Center for Regulatory Effectiveness' ("CRE") Comments on Bureau of Ocean Energy Management's ("BOEM") Notice of Intent to Prepare a Programmatic Environmental Impact Statement ("PEIS") for the Outer Continental Shelf ("OCS"), 2017-2022 Proposed Oil and Gas Leasing Program ("DPP"), http://www.regulations.gov/#!documentDetail;D=BOEM-2014-0085-0002 . Comments filed on March 29, 2015, at www.regulations.gov, Docket ID: BOEM-2014-0085.

I. Executive Summary

CRE's comments respond to comments filed in this Docket by Ocean Conservation Research ("Enviro Comments").[1] These comments are typical of environmental groups' attacks on BOEM's OCS management, although more strident than most. In particular, the Enviro Comments make incorrect statements about the effects of oil and gas seismic on aquatic life, and irrationally attack BOEM's regulation of those effects.

These vituperative and often personal attacks stem from the Enviro's misguided belief that anything "promoting the continuation of fossil fuel-based economy is unconscionable beyond the magnitude of being psychopathic."[2]

The Enviro's belief that fossil fuel production and use should be banned is irrelevant to BOEM's job and authority under the OCS. Part of that job and authority is leasing for offshore oil and gas exploration and production.

After many years of leasing, and after much study, there is no evidence of harm from oil and gas seismic under long-standing regulation by BOEM and by other federal agencies. BOEM's Chief Environmental Officer William Y. Brown recently explained that

> "To date, there has been no documented scientific evidence of noise from air gun geological and geophysical (G&G) seismic activities adversely affecting animal populations."

Dr. Brown also notes that

[1] The Enviro Comments are available at http://thecre.com/newipd/wp-content/uploads/2015/03/DDP-5-Year-OCR-comments.pdf.
[2] *Id*. page 1.

> "because of its abundance, the bottlenose dolphin heads the class in number of potential exposures to air gun sound levels with potential effects on behavior. Yet Federal stock assessments for the dolphin do not identify air gun seismic surveys as adversely impacting stock sustainability in the Gulf of Mexico, where air gun surveys are routine."[3]

Regulation of seismic is both widespread and effective. The Enviro Comments don't withstand close scrutiny.

We have sent our comments to Oceana Conservation Research ("Enviro") and to other commenters on the PEIS and on BOEM's DPP. We will post any response we receive from them on the CRE websites: *Regulation: Seismic Exploration*, or on *Discussion Forum for Marine Sound*.

II. Regulation of Seismic Is Both Widespread and Effective

There follow some examples of seismic regulation by other countries:

Brasil, *Guide for monitoring marine biota during seismic data acquisition activities,* IBAMA, at http://www.oceanwatchmmos.com/resources/IBAMA_document_Guide%20for%20monitoring%20marine%20biota%20translated_2005_04.pdf

UK, *Guidelines for minimizing acoustic disturbance to marine mammals from seismic surveys*, Joint Nature Conservation Committee, at http://jncc.defra.gov.uk/pdf/jncc_guidelines_seismic%20guidelines_aug%202010.pdf

New Zealand**,** *Code of conduct for minimising acoustic disturbance to marine mammals from seismic survey operations,* Department of Conservation, at http://www.doc.govt.nz/conservation/marine-and-coastal/seismic-surveys-code-of-conduct/code-of-conduct-for-minimising-acoustic-disturbance-to-marine-mammals-from-seismic-survey-operations/

Australia, *EPBC Act Policy Statement 2.1 - Interaction between offshore seismic exploration and whales: Industry guidelines*, Department of the Environment, Water, Heritage and the Arts, at http://www.environment.gov.au/resource/epbc-act-policy-statement-21-interaction-between-offshore-seismic-exploration-and-whales .

Canada, *Statement of Canadian Practice with Respect to the Mitigation of seismic Sound in the Marine Environment*, Fisheries and Oceans Canada, at http://www.dfo-

[3] Dr. Brown's article is available online at http://www.boem.gov/BOEM-Science-Note-March-2015/.

mpo.gc.ca/oceans/management-gestion/integratedmanagement-gestionintegree/seismic-sismique/index-eng.asp.

Ireland, *Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters*, Department of Arts, History and the Gaeltacht, at http://www.dcenr.gov.ie/NR/rdonlyres/1042F113-7ECA-43FB-B1E5-6C4CF81608F1/0/2014Underwatersoundguidance_Jan2014.pdf .

Seismic regulation usually includes some or all of the following components:

- Sound Source characterization and Sound Propagation Modeling: knowing the introduced sound levels and how sound attenuates away from its source. Models are site-specific and source-specific. This allows evaluation of potential exposures to animals.
- Environmental Assessment & Impact Studies: knowledge of species present in the habitat in question, and knowledge about potential risks.
- Temporal & Spatial Operations: to ensure avoidance of environmentally sensitive areas during key times of year.
- Marine Mammal Observers: specially trained observers on each survey vessel dedicated to identifying marine mammals within a safety zone and alerting the captain/crew to potential further mitigations.
- Exclusion Zones: the zone around a seismic air-gun array cleared of most or all marine mammals.
- Soft Starts: gradual ramp-up in sound designed to gently clear an area of most or all marine mammals.
- Passive Acoustic Monitoring (PAM): A system of hydrophones designed to detect vocalizing marine mammals, and used to determine location/position and hence provide additional warning for maintaining the exclusion zone for mitigation. This is used in concert with visual observations as an additional safeguard measure.

This long-standing and widespread regulation is effective in preventing harm to aquatic life. This issue is discussed in some detail in *CRE on Harmonization of Seismic Regulation: US– A Report to CRE Brazil on the State of Seismic Regulation in the United States (Gulf of Mexico).*[4] Some conclusions by regulatory bodies and the National Academy of Sciences follow:

After extensive study, the US National Marine Fisheries Service has concluded:

[4] http://www.thecre.com/forum13/wp-content/uploads/2013/03/State_of_Marine_Sound_Regulation1.pdf .

1. "There is no specific evidence that exposure to pulses of air-gun sound can cause PTS [physical injury] in any marine mammal, even with large arrays of air-guns." [5]

2. "To date, there is no evidence that serious injury, death, or stranding by marine mammals can occur from exposure to air-gun pulses, even in the case of large air-gun arrays." [6]

3. "NMFS does not expect that any marine mammals will incur serious injury or mortality in the Arctic Ocean or strand as a result of the proposed [offshore Alaska] seismic survey." [7]

4. "Thus, the proposed [seismic] activity is not expected to have any habitat-related effects on prey species that could cause significant or long-term consequences for individual marine mammals or their populations." [8]

5. "Gray whales have continued to migrate annually along the west coast of North America despite intermittent seismic exploration (and much ship traffic) in that area for decades (Appendix A in Malme *et al.* 1984; Richardson *et al.* 1995), and there has been a substantial increase in the population over recent decades (Allen and Angliss 2010). The western Pacific gray whale population did not seem affected by a seismic survey in its feeding ground during a prior year (Johnson *et al.* 2007). Similarly, bowhead whales have continued to travel to the eastern Beaufort Sea each summer despite seismic exploration in their summer and autumn range for many years (Richardson *et al.* 1987), and their numbers have increased notably (Allen and Angliss 2010). Bowheads also have been observed over periods of days or weeks in areas ensonified repeatedly by seismic pulses (Richardson *et al.* 1987; Harris *et al.* 2007)."[9]

Similarly, the US National Academy of Sciences' National Research Council stated:

> "No scientific studies have conclusively demonstrated a link between exposure to sound and adverse effects on a marine mammal population."[10]

As a final example, BOEM itself recently issued a Final Supplemental Environmental Impact Statement for a Gulf of Mexico Oil and Gas Lease Sale. This final SEIS for the GOM concluded that, after more than 50 years of oil and gas G&G, "there are no data to suggest that activities from the preexisting OCS Program are significantly impacting marine mammal populations":

---

[5] https://alaskafisheries.noaa.gov/notice/78fr28412.pdf .
[6] http://www.nmfs.noaa.gov/pr/pdfs/fr/fr76-58473.pdf .
[7] http://alaskafisheries.noaa.gov/notice/79fr36730.pdf .
[8] http://www.gpo.gov/fdsys/pkg/FR-2014-12-09/html/2014-28807.htm
[9] http://www.gpo.gov/fdsys/pkg/FR-2012-05-01/pdf/2012-10386.pdf .
[10] Marine Mammal Populations and Ocean Noise: Determining when Noise causes Biologically Significant Effects, Oceans science board (2005), page 15, at http://www.nap.edu/openbook.php?isbn=0309094496.

> "Overall, within the WPA [GOM Western Planning Area], there is a long-standing and well-developed OCS [oil and gas] Program (more than 50 years); there are no data to suggest that activities from the preexisting OCS Program are significantly impacting marine mammal populations."[11]

III. The Enviro Comments Don't Withstand Close Scrutiny

The Enviro Comments claim that seismic surveys cause marine mammal "population displacements." They rely on the following paper to support this claim: Weller, D.W., et al., "Influence of seismic surveys on western gray whales off Sakhalin Island, Russia in 2001." Paper No. SC/54/BRG14 presented to the International Whaling Commission Scientific Committee (2002). [12]

The Weller paper is outdated. Subsequent research has demonstrates that seismic as currently regulated does not adversely affect western gray whales.[13]

The Enviro Comments also rely on Parente, C.L., *et al.*, Diversity of cetaceans as a tool in monitoring environmental impacts of seismic surveys," Biota Neotropical, 7(1), 49-55 (2007) "Prente").[14] This article does not support their claim that seismic causes marine mammal population displacement. The Parente article explains that

> "it is not possible to conclusively state that seismic surveys can directly result in reduction of diversity"; and
>
> "Many other biological and oceanographic features are known to affect the diversity of species in the oceans. Here we were only able to consider data relating to seismic surveys and oceanographic parameters."[15]

---

[11] Page 4-215 of document available online at http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/nepaprocess.aspx . Click on "Gulf of Mexico OCS Oil and Gas Lease Sale: 2012; Central Planning Area Lease Sale 216/222; Final Supplemental Environmental Impact Statement; Volume I: Chapters 1-4.

[12] Enviro Comments, page 3 and footnote 18, at http://thecre.com/newipd/wp-content/uploads/2015/03/DDP-5-Year-OCR-comments.pdf.

[13] *E.g.*, Feeding of western gray whales during a seismic survey near Sakhalin Island Russia, S.B. Yazvenko, et al., Environmental monitoring and assessment (Nov 2007), at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2798041/; and Reducing risks to western gray whales from oil and gas activities by developing a monitoring and mitigating programme, at http://www.ipieca.org/reducing-risks-western-gray-whales .

[14] Enviro Comments, page 3 and footnote 1, at http://thecre.com/newipd/wp-content/uploads/2015/03/DDP-5-Year-OCR-comments.pdf.

[15] Parente, page 54, at http://www.biotaneotropica.org.br/v7n1/en/fullpaper?bn01307012007+en .

The Enviro Comments claim that seismic is associated with marine mammal strandings. This claim has been disproved many, many times. For example, NMFS recently explained:

> "To date, there is no evidence that serious injury, death, or stranding by marine mammals can occur from exposure to air gun pulses, even in the case of large air gun arrays." [16]

The Enviro Comments claim that seismic harms fisheries and catch rates.[17] This claim ignores the recent, definitive work on seismic, fish and sea turtles: Popper, A.N. et al., ASA S3/SC1.4 TR-2014 Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report prepared by ANSI-Accredited Standards Committee S3/SC1 and registered with ANSI .[18] As currently regulated, seismic are unlikely to hurt fisheries or catch rates based on the acoustic criteria and other guidelines established by this ANSI document.

As a final example, the Enviro Comments rely on an outdated article to claim that seismic causes "migratory disruptions" in bowhead whales.[19]

In fact, more recent data demonstrate that the bowhead whale is doing just fine with seismic:

> "Available data do not indicate that noise and disturbance from oil and gas exploration and development activities since the mid-1970s had lasting population level adverse effects on bowhead whales. Data indicate that bowhead whales are robust, increasing in abundance, and have been approaching (or have reached) the lower limit of their historic population size at the same time that oil and gas exploration activities have been occurring in the Beaufort Sea and, to a lesser extent, the Chukchi Sea."

***

[16] 79 FR 12160, 12166 (March 4, 2014), at http://www.gpo.gov/fdsys/pkg/FR-2014-03-04/pdf/2014-04770.pdf . For further disproof of the Enviro Comments' strandings claim, see Marine Mammal Strandings, IAGC, at http://www.iagc.org/media/files/page/55f9e1da/IAGC_1_Pager_Strandings_Formatted_FINAL_2014_06_12.pdf ; and Cetacean Strandings-a plea for honesty, The Norwood Resource, at http://thenorwoodresource.org.au/2015/01/29/cetacean-strandings-a-plea-for-honesty/.

[17] Enviro Comments, page 4.

[18] Available for purchase at http://www.springer.com/gp/book/9783319066585 .

[19] Enviro Comments, page 3 and footnote 13, at http://thecre.com/newipd/wp-content/uploads/2015/03/DDP-5-Year-OCR-comments.pdf.

> "To our knowledge, no whales or other marine mammals have been killed or injured by these past seismic operations, and the BCB population of bowhead whales continues to increase at an annual rate estimated more than 3 percent."[20]

There are just some examples of faulty claims in the Enviro Comments. Rather than continuing to discuss these faulty claims, we must emphasize our great concern over another issue: the Enviro's vituperative attacks on BOEM.

For example, the Comments claim: "BOEM's maintaining that 'there is no scientific evidence of [seismic] impacts' is irresponsible and inexcusable";[21] and BOEM's "promoting the continuation of fossil fuel-based economy is unconscionable beyond the magnitude of being psychopathic."[22]

The Enviro Comments actually accuse BOEM's Chief Environmental Officer of lying:

> **"**William Brown's use of the word 'populations' is a disingenuous attempt to side-step the well documented impacts on individual and 'non-population scale' groups. Because the impacts have not been studied in 'population scales' does not substantiate the intention of **Brown's prevarication**."[23]

Prevarication means

> "the act of prevaricating, or lying… a false or deliberate misstatement; lie…"[24]

We understand that the Enviros are passionate about their real goal, which is to stop the production and use of fossil fuels. That, however, is not BOEM's job, and it is no excuse for personal attacks on dedicated public servants. We apologize to the Agency and to Dr. Brown for the Enviros' vicious ad hominem attacks. We hope the Enviros will act in a more professional and civil manner in the future.

IV. Recommended Actions

BOEM should not spend much time on seismic in this PEIS. Extensive prior studies, a few of which are discussed above, demonstrate that current and longstanding regulation

---

[20] Pages 64-65, ENDANGERED SPECIES ACT: SECTION 7 CONSULTATION BIOLOGICAL OPINION, Incidental harassment authorization to allow for incidental takes of marine mammals during shallow hazards survey in the Chukchi Sea, Alaska, 2011 (NMFS 2011), at http://www.nmfs.noaa.gov/pr/pdfs/permits/statoil_biop2011.pdf .
[21] Enviro comments, page 5, at http://thecre.com/newipd/wp-content/uploads/2015/03/DDP-5-Year-OCR-comments.pdf.
[22] Enviro Comments, page 1, at http://thecre.com/newipd/wp-content/uploads/2015/03/DDP-5-Year-OCR-comments.pdf .
[23] Enviro Comments, page 3 footnote 11 (emphasis added).
[24] http://dictionary.reference.com/browse/prevarication.

protects marine life against any adverse effects from seismic. The Enviro Comments do not support a contrary conclusion.

We thank you for the opportunity to submit these comments, and we look forward to BOEM's response to them.

The Center for Regulatory Effectiveness
www.TheCRE.com