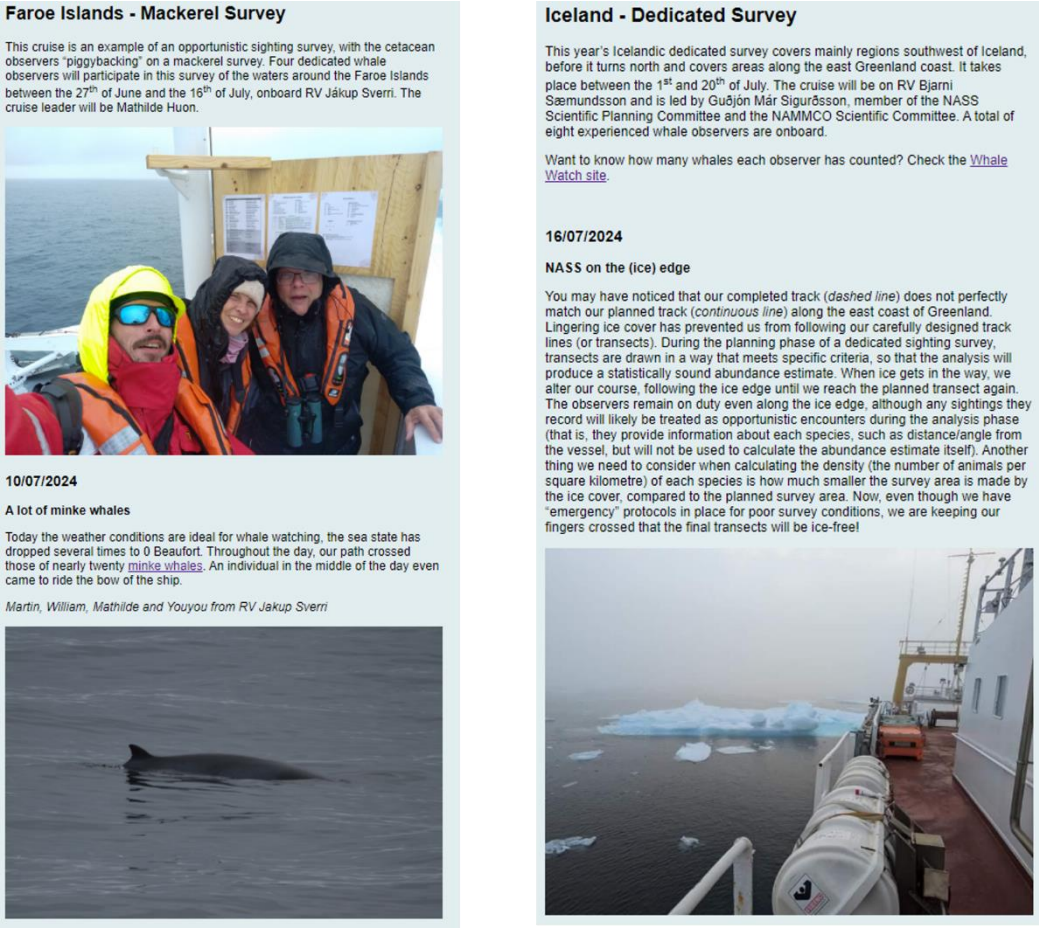
The dedicated Icelandic vessel was forced to implement an ice-edge protocol for much of the westernmost strata it surveyed. This was due to extensive land-fast ice cover along the Greenlandic coast, which reportedly did not break off until late in July. This could mean that animals counted later in the year in the East Greenland aerial surveys may already have been counted by the Icelandic survey, having been displaced by the ice.

3. OUTREACH EFFORTS

The Secretariat set up a webpage prior to the survey start, where the public could follow the surveys "live". The planned track-lines were shown as dashed lines, and these were "filled in" as the various vessels progressed on their way (see Figure 1). Before commencing, the cruise leaders were asked to, and agreed to, send frequent updates and descriptions of their daily highlights (Figure 2).

Feedback from members of the public was encouraging, as the updates heightened awareness and interest in the surveys, as well as of life on board a survey vessel or plane. Social media reach was consistently high when updates were shared (e.g., on Facebook and Instagram). The page will also be used as a complementary tool for the GUARDNA project.

Some challenges became quickly apparent after the page was set up. For example, despite frequent and detailed reminders to the cruise leaders, not all survey tracks, dates, and plans were made available to the Secretariat in a timely manner. Communication throughout most surveys was not frequent, and updates were secured via indirect channels (e.g., social media posts from the observers on board, who had not been informed about the outreach plan). During the debriefing meeting, the team leads noted that the task should have been delegated to other members of the team with more time on their hands during the cruises. This proved particularly helpful in keeping the observers engaged and motivated during the Greenlandic aerial surveys.



Faroe Islands - Mackerel Survey

This cruise is an example of an opportunistic sighting survey, with the cetacean observers "piggybacking" on a mackerel survey. Four dedicated whale observers will participate in this survey of the waters around the Faroe Islands between the 27th of June and the 16th of July, onboard RV Jákup Sverri. The cruise leader will be Mathilde Huon.

10/07/2024

A lot of minke whales

Today the weather conditions are ideal for whale watching, the sea state has dropped several times to 0 Beaufort. Throughout the day, our path crossed those of nearly twenty minke whales. An individual in the middle of the day even came to ride the bow of the ship.

Martin, William, Mathilde and Youyou from RV Jakup Sverri

Iceland - Dedicated Survey

This year's Icelandic dedicated survey covers mainly regions southwest of Iceland, before it turns north and covers areas along the east Greenland coast. It takes place between the 1st and 20th of July. The cruise will be on RV Bjarni Sæmundsson and is led by Guðjón Már Sigurðsson, member of the NASS Scientific Planning Committee and the NAMMCO Scientific Committee. A total of eight experienced whale observers are onboard.

Want to know how many whales each observer has counted? Check the Whale Watch site.

16/07/2024

NASS on the (ice) edge

You may have noticed that our completed track (*dashed line*) does not perfectly match our planned track (*continuous line*) along the east coast of Greenland. Lingering ice cover has prevented us from following our carefully designed track lines (or transects). During the planning phase of a dedicated sighting survey, transects are drawn in a way that meets specific criteria, so that the analysis will produce a statistically sound abundance estimate. When ice gets in the way, we alter our course, following the ice edge until we reach the planned transect again. The observers remain on duty even along the ice edge, although any sightings they record will likely be treated as opportunistic encounters during the analysis phase (that is, they provide information about each species, such as distance/angle from the vessel, but will not be used to calculate the abundance estimate itself). Another thing we need to consider when calculating the density (the number of animals per square kilometre) of each species is how much smaller the survey area is made by the ice cover, compared to the planned survey area. Now, even though we have "emergency" protocols in place for poor survey conditions, we are keeping our fingers crossed that the final transects will be ice-free!

Figure 2. Examples of updates sent from NASS vessels documenting their progress.

4. PLANS FOR ABUNDANCE ESTIMATION

The SpC agreed that, where possible, survey data should be pooled, in order to gain broader overviews of cetacean abundance and distribution across the Atlantic. That being said, each country of course prioritises the analyses for their own target species. Advice on best analytical approaches and approval of the final estimates will be under the remit of the NAMMCO Working Group on Abundance Estimates (AEWG) (to be coordinated at the NASS side-event of the SC/31 meeting in January).

Icelandic and Faroese data in particular will be analysed together, as for previous NASS surveys. Iceland prioritises fin and minke whale data, and the Icelandic Marine and Fresh Water Research Institute (IMFRI) members intend to start this analysis in winter 2025.

The Faroese Marine Research Institute (FMRI) will take the lead on analysing pilot whale data, aiming for initial estimates to be generated by mid-summer 2025. This should allow sufficient time for the AEWG to assess and correct the estimates prior to the meeting of the Pilot Whale WG in late 2025. However, the task will likely have to be assigned externally, as there is apparently no in-house expertise at the FMRI.

At the time of the debriefing meeting, a six-month contract had already been assigned to a member of the GINR, to analyse all Greenlandic data for all species. Some results are presented in document SC/31/16.

Norway prioritises minke whale data analysis, to be presented to the IWC in April 2025. This will be led by in-house experts at the IMR. Another in-house abundance expert will be assigned the analysis for all non-target species, but there is, as yet, no firm timeline for that.

5. OPEN QUESTIONS

Now that the survey component of the NASS 2024 project has been completed, and following the inspection of the cruise reports at the debriefing meeting, some questions arise, namely:

Who will conduct the analysis for each species not already allocated to a particular person above (e.g., pilot whales), and on what timeline?
How best to use the NASS budget that has been allocated for the data analysis of non-target species?
Are the opportunistic platforms, which are fishery survey vessels, suitable for use in cetacean surveys, considering the limited space available for cetacean observers? What minimum conditions should be fulfilled in order for the data to be useful?
Will it be possible to compare the Norwegian mackerel survey outputs for minke whales with those of the dedicated Norwegian survey?

6. FINANCIAL UPDATE

NASS Project - 2024 Contributions and Expenses

Voluntary Contribution from Norway			
Norway	9,595,000		
Total Voluntary Contribution from Norway	**9,595,000**		
Expenses Covered by NMFA/NASS 2024 Funds		**Actual**	**Planned**
Survey - Faroe Islands (Non dedicated)		0	700,000
Survey - Greenland (East Greenland)		2,300,000	2,300,000
Survey - Iceland (Non dedicated and dedicated on Jan Mayen area)		0	2,100,000
Survey - Norway (Non dedicated)		855,000	2,200,000
MINTAG Tagging Associated to Surveys		685,361	1,200,000
Abundance Estimate of Non-Target Species		0	600,000
Overheads[1]		*495,000*	495,000
Total Expenses Covered by NMFA/NASS 2024 Funds		**4,335,361**	**9,595,000**

NAMMCO			
Contribution from NAMMCO	150,000		
Amount from Norway's Contribution Allocated to Overheads[1]	*495,000*		
Total	**645,000**		
Expenses		**Actual**	
Project management		65,627	
Data administration, project website & dissemination		51,939	
Overheads[1]		*495,000*	
Total Expenses		**612,566**	

Remaining amount as of 28 October 2024	**5,292,073**

Note

[1] The overheads amount of 495,000 appears in italic because the actual amount that will be used by NAMMCO is still to be determined.

APPENDIX 1: NASS 2024 SPC DEBRIEFING MEETING MINUTES

22 October 2024, online

The NASS 2024 SpC (Scientific planning Committee) held a debriefing meeting on 22 October, during which the lead from each NAMMCO country presented their respective cruise reports for the survey legs conducted in the summer. The meeting was chaired by Rikke Guldborg Hansen. Cruise reports are available here.

CRUISE REPORTS

FAROE ISLANDS

Bjarni Mikkelsen presented the cruise report for the Faroese mackerel (WD/04) and dedicated (WD/05) surveys, noting that they were able to use the mackerel vessel as a platform thanks to the additional funding from the Norwegian MFA.

The mackerel survey was conducted on board the vessel Jákup Sverri, with 4 marine mammal observers on board—apart from the period 29 June–4 July when one had to be set ashore due to illness. Double platform setup therefore only operated in the latter part of the survey (5–18 July). The observers tried to set up their work hours such that they could be "off effort" when the vessel was conducting mackerel trawls or CTD operations. Unfortunately, the SammoBoat logging software that had been planned for use, as all the observers were familiar with it, did not function on board, therefore paper and pencil records were kept. These were entered into spreadsheets and validated each evening. Duplicate identification will be done a posteriori as part of the data analysis.

Water samples were collected at regular intervals for eDNA analysis, to detect the presence of cetaceans along the entire survey track-line.

In terms of cetacean sightings, 10 species were identified, in 124 sightings, although some of those (including several pilot whale observations) were during "off effort" hours. Overall, the sighting rates appear lower than in other years, for all species except minke whales.

Geneviève Desportes inquired how the observers had been recruited and trained. While the original intention was to recruit Faroese observers, very few had sufficient experience to be included in such a small team. As such, the final participants were contacted by word of mouth, from the pool of applicants to the SCANS survey. A full day of training was conducted with all observers (including those on board the dedicated survey vessel), during which they were familiarised with the protocols and angle board, and equipped with individually calibrated measuring sticks. No distance experiment was conducted. Mikkelsen noted that caution may be needed when using the distances estimated on the mackerel vessel, as it appears numbers were consistently rounded. Conversely, effort was made to motivate more precise distance estimation on board the dedicated vessel.

Daniel Pike inquired whether the observer operating alone in the 3-person configuration scanned the entire field of view from their platform. Mikkelsen will have to follow up on this point, but assumes that the entire field of view was covered.

The dedicated survey took place on the vessel RAN, a more expensive but also more stable (particularly noticeable in bad weather) platform due to its height. A team of 8 observers was able to operate in double platform configuration for the entire survey, and the software Logger 2010 was used to record sightings. Inexperienced observers were paired with experienced ones, and data were validated at the end of each day. Observers were equipped with binoculars, used only to validate species identification

after sightings had been recorded. One observer also had his own camera, with which he was able to identify small Delphinids and distinguish Balaenopterid species at large distances.

Passive acoustic data were also collected from the second day onwards (highlighting that cetaceans were detected acoustically during bad weather days at comparable rates as in good weather). No eDNA samples were collected or drone flights conducted, due to time constraints resulting from the reduced days at sea (after hiring a more expensive vessel) and bad weather at the start of the survey. For the same reason, all effort was conducted in passing mode (no closing mode employed).

Despite poor weather conditions and changes to the original transect design, approximately 80% transect coverage was achieved. This was largely due to the motivation of the observers to stay on effort during all light hours.

Regarding cetacean sightings, 17 species were identified, the most commonly observed being the common dolphin and pilot whale. Mikkelsen pointed out that the apparent discrepancy in number of pilot whale groups sighted between platforms is due to the starboard platform dividing large aggregations into subgroups, unlike the port side platform. Hansen inquired why pilot whale group sizes on the dedicated vessel generally appeared higher than on the mackerel survey. Mikkelsen opined that this might be due to the background experience of the observers, the observers on the mackerel survey being more used to ecosystem surveys and thus making less detailed observations of specific sightings. Regarding species identification, it should be noted when the species was validated with the camera versus with binoculars, to compare performance between platforms and identify any duplicates where the “camera” platform recorded a definite species and the “non-camera” platform an “unidentified” category.

Martin Biuw inquired whether it was possible that the wall between the two platforms (to keep them independent of each other) could have obscured the view of the 90-degree angle forward, but Mikkelsen reassured that the curvature of the deck was such to allow full view of the water but not of the other observers.

GREENLAND

Hansen presented the aerial surveys, which were conducted in two parts, covering East Greenland first and then West Greenland. On each flight, 4 observers operated in double-platform configuration, and a 4k video camera was mounted under the plane to collect continuous recordings of the track line.

Observers were trained during 1 online meeting, walking through the protocols and species identification sheets, then 1 full day of ground training in the hangar to become familiar with the recording process, and 3–4 hours in-flight to practice.

Some transects and strata were not covered fully as planned, either “cherry-picked” due to low animal densities in the area or missed entirely due to bad weather—the latter was a considerable obstacle in South Greenland and the southernmost strata (fog and wind). With those exceptions, most of the survey legs were conducted in sea states 1 and 2 (allowing for high numbers of harbour porpoise sightings). Sea ice coverage, which was recorded consistently in the effort files, was generally 20% or less in fjords, and even lower offshore. Local hunters report that the land-fast ice did not break off until the end of July this year, which is quite late compared to other years, and could cause issues when pooling cetacean counts between Iceland and Greenland, i.e., if the animals were displaced further east towards Iceland during the Icelandic surveys. (Note that there was no formal invitation for the local hunters to participate in the survey).

Overall, there were very high numbers of duplicate sightings for all species except minke whale and harbour porpoise. Sighting rates of white-beaked dolphins appear to be considerably lower than in previous surveys.

The survey evaluation from the team was very positive, with particular mention of the respectful and friendly tone maintained within the team throughout the entire survey. The SpC congratulated Hansen for a thoroughly well-executed survey, her final contribution to the NASS project after many years.

ICELAND

Gudjón Mar Sigurdsson presented the Icelandic redfish, mackerel, and dedicated vessel surveys, noting that these reports are preliminary. Regarding the opportunistic surveys, there were slight differences in the protocols and effort outcomes, as the redfish vessel offered next to no accommodations for the cetacean survey—with the exception of conducting trawling operations during the night, to maximise on-effort hours during daylight. Unlike the Faroese vessels, the Icelandic double-platform configuration was an upper and lower, rather than port and starboard, setup, far enough apart that the observers could not hear each other above the vessel noise.

Observer training was conducted when underway to the first transects. Inexperienced observers were paired with experienced ones, although one of them had to complete her shifts on her own due to her assigned partner's illness, and is concerned that she may have missed observations—although a cursory examination of sighting rates does not reveal such a pattern. Binoculars were provided for species verification purposes and to calculate distances. Sightings were recorded on custom-made iPad software, which worked very satisfactorily (also in terms of battery). The only issue was that some species categories were entered at the last minute and were too similar to each other, e.g., "baleen whale, large" and "large baleen whale"; these will require careful validation and merging. When asked if the software could be revamped for Android, it was noted that the developer had said it can be done.

On the dedicated survey, ice proved to be a considerable issue, and the 2007 ice-edge protocols had to be followed for most of the western strata. The vessel itself became trapped in ice at one point and spent two nerve-wracking days seeking a path out. All in all, despite ice cover, choppy waters, fog, and an engine failure during the mackerel survey, the on-effort transect coverage was deemed acceptable compared to the original design.

Eleven cetacean species were positively identified on the dedicated survey, and 13 on the two opportunistic cruises. Duplicates and re-sightings have not yet been filtered out. Sightings of northern bottlenose whales appeared higher than in previous years, but that seems to be a general recent trend. Hansen pointed out that they may also exhibit some responsive movement towards the vessel, as they are often attracted to trawlers. Sigurdsson also noted that it would be interesting to compare the number of bottlenose whale identifications made by an expert on board, compared to the other observers.

NORWAY

Martin Biuw presented a summary of the Norwegian mackerel and dedicated survey legs, noting that the full cruise reports have not been prepared yet (a daily log is available, in Norwegian).

As the mackerel survey only had 4 cetacean observers on board, the double-platform configuration using the same methodology as NILS surveys (one observer on each platform and one on the bridge) was difficult to maintain within normal working hours; therefore, the cruise leader opted for single-platform on the second leg of the cruise, with two observers working together (and still tracking minke whales in low Beaufort sea states). This allowed for longer on-effort hours during each day. These vessels did not stop sailing during the night, resulting in several sections of the transects being "off effort" for cetacean observers. Another issue that came up on the mackerel survey was the fact that, when no fish were detected for a while in a given area, entire transects were dropped, compromising the effort even further. This happened notably in the northern area, where the survey was abruptly terminated, and the vessel sailed home.

When sailing in Tracking mode on the NILS survey, Biuw noted that sea state "minke 4" is closer to Beaufort sea state 2 or 3 in other surveys. This may need to be taken into account when comparing sighting rates across survey types. Persistent bad weather and fog in the Eastern Barents Sea and stratum ES4 drastically reduced coverage in those areas. However, the rest of the survey blocks were covered quite thoroughly.

While the original survey plan included an overlap in strata covered by both the mackerel and dedicated surveys, in order to provide data for a comparison, the achieved overlap is much smaller (see second paragraph of this section), and with relatively few cetacean sightings. This will make it difficult to compare the two platforms and draw conclusions as to the usefulness of the mackerel survey as an alternative to the NILS cycle. Although sighting rates can still be compared, even that is complicated by the fact that the northern leg of the mackerel survey was conducted in single-platform configuration.

OUTREACH EFFORTS

Naima El bani Altuna presented an overview of the outreach efforts made throughout the summer via the NASS 2024 website. Incidental feedback from people outside the NAMMCO network was very positive, although it was unfortunately not possible to measure the direct reach of the page. However, the social media posts related to it consistently got good engagement.

Some challenges were met with regard to communication: in some cases, the track-lines were not provided in advance, details about the cruise itself were lacking, and regular updates were not sent to the Secretariat by all cruise leaders. Several "updates" were only received via indirect channels, such as the social media posts of observers on the survey vessels. This was somewhat frustrating for the Secretariat, as sending updates from the surveys was a task that had been agreed upon by the SpC ahead of the surveys.

Indeed, all cruise leaders agreed that such tasks in future should be delegated to those observers who have more time, motivation, and tech savvy, rather than the team leads trying to do everything themselves. Hansen noted that doing that on the Greenlandic surveys resulted in greater commitment and engagement on the part of the observers.

PLANS FOR ANALYSIS

FAROE ISLANDS

Mikkelsen noted that the Faroe Islands will take the lead on the analysis of pilot whale data, and that Iceland should take the lead on fin whales. The task has not been assigned to anyone yet, although there is an internal mid-summer deadline for the pilot whale analyses, given the upcoming stock assessment later in 2025. This will likely have to be delegated to someone outside the FO institute.

Desportes reminded that the abundance estimate for pilot whales has to be reviewed by the Abundance Estimate WG, before it can be used for an assessment. This also takes time.

ICELAND

The group agreed that the Faroese and Icelandic data should be analysed together, as they have been in other years. Sigurdsson hopes that the analyses will commence early in 2025, with himself and Bjarki Elvarsson taking the lead, and of course prioritising large whales.

GREENLAND

A six-month contract to analyse both the East and West Greenland survey data for all species has been assigned to Philippine Chambault (GINR).

NORWAY

The minke whale data analysis is prioritised, in order to be presented to the IWC in April 2025. Hans Skaug, Hiroko Solvang, and Frederike Boehm will be taking the lead on that. Deanna Leonard is likely going to analyse all non-target species for Norway, but there is no concrete timeline for that as yet.

NASS SPC AND ABUNDANCE ESTIMATES WG

As Hansen will no longer be involved in NASS proceedings, the group discussed whether a new Chair should be elected, or indeed whether the SpC itself will need to reconvene at all for NASS 2024. A member of the SpC will need to present the survey report to the SC/31 meeting in January, but aside from that, the general consensus was that it is time for the Working Group on Abundance Estimates (AEWG) to take over discussions. As such, the hybrid NASS meeting planned as a side-event at SC/31 will become a preliminary AEWG meeting. Membership and chairship of that WG, as well as further discussion of analysis timelines, should be discussed then. Advice and coordination, especially of joint analyses, should be a matter for the full AEWG to discuss.

Desportes mentioned that part of the Norwegian voluntary contribution to the NASS budget is allocated for analyses of non-target species. It would make sense, as it was done previously, that the analysis of non-target species is a joint venture.

ANY OTHER BUSINESS

As a general evaluation, the surveys were conducted as satisfactorily as possible given such obstacles as weather, illnesses, and technical difficulties. Some issues could have been mitigated in the preparation stage, however, e.g., with earlier selection of appropriate vessels and observers, and more time dedicated to testing equipment.

Finally, the group thanked Hansen for chairing the SpC and for her dedication to the entire NASS project over the years. All wished her well in her new endeavours and hoped to cross paths with her soon.

The group also thanked again Norway for the generous Norwegian voluntary contribution to NASS 2024, which allowed for an increased effort across the Northeast Atlantic.

OPEN QUESTIONS

Now that the survey component of the NASS 2024 project has been completed, and following the inspection of the cruise reports at the debriefing meeting, some questions arise, namely:

Who will conduct the analysis for each species not already allocated to a particular person above (e.g., pilot whales), and on what timeline?
How best to use the NASS budget that has been allocated for the data analysis of non-target species?
Are the opportunistic platforms, which are fishery survey vessels, suitable for use in cetacean surveys, considering the limited space available for cetacean observers? What minimum conditions should be fulfilled in order for the data to be useful?
Will it be possible to compare the Norwegian mackerel survey outputs for minke whales with those of the dedicated Norwegian survey?

APPENDIX 2: PRELIMINARY CRUISE REPORT OF THE FAROESE NASS 2024 DEDICATED SURVEY

RAN, TN 724

27 June - 16 July 2024

Compiled by Bjarni Mikkelsen

Introduction

The NAMMCO Scientific Committee agrees that coordinating national cetacean survey efforts, and covering an area large enough to provide a general view of the whole NAMMCO area, offers the best basis for providing scientific advice on abundance, distribution and trends. The North Atlantic Sightings Survey (NASS 2024) was conducted in June-August 2024 by scientists from Iceland, the Faroes, Greenland and Norway and covered a large area of the northern North Atlantic (Fig. 1). This was the seventh in a series of major North Atlantic cetacean surveys conducted previously in 1987, 1989, 1995, 2001, 2007 and 2015. Faroe Islands has participated in all years, usually with one dedicated vessel, but in 2024, for the first time, with two vessels, one dedicated vessel and one vessel jointly sharing whale observations with an international mackerel survey.

This NASS was co-ordinated by the Scientific Committee of NAMMCO, while funding was mostly secured by the individual participating countries as in previous NASS. Additional funding was allocated by the Norwegian Government for increasing survey effort and area coverage, hereby also securing that the Faroes Islands was able to participate in NASS 2024 with two vessels. The series of NASS surveys has provided NAMMCO with fundamental information about cetacean abundance and distribution and been a flagship effort in the organisation's work to provide sound management advice for human activities impacting cetaceans.

This cruise report describes the progress of the dedicated survey, while the progress of the combined whale and mackerel survey is given in a separate report.

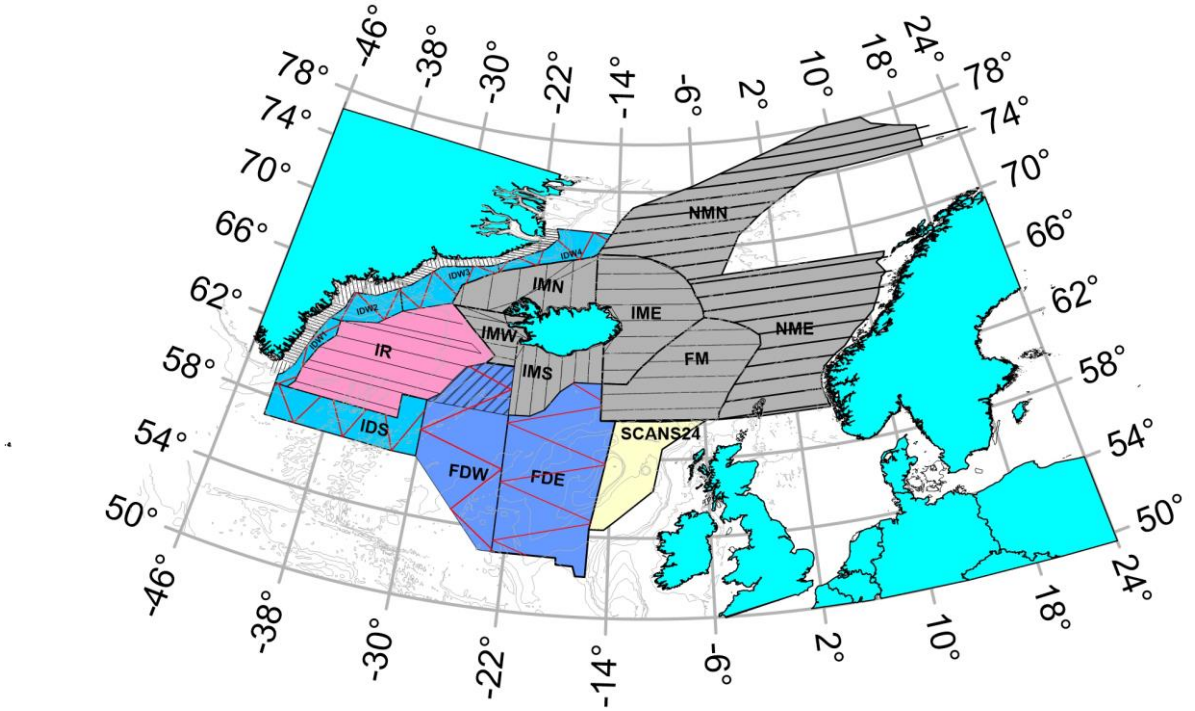


Figure 1. The NASS 2024 survey area. The areas covered by Faroe Islands were FDW (exclusive northernmost line) and FDE (RAN, dedicated vessel) and FM (Jákup Sverri, combined whale and mackerel survey) (map by Dan Pike).

Survey area

Faroe Islands was able to participate with two survey vessels, for the first time ever. The Faroese research vessels "Jákup Sverri" covered the area FM (see map. 1) which is basically the Faroese EEZ , while the dedicated vessel "RAN" covered the two rectangles FDE and FDW to the southeast of the Faroes (see map. 1); from within the area of the Icelandic EEZ down south to 53oN, and between the UK EEZ and 30oW. The dedicated area was divided into two rectangular survey blocks that were covered with a set of single zigzag transect lines. The total designed effort was 2448nm, divided by 1570nm in the eastern block and 878nm in the western block.

The overall survey area was decided upon by the NASS 2024 Scientific Planning Committee, consisting members from all four NAMMCO countries and the Secretariat. Transects, with random starting points and equal coverage probability, were designed on an independent basis by Dan Pike (Ca), in program Distance. Planned survey effort and potential coverage was based on experiences from previous NASS surveys; and designed based on an expected average daily effort of 115nm.

The Faroese NASS 2024 ship based survey was conducted in independent observers' mode using two parallel and independent observation platforms (the IO mode, used also in 2015). This mode implies that duplicate identification is done post survey, using an algorithm.

Vessel, platforms and observers

The tender vessel "RAN" (P/F Thor, Faroe Islands) was rented from 27 June to 16 July, or for a total of 20 days. The vessel, a pelagic trawler, is 65 m long with a 1250 Hp engine and a cruising speed of approximately 11 knots. Observers were accommodated in one- and two-berth cabins.

In the planning of NASS, it was decided to rent a large vessel, based on past experiences. The tradeoff of large vessels is tender cost, which is higher than for smaller vessels, therefore the compromise is fewer available survey days. The benefit, of the other hand, is a better and more stable observer platform, which again has a positive impact upon the overall achieved effort.

Figure 2. Platform arrangement onboard observer vessel "RAN" during NASS 2024.

The platforms were constructed as wooden boxes, 2.5 x 2.3 m in size, mounted directly upon the bridge roof. Each barrel accommodated two observers. The platforms had no obstruction of view, except for the primary port observer, who had a steel mast partly obscuring the view from 85 dg. to abeam.

The observer team of eight observers onboard "RAN" was a combination of Faroese (4) and foreign (4) observers (Fig. 3), five with experiences from sightings surveys, while three observers were inexperienced. The observer pairs were matches, so that inexperienced observers joined experienced, hereby they were able to assist each other on the platform during sightings.

Figure 3. The Faroese NASS 2024 observer team onboard "RAN". Left: Silas Olofson, Rúni Akralíð, Simon Keith, Sara De Clerck, Sofia Albrecht, Fiona Cummins, Markus Bjarnason and Bjarni Mikkelsen.

Port side observer pairs:	Sara De Clerck (BE) and Rúni Akralíð (FO)
	Silas Olofson (FO) and Simon Keith (UK)
Starboard observer pairs:	Bjarni Mikkelsen (FO, cruise leader) and Markus Bjarnason (FO)
	Sofia Albrecht (IE) and Fiona Cummins (IE)

Observers were informed of survey plans and methodology, including data collection, validation and backup, during a pre-cruise observer meeting at the Faroe Marine Research Institute prior to the start of the survey. Due to a tight time schedule, since the survey vessel was available for only 20 days, all available days were used on effort, and no distance experiment was therefore carried out. During the survey, observers were encouraged by the cruise leader to be accurate in their angle and distance measures. Also, for the same reason, no closing was made on sightings. And no drone reconnaissance flights were done of sightings or group.

Equipments and validation

Each observer had access to an angle board and a personally calibrated distance stick. Both platforms were equipped with a laptop, running the Logger2010 software, for data entry. The computers were synchronised with the GPS ship time. The two observers shared and assisted with data entry. Since multiple forms sightings could be activated in Logger, securing a correct time stamp, simultaneous observations were not a problem. Weather and effort data was entered by the starboard platform.

Sighting data was validated by observers at end of each survey day. Observers were responsible to validate own observations. Observer kept log of all corrections they needed to be applied to the original data that was recorded in Logger. A backup validation file was generated for each day, and over the whole survey, where observers applied their corrections directly into.

An acoustics recording system, with a 200m 3 element hydrophone array, was towed behind the vessel. The hydrophone was deployed on day 2 and operated for the entire duration of the survey. The hydrophone was deployed in the water also during the night, therefore the vessel continued with a speed of 0.5 – 1 knots during nights, in order to keep the array free from the propeller. This resulted in that 6-8 nautical miles on the transect line were without effort for each survey day. Target species in the Faroese NASS 2024 survey was the pilot whale. But effort was given to record all sightings possible.

Total designed effort in the Faroese NASS 2024 dedicated survey was 2448nm, distributed by 1570nm inside rectangle FDE and 878nm inside area FDW-F (the northernmost line in FDW was covered by Iceland).

Cruise narrative

The survey vessel "RAN" left harbour on 27. June at 4am. The initial plan was to survey block FDE first, in a southward direction. The vessels therefore headed to the northernmost transect (FDE-1). The weather was rough during the first days at sea, varying between BSS 5-8. Nevertheless, transects FDE-1 and 2 were covered during periods with BSS 5. Due to better weather forecast in west, it was decided to move to block FDW, and continue the effort on transect FDW-5. Iceland should cover FDW-6, the northernmost transect in block FDW. During fairly good survey conditions, varying between BSS 2 and 5, all planned effort in FDW was completed while sailing southward. Thereafter, the survey continued northward in FDE. Here weather was good, less than BSS 5, during most of the days while sailing northward. On the westward leg of transect FDE-3, weather conditions again became worse, and halfway on the line it was decided useless to continue west. The vessel instead turned north towards transect FDE-2. When reaching FDE-2, the vessel surveyed this line eastward, heading towards the Faroes again, and hereby copied around two third of the effort already covered on this transect earlier. When leaving survey area FDE, two days were still available. The vessel therefore, during the transit to the Faroes, sailed on effort, as an additional and alternative effort, along the direction of the southernmost transect in block FM. The weather was good. When in the south-eastern corner of the Faroese EEZ, the vessel sailed towards the Faroes. The vessel was back in harbour on 16. July 11pm. The hydrophone was on effort for almost the complete duration of the survey.

Effort

During the 20 days survey, no effort was achieved during four days, due to bad weather. And another three days were only with minor effort. This was nevertheless compensated by high effort during the last 12 days of the survey, where up to 17 hours were spent on effort. During the survey, a total of 207 hours of observation time was spent on effort (i.e. when the sea state was less than or equal to Beaufort 5). This corresponds to an average of 10.5 hours on effort each day (Fig. 4). Effort on 15. and 16. July was alternative survey effort in block FM.

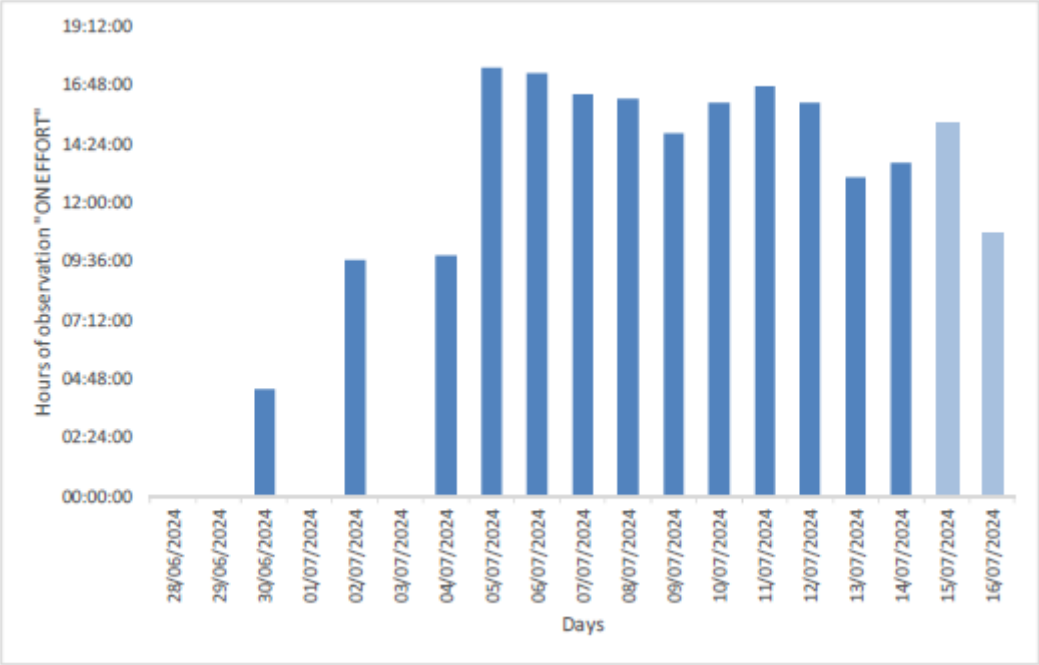


Figure 4. Hours on effort each day during the Faroese NASS 2024 dedicated survey

Total realized effort was approximately 1947nm, which correspond to 80% of planned effort. Realized effort in block FDE was 738nm, or 77% of planned effort, and in block FDW 1209nm (84%). All effort was completed in double platform mode.

Observations

A total of 17 cetaceans species were positively identified during the survey (Table 1). The port side platform recorded 316 sightings in total, and a total of 2977 individuals, while starboard platform recorded 314 sighting, and 2545 individuals.

The common dolphin was the species observed most frequently in the survey, by both platforms. They were observed exclusively in the southern waters. The pilot whale was the species with second highest number of sightings, and with the highest total number of individuals. Number of pilot whale sightings was higher on the starboard platform, while number of individuals was fairly equal. This could indicate that the starboard platform more frequently separated pilot whale sightings into subgroups, than the port side platform. Of the large whales, sperm whale was most frequently sighted, followed by the fin whale. The bottlenose whale also had relatively many sightings.

Sightings of unidentified species were classified as large, medium and small whale, and dolphin spp. There was a relatively high numbers of observations that were classified as "unidentified large baleen whales", unidentified large whale" and "unidentified dolphin". It can sometimes be difficult to discriminate between the dolphin species, especially white-sided and white-beaked dolphins.

Variable weather conditions also make it difficult to precisely identify species. One reason for the relatively high number of unidentified large whales may be that some observers were inexperienced identifying large whales.

Table 1. Summery of sightings by the two platforms.

	PORT		STAR	
ENGLISH NAME	Sightings	Total individuals	Sightings	Total individuals
Blue whale	1	1		
Fin whale	**31**	**36**	**31**	**38**
Sei whale	11	13	7	7
Humpback whale	4	5	6	7
Minke whale	5	5	11	12
Sperm whale	35	48	31	37
Bottlenose whale	26	139	23	170
Sowerby's beaked whale	9	29	12	41
Cuvier's beaked whale	3	4	5	13
Pilot whale	**31**	**1127**	**47**	**1243**
Killer whale	2	19	1	3
White-sided dolphin	4	20	5	45
White-beaked dolphin			1	5
Bottlenose dolphin	11	168	5	119
Risso's dolphin				
Common dolphin	46	565	52	527
Striped dolphin	7	255	7	82
Harbour porpoise	1	3	2	3
Unidentified large baleen whale	28	30	10	12
Minke or bottlenose whale	1	2		
Unidentified beaked whale	3	6	7	10
Lagenorhynchus sp.				
Unidentified dolphin	27	453	22	138
Unidentified large whale	18	19	15	15
Unidentified median whale	11	15	14	18
Unidentified small whale (no blow)	1	15		

The geographical distribution of all sightings is presented in Figure 5. Pilot whales and fin whales are highlighted. Both species were observed both north and south in the survey areas. There is a slight tendency that both species were observed more frequently in the eastern area.

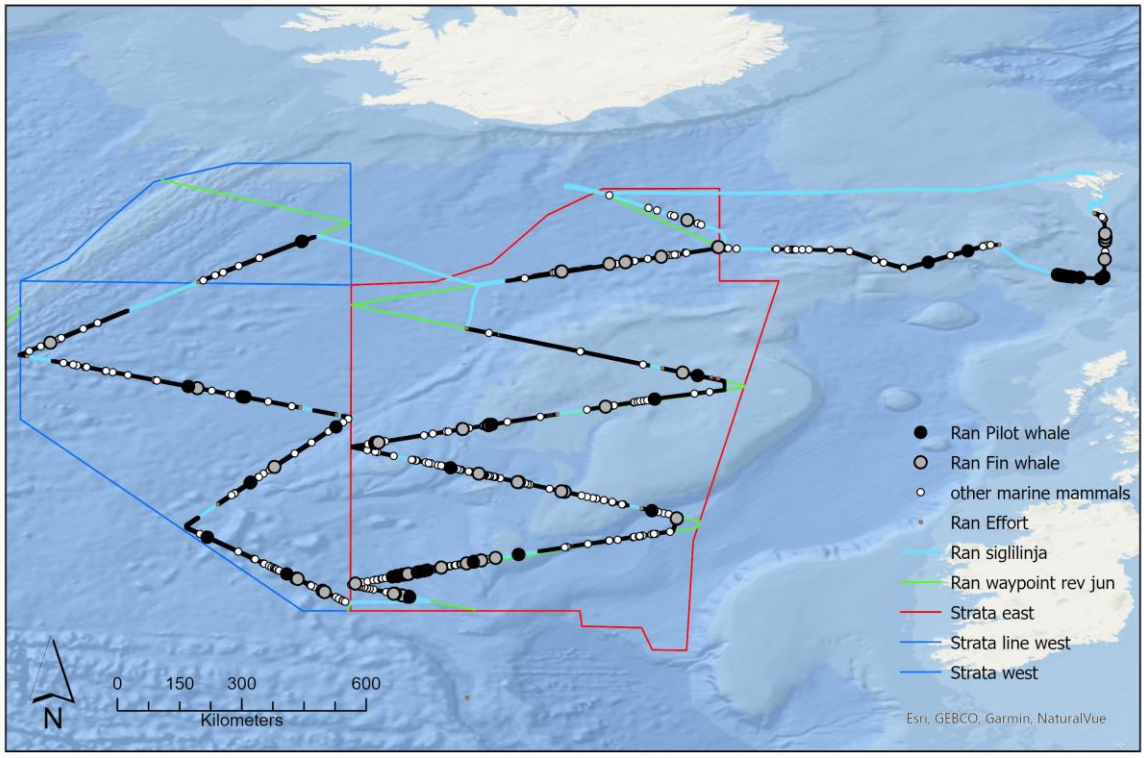


Figure 5. Faroese NASS 2024 realized effort and distribution of sightings.

APPENDIX 3: PRELIMINARY CRUISE REPORT OF THE FAROESE COMBINED MACKEREL AND NASS 2024 SURVEY

By Mathilde Huon, with supplements by Bjarni Mikkelsen

Figure 1. Faroese Research Vessel "Jákup Sverri" used as platform during the combined NASS 2024 and mackerel survey

1) Context and methods

Data to estimate absolute abundance of cetacean species was collected during this survey, in the context of the NASS 2024 program, with pilot whale as primary target species for the Faroes Islands. Survey mode was independent observers double platform line transects survey. This survey used a platform of opportunity available during a international mackerel survey. Observers were on duty while the vessel performed echo sounder mapping along predesigned transects. For about every six hours, the vessel slowed down for trawl and CTD stations.

Before the survey, a briefing meeting was held, where observers were informed about the survey and the methods used for data collection, validation and back up. No person from FAMRI was participating in the cruise; therefore no observer training was carried out. Most observers were experienced from previous distance sampling surveys, and therefore had experiences with survey methodology and data collection.

The survey was carried out onboard the Faroese research vessel "Jákup Sverri" (54 meters long, 1815 BTN; Fig. 1). The platforms were located side by side on the bridge roof, each with room for two observers, which were audibly and visually isolated. Platform height of platforms was 12.8 meters. For each team, the search pattern was divided in two parts: the port side observer search areas from 90° portside to about 10° on the starboard side, where is straight ahead on the trackline, and the starboard observer searches the area from 90° starboard to about 10° port. Depending on the weather conditions, sightings started at 6am and ended at 9pm. Sightings sessions were carried during 120 minutes following by 60 minutes break. Surveying operated with Beaufort Sea State of 5 or less (i.e. "on effort"), with a minimum boat speed of 10 Knots (observation were not performed during trawling and CTD operations, when the speed was reduced). With poor weather conditions (i.e. SSB >5), potential sightings were recorded, but considered as opportunistic (i.e. "Off effort"). Effort and weather data were recorded for each session. For each sighting, angle, distance and parameters related to the species (i.e. species identification, number of individuals, behaviour...) were recorded, according to the sightings form.

Also, seawater was sampled at regular intervals, by an automatic water sampler, during the entire survey. This was for an eDNA project, by the Faroe Marine Research Institute and University of the Faroe Islands. A dedicated person took care of the sampling during the cruise. The plan is to analyse the samples for the detection and presence of all cetacean species along the track line, and also compare this with the visual sightings.

Four observers were hired externally as whale observers. Mathilde Huon (FR) and Vincent Bretille (FR) were both experienced observers, and were team on the Port side during the entire trip. On starboard side, William Simonsen (FO), with experiences from NASS 2015, was observing. From 5. July inexperienced Martin Steingrund (FO) joined him. For the first two days, Suzanne McCarthy (SC) was team member, but she was unable to continue. Sightings are usually recorded with dedicated data entry software. However, it was not possible to get the SammoBoat software, which the foreign observers were familiar with, running; therefore sightings were recording with papers and pencils. Data were entered in a spreadsheet at the end of each day, when also validation was performed. Duplicate identification will be done during data analysis.

Figure 2. Observer team (from left): Vincent Bretill, Mathilde Huon and William Simonsen. Other observers were Suzanne McCarthy (had to leave the survey) and Martin Steingrund (came as a replacement on 5. July)

2) Cruise narrative and effort periods according to meteorological conditions

This oceanographic campaign enabled us to carry out 18 days of observation, from the 27th of June to the 14th of July. Over these 18 days, we spent almost 84 hours of observation time when we were "On effort" (i.e. when the sea state was less than or equal to Beaufort 5, thus optimising observation conditions). The observation effort was mainly concentrated during the second part of the campaign (i.e. from the 5th of July or during the last ten days, Figure 3), as the weather conditions during the first week were generally not favourable for observation. Then the minimum of hours of observation per day was 0 the 27th and 28th of June, and the 4th of August; the maximum was the July 13th with 10 hours of observation “On effort”.

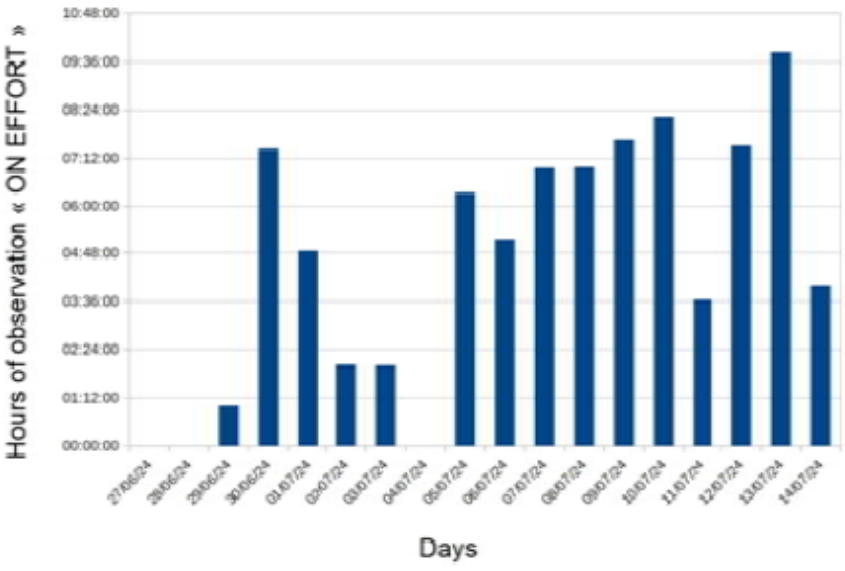


Figure 3. Observer time “On effort” during the Faroese NASS 2024 and mackerel combined survey

The double platform only operated the second part of the survey as one of the four observer landed two days after the beginning. Sightings were performed with three observers until the 5th of June. A stop in Torshavn the 5th of June allowed a new observer to join the team. Then, sightings with double platform started from that moment.

3) Sightings data description

Here, we only present a description of the different species observed and number of sightings. Results of data analyses and double platform duplicate identifications will be presented later.

One hundred and twenty four sightings were realized during the surveys, 88 during “On effort” and 36 during “Off effort”, representing a total of 361 individuals (246 “On effort” and 114 “Off effort”). Overall, ten cetaceans species were identified (Table 1): fin whale, minke whale, sperm whale, humpback whale, bottlenose whale, killer whale, pilot whale, Atlantic white-sided dolphin, bottlenose dolphin and harbour porpoise.

Table 1. Overview of the different sightings. Sighting number represents the number of observation “On effort” during the survey; total individual number total number of animals; minimum (Min), maximum (Max) and mean (Mean) of individuals per observation. The additional sightings numbers “Off effort” represent sightings when “Off effort”, and total number of individuals when “Off effort”.

Species	Sighting number	Total individuals number	Min	Max	Mean	Additionnal sightings number « Off effort »	Total individuals number « Off effort »
Minke Whale	35	39	1	3	1	13	15
Minke Whale prob.	2	2	1	1	1	/	/
Fin Whale	4	4	1	1	1	6	8
Humpback Whale	/	/	/	/	/	1	1
Whale ind.	2	2	1	1	1	2	2
Large Whale	4	5	1	2	1	/	/
Medium Whale	5	6	1	2	1	/	/
Small Whale	1	1	1	1	1	/	/
Sperm Whale	/	/	/	/	/	1	1
Bottlenose Whale	9	26	1	6	3	4	13
Pilot Whale	8	102	5	25	13	4	59
Killer Whale	3	27	2	13	9	/	/
Atlantic white sided dolphin	2	2	1	1	1	1	3
Bottlenose dolphin	1	20	20	20	20	1	6
Dolphin spp	2	2	1	1	1	1	5
Harbour porpoise	10	10	1	1	1	1	1
Basking shark	/	/	/	/	/	1	1

Sightings of unidentified species were also recorded and classified as large, medium, small whale and dolphin spp. Minke whale had the highest number of sightings: 35 during “On effort”, representing 39 individuals in total; and 13 sightings “Off effort”, representing a total of 15 individuals. Pilot whales were observed 12 times (8 and 4 times “On effort” and “Off effort”, respectively), representing 161 individuals in total. Harbour porpoise were observed 11 times, ten in “On effort”, and one in “Off

effort", with one individual observed per sighting. Bottlenose dolphin, had the lowest rate of sightings with one observation "On effort", representing 20 individuals. Humpback and sperm whales were only observed "Off effort".

Geographical distribution of all sightings is presented Figure 2. Depending of species groups, some patterns are highlighted. Sightings of large whales (including fin whales, humpback whales, sperm whales, and unidentified large whales) and medium whales (mainly represented by minke whales) are distributed along the transects with one or two individual per sightings. Groups of bottlenose whales were mainly observed on the North- West of the Faroes. This species was only sighted in this area, with a group of several observations during only one session effort. Three groups of killer whales were observed at three different points: one on the north of the Faroes and another on the north of Shetland (i.e. both corresponding to a group of 15 individuals); and two individuals close to the Norwegian coast. Groups of pilot whales were observed on the North of the Faroes Islands. Groups of dolphins (including bottlenose dolphins, Atlantic white sided dolphin, and unidentified dolphin) were mainly sighted on the south of the Faroes Islands and some individuals on the North. Harbour porpoises were mainly observed on the North-East of the Faroes and Shetland.

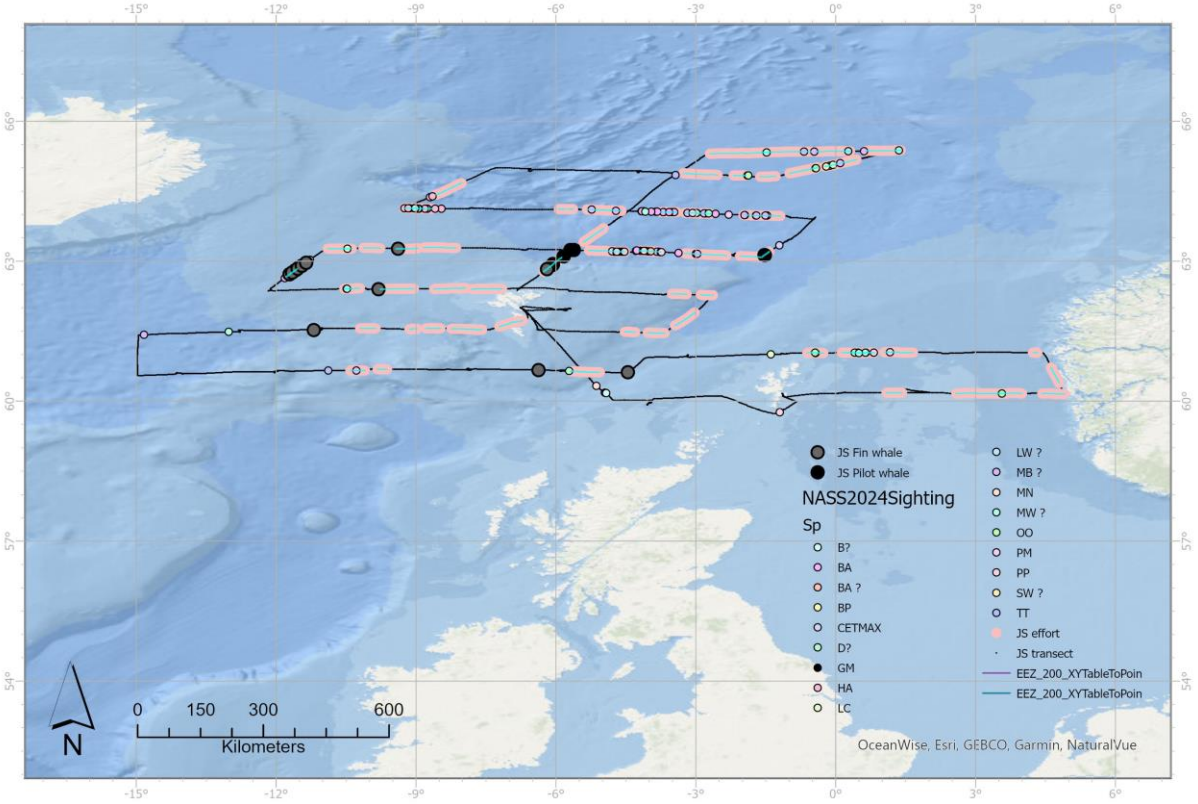


Figure 4. Coverage on effort and distributions of sightings in for the combined NASS 2024 and mackerel survey

APPENDIX 4: GREENLAND - NASS 2024 CRUISE REPORT

Rikke Guldborg Hansen and Philippine Chambault,

Greenland Institute of Natural Resources (GINR) following the NASS2024 cruise report layout

Introduction

The objective of the Greenlandic part of the NASS 2024 is to perform a precise count of the number of minke whales, humpback whales and fin whales in east and west Greenland. The secondary objective is to perform a precise count on harbour porpoise, white-beaked and white-sided dolphins and pilot whales. All cetaceans were recorded using the protocol standards. The survey was an aerial survey and the data collection method was based on line transect distance sampling with a double platform configuration consisting of four observers. A 4k video camera mounted under the plane collect continuous video recordings of the track line.

Method

Survey design

The survey followed the design as depicted in Figure 1 to 5 in appendix 1, following these priorities: The survey was divided into three parts; an EAST coastal part. a WEST coastal part and a fjord part. The EAST and WEST coastal part was divided into 10 and 11 strata, respectively, with parallel transect lines. The fjord part is divided into 5 blocks (block A-E) with either parallel or zigzag transects. The different strata and blocks have different overall priority and the following priority was followed.

1. The west coastal part should be covered before the east coastal part.
2. EAST: Strata 5 has the highest priority and should be covered whenever possible. Thereafter strata 6-9. 10 and 1-4 in that order. Only every second line in strata 1-4 should be covered.
3. WEST: Strata 5-11 are highest priority and should be covered whenever possible. Only every second line in strata 1-4 should be covered.
4. WEST: Coastal zigzag transects in fjord block A. C and E.
5. WEST: The fjords should be covered when the survey conditions are not well enough to survey the coastal transects. The fjords could also be covered on the way home if you do not have enough fuel for a coastal transect.

Platform

The survey was a visual line transect survey, conducted as a double-platform, or double-observer, experiment with independent observation platforms at the front and rear of the survey plane, a De Havilland Twin Otter, chartered from Norlandair, Iceland. Target altitude and speed were 700 feet and 90 nm h-1 (213 m and 170 km h-1) and effort recorded during sea states <5 and visibility >10 km will be included in the analysis. Two observers sat in the front seats just behind the cockpit, and two observers sat in the rear seats at the back of the plane. The distance between front and rear observers was approximately 4 m, and a long-range fuel tank and recording equipment installed between the front and rear seats prevented visual or acoustic cueing of sightings between the two platforms. All four observers had bubble windows allowing them to view the track line directly below the aircraft. An additional 5th observer seat between the front and rear right seats was used for practice purposes. Observers used Geometers for recording angles and Dictaphones to record observations. A backup continuous audio file was made every day for each channel, from the start of the day to the end.

Each evening, all observations and effort readings were entered into a database using a laptop. In addition, each platform (front and back observer) would identify duplicate sightings (whales that both observers saw, using the time stamps/angles by predefined categories) and make sure those are jointly entered in a separate sighting sheet.

Observer training: One day of observer training was carried out for the new observers on August 8th in Iceland, partly on ground-training in the Norlandair Hangar in Akureyri, training the use of the equipment and partly on aerial survey in Eyjafjordur out of Akureyri, to observe different kind of cetaceans.

Crew: **Observers**	**Experience as MMO (ship (s)/ aerial (a))**
Rikke Guldborg Hansen. RGH (PI)	Extensive (a)
Outi Tervo. OT (Crew Lead)	Extensive (a)
Rasmus Larsen. RSL (Crew Lead)	Extensive (a)
Marie Louis. ML	Extensive (a/s)
Philippine Chambault. PC	Extensive (s)
Nicoline Nørgaard. NN	New
Mala Broberg. ML	Extensive (a)
Tenna Kragh Boye. TB	Extensive (a)
Sascha Schiøtt	New

Cruise narrative: Field report is attached as appendix 2.

Effort: The realized effort from the survey has not yet been calculated but the planned (black lines) and realized (start and end, color coded for each transect) effort is shown in Figure 1 (EAST) and 2 (WEST). The percentage of realized versus planned effort is shown in Table 1.

Species and numbers by area:

On effort sightings of cetaceans and polar bears in both EAST and WEST Greenland are shown in Figure 7. In EAST Greenland, the total number of transects covered was 49 with 221 sightings of 323 individuals distributed out on 14 species (Figure 3) with the number of target species shown in Table 2. The highest number of sightings were of humpback whale (N=68). Figure 4 shows the number of target species sightings per strata. Maps of location of sightings are shown in Figure 7 (right panels). In WEST Greenland, the total number of transects covered was 70 with 193 sightings of 508 individuals distributed out on 15 species (Figure 5) with the number of target species shown in Table 3. The highest number of sightings were of harbour porpoise (N=43).

The combined number of sightings from observer 1, observer 2 and number of duplicate sightings in EAST and WEST are shown in Table 4.

Figure 6 shows the number of target species sightings per strata. Maps of location of sightings are shown in Figure 7 (left panels).

Outreach effort:

Date of blogposts per region, author and summary of information in the post.

Date	Location	Author	Information
2024-08-11	EAST	ML	Setting up the plane and the two first days in Kulusuk
2024-08-12	EAST	PC	First survey day (stratum 4 EAST)
2024-08-14	EAST	PC	Stratum 5 and which marine mammals we observed
2024-08-17	EAST	PC	Strata 6,7 and 4 (again) and which marine mammals we observed
2024-08-20	EAST	NN	Day off and strata 1 and little in stratum 3. Moved base to Nerlerit Inaat
2024-08-22	EAST	ML	Las day of EAST (stratum 3). Change of team
2024-08-24	EAST	ML	New team, Narsarsuaq. Did rest of EAST 7-10

Date	Location	Author	Information
2024-09-02	WEST	SS	Nuuk-Sisimiut, many species observed and strata 5-8 mostly done
2024-09-08	WEST	NN	Bad weather but managed to do most of strata 1,2,3. moved from Sisimiut to Ilulissat
2024-09-15	WEST	NN	Strata 3,4. Ilulissat to Nuuk (team changed in Kanger). Nuuk To paamiut we managed strauma 9 and start of 10
2024-09-19	WEST	RSL	Leaving Paamiut and headed to Narsasuaq, end of stratum 11 and then flew back to Iceland

Log of daily activities: Field report is attached as appendix 2.

Survey evaluation

Preparation and cruise phase: Preparation and training went as planned, it was particularly useful to have documents for all cruise leaders to ensure that data was collected using the same procedures and to ensure a good working environment for all teams/ observers. Norlandair pilots were very helpful and committed to make the survey a success. Some lines where not covered, i.e. due to weather but also to increase the maximize the effort in strata with highest density (EAST). The geometers worked well, but the weak link is where the cables is attached to the plate. They should all be sent to the manufacturer for better attachment.

Evaluation: After the survey, a joint online evaluation was done with all observers. Some of the remarks included: for new observers- a more thorough online walk-through of the different species and what to look for to tell the species apart in order to make the observers more confident for the field training. It was noted that there was a respectful tone and how important it is that everyone makes an effort to ensure and maintain an including work-and social environment in a long fieldwork period with shifting living quarters and personal.

Analysis

Data validation is currently ongoing. Abundance estimation analysis will be carried out by Philippine Chambault (GINR) and overseen by Mads Peter Heide-Jørgensen (GINR).

Table 1: Number of realized and planned transect lines in EAST and WEST Greenland with the proportion of realized effort in percentage.

Region	Stratum	Realized no. transects	Planned no. transects	Realized transects (%)
EAST	1	5	8	62
EAST	2	3	7	43
EAST	3	10	19	53
EAST	4	8	8	100
EAST	5	18	19	95
EAST	6	6	6	100
EAST	7	6	6	100
EAST	8	4	6	67
EAST	9	6	6	100
EAST	10	2	5	40
WEST	1	4	7	57
WEST	2	6	10	60
WEST	3	13	16	81
WEST	4	5	11	45
WEST	5	9	9	100
WEST	6	9	9	100
WEST	7	7	12	58
WEST	8	10	12	83
WEST	9	12	12	100
WEST	10	10	10	100
WEST	11	13	16	81
WEST	Block B	29	68	43
WEST	Block E	9	50	18

Table 2: Number of sightings of minke whale (BA), fin whale (BP), humpback whale (MN), long-finned pilot whale (GM) and white-beaked dolphin (LAL) in EAST Greenland. The number in parentheses are the number of duplicate sightings.

Area	Strata	BA	BP	MN	GM	LAL
EAST	1	0	0	0	0	0
EAST	2	0	0	1	0	0
EAST	3	4	3	3	0	0
EAST	4	2	7	11	0	0
EAST	5	13	12	23	1	1
EAST	6	4	12	20	3	1
EAST	7	0	1	5	0	0
EAST	8	2	1	4	0	0
EAST	9	1	1	1	0	0
EAST	10	3	1	0	0	0
Total		29 (18)	38 (33)	68 (40)	4 (4)	2 (1)

T

able 3: Number of sightings of minke whale (BA), fin whale (BP), humpback whale (MN), long-finned pilot whale (GM), white-beaked dolphin (LAL) and harbour porpoise (PP) in WEST Greenland. The number in parentheses are the number of duplicate sightings.

Area	Strata	BA	BP	MN	GM	LAL	PP
WEST	1	0	0	0	0	0	0
WEST	2	0	0	0	0	0	2
WEST	3	0	1	3	0	0	4
WEST	4	0	0	0	0	0	2
WEST	5	3	1	1	16	0	3
WEST	6	3	1	0	3	0	2
WEST	7	0	1	0	4	2	1
WEST	8	5	0	2	0	0	3
WEST	9	0	0	7	0	12	15
WEST	10	1	1	4	2	1	3
WEST	11	2	4	1	1	0	8
WEST	A	na	na	na	na	na	na
WEST	B	0	0	3	0	0	0
WEST	C	na	na	na	na	na	na
WEST	D	na	na	na	na	na	na
WEST	E	0	0	0	0	0	0
Total		14 (8)	9 (7)	21 (15)	26 (17)	15 (10)	43 (22)

Table 4. Number of sightings of minke whale (BA), fin whale (BP), humpback whale (MN), long-finned pilot whale (GM), white-beaked dolphin (LAL) and harbour porpoise (PP) in EAST and WEST Greenland for observer 1 (front), observer 2 (rear) and duplicates.

Species	Total		Observer 1		Observer 2		Duplicate	
	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST
BA	29	14	28	11	19	11	18	8
BP	38	10	36	9	35	8	33	7
MN	68	22	61	17	47	21	40	16
GM	4	26	4	19	4	24	4	17
LAL	2	15	1	12	2	13	1	10
PP	0	43	0	37	0	28	0	22

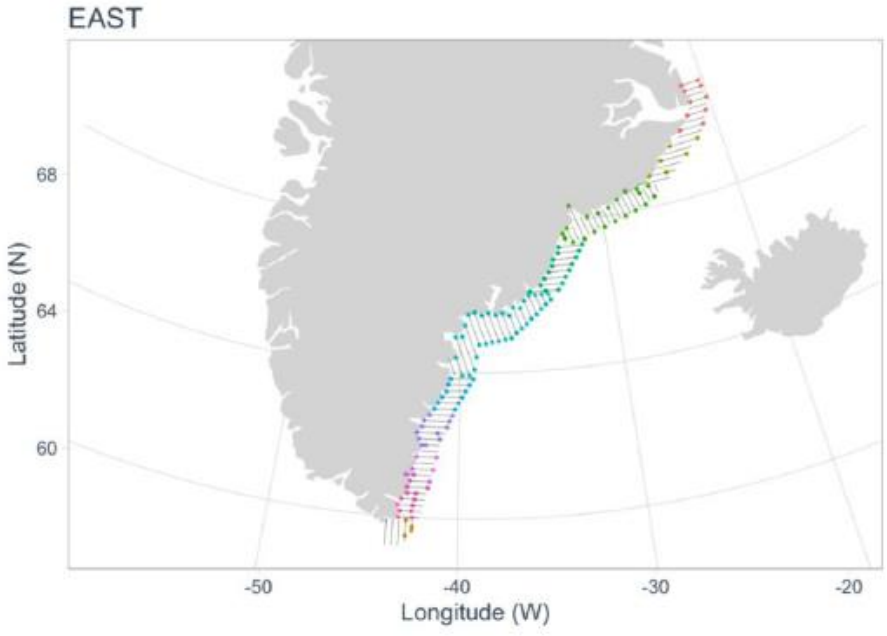


Figure 1. Planned effort (black lines) and start and end points (colored dots) of realized effort in EAST Greenland.

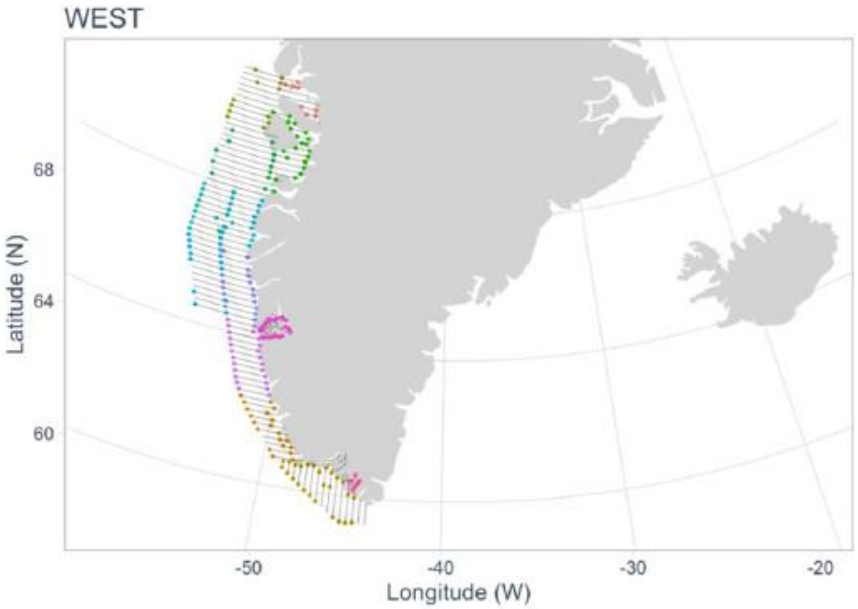


Figure 2. Planned effort (black lines) and start and end points (colored dots) of realized effort in WEST Greenland.

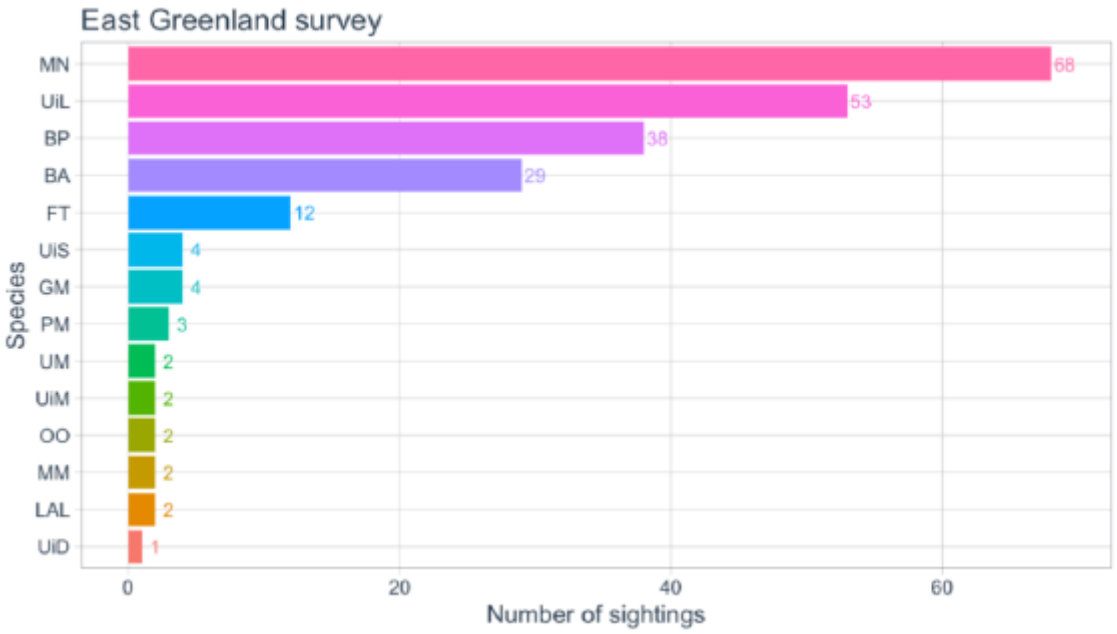


Figure 3. Histogram of the total number of sightings per species in EAST Greenland.

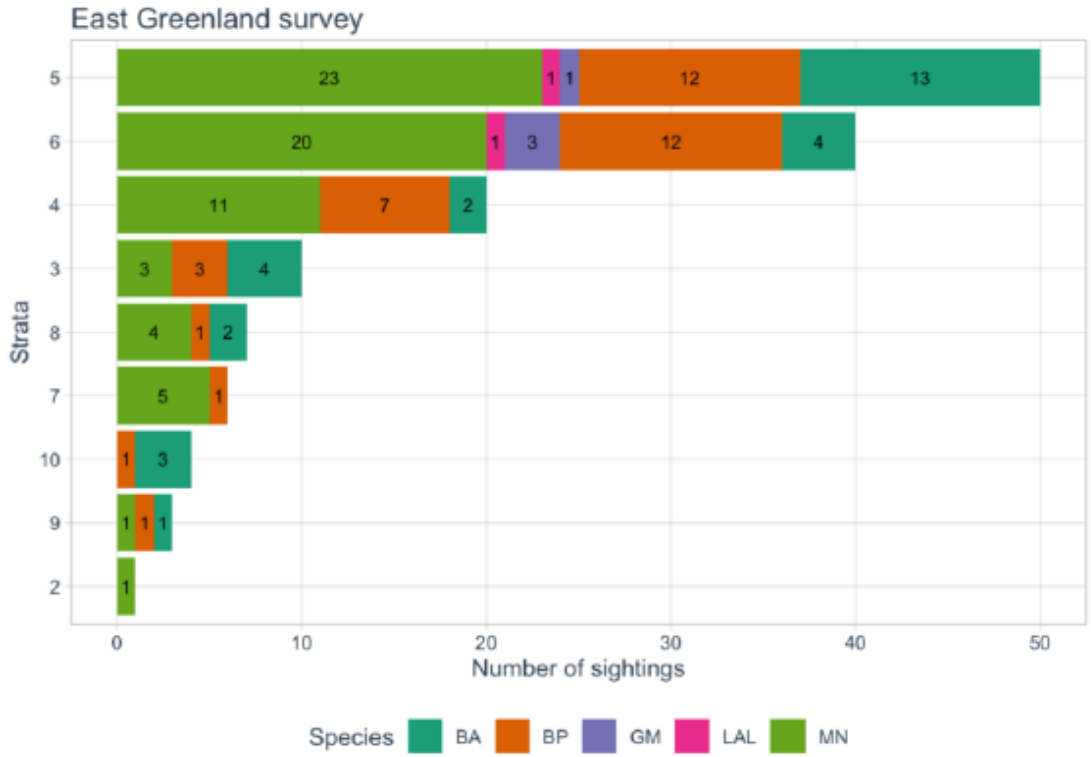


Figure 4. Histogram of the total number of sightings per species in EAST Greenland. BA is minke whale, BP is fin whale, GM is long-finned pilot whale, LAL is white-beaked dolphin and MN is humpback whale.

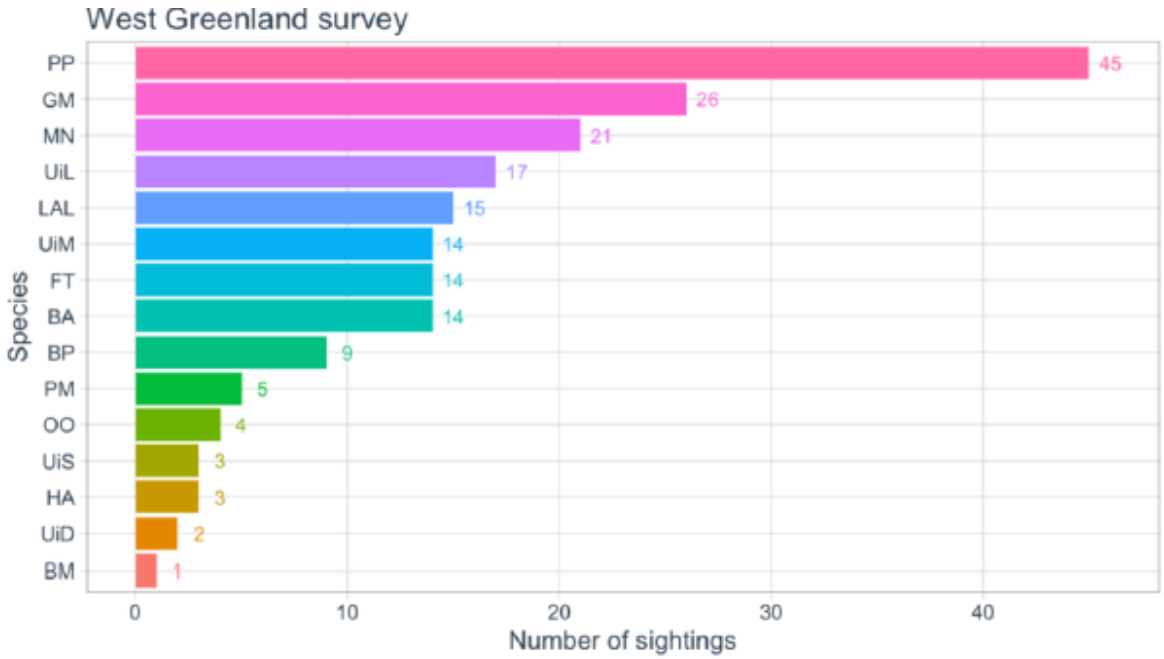


Figure 5. Histogram of the total number of sightings per species in WEST Greenland.

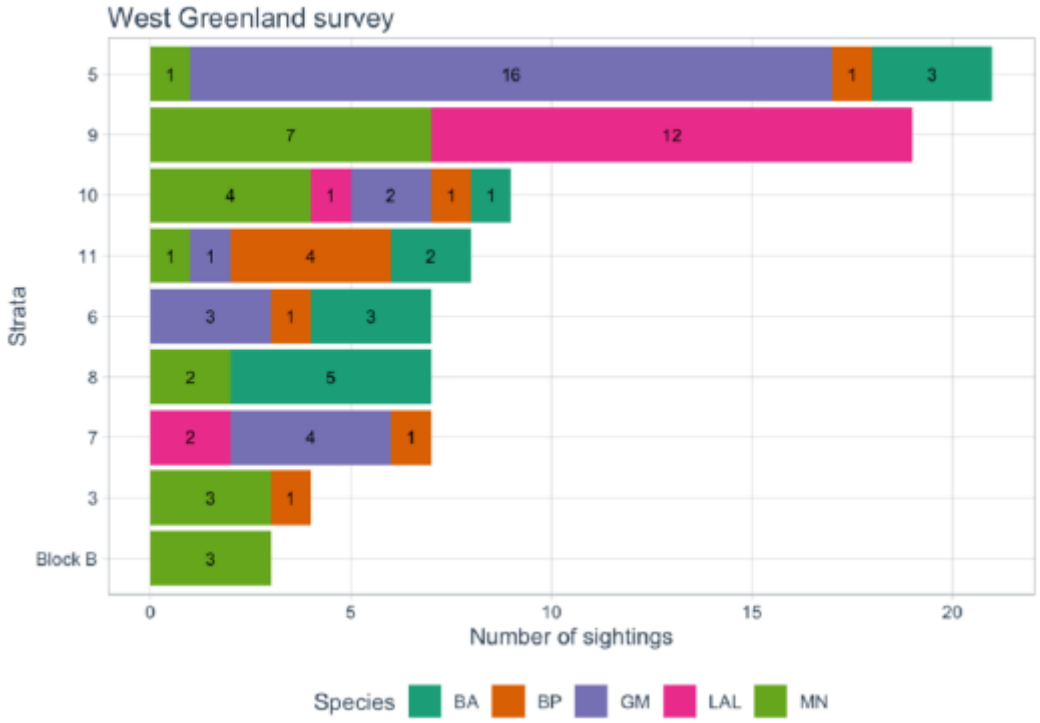


Figure 6. Histogram of the total number of sightings per species in WEST Greenland. BA is minke whale, BP is fin whale, GM is long-finned pilot whale, LAL is white-beaked dolphin and MN is humpback whale.

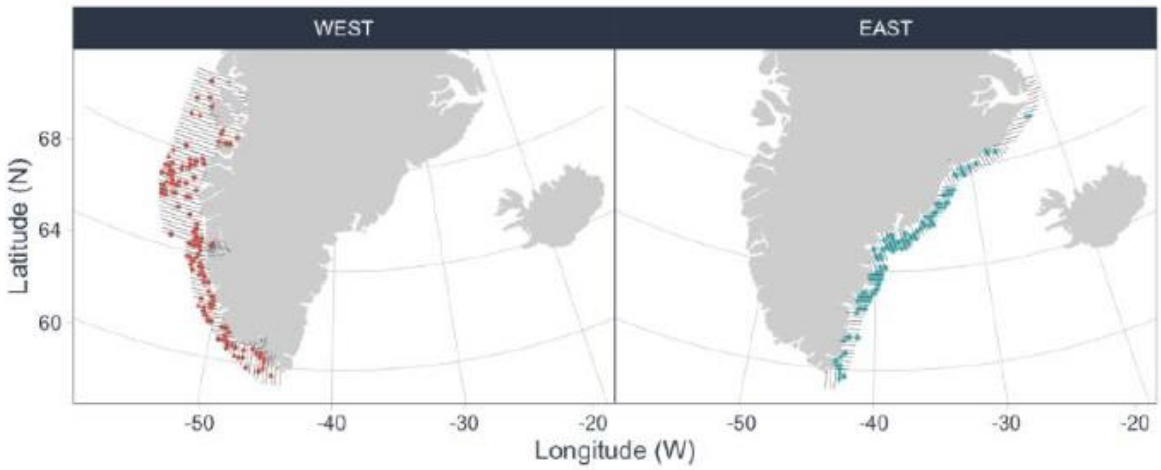
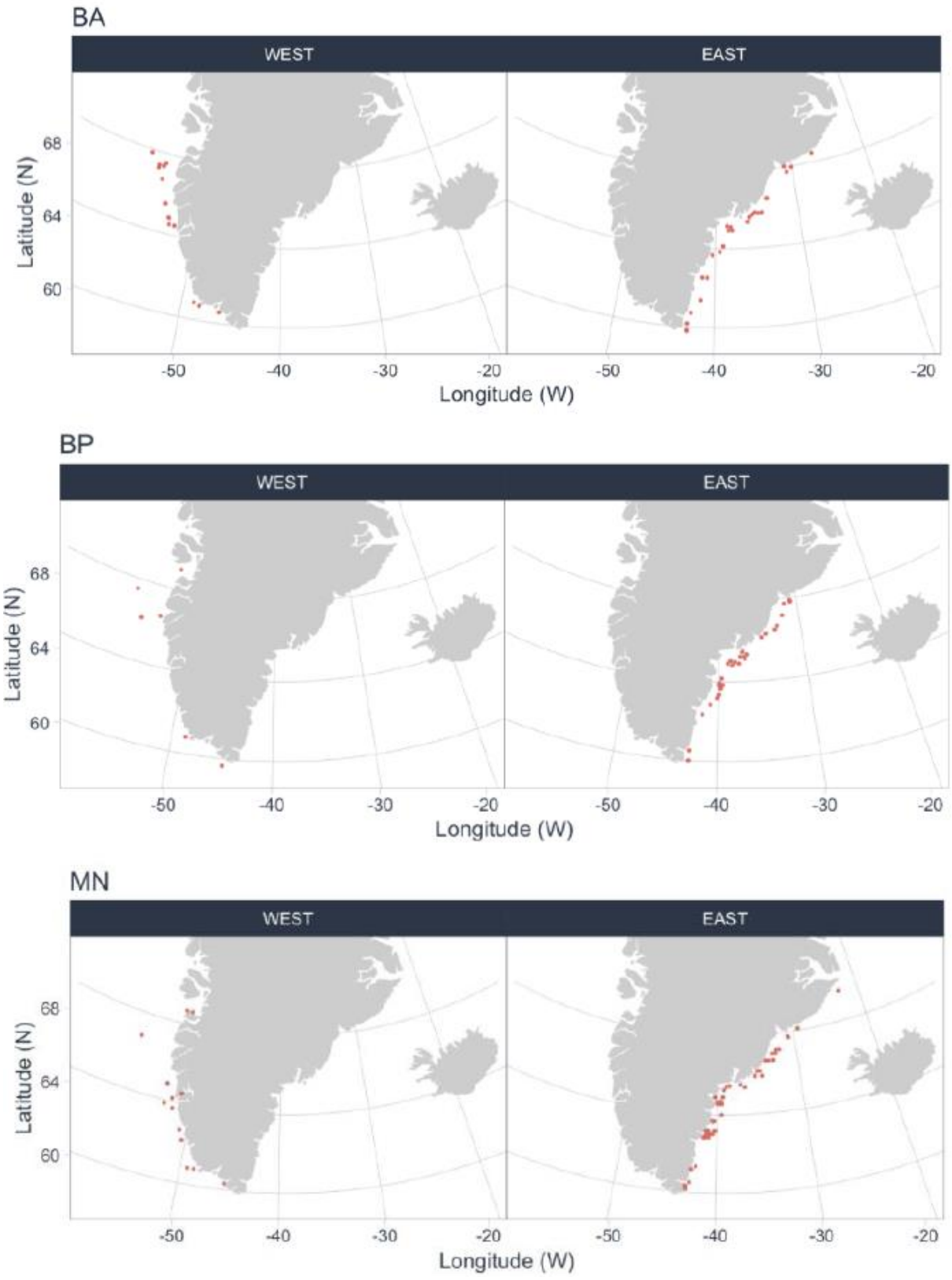
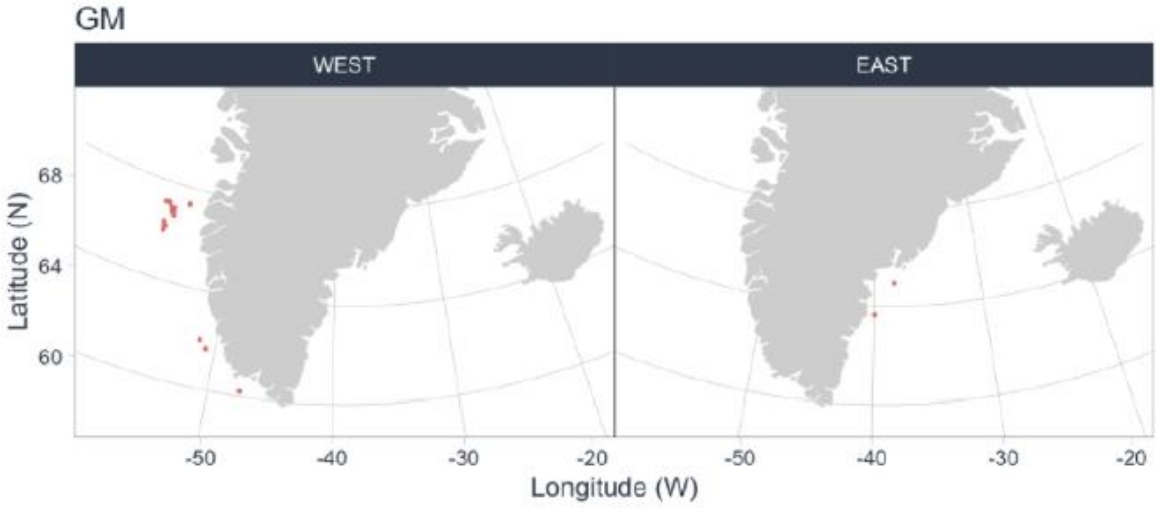
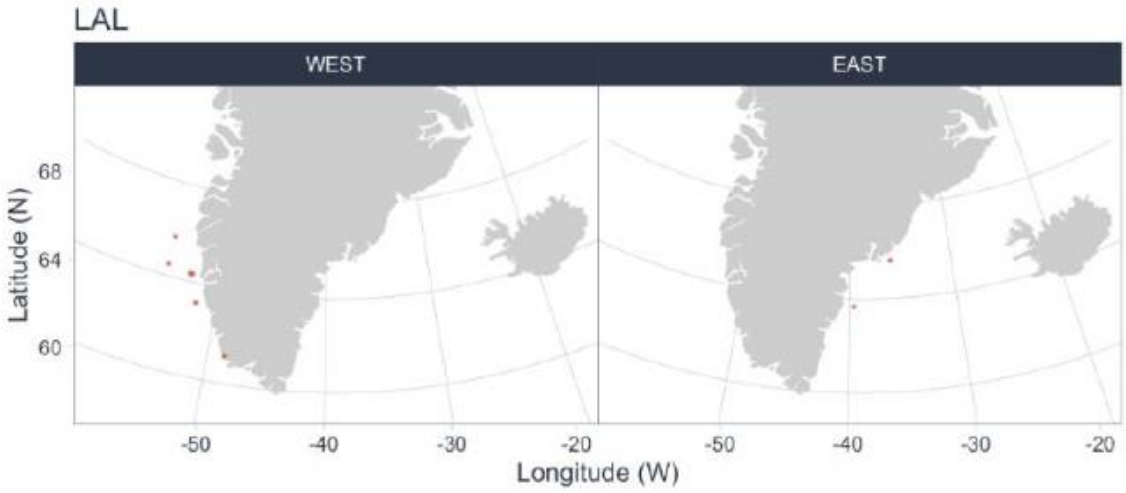
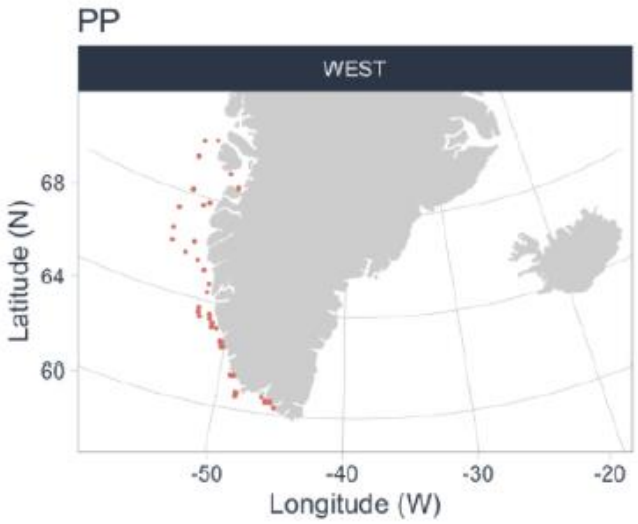


Figure 7. Locations of on effort sightings of cetaceans and polar bears in WEST (left panel) and EAST (right panel) Greenland.


BA
WEST
EAST
Latitude (N)
68
64
60
-50
-40
-30
-20
Longitude (W)
BP
WEST
EAST
Latitude (N)
68
64
60
-50
-40
-30
-20
Longitude (W)
MN
WEST
EAST
Latitude (N)
68
64
60
-50
-40
-30
-20
Longitude (W)


GM
WEST
EAST
Latitude (N)
68
64
60
-50
-40
-30
-20
Longitude (W)


LAL
WEST
EAST
Latitude (N)
68
64
60
-50
-40
-30
-20
Longitude (W)


PP
WEST
Latitude (N)
68
64
60
-50
-40
-30
-20
Longitude (W)

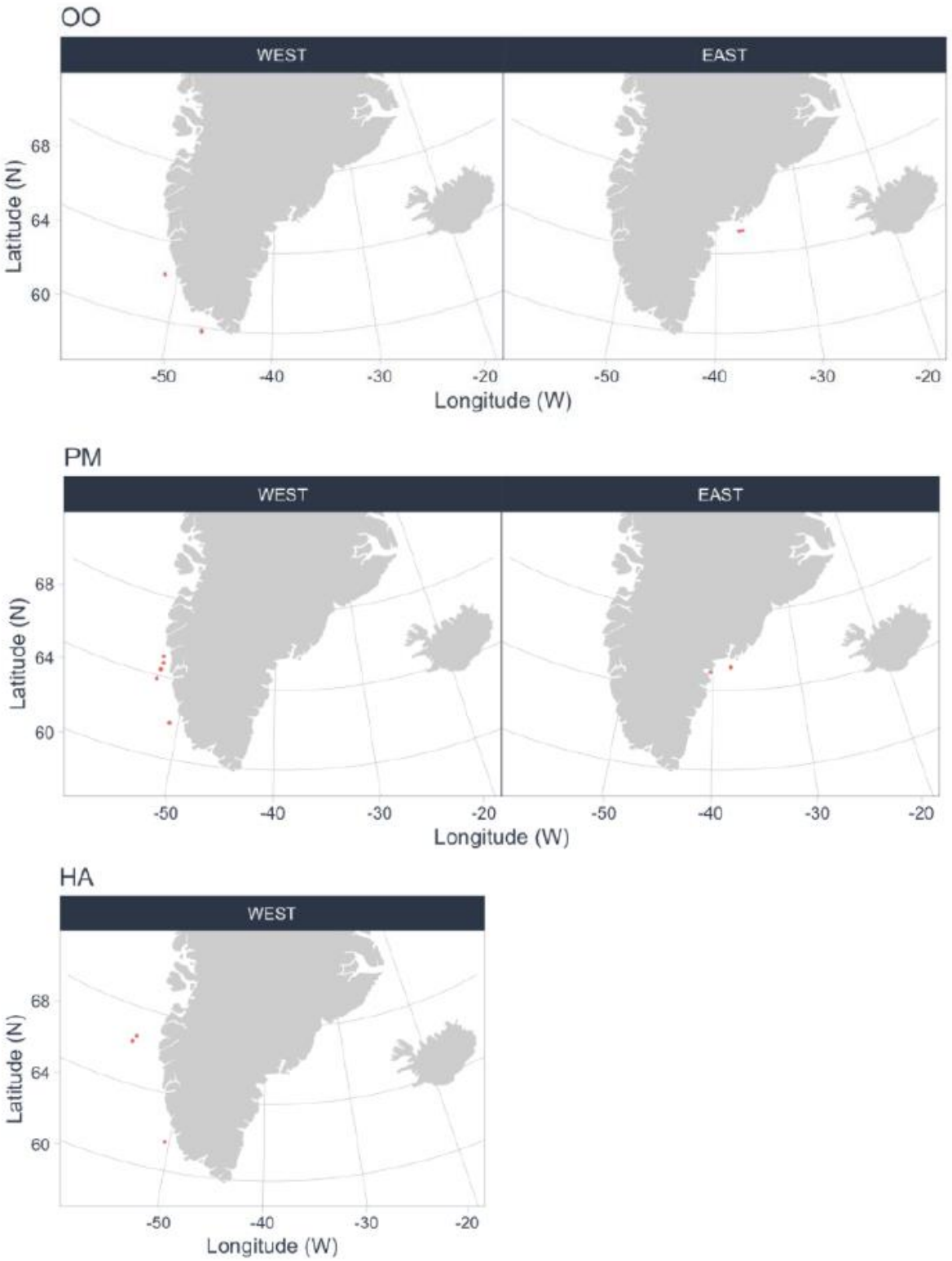


Figure 8. Locations of on effort sightings in WEST (left panel) and EAST (right panel) Greenland of minke whale (BA), fin whale (BP), humpback whale (MN), long-finned pilot whale (GM, white-beaked dolphin (LAL), harbour porpoise (PP), killer whale (OO), sperm whale (PM), northern bottlenose whale (HA), bowhead whale (BM) and narwhal (MM).

APPENDIX 5: NASS 2024 PRELIMINARY CRUISE REPORTS FOR RVS BJARNI SÆMUNDSSON AND ÁRNI FRIÐRIKSSON

Introduction

The North Atlantic Sightings Surveys (NASS) are internationally coordinated cetacean surveys conducted in 1987, 1989, 1995, 2001, 2007 (Trans-NASS, T-NASS), 2015, and 2024. Their primary objective is to obtain quantitative data on the distribution and abundance of all cetacean species across the survey area, spanning the northern North Atlantic from Norway to North America. These surveys are among the most extensive wildlife assessments ever, covering up to 2 million square nautical miles (equivalent to the size of Western Europe) and involving up to 15 ships, 4 aircraft, and 100 observers in a single survey. The combined distance travelled by ships and planes during surveys has exceeded 40,000 nautical miles, equivalent to twice around the world. Remarkably, a single survey has recorded sightings of up to 5,000 whales. The NASS's long-time span makes them ideal for monitoring abundance trends. Since 1995, the NAMMCO Scientific Committee has planned and coordinated the NASS. All species encountered are recorded on these surveys. However, each participating country has one or more target species – species that are of highest priority for the survey. In the Icelandic part of the survey, the target species are fin whales and minke whales. This prioritization may be because the species is harvested or subject to indirect take, or because of other conservation concerns. For example, the common minke whale is a target species for Norway because it is harvested there, while minke and fin whales are target species for Iceland for the same reason. The identification of target species influences survey design, in that the survey will cover areas where the target species is expected to occur, and the stratification and effort allocation will be optimized for the target species.

NASS 2024 main objectives are the following:

i. To estimate absolute abundance of cetacean species in Northern North Atlantic waters to provide information that can be used (along with information on trends, see 2.) in a management framework to advice on safe catch limits, both direct and indirect, for cetacean species which are subjected to aboriginal, direct or indirect catch. This will support decision making by management authorities on conservation and sustainable exploitation.
ii. To assess trends in distribution and abundance by comparing with results of previous North Atlantic Sightings Surveys (NASS 1987, 1989, 1995, 2001, 2007 and 2015) in areas that have been covered by several surveys

Methods

EFFORT AND SURVEY AREA

Two vessels were used in the survey, one dedicated cetacean survey vessel (RV Bjarni Sæmundsson) and one vessel (RV Árni Friðriksson) conducting two fisheries research

projects, one on mackerel and one on redfish, with co-platforms for whale observations. Teams of eight whale observers were onboard each vessel. The overall planned survey area for Iceland was IDS, IDW1-4 and the northern part of FDW - the FDW-I area (tilted parallel lines, see map) - that were supposed to be surveyed by the dedicated vessel; and IME, IMN, IMW and IMS (mackerel survey) and the IR (redfish) strata. The designed effort in FDW-I, IDS and IDW1-4 was 162, 745 and 1,352 nautical miles, respectively.

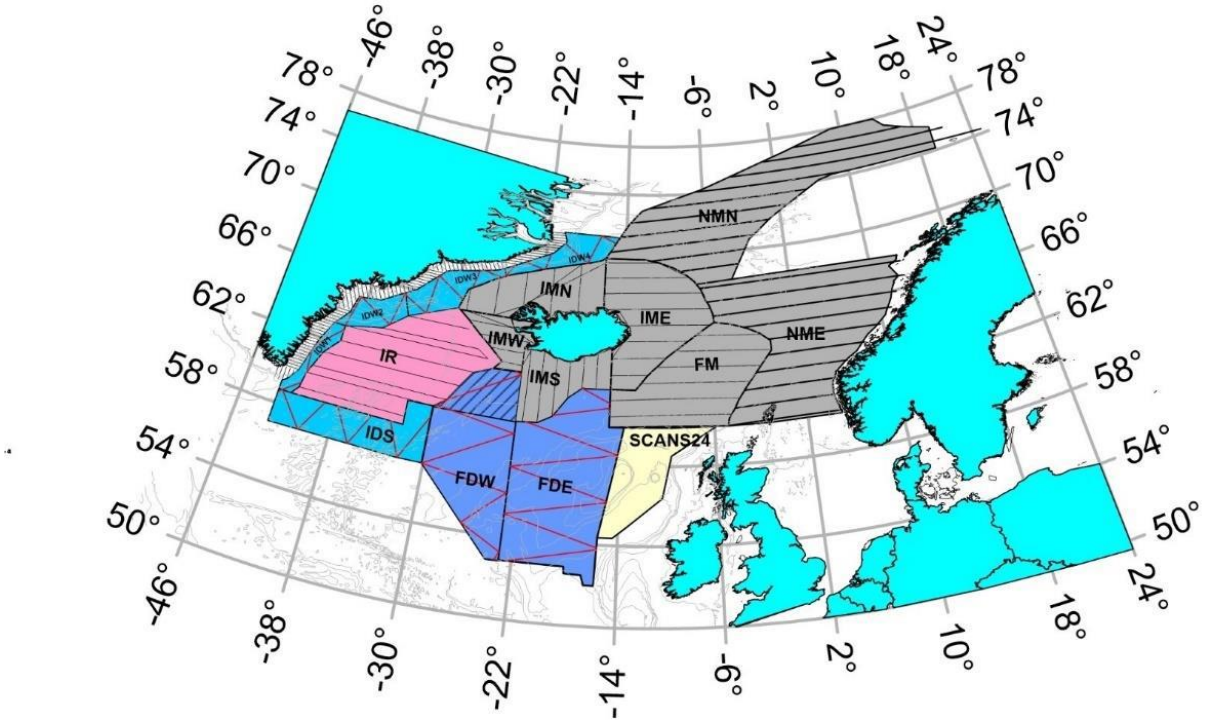


Figure. 1. Survey areas for the NASS 2024, showing the different strata and survey lines. The areas covered by the Icelandic vessels start with the letter "I".

SURVEY MODE

The survey was conducted using independent double platform line transects surveys (IO mode). On both vessels, the platforms were on two levels (upper and lower, see below). The surveys were conducted in passing mode. The platforms were completely isolated and independent, and considered equivalent, and sightings are therefor a "mark" or trial for the other platform, working both ways. This informs about the proportion of animals missed by observers, and hereby the probability for detecting animals on the trackline (explore if $g(0) \neq 1$; i.e. perception bias) can be estimated. The IO survey mode was chosen before the Tracker mode (where one platform is tracking with big-eye binoculars ahead of the vessel) because in previous surveys it was difficult to collect enough number of tracks if the weather was constantly bad or the survey vessel small.

VESSELS AND PLATFORMS

The two vessels used were:

RV Bjarni Sæmundsson is a 56 m long, and 10.6 m wide research ship built in 1970 in Kiel, Germany. It has 3 engines, 410 kw each. The maximum cruise speed is 12 nm/h, but the cruising speed in the sightings survey was 10 nm/h. For the sighting survey two platforms were

used, one on top of the bridge at 10.3 m height, and one on a specially built platform in the mast at 12.8 m height.

RV Árni Friðriksson is a 70 m long, and 14 m wide research ship built in 2000 in Asmar, Chile. It has 4 engines, 1000 kw each. The maximum cruise speed is 16 nm/h, but the cruising speed in the sightings survey was 10 nm/h. For the sighting survey two platforms were used, one on top of the bridge at 15.3 m height, and one in front of and slightly below the bridge at 11.52 m height.

SURVEY PROCEDURE

In the dedicated whale cruise (RV Bjarni Sæmundsson), the vessel was slowed down to 4 nm/h at night except in cases when traveling between transects. Observers worked on 2 h rotating shifts between 6 and 22. On board RV Árni Friðriksson during the mackerel survey similar shifts were used between 6 and 22, and the vessel stopped for 4 hours at night. During the redfish survey the vessel was not

stopped at night, but measures were taken to try to line planned trawls up so that they happened at night and didn't interfere with the sightings during the day.

EQUIPMENT AND DATA ENTRY

Each platform was equipped with two ipads for data entry, two binoculars equipped with reticule to estimate distance, and two angleboards to set angles to sightings. Specially designed data entry programme was used to record sightings. It includes an automatic data validation protocol.

OBSERVERS

Most observers were already experienced in whale sighting surveys. Those more experienced were paired with the less experienced observers. Training was conducted while steaming to the first transects. Training in estimating distance was conducted using a small craft with an AIS transmitter, allowing the bridge to know exactly how far the boat was and allowing the observers to practice measuring the distance.

RV Bjarni Sæmundsson

Name	Experience	Shift/platform
Guðjón Már Sigurðsson	Marine biologist. Whale research	2 / lower
Birgir Stefánsson	Former whaler, has participated in multiple NASS surveys	2 / lower
Magnús Ástvaldsson	Former MFRI staff, has participated in multiple NASS surveys	1 / lower
Inga Fanney Egilsdóttir	Former MFRI staff, has participated in multiple NASS surveys	2 / upper
Birna Daníelsdóttir	Marine biologist, third NASS survey	1 / upper
Alex Paumier-Bianco	Marine biologist. Whale watching guide	1 / lower
Lena K. Dorn	Mediterranean cetacean survey. Intern at Icelandic Orca Project	1 / upper

RV Árni Friðriksson – Redfish survey

Name	Experience	Shift/platform
Sverrir Daníel Halldórsson	Marine biologist. Whale research at MFRI. has participated in multiple NASS surveys	2 / lower
Ayca Eleman	Marine biologist, SCANS, multiple smaller surveys in Iceland.	1 / lower
Davíð Tómas Davíðsson	Former MFRI staff in whale research	2 / lower
Stefán Áki Ragnarsson	Marine biologist, MFRI staff has participated in multiple NASS surveys	2 / upper
Elzbieta Baranowska	Marine biologist, MFRI staff, second NASS survey	1 / upper
Paulus J. Wensveen	Marine biologist. Multiple sighting surveys	1 / upper
Birgir Stefánsson	Former whaler, has participated in multiple NASS surveys	2 / upper
Sölvi Rúnar Vignisson	Ornithologist, second NASS survey	1 / lower

RV Árni Friðriksson – Mackerel first leg

Name	Experience	Shift/platform

Sverrir Daníel Halldórsson	Marine biologist. Whale research at MFRI. has participated in multiple NASS surveys	2 / lower
Ayca Eleman	Marine biologist, SCANS, multiple smaller surveys in Iceland.	2 / upper
Karen Eik Sverrisdóttir	Second NASS survey	2 / lower
Charla Basran	Marine biologist, second NASS survey	1 / upper
Ewa Malinowska	Marine biologist, whale watching guide	2 / upper
Davíð Gíslason	Former whaler, has participated in multiple NASS surveys	1 / upper
Guilia Bellon	Marine biologist, whale watching guide	1 / lower
Guðni Hjörleifsson	Has participated in multiple NASS surveys	1 / lower

RV Árni Friðriksson – Mackerel first leg

Name	Experience	Shift/platform
Sverrir Daníel Halldórsson	Marine biologist. Whale research at MFRI. has participated in multiple NASS surveys	2 / lower
Ayca Eleman	Marine biologist, SCANS, multiple smaller surveys in Iceland.	2 / upper
Ingólfur Guðnason	Ornithologist. Has participated in multiple NASS surveys	2 / lower
Massimiliano Venezia	Marine biologist, whale watching guide	1 / lower
Atli Konráðsson	Biologist. Has participated in multiple NASS surveys	1 / lower
Davíð Gíslason	Former whaler, has participated in multiple NASS surveys	1 / upper
Barbara Neubarth	Marine biologist, whale watching guide	2 / upper
Eric dos Santos	Marine biologist, MFRI staff. Has participated in multiple NASS surveys	1 / upper

Results

CRUISE NARRATIVE

RV Bjarni Sæmundsson – dedicated survey

Left harbour in the morning of 1.7.2024. The first day was used to sail to the first transect (FDW) and some observer training. We began the survey on the 2.7 and covered the northernmost part of FDW in rather rough weather (Beufort level 5), but it calmed down and we covered area IDS over the next 5 days. Once we reached the Greenlandic coast in area IDW1 we started to have to deviate from our tracklines due to ice and followed ice protocols established before the NASS 2007 survey. That meant that we kept a 2.5 nm distance and followed the ice edge while on effort for the next 7 days. Due to shifts in the ice, we ended up being encircled by the ice and had to spend 2 days (14.7 and 15.7) getting out of the ice by sailing very slowly through the ice edge. The area between Jan Mayen and Greenland was almost fully covered with ice, so we could only cover a little part of the area for three days before we headed back to shore on the 18th of July. We came back to the harbour in Hafnarfjörður on the 19th of July, 1 day ahead of schedule. There were no major issues except for the two days spent getting out of the ice, and multiple deviations from the tracklines due to ice.

Figure 2. Planned vs realized transect lines of RV Bjarni Sæmundsson.

RV Árni Friðriksson – Redfish survey

The ship left the harbour on the 4th of June 2024. Training of observers was done on the way to the transect lines west of Iceland. No major issues were reported, although the weather was somewhat problematic with a mix of high winds and fog. In the end the coverage was, however, acceptable, as the last couple of days could be used just for whale observations. The ship came back to shore on the morning of the 26th of June 2024.

RV Árni Friðriksson – Mackerel survey

The ship left harbour on the 1st of July 2024. Training of observers was done on the way to the transect lines northwest of Iceland. From there transects were covered in the north of Iceland to Jan Mayen, and then of the east and south of Iceland before wrapping up off the west coast of the country. There was a crew swap in eastern Iceland on the 17th of July. There were no major issues except for that one observer had to be replaced in Siglufjörður on the 6th of July due to illness, and there was a 15h stop due to engine failure on the 27th of July. The ship came back to shore on the morning of 2nd of August 2024.

EFFORT

Not available currently. TBC.

SPECIES AND NUMBER OF SIGHTINGS

RV Bjarni Sæmundsson – dedicated survey

Table 1. Raw number of primary sightings on both platforms and counts of whales in the dedicated whale survey onboard RV Bjarni Sæmundsson. Not adjusted for duplicates/resightings

Species	Sightings	Count
Large baleen whale	205	332
Fin whale	88	169
Humpback whale	82	144
Most likely fin	43	76
Pilot whale	13	68

Bottlenose whale	15	38
Sperm whale	21	30
Minke whale	10	20
Dolphin	23	36
Medium whale	22	28
White-beaked dolphin	5	14
Sei whale	10	14
Killer whale	5	13
White-sided dolphin	1	12
Harbour porpoise	6	8
Basking shark	3	7
Hooded seal	2	3

Table 2. Raw number of primary sightings on both platforms and counts of whales in the dedicated whale survey onboard RV Árni Friðriksson. Not adjusted for duplicates/resightings

Species	Sightings	Count
Large baleen whale	339	389
Fin whale	323	503
Humpback whale	128	155
Most likely fin	58	72
Pilot whale	13	68
Bottlenose whale	105	424
Sperm whale	91	121
Minke whale	79	81
Dolphin	32	190
Medium whale	60	67
White-beaked dolphin / White-sided dolphin	15	142
White-beaked dolphin	67	337
Sei whale	24	30
Killer whale	19	121
Blue whale	38	45

More detailed analysis of the sightings will be provided at a later date

OUTREACH

A total of 12 updates were sent to the NAMMCO secretariat from the two vessels, by the cruise leaders onboard. In the future it might be better to designate a tech savy observer to be responsible for this work, as the cruise leaders are often quite busy with other work.

Survey evaluation

PREPERATION

Preparation went well, although both the data recording software and the protocol were ready quite late. The observers were experienced, and training went well. The effort sheet for the bridge was also prepared a bit late and could be thought of earlier before next NASS.

CRUISE PHASE

The vessels were very suitable for this kind of work. The equipment worked very well. There were some adjustments made to the species list at the last minute that were not fully thought out and resulted in multiple names for the same thing which require some work on the data after the survey. Something that can be fixed before our next survey.

Analysis

TBC

Sheets and forms

TBC

APPENDIX 6: INTERN TOKTRAPPORT

Fartøy: EROS

Område: Norskehavet – JM - Svalbard

Tidsperiode:020724-050824

Hvalobservatører: Lars Kleivane (1), Frode Holen (2), Claudia Erber (3) og Anna Victoria Pyne Vinje (4)

Alle tider i skjemaer og i datafiler er i UTC.

Tidene i dagboka føres som norsk tid (UTC+2 timer)

DAGBOK

Sammendrag

W- outside Mackerel transects - noted as T and F modus!!

Transect first leg 2417nm, with 14 days of whale effort, - double platform

Whale effort nm: total 655nm, T-modus 284nm and F-modus 371nm

Whale effort average hours: total 5h 18min, T-effort 2h 3min and F-effort 3h 15min

Whale effort in percentage: T-modus 43% and F-Modus 57%

Transect second leg about 3000nm, with 14 days on whale effort, - single platform

Whale effort nm: total 953nm, T-modus 380nm and F-modus 573nm

Whale effort average hours: total 7h 21min, T-effort 3h 12min and F-effort 4h 9min

Whale effort in percentage: T-modus 40% and F-Modus 60%

Tabell over observasjoner og effort modus

	Total sightings	Total animals	T-sightings	F-sightings	D-sightings
Total n	156	272			
Vågehval	94	106	76	7	11
Finnhval	10	15	5	3	2
Knølhval	1	2	0	0	1
Spermhval	12	13	7	5	0
Spekkhogger	6	32	0	2	4
Nebbhval	11	27	5	5	0
Kvitnos	15	59	8	7	1
Springer	4	8	3	0	1
Brugde	1	1	1	0	0
Uid	2	2	1	1	0
Total %			T-sightings	F-sightings	D-sightings
Vågehval	60		49	4	7
Finnhval	6		3	2	1
Knølhval	1		0	0	1
Spermhval	8		4	3	0
Spekkhogger	4		0	1	3
Nebbhval	7		3	3	0
Kvitnos	10		5	4	1
Springer	3		2	0	1
Brugde	1		1	0	0
Uid	1		1	1	0
% sighting					
Total modus	T-sightings	F-sightings	D-sightings		
	68	19	13		

02.juli 2024

Rigging av plattformer i går ettermiddag/kveld og på morgenen i dag. De siste detaljene kommer på plasse under kjøring fra Bergen utgang ca 0930.

Observatørene holder et orienteringsmøte og går gjennom rutinene for toktet, og prøver å tilpasse dette så godt som mulig til rutinene under telletoktene. Det er montert en PC fremme under bakken i

et tørt rom som vil samle data fra plattform 2. Mens PC for styrhustak er montert halvdekk ned på styrhuset. Begge plattformer er testet og er operative. En av 4 radioer settes på brua for kommunikasjon, mens vi vil ha en radio på hver plattform. Vi må komme tilbake på døgnrutner ettehvert som vi prøver dette ut. Utgangspunktet er at vi har personen som sitter på plattform 1 babord side som vil være værmelder og vil lese inn værdata hver time. Transkribering gjøres underveis på stasjon.

03.juli 2024

Test dag, der vi er på effort 2 ganger mellom frokost og lunsj, og 2 ganger mellom lunsj og kvelds. Vi har delt opp teams med obs 1 og 4, samt 2 og 3. Deler opp døgnet med obs 1/2 på platform 1 før lunsj og obs 2/3 på plattform 2 før lunsj. Så byttes det etter lunsj. Obs på plattform 1 på babord side er effort og værskjema ansvarlig og dette vil da rotere. Når man går på vakt så testes begge mikrofoner av en person mens den andre ser og skjekker PC at GPS er okay og at begge mikrofoner slår inn. Så leser begge obs seg inn på platformen. Når alle er lest inn, så leser PL1 babord inn effort status og væredata. Dette har vi lest inn på babor pl1 mikrofon. Mulig at dette bør gjøres på en egen mikrofon med egen ledning opp til PL1. Først skal vi se hvordan transkriberingen virker. Så testet vi ut alternativet med å taste inn værdata på PC. Da vil 3 obs lese seg inn Obs på PL1 babord slår inn data på PC og går opp i plattformen og leser seg inn. Ved stopp, så leser PL1 babord seg ut, går ned endrer effort status og endrer eventuelle værforhold. Gir beskjed opp og de andre leser seg ut. Her vil det være ca 5-10minutter der platformene er aktiv med 3 observatører!!!

Etter kvelds prøver vi transkribering fra PC, - ikke helt enkelt da de forskjellige bolkene ikke tilsvarer skjema de skal inn i, men det vil være mulig..... Men slik det ser ut nå vil vi heller se nærmere på data vi får inn fra mikrofonen PL1 babord for eddort og værdata.

Dagens oppsummering: Observert 6 timer og 52 minutter. T= 6t 52min. I løpet av dagen har vi går på marginale T- forhold meste av tiden med laber bris fra sørlig retning.

Observasjoner: Ingen observasjoner

04.juli 2024

Det er samme sørlig vindretning, men dårlige leteforhold med frisk bris i dag. Det er stasjon før frokost.

Vi transkriberer i dag effort og værdata fra i går, for å se på hvordan dette fungerer, samt noen øvelser med sighting data, som også ser ut til å kunne fungere. Mikrofoner og peileskiver er satt opp på brua plattform 3 for storhvalmodus, der babord mikrofon også vil ha inslag av aktivitet/modus samt værdata.

12:30 vi starter på Storhvalmodus W transekt nordover til neste makrell transekt, med firsk bris fra west, overskyet vær med god sikt.

For logistikkens del vil vi prøve å ha kjernetid mellom kl 08 og 20, og heller strekke oss utover dette om det er gode forhold.

12:37 startet vi med storhvalmodus på brua med frisk bris fra NE, overskyet med god sikt, men utfordrende observasjonsforhold.

19:30 avslutter vi for dagen, og forholdene har vært stabilt dårlige for hval observasjoner

Etter mat hadde vi en samling på PC med transkribering av værdata og sighting, og det ser ut til å kunne virke okay.

Dagens oppsummering: Observert 5 timer og 4 minutter. W= 5t 4min I løpet av dagen har vi går på marginale W- forhold meste av tiden med frisk bris fra østlig til nordøstlig retning. Burde vært ført som F modus.

Observasjoner: Vågehval 1 og en uidentifiser hval

Bemerkning: plattfrom 3 på brua montert på mic 3 og 4 på hovedcomputer

05.juli 2024

08:00 værbedring med laber bris fra nord, spredt skydekke sol og god sikt. Vi har en liten runde i plattformene før stasjon kl 09:40, men stille på havflaten. Kun havhest og havsule som sirkler rundt båten.

Dette makrell toktet kjører med kontinuerlig ekkolodd med 6 frekvenser fra 18 til 333 KHz, som sannsynligvis ikke har stor betydning, mens sonaren som scanner med 1000m stripebredde og 500m foran båten på frekvenser 77 og 81 kHz er en aktiv kilde i vår «hval» sektor. Sannsynligvis ikke av betydning men godt å ha det med som en mulig faktor. Båten har også ca 20 og 120 kHz ferkvenser

Dagens oppsummering: Observert 4 timer og 21 minutter. T= 4t 21min

Observasjoner: 2 finnhval observasjoner, 3 dyr som ble sett på D modus fra bru.

06.juli 2024

Overskyet vær, med lett vind fra nordlig retning fra morgenen av, og gode leteforhold. Vi kurser nordover til neste makrell transket på W modus. Starter opp Kl 08 i posisjon 6424N-0933E.

Godt vær men ingen observasjoner før middag.

En liten vindøkning på ettermiddagen, men fremdeles med gode leteforhold. Ingen observasjoner.

Det kjøres ikke ekkolodd registreringe mellom makrell transektene, så vi har vært på W modus med enkelplattform effort, frem til starten av makrell transektet fra stasjon 38 til 32.

Dagens oppsummering: Observert 6 timer og 38 minutter. T=0t 19min. W=6t 29min

Forflytting nordover på W transekt opp til neste makrell transekt. Dette burde ha vært kodet som T og F modus.

Observasjoner: ingen hvalobservasjoner

07.juli 2024

Flotte forhold fra kl08, med NE lett vind og god sikt og gode leteforhold, og vi kurser vestover på makrell transkektet.

Vi har en vågehval registrering, men ellers stille fra plattformene.

Vindøkning på ettermiddagen til frsik bris fra nord, med noe tåkebanker og yr. Vi bytter til F modu og singleplatform effort fra brua. To springer observasjoner.

Det er grensevær mot slutten av dagen, og vi endrer til T modus, men med dårlige leteforhold med varierende vind fra laber til frisk bris fra nord

Dagens oppsummering: Observert 6 timer og 29 minutter. T=2t 42min. F=3t 46min

Observasjoner: ingen hvalobservasjoner

07.juli 2024

Laber bris fra morgenen av, med overskyet vær og god sikt. De hadde en større makrellfangst på morgenkvisten på 2 tonn som stod høyt i sjøen.

Fra plattformen ser vi også makrell aktivitet på overflaten, og vi har 4 vågehval registreringer (2 dyr dobbeltplattformhval) på formiddagen. Noe spesiell adferd på den ene registreringe på styrbord side med en torpedo «surfacing» propoising. Mens dyr to hadde en rolig adferd til tross for at den var veldig nære båten. Siste var assosiert med makrell på overflaten.

Dagens oppsummering: Observert 6 timer og 29 min. T=2t 42min. F=3t 47min.

Observasjoner: 2 vågehval og 2 springer

08.juli 2024

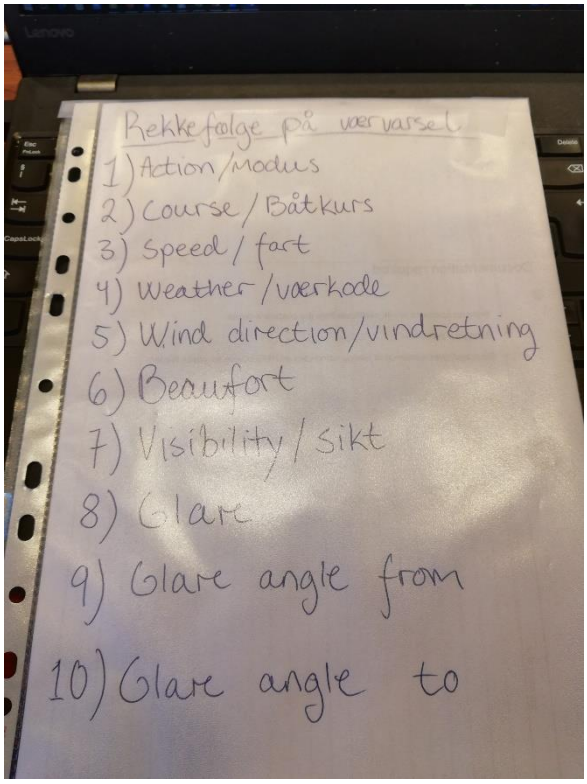
Laber bris fra NW, overskyet med god sikt. Vi starter ut på T modus kl 8 i posisjon 6613N-0028W i grensevær med laber bris fra NW, noe lettere midt på dagen med dreining mot vest på vinden. Overskyet med god sikt.

Utover formidaggen ser vi makrell aktivitet på overflaten. På stasjon i nærheten ble det funnet copepoder i magen på makrellen, og vi hadde også noen vågehval registreringer her.

Ettermiddagen er er på det gjevne mellomlaber og lett bris, tidvis greie leteforhold. Etter mat får vi inn to vågehval observasjoner (singelplattform hval).

Dagens oppsummering: Observert 5 timer og 22 min. T=5t 22min.

Observasjoner: 6 vågehval



For å lette på transkriberingen for været laget vi et oppsett som passet med rekkefølgen i regnearket. Samme ble gjort for sightings.

09.juli 2024

Vestlig laber bris med overskyet vær og god sikt. Vi har en kurs på NE mellom makrell transektene. Luft temperatur er på 9 grader og sjøtemperatur på 8.3 grader. Vi er langt unna noen av målestasjonene så ingen fiske innformasjon.

Vi starter på transekt kl 8 i posisjon

Stabile forhold utover formiddagen i greie B4 forhold, men ingen registreringer annet en noen få havhest. Vindøkning tidlig ettermiddag med grensevær for observasjoner. En spermhval observasjon på siste skiftet før lunsj.

På stasjon (38) med tråling i pos 67.54N-01.57W ca kl 1315. Fangst 250kg makrell med god størrelse >500g noe copepoder i magen.

Vi starter på F modus fra styrhuset i Frisk bris fra vest, som øker utover ettermiddagen til liten kuling. Ingen observasjoner.

Kl17:25 stopper opp da det skal kjøres trål på registrering av kolmule i pos 67.54N-02.45W

Dagens oppsummering: Observert 4 timer og 59 min. T=3t 29min. F=1t 30min

Observasjoner: 1 spermhval

Bemerkning: fra og med i dag er plattform 1 på styrhustaket sentrert på båten. Den er flyttet 1.7m mot babord. Dette fører til at begge sider har åpen utsikt til hovedsektor. Slik plattformen stod, var det en stang med instrumenter som skygget for deler av babord sektor.

10.juli 2024

Kl 8 i pos Vi fortsetter med F modus i frisk bris fra SW, overskyet vær med god sikt. Siste makrell stasjon var fangsten på 350kg. Lufttemperatur og sjøtemperatur ligger på 8.3/7.9 grader Celsius. Sjøtemperaturen måles på ca 8m dybde. Først vakta i dag hadde en liten gruppe spekkhoggere, eller lite fugle og liv på transektet.

Kl 1230 er vi på makrell stasjon (1) i pos 6808N-0509W. Fangst 650 kg stor makrell 500-600g og 65 kg relativt stor sild. Lite mat i magene.

Kl 1730 det er stabilt dårlig vågehvalvær med frisk bris fra sørlig retning, og vi fortsetter på F modus. Ingen observasjoner på ettermiddagen.

Dagens oppsummering: Observert timer og min. T=0t 0min. F=8t 42min

Observasjoner: 1 spekkhogger

11.juli 2024

Kl 0800 i pos vi har en vindøkning med liten kuling fra sør. Lavt skydekke men med grei sikt. Mindre makrell i fangsten i natt. Lufttemperatur og sjøtemperatur ligger på 8.5/8.0 grader Celsius. Makrellfangsten var liten i natt kl 3 med 40 kg og 9 sild.

Startet ut på F modus etter frokost, men avbryter 08.45 i stiv kuling fra sør i pos 6858N-0602W.

1133 ligger på stasjon 2 i tåkebanker og yr med stiv kuling fra sør. Pos 6854N-0655W.

Første fangsten med sild ca 500g og kun 20kg makrell. Begge i god kondisjon og store 300+ og 500+.

Liten kuling fra sør utover ettermiddagen som løyer litt og vi får en god time med F effort på tampen av dagen i marginale leteforhold. Ingen observasjoner.

Dagens oppsummering: Observert 2 timer og 2 min. T=t min. F=2t 08min.

Observasjoner: Ingen observasjoner

12.juli 2024

0700 ligger på stasjon 4 i posisjon 6929N-1129W. Lavt skydekke og yr, med sikt på 3000m. Fremdeles dårlige leteforhold med friskb bris fra sørlig retning som skal spakne utover dagen. Kaldere med lufttemperatur og sjøtemperatur ligger på 4.5/4.8 grader Celsius. Vi ligger nå i den vestligste punktet for første del av toktet, og vil starte på transekter som går østover. I trålen var det mest sild totalt 1000kg og ingen makrell. Stor sild (+370g) med fulle mager av krill.

Starter med F modus ut fra stasjon i sørlig frisk bris, lavt skydekke med yr og tåke, Sikt på 3000m.

Kl 1030 går vi over på T modus i marginale vågehval forhold. Sikten er redusert til 1000m, yr i lufta, og laber sørlig bris. Ingen observasjoner før vi er på neste stasjon kl 1200 i pos 6942N-0838W. Fangst kun sild ca 1000kg

Fremdeles frsik bris fra sørlig retning, vi starter opp på på F modus etter stasjon kl 1445 i pos 6941N-0840W. Bytter modus og tuner over på T modus kl 1540. Vinden har løyet noe og vi kjører dobbelt vakt. Det skifter mellom laber og frisk bris fra sørlig retning. Skydekket sprekker opp og vi har god sikt utover ettermiddagen.

1749 skifter vi over på F modus i pos 6948N-0651W. En sannsynlig nebbhval observasjon mot slutten av dagen. Det har kun vært sild i de siste 2 trålhal. Sjøtemperaturen har vært under 5 grader Celsius. Østover stiger denne til 6 grader. Vi ligger på stasjon nr 6, og her var det nesten også bare sild ca1800kg, og kun 10 makrell i fangsten, samt noen rognkjeks.

Dagens oppsummering: Observert 6 timer og 5 min. T=3t 13min. F=2t 52min.

Observasjoner: 1 sannsynlig nebbhval observasjon

13.juli 2024

Kl 0700 tåkebanker, litt yr og kuling fra sør. Varmere forhold med lufttemperatur og sjøtemperatur liggende på 7.9/8.5 grader Celsius. Vi er på stasjon nr 7, og her var det en liten fangst av sild (60kg) men også noe makrell (20kg). Ser ut til at makrellen ikke trives i kaldere vann.... Vi har dårlige hvalforhold, men håper på bedring utover dagen.

Starter opp kl 0800 i varierende tåkebanker, men stopper opp på F modus da vi har sikt på 200-500m. Avventer...

Stabile forhold med dårlig sikt gjennom formiddagen og sørlig frisk bris.

Kl1500 starter vi opp på F modus og går noen timer med variable sikt, før det tetner til igjen

Kl1855 tåka tok oss bråt med sikt på under 100m. Litt varmere både i lufta og sjøen med

lufttemperatur og sjøtemperatur liggende på 10.5/9.0 grader Celsius. Ingen observasjoner

Dagens oppsummering: Observert 4 timer og 23 min. T=0t 0min. F=4t 23min

Observasjoner: Ingen observasjoner

14.juli 2024

Kl 0700 i pos 6858N-0101W, vinden er løyet til lett bris fra SW, men vi har fremdeles tåkebanker med variable sikt. Lufttemperatur og sjøtemperatur ligger på 7.9/10.2 grader Celsius. I natt var det igjenn makrell som dominerer i fangsten, som var liten 80kg makrell og 1 kg sild.

Starter opp kl 0800 i pos. I variabel sikt og tåke, rolige vind forhold med lett bris fra xx. En vågehval sighting før stasjon kl 0905 i pos 6854N – 0154E. Vågehvalen oppe uvanlig mange ganger på avtand ca 200m først med kurs på ca 120 grader, så snur rundt og kurser ca parallelt med båten.

Stasjon nr. 6 liten fangst med xx

1130 starter på T modus i pos 6856N-0222E med flotte leteforhold med lett vind fra vestlig retning og noe begrenset sikt ut til ca 1000m En god del innslag før middag med flere vågehval observasjoner. Tåka letter noe utover ettermiddagen med sikt på 3000-6000m, godværet fortsetter og vi har flere vågehval observasjoner, samt Finnhval, spermhval og nebbhval. Over et større omerådet ser vi makrell oppe i sjøen.

Trålhal nr7 gir en større fangst på 1550kg makrell og 10 kg sild.

Får en liten time på transekt etter stasjon og frem mot kvelds har vi noen observasjoner av vågehval og en nebbhval.

Det ble gjennomført et registreringstrål ca kl 2230 . I forkant av dette var det mye makrell som ble observert i overflaten og med ansamling av ca 8 vågehval over et lite området, kl 2210 i pos. 6910N-0657E.

Natt tålingen ga 650kg makrel og 1 kg sild på stasjon nr. 8.

Dagens oppsummering: Observert 5 timer og 36 min. T=5t 36min. F=0t 0min

Observasjoner: 27 vågehval, 1 finnhval, 2 spermhval, 1 nebbhval, 1 brugde og 1 uid.

15.juli 2024

0730 i pos 6913N-0942E tilbake i tåkebanker og liten kuling fra NE. Lufttemperatur og sjøtemperatur ligger på 10.5/10.1 grader Celsius.

Vi starter opp på F modus kl 0800 i varierende sikt, men avbryter nokså fort da sikten er gevnt for dårlig. Kommer til nest siste stasjon (nr. 9) der fangsten er på 500g makrell og 10kg sild.

Kl 11 fortsetter vi på F modus med frisk bris fra NE, sprekk i tåke og skydekke med relativt god sikt. Vinden øker på fra NE til kuling og vi avsluter F modus. I natt ble det gjort et siste registreingstrål etter kolmule med den største fangsten så lang på ca300kg.

Dagens oppsummering: Observert 1 time og 12 min. T=0t 0min. F=1t 12min

Observasjoner: Ingen observasjoner

16.juli 2024

Transport dag med innseiling på Mallangen og videre til Tromsø for mannskapsbytte og byte av HI personell. Docking kl 1050 på Riberkaia i Tromsø

Oppsummering første del

Utstyret ble montert og testet i Bergen og på vei ut mot transektene, og har fungert bra hele veien, med unntak av noen GPS stopp på PC til Plattform 2, men det ser ut til å virke greit etter noen restart. Denne PC ble plassert i et tørt rom under Plattform 2, mens hoved PC ble plassert i sentrum av styrhuset et halvdekk ned der fiskefolket har sine PC'er. M/S Eros har god plass, og vi benytter et rom ombord under styrhuset til transkribering og annet arbeid. Tønne på plattform 1, ble flyttet til sentrum av båten, ca 1.70m den 09 juli, slik at begge sektorer hadde fritt utsyn. Plattform 3 på brua ble montert den 04 juli. Daglig arbeid mellom 0800 og 2000, når det er mulig mellom måltider og stasjoner kjøres på T- eller F-modus, med henholdsvis dobbelt plattform og enkeltplattform. Mellom stasjonene er de ca 60nm, og tiden på stasjon varierer mellom 1,5 til 2,5 timer. Av og til tråles det på registrering.

Total distanse for fiske-transektet er på 2417nm, hvorav hvaleffort fordeler seg på ca 284nm på T-effort (43%), 371nm på F-effort (57%), totalt med 655nm på effort. Gjennomsnitt for total effort var 5 timer og 16 minutter, på T-effort 2 timer og 29 minutter og på F effort på 3 timer og 6 minutter. Vi har observasjoner av 6 hvalarter, med hovedtyngde på vågehval med i alt 33 sightings med 26 dyr på T-modus, 1 dyr på F-modus og 6 dyr på D-modus. Av andre arter er det 4 spermhval, 5 spekkhoggere, 2 nebbhval,2 springere, 1 brugde observasjoner, samt 2 uten id. Totalt 49 observasjoner, i alt 82 hval.

Fordeling av observasjonene fordeler seg på 71% i T-modus, 8% i F-modus og 20% i D-modus..

M/S Eros 2-16 of July first period

% sighting	T-effort	F-effort	D-effort
Total	71	8	20

% effort	T-effort	F-effort
Total	42	57

	Total sightings	Total animals	T-sightings	F-sightings	D-sightings
Total n	49	82	35	4	10
Vågehval	33	39	26	1	6
Finnhval	3	4	1	0	2
Spermhval	4	4	4	0	0
Spekkhogger	5	28	0	1	4
Nebbhval	2	2	1	1	0
Springer	2	2	2	0	0
Brugde	1	1	1	0	0
Uid	2	2	1	1	0

Oppsummering til Hector

Under dette makrelltoktet med M/S Eros 4 hvalobservatører prøver ut mulighetene til å gjennomføre linje transekt effort med registreringer av sjøpattedyr på linje med standard hval telletokt (NILS). To plattformer er montert for å kunne ha dobbeltplatform effort, og brua blir benyttet som plattform når været blir for dårlig (enkelt plattform). Værgrensen ligger på laber bris. Observasjonene blir lest inn via mikrofon, og seinere transkribert elektronisk.

Vær forholdene under første delen av toktet har vært utfordrende med ca 60% av effort med enkeltplattform effort, med noen enkelt dager med godt vågehvalvær. Vågehvalen er primær arten, men alle sjøpattedyrarter registreres. Så langt har vi observert 6 hvalarter under denne turen; vågehval, finnhval, spermhval, spekkhugger, nebbhval og springer. Og i går ble det også observert ei brugde. I grove tall så dominerer vågehvalobservasjonene i vårt data sett, og ligger på over 70% av alle observasjoner. Rådata vil bli analysert når vi kommer tilbake fra andre halvdel, med tanke på om logistikken i forhold til fisketokt vil kunne fungere også for hvalobservasjoner.

Vi er godt fornøyd med oppsettet, maten og hyggen ombord i M/S Eros

Mvh MMO's Lars, Frode, Claudia og Victoria

17.juli 2024

Tromsø, mannskapsbytte samt 5 av 6 fiskefolk.

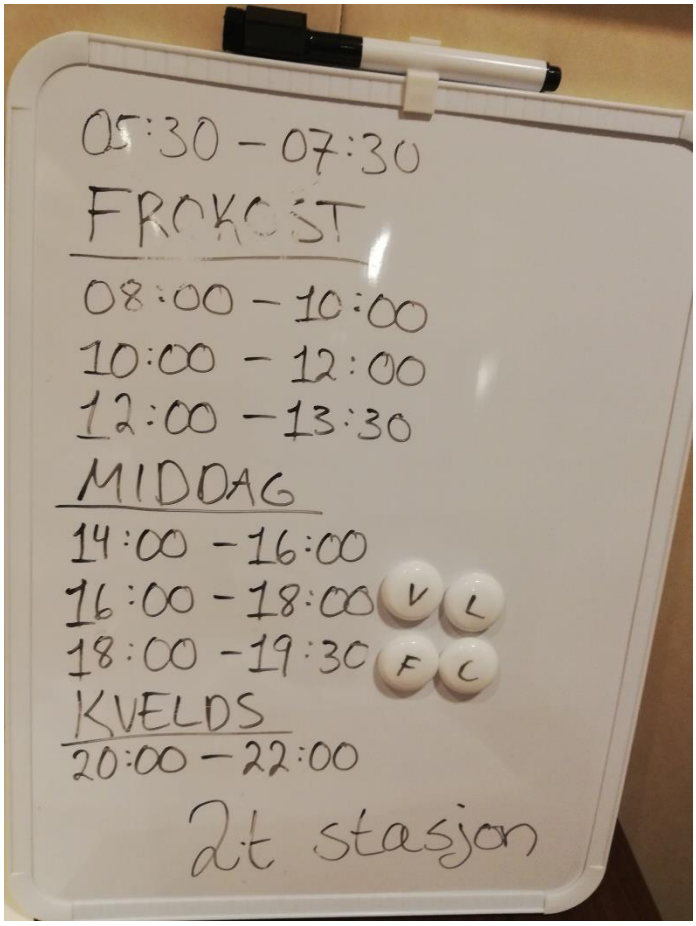
Møte med Martin, Frederike, Martin, Knut ny toktleder, Hector og oss tellere, samt Jasmin og George kom inn på møte. Litt snakk om opplegget for del to, og det bestemmes å bruke enkeltplattform fra Plattform 1, ikke tracking av vågehval, ikke kurs og fart på båten. Vi fikk ny PC men den hadde ikke tilgang på excel, og storskjermen ble også ikke nødvendig da det er okay at alle transkriberer på egene maskiner. Fikk to nye minnepinner slik at kopiering fra plattform PC går raskere. Ellers litt om mulighetene til å delta under fiske tokt seinere, kanskje mest realsitisk med kun to hvalobservatører.....

Seiler ut ved 1600 tiden med kurs for første transekt del. Vi kommer fort i tåke på yttersiden, ingen vakter i dag.

Ordner med en vaktordning der vi starter 0530 om morgenen, holder 30minutters felles måltid 0730-0800, 1330-1400 og 1930-2000. Det gir 5 2 timers vakter og 2 1.5 timers vakter, totalt 13 timer der stasjonene må legges inn som de kommer. Det vil sannsynligvis være 2 stasjoner innen denne perioden på 2 timer hver, så max tilgjenngelig hval effort vil ligge på 9 timer. Om vi får perioder med godt vær vil vi legge inn dobeltplattform effort. Frode og Claudia starter om morgenen og Lars og Victoria avsluter dagen. Transkribering gjøres på ettermiddagen under stasjon.

Vaktordning andre del av mackrell tokt med M/S Eros 2024	**Enkelplattformvakt roterer med 4 observatører**
Hvaltelling	
05:30-07:30	Frode/Claudia
frokost	
08:00-10:00	Lars/Victoria
10:00-12:00	Frode/Claudia
12:00-13:30	Lars/Victoria
Middag	

14:00-16:00	Frode/Claudia
16:00-18:00	Lars/Victoria
18:00-19:30	Frode/Claudia
Kvelds	
20:00-22:00	Lars/Victoria



18.juli 2024

05:00 tåke og frisk bris fra NE, med noen hundre meter sikt. . Lufttemperatur og sjøtemperatur ligger på 11.1/11.8 grader Celsius.

På første stasjon (nr.17) i går kveld var fangstene på, mens det på morgen kvisten ved 6 tiden på stasjon nr 16 var tilsvarende med 230kg og 30kg sild

09:00 tåke og frisk bris fra NE, med noen hundre meter sikt, stabil tett tåke.

Stopper på stasjon 15 kl 1217 i pos 7008N-1124E fremdeles i tåka. Fangstene er noe større med 800kg mackrell o g 15 kg sild. Fremdeles tåke.

1630 litt bedring på sikten, med 600-700m sikt, vi starter med transekt i pos 7007N-1024E i T-modus.

Det tetter til med tåke, og det blir en kort økt.

Dagens oppsummering: Observert 0 timer og 44 min. T= 0t 44min. F=0t 0min

Observasjoner: Ingen observasjoner

19.juli 2024

0530 starter

På stasjon nr. 13 i dag tidlig var det 180kg mackrell og noen få sild

Lufttemperatur og sjøtemperatur ligger på 10.5/10.9 grader Celsius. Tåkebanker som varier med sikt fra noen 100m til noen 1000m. Flau vind og flatt hav, gode søkeforhold når vi har sikt. Noen observasjoner av vågehval og en spermhval frem mot stasjon nr. 12. Flere av vågehval observasjonene har vært «parhval». Liten fangst med mest sild ca 100kg og 20kg makrell og en liten laks. Lite mat i magene.

Forstsetter ut fra stasjon nr 12 i pos. 6950N-3973E med flotte vågehval forhold, lavt skydekke og lett vind fra NE. Flere vågehval observasjoner utover dagen i gode forhold

Kommer på stasjon nr 11 ved 1930 tiden i pos. 6940N-00.01W, nesten bare mackrell ca 2.9 tonn, noen få sild. De får litt problem med poseknuten, så det blir ingen seinvakt. Fremdeles nok lys kl 2200, selv om det skumrer litt.

Dagens oppsummering: Observert 8 timer og 51 min. T=8t 51min. F=0t 0min

Observasjoner: 25 vågehval og 1 spermhval

20.juli 2024

Starter ut i F modus kl 0530 i pos , med frisk bris fra øst, begrenset sikt i tåkebanker varierende fra 500m til 2000m. Lufttemperatur på rundt 10 grader Celsius mens sjøtemperaturen variere mellom 7 og 10 grader Celsius gjnnom dagen. En spekkhogger, en vågehval og to bottlenose observasjoner før middag

Stasjon 12 i pos 7051N-0141N i Jan mAyen blokka var den største fangsten så langt med ca 6 tonn sild og 50kg mackrell. En vågehval ble observert på stasjon.

Starter på T modus etter stasjon. Flere vågehval utover ettermiddagen

Dagens oppsummering: Observert 9 timer og 26 min. T=2t 7min. F=7t 19min

Observasjoner: 13 vågehval, 1 spekkhogger, 6 nebbhval og 1 spermhval

21.juli 2024

Frisk bris fra NE, tåkebanker og yr med variabel sikt. Lufttemperatur og sjøtemperatur ligger på 7.8/7.9 grader Celsius.

Kl 0800 ligger vi på stasjon nr 10 i pos. 7037N – 0442W, ca 20nm sør for Jan Mayen. Stor fangst av sild på ca 5 tonn og noen få mackreller 50kg..

Stabilt dårlig vågehvalvær utover formiddagen med noen innslag av vågehval og nebbhval. En vågehval var sjøløs flere ganger, og vi hadde det samme i går med en hoppende vågehval.

Når vi er ferdige med mackrell transektene i Jan Mayen blokka, skal vi ha noen dager med søk etter lodde på oppsatte transekter, der det kun vil bli tråling på registrering av lodde.

Samme værtypen utover ettermiddagen med firsk bris fra NE, lett yr og tåkeanker. Kl 1600 kommer trålen inn på ST 9 i pos 7026N-1049W, med en fangst på ca5 tonn med sild.

Dagens oppsummering: Observert 4 timer og 52 min. T=1t 55min. F=2t 57min

Observasjoner: 6 vågehval, 1 nebbhval og 1 spermhval

22.juli 2024

Kuling fra morgenen av fra SE, ingen effort før det løyer noe utover formiddagen. Sikten er relativt bra, og vi ser Berenbeerg ca 27nm på nord ut av tåkeskjørtet. Kaldere lufttemperatur og sjøtemperatur nå nede på 7.5/6.1 grader Celsius. Varierende silde fangster i natt fra 4.5 tonn til 85kg. Kun enkelt mackrell i disse fangstene.

Starter opp på F modus før middag, ingen observasjoner. Vi er nå på lodde søk i dag og i morgen, mulig også onsdag med transekter rundt Jan Mayen. Ingen observasjoner av lodde så langt.

Ingen observasjoner frem til kvelds, været er stabilt med frisk bris til kuling fra SE med variable sikt ned mot 500m, forstsetter litt på F modus etter maten, men tåka vedblir og vi ta kveld.

Dagens oppsummering: Observert 10 timer og 40 min. T=0t 0min. F=10t 40min

Observasjoner: Ingen observasjoner

23.juli 2024

Sterk kuling fra SE, tåkebanker med variabel sikt. Vi fortsetter på lodde transektene. Kaldere lufttemperatur og sjøtemperatur nå nede på 6.9/5.2 grader Celsius.

Tråling på en registrering kl 0900 i pos 7100N-1032W, men ingen lodde registrert, kun 200kg med sild.

Ruske vær med varierende vind frisk bris til kuling fra SE utover ettermiddagen. Vi holder F modus. Et storhvalblåst på avtand, og ser blåstet også på noen hundre meter uten å kunne se art. Det er veldig urolig sjø. Også på neste dyr er det ikke mulig å se art, så vi avbryter effort. Blåstene var enten blåhval eller finhval blåst.

Seinere på kvelden blir det sett nebbhval ved båten under D-modus. I natt ble det gjort et trål på registrering og 2 lodder ble fanget, 1 åringer....

Dagens oppsummering: Observert 6 timer og55 min. T=0t 0min. F=6t 55min

Observasjoner: 3 storhval blåst og 1 nebbhval

24.juli 2024

Tåke fra morgenen av, frisk bris fra sør. Kaldere lufttemperatur og sjøtemperatur nå nede på 3.6/4.2 grader Celsius.

Kl 0800 er vi på vei fra stasjon. Fangsten var sild med ca 2.5 tonn.

Fremdeles tett tåke og frisk bris fra sør

På stasjon no 14 kl 1430 i pos 7125N-0936W, ingen fangst av sild eller mackrell!!

Dagens oppsummering: Observert 4 timer og 20 min. T=1t 48min. F=2t 32min

Observasjoner: Ingen observasjoner

25.juli 2024

Frisk bris fra SE og tåkebanker fra morgenen av. Lufttemperatur og sjøtemperatur nå på 8.7/7.3 grader Celsius. Natte fangstene ved stasjon 15 og 16 var på henholdsvis 2000kg sild/100kg mackrell/180kg sild og 18 mackreller.

Vi har F modus før frokost og utover formiddagen. Ingen observasjoner.

På vei ut fra stasjon no 17 der sild fremdeles dominerer, med 3300kg sild og 200kg mackrell.

Nebbhval observasjon på ettermiddagen, vi har bedre forhold og får noen timer på T modus.

Kl2000 er det stopp og tråling på registrering etter kolmule, fangst noe sild og kolmule...

Dagens oppsummering: Observert 10 timer og 17 min. T=3t 43min. F=6t 34min

Observasjoner: 1 knølhval, 1 nebbhval og 4 storhval

26.juli 2024

Lett sørlig bris og god sikt. Lufttemperatur og sjøtemperatur nå på 8.7/5.2 grader Celsius.

Morgen vakta starter opp i gode leteforhold, men tåka slår inn før frokost.

Natte fangst ved stasjon 22 var på henholdsvis 1100kg, med for første gang like mye av sild og mackrell. Mackrellen virket å være magrere...

Ferdig på stasjon no 21 kl 1230 i pos 7235N-0222W, tett tåke, lite vind. Sild i hovedvekt med kun få mackreller og en del rognkjeks (60kg). Totalfangst 1.5ton.

Vi starter ut på T modus etter middag, tåken har lettet, og det er gode leteforhold.

Noen vågehval observasjoner utover ettermiddagen i gode leteforhold

Kommer på stasjon no. 20 kl 1800 i pos 7229N-0524W. Liten fangst ingen sild og kun 10kg mackrell. Noen krill forekomster... Fremdeles gode leteforhold. Ingen observasjoner eter kveldsmaten.

Dagens oppsummering: Observert 7 timer og 16 min. T=7t 16min. F=0t 0min

Observasjoner: 5 vågehval

27.juli 2024

Laber nordøstliglaber bris, regn og tett tåke fra morgenen av. Lufttemperatur og sjøtemperatur nå på 5.1/4.8 grader Celsius. I natt var det ingen fangster i trålen..

Vi starter opp på F modus trods redusert sikt kl 10 på kurs nordover til neste mackrell transekt. Ingen observasjoner før middag.

Dagens oppsummering: Observert 7 timer og 30 min. T=0t 0min. F=7t 30min

Observasjoner: Ingen observasjoner

28.juli 2024

Laber bris fra E og tåke. Lufttemperatur og sjøtemperatur nå på 7.5/5.6 grader Celsius. Vi er på stasjon no.

25 ved frokost tider, og det er fremdeles ingen fiske fangster. Det har kun vært noen få lodde og krill i forrige hal, samt små blekksprut og amfipoder.

Moderate leteforhold utover formiddagen med frisk bris fra sør og varierende sikt. Ingen observasjoner. Etter middag har vi noen finhval observasjoner og observasjon av nebbhval.

Dagens oppsummering: Observert 9 timer og 56 min. T=2t 41min. F=7t 15min

Observasjoner: 4 finnhval, 1 nebbhval og 1 storhval

29.juli 2024

Lavt skydekke men god sikt og lett bris fra sør. Gode vågehvalforhold.Lufttemperatur og sjøtemperatur nå på 8.9/9.0 grader Celsius. En vågehval og noen springer observasjoner før frokost.

Etter frokost er det tråling på registrering etter kolmule på ca 300m dyp. Noen få kolmuler i fangsten....

På stasjon 32 var fangsten 200kg rognkjeks... mens på stasjon 31 var det 12 sild og 2 mackrell, samt 1.5kg småblekksprut. Vi har mesteparten av dagen hatt marginale vågehvalforhold med laber bris. Noen innslag av finnhval og kvitnos, og også noen vågehval

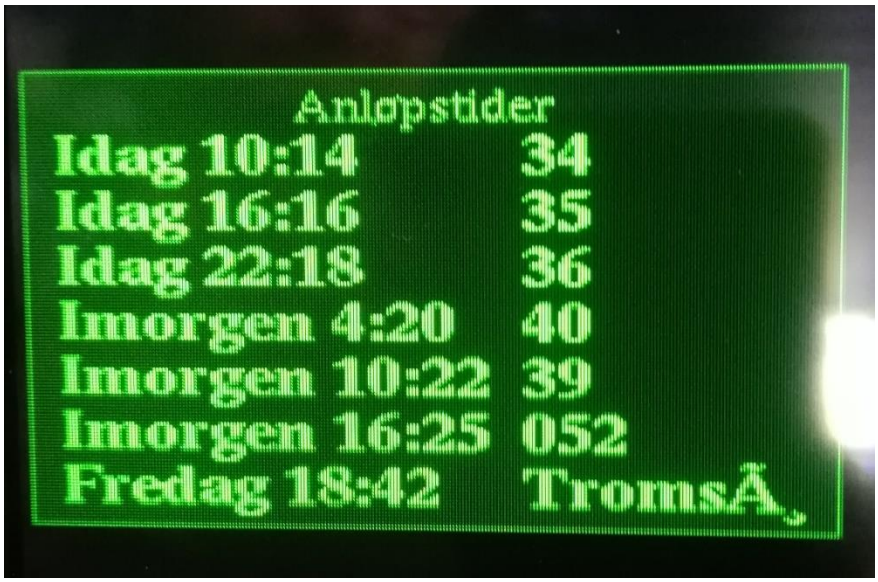
Dagens oppsummering: Observert 11 timer og 29 min. T=11t 29min. F=0t 0min

Observasjoner: Ingen observasjoner

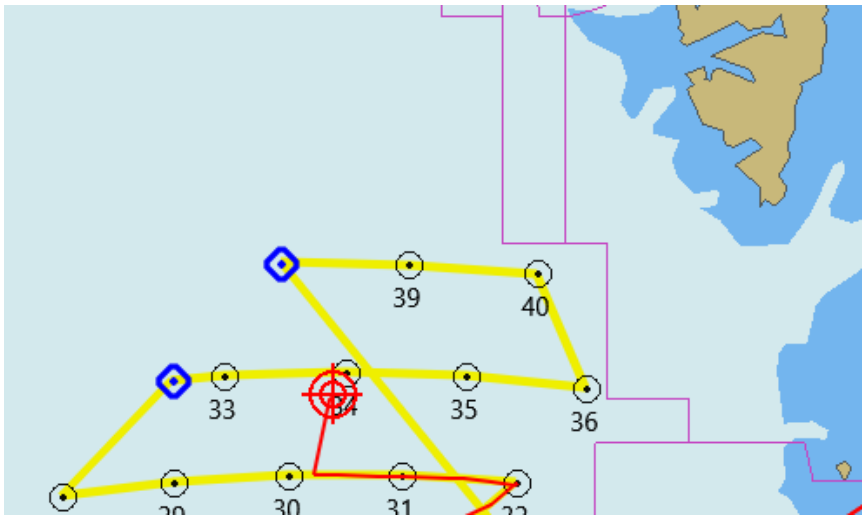
30.juli 2024

Tåkebanker fra morgenen av, med varierende sikt og fisk bris fra S-SE. Ingen observasjoner før frokost. Lufttemperatur og sjøtemperatur nå på 6.9/7.9 grader Celsius. Ingen fangster på stasjon 30. Fortsetter litt etter frokost før vi bryter av i tett tåke. Da det ikke har vært fangster vest i sonen, kuttes de vestlige stasjoner (29, 28 og 33), og vi kurser nå rett for stasjon 34, så 35 og om det ikke er fisk (Mackrell) på disse så bryter vi av og går til Tromsø.

Kommunisert dette med Stålbas så de ser hva planer M/S Eros har for det neste døgnet og videre frem. Bilde viser kjøreplanen i presens kl 0900.



Vendela har tatt stasjon 39 og 40 uten å finne fisk, så det er sannsynlig at vi også kutter ut stasjon 36.



Siste halet på Stasjon 35 var tomt for sild og mackrell, det var ca 40kg rognkjeks og 1 kg med små blekksprut og noe fiskeyngel.

Vi holder et møte etter kveldsmaten. Eros har satt kurs for Tromsø og vil være inne torsdag den 1 august kl 1400. Vi kjører vaktene som normalt i kveld og i morgen, og vil fokusere på vågehval modus der det er mulig. Noen kvitnos registreringer på kveldsvakta.

Dagens oppsummering: Observert 8 timer og 1 min. T=0t 0min. F=8t 1min

Observasjoner: 2 finnhval, 3 spermhval og 5 kvitnos

31.juli 2024

Laber bris fra SE, lavt skydekke med relativt god sikt. Morgenvakta har effort litt før frokost, men vinden øker på til frisk bris mot liten kuling. Noen vågehval og kvitnos observasjoner før morgenmaten. Værutsiktene er ikke gode, men vi får følge med utover formiddagen. Lufttemperatur og sjøtemperatur nå på 10.8/11.0 grader Celsius.

Kulingen er stabil og vi starter med nedrigging av utstyr, siste transkriberinger og kopieringa va PC data. Alle data er lagret på begge PC under **C/: Eros24-komplett kopi**, i tillegg til at dataene ligger på PC som samlet under toktet. **C/: Eros24-komplett kopi** er også lagret på 2 minnepinner. Dagrapporten ferdigstilles i morgen tidlig.

Dagens oppsummering: Observert 2 timer og 3 min. T=1t 6min. F=0t 57min

Observasjoner: 4 vågehval, 1 spermhval, 3 kvitnos og 1 springer

1.august 2024

Docking in Tromsø at 1300, end of survey

Ved toktslutt

Eventuelle kommentarer

Tellerene vil helst transkribere på egene PC, faren ved dette er at det kan bli kluss med data, så under 1 del av M/S Eros toktet gjøres transkriberingen sentralt på 1 kontor PC. Bra om toktutstyret inneholder ekstra PC med stor skjer,

Lang nedlastningstid på PL1 og PL2 PC'er med ca 45 minutter for begge PC'er. Pcene bør renses eller tømmes av IT personell. Dette ble ordent i Tromsø med med nye minnepinner

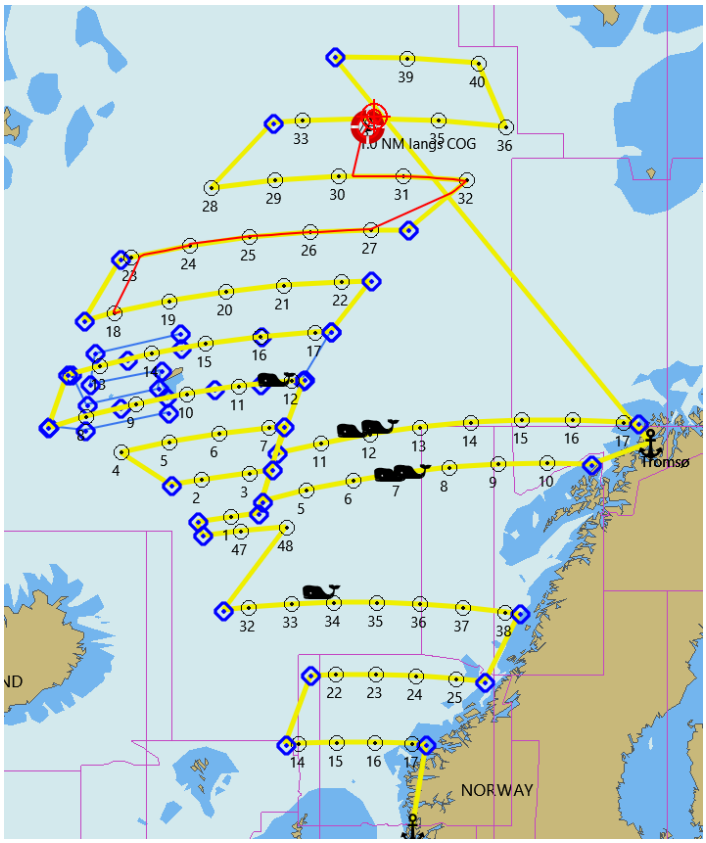
Se på alternative vakt oppsett for å utnytte godværsdager, noe alla økosystemtokt.

Ha en GPS på PL 1, slik at man er uavhengig av kontakt med brua for værrapport. De radioene vi har har interferens med instrumenter på brua og fungerer kun bra mellom plattformene, men ikke ned til brua. Med GPS har man fart of retning på transektet, og kan lese inn vindrettingen relativt slik man gjør med sun glare.

Idéer til forbedringer

Kjøre kun enkeltplattform effort fra brua eller en plattform, og man kan ha et tilsvarende vaktsystem som på telletokt med 4 observatører ombord. Det kan være plassmangel under fiske surveys, og mest realistisk vil det kunne være med 2 hvalobservatører under fisketoktene. Vi satt opp et ekeltplattform system med tønne vakt plattform 1 under vågeval effort og fra brua plattform 3 under storhvalmodus. Vaktene gikk fra kl 0600-2200, se skjema på 17 juli. Som ga maksimalt 10-11 timer effort, avhengig av tid på stasjon.

For fremtiden kan man med 2 observatører kjøre tilsvarende effort, men da med kun 1 observatør på vakt, og man roterer slik vi gjorde under andre del av Eros toktet.



Kartet viser med hvallogo felter der det har vært noe tetthet av vågehval.