GOM G&G Activities PEIS
Public Scoping Meetings
IAGC / Geophysical Industry Public Comments

- My name is Eddie Pharr and I am with (IAGC / Spectrum Geo, Inc.) and here today representing the International Association of Geophysical Contractors – the IAGC.

- On behalf of IAGC and the geophysical industry I wish to express our appreciation for the opportunity to make the following comments which will be supplemented by written comments to BOEM regarding the development of a PEIS for G&G activities on the Gulf of Mexico OCS.

- IAGC is the international trade association representing the industry that provides geophysical acquisition, processing and other services to the energy industry, including both the conventional and renewable energy sectors. IAGC member companies play an integral role in the successful exploration and development of offshore oil and natural gas resources through the acquisition and processing of geophysical data.

Need and Value of New Geophysical Data

- Geophysical surveys are key tools used in oil and natural gas exploration and siting of renewable energy facilities.

- Geophysical data is critical to the successful discovery and efficient development and production of oil and natural gas. Our surveys are critical to the development of hydrocarbon resources and are one of the very first tools used in the exploration process. When applied early in the exploration process geophysical data aides E&P companies in focusing their analysis and illuminate the most prospective areas for future oil and natural gas exploration.

- Over the past few decades, advances in modern seismic imaging and interpretation have been tremendous. Today, seismic surveys that use modern data acquisition and processing techniques are able to produce sub-surface images which are much clearer and more accurate than those from decades ago, or even 5 years ago.

- Geophysical data is also critical for the development of renewable energy. Hi-resolution geophysical data and geotechnical borings provide important key data required to site renewable energy facilities and design the foundation of structures that will be required for the development of renewable energy.

- Geophysical data is also very valuable to the federal government, and even to state governments. BOEM utilizes the data to assess the resource potential of the OCS and to ensure the federal government receives the fair market value for the resource. Geophysical data is critical in aiding the understanding of the oil and natural gas resource base of the US OCS which helps both Federal and State governments understand what may be at stake as they make public policy decisions involving the development of the OCS.

- Because acquiring and interpreting modern seismic data provides a greater understanding of where oil and gas reserves exist and how much are likely in place, having modern geophysical data prior to a lease sale allows industry to make more informed bids. This results in more bids and higher bids since industry is reluctant to bid on blocks where there is little or no geophysical data. Modern geophysical imaging consistently brings more players to bid on offshore leases, creating more competition and driving the cost of leases higher.

Geophysical Operators Meet Environmental Challenges

- Modern geophysical imaging reduces risk – both economic risk of exploration and production, but also the associated safety and environmental risks. It reduces the number of wells that need to be drilled in a given area, thus reducing the overall exploration, development and production footprint. Also modern geophysical imaging of today is being used more and more to predict drilling risks that can then be better managed or even eliminated.

- In the GOM, the non-exclusive data business model is used. This means the geophysical companies acquires geophysical data and repeatedly license the data to oil and natural gas companies for a fee, but retain the underlying ownership. By acquiring the data once and making it available to any oil and natural gas company, our industry avoids duplicating these surveys, and thus avoids unnecessary duplication of temporary disturbance caused by our surveys. In addition, it is important to remember that seismic surveys are temporary and transitory and use a low-frequency, short duration source signal.

- Our industry conducts operations globally in a variety of environments. In particular, the geophysical industry has 50 years of experience in the US GOM OCS and 40 years of experience in the US Arctic OCS in planning, acquiring, and processing geophysical data in an environmentally responsible manner. During that time, there has been no scientific evidence that sound from our surveys has resulted in auditory or physical injury to any marine mammal. In addition there is no scientific evidence demonstrating biologically significant adverse impacts on marine mammal populations. Nevertheless, the industry employs a number of robust mitigation measures to further reduce the negligible risk of harm to marine mammals.

- Though additional information is needed in some areas, there is a significant amount of scientific information available, many of it funded by government agencies, regarding the potential effects of E&P activities on the marine environment. This information and data from the scientific literature, and not speculation, should be used when assessing potential impacts of G&G activities on the environment.

GOM G&G Activities PEIS
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Specific Comments Regarding the development of the Draft PEIS

Based on the absence of observed effects and supporting scientific knowledge, the alternatives studied in the PEIS should not consider overly restrictive mitigation measures that will inhibit industry from performing geophysical surveys and BOEM from meeting its goals set out in the OCS Lands Act. Mitigation measures such as a requirement to shut-down sources if a dolphin enters the exclusion zone, seasonal or geographical closure areas, and large separation distances between surveys are infeasible and impractical and not necessary to protect marine mammals.

- In the past, the methodology BOEM has used to estimate numbers of marine mammal incidental takes has resulted in what we believe are highly exaggerated estimates, especially considering the lack of any observable injuries, mortalities or population level behavioral effects. BOEM has relied on models that have not been validated against field data; this has created unrealistic estimates of incidental takes that could be expected to occur during industry geological and geophysical activities.

- Compounding this problem are the agency's previous take number estimates, which are only achievable by using acoustic threshold criteria based on obsolete data that does not meet the NEPA requirement to use the best available science. Industry has highlighted a variety of methodological flaws where the agency's choices in acoustic propagation models, the use of frequency weighting, and acoustic thresholds can result in differences in take estimates that vary by several orders of magnitude.

- In addition, the primary emphasis in the DPEIS when considering any projected disturbance or impact should be its environmental context – the acoustic and physical attributes of the specific surrounding environment and affected species. Therefore, we strongly believe that the DPEIS must be based on the best available science, make appropriate use of models and methodologies to estimate incidental takes, and fully consider the environmental context when making any determination of environmental consequences.

Stakeholder and Educational Outreach

- The IAGC values the stakeholder process and are committed to participating in a dialogue with all stakeholders to explain what we do, why we do it, and the measures that we take to protect the environment.

- We have with us today several educational items that explain modern marine geophysical data acquisition, underwater sound, and the measures the geophysical industry implements to ensure minimal impacts of our operations on the environment. This information is available for BOEM and those in attendance in the back of the room.

Conclusion

- IAGC wishes to again express our appreciation for this opportunity to voice our support and commitment to work with BOEM and all stakeholders in the development of the Atlantic PEIS.

- As mentioned previously, IAGC will be submitting written comments as well.

Sea Turtle Restoration Project- Texas

Help Endangered Animals- Ridley Turtles

www.ridleyturtles.org

www.seaturtles.org

June 17, 2013

Comments to the U.S. Department of the Interior's Bureau of Ocean Energy Management and The U.S. Department of Commerce's National Marine Fisheries Service on the potential impact from seismic surveys designed to identify potential locations for wind turbines.

From the Gulf Coast Office of the Sea Turtle Restoration Project; submitted by Official Representatives Carole H. Allen, Gulf Office Director and Joanie Steinhaus, Assistant Campaign Director

Thank you for the opportunity to address the panel on the seismic surveys and their impact on the marine environment in the Gulf of Mexico and specifically the Kemp's ridley sea turtle.

The Kemp's ridley is currently listed as endangered under the Endangered Species Act, and the population is severely depleted and it is considered the most endangered sea turtle species (USDI FWS 1999). These sea turtles are long-lived and have a long juvenile stage. This combined with many threats from human activity in the Gulf [water] and on land, affects all stages of their life and the reason for their high risk of extinction.

Most sea turtles spend a high percentage of their lives in the upper level of the water column <180'. Kemp's ridley turtles transit between near-shore and offshore waters (25km, [50mi] from shore) from spring/summer to fall/winter coinciding with seasonal water temperature changes. The near shore Gulf of Mexico waters serve as a prime foraging habitat for post nesting Kemp's ridley turtles, adults migrating between breeding and foraging habitats, and by post-hatchlings and juveniles during early life stages.

Thirty-one platform transmitter terminals were deployed on Kemp's ridleys that nested at Padre Island National Seashore (PAIS) and Rancho Nuevo (RN) over a 13-year period between 1998 and 2011. The results of this study define critical foraging area hotspots for this species and specifically for post-nesting Kemp's ridley turtles in the northern Gulf of Mexico. Consistent selection of this region by turtles

tracked from PAIS over a 13-year period, concentration of core-use foraging areas for turtles tracked from both RN and PAIS, and high forging area fidelity underscore the importance of this habitat across time, and for individuals from the largest segment of the nesting population (i.e., RN females). The dispersion of foraging sites indicates that a foraging corridor exists in nearshore Gulf of Mexico waters and underscores the need for international cooperation for conservation of this imperiled species. Additional and continued tracking of adult females from both PAIS and RN nesting beaches is warranted to further delineate this corridor and understand details of turtle behavior linked to foraging site selection, both along the migratory pathway and at 'final' foraging sites. (Shaver, D.J., K.M. Hart, I. Fujisaki, C. Rubio, A.R. Sartain, J. Peña, P.M. Burchfield, D. Gomez Gamez, & J. Ortiz. Ecology and Evolution 2013).

It is difficult to find any information about the location of the proposed turbine sites or the number of turbines to be placed in the Gulf. The sound associated with seismic surveys produces pulse loud enough to disrupt and disorient marine life.

Sea turtles appear to be low frequency specialists, with best hearing projected to occur with the frequency range of 50-1000 Hz. (Lavender et al).

Based on the functional morphology of the ear, it appears that sea turtles receive sound through the standard vertebrate tympanic middle ear path, and the sea turtle ear is well adapted to detect underwater sound. The dense layer of fat under the tympanum acts as a channel for underwater sound and retention of air in the middle ear, indicating these sea turtles are able to detect sound pressure. (Wever 1978, Lenhardt 1985)

We must adequately consider the possibility that sound waves could seriously injure, disrupt migration and feeding, disorient or even kill a sea turtle. We wish to know what measures will be taken to ensure that sea turtles are protected from the negative impacts of seismic activity in the project area. Past projects have focused on beach surveys to identify nesting Kemp's ridley females, but have failed to assess the impacts to other life stages. We believe seismic activity should be conducted only in months when nearshore waters are cool and less likely to impact sea turtles. Those months are November through March

Thank you for allowing us the opportunity to address our concerns.

Joanie Steinhaus joanie@tirn.net

VERBAL COMMENTS SUBMITTED BY THE GULF RESTORATION NETWORK
ON PREPARATION OF A PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (PEIS)
ON MULTIPLE GEOLOGICAL AND GEOPHYSICAL (G & G) ACTIVITIES
IN THE OCS OF THE GULF OF MEXICO

JUNE 2013

I am Cynthia Sarthou, Executive Director of the Gulf Restoration Network. The GRN is a network of local, regional, and national environmental, social justice, and public interest groups and individuals dedicated to empowering people to protect and restore the ecological and biological integrity of the Gulf of Mexico and we are deeply concerned about the impact of seismic activity on the Gulf's marine resources.

include as attachment

The federal register notice indicates that this PEIS is being prepared cooperatively with NMFS to serve as the required environmental analysis for a proposed rulemaking regarding incidental take under the MMPA and ESA during G&G activities. The GRN strongly supports the programmatic rulemaking as we believe it is absolutely essential.

However, we believe that the agency must adopt mitigation and monitoring measures at this stage of analysis for the following reasons:

- The oil and gas industry routinely conducts dozens of seismic exploration surveys each year, many of them involving high-intensity airgun arrays and running for weeks or months. Recent analysis conducted by NOAA shows that chronic noise levels from airguns alone are approaching 120 decibels throughout much of the northern Gulf.

- G&G activity has a huge environmental footprint. Airgun noise is loud enough to mask whale calls over literally thousands of miles, destroying their capacity to communicate and breed. It can drive whales to abandon their habitat and cease foraging, again over large areas of ocean. BOEM's own funded research, published in 2009, found that Gulf sperm whales subjected to even moderate amounts of airgun energy appeared to lose about 20% of their foraging ability – a result that could well explain why the population hasn't recovered from whaling.

- The industry's activities are hitting marine mammal populations already compromised by the Deepwater Horizon disaster. These populations include the coastal bottlenose dolphin population, which has undergone a severe die-off since the spill; the Gulf's population of Brydes' whales, of which fewer than 50 animals remain; and its unrecovered population of sperm whales, whose nursery in Mississippi Canyon was ground zero for the disaster.

- It is just as essential that BOEM develop and adopt ways to reduce the cumulative, chronic exposure of vulnerable species at this programmatic stage of review, in order to

manage this problem at a scale appropriate to the biology, the industry, and the mitigation and monitoring solutions available.

With regard to the actual scope of analysis covered in the noticed PEIS, the Agencies must fully analyze

- All potentially available alternative technologies that would allow exploration for oil and gas reserves at different sound levels than those used by seismic technologies currently employed by the industry

- The impacts of all aspects of seismic exploration on all 29 species of protected marine mammal species listed in our written comments.

- The impacts of all aspects of seismic exploration on fisheries of the Gulf, including displacement of species of fish horizontally and vertically in the water column and potential reduction of commercial and recreational catch rates.

- The additive affect of continuing seismic exploration on species within the foot print of and thus impacted by the BP oil disaster of 2010.

- The indirect, secondary and cumulative impacts on the marine environment of all activities of the oil and gas industry in the geographic area covered by the EIS. Cumulative impact analysis must include a review of the overall impacts of seismic in addition to an estimated potential removal structures per year (which were predicted in previous NEPA reviews to be as high as 100 per year), other activities associated with oil and gas exploration and development that produce noise, military activities (such as precision airstrike activities and vessel sonar testing) and non-BOEM regulated activities (i.e. marine transportation, fishing, etc).

- The effectiveness of current mitigation measures in reducing the threat to protected species, and additional reductions in impact that could be achieved by use of alternative technologies or additional mitigation measures beyond those currently employed by the industry.

I am submitting our written comments for the record.

U.S. Department of the Interior
Bureau of Ocean Energy Management

BOEM
Bureau of Ocean Energy Management

Scoping Meetings
for the Programmatic Environmental Impact Statement
for Geological and Geophysical Activities on the Gulf of Mexico

COMMENT SHEET

Comments: **PLEASE PRINT**

as a resident of La., ~~lifelong~~ lifelong I am opposed to the expansion of drilling to any new areas. I have seen firsthand what the damages to our ecosystem and health oil spills can cause, particularly with the massive use of Corexit, the toxic dispersant, used on the BP spill, and the damages to the ecosystem and the health of the people of La. Many families and lives were ravaged with the use of Corexit, which made the oil much more toxic, as the gov't and oil industry regard profits first and people last, all deepwater drilling should be shut down immediately due to safety concerns.

Name: Elyabeth Cook

Title:

Organization: Committee to Ban Corexit

Address: 713 Fairlawn Dr.

City, State, & Zip Code: Belna, La. 70056

Comments are not limited to the space on this sheet. Please feel free to add additional sheets if necessary.

"There is no risk-free way to extract hydrocarbons anywhere on earth."
- Admiral Thad Allen, U.S. Coast Guard

photo by Mac McKenzie

photo by Laurel Locksmy

For more information, contact your local grassroots coordinators:

Sign the petition to ban dispersants when you visit us online at:

www.UltimateCivics.org

JOIN THE CITIZEN'S COALITION TO

BAN TOXIC DISPERSANTS

cover photo by Lori Rosario

Do these symptoms sound familiar?

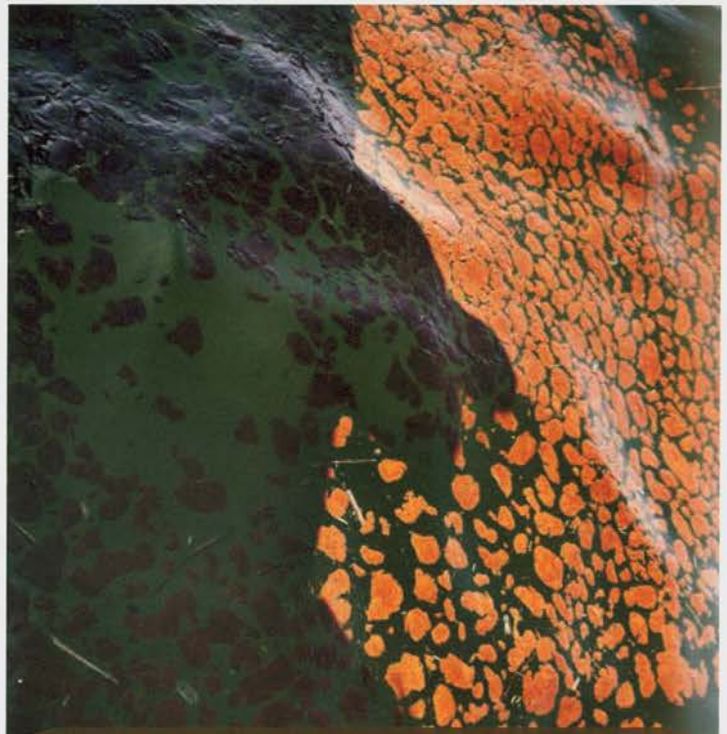
- Asthma
- Bronchitis
- Cold/flu-like symptoms
- Fatigue
- Dizziness
- Bad headaches
- Vertigo
- Seizures
- General malaise
- Lethargy
- Sick all the time
- Skin rashes & lesions
- Peeling palms or soles of feet
- Ear & nose bleeds
- Bleeding hemorrhoids
- Hair loss
- Blurry vision
- Upset stomach

In 2010, BP poisoned the Gulf of Mexico with over two million gallons of toxic Corexit dispersants, claiming this was a "clean up." However, the dispersants pushed oil into the water and air, making it impossible to contain and remove the oil from the water. There were health consequences of using toxic dispersants to "disappear" toxic oil off the water.

Gulf Coast residents, visitors and wildlife suffered symptoms common to exposure to crude oil and chemical dispersants. The symptoms for chemical illnesses mimic very normal illnesses. The difference is: people recover from normal colds or flu, headaches, heat stroke, and food poisoning. Persistent symptoms may indicate chemical illness.

Chemically-dispersed oil is highly toxic

We want toxic chemical dispersants, including Corexit, banned in U.S. territorial waters, especially in state waters or within three miles of our coasts. Instead of Corexit and other toxic products, we want mechanical clean up—physically containing and removing the oil from the water—and nontoxic dispersants.



Keep the oil industry's dirty secrets OUT of our ocean, our drinking water, our aquifers, and our bodies! Take action. Join the Citizens'

photo by Charles Taylor

photo by Mac McKenzie

Wildlife in the Gulf of Mexico is sick, too.

Offshore oil, fracking, & tar sands

What do these have in common? A dirty secret. The same toxic chemicals are used in:

- Corexit dispersants to "clean up" oil spills
- drilling fluids to extract oil and gas
- diluents to thin and transport tar sands

The oil industry calls these chemicals "trade secrets" and "proprietary information." Medical doctors call these chemicals carcinogens, mutagens, teratogens (disturb or kill developing babies in the womb), neurotoxins, hemolytic anemia (damage of red blood cells), and systemic poisons. These chemicals are polluting our air and water and poisoning our bodies.

The federal government and industry plan to use the same Corexit dispersants in future oil spills. Chemically-dispersed oil is more toxic than oil alone. The cure is worse than the harm. The government is willing to tradeoff human health for oil

GULF RESTORATION NETWORK
healthygulf.org

541 Julia Street, Suite 300, New Orleans, LA 70130
Phone: 504.525.1528 Fax: 504.525.0833

COMMENTS SUBMITTED BY THE GULF RESTORATION NETWORK TO THE BUREAU OF OCEAN ENERGY MANAGEMENT (BOEM) IN RESPONSE TO ITS NOTICE OF PREPARATION OF A PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (PEIS) ON MULTIPLE GEOLOGICAL AND GEOPHYSICAL (G & G) ACTIVITIES IN THE OCS OF THE GULF OF MEXICO

JUNE 19, 2013

The Gulf Restoration Network (GRN) is a network of local, regional, and national environmental, social justice, and public interest groups and individuals dedicated to empowering people to protect and restore the ecological and biological integrity of the Gulf of Mexico. Network members hail from each of the Gulf states of Alabama, Florida, Louisiana, Mississippi, and Texas, and beyond. The GRN is deeply concerned about the potential environmental impacts of seismic exploration on the resources of the Gulf of Mexico.

As stated in the federal register notice, this PEIS is being prepared cooperatively with NMFS to serve as the required environmental analysis for a proposed rulemaking under the MMPA governing authorization for unintentional takes during G&G activities. We strongly support the programmatic rulemaking that BOEM and NOAA intend to include in their Proposed Action, but insist that the agency adopt mitigation and monitoring measures at this stage of analysis for the following reasons:

- The Gulf of Mexico is the most heavily prospected body of water on the planet. Reflecting this, the industry routinely conducts dozens of seismic exploration surveys each year, many of them involving high-intensity airgun arrays and running for weeks or months. Recent analysis conducted by NOAA shows that chronic noise levels from airguns alone are approaching 120 decibels throughout much of the northern Gulf.
-
- Airguns have been shown to displace commercial species of fish horizontally and vertically in the water column on a vast scale – over thousands of square kilometers. The result has been to dramatically depress catch rates of species such as cod, haddock, and rockfish across areas as large as the state of Rhode Island, leading fishermen in Norway and other parts of the world to seek industry compensation for their losses. Like marine mammals, Gulf fisheries are still compromised by the Deepwater Horizon spill and can ill afford the sustained insult that the industry's activities represent.

- This activity has a huge environmental footprint. Airgun noise is loud enough to mask whale calls over literally thousands of miles, destroying their capacity to communicate and breed. It can drive whales to abandon their habitat and cease foraging, again over large areas of ocean. BOEM's own funded research, published in 2009, found that Gulf sperm whales subjected to even moderate amounts of airgun energy appeared to lose

about 20% of their foraging ability – a result that could well explain why the population hasn't recovered from whaling. Other research has demonstrated a range of other impacts from the industry's surveys, including silencing of calls, hearing loss, and even injury and death.

- The industry's current activities are hitting marine mammal populations already compromised by the Deepwater Horizon disaster. These populations include the coastal bottlenose dolphin population, which has undergone a severe die-off since the spill; the Gulf's population of Brydes' whales, of which fewer than 50 animals remain; and its unrecovered population of sperm whales, whose nursery in Mississippi Canyon was ground zero for the spill.

- Given all of this activity, programmatic rulemaking is absolutely essential, and we fully support the programmatic rulemaking that the Proposed Action would include. But it is just as essential that BOEM develop and adopt mitigation at this programmatic stage of review, in order to manage this problem at a scale appropriate to the biology, the industry, and the mitigation and monitoring solutions available. The most promising management measures – including habitat exclusions, alternative seismic technologies, and full-scale monitoring – cannot easily be assessed or implemented on an activity-by-activity basis; they must be considered at the programmatic stage.

- To safeguard marine mammal populations, BOEM must find ways to reduce the cumulative, chronic exposure of vulnerable species. It must adopt area closures for high-value habitat, such as in the DeSoto and Mississippi Canyons; set caps on activities; eliminate duplicative surveys; and require the use of greener seismic technologies, such as marine vibroseis, in certain areas. These mechanisms are essential both to protecting Gulf populations of marine mammals and to satisfying federal law.

With regard to the actual scope of analysis covered in the noticed PEIS, the Agencies must fully analyze

- All potentially available alternative technologies that would allow exploration for oil and gas reserves at different sound levels than those used by seismic technologies currently employed by the industry

- The impacts of all aspects of the process of seismic exploration on all protected marine mammal species, including the following marine mammals that have been found in the geographic area covered by the EIS, including but not limited to

    - Atlantic Spotted Dolphin - *Stenella frontalis*
    - Blainville's Beaked Whale - *Mesoplodon densirostris*
    - Blue Whale - *Balaenoptera musculus*
    - Bottlenose Dolphin - *Tursiops truncatus*
    - Bryde's Whale - *Balaenoptera edeni*

- Clymene Dolphin - *Stenella clymene*
- Cuvier's Beaked Whale - *Ziphius cavirostris*
- Dwarf Sperm Whale - *Kogia simus*
- False Killer Whale - *Pseudorca crassidens*
- Fin Whale - *Balaenoptera physalus*
- Fraser's Dolphin - *Lagenodelphis hosei*
- Gervais' Beaked Whale - *Mesoplodon europaeus*
- Humpback Whale - *Megaptera novaeangliae*
- Killer Whale - *Orcinus orca*
- Melon-headed Whale - *Peponocephala electra*
- Minke Whale - *Balaenoptera acutorostrata*
- Northern Right Whale - *Eubalaena glacialis*
- Pantropical Spotted Dolphin - *Stenella attenuata*
- Pygmy Killer Whale - *Feresa attenuata*
- Pygmy Sperm Whale - *Kogia breviceps*
- Risso's Dolphin - *Grampus griseus*
- Rough-toothed Dolphin - *Steno bredanensis*
- Sei Whale - *Balaenoptera borealis*
- Short-finned Pilot Whale - *Globicephala macrorhynchus*
- Sowerby's Beaked Whale - *Mesoplodon bidens*
- Sperm Whale - *Physeter macrocephalus*
- Spinner Dolphin (Long-snouted) - *Stenella longirostris*
- Striped Dolphin - *Stenella coeruleoalba*
- West Indian Manatee - *Trichechus manatus*

Far too often agency analysis of impacts is limited to discussion of the science surrounding bottlenose dolphins. However, the agency must consider potential differences in hearing sensitivity and thus the difference in the potential for impact among the different species that inhabit the OCS of the Gulf of Mexico.

- The additive affect of continuing seismic exploration on species within the foot print of and thus impacted by the BP oil disaster of 2010.

- The indirect, secondary and cumulative impacts on the marine environment of all activities of the oil and gas industry in the geographic area covered by the EIS. Cumulative impact analysis must include a review of the overall impacts of seismic in addition to an estimated potential removal structures per year (which were predicted in previous NEPA reviews to be as high as 100 per year), other activities associated with oil and gas exploration and development that produce noise, military activities (such as precision airstrike activities and vessel sonar testing) and non-BOEM regulated activities (i.e. marine transportation, fishing, etc). [1]

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[1] The Fifth Circuit has set out the kind of information that this "broader analysis" must include:

> Given the CEQ regulations, it seems to us that a meaningful cumulative-effects study must identify: (1) the area in which effects of the proposed project will be felt; (2) the impacts

- The effectiveness of current mitigation measures in reducing the threat to protected species, and additional reductions in impact that could be achieved by use of alternative technologies or additional mitigation measures beyond those currently employed.

Respectfully submitted:

Cynthia Sarthou
Executive Director

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that are expected in that area from the proposed project; (3) other actions -- past, proposed, and reasonably foreseeable -- that have had or are expected to have impacts in the same area; (4) the impacts or expected impacts from these other actions; and (5) the overall impact that can be expected if the individual impacts are allowed to accumulate.

Fritiofson, 772 F.2d at 1245 (emphasis added). N.R.D.C. v. Hodel, 865 F.2d 288, 298-300 (D.C. Cir. 1988) (holding that references to impacts within each region of offshore oil drilling do not constitute an inter-regional cumulative impact analysis).

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- My name is Matt Basnight and I am with FairfieldNodal and am here today representing the International Association of Geophysical Contractors – the IAGC.

- On behalf of IAGC and the geophysical industry I wish to express our appreciation for the opportunity to make the following comments which will be supplemented by written comments to BOEM regarding the development of a PEIS for G&G activities on the Gulf of Mexico OCS.

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- Geophysical surveys are key tools used in oil and natural gas exploration and siting of renewable energy facilities.

- Geophysical data is critical to the successful discovery and efficient development and production of oil and natural gas. Our surveys are critical to the development of hydrocarbon resources and are one of the very first tools used in the exploration process. When applied early in the exploration process geophysical data aides E&P companies in focusing their analysis and illuminate the most prospective areas for future oil and natural gas exploration.

- Over the past few decades, advances in modern seismic imaging and interpretation have been tremendous. Today, seismic surveys that use modern data acquisition and processing techniques are able to produce sub-surface images which are much clearer and more accurate than those from decades ago, or even 5 years ago.

- Geophysical data is also critical for the development of renewable energy. Hi-resolution geophysical data and geotechnical borings provide important key data required to site renewable energy facilities and design the foundation of structures that will be required for the development of renewable energy.

- Geophysical data is also very valuable to the federal government, and even to state governments. BOEM utilizes the data to assess the resource potential of the OCS and to ensure the federal government receives the fair market value for the resource. Geophysical data is critical in aiding the understanding of the oil and natural gas resource base of the US OCS which helps both Federal and State governments understand what may be at stake as they make public policy decisions involving the development of the OCS.

- Because acquiring and interpreting modern seismic data provides a greater understanding of where oil and gas reserves exist and how much are likely in place, having modern geophysical data prior to a lease sale allows industry to make more informed bids. This results in more bids and higher bids since industry is reluctant to bid on blocks where there is little or no geophysical data. Modern geophysical imaging consistently brings more players to bid on offshore leases, creating more competition and driving the cost of leases higher.

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- Though additional information is needed in some areas, there is a significant amount of scientific information available, many of it funded by government agencies, regarding the potential effects of E&P activities on the marine environment. This information and data from the scientific literature, and not speculation, should be used when assessing potential impacts of G&G activities on the environment.

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- In the past, the methodology BOEM has used to estimate numbers of marine mammal incidental takes has resulted in what we believe are highly exaggerated estimates, especially considering the lack of any observable injuries, mortalities or population level behavioral effects. BOEM has relied on models that have not been validated against field data; this has created unrealistic estimates of incidental takes that could be expected to occur during industry geological and geophysical activities.

- Compounding this problem are the agency's previous take number estimates, which are only achievable by using acoustic threshold criteria based on obsolete data that does not meet the NEPA requirement to use the best available science. Industry has highlighted a variety of methodological flaws where the agency's choices in acoustic propagation models, the use of frequency weighting, and acoustic thresholds can result in differences in take estimates that vary by several orders of magnitude.

- In addition, the primary emphasis in the DPEIS when considering any projected disturbance or impact should be its environmental context – the acoustic and physical attributes of the specific surrounding environment and affected species. Therefore, we strongly believe that the DPEIS must be based on the best available science, make appropriate use of models and methodologies to estimate incidental takes, and fully consider the environmental context when making any determination of environmental consequences.

Stakeholder and Educational Outreach

- The IAGC values the stakeholder process and are committed to participating in a dialogue with all stakeholders to explain what we do, why we do it, and the measures that we take to protect the environment.

- We have with us today several educational items that explain modern marine geophysical data acquisition, underwater sound, and the measures the geophysical industry implements to ensure minimal impacts of our operations on the environment. This information is available for BOEM and those in attendance in the back of the room.

Conclusion

- IAGC wishes to again express our appreciation for this opportunity to voice our support and commitment to work with BOEM and all stakeholders in the development of the GOM PEIS.

- As mentioned previously, IAGC will be submitting written comments as well.

Thank you,

Matthew C. Basnight
FairfieldNodal
On behalf of the **IAGC**

- My name is _____ and I am with (IAGC / company name) and here today representing the International Association of Geophysical Contractors – the IAGC.

- On behalf of IAGC and the geophysical industry I wish to express our appreciation for the opportunity to make the following comments which will be supplemented by written comments to BOEM regarding the development of a PEIS for G&G activities on the Gulf of Mexico OCS.

- IAGC is the international trade association representing the industry that provides geophysical acquisition, processing and other services to the energy industry, including both the conventional and renewable energy sectors. IAGC member companies play an integral role in the successful exploration and development of offshore oil and natural gas resources through the acquisition and processing of geophysical data.

Need and Value of New Geophysical Data

- Geophysical surveys are key tools used in oil and natural gas exploration and siting of renewable energy facilities.

- Geophysical data is critical to the successful discovery and efficient development and production of oil and natural gas. Our surveys are critical to the development of hydrocarbon resources and are one of the very first tools used in the exploration process. When applied early in the exploration process geophysical data aides E&P companies in focusing their analysis and illuminate the most prospective areas for future oil and natural gas exploration.

- Over the past few decades, advances in modern seismic imaging and interpretation have been tremendous. Today, seismic surveys that use modern data acquisition and processing techniques are able to produce sub-surface images which are much clearer and more accurate than those from decades ago, or even 5 years ago.

- Geophysical data is also critical for the development of renewable energy. Hi-resolution geophysical data and geotechnical borings provide important key data required to site renewable energy facilities and design the foundation of structures that will be required for the development of renewable energy.

- Geophysical data is also very valuable to the federal government, and even to state governments. BOEM utilizes the data to assess the resource potential of the OCS and to ensure the federal government receives the fair market value for the resource. Geophysical data is critical in aiding the understanding of the oil and natural gas resource base of the US OCS which helps both Federal and State governments understand what may be at stake as they make public policy decisions involving the development of the OCS.

- Because acquiring and interpreting modern seismic data provides a greater understanding of where oil and gas reserves exist and how much are likely in place, having modern geophysical data prior to a lease sale allows industry to make more informed bids. This results in more bids and higher bids since industry is reluctant to bid on blocks where there is little or no geophysical data. Modern geophysical imaging consistently brings more players to bid on offshore leases, creating more competition and driving the cost of leases higher.

Geophysical Operators Meet Environmental Challenges

- Modern geophysical imaging reduces risk – both economic risk of exploration and production, but also the associated safety and environmental risks. It reduces the number of wells that need to be drilled in a given area, thus reducing the overall exploration, development and production footprint. Also modern geophysical imaging of today is being used more and more to predict drilling risks that can then be better managed or even eliminated.

- In the GOM, the non-exclusive data business model is used. This means the geophysical companies acquires geophysical data and repeatedly license the data to oil and natural gas companies for a fee, but retain the underlying ownership. By acquiring the data once and making it available to any oil and natural gas company, our industry avoids duplicating these surveys, and thus avoids unnecessary duplication of temporary disturbance caused by our surveys. In addition, it is important to remember that seismic surveys are temporary and transitory and use a low-frequency, short duration source signal.

- Our industry conducts operations globally in a variety of environments. In particular, the geophysical industry has 50 years of experience in the US GOM OCS and 40 years of experience in the US Arctic OCS in planning, acquiring, and processing geophysical data in an environmentally responsible manner. During that time, there has been no scientific evidence that sound from our surveys has resulted in auditory or physical injury to any marine mammal. In addition there is no scientific evidence demonstrating biologically significant adverse impacts on marine mammal populations. Nevertheless, the industry employs a number of robust mitigation measures to further reduce the negligible risk of harm to marine mammals.

- Though additional information is needed in some areas, there is a significant amount of scientific information available, many of it funded by government agencies, regarding the potential effects of E&P activities on the marine environment. This information and data from the scientific literature, and not speculation, should be used when assessing potential impacts of G&G activities on the environment.

Specific Comments Regarding the development of the Draft PEIS

Based on the absence of observed effects and supporting scientific knowledge, the alternatives studied in the PEIS should not consider overly restrictive mitigation measures that will inhibit industry from performing geophysical surveys and BOEM from meeting its goals set out in the OCS Lands Act. Mitigation measures such as a requirement to shut-down sources if a dolphin enters the exclusion zone, seasonal or geographical closure areas, and large separation distances between surveys are infeasible and impractical and not necessary to protect marine mammals.

- In the past, the methodology BOEM has used to estimate numbers of marine mammal incidental takes has resulted in what we believe are highly exaggerated estimates, especially considering the lack of any observable injuries, mortalities or population level behavioral effects. BOEM has relied on models that have not been validated against field data; this has created unrealistic estimates of incidental takes that could be expected to occur during industry geological and geophysical activities.

- Compounding this problem are the agency's previous take number estimates, which are only achievable by using acoustic threshold criteria based on obsolete data that does not meet the NEPA requirement to use the best available science. Industry has highlighted a variety of methodological flaws where the agency's choices in acoustic propagation models, the use of frequency weighting, and acoustic thresholds can result in differences in take estimates that vary by several orders of magnitude.

- In addition, the primary emphasis in the DPEIS when considering any projected disturbance or impact should be its environmental context – the acoustic and physical attributes of the specific surrounding environment and affected species. Therefore, we strongly believe that the DPEIS must be based on the best available science, make appropriate use of models and methodologies to estimate incidental takes, and fully consider the environmental context when making any determination of environmental consequences.

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Conclusion

- IAGC wishes to again express our appreciation for this opportunity to voice our support and commitment to work with BOEM and all stakeholders in the development of the GOM PEIS.

- As mentioned previously, IAGC will be submitting written comments as well.

FINAL

PUBLIC STATEMENT

Scoping of the Draft Programmatic Environmental Impact Statement (DPEIS) for Geological and Geophysical (Seismic) studies in the Gulf of Mexico OCS areas

Good afternoon. My name is _____ and I'm a _____ with the _____. Thank you for the opportunity to speak today about the scoping of this Draft Programmatic Environmental Impact Statement which will support the issuance of permits to conduct geological and geophysical study activities in the Gulf of Mexico.

The oil and natural gas industry has a long history of working with the Department of the Interior to develop this country's natural resources to the benefit of the U.S. economy and all Americans. Our industry stands ready to invest in additional exploration of the Gulf of Mexico. This DPEIS is a needed first step to begin the process of generating the data that will allow for additional production in the Central and Western Gulf and the potential for ~~future~~ discoveries in the Eastern Gulf should that area be made available for leasing and development in the future.

The scope and magnitude of the economic activity in the Gulf of Mexico are huge and largely attributable to energy exploration and development. Currently, the Gulf accounts for over 25% of all U.S. domestic oil production. The BOEM has determined that over a 40-year period, the leasing, drilling and production resulting from the 2012-2017 5-year OCS Leasing Plan will create an additional 20,025 to 51,825 jobs and between $1.1 and $2.2 billion in additional income annually.

To realize these benefits, geological and geophysical surveys – mainly in the form of seismic surveying – will be necessary. Modern offshore oil and natural gas exploration requires the use of seismic surveys to feasibly and accurately prospect for oil and natural gas reserves offshore. This technology has been used for decades to assess the location and size of potential oil and natural gas deposits, which often lay several miles beneath the ocean floor. Seismic surveys also make offshore energy production safer and more efficient by greatly reducing the drilling of "dry holes" where no oil or gas is found to be present.

The offshore oil and natural gas industry has demonstrated the ability to conduct seismic exploration activities in a manner that protects marine life. Four decades of world-wide

seismic surveying activity and scientific research on marine mammals have shown no evidence that sound from seismic activities has resulted in injury to any marine mammal species. Likewise, there is no scientific evidence demonstrating biologically significant adverse impacts on marine mammal populations. Nevertheless, the industry employs a number of robust mitigation measures to further reduce the negligible risk of harm to marine mammals.

Based on the absence of observed effects and supporting scientific knowledge, the alternatives studied in the PEIS should not consider overly restrictive mitigation measures that will inhibit industry from performing seismic surveys and BOEM from meeting its goals set out in the OCS Lands Act. An agency's only NEPA obligation is to evaluate "reasonable alternatives," and a "proposed alternative is reasonable only if it will bring about the ends of the federal action measured by whether it achieves the goals the agency sets out to achieve." A federal agency may therefore eliminate alternatives and mitigation measures that do not meet the purposes and needs of the project. In the face of no observable injury or mortality data and no population level behavioral effect, the DPEIS should resist the imposition of more and more unreasonable mitigation measures, especially the addition of dolphins, which at times intentionally approach seismic vessels to bow ride in a seemingly normal behavior pattern, to the list of animals that require operations to shut down.

In the past, the methodology BOEM has used to estimate numbers of incidental takes has resulted in what we feel are highly exaggerated estimates, especially considering the lack of any observable injuries, mortalities or population level behavioral effects. BOEM has relied on models that have not been validated against field data; this has created unrealistic estimates of incidental takes that could be expected to occur during industry geological and geophysical activities. Compounding this problem are the agency's previous take number estimates, which are only achievable by using acoustic threshold criteria based on obsolete data that does not meet the NEPA requirement to use the best available science. Industry has highlighted a variety of methodological flaws where the agency's choices in acoustic propagation models, the use of frequency weighting, and acoustic thresholds can result in differences in take estimates that vary by several orders of magnitude. In addition, the primary emphasis in the DPEIS when considering any projected disturbance or impact should be its environmental context – the

acoustic and physical attributes of the specific surrounding environment and affected species. Therefore, we strongly believe that the DPEIS must be based on the best available science, make appropriate use of models to estimate incidental takes, and fully consider the environmental context when making any determination of environmental consequences.

Finally, we feel that the DPEIS must explicitly address the OCS Lands Act's programmatic goal of ensuring the "*expedited exploration* and development of the Outer Continental Shelf," and that the DPEIS fully address and quantify the potential interference with the achievement of that goal posed by any alternative or mitigation measure being considered. For example, if the DPEIS addresses the potential for extending shut down requirements to mammals other than whales and manatees, or expanding the shutdown zone from the current 500 meters, BOEM needs to quantify the number of hours or shutdown that would result, and the implications for the efficacy and timeliness of the seismic survey.

We appreciate the opportunity to provide this public statement and will be submitting additional written comments prior to the comment deadline.

U.S. Department of the Interior
Bureau of Ocean Energy Management

BOEM
Bureau of Ocean Energy Management

Scoping Meetings
for the Programmatic Environmental Impact Statement
for Geological and Geophysical Activities on the Gulf of Mexico

COMMENT SHEET

Comments: PLEASE PRINT

We never Knew NOAA People Your events

Name: _____

Title: _____

Organization: _____

Address: _____

City, State, & Zip Code: _____

Comments are not limited to the space on this sheet. Please feel free to add additional sheets if necessary.