

Norway and the U.S. Marine Mammal Protection Act (MMPA) Imports Rule November, 2023¹

DRAFT—FINAL PENDING

I. Executive Summary

Norway is a substantial seafood exporter, exporting over 2.9 million tons of seafood worth \$15 billion in 2022.² The United States was the country’s third largest market by value in that year, with 114,510 tons of fish products shipped, which was 15 percent higher by volume and 46 percent higher by value than in 2021.³ The National Marine Fisheries Service’s (NMFS) 2020 List of Foreign Fisheries (LOFF) has identified some twenty Norwegian export fisheries, including commercially valuable species such as cod, Greenland halibut, haddock and herring. In addition, Norway has been identified as an intermediary nation for cod, haddock, herring and mackerel.⁴

Under the U.S. Marine Mammal Protection Act (MMPA), the U.S. government “shall ban” all seafood imports caught with fishing gear that kills or seriously injures marine mammals “in excess of United States standards.”⁵ To implement the requirement, NMFS issued the MMPA Imports Rule,⁶ setting out standards that nations must demonstrate to continue exporting fish to the United States. Under the Rule, Norway must have already applied for and must subsequently receive a “comparability finding” from NMFS, which is essentially a determination that Norway’s bycatch and bycatch programs meets U.S. standards.⁷

This report provides a brief assessment of Norway’s export fisheries, its marine mammal populations, potential bycatch issues, and its legal regime related to bycatch, as it relates to the MMPA Imports Rule. Although Norway is a member of five Regional Fishery Management Organizations (RFMOs), this assessment focuses on fisheries that are not governed by these organizations, although reference is made to the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), which has recently identified bycatch issues related to the Norwegian krill fishery that is currently listed as “exempt.”

We conclude that Norway has made significant progress with regard to many of the MMPA requirements, including those related to population assessments, the use of a Potential Biological Removal (PBR) or PBR-like approach and mitigation measures. It should also be noted that the Norwegian government and seafood industry associations undertook a widespread public education campaign so as to inform the fishing sector of the MMPA import requirements.

¹ Primary author: Kate O’Connell, koconnell@awionline.org.

² Aandahl, P. and Brækken, E. (2023). Norge eksporterte sjømat for 151,4 milliarder kroner I 2022. Norges Sjømatrådet. <https://seafood.no/aktuelt/nyheter/norge-eksporterte-sjomat-for-1514-milliarder-kroner-i-2022/>.

³ Holland, J. (2023). “Norway smashes seafood export record, earning USD15 billion despite volume drop”. Seafood Source. January 6, 2023. <https://www.seafoodsource.com/news/supply-trade/norway-smashes-seafood-export-record-earning-usd-15-billion-despite-volume-drop>

⁴ 2020 Final List of Foreign Fisheries (LOFF).

⁵ 16 U.S.C. § 1371(a)(2).

⁶ 81 Fed. Reg. 54,415 (Aug. 16, 2016).

⁷ 50 C.F.R. § 216.24(h)(6).

However, some questions remain regarding Norway's legal framework, such as banning the killing of marine mammals and enforcement of any ban. Further, Norway's enforcement of required reporting, establishment of mitigation measures and bycatch monitoring appear to still require further development. It is known that in at least two cases, bycatch limits for two species, the harbor porpoise (*Phocoena phocoena*) and the harbor seal (*Phoca vitulina*) currently are likely to exceed a calculated PBR. Based on this assessment, we urge NMFS to clarify whether Norway has fully demonstrated that it meets all the various components of the MMPA Imports Rule, to ask that the Norwegian government respond in detail to points offered herein and to ban imports that fail to meet U.S. standards.

II. Norway's Maritime Boundaries

Norway is a coastal State that borders the Norwegian and North Seas in the North Atlantic Ocean and the Barents Sea in the Arctic Ocean. In addition to its mainland, the Kingdom of Norway includes the archipelago of Svalbard and the island of Jan Mayen. It also has territorial claims to Bouvet Island and Peter I Island in the Southern Hemisphere.⁸ The country has one of the longest coastlines in the world after Canada, with a length of 100,915 km.⁹

The government of Norway has concluded maritime boundary agreements with five neighboring States: Denmark, Iceland, Russia, Sweden and the United Kingdom. These agreements establish boundaries pertaining to the Norway mainland (with Russia, Sweden, Denmark and the United Kingdom), as well as Svalbard (with Russia and Denmark) and Jan Mayen (with Denmark and Iceland).¹⁰ Under a treaty signed in February 1920, Norway has sovereignty over the Svalbard archipelago and all islands between latitudes 74° and 81° north and longitudes 10° and 35° east. However, citizens and companies from all Svalbard treaty nations enjoy rights of access to fishing in the area, subject to the legislation adopted by Norwegian authorities for the protection of Svalbard's environment and living marine resources. There are currently 39 countries registered as parties to the Svalbard treaty.¹¹

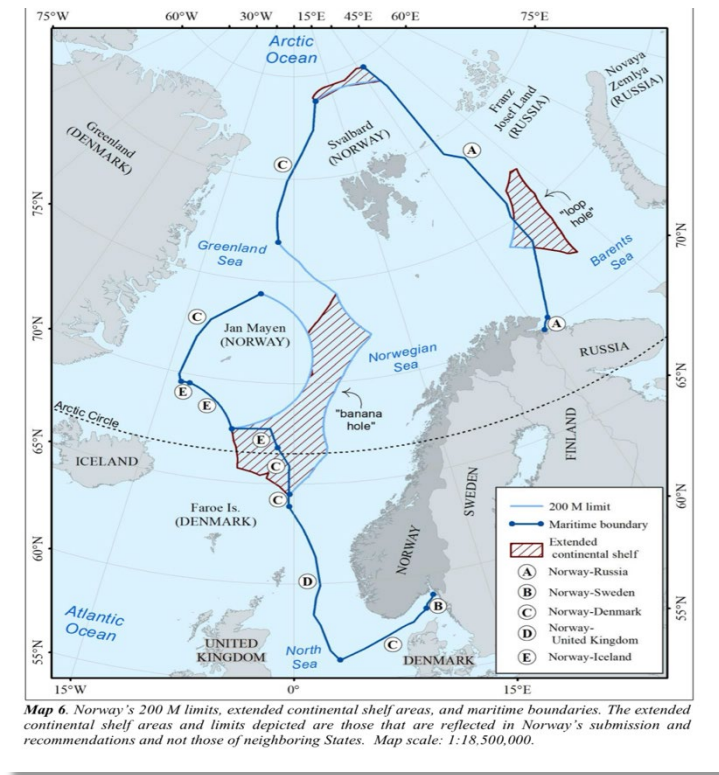
⁸ Office of Ocean and Polar Affairs (2020). Limits in the Sea, number 148: Norway Maritime Claims and Boundaries. U.S. State Department. <https://www.state.gov/wp-content/uploads/2020/08/LIS148-Norway.pdf>

⁹Regjeringen (2015). Seas and coastlines - the need to safeguard species diversity <https://www.regjeringen.no/en/topics/climate-and-environment/biodiversity/innsiktsartikler-naturmangfold/hav-og-kyst/id2076396/>

¹⁰ Office of Ocean and Polar Affairs 2020.

¹¹ IBRU: Centre for Borders Research (2019). Maritime jurisdiction and boundaries in the Arctic region. IBRU, Department of Geography, University of Durham. <https://www.dur.ac.uk/resources/ibru/resources/Arcticmap2019/IBRUArcticmapJune2019.pdf>

Figure 1. Norwegian Northern Hemisphere maritime limits.



III. Norway's Export, Intermediary and Exempt Fisheries

The U.S. has identified the following export fisheries for Norway:

Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), Capelin (*Mallotus villosus*); European sprat (*Sprattus sprattus*), Saithe/Pollock (*Pollachius virens*), Atlantic cod (*Gadus morhua*), Greenland halibut (*Reinhardtius hippoglossoides*), Haddock (*Melanogrammus aeglefinus*), marine shrimps nei, Anglerfishes nei (*Lophiidae*), Demersal fishes nei; Ling (*Molva molva*), Tusk/Cusk (*Brosme brosme*), Wolffishes/Catfishes, Blue whiting (*Micromesistius poutassou*), Lumpfish (*Cyclopterus lumpus*), Edible crab (*Cancer pagurus*); Marine crustaceans nei (Crustacea), Norway lobster (*Nephrops norvegicus*), Red king crab (*Paralithodes camtschaticus*) and snow crab (*Chionoecetes opilio*).¹²

An intermediary nation is a nation that imports fish or fish products from a fishery on the List of Foreign Fisheries (LOFF) and then re-exports such products to the United States.¹³ Intermediary fisheries identified by the U.S. included dried herring, frozen mackerel, frozen haddock and frozen cod.¹⁴ In a submission to NOAA Fisheries, Norway self-identified that fish

¹² NOAA Fisheries (2020) "2020 Final List of Foreign Fisheries (LOFF)," <https://www.fisheries.noaa.gov/foreign/international-affairs/list-foreign-fisheries>.

¹³ NOAA Fisheries (2019). Compliance Guide – Marine Mammal Protection Act Import Provisions. https://media.fisheries.noaa.gov/dam-migration/mmpa_import_rule_compliance_guide_april_2019_eng_508.pdf

¹⁴ NOAA Fisheries 2020 LOFF.

oil for human consumption exported to the U.S. from Norway may consist of anchovies sourced from Peru, and that this product should be added to its intermediary list.¹⁵

In 2020 NOAA Fisheries questioned Norway regarding six cod products exported to the U.S. purportedly based on Lithuanian-sourced cod. NOAA asked Norway whether the product was harvested in Norwegian waters under an access license or bilateral permitting agreement, or whether the product was “transshipped through Norway’s border (i.e. no value added, transport only)?” Norwegian fisheries authorities reached out to the Customs and Tariff Directorate (*Toll- og avgiftdirektoratet*) for information on the products listed in Figure 2.¹⁶

Figure 2.

View Fishery

Edit Fishery

Nations Territory Are you actively harvesting OR only processing the seafood product?

Norway PROCESSING

Product:

Product Description	HTS Code	Sourced From	Harvester?	Under Access Agreement?	Access Agreement Nations	Transshipped Through Border?
GROUND FISH COD NSPF FRESH	0302510090	Lithuania				
GROUND FISH COD NSPF FROZEN	0303630090	Lithuania				
GROUND FISH COD NSPF DRIED	0305510000	Lithuania				
GROUND FISH COD NSPF FILLET FROZEN	0304715000	Lithuania				
GROUND FISH COD NSPF FILLET DRIED/SALTED/BRINE	0305320010	Lithuania				
GROUND FISH COD NSPF FILLET BLOCKS FROZEN > 4.5KG	0304711000	Lithuania				

Processing Company
N/A

Norway eventually contested the inclusion of cod in 2021, requesting that it be deleted from the list of intermediary fisheries. This was based upon its analysis comparing landings of foreign vessels with imports of cod and Norwegian exports of cod to the U.S. and other countries. Norway determined that in 2020 it had exported just 2500 tonnes of cod products (frozen whole, frozen fillet, clip fish whole and stock fish whole), out of total cod landings of 437,100 tonnes, concluding that, “the probability of foreign raw material in cod products exported to the U.S. is insignificant and we have requested that cod products are deleted from the list of intermediary fisheries.”¹⁷ As of the date of publication of this document, it is not known whether NOAA Fisheries has agreed to remove cod from the intermediary list.

The Norwegian Fisheries Department actively engaged with its Seafood Export Council (*Norsk Sjømatråd*) to determine whether it was likely that there would be restrictions on Norwegian exports of products based on raw materials from third party countries supplying unprocessed fish products to Norway. The Norwegian Seafood Council posted a number of alerts

¹⁵ Royal Norwegian Ministry of Trade, Industry and Fisheries (2021) Letter from Astrid Holtan and Martine Werring-Westley to the NOAA Fisheries MMPA Import Provision Team, 29 November 2021, regarding additional information to the submitted comparability finding. Copy obtained via a Freedom of Information Act (“einnsyn”) request to the Norwegian government.

¹⁶ Royal Norwegian Ministry of Trade, Industry and Fisheries (2020). Email from Mari Didriksen, Ministry of Trade, Industry and Fisheries to Helge Lindrup and Cecilie G. Alnæs, Norwegian Customs Agency, April 24, 2020. Copy obtained via a Freedom of Information (“einnsyn”) request to the Norwegian government.

¹⁷ Royal Norwegian Ministry of Trade, Industry and Fisheries 2021.

for companies to be aware that if they import seafood products from a country, they could potentially face an import ban if they are sourcing from countries identified as failing to meet the MMPA comparability standards:

*For seafood companies that use input material with fish from other countries' fisheries, it will be important through the requirements that follow from the MMPA to ensure that these fisheries are also in the process of approval. This must be followed up with the relevant countries' authorities.*¹⁸

With regard to exempt fisheries, the LOFF notes that aquaculture for salmonids and trout species are exempt, as well as Antarctic krill, meaning that these fishery operations have no known or a remote likelihood of marine mammal bycatch and are therefore exempt from instituting a regulatory program.¹⁹ However, entanglements of minke whales and humpback whales are known to occur in Norwegian aquaculture operations.^{20 21 22 23} There have also been entanglements of humpback whales in Norway's Antarctic krill fishery.^{24 25}

According to NOAA Fisheries Trade Data, the United States imported 110,583, 274 kg of edible (E) and non-edible (N) products from Norway in 2021. Imports rose in 2022 to a total of 124,000,192 kg of edible and non-edible products from Norway. As can be seen in Table 1, the value of these imports is considerable at USD\$1.1 billion in 2021 and nearly USD\$1.4 billion in 2022.

¹⁸ Norsk Sjømatrad (2021) Implementering av nye importregler til USA for å beskytte sjøpattedyr.

<https://seafood.no/markedsadgang/myndighetskrav-per-land/usa/implementering-av-nye-importregler-til-usa-for-a-beskytte-sjo-pattedyr/> The original Norwegian is as follows: For sjømatseksjon som bruker innsatsmateriale med fisk fra andre lands fiskerier vil det gjennom kravene som følger av MMPA være viktig å påse at også disse fiskeriene er i prosess med godkjenning. Dette må følges opp mot relevante lands myndigheter.

¹⁹ <https://www.fisheries.noaa.gov/foreign/international-affairs/list-foreign-fisheries>

²⁰ Berge, A. (2015) "Vågehval svømte inn i oppdrettsmerd". iLaks, May 13, 2015. A minke whale went through the net wall and ended up in the salmon pen at the Marine Harvest facility in Tennøya. The whale was killed. <https://ilaks.no/vagehval-svomte-inn-i-oppdrettsmerd/>

²¹ Simonsen, M. (2015) "Fikk digger hval inn i laksmerda". Folkebladet. January 3, 2015. A humpback whale, identified as probably being a calf, went through the net wall and got stuck in ropes inside a salmon aquaculture pen belonging to Salmar Nord AS. <https://www.folkebladet.no/nyheter/article10506904.ece>

²² Hatlem, Terje. (2019). "Mulig lakserømming fra Lerøy i Varangerfjorden". Fisk.no. A minke whale broke through into a salmon pen belonging to Lerøy Aurora AS. <https://fisk.no/oppdrett/6899-mulig-lakserømming-fra-leroy-i-varangerfjorden> and in another article in Kyst of Fjord regarding the same incident, an employee noted that such incidents had occurred in the past as well. <https://www.kystogfjord.no/nyheter/forsiden/Hval-broet-seg-inn-i-oppdrettsanlegg>

²³ NRK (2023) "Vågehval tok seg inn i oppdrettsanlegg". NRK. May 11, 2023. A minke whale swam into a salmon pen belonging to Royal Norway Salmon AS in Sørøya and was eventually euthanized. <https://www.nrk.no/tromsogfinnmark/vagehval-tok-seg-inn-i-oppdrettsanlegg-1.16406934> and Drønen, O. (2023) "Hval svømte inn i laksemerd - skutt av Fiskeridirektoratet". Kyst.no. June 16, 2023.

²⁴ Welsford, D. *et al.* (2022) CCAMLR-IWC coordination: incidents of whale by-catch in the Antarctic krill fishery. Paper SC/68D/HIM/04 presented to the Scientific Committee of the International Whaling Commission, 48 pp.

²⁵ CCAMLR (2023) Fishery Report 2022: *Euphausia superba* in Area 48. Commission for the Conservation of Antarctic Marine Living Resources. 17 March 2023 https://fishdocs.ccamlr.org/FishRep_48_KRI_2022.html.

Table 1.

Year	Source	Country Name	Volume (kg)	Value (USD)	Calculated Duty (USD)	Edible code
2021	IMP	NORWAY	96,835,078	1,058,193,067	256,249	E
2021	IMP	NORWAY	13,748,196	66,082,030	1,996,900	N
2022	IMP	NORWAY	107,294,517	1,309,763,007	396,494	E
2022	IMP	NORWAY	16,705,675	84,670,850	2,732,441	N

IV. Fisheries and Marine Mammal Management in Norway

According to statistics from the Directorate of Fisheries there were 6025 registered commercial fishing vessels in Norway as of 2018. Of these, 5564 vessels measured less than 15 m total length, and most of these small vessels operate gillnets in part of the year in Norway's coastal zone.²⁶

Prior to 2009, Norwegian fisheries management was predicated on commercial exploitation of the country's marine resources. In that year, however, the Management of Living Marine Resources Act (*Havressurslova*) entered into force in Norway.²⁷ This Act regulates the use of all types of marine resources, with the aim of ensuring a "sustainable and economically profitable management of wild marine resources" through the setting of national quotas, group quotas, district quotas and vessel quotas for the benefit of employment and settlement in coastal communities.²⁸

According to Paragraph 7 of the Act, it is mandatory for fisheries managers to apply "an ecosystem approach, taking into account habitats and biodiversity." Emphasis is placed on taking a precautionary approach, in line with international agreements and guidelines. Harvest methods and gears used are to take into account the need to reduce possible negative effects on living marine resources.²⁹

Paragraph 8 of the Act states that the Ministry can establish measures related to regulating bycatch, bans on fishing in certain areas or times and the "design and use of harvest gears to reduce damage to species other than the target species." Paragraph 15 indicates that all fish caught must be landed, although the Ministry can make exceptions to this obligation. Further, the

²⁶ Bjørge, A. and Moan, A. (2019) Workshop on Marine Mammal Bycatch Monitoring and Mitigation. Ålesund, Norway, 19th - 20th June 2019. https://www.fiskeridir.no/Yrkesfiske/Nyheter/2021/evaluering-av-tiltak-med-bruk-av-nisepingere/_attachment/download/8d7bdb74-3e6a-4213-a9d5-c5f3f513f3b6:ffbeaf3f505d3c93843ce5b5eaed0eba863c181/Vedlegg%201%20-%20Report%20from%20the%20Workshop%20on%20Marine%20Mammal%20Bycatch%20Monitoring%20and%20Mitigation%20%C3%85esund%2019-20%20June%202019_.pdf

²⁷ Gullestad, P. *et al.* (2017). Towards ecosystem-based fisheries management in Norway – Practical tools for keeping track of relevant issues and prioritising management efforts. *Marine Policy*.77. 104-110

<https://www.sciencedirect.com/science/article/pii/S0308597X16305383?via%3Dihub>

²⁸ Havressurslova, <https://lovdata.no/dokument/NL/lov/2008-06-06-37?q=havressurslova> The original Norwegian description of the law at this site states, "Loven danner et vidtrekkende hjemmelsgrunnlag for departementet til å regulere uttak av de marine ressursene gjennom nasjonale kvoter, gruppekvoter, distriktskvoter og fartøyskvoter. Formålet med loven er å sikre en bærekraftig og samfunnsøkonomisk lønnsom forvaltning av de viltlevende marine ressursene og det tilhørende genetiske materialet, samt medvirke til å sikre sysselsetting og bosetning i kystsamfunnene".

²⁹ *Id.*

Ministry can establish obligations to land bycatch of other marine organisms, including marine mammals, or set a reporting obligation for such bycatch.³⁰

Regulations on the Implementation of Fishing, Catching and Harvesting of Wild Marine Resources (“Harvesting Regulations”, *Forskrift om gjennomføring av fiske, fangst og høsting av villlevende marine ressurser, høstingsforskriften*), which govern fishing activities in Norway appear to be comprehensive and are updated on a regular basis to reflect science-based management information. These include time/area closures, gear restrictions, mesh size mandates, soak times for set gear, and gear marking. The Harvesting Regulations apply to Norwegian and foreign vessels in Norway's economic zone, in the fishing zone at Jan Mayen, in the fishing protection zone at Svalbard, in Norway's territorial waters and on the Norwegian continental shelf. For Norwegian vessels, the regulation also applies outside these areas so long as these do not conflict with another state's jurisdiction.³¹

Since the entry into force of the Management of Living Marine Resources Act, the Norwegian Fisheries Directorate has developed two tools that provide an overview of issues upon which management decisions can be based; the Stock Table includes information on the status of fish and certain marine mammal stocks, exploitation levels, management objectives, and priorities for action, whereas the Fisheries Table includes information on each fishery's species and size selectivity, incidental mortality of non-fish species including marine mammals, and habitat impacts.³²

These Tables are maintained in Excel format by the Directorate in order to make it easier for them to be updated if new information is forthcoming. Although lacking the breadth of information provided by a U.S. Marine Mammal Stock Assessment Report (SAR),³³ the Fisheries Table does note marine mammal species listed on the Norwegian National Red List, and what gear impacts marine mammals and where such bycatch is occurring.

Figure 3 below is a screenshot taken of the 2020 Fisheries Table indicating that marine mammals (*sjøpattedyr*) are considered to be affected by gillnet fishing for cod, saithe/pollock and haddock in fisheries areas 1 and 2a, as well as in gillnet fisheries for Norwegian monkfish in all areas. The yellow color indicates that the Directorate classifies these fisheries as having medium impacts on marine mammals.³⁴

The Stock Table for 2020 shown in Figure 4 lists harbor porpoise as “red”, with a notation that a proposal for the reduction of bycatch has been introduced. Minke whales are shown in green, while harp seals, grey seals and harbor seals are all yellow, and hooded seals are noted as

³⁰ *Id.*

³¹ https://lovdata.no/dokument/SF/forskrift/2021-12-23-3910/KAPITTEL_4#KAPITTEL_4

³² Gullestad 2017.

³³ Simmons, S. (2016) Review of the National Marine Fisheries Service's Marine Mammal Stock Assessment Reports: Range, Abundance and Potential Biological Removal." Marine Mammal Commission, Bethesda, MD 20814. 16 pages

³⁴ Fisheries Directorate (2020) Oppfølging av forvaltningsprinsippet i havressursloven og en praktisk tilnærming til økosystembasert fiskeriforvaltning. (Ecosystem-based fisheries management in Norway). 56 pp. https://www.fiskeridir.no/Yrkesfiske/Dokumenter/Hoeringer/forvaltningsprinsippet-ved-okosystembasert-forvaltning/_attachment/download/fcd43b78-1e9d-4ce4-a8a8-25be6f4e5dd4:94107b881939e24862a3e3205c7780d0153e4d6a/hoeringsdokument-oekosystembasert-forvaltning-191120.pdf

being Endangered on the National Red List. A notation is included for grey seals indicating a possible bycatch problem.³⁵

Figure 3.

2020 Bestand	Kunnskaps grunnlag 1-3	Nøkke I rolle 1-2	Tilstand 0-6	Fiskedødelig het 0-5	Rødliste Fremmede arter 0-6	Forurensning 0-2	Fangst verdi 1-5	Rekreasjon 1-3	Fritidsandel 1-4	Delt bestand 1-4	Forvaltnings mål 0-4	Nye tiltak 1-3	Merknader
Breiflabb	2		3	4	1	0	3	2	4	2	2	2	
Leppefisker	2	2	3	3	1	1	2	2	4	3	2	1	
Makrellstørje	1		2	2	1	0	4	3	4	1	2	1	
Rognkjeks	2		3	3	1	0	3	3	4	2	2	1	
Steinbiter	3		3	3	2	0	3	2	3	3	3	1	
Uer Irmingervhavet	2		4	4	1	0	3	3	4	4	2	1	
Uer snabel	2		2	2	1	0	2	3	4	3	2	1	
Uer vanlig	2		6	5	4	0	3	2	3	3	2	1	
AI	2		5	1	3	0	4	2	1	2	3	1	
Annen fisk	3		0	0	1	0	4	3	3		3	1	
Amerikansk hummer	3		0	0	6	0	5	3	2		4	1	Introduisert art
Hummer	2		5	5	1	0	3	1	1	3	2	1	
Kamskjell	2		3	3	1	0	4	2	3	3	3	1	
Kongekrabbe	2		3	4	6	0	2	2	4	2	0	1	Delt forvaltningsmål
Kongsnegl	3		3	3		2	4			3	3	3	
Krill Antarktisk	2	1	1	2	1	0	3	3	4	4	2	1	
Raudåte	2	1	3	1	1	0	4	3	4	2	3	1	
Reker Barentshavet	1	2	1	2	1	0	2	3	4	2	2	1	
Reker Nordsjøen/Skagerrak	2	2	2	2	1	0	2	3	4	1	1	1	
Reker NAFO 3M/3L	2	2	3	0		0	5	3	4	1	2	1	fra fiskedøgn til kvote?
Sjøkreps	2		3	3	1	1	3	2	4	1	3	3	
Snokrabbe	3		0	0	6	0	2	3	4	2	2	1	Er kommet av seg selv
Stillehavsøsters	2		0	0	6	0	4	3	2	2	4	3	
Taskekrabbe	2		3	3	1	1	3	1	2	3	3	1	
Østers	3		5	3	2	2	4	2	3	3	3	3	
Andre skalldyr og bløtdyr	3		0	3	1	2	4	1	1	3	3	1	
Stortare	1	1	2	2	1	1	3	3	4	3	2	1	
Annen tang og tare	2	2	0	3	1	1	4	3	4	3	3	1	
Grønlandssel Vestisen	2		1	2	1	1	4	3	4	2	3	1	
Grønlandssel Østisen	2		2	2	1	1	5	3	4	4	3	1	
Havert	2		5	0	1	1	5	2	1	2	3	1	Mulig bifangstproblem
Klappmyss	2		5	1	4	1	5	3	4	2	3	1	
Steinkobbe	2		3	4	1	1	5	2	1	3	3	1	
Vågehval	1		1	2	1	1	3	3	4	2	2	1	
Andre sjøpattedyr	3		0	3	1	1	5	3	4	3	3	1	
Niser	3		3	1	1	1	5	3	4	3	3	1	Høring- forslag til tiltak for å redusere bifangst av sjøpattedyr
Mesopelagiske arter	3	2	3	1	1	1	4	3	4	2	3	1	

³⁵ Id.

Figure 4.

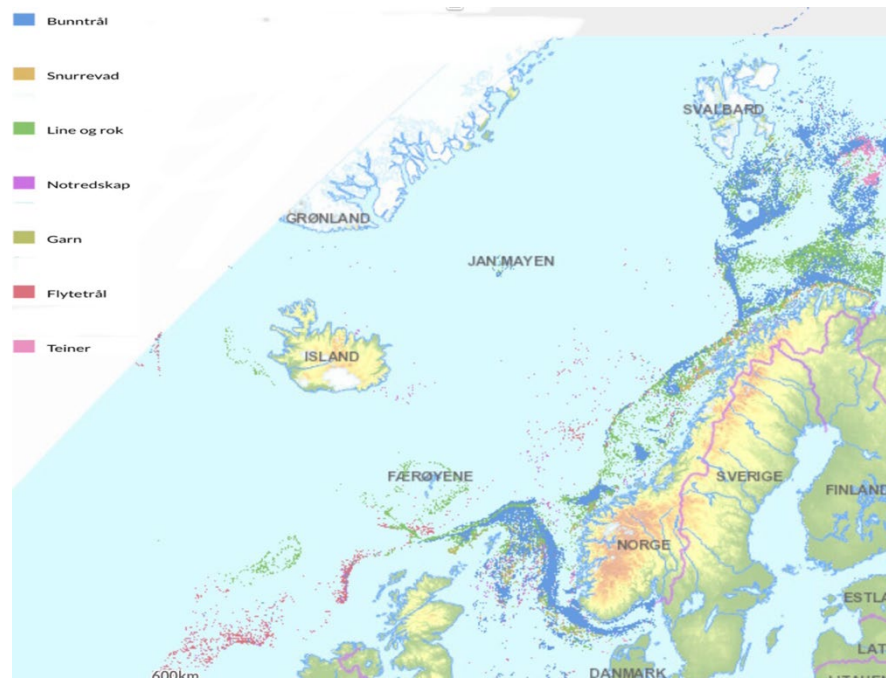
2020		FISKERI			ARTSSELEKTIVITET								
Linje nr.	Redskap	Målar(ter)	Fangst område	Nasjonalitet	Truede fisk og skaldyr	Ikke truede fisk og skaldyr	Sjøpattedyr	Sjøfugl	Størrelsesselektivitet	Utkast-problem	Bi-dødelighet	Bunn-påvirkning	Merknader/Utfordringer
35	Snurrevad	Torsk, sei, hyse	1 og 2.a.	N	2	1	1	1	2	1	1	2	
36	Snurrevad	Blandingsfiske	4.a og 3.a.	N	3	1	1	1	2	1	1	2	
37	Snurrevad	Blandingsfiske	4.a, 3.a.	U	3	2	1	1	2	2	1	2	
38	Gam	Torsk, sei, hyse	1 og 2.a.	N	2	1	2	1	1	2	1	1	
39	Gam	Blåkveite	1 og 2.a.	N	1	1	1	1	1	1	3	1	
40	Gam	Breiflabb	Alle	N	2	1	2	1	1	1	1	1	
41	Gam	Kveite	Alle	N	1	1	1	1	1	1	1	1	
42	Gam	Rognkjeks		N	1	1	1	2	1	1	1	1	
43	Gam	Blandingsfiske	4.a og 3.a.	N	2	1	1	1	1	1	1	1	
44	Gam	Blandingsfiske	4.a og 3.a.	U	2	2	1	1	1	2	1	1	
45	Fløyline	Hyse	1 og 2.a.	N	1	1	1	2	3	3	1	1	
46	Line	Torsk, hyse	Nord 62°N utenfor 12 mil	B	2	1	1	1	1	1	1	1	
47	Line	Torsk, hyse	Nord 62°N innenfor 12 mil	N	2	1	1	1	2	2	1	1	
48	Line	Lange, brosme	2.a, 4, 5, 6, 7	N	2	1	1	2	1	1	1	1	
49	Line	Blåkveite	2	N	1	1	1	2	1	1	1	1	
50	Line	Kveite	2.a.	N	1	1	1	1	0	1	1	1	
51	Annen krokredskap	Torsk, hyse m.m.	1 og 2.a.	N	2	1	1	1	1	1	1	1	
52	Annen krokredskap	Makrell	2.a, 3.a, 4.a.	N	1	1	1	1	1	1	1	1	
53	Ruser	Torsk	2.a, 3.a, 4.a.	N	1	1	1	1	1	1	1	1	
54	Teiner	Hummer		N	1	1	1	1	1	1	1	1	
55	Teiner	Taskerabbe		N	1	1	1	1	1	1	1	1	
56	Teiner	Kongekrabbe		N	1	1	1	1	1	1	2	1	
57	Teiner	Leppfisker	2.a, 3.a, 4.a.	N	1	1	1	1	1	1	2	1	
58	Teiner	Snøkrabbe		N	1	1	1	1	0	3	3	1	
59	Teiner	Sjøkreps		N							2		
60	Fritidsfiske		1 og 2	N									
61	Fritidsfiske		3.a og 4	N									

It can be noted that not all species of marine mammals that have been identified in the scientific literature as having been impacted by interactions with fishing gear are included in the 2020 Tables, although a category called “other marine mammals” (*Andre sjøpattedyr*) is listed in red without specification of the species.

Given vessel reporting requirements, the Norwegian Fisheries Directorate is able to plot fishing effort by gear type and makes such maps available publicly via its Yggdrasil Map Data app function; Figure 5 below shows what such a map looks like. The various gear types included are bottom/otter trawl (*bunntrål*), Danish seine (*snurrevad*), longline/hook (*line og rok*), seine (*notredskap*), gillnets (*garn*), pelagic trawl (*flytrål*) and traps (*teiner*). The app also allows for overlaying of fishery regulations by area, activity by both national and international vessels, aquaculture locations, marine protected area boundaries, coral reef locations, etc..³⁶

Figure 5.

³⁶ Fisheries Directorate Yggdrasil: Kart. <https://open-data-fiskeridirektoratet-fiskeridir.hub.arcgis.com>



V. Marine mammal populations

Thirteen cetacean species are considered to regularly occur in national waters, whereas one species of baleen whale is considered regionally extinct; while other marine mammals are considered transit species that have not been fully assessed. Both the bowhead whale (*Balaena mysticetus*) and blue whale (*Balaenoptera musculus*) have become scarce in Norwegian areas as a result of previous overexploitation by the whaling industry, and the North Atlantic right whale, (*Eubalaena glacialis*), is considered extinct in Norwegian waters for the same reason.³⁷

Table 2. Marine Mammals of Norway

Common name	Scientific name	IUCN Global Status	National Red List
Blue whale	<i>Balaenoptera musculus</i>	Endangered	Vulnerable
Fin whale	<i>Balaenoptera physalus</i>	Vulnerable	Least Concern
Minke whale	<i>Balaenoptera acutorostrata</i>	Least Concern	Least Concern

³⁷Eldegard, K., Bjørge, A., Kovacs, K., Syvertsen, P. Støen, O-G. and van der Kooij, J. 2021. Artsgruppeomtale pattedyr (Mammalia). Norsk rødliste for arter 2021. Artsdatabanken. Available at <https://www.artsdatabanken.no/rodlisterforarter2021/Artsgruppene/Pattedyr>.

Bowhead	<i>Balaena mysticetus</i>	Endangered	Endangered
Humpback whale	<i>Megaptera novaeangliae</i>	Least Concern	Least Concern
Sperm whale	<i>Physeter macrocephalus</i>	Vulnerable	Not Applicable*
Sei whale	<i>Balaenoptera borealis</i>	Endangered	Not Applicable*
North Atlantic right whale	<i>Eubalaena glacialis</i>	Critically endangered	Regionally extinct
Sowerby's beaked whale	<i>Mesoplodon bidens</i>	Data deficient	Not Applicable*
Northern bottlenose whale	<i>Hyperoodon ampullatus</i>	Near threatened	Least Concern
Long-finned pilot whale	<i>Globicephala melas</i>	Least Concern	Least Concern
Beluga	<i>Delphinapterus leucas</i>	Least Concern	Endangered
Narwhal	<i>Monodon monoceros</i>	Least Concern	Vulnerable
White-beaked dolphin	<i>Lagenorhynchus albirostris</i>	Least Concern	Least Concern
Common dolphin	<i>Delphinus delphis</i>	Least Concern	Not Applicable*
Atlantic white-sided dolphin	<i>Lagenorhynchus acutus</i>	Least Concern	Least Concern
Common bottlenose dolphin	<i>Tursiops truncatus</i>	Least Concern	Not Applicable*
Striped dolphin	<i>Stenella coeruleoalba</i>	Least Concern	Not Applicable*
Harbor porpoise	<i>Phocoena phocoena</i>	Least Concern	Least Concern
Grey seal	<i>Halichoerus grypus</i>	Least Concern	Vulnerable
Hooded seal	<i>Cystophora cristata</i>	Vulnerable	Endangered
Harbor seal	<i>Phoca vitulina</i>	Least Concern	Least Concern
Harbor seal, Svalbard	<i>Phoca vitulina</i>	Least Concern**	Near Threatened

Bearded seal	<i>Erignathus barbatus</i>	Least Concern	Threatened
Harp seal*	<i>Pagophilus groenlandicus</i>	Least Concern	Least Concern
Ringed seal	<i>Pusa hispida</i>	Least Concern	Vulnerable
Walrus	<i>Odobenus rosmarus</i>	Vulnerable	Vulnerable
Polar bear	<i>Ursus maritimus</i>	Vulnerable	Vulnerable

*This category indicates that the species is considered an occasional visitor to Norwegian waters and has therefore not been assessed. **The IUCN does not provide a separate listing for Svalbard harbor seals, although it does acknowledge that the Norwegian Red Listing of harbor seals affords protection to the species in the Svalbard maritime region.³⁸

Although the Norwegian government has stated that “whales are difficult to study, and for some of the species the occurrence and life history are poorly known,”³⁹ significant research on cetaceans and other marine mammals in Norwegian waters has been undertaken. Data relating to cetaceans have been sourced through national and international surveys.^{40 41 42 43 44} These surveys have provided data that have been used to develop abundance estimates for a number of species.^{45 46 47 48 49}

The Institute of Marine Research (IMR) and the Norwegian Polar Institute (NPI) provide information on marine mammals, including sightings survey results, to the Norwegian Marine Data Center, a repository of marine research information from 16 partner organizations including universities, research institutions and other agencies.⁵⁰ Population information for cetaceans,

³⁸ Lowry, L. (2016). *Phoca vitulina*. The IUCN Red List of Threatened Species 2016: e.T17013A45229114.

<https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T17013A45229114.en> Accessed on March 18, 2023.

³⁹ Eldgard *et al.* 2021. The original Norwegian reads, “Hvalene er vanskelige studere, og for noen av artene er forekomst og livshistorie dårlig kjent.

⁴⁰ Pike, D., Gunnlaugsson, T., Desportes, G., Mikkelsen, B., Vikingsson, G. and Bloch, D. (2019) Estimates of the Relative Abundance of Long-finned Pilot Whales (*Globicephala Melas*) in the Northeast Atlantic from 1987 to 2015 Indicate No Long Term Trends. NAMMCO Scientific Publication 11. <https://doi.org/10.7557/3.4643>.

⁴¹ Pike, D., Gunnlaugsson, T., Mikkelsen, B., Halldórsson, S., Vikingsson, G., Acquarone, M. and Desportes, G. (2020) Estimates of the Abundance of Cetaceans in the Central North Atlantic from the T-NASS Icelandic and Faroese Ship Surveys Conducted in 2007. NAMMCO Scientific Publications 11. <https://doi.org/10.7557/3.5269>

⁴² Leonard, D. and Øien, N. (2020) Estimated Abundances of Cetacean Species in the Northeast Atlantic from Norwegian Shipboard Surveys Conducted in 2014–2018. NAMMCO Scientific Publications 11. <https://doi.org/10.7557/3.4694>

⁴³ Leonard, D. and Øien, N. (2020b) Estimated Abundances of Cetacean Species in the Northeast Atlantic from Two Multiyear Surveys Conducted by Norwegian Vessels between 2002–2013. NAMMCO Scientific Publications 11. <https://doi.org/10.7557/3.4695>

⁴⁴ SCANS IV Survey, July 2022. Described as a “major international survey to determine population size and distribution of cetaceans”, the SCANS IV 2022 study area extended from Norway to southern Spain, to the offshore waters west of Scotland. The work was carried out with eight small aircrafts, manned by a team of experienced observers, from the end of June to the end of July 2022.

⁴⁵ Pike *et al.* 2019.

⁴⁶ Pike *et al.* 2020.

⁴⁷ Leonard and Øien 2020 and 2020b.

⁴⁸ Solvang, H., Skaug, H., and Øien, N. (2015). Abundance estimates of common minke whales in the Northeast Atlantic based on survey data collected over the period 2008-2013. IWC/SC/66a/RMP8 for the IWC Scientific Committee).

⁴⁹ Hammond, P. *et al.* (2017). Estimates of cetacean abundance in European Atlantic waters in summer 2016 from the SCANS-III aerial and shipboard surveys. SCANS-III project report 1, 39pp.

⁵⁰ <https://nmhc.no/om-prosjektet>

polar bears, walrus and seals via research under the auspices NPI include aerial and vessel surveys and passive acoustic monitoring.^{51 52 53 54 55 56 57 58 59 60}

Observations of marine mammals in Svalbard have been collected since 2002; the data are stored in a Marine Mammal Sightings Database (MMSDB)⁶¹ which is managed by the NPI.⁶² Observations of marine mammal species are recorded with date and coordinates, along with information about the species sighted, the number of individuals in a group, behavior, body condition etc., as well as the name of the reporting vessel and a contact person. Marine cruise expedition operators, the Norwegian Coast Guard, personnel on research expeditions, local Svalbard residents and the Governor of Svalbard's field inspectors all report sightings to the MMSDB.⁶³

Distribution maps for marine mammals are available via Norway's species databank (*Artsdatabanken*) website.⁶⁴ Examples of these can be found in the figure below.

⁵¹ Aars, J., Marques, T., Lone, K., Andersen, M., Wiig, Ø., Fløystad, I., Hagen, S. and Buckland, S. (2017). The number and distribution of polar bears in the western Barents Sea. *Polar Research*. 36. 1374125. 10.1080/17518369.2017.1374125.

⁵² Vacquié-Garcia, J. *et al.* (2017). Hooded seal *Cystophora cristata* foraging areas in the Northeast Atlantic Ocean—Investigated using three complementary methods. *PLoS ONE*. 12. 1-23. 10.1371/journal.pone.0187889.

⁵³ Vacquié-Garcia, J., Lydersen, C., Marques, T., Andersen, M. and Kovacs, Kit. (2020). First abundance estimate for white whales *Delphinapterus leucas* in Svalbard, Norway. *Endangered Species Research*. 41. 253-263. 10.3354/esr01016

⁵⁴ Hamilton, C., Kovacs, K. and Lydersen, C. (2018). Individual variability in diving, movement and activity patterns of adult bearded seals in Svalbard, Norway. *Scientific Reports*. 8. 10.1038/s41598-018-35306-6.

⁵⁵ Hamilton, C. *et al.* (2021). Marine mammal hotspots in the Greenland and Barents Seas. *Marine Ecology Progress Series*. 659. 10.3354/meps13584.

⁵⁶ Hamilton, C. *et al.* (2022). Marine mammal hotspots across the circumpolar Arctic. *Diversity and Distributions*. 28. n/a-n/a. 10.1111/ddi.13543.

⁵⁷ Lydersen, C. and Kovacs, K. (2021). A review of the ecology and status of white whales (*Delphinapterus leucas*) in Svalbard, Norway. *Polar Research*. 40. 10.33265/polar.v40.5509.

⁵⁸ Andersen, M., Kovacs, K. and Lydersen, C. (2021). Stable ringed seal (*Pusa hispida*) demography despite significant habitat change in Svalbard, Norway. *Polar Research*. 40. 1-14. 10.33265/polar.v40.5391.

<https://polarresearch.net/index.php/polar/article/view/5391/13500>

⁵⁹ Ahonen H., Stafford K., Lydersen C., de Steur L., and Kovacs K. M. (2019). A multi-year study of narwhal occurrence in the western Fram Strait—detected via passive acoustic monitoring. *Polar Research*, 38. <https://doi.org/10.33265/polar.v38.3468>

⁶⁰ Ahonen H., Stafford K.M., de Steur L., Lydersen C., Wiig Ø. & Kovacs K.M. 2017. The underwater soundscape in western Fram Strait: breeding ground of Spitsbergen's endangered bowhead whales. *Marine Pollution Bulletin* 123, 97–112, <http://dx.doi.org/10.1016/j.marpolbul.2017.09.019>.

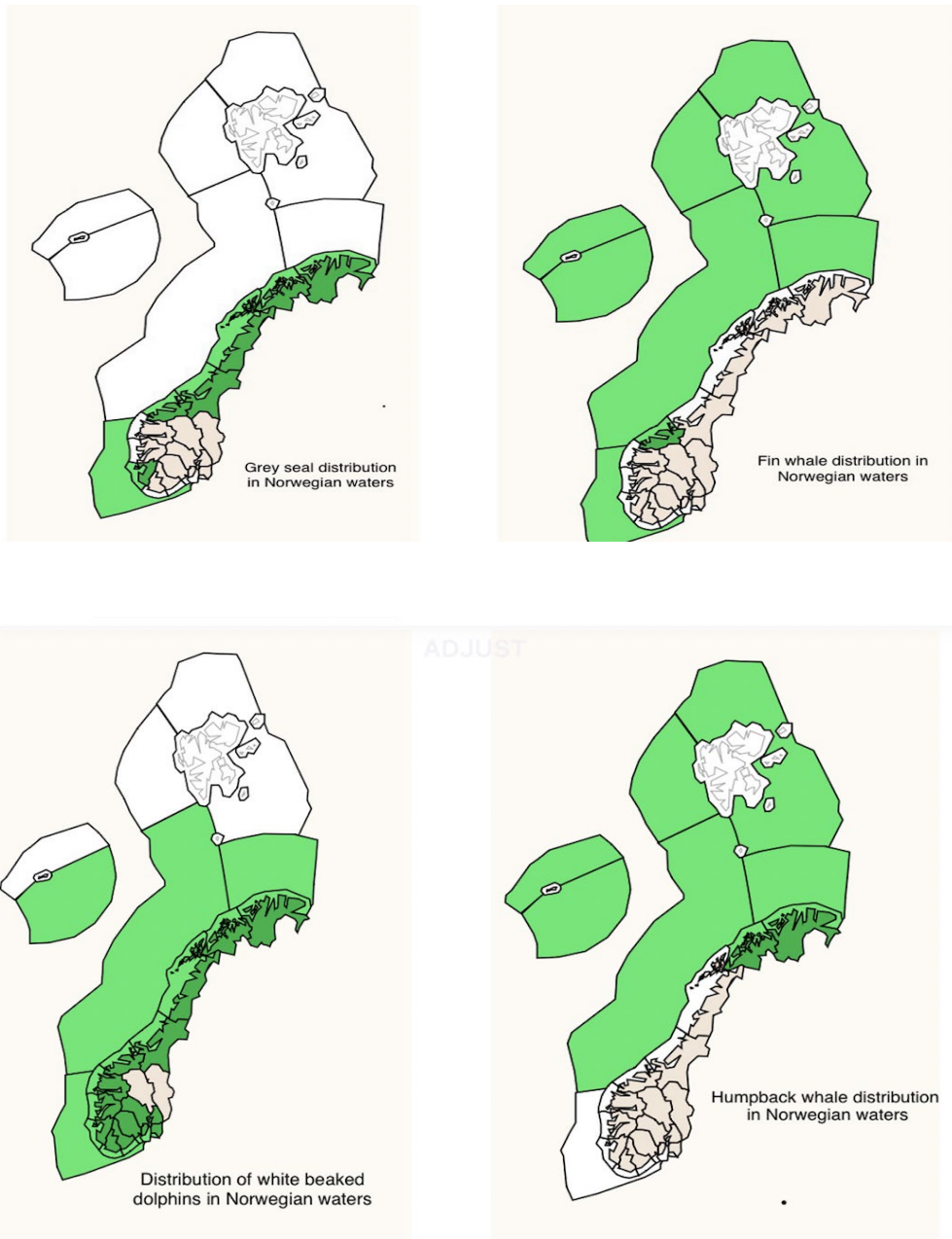
⁶¹ Bengtsson, O. *et al.* (2021). Distribution and habitat characteristics of pinnipeds and polar bears in the Svalbard Archipelago, 2005-2018. *Polar Research*. 40. 1-20. 10.33265/polar.v40.5326.

⁶² <https://data.npolar.no/sighting/observe>

⁶³ Bengtsson, O. *et al.* 2021.

⁶⁴ <https://www.artsdatabanken.no>.

Figure 6.



Information on marine mammal distribution has also been shared with various working groups under the auspices of the International Council for the Exploration of the Sea (ICES).^{65 66 67 68}

Survey information and abundance estimates are also reviewed by the International Whaling Commission (IWC)⁶⁹ and the North Atlantic Marine Mammal Commission (NAMMCO).⁷⁰ Norway has been an active participant in both the IWC's Bycatch Mitigation Initiative Standing Working Group and NAMMCO's Working Group on By-catch, Entanglements and Live Stranding since their inceptions. Currently, Norwegian researchers serve as members of the IWC Expert Panel on Bycatch Mitigation, as well as the recently formed Bycatch Correspondence Group.⁷¹ Norway also serves as host government to NAMMCO.⁷²

Due to concerns regarding bycatch of harbor porpoise, that species has been particularly well studied. Surveys have indicated that the species is found mainly in three areas: (i) in the southern and southeastern areas of the Barents Sea; (ii) in coastal areas of northern Norway, including occasional offshore presence in the Norwegian Sea and (iii) the North Sea with adjacent coastal waters and fjords. Surveys have been regularly conducted, and in Varangerfjord and Porsanger fjord in 2017, revealing significant harbor porpoise densities. In 2018 the fjord systems along the coast from Stavanger to Kristiansund were also covered as an extension of the North Sea offshore survey. All the fjord areas were found to have high densities of porpoises.⁷³

VI. Bycatch Threats to Norwegian Marine Mammals

A. Gillnets

The Norwegian Coastal Reference Fleet was created in 2000 to gather data on total catches in Norwegian fisheries. Data from this program was first used to estimate bycatches of harbor porpoises (*Phocoena phocoena*) in coastal gillnet fisheries in 2013, when model-based estimations were applied to improve both abundance estimate performance and to allow for the

⁶⁵ ICES Working Group on the Integrated Assessments of the Barents Sea (WGIBAR).

<https://www.ices.dk/community/groups/pages/wgibar.aspx>

⁶⁶ ICES Working Group for the Joint Cetacean Data Programme (WGJCDP).

<https://www.ices.dk/community/groups/Pages/WGjcdp.aspx>

⁶⁷ ICES Working Group on Marine Mammal Ecology

(WGMME). <https://www.ices.dk/community/groups/Pages/WGMME.aspx>

⁶⁸ ICES Working Group on Bycatch of Protected Species (WGBYC).

<https://www.ices.dk/community/groups/Pages/WGBYC.aspx>

⁶⁹ See e.g. Norway's Progress Report to the International Whaling Commission on the Norwegian cetacean survey program 2014-2019 with emphasis on minke whales. IWC/PR/R/10247 and Øien, N. (2016). Report of the Norwegian 2015 survey for minke whales in the Small Management Area EW - Norwegian Sea and NASS-2015 extension survey in the Small Management Area CM – Jan Mayen area. IWC/SC/66b/RMP. 10 pp.

<https://archive.iwc.int/pages/download.php?direct=1&noattach=true&ref=6022&ext=pdf&k=>

⁷⁰ See e.g. NAMMCO-North Atlantic Marine Mammal Commission (2019). Report of the Abundance Estimates

Working Group, October 2019, Tromsø, Norway. Available at https://nammco.no/topics/abundance_estimates_reports/

⁷¹ Dr. Andre Moan of the Institute for Marine Research serves on the Expert Panel while Dr. Arne Bjørge, former Vice Chair of Bycatch Mitigation Standing Working Group, is a member of the Bycatch Correspondence Group. <https://iwc.int/management-and-conservation/bycatch/expert-panel-on-bycatch>.

⁷² Vertslandsavtale mellom Norge og Den nordatlantiske sjøpattedyrkommissjonen .

<https://lovdata.no/dokument/TRAKTATEN/traktat/2000-09-26-1?q=sjøpattedyr>

⁷³ NAMMCO (2019). Report of the NAMMCO Scientific Committee Working Group on Harbour Porpoise, 19-22 March, Copenhagen, Denmark. 32 pp. https://nammco.no/wp-content/uploads/2019/02/final-report_hpwg-2019.pdf

development of recommendations for mitigation.⁷⁴ Subsequent studies developed the methodology further and also expanded the approach to include seals.^{75 76} Fishers are trained in species identification and are encouraged to verify with species experts from the Institute for Marine Research.⁷⁷

A 2016 study analyzed data from a monitored segment of the Norwegian small vessel (<15 m) fishing fleet operating bottom-set gillnets for cod (*Gadus morhua*) and monkfish (*Lophius piscatorius*) in the Norwegian coastal zone. The results were used to estimate bycatch rates of harbor porpoise (*Phocoena phocoena*), harbor seal (*Phoca vitulina*) and grey seal (*Halichoerus grypus*). Based on the findings from that study, annual bycatch rates for both harbor porpoise (2211 porpoises, CV=0.16) and harbor seals (459, CV=0.24) were considered to “most likely” be unsustainable, that is, above Potential Biological Removal (PBR). Grey seal data (97 gray seals, CV=0.41) was determined at the time to be “insufficient” to produce sufficient modeling results.⁷⁸

There were six cetacean species reported as bycatch by Norwegian fishing vessels >15 meters in length between 2011 and 2019. The reports came from five different gear types (Danish seine, purse seine, trawl, trap, and gillnet); the species were identified as orca (*Orcinus orca*), beluga (*Delphinapterus leucas*), blue whale (*Balaenoptera musculus*), bottlenose dolphin (*Tursiops truncatus*), harbor porpoise (*Phocoena phocoena*) and minke whale (*Balaenoptera acutorostrata*) and were included in fisher logbook. However, the Coastal Reference Fleet definitively identified only two species of marine mammals as bycatch, harbor porpoise and minke, although there were reports labeled generically as “dolphin”.⁷⁹

During a 2019 workshop on marine mammal bycatch and monitoring held in Ålesund, Norwegian researchers noted that “large mesh gillnets in the coastal zone and fjords, e.g. for for monkfish (*Lophius piscatorius*) and cod (*Gadus morhua*), are known to have high risk of marine mammal bycatches. In particular harbour porpoise *Phocoena phocoena*, harbour seal *Phoca vitulina* and grey seals *Halichoerus grypus* are vulnerable.” Gillnet fisheries for cod in January to April were identified as having the greatest fishing effort, with most of this concentrated on the cod spawning grounds in Vestfjorden, Lofoten. The nets used for cod fishing have a half-mesh of about 10 cm and several 27.5 m long nets are set in strings. These are usually set in the early afternoon and allowed to “soak” until being hauled out the following morning. It was noted that

⁷⁴ Bjørge, A., Skern-Mauritzen, M. and Lyssikatos, M. (2013). Estimated bycatch of harbour porpoise (*Phocoena phocoena*) in two coastal gillnet fisheries in Norway, 2006–2008. Mitigation and implications for conservation. *Biological Conservation*. 161. 164–173. 10.1016/j.biocon.2013.03.009.

⁷⁵ Moan 2016.

⁷⁶ Moan, A., Skern-Mauritzen, M., Vølstad, J. and Bjørge, A. (2020). Assessing the impact of fisheries-related mortality of harbour porpoise (*Phocoena phocoena*) caused by incidental bycatch in the dynamic Norwegian gillnet fisheries. *ICES Journal of Marine Science*. 77. 10.1093/icesjms/fsaa186.

⁷⁷ Clegg, T. 2022. Estimating unreported catches in Norwegian Fisheries. PhD Thesis, University of Bergen. Skipnes Kommunikasjon. 240 pp. Available at <https://bora.uib.no/bora-xmlui/bitstream/handle/11250/2999585/archive.pdf?sequence=1&isAllowed=y>

⁷⁸ Moan, Andre Grande (2016) Bycatch of harbour porpoise, harbour seal and grey seal in Norwegian gillnet fisheries. Master thesis, University of Oslo, available at <https://namnco.no/wp-content/uploads/2017/04/info07-andr-moan-2016-bycatch-of-harbour-porpoise-harbour-seal-and-grey-seal-in-norwegian-gillnet-fisheries.pdf>

⁷⁹ Sigurdsson, G. and Basran, C. 2021. Using Case Studies to Investigate Cetacean Bycatch/Interaction Under-Reporting in Countries With Reporting Legislation. *Frontiers in Marine Science*. 8. 1-15. 10.3389/fmars.2021.779066.

these types of net may also be used for other species, such as saithe/pollock (*Pollachius virens*), outside the cod season.⁸⁰

Following the 2019 workshop, it was noted that bycatch estimates did not cover recreational fisheries. At the time, IMR had no data on the fishing effort nor marine mammal bycatch rates in recreational fisheries.⁸¹ However, in 2020, the Fisheries Directorate launched a new user-friendly app, *Fritidsfiskeappen*⁸², which includes over 60 images of species for identification purposes, a list of regulations governing fisheries, the ability to report lost and found fisheries gear, mapping of lost gear, mapping of protected areas and reporting of bycaught marine mammals.⁸³

During the 2022 meeting of the North Atlantic Marine Mammal Commission's Harbor Porpoise Working Group, it was acknowledged that *Lagenorhynchus* dolphins had been observed close to the coasts in Norway's Finnmark area where harbor porpoise bycatch is known to occur at a high level, and that there were concerns that bycatch could also be a threat to *Lagenorhynchus* dolphins. Long-finned pilot whales (*Globicephala melus*) are not commonly reported as bycatch.⁸⁴

As of 2023, it has been estimated that approximately 555 harbor seals are taken annually as bycatch in gillnets. The majority of these bycatch events occur in large-mesh gillnet fisheries targeting cod (*Gadus morhua*) and monkfish (*Lophius piscatorius*). The researchers looked at fishing effort along the entire coast, divided into seasons. They then simulated the distribution of harbor seals over the course of one year, creating a model that shows where the seals and fisheries overlap in order to produce a bycatch risk assessment. The model also takes into account that harbor seals have the highest probability of being caught in the first months after they are born.⁸⁵

An area near Hitra and Frøya in Trøndelag has the highest probability of bycatch in summer, per Figure 7. The researchers noted that the times and areas of high interaction risk that have been identified “can be used in management practices to increase our understanding of bycatch events, and to ultimately reduce unwanted bycatch of harbor seals in coastal fisheries along the Norwegian coast.”^{86 87}

⁸⁰ Bjørge, A. and Moan, A. (2019) Workshop on Marine Mammal Bycatch Monitoring and Mitigation. Ålesund, Norway, 19th - 20th June 2019.

⁸¹ Bjørge and Moan. 2019.

⁸² Fisheries Directorate (2020) Ny app for fritidsfiske (New app for recreational fishers) <https://www.fiskeridir.no/Fritidsfiske/Nyheter/2020/Ny-app-for-fritidsfiske>

⁸³ <https://www.fiskeridir.no/Fritidsfiske/Meld-tapt-og-funnen-reiskap>

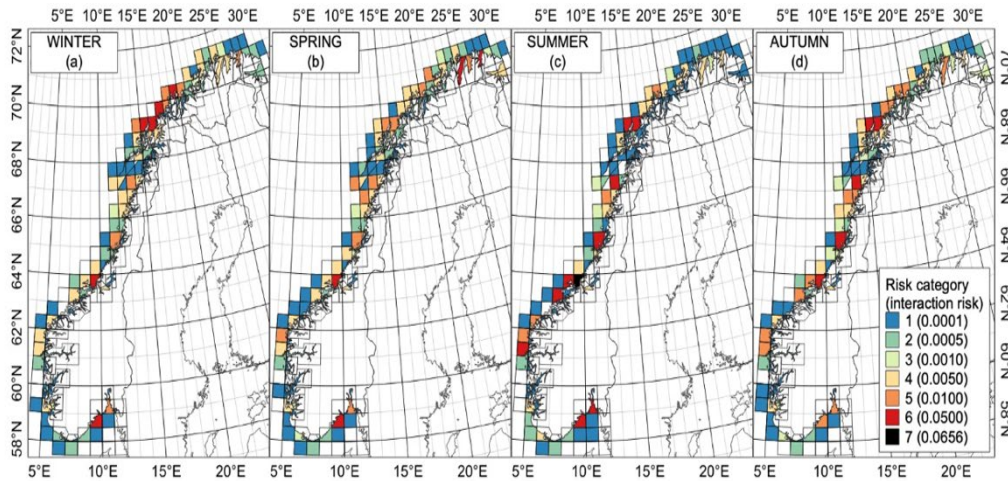
⁸⁴ NAMMCO (2022) Report of the Scientific Committee Working Group on Harbour Porpoise. November 2022. Oslo, Norway. 39 pp. https://nammco.no/wp-content/uploads/2023/02/final-report-hpwg-2022_with-exsum_10_01_2023_rev-23_02_2023.pdf

⁸⁵ Elnes, J., Moan, A., Nilssen, K., Vøllestad, L. and Bjørge, A. (2023). Temporal and Spatial Distribution of Harbor Seal (*Phoca vitulina*) Risk of Entanglement in Gillnets Along the Norwegian Coast. Aquatic Mammals vol. 49 ISS6 <https://www.aquaticmammalsjournal.org/article/temporal-and-spatial-distribution-of-harbor-seal-phoca-vitulina-risk-of-entanglement-in-gillnets-along-the-norwegian-coast/>

⁸⁶ Jakobsen, A. (2023) Nye beregninger: Faren for at steinkobber blir fanget av fiskegarn er størst ved Hitra og Frøya om sommeren. Institute for Marine Research. <https://www.hi.no/hi/nyheter/2023/november/storst-fare-for-steinkobber-a-bli-fanget-i-fiskegarn-ved-hitra-og-froya-om-sommeren>

⁸⁷ Elnes. 2023.

Figure 7.



Source: Elnes et al.

(2023).

B. Purse seine nets

Both humpback whales (*Megaptera novaeangliae*) and killer whales (*Orcinus orca*) have been regularly observed in association with large aggregations of herring in northern Norway.⁸⁸ In an effort to address these concerns, logbooks were reviewed in order to estimate fishing gear interaction rates for both species in Norwegian purse seine fisheries for herring from 2011 to 2020. The average yearly mortality over the study period was found to be 0.60 killer whales and 0.39 humpback whales which corresponds to 0.008% and 0.007% of the respective abundance estimates for these whale species in Norwegian waters and well below the known PBR rates of 98 humpbacks and 161 killer whales per year.⁹⁰

The researchers noted, however, that these results need to be considered in the context of other anthropogenic threats such as ship collisions and bycatch in other areas. They also acknowledged that entrapments in purse seines may have welfare implications and other adverse effects on individual whales, e.g., from stress induced or physical wounds incurred by being entrapped and subsequently released from a purse seine.⁹¹

⁸⁸ Jourdain, E., and Vongraven, D. (2017). Humpback whale (*Megaptera novaeangliae*) and killer whale (*Orcinus orca*) feeding aggregations for foraging on herring (*Clupea harengus*) in Northern Norway. *Mammalian Biology*, 86, 27–32.

⁸⁹ Mul, E. et al. (2020). Killer whales are attracted to herring fishing vessels. *Marine Ecology Progress Series*. 652. 10.3354/meps13481.

⁹⁰ Bjørge, A., Moan, A., Ryeng, K. and Wiig, J. (2022). Low anthropogenic mortality of humpback (*Megaptera novaeangliae*) and killer (*Orcinus orca*) whales in Norwegian purse seine fisheries despite frequent entrapments. *Marine Mammal Science*. 39. 10.1111/mms.12985.

⁹¹ *Id.*

There are anecdotal reports of marine mammal interactions with Norway's capelin (*Mallotus villosus*) purse seine fisheries, with fishers noting a growth in the presence of marine mammals off Finnmark.⁹²

C. Pot/trap fisheries

No interactions with marine mammals have thus far been recorded for the Norwegian shelf snow crab (*Chionoecetes opilio*) fishery in the Barents Sea, although issues associated with lost gear and "ghost fishing" have been acknowledged.^{93 94}

In a report prepared for a Marine Stewardship Council (MSC) assessment of other Norwegian fisheries, however, submissions by NGOs noted that blue swimming crab, European lobster and Norwegian lobster pot/trap fisheries pose an entanglement risk to large whales, and that humpback whales, specifically, should be listed as interacting with the Norwegian lobster pot/trap fishery. Those commenting also stated that the zero reported entanglement rates are not reliable, given recent studies on large whale entanglements in global pot/trap fisheries. The MSC reviewers noted that minke and humpback whales are included as having a co-occurrence risk in all three fisheries. Fin whales also have a co-occurrence risk with the blue swimming crab and European lobster fisheries, but not the Norwegian lobster pot/trap fishery. The assessors concurred that there was a possible under-estimation of marine mammal bycatch in pot/trap gear, noting the challenges of attributing large whale entanglement to specific pot fisheries in instances where large whales become entangled and swim away with the gear, or in instances where gear that is retrieved from a whale does not allow identification to a specific fishery.⁹⁵

D. Antarctic Fisheries

Antarctic krill fishing began in the 1970s and has undergone a gradual increase in activity over recent decades. For the first time, three incidental mortalities of humpback whales (*Megaptera novaeangliae*) were reported during the 2020-21 fishing season due to interactions with the fishing gear, and one more case was reported in the 2021-22 season.⁹⁶ These entanglements occurred in a Norwegian flagged fishery overseen by Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).⁹⁷ A CCAMLR review of marine mortalities from 2012-2022 revealed that the southern elephant seal was the most

⁹² Lindbæk, E. (2022). Sildefiskere hevder bestanden av spekkhoggere har eksplodert. Havforsker er ikke enig. Fiskeribladet. <https://www.fiskeribladet.no/fiskeri/sildefiskere-hevder-bestanden-av-spekkhoggere-har-eksplodert-havforsker-er-ikke-enig-/2-1-1170970>

⁹³ Hjelset, A., Hvingel, C., Ellering, H., and Danielsen, H. (2021) Snokrabbe på norsk sokkel i Barentshavet: Status og rådgivning for 2022.

. Institute of Marine Research. 19 pp. https://www.hi.no/resources/images/Snokrabbe_2022.pdf

⁹⁴ Hønneland, G., Ennis, J. and Tsitsika, E. (2023) Norway Barents Sea Snow Crab: Announcement Comment Draft Report by Global Trust Certification Ltd. April 2023. 213 pp. <https://fisheries.msc.org/en/fisheries/norway-barents-sea-snow-crab/@assessments?assessments=>

⁹⁵ Gaudian, G., Hønneland, G. and Lassen, H. (2017) Acoura Marine Public Certification Report for the Marine Stewardship Council NFA Norwegian Ling & Tusk and NFA Norwegian Lumpfish Fishery.

⁹⁶ Krafft, B., Lindstrøm, U., Biuw, M. and Lowther, A. (2022) Develop Methods for the co-existence of large baleen whales with a sustainable krill fishery. CCAMLR WG-IMAF-2022/01.

⁹⁷ Knudsen, C. (2022) Røkkes Aker Biomarine fikk fredet knøllhval i nettet. E24.no. February 12, 2022. Translation: Røkkes Aker Biomarine gets protected humpback whale in net. <https://e24.no/hav-og-sjoemat/i/g6130A/roekkes-aker-biomarine-fikk-fredet-knoelhval-i-nettet>

commonly entangled marine mammal in CCAMLR longline fisheries, with the Antarctic fur seal (*Arctocephalus gazella*) the most commonly caught species in trawl fisheries. Seal mortalities were noted to be rare, so no bycatch rate has yet been implemented. Seal mortalities that were found happened mostly when trawl nets were at the surface, or due to failures in the seal excluder devices mandated by CCAMLR for trawl fisheries.⁹⁸

VII. Mitigation measures

In 2009, the Norwegian Institute of Marine Research (IMR) was tasked with creating a broadly composed research group to assist the institute in matters related to the conservation and management of marine mammals. This Marine Mammal Committee (*Sjøpattedyrutvalget*) is composed of 18 researchers from independent institutes and universities and represents a specialist expertise that covers the breadth of the government's advisory needs. The committee holds annual meetings and reviews a broad-based agenda that covers all relevant management-related research fields, including bycatch mitigation.⁹⁹

Since the autumn of 2018, researchers at the Institute for Marine Research (IMR) have carried out trials with pingers in the gillnet fisheries for cod and other species. The initial tests showed a 70 to 100 percent reduction in bycatches of harbor porpoise. As noted previously, a workshop was held in June 2019, where national and international experts in bycatch issues met with fishers and representatives from companies that produce pingers. Others attending included representatives of the Norwegian Fishermen's Association, the Fisheries Ministry and the Norwegian Computing Center. The expert meeting recommended introducing the use of pingers on net fishing for cod in the Vestfjord area, given that harbor porpoise bycatch there was estimated to be about 920 per year. It was considered that if the bycatches of porpoises in the Vestfjord could be reduced by more than 70 percent, then the total bycatches of porpoises in Norway would fall below the PBR level.¹⁰⁰

The recommendation from the 2019 expert meeting to promote pinger use was discussed by the *Sjøpattedyrutvalget* during its annual meeting, and the committee agreed with the proposal. The Norwegian Directorate of Fisheries asked the IMR to consider whether measures other than the use of acoustic pingers would be feasible, in order to reduce bycatches of marine mammals. Researchers from the IMR pointed out that bycatches of porpoises primarily occur in large-mesh gillnets. Internationally, acoustic pingers are considered the most effective method of reducing bycatch of porpoises and have been mandatory in fisheries in other areas, including in the U.S. and EU.¹⁰¹

In 2019, NAMMCO's Harbor Porpoise Working Group (HPWG) noted that Norway had made "significant advances" in its efforts to address harbor porpoise bycatch, especially for the

⁹⁸ CCAMLR (2022) Working Group on Incidental Mortality Associated with Fisheries. WG-IMAF-2022. 37 pp. https://meetings.ccamlr.org/system/files/meeting-reports/e-sc-41-a08_3.pdf

⁹⁹ Sjøpattedyrutvalget. <https://www.hi.no/hi/forskning/forskningsgrupper/sjopattedyr/sjopattedyrutvalget> Last accessed June 10, 2023.

¹⁰⁰ Fisheries Directorate (2020). Forslag til tiltak for å redusere bifangst av sjøpattedyr 20/7992. 7 pp. (translation: Proposal for measures to reduce bycatch of marine mammals). https://www.fiskeridir.no/Yrkesfiske/Dokumenter/Hoeringer/Forslag-til-tiltak-for-aa-reducere-bifangst-av-sjopattedyr/_attachment/download/daabe5c3-6e74-43e8-8c11-ee168e10ff9e:c2ffff511bdaf4abd5c671a4a2ee1c4998215e79/forslag-til-tiltak-for-a-reducere-bifangst-av-sjopattedyr.pdf

¹⁰¹ *Id.*

cod and monkfish fisheries, but recommended that additional information on bycatch in other fisheries be compiled, such as the lumpfish fishery.¹⁰² There is an ongoing project investigating different approaches to surveying Norway's fjords to compile additional information on harbor porpoise that could provide additional support to management tools (e.g. including the use of drones to improve surveys) but the results of this are not yet available.¹⁰³

In 2021 Norway implemented a requirement for the use of acoustic pingers in gillnet fisheries operating in the Vestfjord from January 1 to April 30; the regulation was updated in 2022 to reflect new information on pinger performance. The pingers are required to be attached to the floating line on the nets. There must be no greater distance between the acoustic pingers than 200 metres. The pingers must have a frequency range between 50 kHz–140 kHz. The signal strength for the entire duration of the signal must be greater than 145 dB + 5 dB @ 1 m. The length of the signal must be greater than 300 milliseconds and have an interval between signals of 4-12 seconds.¹⁰⁴ There were initially some issues with the use of pingers in the fishery, and resistance from fishers and in response the Fisheries Directorate convened a meeting in May 2021 to evaluate the new regulation.¹⁰⁵ A report was subsequently prepared, and as noted the regulation was amended in 2022.

In 2021 a collaborative project between the IMR, the Arctic University of Norway and the University of St. Andrews began testing whether a new type of large whale pinger might be suitable for keeping killer whales and humpback whales away from herring nets. The large whale pingers to be tested can be programmed with different sounds, under the hypothesis that it is possible to send out a sound that triggers an automatic and unconscious reflex in the animals, which would cause them to pull away. The pingers were to be tested in the herring fishing both experimentally (in areas without other disturbances) and in active fishing.^{106 107}

Following the third mortality incident of a humpback whale in Norway's Antarctic krill fishery in the 2020/21 season, an extra-large exclusion mesh constructed from Spectra rope was placed at the mouth of the trawl, in addition to existing pinniped exclusion nets. The expectation was that the stronger material would withstand interactions with large cetaceans. However, despite this addition, a dead humpback whale was discovered in the trawl mouth of a vessel during the 2021/22 fishing season. Following this, the exclusion net was moved further forward, attached to the trawl mouth opening and tension in the ropes was increased to reduce any slack. Although no subsequent incidents have been recorded, additional mitigation measures that could be used in the future such as acoustic deterrent devices, modifications of the marine mammal exclusion device or other gear, such as monitoring the trawl codend and underwater

¹⁰² NAMMCO 2019.

¹⁰³ *Id.*

¹⁰⁴ §24 of the Harvesting Regulations: Requirement on the use of acoustic pingers in gillnets in statistical area 00 Vestfjorden (§ 24. *Påbud om akustiske pingere ved garnfiske i statistikkområde 00 Vestfjorden*) <https://lovdata.no/dokument/SF/forskrift/2021-12-23-3910?q=pingere>

¹⁰⁵ Fisheries Directorate. www.fiskeridir.no/Yrkesfiske/Nyheter/2021/evaluering-av-tiltak-med-bruk-av-nisepingere

¹⁰⁶ Bjørge, A. (2021) Forskerutvalg om sjopattedyr 2021. Rapport Fra Havforskning NR. 2021-51. 63 pp.

<https://www.hi.no/templates/reporteditor/report-pdf?id=52708&35193211>

¹⁰⁷ Maria Tenningen, Lise Doksæter Sivle, Jostein Saltskår og Sigurd Hannaas (HI) .2023. Utvikling og testing av metoder for å redusere uheldige interaksjoner mellom hval / sjøfugl og notfiskeri. Tokt med MS "Vestbris" 6.-10. januar 2023 i Kvæningen fjord.

video surveillance or echo-sounders at the trawl mouth to detect encounters are being reviewed.¹⁰⁸

Ghost gear removal

Norway's Fisheries Directorate has organized surveys since 1983 to counter the impact of lost fishing gear, concentrating mainly on gillnets, traps and pots as these gears "are assumed to have the largest impact in terms of ghost fishing". In addition, large amounts of lines, seine nets, and other articles related to fisheries such as ropes, wires and anchors, have been retrieved. Since these annual surveys started in the 1980s and through 2020, more than 1000 tonnes of gear were removed, including 22,000 gillnets, with a combined length of over 600 kilometers.¹⁰⁹

Norway's Harvest Regulations at section 17 state that commercial fishers that lose gear are obligated to perform a search. If the search is unsuccessful the loss shall be reported, with information about type and amount of gear and location, to the Coast Guard or through electronic logbook reporting.¹¹⁰

In 2021, a total of 2669 pot traps were removed, including 2405 snow crab pots, 130 crayfish pots, 119 king crab pots and 15 brown crab pots. Around 700 gillnets of various different types were also removed, corresponding to approximately 20,000 meters of gillnets. About 172,450 meters of rope was removed, including 6,800 meters of danish seine rope and 39,000 meters of longline. In addition, hundreds of buoys and anchors were also found. More than 11,000 kg of fish were discovered in the nets, as well as more than 15,000 crabs.¹¹¹ In the 2023 expedition, approximately 15,000 kg of fish and 2300 crabs were discovered in the 1339 gillnets of various types, as well as 229 traps, more than 8,000 meters of trawl wires and 5,000 meters of seine ropes. Buoys, anchors and trawl doors were also retrieved. Of concern, one whale (unspecified species) and three harbor porpoises were also reported.¹¹²

Norway has been a member of the Global Ghost Gear Initiative since 2019.¹¹³ In 2021, the Norwegian Centre Against Marine Litter (MARFO) joined with the Fisheries Directorate, the Norwegian Maritime Directorate and the Coast Guard to produce and promote an educational video called "Hey, did you drop something?".¹¹⁴ The campaign also distributed posters notifying commercial and recreational fishers of the need to avoid creating marine debris, and how reporting of lost gear is mandatory.¹¹⁵

¹⁰⁸ Krafft *et al.* 2022.

¹⁰⁹ Fisheries Directorate (2019) Norge slutter seg til samarbeid mot spøkelsesfiske (Norway joins fight against ghost gear). <https://www.fiskeridir.no/Areal-og-miljo/Nyheter/2019/Norge-slutter-seg-til-samarbeid-mot-spekelsesfiske>

¹¹⁰ Harvesting Regulations. <https://lovdata.no/dokument/SF/forskrift/2021-12-23-3910>

¹¹¹ Fiskeridirektoratet (2021)

¹¹² Fiskarlaget (2023). Ny rekord.

¹¹³ Ocean Conservancy (2019) "Norway Strengthens Commitments to Tackling Ghost Gear and Joins the Global Ghost Gear Initiative". October 24, 2019. <https://oceanconservancy.org/news/norway-strengthens-commitments-tackling-ghost-gear-joins-global-ghost-gear-initiative/>

¹¹⁴ MARFO (2022). The video "Hei, har du mista noe?" can be seen with English subtitles at <https://vimeo.com/723260607>.

¹¹⁵ MARFO (2022). Tauvettregler – for deg som jobber på havet. <https://cdn.sanity.io/files/geyuq3ns/production/8d6dc925dcaeff508f3e6d216caf654ed31d1b37.pdf?dl=>

Disentanglement efforts

Noting increased cases of reports of whales becoming entangled in fishing gear, ropes and even in aquaculture pens, in 2017 the Fisheries Directorate prepared a guide as to how such situations should be handled entitled “Animal welfare and the proper handling of live stranded whales, whales in aquaculture pens and whales entangled in fishing gear” (*Dyrevelferdsmessig forsvarlig håndtering av levende strandet hval, hval i oppdrettsmerder og hval viklet inn i fiskeredskaper i sjøen*).¹¹⁶

Norwegian researchers, fishers and personnel from the Directorate and Coast Guard have also participated in IWC disentanglement training courses.¹¹⁷ It has been noted that likely due to disentanglement courses held and generally increased awareness of the animal welfare issues related to entanglement and entrapment in recent years, more successful disentanglement stories have surfaced. Entrapped animals in purse seine are being released by fishermen and qualified personnel from the Directorate of Fisheries or the Coast Guard take direct action to disentangle animals.¹¹⁸

VIII. Norway’s Compliance with the MMPA Imports Rule

A. MMPA Imports Rule Requirements:

Under the MMPA, the U.S. government “shall ban” all seafood imports caught with fishing gear that kills or seriously injures marine mammals “in excess of United States standards.” In applying this requirement, the United States “shall insist on reasonable proof” from the exporting nation of the effects of its exporting fisheries on marine mammals – i.e., its marine mammal bycatch.

To implement this provision, NMFS issued its MMPA Imports Rule.⁹² Under the Rule, for Norway to continue exporting fish to the United States after December 31, 2022, the nation must apply for and receive a “comparability finding” from NMFS for each export fishery, which is essentially a determination that Norway’s bycatch and bycatch program as applied to each fishery meets U.S. standards.

Based on information obtained in the conduct of this report, Norway appears to maintain a regulatory program “comparable in effectiveness” to the U.S. program for fisheries with many of the MMPA Import Provision requirements. However, there are certain outstanding issues that require further review.

¹¹⁶ Fisheries Directorate (2017) *Dyrevelferdsmessig forsvarlig håndtering av levende strandet hval, hval i oppdrettsmerder og hval viklet inn i fiskeredskaper i sjøen*. 19 pp. https://www.fiskeridir.no/Yrkesfiske/Tema/Sjoepattedyr/Hval/Strandet-hval/_attachment/download/4ac40a72-1629-4c7d-b8de-0b36c79b9e0e:f04c76c6c105a93bfba7cbec25e6e745cc219a1/forsvarlig-handtering-strandet-hval.pdf

¹¹⁷ IWC (2017) IWC Entanglement Response Training for Norway. <https://iwc.int/resources/media-resources/news/iwc-entanglement-response-training-for-norway>

¹¹⁸ NAMMCO-North Atlantic Marine Mammal Commission.2021. Report of the Working Group on By-catch, Entanglements and Live Strandings, February 2021, Tromso, Norway. Available at <https://nammco.no/topics/bycels-reports/>

Under the Rule, for export fisheries operating within the Norwegian EEZ to receive a comparability finding, Norway must show:

- (1) Norway “[p]rohibits the intentional mortality or serious injury of marine mammals in the course of commercial fishing in the fishery;” and
- (2) For any fishery deemed an export fishery on NMFS’s LOFF, Norway “maintains a regulatory program” for the fishery “that is comparable in effectiveness to the U.S. regulatory program.”

To demonstrate a comparably effective regulatory program, Norway must show it maintains a program “that includes[] or effectively achieves comparable results as” the following components:

- (a) “Marine mammal assessments for . . . for stocks . . . that are killed or seriously injured in the fishery;”
- (b) “An export fishery register,” listing all fishing vessels in the fishery and time, season, gear type, and target species fished;
- (c) Regulatory requirements that include:
 - (i) A requirement that vessel operators report all marine mammal injury or death; and
 - (ii) A requirement that fishers implement measures to reduce mortality/serious injury;
- (d) Monitoring procedures in the export fishery to estimate mortality/serious injury from the fishery and cumulatively from other export fisheries on same marine mammal stocks;
- (e) Calculation of bycatch limit for marine mammals taken in fishery. The “bycatch limit” is PBR or a “comparable scientific metric;” and
- (f) Demonstration that mortality/serious injury from the fishery (and cumulatively with other export fisheries) “[d]o not exceed the bycatch limit.”

(1) Norway likely “[p]rohibits the intentional mortality or serious injury of marine mammals in the course of commercial fishing in the fishery.”

Norway is a nation that engages in both whaling and sealing. Hunting for minke whales is allowed by means of an annually issued regulation (*Forskrift om regulering av vågehval*) which falls under Norway’s Management of Living Marine Resource Law number 37 of June 6, 2008 (*Havressurslova*).¹¹⁹ Paragraph 1 of the regulation generally prohibits whaling, whereas paragraph 2 allows for an exemption from the ban on whaling for the killing of minke whales for permitted vessels.¹²⁰ Whaling or the killing of whales without a permit and any other violations of this regulation are acts that can be prosecuted.

Paragraph 4 of Regulation number 1745 of December 22, 2009 on the regulation of seals at Norwegian coast (*Forskrift om regulering av sel på norskekysten*) bans the capture, hunting,

¹¹⁹ https://lovdata.no/dokument/NL/lov/2008-06-06-37/KAPITTEL_3#§11

¹²⁰ <https://lovdata.no/dokument/SF/forskrift/2023-03-28-434?q=vågehval>

killing and harming of seals.¹²¹ However, there were initially two exceptions to this prohibition. One allowed for legal commercial hunting of certain species of seals as long as a license was obtained; this exemption remains in place and seal hunting is regulated by means of quotas. The second exemption that originally appeared in paragraph 11, allowed for the killing of seals that caused damage to fishing gears or aquaculture facilities. This paragraph was repealed in December 2019.¹²² However, an exception to the killing of seals seems to remain in the regulation, and we suggest that clarification be sought from Norway:

§ 11. Exceptions to the hunting ban

*Seals that stay in waterways where salmon, sea trout or char can be killed with permission from the Directorate of Fisheries' regional office. Before killing, to a reasonable extent, other measures must be taken to prevent damage. If the mother animal is killed during the breeding season, the offspring should be killed if possible. The Directorate of Fisheries or the person authorized by the Directorate may, in special cases, grant permission to catch seals.*¹²³

In response to a question from the United States related to the issue of whether it prohibits the killing of marine mammals in the course of its fishing operations, the government of Norway responded that there is likely to be no incentive to supply the market with marine mammals from bycaught sources given that total quotas for minke whales and seals are not being fully used and the relevant fishery sales organization¹²⁴ confirms that there have not been sales of bycaught whales in recent years. The government indicated that it would be unlikely for fishers to retain and use bycatch for domestic consumption.¹²⁵

There have been incidents, however, in which fishers have retained bycaught marine mammals. For example, in 2022 fisher Jostein Størksen of Vardø caught a dolphin during the winter cod season. The animal died, and Størksen reported that he took the animal ashore “to be numerous good dinners”.¹²⁶

(2)(a) Norway conducts “Marine mammal assessments for . . . for stocks . . . that are killed or seriously injured in the fishery.”

As can be seen in Sections IV, V and VI, Norway has extensive information available on both the distribution and abundance of marine mammals in its waters.

¹²¹ <https://lovdata.no/dokument/SF/forskrift/2009-12-22-1745?q=sel>

¹²² Royal Norwegian Ministry of Trade, Industry and Fisheries 2021.

¹²³ <https://lovdata.no/dokument/SF/forskrift/2009-12-22-1745?q=sel> In Norwegian, the exemption reads: § 11. Unntak fra jaktforbud

Sel som oppholder seg i vassdrag der det går laks, sjørret eller sjørøye kan avlives etter tillatelse fra Fiskeridirektoratets regionkontor.

Før avlaving skal det i rimelig utstrekning forsøkes iverksatt andre tiltak for å avverge skade. Avlives mordyr i yngeltiden, bør avkommet om mulig avlives. Fiskeridirektoratet eller den direktoratet bemyndiger, kan i særlige tilfeller gi tillatelse til fangst av sel.

¹²⁴ This is assumed to be the *Norges Råfisklaget*.

¹²⁵ Royal Norwegian Ministry of Trade, Industry and Fisheries 2021.

¹²⁶ Lindbæk 2022.

(b) Norway Maintains an Export Fishery Registry Which Appears to Supply All Necessary Information.

The MMPA Imports Rule requires that export nations either maintain an "export fishery register" listing all fishing vessels in the fishery, including time, season, gear type, and target species or effectively achieve comparable results as maintaining such a registry.¹²⁷ Statistics Norway (*Statistisk sentralbyrå*) maintains data on imports, exports and re-exports of fishery products.¹²⁸

The Norwegian Fisheries Directorate maintains an online vessel registry containing information on ownership, license/permits, catch information and the annual quota allocated to vessels in access-regulated fisheries.¹²⁹ This section on the Directorate’s website is updated on a daily basis comparing quotas to landings, although the Directorate acknowledges that there might be some discrepancies as to quota and catches, given that these are not corrected for additional quotas or transfer of quotas throughout the year.¹³⁰

Figure 6 below is a screenshot of the Directorate’s vessel quota and catch page. Although vessel identities and owners have been redacted here, they are available on the Directorate’s website. The database includes port location, species fished, area of fishing, gear type, date of fishing, vessel quota and vessel landing.

Figure 6.

Fartøys kvote og fangst

Velg fylke: (All) | Velg kommune: (All) | Velg fartøylengde: 0.0 - 150.0

Intitit ID	Eier	Post-nummer	Poststed	Fiskeslag	Område	Redskap	Fangst-dato	Kvote (tonn)	Fangst (tonn)
			FJELLHAMA..	Leppefisk ..	Alle områder	Konvensjonelle redskap	Null	48,000.00	
			SON	Hyse	Nord for 62. breddegrad	Konvensjonelle redskap	4/12/2023	556.77	0.23
				Sei	Nord for 62. breddegrad	Konvensjonelle redskap	4/12/2023	509.97	0.82
				Torsk	Nord for 62. breddegrad	Konvensjonelle redskap	4/12/2023	38.08	40.11
			FAGERSTR..	Null	Null	Null	Null		
			DRØBAK	Null	Null	Null	Null		
			DRØBAK	Null	Null	Null	Null		
			EYDEHAVN	Null	Null	Null	Null		
			LILLESAND	Leppefisk ..	Alle områder	Konvensjonelle redskap	Null	48,000.00	
			GRIMSTAD	Null	Null	Null	Null		
			HØVÅG	Sei	Sør for 62. breddegrad	Trålredskap	11/7/2023	250.00	18.05
			GRIMSTAD	Null	Null	Null	Null		
			TVEDESTRA..	Null	Null	Null	Null		
			GRIMSTAD	Sei	Sør for 62. breddegrad	Trålredskap	11/7/2023	250.00	14.72
			EYDEHAVN	Null	Null	Null	Null		
			RISØR	Leppefisk ..	Alle områder	Konvensjonelle redskap	Null	48,000.00	
			GJEVING	Null	Null	Null	Null		

Oppdatert: Hver morgen
Kilde: Fiskeridirktoratets fartøy- og deltakerregister

¹²⁷ 50 C.F.R. § 216.24(h) (6)(iii)(C).

¹²⁸ <https://www.ssb.no/utenriksokonomi/utenrikshandel>

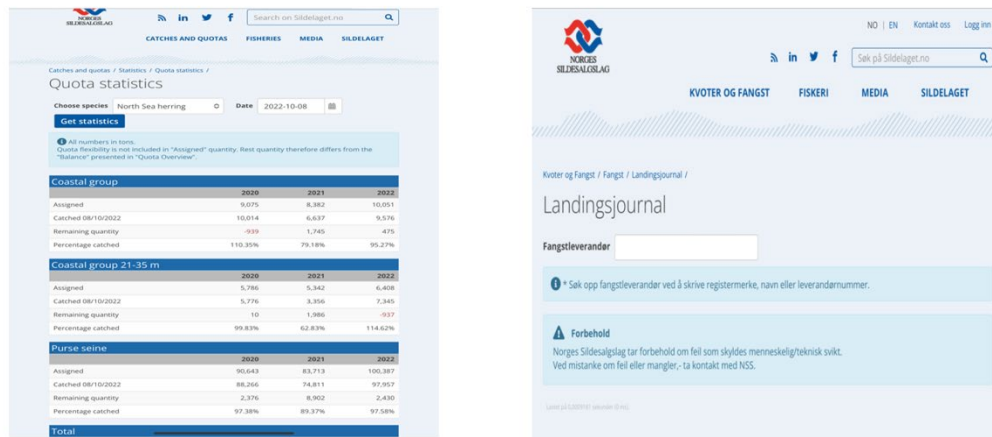
¹²⁹ <https://www.fiskeridir.no/Yrkesfiske/Registre-og-skjema/Fartoyregisteret>

¹³⁰ *Id.*

In addition to the Fisheries Directorate oversight of landings, there are five fishery sales organizations that operate throughout Norway, selling catches on a first-hand basis from fishers to buyers, including for onward export.¹³¹ These sales organizations also maintain catch/landing data for vessels operating within their organization.

The Norwegian Fishermen's Sales Organization for Pelagic Fish (*Norges Sildesalgslag*) is a cooperative sales organization, owned and operated by fishermen. It covers pelagic species including mackerel, herring and capelin.¹³² As an example of the types of information available, Figure 7 shows screenshots of the organization's quota statistics database, and the landing reporting feature. The *Sildesalgslag* maintains a catch journal (*Innmeldingsjournal*) which reports vessel landings in near real time.

Figure 7.



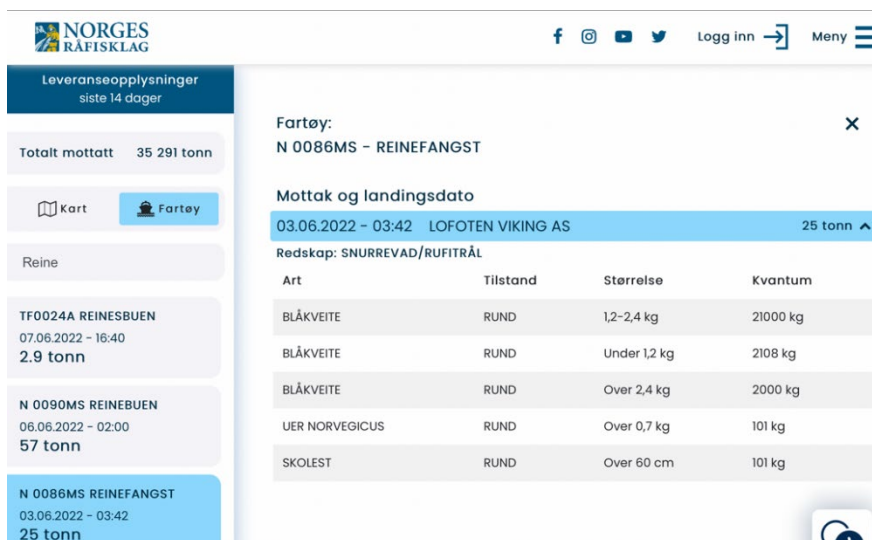
The largest of the fishery sales organizations, the Norwegian Fishermen's Sales Organization (*Norges Råfisklag*) maintains a similar reporting function. The *Råfisklag* covers landings and sales of different species than the *Sildesalgslag*, including minke whale products from the country's commercial whaling program.¹³³ The *Råfisklag* also has near real time reporting (*Leveransingopplysinger med mottak*) on vessel landings for boats operating within its area. Both gear used and amounts landed are identified; in Figure 8, for example the vessel Reinefangst landed Greenland halibut (*blåkveite*), Norwegian redfish (*uer norvegicus*) and roundnose grenadier (*skolest*) using Danish seine gear (*snurrevad*). The product was offloaded to Lofoten Viking AS.

¹³¹ Norges Råfisklaget. "Om oss". <https://gammel.rafisklaget.no/portal/page/portal/NR/Omoss/Om+Norges+Rafisklag> Last accessed May 22, 2023.

¹³² Norges Sildesalgslag. "Om Sildelaget". <https://www.sildelaget.no/no/sildelaget/om-oss/om-sildelaget/> Last accessed on June 23, 2023.

¹³³ Norges Råfisklaget. "Om oss".

Figure 8.



As of October 2021, it was announced that exporters can use validated catch certificates based on the Norway/EU Catch Certificate Scheme for shipments to the United States. However, it was noted that, “American requirements for documentation when exporting through the Seafood Import Monitoring Program (SIMP) differ from the EU requirements so that the exporter must also send other information to his American importer.”¹³⁴ The Catch Certificate program is based upon the requirements outlined in the Regulation on Catch Certificates of December 18, 2009 (*Forskrift om fangstsertifikat m.v.*)¹³⁵ This regulation was amended in January of 2023 to add that, “[if the conditions laid down in these regulations are not complied with, the Norwegian Directorate of Fisheries can set compulsory fines and/or infringement fees.”¹³⁶

Norway has therefore appeared to have taken important steps towards maintaining an adequate export registry, including information on landings, time, season, and gear type allowed for each vessel — information essential for managers to understand and monitor fishery operations and bycatch.

Further, the Norwegian Fisheries Monitoring Center (FMC) oversees regulations imposed on the Norwegian fishing fleet while at sea, as well as foreign vessels operating in Norwegian waters. This includes tracking reports on electronic catch reporting measures and other activities. The FMC maintains a hotline number to report illegal fishing activities, as well as other information. This includes reporting of marine mammal strandings.¹³⁷

¹³⁴ Granberg, B. (2021) “Eksport of sjømat til USA”. <https://www.catchcertificate.no/media/nyheter/siste-nytt/eksport-av-sjoemat-til-usa/> Last accessed January 6, 2022.

¹³⁵ <https://lovdata.no/dokument/SF/forskrift/2009-12-18-1693>

¹³⁶ <https://lovdata.no/dokument/LTI/forskrift/2023-01-24-81>

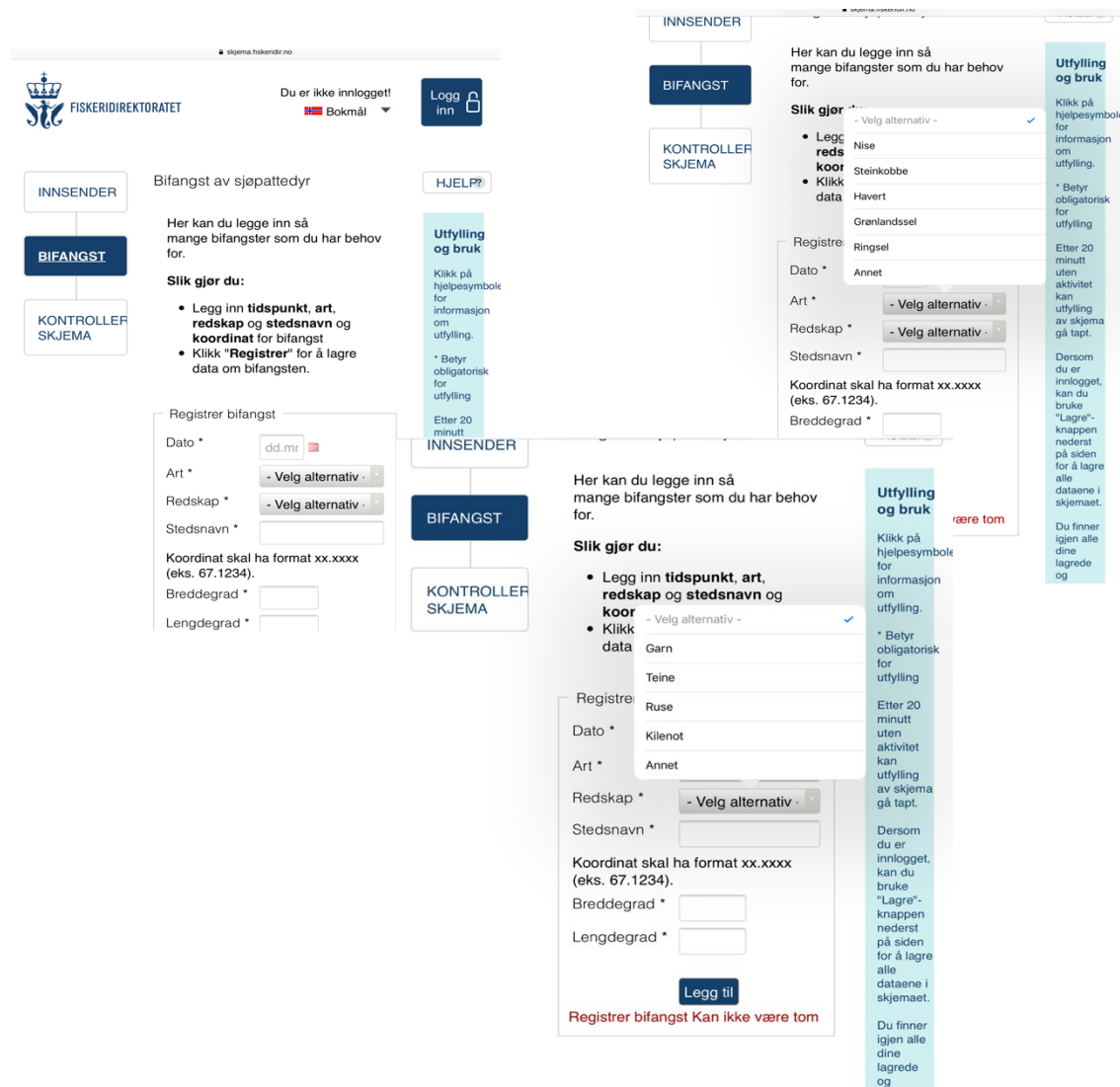
¹³⁷ Fiskeridirktoratet. *Fisheries Monitoring Centre (FMC)*. <https://www.fiskeridir.no/English/Fisheries/Fisheries-Monitoring-Centre> Last accessed on March 10, 2023.

(c) Based on Publicly Available Information, Norway Likely Maintains Regulatory Requirements for Bycatch

(c) (i) A requirement that vessel operators report all marine mammal injury or death

Norway has taken significant steps to address bycatch in its waters, as seen in previous sections. In addition to the regulations cited previously, the Fisheries Directorate maintains a website for fishers to log bycatch incidents; those submitting data must register the date and time of the interaction, species, gear type, location and coordinates. There are drop down functions for species and gear. Species listed are harbor porpoise, harbor seal, grey seal, harp seal, ringed seal and “other”. For gear, the choices are gillnet, three different kinds of traps and “other”.¹³⁸

Figure 9.



¹³⁸ Fisheries Directorate. Bifangst av sjøpattedyr -Innsender. https://skjema.fiskeridir.no/skjema/FD0098/skjema/FD0098/Bifangst_av_sjopattedyr

As noted previously, the Fisheries Directorate has also a marine mammal bycatch reporting mechanism for recreational fishers.¹³⁹

(c)(ii) A requirement that fishers implement measures to reduce mortality/serious injury

As described in section VII on mitigation, Norwegian fishers have been required to take measures to reduce serious injuries and mortality in fisheries that are known to impact marine mammals, even when it appears that marine mammal mortalities are below PBR.

(d) Monitoring procedures in the export fishery to estimate mortality/serious injury from the fishery and cumulatively from other export fisheries on same marine mammal stocks

Norway also maintains a Reference Fleet, a group of active fishing vessels that provide data on catches and general fishing activity to the Institute of Marine Research. The fleet consists of both high-seas and coastal vessels and covers most Norwegian waters. The Reference Fleet began operation in 2000 and was expanded to include coastal vessels in 2005. The fleet documents fishing effort as well as the catch composition of total catches. This includes information on bycatch, discards and catches of non-commercial species such as seabirds and marine mammals in order to provide data for the monitoring of biodiversity, fishing effort and catch per unit effort (CPUE) over time.¹⁴⁰

In 2021, the Fisheries Ministry proposed expanding data collection to cover the entire fishing fleet, including position and activity data from the smallest vessels (<15 m). This was done in order to provide increased knowledge of stocks along the coast about which there was currently little data and to provide better management of these stocks and to allow detection of “danger signals” at an earlier stage. The position and effort data will be of great value to the marine land management and in the industry's own work to meet the requirements of various certification schemes. The requirements for tracking and reporting were introduced in a gradual manner, beginning with vessels >15 meters. Tracking via VMS (Vessel Monitoring System) and catch reporting on location and time of landings via an Electronic Reporting System (ERS) were to take effect in 2022 for the >15 meter fleet, with vessels >11 and <15 meters needing to comply in 2023.¹⁴¹

However, there are some concerns regarding reporting that warrant further discussion. Previous studies have shown that data reporting from vessels are not 100 percent consistent when compared with sales notes from landings. This could be due to not sampling all catches, or there being some technical error.¹⁴²

¹³⁹ Fisheries Directorate 2020. Ny app.

¹⁴⁰ Clegg, T. and Williams, T. (2020) Monitoring bycatches in Norwegian fisheries – Species registered by the Norwegian Reference Fleet 2015-2018. Rapport fra havforskningen 2020-8 ISSN: 1893-4536 Published: 12.03.2020 Project No.: 15561 <https://www.hi.no/hi/nettrapporter/rapport-fra-havforskningen-en-2020-8>.

¹⁴¹ <https://www.hi.no/hi/nettrapporter/rapport-fra-havforskningen-en-2021-52>

¹⁴² Berg, H. (2019) Estimation of discard of cod (*Gadus morhua*) in Norwegian gillnet fisheries. University of Bergen. Berg, H.S.F. and Nedreaas, K. 2021. Estimation of discards in Norwegian coastal gillnet fisheries – 2012-2018. Fisken og Havet 2021-1. ISSN:1894-5031. 95 pp.

In addition, the Norwegian Directorate of Fisheries maritime service has onboard inspectors which assess a number of variables, including bycatch.¹⁴³ The Norwegian Coast Guard also gathers data on vessel catches through at-sea enforcement inspections, and its coverage is extensive as 15 inspection vessels conduct on the order of 2000 inspections annually. In addition, a number of the vessels are equipped with a helicopter and have filmed illegal activities at sea as a means of providing evidence for fisheries violations.¹⁴⁴

(e) Calculation of bycatch limit for marine mammals taken in fishery that PBR or a “comparable scientific metric”

Norway has used a PBR or an alternate metric for assessing marine mammal stocks taken in fisheries. The alternate metric is conservative and science-based and may constitute a comparable scientific metric.

(f) Demonstration that mortality/serious injury from the fishery (and cumulatively with other export fisheries) “[d]o not exceed the bycatch limit.”

As detailed above, it is known that in at least two cases, bycatch limits for two species, the harbor porpoise (*Phocoena phocoena*) and the harbor seal (*Phoca vitulina*) currently are likely to exceed a calculated PBR for fisheries that export to the United States.

IX. Conclusion and Recommendations

Overall, based on publicly available information, Norway meets many of the requirements of the Marine Mammal Protection Act Imports Rule. The country has undertaken extensive marine mammal surveys for stocks in its waters; it has implemented regulatory requirements for bycatch including requiring monitoring, reporting and mitigation measures for domestic and export fisheries and has also been able to calculate sustainable removal levels using PBR or alternate metric. However, bycatch of marine mammals is known to exceed PBR in certain cases.

It has been noted that while Norway logbooks are designed to report landed catch, including the bycatch of cetaceans, it is not required for fishers to land cetacean bycatch. This could possibly suggest that even though the law states fishers should report all cetacean bycatch, not only will they not report injured animals, but they are also unlikely to report all deceased animals if they did not land them.¹⁴⁵ We urge NOAA Fisheries to seek clarification on this point, and also to query Norway as levels of fisher compliance with reporting requirements. There are also extant questions with regard to the intentional killing of marine mammals.

¹⁴³ Clegg & Williams (2020).

¹⁴⁴ Gullestad, P., Blom, G., Bakke, G. and Bogstad, B. (2015). The “Discard Ban Package”: Experiences in efforts to improve the exploitation patterns in Norwegian fisheries. *Marine Policy*. 54. 10.1016/j.marpol.2014.09.025.

¹⁴⁵ Sigurdsson, G. and Basran, C. (2021). Using Case Studies to Investigate Cetacean Bycatch/Interaction Under-Reporting in Countries With Reporting Legislation. *Frontiers in Marine Science*. 8. 1-15. 10.3389/fmars.2021.779066.