

Participating Organizations

Alliance for a Living Ocean
American Littoral Society
Arthur Kill Coalition
Asbury Park Fishing Club
Atlantic Highlands Arts Council
Bayside Regional Watershed Council
Bayside Saltwater Flyrodders
Belford Seafood Co-op
Belmar Fishing Club
Beneath The Sea
Bergen Save the Watershed Action Network
Berkeley Shores Homeowners Civic Association
Cape May Environmental Commission
Central Jersey Anglers
Citizens Conservation Council of Ocean County
Clean Air Campaign, NY
Clean Water Action
Coalition Against Toxics
Coalition for Peace & Justice/Unplug Salem
Coastal Jersey Parrot Head Club
Communication Workers of America, Local 1075
Concerned Businesses of COA
Concerned Citizens of Bensonhurst
Concerned Citizens of COA
Concerned Citizens of Montauk
Eastern Monmouth Chamber of Commerce
Environment NJ
Fishermen's Conservation Association, NJ Chapter
Fishermen's Conservation Association, NY Chapter
Fishermen's Dock Cooperative, Pt. Pleasant
Food and Water Watch, NJ
Friends of Island Beach State Park
Friends of Liberty State Park, NJ
Friends of the Boardwalk, NY
Garden Club of Allenhurst
Garden Club of Bay Head and Mantoloking/Seaweeders
Garden Club of Brielle/Bayberry
Garden Club of Englewood
Garden Club of Fair Haven
Garden Club of Long Beach Island
Garden Club of RFD Middletown
Garden Club of Morristown
Garden Club of Navesink
Garden Club of New Jersey
Garden Club of New Vernon
Garden Club of Oceanport
Garden Club of Princeton
Garden Club of Ridgewood
Garden Club of Rumson
Garden Club of Sea Girt/Holly
Garden Club of Short Hills
Garden Club of Shrewsbury
Garden Club of Spring Lake
Garden Club of Terra Nova
Garden Club of Washington Valley
Great Egg Harbor Watershed Association
Green Party of Monmouth County
Green Party of New Jersey
Highlands Business Partnership
Hudson River Fishermen's Association
Jersey Shore Captains Association
Jersey Shore Parrot Head Club
Jersey Shore Partnership
Junior League of Monmouth County
Keypoint Environmental Commission
Kiwanis Club of Shadow Lake Village
Leonardo Party & Pleasure Boat Association
Mantoloking Environmental Commission
Marine Trades Association of NJ
Monmouth Conservation Foundation
Monmouth County Association of Realtors
Monmouth County Audubon Society
National Coalition for Marine Conservation
Natural Resources Protective Association, NY
NJ Beach Buggy Association
NJ Environmental Lobby
NJ Friends of Clearwater
NJ Marine Education Association
Nottingham Hunting & Fishing Club, NJ
NYC Sea Gypsies
NY Marine Education Association
NY/NJ Baykeeper
Ocean Wreck Divers, NJ
PaddleOut.org
Piscataway Saltwater Sportsmen Club
Rantan Riverkeeper
Religious on Water
Rotary Club of Point Pleasant
Rotary District #540—Interact
Saltwater Anglers of Bergen County
Sandy Hook Bay Anglers
Save Barnegat Bay
Save the Bay, NJ
SEAS Monmouth
Shark Research Institute
Shark River Cleanup Coalition
Shark River Surf Anglers
Sierra Club, NJ Shore Chapter
Sisters of Charity, Maris Stella
South Monmouth Board of Realtors
Staten Island Tuna Club
Strathmere Fishing & Environmental Club
Sunrise Rod & Gun Club
Surfers' Environmental Alliance
Surfrider Foundation, Jersey Shore Chapter
Surfrider Foundation, South Jersey Chapter
TACK I, MA
Unitarian Universalist Congregation/Monm. Cnty.
United Boatmen of NY/NJ
Viking Village
WATERSPIRIT
Women's Club of Brick Township
Women's Club of Keypoint
Women's Club of Long Branch
Women's Club of Merchantville
Women's Club of Spring Lake
Zen Society, NJ



Ocean Advocacy
Since 1984

Clean Ocean Action

18 Hartshorne Drive, Suite 2
Highlands, NJ 07732-0505
T (732) 872 - 0111
F (732) 872 - 8041
Info@CleanOceanAction.org
Tax ID: 22-2897204

www.CleanOceanAction.org

July 21, 2017

Via e-mail sent to ITP.Laws@noaa.gov

Ms. Jolie Harrison
Chief, Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

RE: Comments on the National Marine Fisheries Service Incidental Harassment Authorization for the Takes of Marine Mammals to Specified Activities; Taking Marine Mammals Incidental to Geophysical Surveys in the Atlantic Ocean; RIN 0648-XE283, 82 Fed. Reg. 26,244 (June 6, 2017)

Dear Ms. Harrison:

On behalf of the undersigned organizations, Clean Ocean Action (COA) submits the following comments in response to the National Marine Fisheries Service (NMFS) request for comments for the five Incidental Harassment Authorizations (IHA) applications related to seismic surveying for oil and gas exploration in the Mid-Atlantic and Atlantic regions. This oil and gas exploration creates an unreasonable interference with an immense area of the public's under water land and will harm all marine life from Delaware Bay to Cape Canaveral, Florida.

Seismic arrays send a constant barrage of sonic blasts at decibel levels that are severely injurious to marine mammals. These deafening blasts continue every 24 seconds, 24 hours a day, for over the course of an entire year. The present IHAs propose five (5) concurrent studies which collectively would run over more than 92,500 miles of tracklines over the course of a year.

The cumulative interference of five (5) concurrent studies is unprecedented, and will have species and ecosystem-wide harmful impacts on all marine life, including vital annual biological life stages (reproduction, migration, spawning, birthing, caring for young, feeding, and other life sustaining activities). These compounding impacts will threaten the delicate balance of the Atlantic Ocean's interconnected biodiversity.



In fact, for marine mammals alone according to the Department of the Interior's estimates, seismic surveying off the United States East Coast could injure and disrupt up to 138,000 animals.¹ That said, the Marine Mammal Commission (MMC), charged by the Marine Mammal Protection Act (MMPA) to further the conservation of marine mammals, has determined that these numbers underestimate these numbers, among other concerns as will be discussed herein. These impacts include injuries and disturbances to marine mammals species that depend on hearing to feed, communicate, mate and thrive. Proposed seismic surveying would also threaten critically endangered species like the North Atlantic Right whale, Fin whale, and Sperm whale.

According to the NOAA Fisheries mission statement, NOAA is responsible for the stewardship of the nation's ocean resources and their habitat which provide vital services for the nation: productive and sustainable fisheries, safe sources of seafood, the recovery and conservation of protected resources, and healthy ecosystems.² The present IHAs would allow seismic activities that will harm the marine ecosystem compromise the health, safety, and welfare of numerous species of marine mammals. Therefore, in accordance with NOAA's mission statement they should deny the five proposed IHA permits for seismic testing necessary for the pending G&G Geophysical and Geological permits.

Moreover, Clean Ocean Action finds that these five IHA authorizations do not comply with laws and regulations of the United States and therefore must be denied. The below overview of these concerns is followed by a more detailed review.

1. Specifically, the IHAs fail to comply with the Marine Mammal Protection Act "MMPA" because:

- the stated amount of "potential incidental takes" significantly exceed the statutory requirements in each IHA;
- the estimated "potential incidental takes" are grossly underestimated due to erroneous calculations;
- the "Negligible Impact" findings are erroneous due to the cumulative, concurrent, compounded nature of the seismic activities;
- the proposed protocols for protected species observation are fatally flawed, and irreconcilable with the requirements set forth by the MMPA;
- the methods of taking are not based on the "best scientific evidence" available because they rely on inconsistent assumptions from BOEM's 2014 PEIS, and outdated of sound pressure levels;
- the required mitigation protocols are recklessly inadequate because they do not account for the cumulative, concurrent, and compounded impact of all five studies happening at the same time, in the same area within one year.

¹ BOEM, *Appendix E in BOEM, Atlantic OCS Proposed Geological and Geophysical Activities Mid-Atlantic and South Atlantic Planning Areas Final Programmatic Environmental Impact Statement, Vol. 3 222, E-1 to E-3 (2014)*, available at <http://www.boem.gov/BOEM-2014-001-v3>.

² NOAA Fisheries about us. National Oceanic Atmospheric Administration, n.d. Web. 17 July 2017.

2. Issuing the IHAs will unreasonably interfere with the public’s use and enjoyment of the Atlantic Ocean by:

- undermining the resilience of our marine ecosystems and coastal communities that depend on healthy marine species;
- unlawfully diminishing the public’s right to use and enjoy marine mammal sightings and abundance;
- impacting the livelihoods of those whom depend on the living marine resources, including whale watching, diving, and marine science and research.

3. Issuing the IHAs will have an unprecedented impact on fish populations and threatens irreparable injury to the commercial and recreational fishing industries, as well as the many surrounding industries which support or depend upon same by:

- reducing fish stocks resulting in loss of economic income in short and long term;
- failing to consider peer reviewed research and scientific journals that prove harmful impacts to fish, invertebrates, shellfish (including scattering, stunning, and/or killing, and zooplankton).

The detailed comments follow.

I. The Five (5) IHA Applications Contravene the Protections Afforded to Marine Mammals under the Marine Mammal Protection Act

The MMPA places a “moratorium on the taking” of marine mammals.³ Thus, any authorization to take marine mammals must meet several statutory requirements. Any authorization to take marine mammals must; 1) result in the incidental takes of only “small numbers” of marine mammals of a species or population stock; 2) have no more than a “negligible impact” on species and stocks; 3) must provide for the monitoring and reporting of such takings and must prescribe methods and means of affecting the “least practicable adverse impact” on the species or stock and their habitat;⁴ and 4) must be based upon the “best scientific evidence available”.⁵

A. The current IHA application’s stated “take authorization limit” exceeds the MMPA’s “small numbers” requirement because the federal court has found that 12 percent exceeds the congressional intent of the statute.⁶

³ 16 U.S.C. § 1371(a).

⁴ 16 U.S.C. § 1371(a)(5)(A) & (D).

⁵ 16 U.S.C. 1371(a)(3)(A) (requiring “best scientific evidence available” to determine “when, to what extent, if at all, and by what means . . . to waive the requirements . . . so as to allow taking, or importing of any marine mammal. . . .”); 50 C.F.R. § 216.102(a) (requiring “best scientific evidence available” when analyzing the taking of small numbers of marine mammals under section 101(a)(5)(A) through (D))

⁶ *NRDC v. Evans*, 232 F. Supp. 2d 1003, 1027 (N.D. Cal. 2002) (“A definition of ‘small number’ that permits the potential taking of as much as 12 percent of the population of a species is plainly against Congress’ intent”) See *NRDC, Inc. v. Pritzker*, 828 F.3d 1125, 1132 (9th Cir. 2016) (stating “the Navy may also take, through level B Harassment, up to 12% of the entire stock of every affected marine mammal species every year”) (emphasis added); *NRDC v. Pritzker*, 62 F. Supp. 3d 969, 981 (N.D. Cal. 2014)

The MMPA gives NOAA the authority to authorize the incidental take of only a “small number” of marine mammals or population stocks.⁷ The federal court has determined that 12 percent or more of a marine mammal species population is not a “small numbers” value because it plainly goes against Congress’s intent in creating the statutory limitation.⁸ Moreover, the federal courts have never found that an IHA requesting a take of 12 percent or more to be a small number.

NOAA currently proposes a take authorization limit of 30 percent; more than double the 12 percent deemed to be outside the threshold of a “small number.” As a result, in four of the IHAs, the proposed take for twelve (12) different mammal species, including the endangered Sperm whale, Fin whale, and North Right whale exceeds 12 percent.⁹

Specifically, **Spectrums** application significantly exceeds the small numbers requirement for nine (9) different species including the endangered North Right Whale. **TGS’s** application exceeds the requirement for twelve (12) different species including the endangered Fin and Sperm whale. **WesternGeo’s** application exceeds the requirement for twelve (12) different species including the endangered Fin and Sperm whale. CCG application exceeds the small numbers requirement for all six (6) of the proposed harassed species, including the endangered Sperm whale.¹⁰

The IHA must be denied because the proposed take limit violates the statutory definition of “small numbers,” thus granting the IHA would be outside the scope of NOAA’s authority.

B. The IHAs applications grossly underestimate the number of “potential incidental takes” because they fail to add up the collective value of potential incidental takes for all five applications, do not account for multiple repeated harassments, and are based on inaccurate overall population estimates.

Here, the IHA applications calculations are clearly erroneous because they fail to add the number of takes from the five applicants. An accurate calculation shows that collectively the numbers are catastrophically larger. For example, Fin whales collective potential incidental takes proposed for authorization is 5,802. In contrast, the current erroneous calculation reflects numbers as low as 39. For the endangered North Atlantic Right whale the collective potential incidental takes is 95, in contrast to the current erroneous calculations which propose numbers as low as 2.¹¹

(“The Navy must conduct operations so that no more than 12% of any marine mammal species or stock will be taken annually by Level B harassment, regardless of the number of vessels operating.”);

⁷ 16 U.S.C. 1371 §101(a)(5)(D)(ii) (allowing; “incidental, but not intentional, taking by harassment of small numbers of marine mammals of a species or population stock by such citizens while engaging in that activity within that region...).

⁸ *NRDC v. Evans*, 232 F. Supp. 2d 1003, 1027 (N.D. Cal. 2002) (“A definition of ‘small number’ that permits the potential taking of as much as 12 percent of the population of a species is plainly against Congress' intent”)

⁹ 82 Fed. Reg. 26,244, 26,295 (June 6, 2017) (stating that “we propose a take authorization limit of 30 percent of a stock abundance estimate” to define “small numbers” and limiting IHA applicant takes to that level);

¹⁰ Comparative table provided by Oceana. “Oceana Comment Letter Template for Members and Supporters.” Letter to Jolie Harrison. June 2017. MS. N.p

¹¹ 82 Fed. Reg. 173 (June 6, 2017) (Table.11 Number of Potential Incidental Take Proposed for Authorization).

The IHA take values are underestimated because they do not account for the potential of multiple repeated harassments experienced by marine mammals. Studies show that repeated experience to seismic impacts accumulates to population-level harm.¹² Thus, the current overall population for which the take is based on is inaccurate.

The estimated takes are miscalculated, because they are based on an inaccurate overall population abundance sizes and density numbers. Overall abundance sizes and density numbers are unpredictable values subject to variability in environmental conditions (e.g., unexpected warm surface temperatures or higher prevalence of prey).¹³ Therefore, any take estimate derived from an assumption of overall population abundance and density is erroneous.

For example, in 2014-2015 a NFS study off the coast of New Jersey first estimated the potential amount takes for Fin whales at three (3) takes; and Short-Beak common dolphins at thirty-six (36) takes. After only few days of commencing seismic activity, the researchers exceeded their takes estimates. They subsequently applied for a modified IHA which increased the estimated amount of takes by an additional thirty-three (33) Fin Whales, and 2,077 Short-Beak common dolphins. This shows that takes are commonly underestimated due to the inaccurate nature of total population values. The survey company's Protected Species Mitigation and Monitoring Report, suggested that low take levels are at greater risk for being reached (i.e inaccurate) because of the uncertainty in calculating take estimates, authorized.¹⁴

The "potential incidental takes" are grossly and scientifically underestimated because they fail to simply add the collective number of takes, and the numbers are based on a significant inaccurate calculation.

It is important to note, that the federal court held that significant mathematical errors can render an agency decision arbitrary and capricious¹⁵. Therefore, the current IHA applications should be

¹² E.g., Convention on Biological Diversity, Scientific synthesis on the impacts of underwater noise on marine and coastal biodiversity and habitats (2012) (UN Doc. UNEP/CBD/SBSTTA/16/INF/12); Gedamke, J., Harrison, J., Hatch, L., Angliss, R., Barlow, J., Berchok, C., Caldow, C., Castellote, M., Cholewiak, D., De Angelis, M.L., Dziak, R., Garland, E., Guan, S., Hastings, S., Holt, M., Laws, B., Mellinger, D., Moore, S., Moore, T.J., Oleson, E., Pearson-Meyer, J., Piniak, W., Redfern, J., Rowles, T., Scholik-Schlomer, A., Smith, A., Soldevilla, M., Stadler, J., Van Parijs, S., and Wahle, C., Ocean Noise Strategy Roadmap (2016).

¹³ Lamont-Doherty Earth Observatory of Columbia University's *Protected Species Mitigation and Monitoring Report*, Dubuque, Amanda, Amy Piko, Amy Schmitt, Casandra Frey, and Sheila O'Dea.(Nov 30 2015.) at 66;
http://www.nmfs.noaa.gov/pr/permits/incidental/research/Ideo_2015njiha_monrep.pdf.

¹⁴ Lamont-Doherty Earth Observatory of Columbia University's *Protected Species Mitigation and Monitoring Report*, Dubuque, Amanda, Amy Piko, Amy Schmitt, Casandra Frey, and Sheila O'Dea.(Nov 30 2015.) at 6,66;
http://www.nmfs.noaa.gov/pr/permits/incidental/research/Ideo_2015njiha_monrep.pdf. (Based on actual PSO observations, these revised take limits were not reached, but rather only 0.03% and 0.8% of the regional population sizes for short beaked common dolphins and fin whale, respectively. Because of factors such as uncertainty in species regional abundance sizes and density numbers, and variability in environmental conditions (e.g., unexpected warm surface temperatures or higher prevalence of prey), authorized take levels issued for species at these very low levels may be at greater risk for being reached during survey operations than for those species where takes are issued at much higher levels. This scenario has occurred during previous Langseth surveys when take estimates have been unexpectedly reached during survey operations. It may be prudent, therefore, to increase take authorizations levels in situations when takes are estimated at very low levels, such as below 0.1% of a regional population (or stock) size.)

¹⁵ *Native Village of Chickaloon v. National Marine Fisheries Service*, 947 F. Sup. 2d 1031, 1076-77 (D. Alaska 2013) (Significant mathematical errors can render an agency decision arbitrary and capricious.) referencing; *Alabama Power Co. v. FCC*, 249 U.S. App. D.C. 99, 773 F.2d 362 (1985)(Finding that the agency's "somewhat casual calculations exhibit at

denied because the potential incidental takes are grossly underestimated, and based on erroneous calculations.

Further, the federal notice states that NOAA considers “the potential impacts of the specified activities independently and make preliminary determinations specific to each request for authorization, as required by the MMPA”.¹⁶ This statement has no basis in law or fact. No provision of the MMPA allows an agency to actively ignore the fact that the subject permit will stress marine mammals that will be further stressed by additional permittees. Thus, because the authorizations are all occurring in the same year, in overlapping specified geographic regions the potential incidental takes calculation must reflect all five applicants collectively.¹⁷

C. The IHA applications “negligible Impact” findings are erroneous because they are based on a miscalculated take estimate, and do not account for the concurrent, cumulative, and consecutive impact of all five studies nature of the seismic activities.

NOAA cannot issue an IHA if there will be more than a “negligible impact” on marine mammal species stock.¹⁸ “Negligible impact” is defined by NOAA as “an impact that is not reasonably expected or reasonably likely to adversely affect the species or stock through effects on recruitment or survival”.¹⁹

According to NOAA, a negligible impact determination is based on the lack of likely adverse effects on annual rates of recruitment or survival (i.e. population-level effects). In making this determination NOAA considers; “number of takes, likely nature of any responses (e.g. intensity of response), the context of the responses (e.g. critical reproductive time or location, migration), and effects on habitat”.²⁰

In this case NOAA’s finding of “negligible impact” is erroneous because it is based on a miscalculated number of takes, as discussed supra. The reliance on these miscalculated takes changes the “Negligible” because in some cases²¹ the collective takes of each marine mammal adds up to more than 100 percent of that species’s total abundance estimate (population).²² It is reasonably likely to adversely affect the species or stock because the number of marine mammals

several points the sort of 'clear error[s] of judgment,' . . . and absence of 'rational connection[s] between the facts found and the choice[s] made,'" that court held that the order was arbitrary and capricious.)

¹⁶ 82 Fed. Reg. 7-9 (June 6, 2017).

¹⁷ 16 U.S.C. 1371 §101 (a)(5)(D)(upon request therefor by citizens of the United States who engage in a specified activity (other than commercial fishing) within a specified geographical region, the Secretary shall allow, during periods of not more than five consecutive years each, the incidental, but not intentional, taking by citizens while engaging in that activity within that region of small numbers.)

¹⁸ 16 U.S.C. 1371 §101(a)(5)(D)(I)(i)-(II)(b)) (if the Secretary finds that such harassment during each period concerned— (I) will have a negligible impact on such species or stock, and (II) will not have an unmitigable adverse impact on the availability of such species or stock for taking for subsistence uses pursuant to subsection (b) of this section, or section 1379 (f) of this title or pursuant to a cooperative agreement under section 1388 of this title.

¹⁹ 50 C.F.R 216.103

²⁰ 82 Fed. Reg. 174 (June 6, 2017).

²¹ the- Sperm whale, Beaked whale, Rough-Toothed dolphin, Atlantic Spotted dolphin, and the Pantropical Spotted dolphin

²² Comparative table provided by Oceana. “Oceana Comment Letter Template for Members and Supporters.” Letter to Jolie Harrison. June 2017. MS. N.p

allowed to be taken, is more than the total number of marine mammals estimated to be found in the area.

In addition, the IHAs do not consider the impacts that consecutive, cumulative, multiple, and repeated harassments will have on the marine mammal's lifecycle. Seismic airgun noise can cause whales to stop producing vocalizations essential to breeding success, individual and cooperative foraging, predator avoidance, and mother-calf interactions.²³ Considering these cumulative impacts is essential to determining the "likely nature of response, the context of the responses (critical reproductive time or location, migration), and effects on habitat". Thus, failing to consider these impacts invalidates the finding that the IHAs will have a negligible impact making the determination recklessly inaccurate.

D. The proposed protocols for protected species observation does not meet the MMPA standard of "permissible methods of taking" because the protocols are fatally flawed, and thus irreconcilable with the requirements set forth by the MMPA.

In order for the IHA to be approved NMFS must set forth the "permissible methods of taking" pursuant to such activity, "and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking."²⁴

In carrying out this mandate NOAA states that the protocols should be such, "that may be implemented in the field, reduce subjective decision-making for observers to the extent possible, and appropriately weighs a range of potential outcomes from sound exposure in determining what should be avoided or minimized where possible."²⁵

The Protected Species Observers (PSO) cannot appropriately weigh a range of potential outcomes for three reasons. First, the protocols do not take into account or propose any methods for nighttime observation. Because the seismic activities will take place 24 hours a day, this fails to account for half the total testing time. And there are no proposed alternatives for poor visibility making the day time observation results incomplete.

Second, the protocol states, "PSO's shall coordinate to ensure 360° visual coverage around the vessel, and shall conduct visual observations using binoculars and the naked eye while free from distractions and in a consistent, systematic, and diligent manner." It is unreasonable two observers using only naked eyes and binoculars can successfully monitor hundreds of species in a 500-m exclusion zone and a 1,000-m buffer zone. Furthermore, the protocols fail to specify

²³ E.g., McDonald, M.A., Hildebrand, J.A. and Webb, S.C., Blue and fin whales observed on a seafloor array in the Northeast Pacific, *J. Acoustical Soc'y of America* 98: 712-21 (1995); Di Iorio, L., and Clark, C.W., Exposure to seismic survey alters blue whale acoustic communication, *Biology Letter* 6: 51-54 (2010); Castellote, M., et al., Acoustic and behavioral changes by fin whales, *supra*; Blackwell, S.B., et al., Effects of airgun sounds on bowhead whale calling rates, *supra*; Cerchio S., et al. Seismic surveys negatively affect humpback whale singing activity, *supra*.

²⁴ 16 U.S.C. § 1371(a)(5)(A) & (D).

²⁵ 82 Fed. Reg. 29 (June 6, 2017).

how 360 coverage will be ensured and thus these protocols are irreconcilable with the MMPA mandate to ensure the “least practicable impact” on protected species.²⁶

The secondary method of observation, Protected Acoustic Monitors (PAM) does not adequately make up for the limitations of the PSO because they themselves do not account for a range of For example, only one PAM is required per vessel, and PSO can be simultaneously trained as both. In addition, NMFS themselves concede PAM has significant limitations because example, animals may only be detected when vocalizing, species making directional vocalizations must vocalize towards the array to be detected, species identification and localization may be difficult, etc. And that the effectiveness of PAM depends to a certain extent on the equipment and methods used and competency of the PAM operator, yet no established standards are currently in place.²⁷

In fact, after mammals are shocked or stunned they may be less likely to vocalize. For example, researchers tracked a Blue whale who ceased vocalizations for an hour and changed course significantly after travelling in vicinity of a vessel where the received level was estimated at 143 dB re: 1 μPa^2 peak-to-peak).²⁸ Yet another example proving that the observation methods are flawed and irreconcilable with MMPA’s mandate to “appropriately weigh a range of potential outcomes from sound exposure in determining what should be avoided or minimized where possible.”²⁹

PAM does not make up for the lack of consideration for night time or period of poor visibility because they themselves do not account for times when animals are not vocalizing. Therefore, the IHA PSO and PAM measures do not and cannot appropriately weighs a range of potential outcomes from sound exposure and thus are irreconcilable with the “permissible methods” mandate of the MMPA.

E. The IHAs applications are not based on the “best scientific evidence available” because on they rely on inconsistent assumptions from BOEM’s 2014 PEIS, and studies show harms than can befall a marine mammal at single sound pressure levels below 160 dB.

The MMPA mandates the agency base its decisions regarding take authorizations, and analyze the taking of small numbers of marine mammals using the “best scientific evidence available”.³⁰

²⁶ 82 Fed. Reg. 22,29 (June 6, 2017).

²⁷ 82 Fed. Reg. 29 (June 6, 2017).

²⁸ McDonald, M.A., Hildebrand, J.A., and Webb, S.C. 1995. Blue and fin whale observed on a seafloor array in the Northeast Pacific. *Journal of the Acoustical Society of America* **98**: 712-721.

²⁹ 82 Fed. Reg. 29 (June 6, 2017).

³⁰ 16 U.S.C. 1371(a)(3)(A) (requiring “best scientific evidence available” to determine “when, to what extent, if at all, and by what means . . . to waive the requirements . . . so as to allow taking, or importing of any marine mammal. . . .”); 50 C.F.R. § 216.102(a) (requiring “best scientific evidence available” when analyzing the taking of small numbers of marine mammals under section 101(a)(5)(A) through (D))

First, the IHAs use BOEM's PEIS as a general point of reference for the proposed surveys, and also because three of the applicants directly use the results to inform their exposure modeling, rather than performing separate sound field modeling.³¹ However, the 2014 PEIS issued by BOEM's modeled array is grossly misrepresentative of current larger proposed airgun arrays. The modeled array selected to be representative of a "large general array" consists of 18 air guns in three identical strings of six air guns each, and estimated volume total of approximately 5,400 inches cubed. In stark contrast, the current proposed surveys propose air gun arrays of 24, 36 and 40 air guns. With total volumes ranging from 4,808 to 5,400 inches cubed. Therefore, IHA are based on a model which is outdated and inconsistent with the actual proposed activities.

Second, NOAA is using the single sound pressure levels 160 dB re 1 μ Pa (RMS), to evaluate Level B take estimates. This is not the best science available because multiple studies show marine mammals can be harmed at single sound pressure levels below 160 dB. For example, a low-frequency, high-amplitude fish shoal imaging device, with received sound levels ranged from 5 to 22 dB above ambient noise levels was found to silence humpback whales at a distance of up to 200 kilometers.³² In addition, groups of humpback whales in the wild have been observed to exhibit avoidance behaviors at a distance of two kilometers from a small airgun array; the received levels in these trials were 159 dB re: 1 μ Pa peak-to-peak.³³ Cuvier's beaked whales exhibited alarming behavioral impacts when exposed to sonar at low received levels of 89-127dB re: 1 μ Pa.³⁴ Also, the initial startup of a seismic survey has been shown to cause endangered fin and humpback whales to stop vocalizing – a behavior essential to breeding and foraging.³⁵

Further, some marine mammals are acutely sensitive to seismic sounds. For example, the Harbor porpoises have been observed to engage in avoidance responses 50 miles from a seismic airgun array, at received sound levels well below 120 dB.³⁶ And, Cuvier's beaked whales exhibited alarming behavioral impacts when exposed to sonar at low received levels of 89-127dB re: 1 μ Pa.³⁷

These inconsistencies, and studies show that the current IHA applications are not based on the best science available, and thus cannot be granted.

³¹ 82 Fed. Reg. 134,22 (June 6, 2017).

³² Risch, D., Corkeron, P.J., Ellison, W.T., and van Parijs, S.M., Changes in humpback whale song occurrence in response to an acoustic source 200 km away, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0029741> (2012).

³³ McCauley, R.D., Jenner, M.N., Jenner, C., McCabe, K.A., and Murdoch, J. 1998. The response of humpback whales (*Megaptera novaeangliae*) to offshore seismic survey: Preliminary results of observations above a working seismic vessel and experimental exposures. *Apnea Journal*: 692-706.

³⁴ DeRuiter, S.L., Southall, B.L., Calambokidis, J., Zimmer, W.M.X., Sadykova, D., Falcone, E.A., Friedlaender, A.S., Joseph, J.E., Moretti, D., Schoor, G.S., Thomas, L., and Tyack, P.L. 2013. First Direct Measurements of behavioural responses by Cuvier's beaked whales to mid-frequency active sonar. *Biology Letters* 9: 20130223 1 (2013).

³⁵ Clark, C.W., and Gagnon, G.C. 2006. Considering the temporal and spatial scales of noise exposures from seismic surveys on baleen whales. (IWC Sci. Comm. Doc. IWC/SC/58/E9); see also MacLeod, K., Simmonds, M.P., and Murray, E., Abundance of fin (*Balaenoptera physalus*) and sei whales (*B. borealis*) amid oil exploration and development off northwest Scotland, *Journal of Cetacean Research and Management* 8: 247-254 (2006).

³⁶ See, e.g., Bain, D.E., and Williams, R., Long-range effects of airgun noise on marine mammals: responses as a function of received sound level and distance (2006) (IWC Sci. Comm. Doc. IWC/SC/58/E35).

³⁷ DeRuiter, S.L., Southall, B.L., Calambokidis, J., Zimmer, W.M.X., Sadykova, D., Falcone, E.A., Friedlaender, A.S., Joseph, J.E., Moretti, D., Schoor, G.S., Thomas, L., and Tyack, P.L. 2013. First Direct Measurements of behavioural responses by Cuvier's beaked whales to mid-frequency active sonar. *Biology Letters* 9: 20130223 1 (2013).

F. The required mitigation protocols are reckless and contrary to the congressional intent behind the MMPA because they do not account for the cumulative, concurrent, and compounded impact of all five studies happening at the same time, in the same area within one year.

The IHAs are issued pursuant to the regulations of the MMPA, and thus are required to be accordance with the statutes overall mission. The “findings and declarations” section of the MMPA provides insight to congresses intent in creating the statute. In this case the proposed mitigation measures fail to address each of these “findings and declarations.”

The MMPA findings state: (1)some marine mammal species or stocks may be in danger of extinction or depletion as a result of human activities; (2) there is inadequate knowledge of the ecology and population dynamics; (3) measures should be taken to replenish these species or stocks.³⁸

Fist, the proposed IHA fail to take into consideration the cumulative impact of other human activities which will be impacting marine mammal populations simultaneously. For example, other forms of sound pollution, climate change, pollution, and boating activities. Each IHA applicant’s mitigation measures fail to consider the ecology and population dynamics imposed by their study.

Second, the mitigation measures act as if each IHA applicant will be operating in their own vacuum, isolated from any other activities. As stated above the IHA fails to consider the compounded impacts of all five studies happening at once, and therefore the mitigation measures also fail to provide for these cumulative impacts. For example, the possibility of an animal being exposed to seismic activity from several different expeditions in the same day, the cumulative increase on the estimated number of takes, and the more serious injuries due to repeated exposure, increased stress levels, or widespread behavioral interruptions. As well as, the impact which the seismic testing itself will have on the fish and zooplankton populations on which marine mammals depend upon for survival.

Third, the mitigation measures fail to provide against any short term or long term harm to marine mammals. The measures only propose to reduce the amount take during the seismic activities, however there are no remedies for the harm that does occur. For example, should a mammal become deaf there is nothing afforded for that harm. Another example, there is no remedy or strategy for dead or stranded mammals found during and post study. By contrast if a fisherman is found with a dead marine mammal they are fined with a steep penalty.

The aforementioned reasons prove the mitigation measures are in direct contradiction to the congressional intent of the MMPA.

³⁸ 16 U.S.C. 1361§ 2 (1-5) (certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man's activities; ... consistent with this major objective, they should not be permitted to diminish below their optimum sustainable population. Further measures should be immediately taken to replenish any species or population stock which has already diminished below that population. In particular, efforts should be made to protect essential habitats, ... marine mammal from the adverse effect of man's actions; there is inadequate knowledge of the ecology and population dynamics of such marine mammals and of the factors which bear upon their ability to reproduce themselves successfully).

II. Issuing the IHAs will unreasonably interfere with the public's use and enjoyment of the Atlantic Ocean.

Among many other negative impacts, seismic surveys threaten to displace marine mammals from preferred feeding, breeding, and migratory habitats, over both the short- and long-term. This may lead to large-scale habitat avoidance or abandonment.³⁹

Both the short and long term displacement of these marine mammals will unreasonably interfere with the public's right to use and enjoy marine mammal sightings and abundance. In addition, this displacement will cause irreparable harm to the livelihoods of those who depend on the healthy marine species in coastal communities. These include but are not limited to, whale watching, diving, and marine science research.

III. Issuing the IHAs will have unprecedented negative impact on fish populations and the proposed project presents imminent injury to commercial and recreational fishing industries, as well as the many surrounding industries which benefit from the fishing industries.

The IHAs only consider speculative research about the impacts seismic will have on marine mammals. They fail to consider peer reviewed studies proving significant taking of fish, invertebrates, and shellfish stocks. Including one recent study proving that seismic activity causes significant mortality to zooplankton. In fact, this study shows that up to 64% of zooplankton were killed within one hour of the seismic study commencing.⁴

Failing to fully consider seismic impacts on fish populations threatens serious economic injury on commercial and recreational fishing industries. The threatened harm is both irreparable and imminent in kind because recreational and commercial fishing industries are responsible for a magnitude of economic benefits and support large part of the coastal economy. For example, in 2015, the Mid-Atlantic commercial fisheries supported nearly 27,000 jobs, \$1.6 billion in sales, \$601 million in income. And, recreational fisheries in the Mid-Atlantic support over 37,000 jobs, sales over \$4 billion, income of \$1.7 billion, and value-added of nearly \$2.7 billion.⁴⁰

Although under Magnuson-Stevens and NEPA the agency will prepare an Essential Fish Habitat consultation, this is insufficient because the process will not be open for public comment or hearing thus, exposing the fishing industries to undocumented impacts on their heavily regulated fish stocks. Given the existing value of marine resources and fisheries along the coast,

³⁹ E.g., Bain, D.E. and Williams, R., Long-range effects of airgun noise on marine mammals: Responses as a function of received sound level and distance (2006) (IWC Sci. Comm. Doc. IWC/SC/58/E35); Clark C.W., and Gagnon, G.C., Considering the temporal and spatial scales of noise exposures, *supra*; Rosel, P.E., and Wilcox, L.A., Genetic evidence reveals a unique lineage of Bryde's whales in the northern Gulf of Mexico, *Endangered Species Research* 25: 19-34 (2014).

⁴⁰ New England Fishery Management Council (Council) Comment Letter re: Potential Environmental Effects of Offshore Oil Development on the Atlantic OCS at 1-2 of pdf. (June 29 2017), citing; NMFS Social Indicators website: <http://www.st.nmfs.noaa.gov/humandimensions/social-indicators>.

before an EFH consultation can be considered scientifically valid, a comprehensive study on the impacts to fisheries from seismic activity must be conducted.

IV. Granting the IHAs is an arbitrary and capricious act pursuant to the requirements of the Administrative Procedure Act (APA) and the process has lacked in transparency and due process.

The current reconsideration of the IHAs is contrary to a vast majority of public opposition evidenced by the comments of the July 29 2015 federal notice.⁴¹ The reauthorization of these permits does not provide ample opportunity to comment and hold public hearings because the IBLA review of the permits is an insulated agency action lacking in the proper opportunity for public notice and intervention. In addition, this one comment period is insufficient because BOEM will not give the opportunity for public comment or hearing on the subsequent G&G permits. Finally, the five proposed IHAs are inappropriately tiered to the 2014 PEIS because overall it is separate activity than that proposed in the permits.

V. This process flies in the face of good governance. The action is triggered by Executive Order 13795 which repealed and abrogated a multi-year due process.

In making this decision NOAA Fisheries must take into account the overwhelming public opposition. For example, COA alone received over 125 citizen's comments, and approximately 750 signed petitions⁴² specifically opposed to the proposed IHAs through.

These concerns are further matched by hundreds of resolutions against seismic testing expressed by 120 local governments, numerous local chambers of commerce, tourism associations, commercial and recreational fishing associations, and municipalities from New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, and Florida.

This public opposition drove over forty (40) Representatives to sign on to a letter of bi-partisan opposition, stating that seismic testing and drilling jeopardizes their coastal businesses, fishing communities, tourism, and national security.

The present IHAs represent oil and gas exploration off the coast of the Atlantic, which concerns the vast majority of coastal communities in the Atlantic. Including, over 41,000 businesses and 500,000 commercial fishing families as well as, and the New England, Mid-Atlantic, and South Atlantic Fishery Management Councils.⁴³

In consideration of the above, the previous administration found that the Atlantic was based on a clean ocean economy and thus denied the proposed activities inclusion in the five year plan, therefore invalidating the need for the seismic testing.

⁴¹ 80 Fed. Reg. (July 29, 2015).

⁴² See. Attached PDF. COA comments 7.21.17 (file exceeded space limitations, sent via US Post Office).

⁴³ Rutherford, John, Member of Congress, and Don Beyer, Member of Congress. "Rutherford-Beyer-Letter." Letter to Secretary Ryan Zinke. June 2017. MS. N.p.

In fact, the Marine Mammal Commission, charged by the MMPA to further the conservation of marine mammals raises many concerns regarding the proposed IHAs. COA highlights the following concerns as further evidence for why the IHAs should be denied.

These concerns include but are not limited to;

In regards to the “small numbers” requirement;

- The commission finds that the selection of a 30 percent take limit is not well supported. “NMFS provides support for the use of a relative proportional standard in general, but not its choice on this particular proportion.”⁴⁴

In regards to estimated takes:

- Two of the five applicants use an approach other than the “best available science” for estimating marine mammal densities. And, the commission has numerous concerns with the contractor (SES) who prepared the density estimates for these two companies. For example, the commission finds “SES appeared to have excluded sightings data from surveys conducted outside but adjacent to the proposed seismic survey areas.”⁴⁵
- The MMC questions the validity of the methods used to estimate number of Level A and Level B harassments. For example, the MMC finds, “that the density of animals used by Spectrum like was less than the density of animals in the real environment which could have affected distribution tails.”⁴⁶
- The commission considers, “the large number of takes from multiple seismic surveys to be a concern... and encourages the companies to combine their efforts and collaborate to reduce the number of IHA and G&G permits issued for seismic surveys in the Atlantic.”⁴⁷

In regards to “negligible impact findings”:

- The general proposed take of 30 percent take does not ensure a consistent negligible impact finding for all species. The commission cites points out that, “for some species (e.g North Atlantic right whale or Cook Inlet beluga whales) taking the entire population might arguably constitute a small number. However, taking more than a small fraction may easily run afoul of the negligible impact standard.”⁴⁸

In regards to “best available science” requirement:

- The commission disagrees with NMFS approach for calculating Level A harassments for all applicants and finds none of NMFS inputs were based on the best available science. In

⁴⁴ Letter from Rebecca Lent, Executive Director, MMC, to Jolie Harrison NMFS, at 11 (July 6, 2017)(comments on Proposed IHAs)

⁴⁵ Letter from Rebecca Lent, Executive Director, MMC, to Jolie Harrison NMFS, at 3 (July 6, 2017)(comments on Proposed IHAs) (NMFS considers Roberts et al. (2016) to be the best available source of density data for the Atlantic.... The commission questions why NMFS included a different approach for estimating densities for two of the companies.)

⁴⁶ Id. At 6

⁴⁷ Id. At 14

⁴⁸ Id.12

fact, the commission finds that some of the estimated Level A takes do not “make sense and are not plausible.”⁴⁹

In regards to the “least practicable adverse impact requirement”:

- The commission finds that, NMFS preliminary determination that the proposed authorizations met the least practicable impact standard is not sufficient analysis. “A more thorough analysis and better justification for that determination is needed.”⁵⁰

VI. Conclusion

Therefore, for the reasons outlined above COA is unalterably opposed to the issuance of the proposed IHAs, and in general is strongly opposed to seismic testing. COA urges NOAA Fisheries to deny the proposed IHA applications.

However, if the authorizations continue to be fast tracked and issued, in defiance of due process as provided for in the EO, the following mitigation measures and methods must be implemented;

- 1) Prior to the seismic activity-- to determine stock assessments and ecological health of all affected marine life, gather baseline data and biological activities data over a one year period to assess all seasonal life cycle stages.
- 2) During the seismic activity-- collect biological and ecological data of all impacts occurring on all marine life during throughout the seismic activities.
- 3) Upon completion of the seismic activity; collectively assess the cumulative impacts resulting from the individual and compounded activities for marine mammals, and other marine life.
- 4) Make the above mentioned information available to the public.

Thank you for extending the comment period and the opportunity to comment. A written reply to these detailed comments is required.

Respectfully,

Cindy Zipf
Executive Director

Melanie Daly
Policy Intern

⁴⁹ Id. 7

⁵⁰ Id.13