Submitted via email

February 11, 2022

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Comments on the Proposed Incidental Harassment Authorization ("IHA") to Conduct Geophysical Surveys of the Guerrero Gap in the Eastern Tropical Pacific in Habitat of the Endangered Central America Distinct Population Segment of Humpback Whales and Other Protected Marine Mammals, 87 Fed. Reg. 1992 (Jan. 12, 2022)

The Center for Biological Diversity requests that the National Marine Fisheries Service ("NMFS") withdraw the proposed Incidental Harassment Authorization to conduct geophysical surveys of the Guerrero Gap off the coast of Mexico in the Eastern Tropical Pacific. NMFS should not issue the take authorization as proposed because (1) the survey could proceed at times when the humpback whales are on their feeding grounds off California and Oregon to avoid negative interactions; and (2) NMFS has not effectively assessed the impacts to the Central America distinct population segment ("DPS") of humpback whales. NMFS must reevaluate its negligible impact, small numbers, and least practicable adverse impact determinations considering the best available science specific to this DPS. No one-time, one-year renewal should be issued without an opportunity for public comment published in the *Federal Register* prior to issuance.

While we are generally supportive of scientific research, we believe that NMFS must mitigate the risks of this particular geophysical survey to the small, endangered Central America DPS of humpback whales.[1] The Lamont-Doherty Earth Observatory would use two-dimensional (2-D) seismic surveying in and around the Guerrero Gap of the Middle America Trench. The surveys would use a 36-airgun towed array with a total discharge volume of ~6600 cubic inches (in^3) as an acoustic source primarily within the Exclusive Economic Zone of Mexico, including territorial seas, and a small portion of international waters. The survey effort would mostly occur (94 percent) in deep water (between 1,000 m and 5,560 m deep), and a small amount (6 percent) would occur in intermediate water (100-1000 m deep); no effort would occur in shallow water

[1] NMFS must prescribe the permissible methods of taking and other "means of effecting the least practicable adverse impact" on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as "mitigation"); and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth. 16 U.S.C. § 1371(a)(5)(A)(i)(II).

(<100 m deep). The proposed survey is expected to last for 48 days, including 20 days of seismic surveying activities, likely during spring 2022, though the IHA would be valid from March 1, 2022, through February 28, 2023.

The proposed IHA does not include the best available science regarding humpback whales. Humpback whales that winter along the Pacific coast of southern Mexico off the states of Oaxaca and Guerrero are likely to be part of the Central America DPS, not the Mexico DPS.[2] The proposed IHA says that both the threatened Mexico DPS and endangered Central America DPS may occur in the proposed survey area.

Further, the proposed IHA grossly overestimates the abundance of the humpback population at risk in the survey area. Wade (2021) estimated the abundance for the endangered Central America DPS to be 755 individuals.[3] The proposed IHA at Table 1 gives an abundance estimate for the humpback whale Central North Pacific stock of 10,103 individuals. This is the wrong stock and not the humpback whales in the area of the survey.

The IHA fails to adequately assess the impacts of the surveys on this small, endangered population of humpback whales. The surveys may disrupt breeding activity of Central America humpbacks, which has a both a potential individual effect, i.e. lowering the individual's reproductive fitness, and a population-level impact by decreasing the population's ability to grow and recover. As evidence, NMFS cites a research paper that suggests that humpback whale breeding activity was disrupted by survey activity off the coast of northern Angola.[4] Despite this evidence of potential harmful impacts of the survey, NMFS concludes without explanation that project vessels sounds would not "cause anything more than possible localized and temporary behavioral changes" and not "result in significant negative effects on individuals or at the population level." If the survey – taking place in the breeding location of an endangered whale – disrupts breeding, then NMFS is obligated to consider the individual and population level negative impacts in more detail.

Finally, NMFS estimates that the surveys will take 8 humpback whales by Level B harassment, but this estimate is based on the density of humpback whales in the greater Eastern Tropical Pacific (citing NMFS 2015b), not the specific survey area. We urge NMFS to use density estimates for waters in the area of the survey specifically rather than in the greater Eastern Tropical Pacific.

No one-time, one-year renewal should be issued without an opportunity for public comment published in the *Federal Register* prior to issuance because the timing of the survey could result in much more severe impacts to Central America humpback whales if it interrupts more of their breeding season. Because it is practicable to avoid the breeding season, NMFS should restrict the authorization to the summer months to minimize harm to humpback whales.

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[2] Taylor, Barbara L., et al. 2021. Evaluation of humpback whales wintering in Central America and southern Mexico as a demographically independent population. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-655. https://doi.org/10.25923/sgek-1937, at 2.
[3] Wade, P. R., 2021. Estimates of abundance and migratory destination for North Pacific humpback whales in both summer feeding areas and winter mating and calving areas, International Whaling Commission Paper, SC/68c/IA.
[4] 87 Fed. Reg. 1,992, 2,004.

In conclusion, NMFS has failed to include the relevant information needed to assess the impacts of the surveys to the Central America DPS. This small, endangered population uses the ocean off Guerrero and Oaxaca as its winter breeding ground. Even after acknowledging that the surveys may disrupt breeding behavior, NMFS considered no mitigation measures – such as postponing the surveys till later in the year – and did not assess the population level impacts. These whales are subject to high levels of fishing gear entanglement and ship strikes in their summer feeding grounds in California and Oregon. Additional impacts in their winter breeding grounds are non-negligible.

Sincerely,

/s/ Catherine Kilduff
Catherine Kilduff
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Center for Biological Diversity

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February 1, 2022

To Whom It May Concern,

I am the Founder and Director of the Whales of Guerrero (https://www.whalesinmexico.com), located in Barra de Potosí, Guerrero near the twin cities of Ixtapa and Zihuatanejo.

Between 2014-2021, Whales of Guerrero (WoG) conducted 2042 hours of marine mammal research along a 75-km stretch of coastline off of Guerrero. (2022 surveys are now underway.) Our small boat-based surveys (35-86 per season) ran from January 6 through March 20 each year. Effort varied between 125 to 325 hours per season. Surveys conducted between 2014-2021 focused primarily on close to shore marine mammals (within 34 kilometers of the coast - see map below), as the target species was humpback whales and the primary goals of the surveys were to identify annual spatial and temporal patterns of abundance and habitat use by humpback whale social groupings and to collect photo-identification data to better characterize boundaries between the Central America and Mainland Mexico humpback whale DPSs.

Every year since 2014, Whales of Guerrero has also facilitated the development of community-led marine mammal ecotourism and run capacity building and educational programs in 9 towns and 3 cities located along the coastline where the seismic surveys are proposed to occur.

In this comment, we include five pieces of information which we do not believe were adequately taken into consideration while developing this proposal. We include recommended mitigation measures and would be pleased to provide additional data, contacts and sources as needed for further consideration.

Figures shown in this comment were prepared by the Whales of Guerrero and Dr. Luis Medrano González from the National Autonomous University of Mexico who has been a scientific advisor and collaborator of our project.

Points detailed below for which we request your consideration in this comment are:
1. Central America DPS Humpback whales reside, likely calve and mate, and rest and nurse in Guerrero November through May.

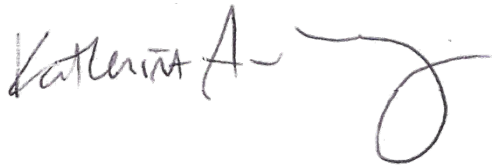
2. At least 16 species of marine mammals would be impacted, including endangered and data deficient species.

3. Guerrero lacks the infrastructure to support potential strandings.

4. Economic impact on whale and dolphin ecotourism.

5. Harm to reputation of region as environmentally proactive would also be financially damaging.

Thank you for your consideration. Please do not hesitate to contact me should you require further information or contacts.



Katherina Audley
Director / Founder
Whales of Guerrero

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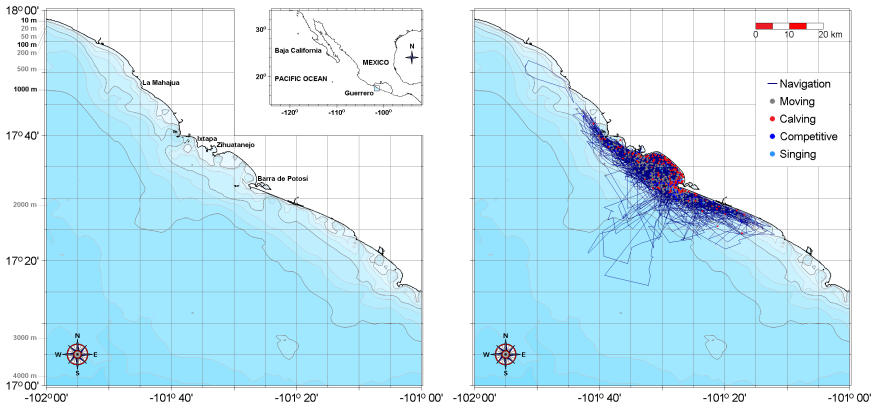
SOMEMMA

1. <u>Central America DPS Humpback whales reside, likely calve and mate, and rest and nurse in Guerrero November through May</u>

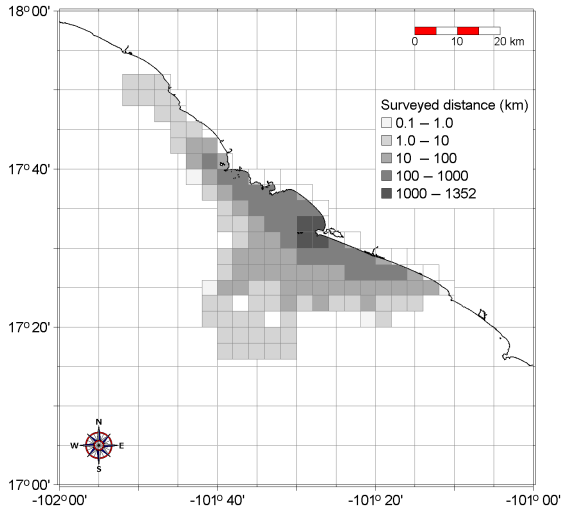
The proposed surveys would impact the genetically distinct and endangered DPS of Central America humpback whales which migrate to Guerrero, both to calve, nurse, rest and breed in the proposed survey region (Auladell et al, 2019; Steiger et al, 2017) and also transit through Guerrero en route between Central America and California (Dobson, et al. 2015; Audley et al, 2022; Taylor et al, 2022). The Central America population, or Distinct Population Segment (DPS), according to NOAA, is humpback whales that breed in waters off Central America (Panama, Costa Rica, Nicaragua, El Salvador, Honduras, and Guatemala) and into southern Mexico (Bettridge et al. 2015, Calambokidis et al. 2017; Martínez-Loustalot et al. 2019); migrate along the coast of Mexico, and feed along the west coast of the United States and southern British Columbia. The Humpback Whale Biological Review Team (BRT) from NOAA (Bettridge et al. 2015), concluded that: "The potential for this population to be at high risk of extinction is considered largely reflecting uncertainty regarding population size and population trend; and that the threats identified are likely to impact the population in its entirety"; The BRT, therefore, concluded that the population is at moderate-to-high risk throughout its range; and the Central America population is therefore considered to be at moderate risk of extinction over the next three generations. (81 FR 62260, September 8, 2016).

The survey area covered by Whales of Guerrero is overlapped by the proposed seismic survey area.

The maps below show the WoG survey region on the Pacific coast of Guerrero, Mexico (left) and 2014–2020 WoG navigation transects and humpback whale sightings distinguished by pod type (right).

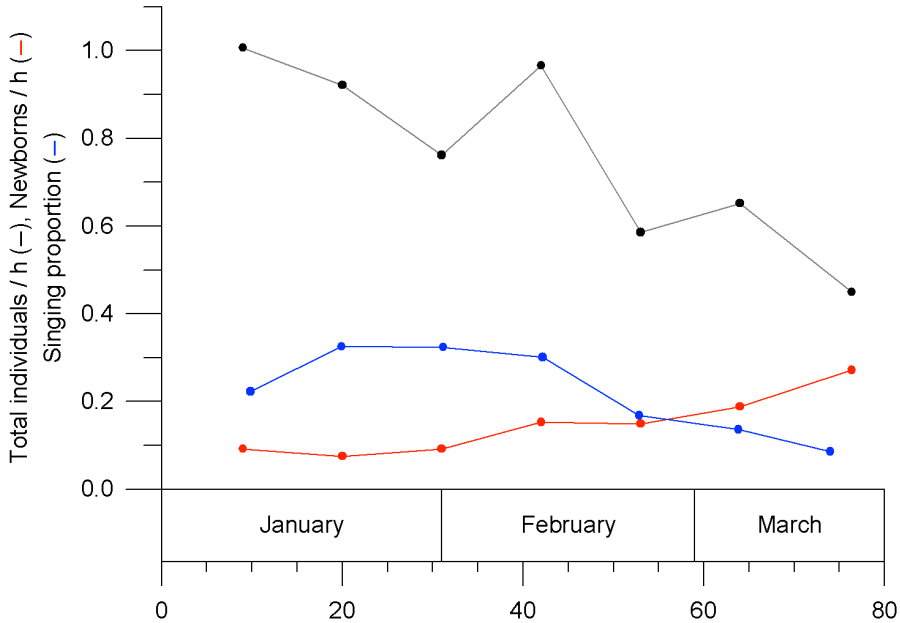


Survey effort was uneven, which impacted sighting rates. The raster map below shows the distribution of Guerrero survey effort in 124 cells of 2 min latitude x 2 min longitude.



Our survey data shows that humpback whales are present in the region throughout March and our 75-person sighting network reports humpback whales in the region through early May. While some whales are observed to be transiting north (traveling quickly north with no other behaviors noted), many whales sighted in March and April have been observed nursing, resting, displaying courtship activities (singing, competing, chasing). (García Chávez et al, 2015, 2017, 2019; Ramírez et al, 2019).

The plot below shows occurrence per effort hour of humpback whales seen during January, February and March 2014–2020. Note, surveys occurred between January 4–March 20 each year, and so both January and March do not contain complete monthly data for the 8-year survey effort.

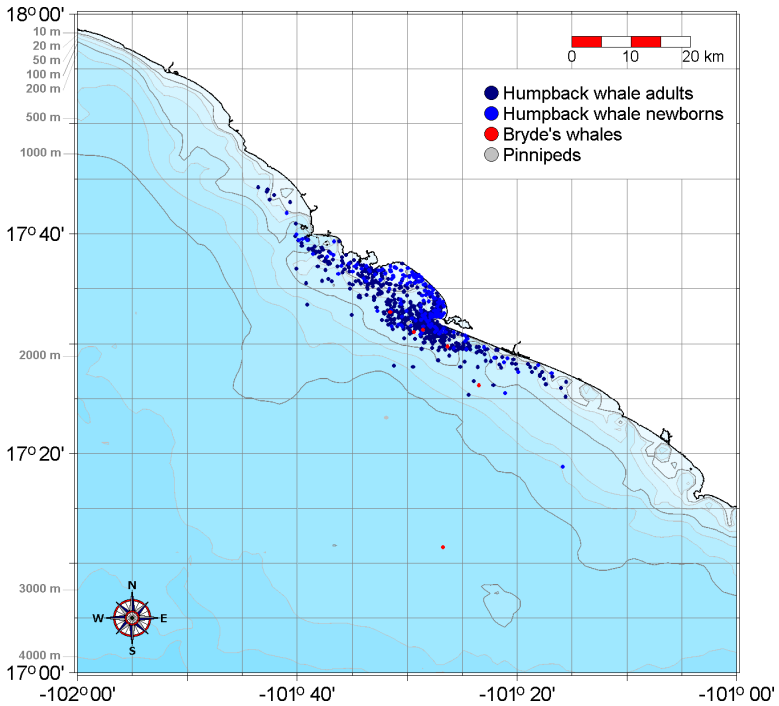


Between 2014-2020, we collected data on 763 humpback whale sightings with 1408 total individuals documented during the 1837.43 hr effort (0.77 individuals/hour). Lone animals

(n=275) and dyads (n=227) were most frequently observed. A total of 182 sightings contained calves of which 140 were lone mother-calf pairs. Breeding pods included 61 competitive groups and 18 identified singers. In terms of individuals, 19% were lone animals, 32% were dyads, 19% were lone mother-calf pairs, 10% were mother-calf pairs with escorts or putative males in competition, 16% were competitive groups and 1% were singers. This yielded a mean pod size of 1.85 ± 0.97 individuals and a proportion of 0.130 calves/individual.

We observed 14 newborns with fetal folds and/or bent dorsal fins, made repeated identifications of mother-calf pairs in the same season for a duration of up to 27 days between sightings, and identified some females inter-annually. (Audley, Unpublished data.)

The map below shows the distribution of humpback whales (adults and calves), along with Bryde's whales (the other large baleen whale sighted in the region by our research group to date) and pinnipeds.



Humpback whales were found throughout the surveyed region, from 50 m to 10.3 km offshore with a most distant surveyed range of 33.4 km from shore.

The population size estimate of the Central America humpback whale DPS has been estimated to be between 411-1561. (Wade, et al. 2016, 2021). The high rate of calves in the region, movement and habitat use patterns of humpback whales and recurring sightings of individuals in the region indicate that Guerrero is both a destination for humpback whales to breed, calve and nurse and a transitory corridor for whales traveling to and from Central America.

Entanglement in fishing gear and vessel collisions were identified as the most significant DPS threat in the 2016 final listing rule by NOAA (81 FR 62260, September 8, 2016). Additionally, Whales of Guerrero study results from a 4-year NOAA-funded survey showed that up to 50% of the humpback whales observed in the region have caudal and/or peduncle scars likely caused by entanglement in fishing gear in their feeding grounds in the north, putting them at increased risk as a subpopulation. (Audley, 2014; 2015; 2016; 2017; 2018;2019)

Mitigation measure: We recommend that surveys do not occur in our region until at least mid-May, and that no seismic survey work occur between November 1 - May 1 to ensure minimal impact on the Central America DPS of humpback whales.

2. At least 16 additional species of marine mammals would be impacted, including endangered and data deficient species

Odontocetes are present in the region year-round. Rough toothed dolphins, bottlenose dolphins and pantropical spotted dolphins show evidence of habitat partitioning and fission/fusion association patterns, all of which would be impacted by seismic survey work in the region (Pouey Santalou, et al., 2017; 2015; 2019; Ramos et al, 2020; 2017). Bottlenose dolphin sighting rates are in decline and lobomycosis-like skin disease has been detected on numerous individuals in the region (Ramos et al, 2018). While in-depth year-round data has yet to be collected regarding marine mammal presence, habitat use and abundance in Guerrero, temporal trends of species observed and prey abundance data suggest that odontocetes are present in Guerrero year round, including data deficient and endangered species and subgroups of species such as beaked whales, sperm whales, false killer whales, killer whales, Bryde's whales and pygmy sperm whales. While not endangered on a global scale, climate change, pollution and overfishing have impacted local populations of bottlenose dolphins. Spinner dolphins, common dolphins, rough toothed dolphins and Risso's dolphins would also likely be impacted by these surveys.

Marine mammal species identified in Guerrero between 2014-2021 by the Whales of Guerrero are: *Arctocephalus townsendi, Balaenoptera edeni, Delphinus delphis, Grampus griseus, Kogia sima, Megaptera novaeangliae, Mesoplodon peruvianus, Orcinus orca, Pseudorca crassidens, Physeter macrocephalus, Stenella attenuata, Steno bredanensis, Stenella longirostris, Tursiops truncatus, Zalophus californianus and Ziphius cavirostris*

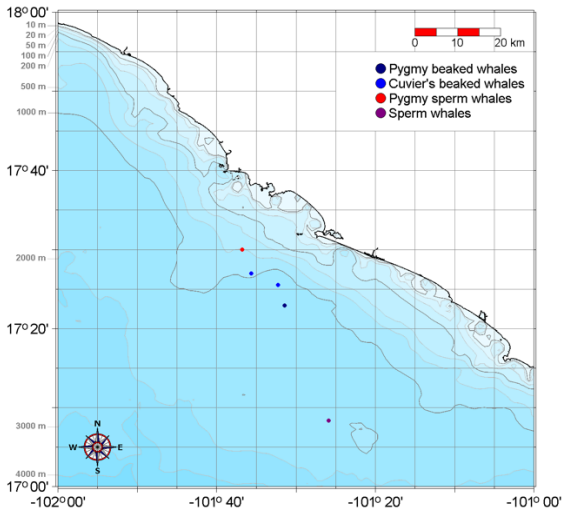
Below is a table showing number of species sighted by species per month and total between 2014-2021

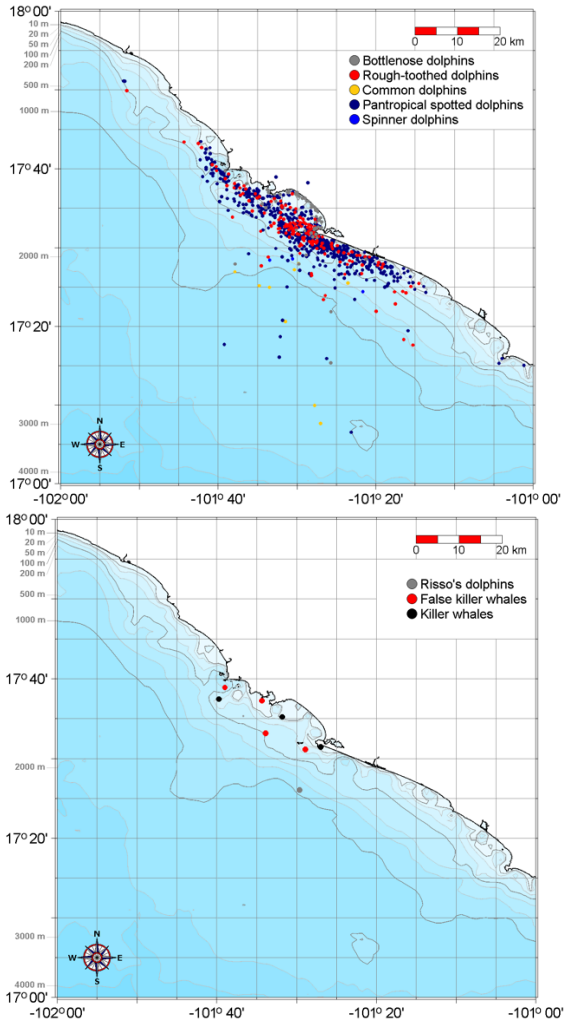
Number of Sightings by Month 2014-2021

	January 4-31	**February 1-28/29**	**March 1-20**	**TOTAL SIGHTINGS 2014-2021**
Species				

Balaenoptera edeni	**4**	**1**	**1**	**6**
Delphinus delphis	**1**	**3**	**6**	**10**
Grampus Griseus	**0**	**0**	**1**	**1**
Kogia sima	**0**	**1**	**0**	**1**
Megaptera novaeangliae	**393**	**399**	**165**	**957**
Mesoplodon peruvianus	**0**	**0**	**1**	**1**
Orcinus orca	**1**	**1**	**1**	**3**
Pseudorca crassidens	**0**	**3**	**1**	**4**
Physeter macrocephalus	**0**	**0**	**1**	**1**
Stenella attenuata	**232**	**225**	**137**	**594**
Steno bredanensis	**53**	**68**	**49**	**170**
Stenella longirostris	**2**	**1**	**0**	**3**
Tursiops truncatus	**10**	**30**	**19**	**59**
Ziphius cavirostris	**1**	**1**	**0**	**2**
Arctocephalus townsendi	**1**	**0**	**0**	**1**
Zalophus californianus	**0**	**0**	**1**	**1**

Below are three maps showing 2014-2021 sighting locations for 1.) Ziphiids and sperm whales (four species) 2.) small dolphins (five species) 3.) large dolphins (three species)





Mitigation measure requested: A 3-year, 6-site land-based field survey has just been launched (January 5, 2022) to identify important and vulnerable nursing and resting sites for humpback whales in Guerrero. We are now actively seeking funds to undertake year-round eDNA collections (in partnership with NMFS) to determine cetacean usage of Guerrero's waters, coupled with concurrent boat-based year-round surveys will refine current understanding of marine mammal species present in Guerrero. Until these studies have been complete, it would be irresponsible to approve seismic surveys in this region. In-depth, year-round research is required to determine species presence and habitat usage before seismic surveys can safely occur in the region.

<u>3. Guerrero lacks the infrastructure to support potential strandings and marine mammal mortality events.</u>

There is no year-round monitoring or stranding response team in place and the remote locations and difficulty in accessing much of the coastline would make it unlikely that live stranding events could be documented and responded to appropriately. Stranding events have been rare during the period between 2014-2021; humpback whale strandings tend to occur during humpback whale migration and spinner dolphin strandings occur when commercial tuna fishing boats are present in the region in July.(Audley, K., 2017-2020) For example, three live humpback whale strandings occurred during January 2022 in Acapulco. Officials were present to keep the animals moist and to attempt to push the animals back to sea, but neither rescue attempt was successful, no necropsies were made nor were samples collected, and no experts were present to assist or advice on support or future mitigation measures. (SEMAREN, 2022; Galarce, 2022)

Mitigation measure requested: We seek time and funding to build a region-wide stranding and monitoring support network prior to approving seismic survey activities in the region. Scientists and stranding experts from SOMEMMA are available to train and assist Guerrero-based officials, scientists and local stakeholders in a capacity building workshop in summer of 2022.

4. Economic impact on whale and dolphin ecotourism

Guerrero is an authorized whale watch state in Mexico (Secretaría de Gobernación, 2021). 56 officially authorized boats, 200 crew members and thousands of individuals the larger local community depend on marine mammal ecotourism and would be impacted, should the population of humpback whales which calve, breed and nurse in this region be harmed (Castillo, 2020).

Mitigation measure requested: The 56-boat, 200-person whale watch guide network requests that the surveys do not occur at during whale migration season, as threats to whales and dolphins are a threat to their livelihood.

5. Harm to reputation of region as environmentally proactive would also be financially damaging

The government and tourism departments of Ixtapa and Zihuatanejo have invested substantial resources into highlighting this region as a place that prioritizes the protection of marine mammals. 2021 was declared the Year of the Whale by the OCV of Ixtapa and an international campaign that highlights the region as a region to prioritizes whale and dolphin safety. (Convention and Visitors Bureau, 2021; Audley, K., 2018; Audley, K. et al, 2019; Por Equipo Zihuatanejo, 2022) To allow a potentially harmful seismic survey to occur in our region would be hypocritical and damaging to the reputation of the region, resulting in financial impact during a time when tourism is already in decline due to the pandemic.

Mitigation measure requested: Please discuss potentially harmful marine mammal surveys with regional government officials and scientific organizations which are invested in a healthy marine ecology and must respond to marine mammal emergencies prior to conducting survey work in Guerrero.

Citations:
(Drafts of unpublished papers and private reports available upon request)

Humpback whales in Guerrero:
Audley, K. *Catalog of humpback whale flukes photoidentified in Guerrero 2014-2021*. Report provided to NOAA via Cascadia Research Collective. April 2021.

Audley, K. (2016). Cataloging Data of Entangled Humpback Whales in Northeast Pacific Wintering Areas 2014-2016. NOAA.

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Audley, K., García-Chávez, A., Ramírez-Barragán, R., Dobson, E., Flynn, K., Cheeseman, T. and J. Calambokidis. 2021. Humpback whale photo-identifications from Guerrero indicate southern Mexico is similar to Central America as a wintering area of whales that feed primarily on the US West Coast. Accepted as talk for Society for Marine Mammalogy Biennial Conference. To be presented August 2022.

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Status review of the humpback whale (Megaptera novaeangliae) under the Endangered Species Act

Bettridge, Shannon, Olivia Marie, Baker, C. Scott, Barlow, Jay, Clapham, Phil, Ford, Michael Jonathan, Gouveia, David, Mattila, David K., Pace, Richard M., Rosel, Patricia E., Silber, Gregory K. (Gregory Keith), Wade, Paul R. Status review of the humpback whale (Megaptera novaeangliae) under the Endangered Species Act. NOAA technical memorandum NMFS;NOAA-TM-NMFS-SWFSC. 2015. https://repository.library.noaa.gov/view/noaa/4883

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García Chávez, A. J., Hanks, T., Mellín, A., Auladell Quintana, C., Chevallard Navarro, P., Pouey-Santalou, V., Kaulfuss, A., Smultea, M., & Audley, K. (2016, May). First systematic humpback whale studies in the vulnerable state of Guerrero, Southwest Mexico. Society for Marine Mammalogy Conference, San Francisco, California.

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Martien, Karen K., Barbara L. Taylor, Frederick I. Archer, Katherina Audley, John Calambokidis, Ted Cheeseman, Joelle De Weerdt, Astrid Frisch Jord n, Pamela Martínez-Loustalot, Christian D. Ortega-Ortiz, Eric M. Patterson, Nicola Ransome, Penny Ruvelas, Jorge Urban Ramírez, and Francisco Villegas-Zurita. 2021. Evaluation of Mexico Distinct Population Segment of Humpback Whales as units under the Marine Mammal Protection Act. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-658. https://doi.org/10.25923/nvw1-mz45

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Ortega-Ortiz, C.D., A. B. Cuevas-Soltero, R.X. García-Valencia, A. Frisch-Jordán, K. Audley, J. Jacobsen, A. Olivos-Ortiz, M. A. Liñán-Cabello. Spatial ecology of humpback whales (*Megaptera novaeangliae*, Cetacea-Balaenopteridae) from the Mexican Central Pacific. Pacific Science. Under Review 2021.

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SOMEMMA/COMS/003-2022

Considerations regarding the seismic study to be carried out off the coast of Guerrero, Mexico

TO WHOM IT MAY CONCERN

Hereby, as a Society that brings together academic specialists in marine mammals from Mexico and other parts of the world, we support the position and arguments of Katherina Audley, founder of the organization Whales of Guerrero, who has led a document as part of the public consultation that the National Marine Fisheries Service (NMFS) has imposed on the seismic survey to be conducted off the coast of Guerrero, Mexico, in early March 2022. This implies a potential negative effect on cetacean species such as humpback whales, sperm whales, dolphins, among others.

We recognize the importance of this study for the creation of knowledge and regarding national security; however, we emphasize the need for further studies on the ecological, biological, economic, political, and social impact that this project would have, in order to avoid events of mortality and/or affectation of individuals, which belong to species that are protected by Mexican law (NOM-059-SEMARNAT-2010). This area is considered important for the display of reproductive behaviors, such as humpback whale courtship and breeding, as well as for resting and also for its use as a corridor within annual migrations. Additionally, there would be a social and economic impact on the ecotourism sector in the region.

Mitigation efforts need to be developed around the following aspects:

1. The humpback whale population segment in this region has migratory patterns linked to breeding activities (November-May). However, there is uncertainty regarding their population size and current conservation status, so they could also potentially be considered at high risk of extinction, being vulnerable to extrinsic threats. *Mitigation: That the seismic survey be carried out until mid-May and that no seismic exploration effort be carried out between November 1 and May 1 to avoid affecting the diversity of cetaceans in the region.*

2. At least 16 marine mammal species would be impacted, including some endangered and others for which there is insufficient data. *Mitigation: Parallel and detailed long-term research is required to discern species occurrence and habitat use before seismic surveys can be conducted in the region.*

3. Lack of infrastructure in Guerrero to address possible strandings. *Mitigation: Time and funds are needed to build a regional stranding network before the scientific study activities are approved. SOMEMMA scientists and stranding experts are available to train Guerrero authorities, scientists and interested individuals. A workshop is planned for the summer of 2022.*

4. Economic impact on whale and dolphin ecotourism. *Mitigation: The 53 vessels and the 200-people humpback whale watching guide network request that surveys do not occur during the winter-spring season, when humpback whales arrive. This*

potential threat to the species would affect their economic livelihood.

5. Damage to the environmental reputation of the region would also result in financial damage. *Mitigation: An open discussion is requested with government authorities and organizations regarding potential damage to these species and their study. This should be done with a view of conservation of marine resources and their sustainable use, before conducting the seismic survey in Guerrero.*

We thank you in advance for your attention and remain at your service.

Sincerely,

Dr. Christian D. Ortega Ortiz
President

Dra. Ibiza Martínez Serrano
Vicepresident

Dr. Fernando R. Elorriaga Verplancken
Coordinator of the Science Committee