



NOAH | for dyrs  
rettigheter



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January 4, 2023

Dear Ms. Harrison and Dr. Weise,

On behalf of the Animal Welfare Institute, Whale and Dolphin Conservation, and NOAH, Norway's largest NGO for animals, we are writing to you regarding the auditory evoked potential (AEP) hearing tests that were attempted on juvenile minke whales at Vestfjord, Norway between mid-May and early July of 2021 and 2022.

As you are aware, our organizations have raised significant concerns regarding this project, led by Dr. Petter Kvadsheim of the Norwegian Defense Research Establishment (FFI) with the support of Dr. Dorian Houser of the National Marine Mammal Foundation. We contend that, as attempts in both years have failed to achieve the stated objective of the project and the project lead has acknowledged that at least one whale suffered negative effects during capture, your agencies should immediately discontinue support and funding for this project.

From our point of view, despite the involved scientists' claims to the contrary,<sup>1</sup> the first season of the experiment was a failure. For example, based on an email<sup>2</sup> sent by Dr. Kvadsheim to Mattilsynet (the Norwegian Food Safety Authority, which issued the permit for this experiment),

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<sup>1</sup> See e.g. <https://www.ffi.no/en/news/the-first-season-of-the-minke-whale-hearing-project-has-come-to-a-close>

<sup>2</sup> See Attachments 1 and 2. Emails referenced in this letter were obtained under Norway's Freedom of Information Act (Lov om rett til innsyn i dokument i offentlig verksemd (offentleglova). Translations provided by NOAH and the Animal Welfare Institute.

a minke whale who had been caught in the nets escaped without a trace during the night of June 16, 2021:

- June 17, 2021: *We caught a whale yesterday afternoon. It went quietly under constant surveillance for 8 hours in the large pool bed (2.5 million cubic meters). Our plan was to transfer it to the cage this afternoon, but during the night it got out. We are going down with a diver/ROV today to inspect the net to find out how it got out.*

Further, at least one individual of a ‘non-target’ species, a humpback whale, found its way into one of the nets.<sup>3</sup> An additional email from Dr. Kvalsheim to Mattilsynet, noted as follows:

- June 24, 2021: *We will now finish up here. We have had 5 animals in the larger trap. Three before we were ready to catch them, one was too big for us and was let out again after a short time, one got out before we could close the "door" again, and the last one was, as I said, in the large pool for 8 hours before it found a hole in the net and got out. No animals were led into the cage from the large pool.*
- *We have also had other species inside the trap, but they only wander out again after a short time. All animals have had a calm, normal behavior with no signs of stress. We have made great progress in developing a method for catching baleen whales, but did not quite get there this year. This is a four-year project and we will return next year.*

See Attachments 1 and 2. Following the 2022 field season, another email exchange on October 5, 2022 between Dr. Kvalsheim and Mattilsynet describes the extent of the progress made by the scientists with the AEP experiment. As was the case in 2021, one of the minkes trapped in the larger net basin escaped due to an opening in the net:

- *Two animals were caught in the large basin this year. In the next phase, a net is used between two boats to guide them further into a fish cage. One of the animals (Ba22\_1606a) found in this process an opening in the net between the fish cage and the barrier nets and escaped. The animal was observed swimming calmly away from the area.*

The second minke whale caught in the larger net was actually transferred to the cage, with disastrous consequences:

- *The second animal (Ba22\_1706g) was caught in the fishing net. During the entire process, the animal's behavior and respiration rate were monitored so that we could detect if the animal was stressed. In the last phase of the experiment, the cage net is lifted up, before a row of cork is pulled through the cage under the net so that the animal gradually has less space. In the end, you end up with the animal in a hammock in the*

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<sup>3</sup> Per surpanote 1 and <https://www.lofotposten.no/forskerne-ville-teste-horselen-til-kvalen-med-det-gikk-ikke-helt-som-planlagt/s/5-29-721303>; <https://www.ffi.no/aktuelt/nyheter/forste-sesong-med-horselsforsok-pa-vagehval-er-avsluttet>

*water between the cage and a raft. We then put on electrodes to monitor the ECG and eventually also electrodes to measure hearing, which is the aim of the project (see video and pictures in the [link](#) above). In the case of Ba22\_1706g, the animal behaved calmly during the entire capture procedure, **but when the animal made physical contact with the net, this triggered a form of paralysis with subsequent myopathy. This is not unusual in diving animals, for example seals will often react in the same way when caught. In this case, we had to stabilize the animal to keep the breathing hole above water. Eventually the animal began to hyperventilate and vomited.***

*In consultation with our vets present (Rolf Arne Ølberg from Dyreparken in Kristiansand, and Craig Harms from the USA) it was then decided to release the animal back into the fish cage. Ba22\_1706g quickly returned to normal calm behavior and was released after about 8 hours. The animal had been in the hammock for about 26 minutes, we had started to measure the EKG, but had not been able to start measurements of hearing, nor attached a satellite transmitter which would have given us information about the animal's behavior after it was released. Our own evaluation is that all procedures and decisions worked as planned. Animal welfare considerations were put before research results and thus this incident had a happy ending. **We have shown that our method of catching minke whales works, but we have also received indications that these animals are sensitive to human handling.***

We appreciate that the researchers consulted the two vets present during this incident, and concluded that the whale needed to be released. However, we strongly disagree with Dr. Kvadsheim's characterization of this episode's "happy ending," as we are deeply disturbed by the fact that this minke experienced "paralysis with subsequent myopathy," and then hyperventilated and vomited, following the team's attempt to stabilize the whale.

We further note that the researchers were unable to affix a satellite tag to this whale, although we acknowledge this was perhaps due to concerns over the minke's stress levels. This failure to affix tags to captured whales runs contrary to commitments made by the project to track the whales following the research to see if they resume normal activities.<sup>4</sup> It is unclear whether the research team made any effort to photo-identify minke Ba22\_1706g, and follow it for any length of time to determine its post-release status.

The October 5, 2022 email raises a further question. Dr. Kvadsheim stated that, "[w]e caught two animals this year, both young animals of 3.5–4m." A review of scientific literature indicates that this length falls within the parameters estimated for dependent calves, as scientists believe weaning in minke whales occurs at four to six months of age, at lengths between 4.4 and 5.5

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<sup>4</sup> Mattilsynet (2019). Forsøksdyr: Live capture and release of minke whales for the collection of auditory evoked potential hearing thresholds.  
[https://www.mattilsynet.no/dyr\\_og\\_dyrehold/dyrevelferd/forsoksdyr/forsoksdyrsoknader/live\\_capture\\_and\\_release\\_of\\_minke\\_whales\\_for\\_the\\_collection\\_of\\_auditory\\_evoked\\_potential\\_hearing\\_thresholds.34939](https://www.mattilsynet.no/dyr_og_dyrehold/dyrevelferd/forsoksdyr/forsoksdyrsoknader/live_capture_and_release_of_minke_whales_for_the_collection_of_auditory_evoked_potential_hearing_thresholds.34939)

meters.<sup>5</sup>

In the October 5<sup>th</sup> email, Dr. Kvalsheim noted that the team would be applying to Mattilsynet for a renewed permit, but acknowledged that the study would need to apply additional measures based on experiences thus far. For example:

*—Paralysis can be triggered by an overload of sensory impressions and therefore we will allow the animals to have more breaks during the capture and the opportunity to get used to the fact that there is less and less space.*

*—We will avoid the use of noisy boats in the last phase of the capture.*

*—As a safety procedure, if the animal loses its position and risks inhalation of water, we will put on a harness that stabilizes the animal's position with the breathing hole above water. It will also be relevant that we have personnel in the water with the animal to keep it stable.*

*—Gradual sedation is described in the existing permit. This is still relevant, but primarily if the animal is restless.*

*—We will modify the hammock so that it is possible to give the animal breaks by giving it more space and water. The experience from this year is that when the animal is left free in the water again, the diving reflex will stabilize the pose and breathing pattern.*

While we recognize the team believes it learned certain ‘lessons’ from this mishap, we contend the takeaway should *not* be to try again and simply be more careful; it should be to call the whole thing off. We reiterate the concerns we have repeatedly raised since 2021, particularly our fear that the whales would react poorly to the circumstances envisioned by this experiment. As the project lead himself noted, indications are that minke whales are sensitive to human handling, yet the team proposes to add a harness as a means to stabilize a whale, and additional personnel placed in the water with the whale. This seems highly counter-indicated, based on the one whale’s reaction to the net hammock.

We continue to maintain that, if applied here, the Marine Mammal Protection Act (MMPA) would not permit such takes, and that the U.S. government should not be supporting research activities that so clearly undermine the spirit and intent of this law (See Attachment 3 at p. 7-9, including fn. 26). Most notably, NMFS’s general issuance criteria for research permits require that the proposed activity be humane and not present any unnecessary risks to the health and welfare of marine mammals. 50 C.F.R. § 216.34(a)(1). Even if NMFS could issue a permit for

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<sup>5</sup> Christensen I. Age determination of minke whales, *Balaenoptera acutorostrata*, from laminated structures in the tympanic bullae. Rep Int Whal Commn. 1981;31:245–53; Hauksson E, Víkingsson GA, Halldorsson SD, Olafsdottir D, Sigurjónsson J. Preliminary report on biological parameters for NA minke whales in Icelandic waters. In: Report of the international whaling commission 63: 1–45; 2011 and Kavanagh, A.S., Kett, G., Richardson, N. et al. High latitude winter sightings of common minke whale calves (*Balaenoptera acutorostrata*) in the Northeast Atlantic. Mar Biodivers Rec 11, 22 (2018). <https://doi.org/10.1186/s41200-018-0157-y>

such experimentation, we believe the agency would almost certainly suspend and possibly even revoke such permission following the events that transpired in 2021 and particularly 2022.<sup>6</sup>

The June 24, 2021 email also contained an extremely troubling request from Dr. Kvadsheim to the Norwegian government to ignore the public's right to transparency:

- *Then we can hope that we don't get so much trouble from animal welfare activists next year. I see from postings from animal welfare activists that everything we tell you ends up in detail. Is it strictly necessary? There are a lot of misunderstandings and a lot of misinformation about this project out there. In the middle of an ongoing field campaign, we have spent an enormous amount of resources trying to come out with objective information. You, as the responsible authorities, are of course entitled to information, but it would have been better if you referred us to us if anyone wants information about the progress of the project. As project owners, we have first-hand knowledge and would like to have some control over the flow of information.*

Dr. Kvadsheim again expressed his concern about national and international animal protection organizations, and access to information in an email to Mattilsynet on April 25, 2022:

- *National and international animal protection organizations made a lot of decisions about our project in Lofoten last year, where we will catch minke whales to measure hearing. We expect that there will be similar reactions this year as well. Together with our American partner, FFI has created a strategy to handle inquiries from the media and others. You must, of course, handle inquiries related to your processing of the permit, but if there are questions about the project, we prefer that you refer them to us (me at [phk@ffi.no](mailto:phk@ffi.no) or our information department at [Kommunikasjonsenheten@ffi.no](mailto:Kommunikasjonsenheten@ffi.no)).*

This effort to circumvent transparency is disturbing, and we hope that you and your agencies also find this antithetical to the Biden Administration's espoused goal of bringing increased truth and transparency to government. In addition, the effort to remove Mattilsynet, the very government agency tasked with the permitting and oversight of this project, from responding to any requests from the public for information regarding the study is disconcerting.

In closing, our organizations have repeatedly urged the Norwegian government to revoke its approval of this study, warning that the experiment would likely cause the whales stress and potentially harm their overall health. See Attachment 4. We hope that the renewed funding referred to in the October 5, 2022 email was not from the U.S. government. However, should

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<sup>6</sup> See, e.g., NMFS Permit No. 22629 issued to Mystic Aquarium for importation of and scientific research on five captive-born beluga whales (*Delphinapterus leucas*), which states that "Researchers must immediately stop permitted activities and the Permit Holder or Principal Investigator must contact the Chief, NMFS Permits and Conservation Division within two business days for written permission to resume," "[i]f authorized take is exceeded (i.e., the animals are taken in a manner not authorized by this permit or the number of takes is exceeded)." Following the death of one of the imported beluga whales, NMFS suspended Mystic's research under this permit.

funding be sought from your agencies for similar experiments in the future, we sincerely hope that you keep these facts in mind and avoid wasting any more taxpayer dollars.

Sincerely,

A handwritten signature in black ink, appearing to read "Georgia Hancock". The signature is fluid and cursive, with a long horizontal stroke at the end.

Georgia Hancock  
Animal Welfare Institute

Cc: Dr. Arati Prabhakar, Office of Science and Technology Policy  
Dr. Peter Thomas, Marine Mammal Commission  
Dr. Jill Lewandowski, Bureau of Ocean Energy Management

# Attachment 1

**From:** Kvadsheim, Petter Helgevold[[Petter-Helgevold.Kvadsheim@ffi.no](mailto:Petter-Helgevold.Kvadsheim@ffi.no)]

**Sent:** 05.10.2022 16:01:11

**To:** Johanne Holmen[[Johanne.Holmen@mattilsynet.no](mailto:Johanne.Holmen@mattilsynet.no)]; Forsøksdyr[[forsoksdyr@mattilsynet.no](mailto:forsoksdyr@mattilsynet.no)]

**Cc:** Lausund, Per[[Per.Lausund@ffi.no](mailto:Per.Lausund@ffi.no)]; Rolf Arne Ølberg[[rolfarn@dyreparken.no](mailto:rolfarn@dyreparken.no)];  
[lkarts@lkarts.no](mailto:lkarts@lkarts.no)[[lkarts@lkarts.no](mailto:lkarts@lkarts.no)]

**Subject:** FOTS id 19536 levendefangst av vågehval - rapport fra årets feltesong

Hei,

Vi har avsluttet årets feltesong med levendefangst av vågehval. En oppsummering finnes på prosjektets nettside [Forskere fanget hval levende i Lofoten \(ffi.no\)](http://ffi.no)

Vi fanget to dyr i år, begge unge dyr på 3,5-4m. Dyrene ledes i første omgang inne i et stort basseng mellom noen holmer. Der blir de observert til vi er sikre på at de rolige og friske før vi i samråd med veterinær går videre til neste fase. To dyr ble fanget i storbassenget i år. I neste fase brukes et nett mellom to båter for å lede dem videre inn i en fiskemerde. Ett av dyrene (Ba22\_1606a) fant i denne prosessen en åpning i nettet mellom fiskemerden og sperrenettene og unnslopp. Dyret ble observert svømmende rolig bort fra området. Det andre dyret (Ba22\_1706g) ble fanget i fiskermerden. Under hele prosessen blir dyrets atferd og respirasjonsrate overvåket slik at vi fanger opp om dyret stresses. I siste fase av eksperimentet løftes merdenota opp, før en korkrekke trekkes gjennom merderingen under nota slik at dyret gradvis får mindre plass. Til slutt ender man opp med dyret i en hengekøye i vann mellom merderingen og en flåte. Vi kan da sette på elektroder for å overvåke EKG og etter hvert også elektroder for å måle hørsel, som jo er målsetningen med prosjektet (se video og bilder i linken over). I tilfelle med Ba22\_1706g oppførte dyret seg rolig under hele innfangingsprosedyren, men idet dyret fikk fysisk kontakt med nota utløste dette en form for paralyse med påfølgende myopati. Dette er ikke uvanlig hos dykkende dyr, for eksempel vil sel ofte reagere på samme måte når de blir fanget. I dette tilfelle måtte vi stabilisere dyret for å holde pustehullet over vann. Etterhvert begynte dyret å hyperventilere og kastet opp. I samråd med våre tilstedeværende veterinærer (Rolf Arne Ølberg fra Dyreparken i Kristiansand, og Craig Harms fra USA) ble det da besluttet å slippe dyret tilbake i fiskemerden. Ba22\_1706g returnerte raskt til normal rolig atferd og ble etter ca 8 timer sluppet fri. Dyret hadde vært i hengekøya i ca 26min, vi hadde begynt å måle EKG, men ikke fått startet målinger av hørsel, ei heller festet satellittsender som ville gitt oss informasjon om dyrets atferd etter at det ble sluppet fri. Vår egevaluering er at alle prosedyrer og beslutninger fungerte som planlagt. Dyrevelferdshensyn ble satt foran forskningsresultater og dermed fikk denne hendelsen en lykkelig slutt. Vi har vist at vår metode for å fange vågehval fungerer, men vi har også fått indikasjoner på at disse dyrene er følsomme for håndtering av mennesker.

Ingen annen forskergruppe har noensinne fanget en bardehval og vært så nære ved å få målt hørsel. Vi har derfor fått innvilget finansiering for 2 nye år. FFI sender om kort tid inn søknad i FOTS om fornyet tillatelse. I utgangspunktet vil dette være en kopi av den eksisterende tillatelsen. Vi gjør derimot noen tiltak basert på erfaringen så langt:

- Paralyse kan trigges av en overbelastning av sanseinntrykk og derfor kommer vi til å la dyrene få flere pauser under innfangingen og mulighet til å venne seg til at det har stadig mindre plass.
- Vi kommer til å unngå bruk av støyende båter i siste fase av innfangingen.
- Som en sikkerhetsprosedyre dersom dyret mister positur og risikerer inspirasjon av vann vil vi sette på en sele som stabiliserer dyrets positur med pustehullet over vann. Det vil også være aktuelt at vi har personell i vann sammen med dyret for å holde det stabilt.
- Stegvis sedasjon er beskrevet i den eksisterende tillatelsen. Dette er fortsatt aktuelt, men primært dersom dyret ligger urolig.
- Vi modifierer hengekøya slik at det er mulig å gi dyret pauser ved å gi det mer plass og vann. Erfaringen fra i år er at når dyret blir liggende fritt i vannet igjen vil dykkrefleksen stabilisere positur og pustemønster.

Det er en høyt kvalifisert forskergruppe med eksperter fra Norge, USA og Danmark som er involvert i dette prosjektet. Jeg overordnet ansvar for dyrevelferd som tillatelseholder. Siden eksperimentet kan innebære bruk av sedativer har vi minst en veterinær tilstede under eksperimentene (ref kravene i Forsøksdyrforskriften). Ønsker Mattilsynet ytterligere opplysninger er det bare å spørre.

Vennlig hilsen

**Petter H Kvadsheim**

*Sjefsforsker, dr.scient*

Telefon: 33 03 38 86 / 95 13 89 92  
Forsvarets forskningsinstitutt (FFI)  
[ffi.no](http://ffi.no)

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**Fra:** Kvalsheim, Petter Helgevold  
**Sendt:** mandag 25. april 2022 11:03  
**Til:** Johanne Holmen <Johanne.Holmen@mattilsynet.no>  
**Kopi:** Dyre Doktor <laboratory.animals@gmail.com>  
**Emne:** FOTS id 19536 levendefangst av vågehval.

Hei Johanne, det er Heidi Bugge som har vært vår kontakt i denne saken før, men jeg har skjønnet at hun ikke lenger jobber med forsøksdyr så jeg prøver deg.

Nasjonale og internasjonale dyrevernorganisasjoner laget mye styr rundt vårt prosjekt i Lofoten i fjor hvor vi skal fange vågehval for å mål hørrel. Vi forventer at det blir tilsvarende reaksjoner også i år. FFI har sammen med vår amerikanske samarbeidspartner laget et strategi for å håndtere henvendelser fra media og andre. Dere må selvsagt håndtere henvendelser som går på deres saksbehandling av tillatelsen, men er det spørsmål om prosjektet foretrekker vi at dere henviser til oss (meg på [phk@ffi.no](mailto:phk@ffi.no) eller vår informasjonsavdeling på [Kommunikasjonsenheten@ffi.no](mailto:Kommunikasjonsenheten@ffi.no)). Vi la nylig ut en nyhetssak om prosjektet på vår nettside [Eksperiment i Lofoten i sommer: Forskere skal finne ut hva bardehvalen hører \(ffi.no\)](#)

Vi planlegger oppstart i Lofoten 1 juni og holde på til 30 juni i år. I fjor ønsket dere å komme på tilsyn. Det er vanskelig rent logistisk å komme seg raskt ut til området hvor vi jobber, men dersom dere ønsker å komme på tilsyn prøver vi å legge rette for det. Ta kontakt om det er aktuelt.

Vi ønsker å gjøre en mindre endring i protokollen som ikke har svekker dyrevelferden, tvert imot. I protokollen som dere har godkjent står det at vi skal observere dyrene i minst 12 timer før vi starter forsøket. Grunnen var at vi ønsket å få erfaring med hvordan dyrene orienterte seg og oppførte seg rundt nøter før vi begynte selve innfangingen. Vi trengte også tid til å få en veterinær på plass før forsøket starter. I år vil det alltid være minst 1 veterinær tilstede, og dermed er vi mer fleksible. En av erfaringene fra i fjor er at dyrene oppfører seg svært rolig når de blir fanget, men de søker etter åpninger i nettet. En av dyrene som ble fanget i fjor fant til slutt en hull i nettet ved flo sjø som vi ikke var klar over og svømte ut før eksperimentet ble gjennomført. Ut fra erfaringen i fjor mener vi det er hensiktsmessig å redusere denne observasjonstiden til minimum 2 timer slik at totalbelastningen på dyret blir mindre. Jeg kan legge dette inn som en mindre endring i FOTS, men det ligger en annen mindre endring om dette som vi la inn i fjor. Ved et uhell la jeg den inn til lokal behandling og den har hengt seg opp der. Jeg får dermed ikke lagt inn noen ny endringsmelding. Kan du få slettet denne så kan jeg heller legge inn en ny.

Ta bare kontakt om dere lurer på noe.

Vennlig hilsen  
**Petter H Kvalsheim**  
*Sjefsforsker, dr.scient*

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Forsvarets forskningsinstitutt (FFI)  
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**Fra:** Heidi Bugge <[Heidi.Bugge@mattilsynet.no](mailto:Heidi.Bugge@mattilsynet.no)>  
**Sendt:** fredag 25. juni 2021 08:57  
**Til:** Kvalsheim, Petter Helgevold <[Petter-Helgevold.Kvalsheim@ffi.no](mailto:Petter-Helgevold.Kvalsheim@ffi.no)>  
**Kopi:** Ole Aamodt <[Ole.Aamodt@mattilsynet.no](mailto:Ole.Aamodt@mattilsynet.no)>; Hammer, Anne-Lise <[Anne-Lise.Hammer@ffi.no](mailto:Anne-Lise.Hammer@ffi.no)>; Hege Robberstad <[Hege.Robberstad@mattilsynet.no](mailto:Hege.Robberstad@mattilsynet.no)>  
**Emne:** SV: Tilsyn hval

Hei, og takk for denne informasjonen. Vi er blitt bombardert med henvendelser i lengre tid, og vi har forsøkt å

svare på spørsmål rettet til forsøksdyrforvaltningen om hvorfor vi har godkjent prosjektet. Jeg vil selvsagt bringe dine innspill videre til dem som har svart fra oss slik at informasjonen blir så god og korrekt som mulig.

Mvh  
Heidi

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**Fra:** Kvadsheim, Petter Helgevold <[Petter-Helgevold.Kvadsheim@ffi.no](mailto:Petter-Helgevold.Kvadsheim@ffi.no)>

**Sendt:** torsdag 24. juni 2021 18:58

**Til:** Heidi Bugge <[Heidi.Bugge@mattilsynet.no](mailto:Heidi.Bugge@mattilsynet.no)>

**Kopi:** Ole Aamodt <[Ole.Aamodt@mattilsynet.no](mailto:Ole.Aamodt@mattilsynet.no)>; Hammer, Anne-Lise <[Anne-Lise.Hammer@ffi.no](mailto:Anne-Lise.Hammer@ffi.no)>

**Emne:** SV: Tilsyn

Hei igjen Heidi,

Vi avslutter nå her oppe. Vi har hatt 5 dyr i fella. Tre før vi var klar til å fange dem, en var for stor for oss og ble sluppet ut igjen etter kort tid, en kom seg ut før vi fikk stengt igjen «døra», og den siste var som sagt inne i storbassenget i 8 timer før den fant et hull i nettet og kom seg ut. Ingen dyr ble ledet inn i merden fra storbassenget. Vi har også hatt andre arter inne i fella, men de vandrer bare ut igjen etter kort tid. Alle dyr har hatt en rolig normal atferd uten tegn til stress. Vi har gjort store fremsteg ift å utvikle en metode for å fange bardehvaler, men kom ikke helt i mål i år. Dette er en fireårig prosjekt og vi kommer tilbake neste år. Så får vi håpe at vi slipper så mye styr og ståk fra dyrevernsaktivister neste år.

Jeg ser av postinger fra dyrevernsaktivister at alt vi forteller dere havner oss dem i detalj. Er det strengt nødvendig? Det er mange misforståelser og mye feilinformasjon om dette prosjektet der ute. Midt i en pågående feltkampanje har vi brukt enormt mye ressurser på å prøve å komme ut med objektiv informasjon. Dere som ansvarlig myndigheter har selvsagt rett på informasjon, men det hadde vært bedre om dere henviste til oss dersom noen ønsker informasjon om prosjektets fremdrift. Vi som er prosjekteier har førstehåndskunnskap og vil gjerne ha litt kontroll på informasjonsflyten.

Vennlig hilsen

**Petter H Kvadsheim**

*Sjefsforsker, dr.scient*

Telefon: 33 03 38 86 / 95 13 89 92

Forsvarets forskningsinstitutt (FFI)

[ffi.no](http://ffi.no)

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**Fra:** Kvadsheim, Petter Helgevold <[Petter-Helgevold.Kvadsheim@ffi.no](mailto:Petter-Helgevold.Kvadsheim@ffi.no)>

**Sendt:** torsdag 17. juni 2021 09:15

**Til:** Heidi Bugge <[Heidi.Bugge@mattilsynet.no](mailto:Heidi.Bugge@mattilsynet.no)>

**Kopi:** Ole Aamodt <[Ole.Aamodt@mattilsynet.no](mailto:Ole.Aamodt@mattilsynet.no)>; Hammer, Anne-Lise <[Anne-Lise.Hammer@ffi.no](mailto:Anne-Lise.Hammer@ffi.no)>

**Emne:** SV: Tilsyn

Hei Heidi,

Vi klarer nok ikke å streame prosessen live fra havet, men vi vil nok dokumentere den så dere kan se bilder og videoklipp i etterkant.

Vi fanget en hval i går ettermiddag. Den gikk rolig under konstant overvåking i 8 timer i det store basenget (2.5 mill kubikkmeter). Planen vår å overføre den til merden i ettermiddag, men i løpet av natta kom den seg ut. Vi skal ned med dykker/ROV ıla dagen for å inspisere nettet for å finne ut hvordan den kom seg ut.

Vi holder dere oppdatert, og legger til rette for at dere skal kunne komme på inspeksjon om dere ønsker det.

Mvh  
Petter

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**Fra:** Heidi Bugge <[Heidi.Bugge@mattilsynet.no](mailto:Heidi.Bugge@mattilsynet.no)>

**Sendt:** onsdag 16. juni 2021 14:26:52

**Til:** Kvalsheim, Petter Helgevold <[Petter-Helgevold.Kvalsheim@ffi.no](mailto:Petter-Helgevold.Kvalsheim@ffi.no)>

**Kopi:** Ole Aamodt <[Ole.Aamodt@mattilsynet.no](mailto:Ole.Aamodt@mattilsynet.no)>

**Emne:** Tilsyn

Hei!

Takk for praten tidligere i dag.

Kommer dere til å filme hvis dere lykkes i å fange hval, slik at det ville være mulig å følge prosessen digitalt?

Det er uansett ønskelig om dere informerer oss umiddelbart hvis dere får fanget en hval, slik at vi kan vurdere der og da om vi har en inspektør som kan komme og observere.

Med vennlig hilsen

**HEIDI BUGGE**

Seniorrådgiver/veterinær

Avdeling Nasjonale Oppgaver

Mattilsynet, Region Sør og Vest

Tlf 22 77 82 55/95 04 17 85

Postadresse: P.O. Box 383, N-2381 Brumunddal

Besøksadresse: Stensberggata 25/27, Oslo

# Attachment 2

**Fra: Heidi Bugge <Heidi.Bugge@mattilsynet.no>**

**Sendt: onsdag 16. juni 2021 14:26:52**

**Til: Kvadsheim, Petter Helgevold <Petter-Helgevold.Kvadsheim@ffi.no> Kopi: Ole Aamodt <Ole.Aamodt@mattilsynet.no>**

**Emne: Tilsyn**

Hi!

Thanks for the chat earlier today.

Are you going to film if you succeed in catching whales, so that it would be possible to follow the process digitally?

In any case, it is desirable if you inform us immediately if you catch a whale, so that we can assess then and there whether we have an inspector who can come and observe.

With best regards

**Fra: Kvadsheim, Petter Helgevold <Petter-Helgevold.Kvadsheim@ffi.no>**

**Sendt: torsdag 17. juni 2021 09:15**

**Til: Heidi Bugge <Heidi.Bugge@mattilsynet.no>**

**Kopi: Ole Aamodt <Ole.Aamodt@mattilsynet.no>; Hammer, Anne-Lise <Anne-Lise.Hammer@ffi.no>**

**Emne: SV: Tilsyn**

Hi Heidi,

We probably won't be able to stream the process live from the sea, but we will probably document it so you can see pictures and video clips afterwards.

We caught a whale yesterday afternoon. It went quietly under constant surveillance for 8 hours in the large pool bed (2.5 million cubic meters). Our plan was to transfer it to the cage this afternoon, but during the night it got out. We are going down with a diver/ROV today to inspect the net to find out how it got out.

We will keep you up to date, and arrange for you to be able to come for an inspection if you wish.

Best Petter

**Fra: Kvadsheim, Petter Helgevold <Petter-Helgevold.Kvadsheim@ffi.no>**

**Sendt: torsdag 24. juni 2021 18:58**

**Til: Heidi Bugge <Heidi.Bugge@mattilsynet.no>**

**Kopi: Ole Aamodt <Ole.Aamodt@mattilsynet.no>; Hammer, Anne-Lise <Anne-Lise.Hammer@ffi.no>**

**Emne: SV: Tilsyn**

Hello again Heidi,

We will now finish up here. We have had 5 animals in the larger trap. Three before we were ready to catch them, one was too big for us and was let out again after a short time, one got out before we could close the "door" again, and the last one was, as I said, in the large pool for 8 hours before it found a hole in the net and got out. No animals were led into the cage from the large pool. We have also had other species inside the trap, but they only wander out again after a short time. All animals have had a calm, normal behavior with no signs of stress. We have made great progress in developing a method for catching baleen whales, but did not quite get there this year. This is a four-year project and we will return next year. Then we can hope that we don't get so much trouble from animal welfare activists next year.

I see from postings from animal welfare activists that everything we tell you ends up in detail. Is it strictly necessary? There are a lot of misunderstandings and a lot of misinformation about this project out there. In the middle of an ongoing field campaign, we have spent an enormous amount of resources trying to come out with objective information. You, as the responsible authorities, are of course entitled to information, but it would have been better if you referred us to us if anyone wants information about the progress of the project. As project owners, we have first-hand knowledge and would like to have some control over the flow of information.

**Fra: Heidi Bugge <Heidi.Bugge@mattilsynet.no>**

**Sendt: fredag 25. juni 2021 08:57**

**Til: Kvalsheim, Petter Helgevold <Petter-Helgevold.Kvalsheim@ffi.no>**

**Kopi: Ole Aamodt <Ole.Aamodt@mattilsynet.no>; Hammer, Anne-Lise <Anne-Lise.Hammer@ffi.no>;**

**Hege Robberstad <Hege.Robberstad@mattilsynet.no>**

**Emne: SV: Tilsyn hval**

Hi, and thanks for this information. We have been bombarded with inquiries for a long time, and we have tried to answer questions addressed to the laboratory animal administration about why we have approved the project. I will of course pass your input on to those who have replied from us so that the information is as good and correct as possible.

Best  
Heidi

**Fra: Kvalsheim, Petter Helgevold**

**Sendt: mandag 25. april 2022 11:03**

**Til: Johanne Holmen <Johanne.Holmen@mattilsynet.no> Kopi: Dyre Doktor**

**<laboratory.animals@gmail.com> Emne: FOTS id 19536 levendefangst av vågehval.**

Hi Johanne, it was Heidi Bugge who has been our contact in this matter before, but I have realized that she no longer works with experimental animals, so I will try you.

National and international animal protection organizations made a lot of decisions about our project in Lofoten last year, where we will catch minke whales to measure hearing. We expect that there will be similar reactions this year as well. Together with our American partner, FFI has created a strategy to handle inquiries from the media and others. You must, of course, handle inquiries related to your processing of the permit, but if there are questions about the project, we prefer that you refer them to us (me at [phk@ffi.no](mailto:phk@ffi.no) or our information department at [Kommunikasjonsenheten@ffi.no](mailto:Kommunikasjonsenheten@ffi.no)). We recently published a news item about the project on our website Experiment in Lofoten this summer:

Researchers will find out what the baleen whale hears (ffi.no)

<https://www.ffi.no/aktuelt/nyheter/eksperiment-i-lofoten-i-sommer-forskere-skal-finne-ut-hva-bardehvalen-horer>

We plan to start in Lofoten on 1 June and continue until 30 June this year. Last year you wanted to come for inspection. It is logistically difficult to get quickly to the area where we work, but if you want to come for an inspection, we will try to arrange it. Get in touch if applicable.

We want to make a minor change to the protocol that has not weakened animal welfare, on the contrary. In the protocol that you have approved, it states that we must observe the animals for at least 12 hours before we start the experiment. The reason was that we wanted to gain experience with how the animals oriented themselves and behaved around nets before we began the actual capture. We also needed time to get a vet in place before the trial started. This year there will always be at least 1 vet present, and thus we are more flexible. One of the experiences from last year is that the animals behave very calmly when they are caught, but they search for openings in the net. One of the animals caught last year eventually found an opening in the net at high tide that we were not aware of and swam out before the experiment was carried out. Based on last year's experience, we believe it is appropriate to reduce this observation time to a minimum of 2 hours so that the total burden on the animal is reduced. I can put this in as a minor change in FOTS, but there was another minor change about this that we put in last year. I accidentally put it in for local [treatment/approval ?] and it has been hung up there. I am therefore not allowed to enter any new modification notices. If you can delete that one, I'd rather post a new one.

Just get in touch if you have any questions.

Best regards,

**From: Kvadsheim, Petter Helgevold**[Petter-Helgevold.Kvadsheim@ffi.no]

**Sent: 05.10.2022 16:01:11**

**To: Johanne Holmen**[Johanne.Holmen@mattilsynet.no]; **Forsøksdyr**[forsoksdyr@mattilsynet.no]

**Cc: Lausund, Per**[Per.Lausund@ffi.no]; **Rolf Arne Ølberg**[rolfarne@dyreparken.no];

**lkarts@lkarts.no**[lkarts@lkarts.no]

**Subject: FOTS id 19536 levendefangst av vågehval - rapport fra årets feltesong**

Hi,

We have finished this year's field season with the live capture of minke whales. A summary can be found on the project's website [Researchers caught whales alive in Lofoten \(ffi.no\)](https://www.ffi.no/aktuelt/nyheter/forskere-fanget-hval-levende-i-lofoten)

<https://www.ffi.no/aktuelt/nyheter/forskere-fanget-hval-levende-i-lofoten>

We caught two animals this year, both young animals of 3.5-4m. The animals are initially led into a large pool between some islets. There they are observed until we are sure that they are calm and healthy before we move on to the next phase in consultation with the vet. Two animals were caught in the large basin this year. In the next phase, a net is used between two boats to guide them further into a fish cage. One of the animals (Ba22\_1606a) found in this process an opening in the net between the fish cage and the barrier nets and escaped. The animal was observed swimming calmly away from the area.

The second animal (Ba22\_1706g) was caught in the fishing net. During the entire process, the animal's behavior and respiration rate were monitored so that we could detect if the animal was stressed. In the last phase of the experiment, the cage net is lifted up, before a row of cork is pulled through the cage under the net so that the animal gradually has less space. In the end, you end up with the animal in a hammock in the water between the cage and a raft. We then put on electrodes to monitor the ECG and eventually also electrodes to measure hearing, which is the aim of the project (see video and pictures in the link above). In the case of Ba22\_1706g, the animal behaved calmly during the entire capture procedure, but when the animal made physical contact with the nota, this triggered a form of paralysis

with subsequent myopathy. This is not unusual in diving animals, for example seals will often react in the same way when caught. In this case, we had to stabilize the animal to keep the breathing hole above water. Eventually the animal began to hyperventilate and vomited. In consultation with our vets present (Rolf Arne Ølberg from Dyreparken in Kristiansand, and Craig Harms from the USA) it was then decided to release the animal back into the fish cage. Ba22\_1706g quickly returned to normal calm behavior and was released after about 8 hours. The animal had been in the hammock for about 26 minutes, we had started to measure the EKG, but had not been able to start measurements of hearing, nor attached a satellite transmitter which would have given us information about the animal's behavior after it was released. Our own evaluation is that all procedures and decisions worked as planned. Animal welfare considerations were put before research results and thus this incident had a happy ending. We have shown that our method of catching minke whales works, but we have also received indications that these animals are sensitive to human handling.

No other research group has ever caught a baleen whale and come so close to having its hearing measured. We have therefore been granted funding for 2 new years. FFI will shortly submit an application to FOTS for a renewed permit. Basically, this will be a copy of the existing permit. However, we are taking some measures based on the experience so far:

- Paralysis can be triggered by an overload of sensory impressions and therefore we will allow the animals to have more breaks during the capture and the opportunity to get used to the fact that there is less and less space.
- We will avoid the use of noisy boats in the last phase of the capture.
- As a safety procedure, if the animal loses its position and risks inhalation of water, we will put on a harness that stabilizes the animal's position with the breathing hole above water. It will also be relevant that we have personnel in the water with the animal to keep it stable.
- Gradual sedation is described in the existing permit. This is still relevant, but primarily if the animal is restless.
- We will modify the hammock so that it is possible to give the animal breaks by giving it more space and water. The experience from this year is that when the animal is left free in the water again, the diving reflex will stabilize the pose and breathing pattern.

There is a highly qualified research group with experts from Norway, the USA and Denmark who are involved in this project. I have overall responsibility for animal welfare as permit holder. Since the experiment may involve the use of sedatives, we have at least one veterinarian present during the experiments (refer to the requirements in the Laboratory Animal Regulations). If the Norwegian Food Safety Authority wants further information, just ask.

# Attachment 3



# Animal Welfare Institute

900 Pennsylvania Avenue, SE, Washington, DC 20003  
awionline.org phone: (202) 337-2332 fax: (202) 446-2131

April 5, 2021

Ms. Jolie Harrison  
Division Chief  
Permits and Conservation  
Office of Protected Resources  
1315 East-West Highway  
13th Floor  
Silver Spring, MD, 20910  
[jolie.harrison@noaa.gov](mailto:jolie.harrison@noaa.gov)

Dr. Michael J. Weise  
Program Manager - Marine Mammals &  
Biology Program  
Office of Naval Research - Code 32  
875 N. Randolph St.  
Arlington, VA 22203-1995  
[michael.j.weise@navy.mil](mailto:michael.j.weise@navy.mil)

Dear Ms. Harrison and Dr. Weise:

On behalf of the Animal Welfare Institute, I write to you regarding the research study that will involve a deliberate take of minke whales in order to conduct auditory evoked potential (AEP) hearing tests.<sup>1</sup> The capture of these minke whales off Lofoten, Norway is planned to commence in or around May 2021, last for approximately three weeks and then resume in 2022.<sup>2</sup> We maintain the animal welfare and human safety risks associated with this study are unacceptable and urge its cancellation.

AWI understands that the research study is being co-funded by the Office of Naval Research Marine Mammal Biology program and the interagency White House Subcommittee on Ocean Science & Technology (SOST) Ocean Sound and Marine Life (OSML) Task Team, with co-funding from USN's 6.4 Living Marine Resources program, BOEM, NOAA and the MMC.<sup>3</sup>

The purpose of this letter is to bring to your attention the deficiencies that we feel exist with respect to Norway's permitting of this project, our concerns for the safety of the involved whales and researchers, and the legal dilemma that this sort of research poses. To be clear, AWI does not oppose all research on animals; instead, we contemplate research involving animals on a case-by-case basis and advocate for the best possible treatment of animals involved in research. Here,

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<sup>1</sup> AWI has received documentation for this project from the Norwegian government following a request under Norway's Public Access to Information regulation, section 6, and notes that it is awaiting further results from a Freedom of Information Act request; the following letter is representative of the information we currently have at our disposal.

<sup>2</sup> AWI is aware that the project timeline had to be amended due to the COVID pandemic

<sup>3</sup> Again, AWI is awaiting more specifics on the US government's funding of this project. We also understand that additional funding may be coming from the oil and gas industry.

we have serious concerns regarding the welfare of the whales proposed for study, including any released after deemed unsuitable for the planned research. We are equally concerned for the safety of the humans involved in the research; we believe the researchers who will be in the water with the whales will be at risk of serious injury.

### Project Background

AWI is aware that Dr. Petter Kvadsheim of the Norwegian Defense Research Establishment (Forsvarets Forskningsinstitutt (unit 053)) is leading the project in cooperation with Dr. Dorian Houser of the US-based National Marine Mammal Foundation. We understand the proposed project's purpose is to better understand the kinds of sounds and frequencies that baleen whales can hear, including those pertaining to active sonar and seismic activities.<sup>4</sup>

AWI understands that the researchers are planning to set up a 1,300 meter long net across a strait at Vestvågøy in Lofoten. The plan is to use the net to maneuver juvenile minke whales, who will be migrating through this area on their way to foraging areas further north in the Barents Sea, into a 280 meter long, 150 meter wide and 27 meter deep enclosure between some islets in the fjord. When a whale moves into the netted-off area, the entrance will be closed and the whale trapped inside. The whale will be held in this area for 24 hours before the researchers try to measure its hearing, presumably by introducing different levels of sound to the animal and measuring the response.<sup>5</sup>

The researchers will conduct the AEP hearing testing using electrophysiological techniques and plan to optimize these techniques for measuring hearing in mysticetes. Before the experiments take place, a veterinarian from Dyreparken in Kristiansand will decide whether the animal is healthy enough to become a research subject. Before the hearing test, the whale will be moved to a modified salmon cage. The cage will be closed around the whale, which will be held between two rafts. There will be two people in the water with the whale and four on a raft. The whale's state of health will be monitored by measuring heart rate and respiration. Researchers estimate it will take a maximum of six hours to complete the hearing testing for each whale, during which time it is claimed that the whales will likely experience "moderate distress and discomfort." A safety protocol will be in place to minimize risk to the animal, including human end points, health monitoring in all phases, and if needed, use of sedation to reduce stress. Although the whales should not have to be stunned, stunning could take place if an emergency safety situation arises. Before the minke whales are released, they will be satellite-tagged. The tags will be used to track the whales following the research to see if they resume normal activities.

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<sup>4</sup> Email from Heidi Bugge to Peter Kvadsheim, Notification about central decision, 21 May 2019. Available upon request.

<sup>5</sup> Proposed work plan.

Mattilsynet has given approval to Dr. Kvadsheim to use 12 minke whales for this experiment.<sup>6</sup> To our knowledge, the approval gives no information about any limits on the number of minke whales permitted to be chased during the attempt to corral a whale into the netted-off area, nor does it specify how many minkes maybe captured and released if they are determined not to be suitable candidates for the research.

### Existing Research Tells Us What We Need to Know

Dolphins and other toothed whales (odontocetes), many species of which have been well-studied, use high and medium frequency sound for echolocation and communication. Baleen whales (mysticetes), however, do not have the same structures associated with echolocation. They tend to make lower frequency sounds and are able to communicate with each other across long distances. Although previous studies have indicated that baleen whales are affected by active sonar and seismic activity, more-specific data and levels of understanding are sought. AWI is aware of a number of published studies that already speak to acoustic responses in baleen whales,<sup>7</sup> including acoustic response studies conducted on free-ranging minkes, one of them by Dr. Kvadsheim.<sup>8</sup> This study noted:

Minke whales are difficult to study and little information exists regarding their responses to anthropogenic sound. This study pools data from behavioural response studies off California and Norway. Data are derived from four tagged animals, of which one from each location was exposed to naval sonar signals. Statistical analyses were conducted using Mahalanobis distance to compare overall changes in parameters summarising dive behaviour, avoidance

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<sup>6</sup> See Module 1: National legislation – NORWAY, National and EU laws and guidance that regulate the scientific use of animals in Norway, <https://org.uib.no/dyreavd/Documents/Module1NattinalLaws.pdf>

<sup>7</sup> Goldbogen, J.A., Southall, B.L., DeRuiter, S.L., Calambokidis, J., Friedlaender, A.S., Hazen, E.L., Falcone, E.A., Schorr, G.S., Douglas, A., Moretti, D.J., Kyburg, C., McKenna, M.F., and Tyack, P.L.(2013), Blue whales respond to simulated mid-frequency military sonar, *Proceedings of the Royal Society B* 280(1765): 20130657, <https://research-repository.st-andrews.ac.uk/handle/10023/3837>; Melcón, M. L., Cummins, A. J., Kerosky, S. M., Roche, L. K., Wiggins, S. M., & Hildebrand, J. A. (2012), Blue whales respond to anthropogenic noise. *PLoS ONE* 7(2). <https://doi.org/10.1371/journal.pone.0032681>; Forney, K.A., B.L. Southall, E. Sloaten, S. Dawson, A.J. Read, R.W. Baird, and R.L. Brownell Jr. (2017), Nowhere to go: noise impact assessments for marine mammal populations with high site fidelity, *Endangered Species Research* 32: 391–413; NOAA, “Cetacean and Sound Mapping,” available at: [www.st.nmfs.noaa.gov/cetsound](http://www.st.nmfs.noaa.gov/cetsound); Gomez, C., Lawson, J.W., Wright, A.J., Buren, A.D., Tollit, D., and Lesage, V. (2016), A systematic review on the behavioural response of wild marine mammals to noise: The disparity between science and policy, *Canadian Journal of Zoology* 94: 801–19. <https://cdnsiencepub.com/doi/abs/10.1139/cjz-2016-0098>.

<sup>8</sup> Kvadsheim, P. H., DeRuiter, S., Sivle, L. D., Goldbogen, J., Roland-Hansen, R., Miller, P., Lam, F. A., Calambokidis, J., Friedlaender, A., Visser, F., Tyack, P. L., Kleivane, L., & Southall, B. (2017), Avoidance responses of minke whales to 1-4kHz naval sonar, *Marine Pollution Bulletin* 121(1-2): 60–68. <https://doi.org/10.1016/j.marpolbul.2017.05.037>. See also Kvadsheim, P., Forland, N., de Jong, K., Nyqvist, D., Grimsbø, E and Sivle, L. (2020). *Effekter av støyforurensning p havmiljø – kunnskapsstatus og forvaltningsr dgiving*. Forsvarets forskningsinstitutt (FFI), Havforskningsinstituttet and Miljødirektoratet, FFI-RAPPORT 20/01015. In this latter paper, it is noted that “knowledge of how the behavior of marine mammals is affected by noise pollution has increased enormously in the last 20 years...due both to increased focus on the issue, but also to a positive development in relation to methodology for studying this.”

behaviour, and potential energetic costs of disturbance. Our quantitative analysis showed that both animals initiated avoidance behaviour, but responses were not associated with unusual dive behaviour. In one exposed animal the avoidance of the sonar source included a 5-fold increase in horizontal speed away from the source, implying a significant increase in metabolic rate. Despite the different environmental settings and exposure contexts, clear changes in behaviour were observed providing the first insights into the nature of responses to human noise for this wide-ranging species.<sup>9</sup>

### The Safety and Welfare Risks Outweigh the Proposed Benefits to Research

AWI understands that this study purports to go beyond the realm of existing research and, to learn more precisely what minke whales hear. We believe however there is a reason that the types of research being proposed in the study in question have not been attempted previously: the safety risks to people and the welfare risks to the whales were simply too great. Further, no new developments have made it any safer. Any potential research gains do not outweigh the liabilities.

Regarding welfare, holding wild animals captive for any period of time constitutes harm, as capture, restraint and containment will cause stress and may have an impact on the animals' health, behavior, immune function, reproduction and survival, which could in turn skew the results of the research.<sup>10</sup> We do not believe the ends justify the means here; hence our position that the project should be canceled.

Previous attempts to catch live minke whales for similar studies have ended with the whale being able to escape. The proposed method is meant to contain the minke whale safely and securely long enough for the necessary tests to be performed. However, AWI is not at all confident that the proposed methods *can* be conducted safely and securely. There have been a number of incidents where minke whales have become entangled in aquaculture pens, at times resulting in the euthanasia of the animal. For example, in 2009 a 4–5 meter long minke entered a cod pen at

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<sup>9</sup> *Id.*

<sup>10</sup> While more is known about capturing and containing odontocetes than mysticetes due to their differences in size and ecology and the use of several species of odontocetes in captive marine facilities, what is known indicates that such activities are stressful. See, e.g., Spoon, T. R., & Romano, T. A. (2012), Neuroimmunological response of beluga whales (*Delphinapterus leucas*) to translocation and a novel social environment, *Brain, Behavior, and Immunity* 26(1): 122–131. <https://doi.org/10.1016/j.bbi.2011.08.003>. However, stress responses have been demonstrated in bowhead whales entangled in fishing gear. Rolland, R. & Graham, K., Stimmelmayer, R., Suydam, R. & George, J. (2019), Chronic stress from fishing gear entanglement is recorded in baleen from a bowhead whale (*Balaena mysticetus*). *Marine Mammal Science* 35. <https://doi.org/10.1111/mms.12596>. The impacts of chronic stress on general health and reproductive fitness of baleen whales due to entanglement in gear has also been noted in North Atlantic right whales (*Eubalaena glacialis*). van der Hoop, J., Corkeron, P. & Moore, M. (2017), Entanglement is a costly life-history stage in large whales, *Ecology and Evolution* 7: 92–106. doi: 10.1002/ece3.2615

the Nap Marine aquaculture facility “with great force,” and according to the managing director, the whale “raged wild among the cod.” The animal had to be shot, and was removed from the pen by a crane.<sup>11</sup> In other cases in which minke whales have been entangled in aquaculture pens, facility staff have emphasized that the whales were able to break through the net, causing damage.<sup>12</sup> These instances point to danger, perhaps even grave danger, for both the involved whales and humans. Given the size of a minke whale, if it responds to any of the proposed methods “with great force,” it is hard to imagine how the safety of the researchers can be guaranteed or even their risks of injury minimized.<sup>13</sup>

Entanglement of whales in both aquaculture and wild-caught fisheries has now become so common in Norway, and of such concern, that in 2017 the Fisheries Directorate published a series of guidelines on safe ways to free whales that have been entangled in fishing gear or have broken into aquaculture pens and become trapped. In the section on aquaculture, it is stated that “these incidents could have animal welfare consequences for both the whale and the fish” and also mentions damages caused to the aquaculture cages /nets.<sup>14</sup>

In light of the anecdotal reports of minke whales breaking through aquaculture pens noted above, and the concerns raised by the Fisheries Directorate in its guidelines regarding entanglement in both fishing gear and aquaculture, AWI has reservations as to whether the materials proposed to be used to enclose the whales (fishing nets and an aquaculture pen) can prevent harm to the whales. We also question the potential negative impacts such gear might pose for other marine life in the area, including other marine mammals, seabirds and fish.

Furthermore, AWI is very concerned by the suggestion that the researchers may stun the whales in an emergency. Little is known about stunning/sedation in cetaceans; while guidance exists regarding sedation of small captive cetaceans,<sup>15</sup> it is rarely attempted and inherently risky

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<sup>11</sup> Hatlem, T. (2009, August 16). *Vågehval sprengete oppdrettsmerd*. Fisk. <https://fisk.no/oppdrett/476-vagehval-sprengte-oppdrettsmerd>

<sup>12</sup> Berge, A. (2015, May 13). *Vågehval svømte inn i oppdrettsmerd*. iLaks. <https://ilaks.no/vagehval-svomte-inn-i-oppdrettsmerd/> ; Jørgensen, L. (2017, May 3). *Hval i laksemerden*. Frøya. <https://www.froya.no/nyheter/hval-i-laksemerden/> ; iLaks. (2019, December 16). *Vågehval førte til lakserømming hos Lerøy: – Har rett og slett fått god fart og kommet seg gjennom til fisken*. <https://ilaks.no/vagehval-for-te-til-lakseromming-hos-leroy-har-rett-og-slett-fatt-god-fart-og-kommet-seg-gjennom-til-fisken/> ; Hatlem, T. (2019, December 18). *Mulig lakserømming fra Lerøy i Varangerfjorden*. <https://fisk.no/oppdrett/6899-mulig-lakseromming-fra-leroy-i-varangerfjorden>

<sup>13</sup> There are at least two known examples of baleen whale disentanglement efforts leading to the death of trained individuals, Tom Smith of New Zealand and Joe Howlett of Canada. The IWC’s Great Whale Entanglement Rescue Network rightly notes that the handling of any large, wild animal can be dangerous. IWC(nd). *Whale Entanglement - Building a Global Response*. <https://iwc.int/entanglement>

<sup>14</sup> Fiskeridirektoratet. (2017). *Dyrevelferdsmessig forsvarlig h ntering av levende strandet hval, hval i oppdrettsmerder og hval viklet inn I fiskeredskaper i sjøen*. [https://www.fiskeridir.no/Yrkesfiske/Dokumenter/Veiledere/Strandet-hval/\\_attachment/download/4ac40a72-1629-4c7d-b8de-0b36c79b9e0e:de402ce5503b82d336c662c8c3d503e5238a5822/forsvarlig-handtering-strandet-hval%20rev%2013052020.pdf](https://www.fiskeridir.no/Yrkesfiske/Dokumenter/Veiledere/Strandet-hval/_attachment/download/4ac40a72-1629-4c7d-b8de-0b36c79b9e0e:de402ce5503b82d336c662c8c3d503e5238a5822/forsvarlig-handtering-strandet-hval%20rev%2013052020.pdf)

<sup>15</sup> Higgins, J. & Hendrickson, D. (2013), Surgical procedures in pinniped and cetacean species, *Journal of Zoo and Wildlife Medicine* 44(4): 817-836. <http://www.jstor.org/stable/24550078>.

because cetaceans are highly adapted for hypoxia.<sup>16</sup> Even less is known about sedating wild cetaceans, and the few data that are available demonstrate that attempted sedation may not even achieve the desired result, which we presume would be to calm the whale if it appears to be panicking. For example, Barco *et al.* (2016) noted that the use of barbiturate sedatives on cetaceans can “result in animal(s) exhibiting excitatory reactions, including violent spinning and fluking, which can place responders and onlookers at risk of physical injury....”<sup>17</sup> Further, in their review of the sedation and tagging of an entangled North Atlantic right whale, Moore *et al.* (2012) concluded that, “the intervention with sedation, and the required tagging needed to evaluate sedation, disentanglement and the outcome of chronic severe entanglement, can result in a number of potential complications during the application of these techniques.”<sup>18</sup> We further question whether the sedation would affect the results of the hearing test.

### Legal Concerns

AWI has written to Mattilsynet, the Norwegian Food Safety Authority, regarding the deficiencies that we believe exist in the permitting of this project. (Attachment 1.) In short, we contend that additional bodies, such as the Fisheries Directorate and Ministry of Transportation, should have been involved in the permitting process, and that the research itself does not comport with Norwegian law. For NOAA and the Navy’s part in funding this project, however, we feel obligated to point out that this project also runs counter to the principals and standards of the US Marine Mammal Protection Act.<sup>19</sup>

Based on an initial FOIA response provided by NMFS, AWI is aware that NMFS advised Dr. Houser that no MMPA permit would be necessary here, because the research would be taking place within 12 nautical miles of Norway’s coast. While AWI does not dispute the applicability of a Norwegian government permit in this case, we question the appropriateness of a hands-off approach by the US government on a controversial project that it is effectively co-sponsoring.

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<sup>16</sup> Tian, R., Wang, Z., Niu, X., Zhou, K., Xu, S., & Yang, G. (2016), Evolutionary genetics of hypoxia tolerance in cetaceans during diving, *Genome Biology and Evolution* 8(3): 827–839. <https://doi.org/10.1093/gbe/evw037>.

<sup>17</sup> Barco, S., Walton, W., Harms, C., George, R., D’Eri, L and Swingle, W.(2016) Collaborative Development of Recommendations for Euthanasia of Stranded Cetaceans. NOAA Technical Memorandum NMFS-OPR-56. We also refer you to a report of an International Whaling Commission (IWC) on optimizing welfare for stranded cetaceans, presented by Norway and the UK in 2013, which noted the potential eco-toxicity of certain sedatives and the need for additional research on the environmental persistence and potential effects of some of these methods. IWC (2014) Report of the IWC Workshop on Euthanasia Protocols to Optimize Welfare Concerns for Stranded Cetaceans. [https://iwc.int/private/downloads/v6JneUId0VDFOfOlcqIXVg/IWC%20Euthanasia%20Workshop%20Report\\_FIN\\_AL\\_31-03-14.pdf](https://iwc.int/private/downloads/v6JneUId0VDFOfOlcqIXVg/IWC%20Euthanasia%20Workshop%20Report_FIN_AL_31-03-14.pdf)

<sup>18</sup> Moore, M., Andrews, R., Austin, T., Bailey, J., Costidis, A., George, C., Jackson, K., Pitchford, T., Landry, S., Ligon, A., McLellan, W., Morin, D., Smith, J., Rotstein, D., Rowles, T., Slay, C. and Walsh, M. (2013), Rope trauma, sedation, disentanglement, and monitoring-tag associated lesions in a terminally entangled North Atlantic right whale (*Eubalaena glacialis*). *Mar Mam Sci*, 29: E98-E113. <https://doi.org/10.1111/j.1748-7692.2012.00591.x>

<sup>19</sup> 16 U.S.C. §§ 1361, 1374(c).

Under section 101(a)(5) of the MMPA, small take authorizations are required, even for activities occurring in the territorial waters of foreign nations, when US entities (e.g. citizens, researchers, or government agencies) are involved, or when the federal government funds those activities. For example, in 2008, NMFS reviewed an application from the Lamont-Doherty Earth Observatory at Columbia University to incidentally take by harassment marine mammals during geophysical seismic surveys in South East Asia.<sup>20</sup> The notice for that action stated:

The proposed action is planned to take place in the territorial seas and EEZ's of foreign nations, and will be continuous with the activity that takes place on the high seas. NMFS does not authorize the incidental take of marine mammals in the territorial seas of foreign nations, as the MMPA does not apply in those waters. *However, NMFS still needs to calculate the level of incidental take in territorial seas as part of the proposed issuance of an IHA in regards to NMFS' analysis of small numbers and negligible impact determination.*<sup>21</sup>

Those seismic surveys were to be conducted under a cooperative agreement with the National Science Foundation (NSF), which was funding the project. Incidental take calculations have similarly been required for seismic surveys conducted in, for example, the Southeast Pacific and Antarctica.<sup>22</sup>

Here, however, we have US government funding going to research that will involve the deliberate take of minke whales, through research that will hopefully involve only Level B harassment, but that in light of the information presented above, could conceivably lead to fatal take – Level A harassment. We also have US citizens participating in the project. 16 U.S.C. § 1362(18). Yet, because the minke whales are the subject of the research, any take would not be incidental, and so the requirements of section 101(a)(5) do not apply. The concept of “incidental take” only applies to research when marine mammals are *not* the target of the research.

NMFS’s general issuance criteria for research permits require that the proposed activity be humane and not present any unnecessary risks to the health and welfare of marine mammals. 50 C.F.R. § 216.34(a)(1). Between the luring of the minke whales into netted areas, forcing them into aquaculture pens, and potentially sedating or stunning them, it is clear that this research will

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<sup>20</sup> Incidental Takes of Marine Mammals During Specified Activities; Marine Geophysical Survey in Southeast Asia, March-July 2009, 73 Fed. Reg. 78,294 (Dec. 22, 2008), <https://www.federalregister.gov/documents/2008/12/22/E8-30365/incidental-takes-of-marine-mammals-during-specified-activities-marine-geophysical-survey-in>

<sup>21</sup> *Id.*

<sup>22</sup> Takes of Marine Mammals Incidental to Specified Activities; Marine Geophysical Survey in the Southeast Pacific Ocean, 2016-2017, 81 Fed. Reg. 53443 (Aug. 12, 2016), <https://www.federalregister.gov/documents/2016/08/12/2016-19145/takes-of-marine-mammals-incident-to-specified-activities-marine-geophysical-survey-in-the>; Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to THwaites Offshore Research (THOR) Project in the Amundsen Sea, Antarctica, 85 FR 5619 (Jan. 31, 2020), <https://www.federalregister.gov/documents/2020/01/31/2020-01811/takes-of-marine-mammals-incident-to-specified-activities-taking-marine-mammals-incident-to>.

present unnecessary risk to the health and welfare of marine mammals. NMFS's regulations further require that "if a live animal will be held captive... the Applicant's qualifications, facilities, and resources" must be "adequate for the proper care and maintenance of the marine mammal." *Id.* at (6). Based on the information at our disposal, it does not appear that the veterinarian who will be present throughout the research will have any expertise in baleen whales, cetaceans in general, or even marine mammals as a whole.<sup>23</sup>

In addition to the requirements under 50 C.F.R. §§ 216.33–216.38 of the regulations, permits for scientific research are governed by specific issuance criteria listed under § 216.41(b). The applicant must demonstrate that "the proposed research will not likely have significant adverse effects on any other component of the marine ecosystem of which the affected species or stock is a part." § 216.41(b)(4). Here, we are concerned about potential impacts to other species, including marine mammals and seabirds that could become entangled in the various nets utilized to create the research area.

This is where, in theory, a foreign government's permitting system should step in to cover any ground that is lost by the lack of an MMPA permit. In practice, this is not what is happening, because not all countries have marine mammal-specific legislation like the MMPA. Norway, a country that still engages in commercial whaling, does not have an MMPA equivalent. So, despite the fact that Norway's Food Safety Authority has issued a permit for this project, it is clear that the project will not be conducted utilizing the same standards that would be required under an MMPA permit.

Based on our reading of NMFS's regulations, we are troubled by the fact that were researchers to propose this type of study in the US, it would likely not be allowed. Yet, in Norway, this study appears to be allowed despite the country's relatively strong animal welfare law. We are aware of numerous other US permits that have involved tagging and/or introducing sound into the marine environment.<sup>24</sup> We are aware of AEP studies on small cetaceans such as beaked whales

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<sup>23</sup> The facility that has been mentioned as providing veterinary support, Dyreparken, is an amusement park and zoo that holds terrestrial animals, not cetaceans. If it is the case that a cetacean vet will not be involved, it will run counter to the recommendations made by the Fisheries Directorate in its aforementioned guidelines regarding whale entanglement in aquaculture gear, which state, "Killing whales trapped in aquaculture cages entails a significant risk of injury to the whale, and a risk of damage to personnel, fish and equipment. As a general rule, whales in cages should therefore not be killed. Should there nevertheless be cases where euthanasia is considered to be the most appropriate action, this must be done in close collaboration with professionals who have expertise in this area." Fiskeridirektoratet (2017) Dyrevelferdsmessig forsvarlig håndtering av levende strandet hval, hval i oppdrettsmerder og hval viklet inn i fiskeredskaper i sjøen.

<sup>24</sup> Permit no. 223 and 576 involved natural sound playbacks to baleen whales (1981 and 1991, respectively) Permit no. 369-1440-01 involved tagging sperm whales in the Gulf of Mexico during the spring and summer of 2001 Permit no. 765 involved tagging and playback experiments with sperm whales, ended 31 December 1997 Permit no. 875-1401 was for the SURTASS LFA sonar SRP which involved playback experiments to baleen whales in 1997-98 Permit no. 917 also involved tagging sperm whales in the Gulf of Mexico during the summer of 2001

and beluga whales.<sup>25</sup> We are also aware of permits NMFS has issued to the US Navy that cover both domestic and international research activities.<sup>26</sup> But, as the researchers here acknowledge, this study will be novel – in part because no one has ever attempted to conduct AEP on a large cetacean/baleen whale. We contend that since the US is effectively co-sponsoring this project, and US researchers are participating, the intent, purpose and spirit of the MMPA should be taken into account here. NMFS and the Navy should have discouraged this study from moving forward rather than funding it. As you will see in AWI’s letter to Mattilsynet, we are calling upon that agency to revoke its approval for this study.

Finally, it is not clear that the project will be conducted with the same sort of worker protection standards required under the Occupational Safety and Health Act, which would not apply in the case of this project.<sup>27</sup> The activities involved in this foreign project thus pose a particular concern for the US researchers, who, under this scenario, will likely not be covered by either US or Norwegian worker protection laws, which may or may not have implications for the employer’s insurance policies and the employee’s ability to obtain worker’s compensation should this project result in injury, as we believe is likely.

## Conclusion

At this time, it is unrealistic for even the world’s best research scientists to expect to be able to handle entrapped minke whales in a way that is safe for both the humans and the animals involved. We deeply regret that the US government has committed itself to funding this effort, particularly when there are other types of studies, which can be conducted safely, that measure

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Permit no. 981-1578 involved research similar to that covered by the permit application in File No. 1079-1828  
Permit no. 1048-1717 involved research to develop, validate and improve low-power and high frequency sonar systems designed to detect marine mammals (2003)

<sup>25</sup> Mooney, T. A., Castellote, M., Jones, I., Rouse, N., Rowles, T., Mahoney, B., & Goertz, C. (2020). Audiogram of a Cook Inlet beluga whale (*Delphinapterus leucas*). *The Journal of the Acoustical Society of America*, 148(5), 3141. <https://doi.org/10.1121/10.0002351>; Southall B L, Finneran J J, Reichmuth C, Nachtigall P E, Ketten D R, Bowles A E, Ellison W T, Nowacek D P, Tyack P L (2019). Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. *Aquatic Mammals* 2019, 45(2), 125-232, DOI 10.1578/AM.45.2.2019.125.

<sup>26</sup> When AWI first learned of this research study, it was unclear to us whether this proposed research was part of the 3S3: Behavioral Responses of Cetaceans to Naval Sonar, which dates back to 2006 and involves several other countries’ naval marine research units. Before we knew that AEP was involved, it seemed plausible to us that this project could be covered by the permit for File No. 21482, which involves research on numerous species of whales, including minke whales, in international waters and the territorial waters of foreign nations. In other words, given the fact that the US Navy already engages in marine mammal research abroad, and that research is covered by NMFS-issued research permits, it is conspicuous that this particular auditory study has been planned in a way that circumvents application of US laws.

<sup>27</sup> The authority of OSHA is limited to employment performed within the geographical limits covered by the Occupational Safety and Health Act of 1970 (OSH Act). See, Section 4(a), 29 U.S.C. § 653(a)). Section 4(a), as modified by later agreements, provides that the OSH Act applies to employment performed in a workplace in a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, Guam, Wake Island, *Outer Continental Shelf Lands defined in the Outer Continental Shelf Lands Act*, and Johnston Island, and the Canal Zone. See <https://www.law.cornell.edu/uscode/text/29/653>.

the response of these animals to various sounds. In consideration of the information and arguments we have presented in this letter, AWI urges the team to not move forward with this inherently dangerous research.

Sincerely,

A handwritten signature in black ink that reads "Susan Millward". The signature is written in a cursive style with a large, sweeping initial 'S'.

Susan Millward  
Marine Program Director

Cc: Mr. Michael Gosliner, General Counsel, Marine Mammal Commission

# ATTACHMENT 1



# Animal Welfare Institute

900 Pennsylvania Avenue, SE, Washington, DC 20003  
awionline.org phone: (202) 337-2332 fax: (202) 446-2131

March 19, 2021

Mattilsynet v/ Ole Aamodt,  
Seksjon for nasjonale oppgaver,  
Jærveien 12, 4319 Sandnes Felles  
postmottak Pb 383 2381 Brumunddal  
[postmottak@mattilsynet.no](mailto:postmottak@mattilsynet.no)

Dear Mr Aamodt:

On behalf of the Animal Welfare Institute and its more than 217,000 members and constituents worldwide, including its members in Norway, I write to you regarding a research study that will involve a deliberate take of minke whales in order to conduct auditory evoked potential (AEP) hearing tests. The capturing of these minke whales off Lofoten, Norway is planned to commence in or around May 2021 and recur for four summers thereafter.

AWI does not oppose all research on animals; instead, we contemplate research involving animals on a case-by-case basis and advocate for the best possible treatment of animals involved in research. Here, we have serious concerns regarding the welfare of the whales proposed for study. We are equally concerned for the safety of the humans involved in the research; we believe the researchers who will be in the water with the whales will be at risk of serious injury. For the reasons set forth below, we are opposed to this project and urge its cancellation.

## Project Background

AWI is aware that Dr. Petter Kvadsheim of the Norwegian Defense Research Establishment (Forsvarets Forskningsinstitutt (unit 053)) is leading the project in cooperation with Dr. Dorian Houser of the US-based National Marine Mammal Foundation. We understand the proposed project's purpose is to better understand the kinds of sounds and frequencies that baleen whales can hear, including those pertaining to active sonar and seismic activities.<sup>1</sup>

AWI understands that the researchers are planning to set up a 1,300 meter long net across a strait at Vestvågøy in Lofoten. The plan is to use the net to maneuver juvenile minke whales, who will be migrating through this area on their way to foraging areas further north in the Barents Sea, into a 280 meter long, 150 meter wide and 27 meter deep enclosure between some islets in the

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<sup>1</sup> Email from Heidi Bugge to Peter Kvadsheim, Notification about central decision, 21 May 2019.

fjord. When a whale moves into the netted-off area, the entrance will be closed and the whale trapped inside. The whale will be held in this area for 24 hours before the researchers try to measure its hearing, presumably by introducing different levels of sound to the animal and measuring the response.<sup>2</sup>

The researchers will conduct the AEP hearing testing using electrophysiological techniques and plan to optimize these techniques for measuring hearing in mysticetes. Before the experiments take place, a veterinarian from Dyreparken in Kristiansand will decide whether the animal is healthy enough to become a research subject. Before the hearing test, the whale will be moved to a modified salmon cage. The cage will be closed around the whale, which will be held between two rafts. There will be two people in the water with the whale and four on a raft. The whale's state of health will be monitored by measuring heart rate and respiration. Researchers estimate it will take a maximum of six hours to complete the hearing testing for each whale, during which time it is claimed that the whales will likely experience "moderate distress and discomfort." A safety protocol will be in place to minimize risk to the animal, including human end points, health monitoring in all phases, and if needed, use of sedation to reduce stress. Although the whales should not have to be stunned, stunning could take place if an emergency safety situation arises. Before the minke whales are released, they will be satellite-tagged. The tags will be used to track the whales following the research to see if they resume normal activities.

Mattilsynet has approved the use of 12 minke whales for this experiment, having given approval to Dr. Kvadsheim, with the decision based in the Regulation on the Use of Animals in Research (*Forskrift om bruk av dyr i forsøk*).<sup>3</sup> To our knowledge, the approval gives no information about any limits on the number of minke whales permitted to be captured and released if they are determined not to be suitable candidates for the research. Mattilsynet found that the purpose of the planned project and the use of animals fulfill the general requirements for animal experimentation, such as the Regulation § 10 (purpose of experiment), § 11 (methods, test strategies and endpoints), and § 9 (replacement, reduction and refinement), and that the benefits of the expected results, as opposed to the expected harm inflicted on the animals, make it likely that animals will not be subjected to unnecessary harm; for example, in the Regulation § 1. For the foregoing reasons, AWI respectfully disagrees with this conclusion.

### Lack of Relevant Permits

While we are aware that consultations with the Institute of Marine Research did take place, we question whether all relevant agencies were fully apprised of the proposed research. For example, it is unclear to AWI how this project has been approved without a full review by, and potentially a permit from, the Ministry of Transportation given that the net barriers to be placed

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<sup>2</sup> Proposed work plan.

<sup>3</sup> See Module 1: National legislation – NORWAY, National and EU laws and guidance that regulate the scientific use of animals in Norway, <https://org.uib.no/dyreavd/Documents/Module1NationalLaws.pdf>

in the fjord mean that the Hurtigruten and other local ship traffic will be inhibited and vessel routes will require significant alteration during the weeks that the project is in progress. We note that in previous research undertaken on minke whale response to noise, the Fisheries Directorate, Kystverket and local authorities were consulted.<sup>4</sup> We believe a permit from the Fisheries Directorate is warranted here, as the Marine Resources Act (*Lov om forvaltning av viltlevande marine ressursar*) states at § 3 that this law “applies to all harvesting and other utilization of wild marine resources and associated genetic material. Wild marine resources are fish, marine mammals with full or partial presence in the sea, other marine organisms and plants located in the sea or on or under the seabed, and which are not privately owned.” Additionally, § 66 of the Marine Resources Act concerns marine research. Similarly, it is unclear to AWI why, after informal consultation with the Norwegian Environment Agency, it was decided that “this does not involve any intervention that requires [such] a permit.”<sup>5</sup>

#### Existing Research Tells Us What We Need to Know

Dolphins and toothed whales (odontocetes), many species of which have been well-studied, use high and medium frequency sound for echolocation and communication. Baleen whales (mysticetes), however, do not have the same structures associated with echolocation. They tend to make lower frequency sounds and are able to communicate with each other across long distances. Although previous studies have indicated that baleen whales are affected by active sonar and seismic activity, the entities funding the research state they are in need of more-specific data and levels of understanding. AWI is already aware of a number of published studies

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<sup>4</sup> Kvalsheim, P.&Forland, N. & de Jong, K., & Nyqvist, D. & Grimsbø, E & Sivle, L. (2020), *Effekter av støyforurensning på havmiljø – kunnskapsstatus og forvaltningsrådgiving*. Forsvarets forskningsinstitutt (FFI), Havforskningsinstituttet and Miljødirektoratet, FFI-RAPPORT 20/01015.

<sup>5</sup> See email from Petter Kvalsheim to Heidi Bugge, 13 May, 2019. AWI notes that game regulations enacted on 1 April 2020 state (Chapter 2), which are applicable within Norway’s economic zone, state that “the Norwegian Environment Agency may, upon application, grant permission to, or by its own initiative, capture game for research....”

that speak to acoustic responses in baleen whales,<sup>6</sup> including acoustic response studies conducted on free-ranging minke whales, one of them by Dr. Kvadsheim.<sup>7</sup> This study noted:

Minke whales are difficult to study and little information exists regarding their responses to anthropogenic sound. This study pools data from behavioural response studies off California and Norway. Data are derived from four tagged animals, of which one from each location was exposed to naval sonar signals. Statistical analyses were conducted using Mahalanobis distance to compare overall changes in parameters summarising dive behaviour, avoidance behaviour, and potential energetic costs of disturbance. Our quantitative analysis showed that both animals initiated avoidance behaviour, but responses were not associated with unusual dive behaviour. In one exposed animal the avoidance of the sonar source included a 5-fold increase in horizontal speed away from the source, implying a significant increase in metabolic rate. Despite the different environmental settings and exposure contexts, clear changes in behaviour were observed providing the first insights into the nature of responses to human noise for this wide-ranging species.<sup>8</sup>

### The Safety and Welfare Risks Outweigh the Proposed Benefits to Research

While AWI understands that this study purports to go beyond the realm of existing research, to learn more precisely what minke whales hear, we believe the safety risks to people and the welfare risks to the whales have precluded this type of research from being attempted before.

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<sup>6</sup> Goldbogen, J.A., Southall, B.L., DeRuiter, S.L., Calambokidis, J., Friedlaender, A.S., Hazen, E.L., Falcone, E.A., Schorr, G.S., Douglas, A., Moretti, D.J., Kyburg, C., McKenna, M.F., and Tyack, P.L. (2013), Blue whales respond to simulated mid-frequency military sonar, *Proceedings of the Royal Society B* 280(1765): 20130657, <https://research-repository.st-andrews.ac.uk/handle/10023/3837>; Melcón, M. L., Cummins, A. J., Kerosky, S. M., Roche, L. K., Wiggins, S. M., & Hildebrand, J. A. (2012), Blue whales respond to anthropogenic noise. *PLoS ONE* 7(2). <https://doi.org/10.1371/journal.pone.0032681>; Forney, K.A., B.L. Southall, E. Slooten, S. Dawson, A.J. Read, R.W. Baird, and R.L. Brownell Jr. (2017), Nowhere to go: noise impact assessments for marine mammal populations with high site fidelity, *Endangered Species Research* 32: 391–413; NOAA, “Cetacean and Sound Mapping,” available at: [www.st.nmfs.noaa.gov/cetsound](http://www.st.nmfs.noaa.gov/cetsound); Gomez, C., Lawson, J.W., Wright, A.J., Buren, A.D., Tollit, D., and Lesage, V. (2016), A systematic review on the behavioural response of wild marine mammals to noise: The disparity between science and policy, *Canadian Journal of Zoology* 94: 801–19. <https://cdnsiencepub.com/doi/abs/10.1139/cjz-2016-0098>.

<sup>7</sup> Kvadsheim, P. H., DeRuiter, S., Sivle, L. D., Goldbogen, J., Roland-Hansen, R., Miller, P., Lam, F. A., Calambokidis, J., Friedlaender, A., Visser, F., Tyack, P. L., Kleivane, L., & Southall, B. (2017), Avoidance responses of minke whales to 1-4kHz naval sonar, *Marine Pollution Bulletin* 121(1-2): 60–68. <https://doi.org/10.1016/j.marpolbul.2017.05.037>. See also Kvadsheim, P., Forland, N., de Jong, K., Nyqvist, D., Grimsbø, E and Sivle, L. (2020). *Effekter av støyforurensning på havmiljø – kunnskapsstatus og forvaltningsrådgiving*. Forsvarets forskningsinstitutt (FFI), Havforskningsinstituttet and Miljødirektoratet, FFI-RAPPORT 20/01015. In this latter paper, it is noted that “knowledge of how the behavior of marine mammals is affected by noise pollution has increased enormously in the last 20 years...due both to increased focus on the issue, but also to a positive development in relation to methodology for studying this.”

<sup>8</sup> *Id.*

Along these lines, we question whether the project is in compliance with the Norwegian Animal Welfare Act<sup>9</sup> and the Norwegian Working Environment Act.<sup>10</sup>

Under § 3 of the Animal Welfare Act, (*Generelt om behandling av dyr*), animals must be treated well and protected from unnecessary stress and strain. Section 13 (“Forsøk, undervisning og medisinsk virksomhet”), states that in order to be able to use animals for experiments, for teaching other than ordinary care and handling, or in medical activities, both the institution and the person responsible for the relevant activity must have permission from the supervisory authority, and this permission may not be granted if the purpose can be achieved without the use of animals, or if the animals are in danger of being exposed to unnecessary stress and strain. No more animals than necessary shall be used, and the animals shall be handled as little as possible. Further, § 20 (“Jakt, fangst og fiske”) states that trapping must be carried out in “an animal welfare-sound manner.”<sup>11</sup>

Regarding welfare, holding wild animals captive for any period of time constitutes harm as capture, restraint and containment will cause stress and may have an impact on the animals’ health, performance, immune function, reproduction and survival, which could in turn skew the results of the research.<sup>12</sup> We do not believe the end justifies the means here, and therefore we think the project should be canceled.

Mattilsynet classified the procedures as moderate—for example, in the Regulation annex B—but recognized that capture and handling will be stressful to the animals. Previous attempts to catch live minke whales for similar studies have ended with the whale being able to escape. The proposed method is meant to contain the minke whale safely and securely long enough for the

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<sup>9</sup> Available at <https://lovdata.no/dokument/NL/lov/2009-06-19-97>.

<sup>10</sup> Available at <https://www.arbeidstilsynet.no/regelverk/forskrifter/forskrift-om-organisering-ledelse-og-medvirkning/1/1-1/>. Section 1-1 states “the purpose of the regulations is that work is organized and arranged so that employees are ensured a fully safe working environment protected from physical or mental strain by mapping, risk assessment and implementation of measures are carried out before the activity is initiated,” among other things.

<sup>11</sup> See also § 10, Merking av dyr (as relevant to the proposed tagging and behavioral restrictions vis-à-vis the planned netting off of large stretches of the waters off Lofoten), stating that when marking animals, sound methods must be used that do not impose behavioral restrictions on the animal or unnecessary stresses and strains.

<sup>12</sup> While more is known about capturing and containing odontocetes than mysticetes due to their differences in size and ecology and the use of several species of odontocetes in captive marine facilities, what is known indicates that such activities are stressful. See, e.g., Spoon, T. R., & Romano, T. A. (2012), Neuroimmunological response of beluga whales (*Delphinapterus leucas*) to translocation and a novel social environment, *Brain, Behavior, and Immunity* 26(1): 122–131. <https://doi.org/10.1016/j.bbi.2011.08.003>. However, stress responses have been demonstrated in bowhead whales entangled in fishing gear. Rolland, R. & Graham, K., Stimmelmayer, R., Suydam, R. & George, J. (2019), Chronic stress from fishing gear entanglement is recorded in baleen from a bowhead whale (*Balaena mysticetus*). *Marine Mammal Science* 35. <https://doi.org/10.1111/mms.12596>. The impacts of chronic stress on general health and reproductive fitness of baleen whales due to entanglement in gear has also been noted in North Atlantic right whales (*Eubalaena glacialis*). van der Hoop, J., Corkeron, P. & Moore, M. (2017), Entanglement is a costly life-history stage in large whales, *Ecology and Evolution* 7: 92–106. doi: 10.1002/ece3.2615

necessary tests to be performed. However, AWI is not at all confident that the proposed methods *can* be conducted safely and securely. There have been a number of incidents where minke whales have broken into aquaculture pens, at times resulting in the euthanasia of the animal. For example, in 2009 a four to five meter long minke entered a cod pen at the Nap Marine aquaculture facility “with great force,” and according to the managing director, the whale “raged wild among the cod.” The animal had to be shot, and was removed from the pen by a crane.<sup>13</sup> In other cases in which minke whales have been known to break into aquaculture pens, facility staff have emphasized that the whales were able to break through the net, causing damage.<sup>14</sup> These instances point to danger, perhaps even grave danger, for both the involved whales and humans. Given the size of a minke whale, if it responds to any of the proposed methods “with great force,” it is hard to imagine how the safety of the researchers can be guaranteed.<sup>15</sup>

Entanglement of whales in both aquaculture and wild-caught fisheries has now become so common in Norway, and of such concern, that in 2017 the Fisheries Directorate published a series of guidelines on safe ways to free whales that have been entangled in fishing gear or have broken into aquaculture pens and become trapped. In the section on aquaculture, it is stated that “these incidents could have animal welfare consequences for both the whale and the fish” and also mentions damages caused to the aquaculture cages /nets.<sup>16</sup>

AWI further questions whether the proposed research meets the requirements as delineated in Annex F of the Regulation (F. Hold av dyr, jf. § 29 tredje ledd og § 30 siste ledd). In the Annex (which mirrors requirements in Directive 2010/63/EU on the protection of animals used for scientific purposes, in accordance with the EEA<sup>17</sup>), animals are required to have access to areas that enable them to exercise “a wide range of normal behavior” (Annex F §3.3.b.), which will

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<sup>13</sup> Hatlem, T. (2009, August 16). *Vågehval sprenget oppdrettsmerd*. Fisk. <https://fisk.no/oppdrett/476-vagehval-sprengte-oppdrettsmerd>

<sup>14</sup> Berge, A. (2015, May 13). *Vågehval svømte inn i oppdrettsmerd*. iLaks. <https://ilaks.no/vagehval-svomte-inn-i-oppdrettsmerd/> ; Jørgensen, L. (2017, May 3). *Hval i laksemerden*. Frøya. <https://www.froya.no/nyheter/hval-i-laksemerden/> ; iLaks. (2019, December 16). *Vågehval førte til lakserømming hos Lerøy: – Har rett og slett fått god fart og kommet seg gjennom til fisken*. <https://ilaks.no/vagehval-for-te-til-lakseromming-hos-leroy-har-rett-og-slett-fatt-god-fart-og-kommet-seg-gjennom-til-fisken/> ; Hatlem, T. (2019, December 18). *Mulig lakserømming fra Lerøy i Varangerfjorden*. <https://fisk.no/oppdrett/6899-mulig-lakseromming-fra-leroy-i-varangerfjorden>

<sup>15</sup> There are at least two known examples of baleen whale disentanglement efforts leading to the death of trained individuals, Tom Smith of New Zealand and Joe Howlett of Canada. The IWC’s Great Whale Entanglement Rescue Network rightly notes that the handling of any large, wild animal can be dangerous. IWC(nd). *Whale Entanglement - Building a Global Response*. <https://iwc.int/entanglement>

<sup>16</sup> Fiskeridirektoratet. (2017). *Dyrevelferdsmessig forsvarlig håndtering av levende strandet hval, hval i oppdrettsmerder og hval viklet inn i fiskeredskaper i sjøen*. [https://www.fiskeridir.no/Yrkesfiske/Dokumenter/Veiledere/Strandet-hval/\\_attachment/download/4ac40a72-1629-4c7d-b8de-0b36c79b9e0e:de402ce5503b82d336c662c8c3d503e5238a5822/forsvarlig-handtering-strandet-hval%20rev%2013052020.pdf](https://www.fiskeridir.no/Yrkesfiske/Dokumenter/Veiledere/Strandet-hval/_attachment/download/4ac40a72-1629-4c7d-b8de-0b36c79b9e0e:de402ce5503b82d336c662c8c3d503e5238a5822/forsvarlig-handtering-strandet-hval%20rev%2013052020.pdf)

<sup>17</sup> As per Mattilsynets forvaltning av forsøksdyrforskriften – Instruks, §2 Virkeområde.

clearly not be the case for these minke whales, given that the size of both the enclosure and especially the cage will limit normal swimming and diving activity.<sup>18</sup>

Further, the enclosures “shall be made of materials that are not harmful to the animals' health, and designed and constructed so that the animals are not harmed” (Annex F §3.3.c). In light of the anecdotal reports of minke whales breaking through aquaculture pens noted above, and the concerns raised by the Fisheries Directorate in its guidelines regarding entanglement in both fishing gear and aquaculture, AWI has reservations as to whether the materials proposed to be used to enclose the whales (fishing net and an aquaculture pen) can prevent harm to the whales. We also question the potential negative impacts such gear might pose for other marine life in the area, including other marine mammals, seabirds and fish.

These same guidelines point to the fact that the Fisheries Directorate plays an important advisory role in attempts to remove a whale from the net or pen, and that considerations for safety are paramount. If the situation requires euthanizing a whale, the decision is to be made by the Fisheries Directorate in consultation with the Institute of Marine Research “and should be based on a comprehensive risk assessment.” If a whale is stuck in the net or cage, “it must be considered whether it is possible to release the animal in whole or in part without endangering human life and health.”<sup>19</sup> A vet specialized in cetaceans and knowledgeable regarding minke whales should be present at all times. Mattilsynet stated a presumption that all who participate in the experiments have relevant, updated and documented theoretical and practical education and training; see, for example, the Regulation on the Use of Animals in Research at §§ 24, 25. However, instead of presuming this to be the case, this is the sort of criteria that Mattilsynet should *require*. In particular, we query whether Mattilsynet should require that members of either the Fisheries Directorate or Kystvakten, who have been trained in safe whale disentanglement methods, be included in the research team for this project.<sup>20</sup>

Furthermore, AWI is very concerned by the suggestion that the researchers may stun the whales in an emergency. Little is known about stunning/sedation in cetaceans; while guidance exists regarding sedation of small captive cetaceans,<sup>21</sup> it is rarely attempted and inherently risky

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<sup>18</sup> Minke whales are considered to be very fast swimmers, with a normal movement pattern which is a series of 3-5 fairly fast blows before making a long-term dive that can last for about 5 minutes. On average, the minke whale is up and blowing approx. 50 times in one hour. Havforskningsinstituttet .(2020, June16). *Tema: Vågehval*. <https://www.hi.no/hi/temasider/arter/vagehval> ; Studies of free-swimming tagged North Atlantic minke whale indicate that the whales travel at speeds ranging from 53km/day (2.2km/hr) to 79km/day (3.3km/hr). Heide-Jørgensen, Mads Peter & Nordøy, Erling & Øien, Nils & Folkow, Lars & Kleivane, Lars & Blix, Arnoldus & Jensen, Mikkel & Laidre, K.. (2001), Satellite tracking of minke whales (*Balaenoptera acutorostrata*) off the north Norwegian coast, *Journal of Cetacean Research and Management*.

<sup>19</sup> *Id.*

<sup>20</sup> IWC.(2017, October 5). *IWC entanglement response training for Norway*. <https://iwc.int/iwc-entanglement-response-training-for-norway>.

<sup>21</sup> Higgins, J. & Hendrickson, D. (2013), Surgical procedures in pinniped and cetacean species, *Journal of Zoo and Wildlife Medicine* 44(4): 817-836. <http://www.jstor.org/stable/24550078>.

because cetaceans are highly adapted for hypoxia.<sup>22</sup> Even less is known about sedating wild cetaceans, and the few data that are available demonstrate that attempted sedation may not even achieve the desired result, which we presume would be to calm the whale if it appears to be panicking. For example, Barco *et al.* (2016) noted that the use of barbiturate sedatives on cetaceans can “result in animal(s) exhibiting excitatory reactions, including violent spinning and fluking, which can place responders and onlookers at risk of physical injury...”.<sup>23</sup> Further, in their review of the sedation and tagging of an entangled North Atlantic right whale, Moore *et al.* (2012) concluded that, “the intervention with sedation, and the required tagging needed to evaluate sedation, disentanglement and the outcome of chronic severe entanglement, can result in a number of potential complications during the application of these techniques.”<sup>24</sup> We further question whether the sedation would affect the results of the hearing test.

This project also runs counter to the principals and standards of the US Marine Mammal Protection Act<sup>25</sup> and US Animal Welfare Act.<sup>26</sup> The US National Marine Fisheries Service’s general issuance criteria for research permits require that the proposed activity be humane and not present any unnecessary risks to the health and welfare of marine mammals;<sup>27</sup> this cannot be said to be true for this project. Since the US government is funding this project, the intent, purpose and spirit of these US laws should be taken into account.

#### Lack of Adequate Notice to Norwegian Public

Additionally, AWI takes issue with the lack of an opportunity for public comment with respect to this project. As a standard practice, the Fisheries Directorate, which we contend should have had a permitting role in this project, normally provides for a public comment period of between thirty to ninety days for its proposed actions. However, in the case of an animal research permit issued

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<sup>22</sup> Tian, R., Wang, Z., Niu, X., Zhou, K., Xu, S., & Yang, G. (2016), Evolutionary genetics of hypoxia tolerance in cetaceans during diving, *Genome Biology and Evolution* 8(3): 827–839. <https://doi.org/10.1093/gbe/evw037>.

<sup>23</sup> Barco, S., Walton, W., Harms, C., George, R., D’Eri, L and Swingle, W. (2016) Collaborative Development of Recommendations for Euthanasia of Stranded Cetaceans. NOAA Technical Memorandum NMFS-OPR-56. We also refer you to a report of an International Whaling Commission (IWC) on optimizing welfare for stranded cetaceans, presented by Norway and the UK in 2013, which noted the potential eco-toxicity of certain sedatives and the need for additional research on the environmental persistence and potential effects of some of these methods. IWC (2014) Report of the IWC Workshop on Euthanasia Protocols to Optimize Welfare Concerns for Stranded Cetaceans. [https://iwc.int/private/downloads/v6JneUId0VDFOfOlqIXVg/IWC%20Euthanasia%20Workshop%20Report\\_FIN\\_AL\\_31-03-14.pdf](https://iwc.int/private/downloads/v6JneUId0VDFOfOlqIXVg/IWC%20Euthanasia%20Workshop%20Report_FIN_AL_31-03-14.pdf)

<sup>24</sup> Moore, M., Andrews, R., Austin, T., Bailey, J., Costidis, A., George, C., Jackson, K., Pitchford, T., Landry, S., Ligon, A., McLellan, W., Morin, D., Smith, J., Rotstein, D., Rowles, T., Slay, C. and Walsh, M. (2013), Rope trauma, sedation, disentanglement, and monitoring-tag associated lesions in a terminally entangled North Atlantic right whale (*Eubalaena glacialis*). *Mar Mam Sci*, 29: E98-E113. <https://doi.org/10.1111/j.1748-7692.2012.00591.x>

<sup>25</sup> 16 U.S.C. §§ 1361, 1374(c).

<sup>26</sup> 7 U.S.C. § 2131 et seq; *see also* 9 CFR § 1.1.

<sup>27</sup> 50 C.F.R. § 216.34(1); *see also id.* at (6), stating that “if a live animal will be held captive... the Applicant’s qualifications, facilities, and resources” must be “adequate for the proper care and maintenance of the marine mammal.” In addition to the requirements under 50 C.F.R. §§ 216.33–216.38 of the regulations, permits for scientific research are governed by specific issuance criteria listed under § 216.41(b).

by Mattilsynet, publication of a permit comes *after* approval per § 11, which states that Mattilsynet “shall publish the experimental summary in accordance with the Animal Research Regulations § 8 as soon as an experiment has been approved. If the summary is changed due to changes in the experiment, Mattilsynet shall publish an updated summary.”

Conclusion

At this point in time, it is unrealistic for even the world’s best research scientists to expect to be able to handle entrapped minke whales in a way that is safe for both the humans and the animals involved. We deeply regret that the US government has committed itself to funding this effort, particularly when there are other types of studies, which can be conducted safely, that measure the response of these animals to various sounds. In consideration of the information and arguments we have presented in this letter, AWI urges you to not move forward with this inherently dangerous research.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan Mitchell". The signature is written in a cursive, flowing style with a large initial "S" and a long horizontal stroke extending to the right.

Marine Program Director

# Attachment 4

Dear Minister

In February 2021, our three organisations each wrote to Ole Aamodt at the Mattilsynet, raising strong concerns relating to the permit issued for the capture of 12 minke whales for auditory evoked potential (AEP) hearing tests at Vestfjord.

In June 2021, a further statement of concern, signed by 54 marine mammal scientists and veterinarians, was submitted to then-prime minister, Erna Solberg and copied to the environment minister and the Mattilsynet. (Appendix 1)

**Following an incident when a minke whale, which had been caught in the nets, escaped without a trace during the night of Wednesday 16th June 2021, we posed the following questions as we were concerned that this whale might have been injured:**

1. Can you please provide an update on the status of the escaped whale? Is anyone aware of this whale's welfare and is there any chance the whale may have become entangled in the nets deep underwater?
2. Will this escaped whale count as one of the 12 permitted to be caught over the test period? If not, can you please explain why not?
3. We are aware that the researchers requested a diver and ROV to examine the nets in an attempt to find out what had happened to this individual whale. Was such an inspection carried out and, if so, were any Mattilsynet personnel able to oversee it?
4. We support calls for a full site inspection and would also like to know whether the veterinarian in attendance has relevant experience handling wild cetaceans. Are they on site at all times?
5. Will the nets be retrieved, and, if so, when? The longer a net remains in the water, the greater the likelihood of entanglement of fish, bird and other marine mammal species. Further, if a net breaks apart, or comes loose from its moorings, what is the plan for addressing this? According to the *Forskrift om utøvelse av fisket i sjøen*, §78, anyone who loses or has to cut free fishing gear has a duty to search for the gear, and, if it is unable to be found, the loss must be immediately reported to the Coast Guard.

**We have yet to receive a satisfactory reply and therefore, the concerns expressed last season regarding the safety and welfare of the whales targeted - as well as that of other marine life in the vicinity - remain. Indeed, we note that last season a member of a 'non-target' species, a humpback whale, found its way into the catch basin. Following confirmation that the AEP tests will resume from 18th May and run until 1st July and in light of the recent article in Fiskeribladet (attached) we would like to pose the following additional questions:**

6. Following Petter Kvadsheim's recent confirmation that 'If the animal shows signs of being stressed, we will cancel the experiment'<sup>1</sup>, we would like to ask how you propose to measure stress and at what stages in the process? We note that, in a video posted to the FFI's website, co-lead of the project Dr. Dorian Hauser admits that 'anyone who has worked with wild animals knows that when they are handled by humans, they will be stressed'.

Some whales may be stressed from an early stage simply by being trapped in the nets.



7. Will blood samples be drawn from the whales? Drawing blood is an added stressor because it requires extra handling of the whale and more needle injections apart from the AEP-testing. To our knowledge analyzing blood for any meaningful parameters regarding the whale's stress levels will take time, and will not be useful for live monitoring of the welfare of the whale. Is drawing blood approved by Mattilsynet as a part of the experiment? If yes, what parameters will be measured and why?

8. Will the other whales - including a humpback whale - that were also noted as having entered the netted off area<sup>1</sup> be counted against the 12?

9. Has there been an assessment of the likelihood of non-target bycatch (e.g. seabirds, fish, other marine mammals) happening and what action to take if it occurs? How will the researchers ensure that all relevant regulations on bycatch are being complied with?

10. What regulations apply to other effects on surrounding nature and other wildlife and has there been any assessment of this aspect? If any fish species are caught in the net, are the incidents and quantities being reported to the Fisheries Directorate as bycatch? We are aware that in an email from Petter Kvasdheim to the Kystverket dated 2 February 2022, it was stated that there were 'a number of curious local recreational fishermen who wanted to fish for humpback salmon along our nets, and they were allowed to do so'. Can you confirm that this take of humpback salmon (pukkellaks) complied with all fishing and environmental regulations?

11. When an unexpected situation arises (such as bycatch, or loss of gear), will this be formally reported to all relevant authorities such as the Mattilsynet, the Fisheries Directorate and Coast Guard?

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<sup>1</sup> <https://www.ffi.no/aktuelt/nyheter/forste-sesong-med-horselsforsok-pa-vagehval-er-avsluttet>

12. Is there a full report available covering last year's season as we have only seen a brief summary?

**We call for answers to these questions and for this year's experiments to be halted before any minke whales or other marine life are harmed.**

Yours sincerely

Siri Martinsen Cand.med.vet., Director, NOAH - for dyrs Rettigheter

**On behalf of:**

Animal Welfare Institute, Washington DC, USA

NOAH - for dyrs Rettigheter, Oslo, Norway

WDC, Whale & Dolphin Conservation, Chippenham, UK

**Supported by:**

**Lucy Babey** Head of Science and Conservation, ORCA, UK

**Jaime Bolaños Jiménez** Founder, Researcher and Executive Director Sea Vida, Venezuela

**Martin Boon**, Director and Large Whale Disentanglement Team coordinator, British Divers Marine Life Rescue, UK

**Philippa Brakes** Research Fellow, WDC, Whale and Dolphin Conservation

**Dr Andy Butterworth** BVSc BSc PhD DipECAWBM FLS MRCVS, UK

**Rob Deaville** Project Manager, CSIP (Cetacean Stranding Investigation Programme), Institute of Zoology, ZSL, London, UK

**Jacopo Di Clemente** PhD candidate, University of Copenhagen, Denmark

**Sarah Dolman** MRes, Affiliate Researcher, University of Glasgow, UK

**Harry Eckman** CEO, World Cetacean Alliance, Brighton, UK

**Fernando Félix** PhD, Associate Researcher to the Pontificia Universidad Católica del Ecuador (PUCE) and the Whale Museum, Salinas, Ecuador

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**Dr. Pete Goddard** BVetMed PhD DipECSRHM DipECAWBM (AWSEL) MRCVS EBVS European Veterinary Specialist in Animal Welfare Science, Ethics and Law; Chairman, Wild Animal Welfare Committee, UK

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**Sally Hamilton** ORCA (Director), UK

**Nicola Hodgins** BSc Hons, Visiting Researcher, University of Exeter, UK

**Erich Hoyt** Research Fellow, WDC, Whale & Dolphin Conservation and Co-chair, IUCN SSC-WCPA Marine Mammal Protected Areas Task Force, UK

**Miguel A. Iñíguez** MSc, Fundación Cethus, Argentina

**Vicki James** BSc Hons, Research Coordinator, WDC, Whale & Dolphin Conservation, UK

**Dan Jarvis** Director of Welfare & Conservation, British Divers Marine Life Rescue, UK

**Dr Mark Jones** BVSc MSc (Stir) MSc (UL) MRCVS, UK

**Maria Lien** Cand.med.vet., NOAH - for dyrs rettigheter, Oslo, Norway

**Alison Lomax** Director, Hebridean Whale and Dolphin Trust, Scotland, UK

**Alfredo Fernández Lopez** PhD, Researcher, Universidade de Aveiro-CESAM, Portugal

**Rob Lott** M.Sc, Campaign Coordinator, WDC, Whale & Dolphin Conservation, UK

**Elodie Floriane Mandel-Briefer** Associate Professor, Dept of Biology, Ecology & Evolution, University of Copenhagen, Denmark

**Lori Marino** PhD, Cetacean Neuroscientist; President, Whale Sanctuary Project

**Jose A. Martínez Cedeira** President, Coordinadora para o Estudo dos Mamíferos MARiños (CEMMA), Spain

**Alan McElligott** PhD, Associate Professor of Animal Behaviour and Welfare, Jockey Club College of Veterinary Medicine and Life Sciences, City University of Hong Kong

**Ana Marçalo** PhD, Researcher, Centre of Marine Studies (CCMAR-Algarve), University of Algarve, Portugal

**Dr. Milton Marcondes** veterinarian, Milton Marcondes Consultoria Ambiental – Brazil

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**Simon Mustoe** Marine Ecologist, Founder and Director Wildiaries, Australia.

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**Vassili Papastavrou** whale biologist, UK

**Nino Pierantonio** Associated Researcher, Tethys Research Institute, Milano, Italy

**Graham Pierce** PhD, Departamento de Ecología y Recursos Marinos, Instituto de Investigaciones Marinas (CSIC), Spain

**Lindsay Porter** PhD, SEAMAR, Southeast Asia Marine Mammal Research, Hong Kong

**Fiona L. Read** PhD., Life History Studies and Honorary Researcher, University of Aberdeen, UK

**Anja Reckendorf** PhD, veterinarian, European College of Veterinary Medicine

**Denise Risch** PhD, Scottish Association for Marine Science, Oban, Argyll, Scotland, UK

**Fabian Ritter** Marine Biologist, Director of Research, M.E.E.R. e.V., Berlin, Germany

**Alfredo Rodrigues** marine biologist and whale researcher, Algarve, Portugal

**Javier Rodríguez-Fonseca** Researcher, Promar Foundation, Costa Rica

**Naomi A. Rose** PhD, Marine Mammal Scientist, Animal Welfare Institute, Washington DC, USA

**Gian Paolo Sanino Vattier** Field Biologist, Centre for Marine Mammals Research - LEVIATHAN, Chile

**D. J. Schubert** Wildlife Biologist, Animal Welfare Institute, USA

**Richard Sears**, PhD, President, Mingan Island Cetacean Study Inc, Canada

**Dr Alick Simmons** BVMS MSc DipAABAW MRCVS. Former UK Deputy Chief Veterinary Officer, UK

**Mariano Sironi** Ph.D., Scientific Director, Instituto de Conservación de Ballenas / Whale Conservation Institute, Argentina

**Karen Stockin** PhD, MSc, BSc - Animal Welfare Science and Bioethics Centre, Massey University, New Zealand

**Vanesa Tossenberger** Policy Director, WDC, Whale and Dolphin Conservation; Researcher, Fundacion Cethus, Buenos Aires, Argentina

**Ursula Tschertter** MRes, Marine Biologist and Minke Whale Researcher, ORES Foundation for Marine Environment Research, Switzerland

**Marcela Uhart** DVM, Director, Latin America Program, Karen C. Drayer Wildlife Health Center, School of Veterinary Medicine, University of California, USA

**Prof. Jorge Urbán Ramírez** Departamento Académico de Ciencias Marinas y Costeras, Responsable del Programa de Investigación de Mamíferos Marinos (PRIMMA), Universidad Autónoma de Baja California Sur (UABCS), México

**Marie-Francoise Van Bressem** DVM, PhD, Senior Scientist, Cetacean Conservation Medicine Group, Peruvian Centre for Cetacean Research, Lima, Peru

**Nienke van Geel** PhD. Scottish Association for Marine Science, Oban, UK

**Koen Van Waerebeek** PhD, Founder and Senior Scientist, Peruvian Centre for Cetacean Research, Lima, Peru

**Heike Vester** PhD, Cetacean Scientist, Director and Founder of Ocean Sounds, Germany and Norway

**Lindy Weilgart** PhD, Senior Ocean Noise Expert, Ocean Policy Consultant, OceanCare; Adjunct Research Associate, Dept. of Biology, Dalhousie University, Nova Scotia, Canada

**Caroline Weir** PhD, Cetacean Scientist, Ketos Ecology, UK

## **APPENDIX 1**

Erna Solberg  
The Office of the Prime Minister  
P.O. Box 8001 dep.  
(NO-)0030 Oslo  
Norway

Copy:  
Sveinung Rotevatn, Minister of Climate and the Environment  
Ingunn Midttun Godal, CEO, Mattilsynet  
Ole Aamodt, Head of Section, Mattilsynet

21st May 2021


Dear Prime Minister Solberg

I write on behalf of over 50 scientists and veterinarians who have signed the below statement. We wish to express our deep concerns relating to the permit issued by the Mattilsynet for the capture of 12 minke whales for auditory evoked potential (AEP) hearing tests in Vestfjord this month.

The researchers acknowledge that this type of experiment has never previously been attempted. As detailed below, our grave concern is that the capture of minke whales and experimentation for up to 6 hours at a time has significant potential for causing injury and stress, potentially resulting in capture myopathy.

If allowed to proceed, these experiments could lead to considerable suffering for the individual whales and risk undermining Norway's reputation. If something goes wrong, questions will be asked as to why consent was granted in the first place. We strongly urge you to call for a cancellation of these trials, as they are completely unacceptable from a conservation, scientific and animal welfare point of view.

Yours sincerely



**Vanesa Tossenberger**  
**WDC Director of Policy and Science**  
**Statement of concern**

We, the undersigned, call for the planned capture and auditory evoked potential (AEP) hearing tests on minke whales off Lofoten, Norway, due to start in May 2021 to be cancelled on safety and welfare grounds.

We understand that a permit (FOTS ID: 19536) has been issued by the Norwegian Food Safety Authority for the deliberate capture of up to 12 juvenile minke whales as they migrate through this area on their way north to foraging grounds in the Barents Sea.<sup>1</sup>

We understand that the research team plans to set a net measuring 1,300m across the strait at Vestfjord. As a whale moves into the netted area, the exit is sealed and the whale will be channelled into an enclosure, 280m long, 150m wide and 27m deep. The trapped whale will then be assessed by a veterinarian before being moved into a modified salmon cage, where it will be held fast between two rafts, with researchers both in the water and on the rafts.

The researchers estimate that the whale may be held in this position for up to six hours whilst its hearing is measured by mapping AEP via electrodes attached under the skin.

The researchers acknowledge that the whale will likely experience 'moderate distress and discomfort'. We believe this is an understatement. This process risks causing the whale considerable stress leading to panic, creating a dangerous situation for both whales and humans. The researchers plan to attach a satellite tag to each whale before release and they have permission to hold each whale in the enclosure for up to four days.

Previous attempts to catch minke whales for similar experiments have failed<sup>2</sup>. There are also accounts of minke whales reacting with great force after breaking into aquaculture pens<sup>3</sup>, so it is hard to imagine how the safety of researchers can be guaranteed. We note also the recent instance of a juvenile minke whale that stranded in shallow water in the River Thames in London on the 10<sup>th</sup> May. Rescuers relocated the whale to specially designed whale re-flotation pontoons; however, the whale became distressed and managed to free itself.

The project includes provision for sedation to be used in an emergency. However, if the situation escalates to the point where a whale does require sedation, this is a risky process which is rarely attempted in cetaceans as these taxa are highly adapted for hypoxia. The use of sedation in larger, free swimming whale species is limited. It is also important to note that attempted sedation does not necessarily result in the desired effect. For example, the initial drug cocktail used in the attempted sedation at sea of a North Atlantic right whale, resulted in an increase in swim speed and boat avoidance.<sup>4</sup> Our view is that it is not acceptable to consider exposing juvenile minke whales (which, in this case, are research subjects rather than facing genuine danger in the open ocean) to the risks associated with sedation.

We note that there is only provision for a single veterinarian (from Dyreparken in Kristiansand) to be present, rather than a team of vets, as would be preferable. Further, it is unclear as to what level of experience in cetacean biology and live cetacean capture is being required? We are concerned that the protocol does not require that the attending veterinarian must have specific experience in handling whales.

**Our concern is that the capture of juvenile minke whales, forcible restraint and experimentation upon them for a period of up to six hours, has significant potential for causing injury and stress, potentially resulting in long-term impacts or even capture myopathy.**

We understand that this study aims to learn more precisely what sounds minke whales can hear and at which frequencies, including those pertaining to seismic testing and naval sonar. The researchers acknowledge that this project is 'high risk' as AEP mapping has never been attempted on captured minke whales and certainly not on juveniles of this species. We believe there is a reason for this: the safety and welfare risks (for both humans and whales) are too great: it is simply not possible to guarantee that entrapped minke whales can be handled in a manner which is safe for all those involved.

Further, the context in which this proposed research will take place is unnatural since the subtle ecological as well as biological factors which govern the response of free-ranging minke whales to noise in the open ocean are stripped away. Thus, it is difficult to see how it can provide the researchers with meaningful data with which to make robust policy recommendations regarding exposure of this species to anthropogenic noise.

We urge this project to be stopped as it may lead to considerable trauma for the whales targeted, without contributing to useful science.

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