



THE COMMONWEALTH OF MASSACHUSETTS
OFFICE OF THE ATTORNEY GENERAL
ONE ASHBURTON PLACE
BOSTON, MASSACHUSETTS 02108

MAURA HEALEY
ATTORNEY GENERAL

(617) 727-2200
(617) 727-4765 TTY
www.mass.gov/ago

February 27, 2018

**Via Hand Delivery at the BOEM's Boston Open House Event
and E-Filing at www.regulations.gov**

The Honorable Ryan Zinke,
Secretary of the Interior
U.S. Department of the Interior
1849 C Street, N.W.
Washington, DC 20240

Kelly Hammerle, Chief
National Oil and Gas Leasing Program
Development and Coordination Branch
Leasing Division, Office of Strategic Resources
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, VA 20166-9216

Re: Initial Comments on the 2019-2024 National Outer Continental Shelf Oil and Gas Leasing
Draft Proposed Program (83 FR 829, January 8, 2018)

Dear Secretary Zinke and Ms. Hammerle:

As Attorney General of the Commonwealth of Massachusetts, I appreciate this opportunity to comment and once again state my strong opposition to the Bureau of Ocean Energy Management's (BOEM) preparation of a new five-year National Outer Continental Shelf Oil and Gas Leasing Program. As I outlined in detailed comments to the BOEM dated August 17, 2017 (attached), this newly proposed leasing program puts Massachusetts' economy, coastal communities, public health, and marine and shoreline ecosystems at grave and unnecessary risk.

As the people of the Commonwealth know, our prosperity is closely tied to a healthy, productive ocean. We boast the nation's third largest commercial fishing industry, miles of pristine beaches, and a robust coastal recreation and tourism industry, all supported by the rich ecosystems and spectacular wildlife off our coastline.

Disregarding the Commonwealth's comments and the hundreds of coastal communities that have voiced opposition to offshore oil and gas leasing, the BOEM has proposed to open up nearly *all* ocean areas to exploration and drilling, including waters off the coast of Massachusetts. No drilling has occurred in the Atlantic since the early 1980s—for good reason. The BOEM's disregard for longstanding national policy, disdain for the existing leasing plan—the product of an extensive stakeholder process—and proposal to put nearly the entire seafloor

on the table for possible drilling represents a complete affront to states' rights and interests in protecting their people, economies, and resources.

As highlighted below, and detailed in my prior comments, opening up the Atlantic and other new ocean areas to oil and gas leasing would be not only bad for Massachusetts—but also against our national interest. For these reasons, I once again urge the BOEM to heed the Commonwealth's concerns, as federal law requires, and maintain all current restrictions on offshore drilling.



Exhibit 1

Offshore Leasing Poses Devastating and Unnecessary Risks to Massachusetts' Economy, Coastal Communities, Ocean Resources, and Ecosystems.

Massachusetts' maritime economy would be ravaged by an offshore drilling accident. The massive and long-lasting harm following the *Deepwater Horizon* disaster in the Gulf of Mexico demonstrates the potential scale of lost jobs, wages, and tax revenue that could result from an oil spill near our coastline. As Exhibit 1 illustrates, a spill on the scale of the *Deepwater Horizon* disaster would devastate our commercial fishing industry and waterfront communities.

Given the movement of the tides and marine animals, a spill anywhere in the Atlantic could wreak havoc on our state.

Even minor spills could be catastrophic for sensitive marine and coastal resources—and the livelihoods that depend them. In addition to our groundfish, scallop, lobster, and other fisheries, the north Atlantic is home to threatened and endangered marine species such as the Kemp's ridley sea turtle, the Piping Plover shorebird, and the critically-endangered North Atlantic right whale—our state marine mammal.

There is no fool-proof way to prevent oil spills. Even with best practices and safety measures in place, accidents, errors, and circumstances outside our control, such as hurricanes, can occur. Massachusetts cannot afford the risks of oil rigs located in our rich fishing grounds or just a few miles from our beautiful beaches.

And spills aside, the impacts associated with oil and gas exploration, a buildout of oil and gas infrastructure, and increased ship traffic pose unacceptable risks to valuable ecosystems and species, and would increase conflicts among ocean users. In particular, the seismic testing that precedes oil and gas development poses grave threats to Massachusetts' valuable ocean resources. The latest science shows that seismic surveys are likely to have significant adverse impacts on fish, invertebrates, and marine mammals, with damaging effects that could ripple through the ocean food chain. That is why I joined attorneys general from seven other states, including Maryland, Connecticut, New York, and Rhode Island, and the District of Columbia in a July 2017 letter opposing damaging seismic testing in the Atlantic.

Offshore Leasing in the North Atlantic Would Directly Contravene State Laws and Policies.

Opening the north Atlantic to oil and gas leasing would be directly counter to the Commonwealth's cutting-edge ocean management and clean energy policies.

The Massachusetts Ocean Plan and Massachusetts Coastal Zone Management Program place a priority on protecting marine resources, water quality, fisheries, recreation, and other existing uses—all of which could be at risk from oil and gas drilling. Recognizing these risks, Massachusetts passed a law banning offshore oil and gas development in nearly all state waters.

Our state's thriving clean-energy economy is a testament to the fact that the United States does not need more offshore fossil fuel drilling to meet our energy needs—nor can we afford the climate pollution that would result from such development. New fossil fuel development up and down the coast, including off of Massachusetts, would bring increased climate pollution that is already harming our state. The damaging coastal flooding we experienced earlier this month during winter cyclone Grayson, including record-setting tides that swamped the Seaport district

in Boston (see <https://tinyurl.com/bostonglobe-flooding>), brought home the fact that sea level rise is an increasing danger.

With the many threats already facing our waterfront communities, Massachusetts cannot bear the added and unnecessary risks associated with offshore oil and gas exploration and drilling. Instead, our country should be pursuing a clean energy future. Massachusetts is a national leader at the vanguard with our Global Warming Solutions Act, which requires the state to reduce climate-warming emissions 25 percent by 2020 and 80 percent by 2050. Instead of being tied to the energy sources of the past, Massachusetts is leading the way to a clean energy future by investing in resources such as offshore wind energy that will provide lasting economic and environmental benefits to the state.

Offshore Leasing in the North Atlantic Would Put at Risk Significant National Resources.

In proposing to open the north Atlantic to oil and gas drilling, the BOEM failed to adequately consider that our region is home to marine and coastal resources of national import—from Stellwagen Bank National Marine Sanctuary to the Northeast Canyons and Seamounts National Marine Monument, and the critical fishing grounds of Georges Bank. Oil and gas development is simply not compatible with protection of these valuable, irreplaceable resources.

Secretary Zinke and the BOEM Should Listen to Massachusetts—and All Coastal States.

In August, I sent the Trump Administration a detailed, fact-based letter making clear my strong opposition to opening up any waters off the Massachusetts coast to oil and gas leasing (see Attachment). The majority of Atlantic coastal states have voiced strong opposition to leasing off their coasts, while others, including Florida and Georgia, raised concerns about potential impacts to coastal and marine resources. Yet, without any acknowledgement of Massachusetts' pressing concerns about expanded offshore leasing and the risks it poses to our state, Secretary Zinke summarily announced that waters off the coast of Florida would be exempted from the leasing program. The Secretary made this announcement via Twitter on the second day of the public comment period after only a brief meeting with Florida Governor Rick Scott. If the Secretary's tweet represents official policy, the decision is arbitrary and an abuse of agency power. If premature, the pronouncement makes a mockery of administrative process, as well as Massachusetts' significant, legitimate concerns about offshore leasing.

Opening frontier areas like the North Atlantic to oil and gas leasing demands serious deliberation and robust public engagement. The people, communities, and businesses of Massachusetts—which overwhelmingly oppose oil and gas drilling off our coast—deserve the same consideration as has been afforded the people of Florida. We presented a detailed, fact-based case to the BOEM this summer (see Attachment) about the risks of devastating harm drilling in the Atlantic poses to the Massachusetts economy, our coastal communities, and our

environment—risks to valuable state resources that are just as great as those faced by Florida. We intend to follow up with formal comments on the Draft Proposed Program, which will detail why Atlantic oil and gas leasing would violate federal law and endanger Massachusetts' welfare.

Conclusion

The incalculable risks to Massachusetts' vitally important maritime economy and the potentially devastating effects to our fragile marine and coastal ecosystems far outweigh any possible benefit our nation may receive from opening up more offshore areas to oil and gas drilling. For the reasons stated here and in my attached August letter, I strongly oppose expanded oil and gas leasing in offshore waters. I urge the BOEM to discontinue preparation of a new five-year plan and maintain the current restrictions on offshore leasing.

Thank you for this opportunity to comment.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "M. Healey", with a large, stylized flourish at the end.

MAURA HEALEY
ATTORNEY GENERAL OF MASSACHUSETTS

ATTACHMENT:

**Attorney General Maura Healey's August 2017 Letter to the BOEM Opposing Expansion
of Offshore Drilling**



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OFFICE OF THE ATTORNEY GENERAL
ONE ASHBURTON PLACE
BOSTON, MASSACHUSETTS 02108

MAURA HEALEY
ATTORNEY GENERAL

(617) 727-2200
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www.mass.gov/ago

August 17, 2017

Via E-Filing

Kelly Hammerle
National Program Manager
Bureau of Ocean Energy Management

Re: Request for Information and Comments on the Preparation of the 2019-2024 National Outer Continental Shelf Oil and Gas Leasing Program MAA104000, BOEM-2017-0050 (82 FR 30886, July 3, 2017)

Dear Ms. Hammerle:

I appreciate this opportunity on behalf of the Commonwealth of Massachusetts to comment on the Bureau of Ocean Energy Management's (BOEM) preparation of a new five-year National Outer Continental Shelf Oil and Gas Leasing Program. Despite the fact that a five-year plan was just finalized on January 17, 2017, BOEM intends to prepare a new plan and requests information and comments concerning possible oil and gas leases in all offshore areas currently restricted from leasing—including the entire Atlantic Outer Continental Shelf.

Because of the risks it poses to the Massachusetts economy and our coastal ecosystem, I strongly oppose opening up any portion of the Atlantic—or any other new ocean areas—to oil and gas leasing. Our country does not require expanded offshore fossil fuel extraction to meet our future energy needs, nor can we afford the increased greenhouse gas emissions that would result from such development. Sea level rise from climate change already threatens our coastal communities. I urge BOEM to withdraw its notice, discontinue preparation of a new five-year plan, and maintain the recently finalized plan which forecloses leasing in any new areas of the Gulf and Arctic Ocean, and in the entire Atlantic and Pacific Outer Continental Shelf.

The devastation wrought by the Deepwater Horizon disaster demonstrates that the risk of harm to coastal communities and the marine environment far outweighs any potential benefits from expanded oil and gas exploration and extraction.¹ Spills and other accidents occur all too

¹ Although the full extent of environmental and economic harm is still being studied, the economic loss to the Gulf coast fishing industry from the Deepwater Horizon spill could exceed \$8.7 billion by 2020. See U. Sumaila, *et al.*, Impact of the Deepwater Horizon well blowout on the economics of U.S. Gulf fisheries, *Canadian Journal of Fisheries and Aquatic Sciences*, Volume 69, Issue 3, February, 2012, pp. 499-510, <http://dx.doi.org/10.1139/F2011-171>. The disaster's devastation to marine life includes the death of 600,000 to 800,000 shore birds and long ranging impacts on marine mammals and sea turtles. See *e.g.* J. Haney, H. Geiger, J. Short, Bird mortality from the

frequently during offshore oil and gas drilling. From 2010 through September 2016, there were 43 significant oil spills (those over 2,100 gallons), 144 gas releases, and 30 incidents involving a loss of well control in the Outer Continental Shelf.²

Risks to the Massachusetts Maritime Economy

The Massachusetts economy is particularly vulnerable to harm from offshore drilling accidents. An oil spill could devastate our commercial fishing, aquaculture, recreation and tourism industries—all of which account for a substantial portion of the Commonwealth's economy.³ In 2015, the maritime economy in Massachusetts directly employed about 90,500 workers, paid \$3.9 billion in wages, generated more than \$9.8 billion in sales, and contributed \$6.4 billion to the gross state product.⁴ Other Massachusetts economic sectors supplying goods and services to maritime-related businesses and their employees created an additional 45,500 jobs and generated another \$7.5 million in the sale of goods and services.⁵

The Commonwealth's commercial fishing industry—the country's third largest—generated \$7.3 billion in seafood sales in 2015.⁶ With more than 232 million pounds of fish caught in 2015, Massachusetts ranked second nationwide in commercial fish landings.⁷ The Commonwealth hosts some of the nation's most productive shellfish beds. In 2013, Massachusetts shellfish aquaculture generated approximately \$45.5 million in economic activity and produced more than 900 jobs.⁸ The massive and long-lasting economic harm to Gulf coast state economies following the Deepwater Horizon disaster demonstrates the potential scale of lost jobs, wages, and tax revenue that could result from the effects of an oil spill on commercial fishing in Massachusetts.

Deepwater Horizon oil spill II, Carcass sampling and exposure probability in the coastal Gulf of Mexico, *Marine Ecology Progress Series*, Vol. 513, October, 2014, pp. 239-252, <https://doi.org/10.3354/meps10839>; N. Putman, *et al.*, Deepwater Horizon oil spill impacts on sea turtles could span the Atlantic, *Biology Letters*, Volume 11, Issue 12, December, 2015, pp. 1-4, <http://dx.doi.org/10.1098/rsbl.2015.0596>; R. Williams, *et al.*, Underestimating the damage: interpreting cetacean carcass recoveries in the context of the Deepwater Horizon/BP incident, *Conservation Letters*, Volume 4, Issue 3, March, 2011, pp. 228-233, <http://dx.doi.org/10.1111/j.1755-263X.2011.00168.x>

² See Federal Bureau of Safety and Environmental Enforcement, Offshore Incident Statistics, <https://www.bsee.gov/stats-facts/offshore-incident-statistics>.

³ D. Borges, *et al.*, Navigating the Global Economy: A Comprehensive Analysis of the Massachusetts Maritime Economy, Public Policy Center, UMass Dartmouth, pp. 11, 52-53, April, 2017, <http://publicpolicycenter.org/portfolio-item/navigating-the-global-economy-a-comprehensive-analysis-of-the-massachusetts-maritime-economy/>.

⁴ *Id.*, at pp. 52-53.

⁵ *Id.*

⁶ U.S. Department of Commerce, NOAA, National Marine Fisheries Service, NOAA Technical Memorandum NMFS-F/SPO-170, May 2017, pp. 7-8, https://www.st.nmfs.noaa.gov/Assets/economics/publications/FEUS/FEUS-2015/Report-Chapters/FEUS%202015%2001-TOCpreface_Final2_508.pdf.

⁷ D. Borges, *et al.*, note 3, *supra*, p. 21.

⁸ K. Augusto, G. Holmes, Massachusetts Shellfish Aquaculture Economic Impact Study, Winter 2015, pp. 2, 26-28, <http://web.whoi.edu/seagrant/wp-content/uploads/sites/24/2015/01/MA-Aquaculture-Economic-Impact-Study-2015.pdf>.

Massachusetts's 1,519 miles of tidal coastline⁹ include some of the most pristine and beautiful beaches in the county—from Plum Island and Cape Ann to Cape Cod, Martha's Vineyard, and Nantucket. Our coast boasts a robust recreation and tourism industry that is vitally important to the Commonwealth's economic health and could be ravaged by an offshore drilling accident. In 2015, Massachusetts coastal communities supported more than 70,600 tourism and recreation jobs, which paid more than \$1.75 billion in wages, and accounted for more than \$3.3 billion in gross state product.¹⁰ Recreational fishing alone generated \$986 million in sales of goods and services in 2015.¹¹ Privately owned commercial and residential property along the Massachusetts coast—valued at more than \$1.76 trillion in 2016¹²—could be damaged or ruined by an oil spill.

Risks to the Coastal Ecosystem and Marine Species

The Massachusetts coastal environment—which supports a thriving but delicate ecosystem and diverse array of marine life—is also at great risk of harm from offshore drilling. The Commonwealth's coastal zone is home to many species listed and protected under both the federal Endangered Species Act and the Massachusetts Endangered Species Act: six whales, five sea turtles, and two shore birds.¹³ These at-risk species include the critically endangered Northern Right Whale, which forages off the Massachusetts coast in the late winter and spring.¹⁴ The waters in Cape Cod Bay and the Great South Channel east of Nantucket are vital Right Whale feeding grounds because they host an unusually high concentration of zooplankton.¹⁵ The most critically endangered sea turtle in the Atlantic, the Kemp's Ridley, forages in waters off the Massachusetts coast in the spring and summer.¹⁶ Threatened and endangered shore birds nest along Massachusetts beaches in the spring and summer, including the threatened Piping Plover

⁹ See NOAA Office for Coastal Management, Shoreline Mileage of the United States, <https://coast.noaa.gov/data/docs/states/shorelines.pdf>.

¹⁰ D. Borges, *et al.*, note 3, *supra*, pp. 36-37.

¹¹ U.S. Department of Commerce, note 6, *supra*, p. 11.

¹² AIR Worldwide, The Coastline at Risk: 2016 Update to the Estimated Insured Value of U.S. Coastal Properties, <http://www.air-worldwide.com/press-releases/AIR-Worldwide-Updates-Coastline-at-risk-report/>

¹³ Several other shore and sea bird species are protected under the Massachusetts Endangered Species Act (MESA), Massachusetts General Law c. 131A, but not the federal ESA. See Massachusetts Natural Heritage and Endangered Species Program, list of species protected under MESA and the federal ESA, <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/mesa-list/list-of-rare-species-in-massachusetts.html>.

¹⁴ See Massachusetts Natural Heritage and Endangered Species Program Northern Right Whale fact sheet, <http://www.mass.gov/eea/docs/dfg/nhesp/species-and-conservation/nhfacts/eubalaena-glacialis.pdf>

¹⁵ *Id.* Earlier this year, scientists for the first time found that seismic testing like that proposed off the Atlantic coast (see note 20, *infra*) kills large numbers of zooplankton, the invertebrates at the base of the marine food chain necessary to the survival of many fish species and baleen whales. See R. McCauley, *et al.*, Widely used marine seismic survey air gun operations negatively impact zooplankton, *Nature Ecology & Evolution*, Volume 1, Number 0195, June 22, 2017, <http://dx.doi.org/10.1038/s41559-017-0195>. Finding that zooplankton declined by 64 percent, the study concluded that “there is a significant and unacknowledged potential for ocean ecosystem function and productivity to be negatively impacted by present seismic technology.”

¹⁶ See Massachusetts Natural Heritage and Endangered Species Program Kemp's Ridley sea turtle fact sheet, <http://www.mass.gov/eea/docs/dfg/nhesp/species-and-conservation/nhfacts/lepidochelys-kempii-2015.pdf>

and endangered Roseate Tern.¹⁷ Massachusetts hosts the largest population of breeding Piping Plover pairs along the entire Atlantic coast.¹⁸

Any oil and gas exploration or extraction activity in the Atlantic may hinder recovery of threatened or endangered coastal and marine species. In Massachusetts, Piping Plover recovery efforts have made great strides, with the population rebounding from fewer than 150 breeding pairs in 1990, to about 650 pairs in 2016.¹⁹ As the Deepwater Horizon disaster demonstrated, these gains could be wiped out by a single spill. The risk of *any* adverse impact to the critically endangered Northern Right Whale could have devastating consequences, especially because the remaining population of about 500 whales faces many other threats that imperil the species' survival, including the seismic testing for oil and gas deposits proposed off the Atlantic coast.²⁰ Along with Attorneys General from seven other states and the District of Columbia, I submitted comments (attached) to the National Marine Fisheries Service on July 21, 2017, strongly opposing seismic surveys for oil and gas exploration proposed off the Atlantic coast, or the issuance of permits for the incidental take of marine mammals related to any seismic testing.

Prior BOEM Five-Year Leasing Plan

There is no need to revisit the five-year plan BOEM finalized in January following extensive public comment and careful evaluation by multiple federal agencies. That plan continued the decades-long prohibition on oil or gas leasing into any portion of the Atlantic Outer Continental Shelf, acknowledging strong local opposition and conflicts with competing commercial and military ocean uses. More than 41,000 businesses and 500,000 commercial fishing families along the Atlantic coast from Maine to Florida oppose offshore oil and gas drilling and exploration because it threatens the coastal ecosystem on which more than 1.4 million commercial fishing, tourism, and recreation jobs depend.²¹

Climate Change and a Clean Energy Future

Rather than expanding oil and gas exploration and extraction in the Outer Continental Shelf—locking in decades of greenhouse gas emissions—our country should be pursuing a clean energy future aimed at curbing the devastating consequences of climate change. Sea level rise is already adversely altering our environment and harming our coastal communities; new offshore

¹⁷ See Massachusetts Natural Heritage and Endangered Species Program Piping Plover fact sheet, <http://www.mass.gov/eea/docs/dfg/nhosp/species-and-conservation/nhfacts/charadrius-melodus.pdf>, and Roseate Tern fact sheet, <http://www.mass.gov/eea/docs/dfg/nhosp/species-and-conservation/nhfacts/roseate-tern.pdf>.

¹⁸ See Piping Plover fact sheet, note 17, *supra*.

¹⁹ Massachusetts Division of Fisheries and Wildlife, Summary of the 2016 Massachusetts Piping Plover Census, <http://www.mass.gov/eea/docs/dfg/nhosp/species-and-conservation/plover-census-report-mass-2016.pdf>

²⁰ In an April, 2016 letter, twenty-eight marine biologists with Right Whale expertise expressed “profound concern” over the impacts of seismic surveys along the Atlantic coast. Even with proposed mitigation, these scientists warned that “widespread seismic air-gun surveys may well represent a tipping point for survival of this endangered [Northern Right] whale, contributing significantly to a decline toward extinction.” See A letter to President Obama on the impact of seismic surveys on whales, April 14, 2016, <https://nicholas.duke.edu/about/news/letter-to-obama-seismic-effects-whales>.

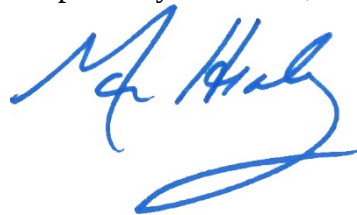
²¹ Business Alliance for Protecting the Atlantic Coast, <http://protectingtheatlanticcoast.org/about-us/>.

fossil fuel development will exacerbate these effects and hamper our climate resiliency planning. Coastal flooding and erosion from storm events is increasingly severe along our coast as climate change pushes sea levels ever higher. According to the National Climate Assessment, in Boston alone, cumulative damage to buildings, building contents, and associated emergency costs could potentially be as high as \$94 billion between 2000 and 2100, depending on the sea level rise scenario and which adaptive actions are taken.²² To address the risks of climate change, Massachusetts has adopted a broad portfolio of laws and regulations to reduce economy-wide greenhouse gas emissions by 25 percent by 2020 and 80 percent by 2050 from 1990 levels, including the Global Warming Solutions Act (2008), the Green Communities Act (2008), the Act to Promote Energy Diversity (2016), the Regional Greenhouse Gas Initiative, and programs to promote low and zero-emission vehicles, among others. The Commonwealth and many of our municipalities continue to pursue extensive planning to prepare for the risks of climate change—at significant cost. In 2014 alone, Massachusetts invested \$50 million in climate adaptation measures.²³

Conclusion

The grave risks to our Commonwealth's vitally important maritime economy and the potentially devastating effects to our marine environment and fragile coastal ecosystem far outweigh any possible benefit from opening up more coastal areas to oil and gas drilling. For all of the above reasons, I oppose expanded oil and gas leasing in any new offshore areas. I urge BOEM to discontinue preparation of a new five-year plan and maintain the current restrictions on leasing in the entire Atlantic Outer Continental Shelf.

Respectfully submitted,



MAURA HEALEY
ATTORNEY GENERAL OF MASSACHUSETTS

²² National Climate Assessment: Northeast, 2014, http://s3.amazonaws.com/nca2014/low/NCA3_Full_Report_16_Northeast_LowRes.pdf?download=1.

²³ Massachusetts Department of Public Health, Capacity to Address the Health Impacts of Climate Change in Massachusetts, April 2014, <http://www.mass.gov/eohhs/docs/dph/environmental/exposure/climate-change-report-2014.pdf>.

BRIAN E. FROSH
Attorney General



ELIZABETH F. HARRIS
Chief Deputy Attorney General

CAROLYN QUATTROCKI
Deputy Attorney General

STATE OF MARYLAND
OFFICE OF THE ATTORNEY GENERAL

FACSIMILE NO.
410-576-7036

WRITER'S DIRECT DIAL NO.
410-576-6311

July 21, 2017

VIA E-MAIL: ITP.Laws@noaa.gov

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

Re: Takes of Marine Mammals Incidental to Specified Activities; Taking Marine
Mammals Incidental to Geophysical Surveys in the Atlantic Ocean (82 FR 26244;
June 6, 2017)

Dear Ms. Harrison:

The Attorneys General of Maryland, Connecticut, Delaware, the District of Columbia, Massachusetts, New York, North Carolina, Pennsylvania, and Rhode Island ("State AGs") appreciate this opportunity to comment on the proposal by the National Marine Fisheries Service ("NMFS") to issue incidental harassment authorizations ("IHA") to take marine mammals incidental to conducting geophysical survey activities in the Atlantic Ocean (82 FR 26244; June 6, 2017). Five applicants – Spectrum Geo Inc., TGS-NOPEC Geophysical Company, ION GeoVentures, WesternGeco, LLC, and CGG – are proposing to conduct deep penetration seismic surveys using air-gun arrays as an acoustic source. The State AGs strongly oppose these seismic survey proposals, as they are contrary to public policy and science. We urge NMFS to deny the IHA applications.

The proposed, two-dimensional seismic surveys pose a real danger to the Atlantic coastline. Vessels tow large arrays of seismic air-guns, which emit high energy, low-frequency impulsive sound that travels long distances.¹ These air-guns shoot loud blasts of compressed air

¹ Seismic air-gun sound travels as far as 4,000km, or nearly 2,500 miles, from survey vessels. See Nieuwkirk, S.L., Mellinger, D.K., Moore, S.E., Klinck, K., Dziak, R.P., Goslin, J., Sounds from airguns and fin whales recorded in the mid-Atlantic Ocean, 1999–2009, *Journal of the Acoustical Society of America*, Volume 131, Issue 2, February, 2012, pp. 1102–1112, <http://asa.scitation.org/doi/10.1121/1.3672648>. Research demonstrates that sound levels from air-gun blasts do not drop off appreciably as far as 12km (nearly 7.5 miles) away from survey vessels.

through the ocean and miles under the seafloor, every ten seconds for days and weeks on end. The air-gun blasting can cause disruptions of communication, migration, feeding, and reproduction of marine mammals, fish, and creatures on the ocean floor.² These sounds can cause marine mammals and fish to lose hearing and die.³

Seismic blasts may hinder recovery of threatened or endangered marine mammal species. The risk of *any* adverse impact to the critically endangered North Atlantic right whale could have devastating consequences, especially because the remaining population of 500 whales faces many other threats that imperil the species' survival.⁴ Last year, twenty-eight marine biologists with right whale expertise expressed "profound concern" over the impacts of seismic surveys along the Atlantic coast.⁵ Even with proposed mitigation, these scientists warned that "widespread seismic air-gun surveys may well represent a tipping point for survival of this endangered [North Atlantic right] whale, contributing significantly to a decline toward extinction."⁶

The detrimental impact of seismic surveys has been studied and documented in peer-reviewed scientific literature. In a study published earlier this year, investigators from the National Oceanic and Atmospheric Administration (the agency that oversees NMFS) and two of the country's most prominent marine research universities concluded that reef fish abundance

Madsen, P.T., Johnson, M., Miller, P.J.O., Aguilar Soto, N., Lynch, J., Tyack, P., Quantitative measures of air-gun pulses recorded on sperm whales (*Physeter macrocephalus*) using acoustic tags during controlled exposure experiments, *Journal of the Acoustical Society of America*, Volume 120, Issue 4, June, 2006, pp. 2366–2379, <http://dx.doi.org/10.1121/1.2229287>.

² See e.g., Castellote, M., Clark, C. W., Lammers, M. O., Acoustic and behavioural changes by fin whales (*Balaenoptera physalus*) in response to shipping and airgun noise, *Biological Conservation*, Volume 147, Issue 1, March, 2012, pp. 115-122, <https://doi.org/10.1016/j.biocon.2011.12.021>; Cerchio, S., Strindberg, S., Collins, T., Bennett, C., Rosenbaum, H., Seismic surveys negatively affect Humpback Whale singing activity off northern Angola, *PLOS ONE*, March 11, 2014, <https://doi.org/10.1371/journal.pone.0086464>.

³ See e.g., Gedamke, J., Gales, N., Frydman, S., Assessing risk of baleen whale hearing loss from seismic surveys: The effect of uncertainty and individual variation, *Journal of the Acoustical Society of America*, Volume 129, Issue 1, February, 2011, pp. 496-506, <http://dx.doi.org/10.1121/1.3493445>; Castellote, M., Clark, C. W., Lammers, M.O., Potential negative effects in the reproduction and survival on fin whales (*Balaenoptera physalus*) by shipping and airgun noise, International Whaling Commission Working Paper, SC/62/E3, 2010, http://ocr.org/ocr/wp-content/uploads/Manuel_Castellote_Fin_Whales.pdf; McCauley, R. D., Fewtrell, J., Popper, A. N., High intensity anthropogenic sound damages fish ears, *Journal of the Acoustical Society of America* Volume 113, Issue 1, January, 2003, pp. 638–642, <http://dx.doi.org/10.1121/1.1527962>.

⁴ Since June 1, 2017, six North Atlantic right whales have been reported dead in the Gulf of St. Lawrence. The cause of their deaths is unknown. <http://news.nationalgeographic.com/2017/06/north-atlantic-right-whale-deaths-st-lawrence-spd/>

⁵ A letter to President Obama on the impact of seismic surveys on whales, April 14, 2016, <https://nicholas.duke.edu/about/news/letter-to-obama-seismic-effects-whales>.

⁶ *Id.*

declined 78% during seismic surveying.⁷ And just last month, scientists for the first time found that air-gun blasts kill large numbers of zooplankton, the invertebrates at the base of the marine food chain necessary to the survival of many marine species, including fish and baleen whales.⁸ Finding that zooplankton declined by 64% as far as 4,000 feet away from the air-gun blast source, the study concluded that “there is a significant and unacknowledged potential for ocean ecosystem function and productivity to be negatively impacted by present seismic technology.”⁹ These recent studies demonstrate that seismic surveys have immediate and far-reaching effects on commercial fishing, charter boat operators, recreational anglers, restaurants, and visitors to coastal communities. The adverse effects of seismic surveys on fish species and zooplankton may also harm marine mammals by reducing or disrupting the food sources on which they prey.¹⁰

In a 2015 letter, seventy-five of the world’s leading marine scientists stated that the Interior Department’s finding that seismic surveys along the mid-Atlantic and south Atlantic coasts would have a negligible effect on marine life was “not supported by the best available science.”¹¹ On the contrary, the proposed seismic surveys were, according to these scientists, “likely to have significant, long-lasting, and widespread impacts on the reproduction and survival of fish and marine mammal populations.”¹²

Even if seismic surveys were warranted, which they are not, NMFS has failed to meet its responsibility under the Marine Mammal Protection Act to effect “the least practicable adverse impact on such species or stock and its habitat.” (§ 101(a)(5)(A)(i)(II)(aa)). For example, new and evolving quieting technologies, such as marine vibroseis, could minimize marine mammal impacts associated with current air-gun technologies.¹³ NMFS appears not to have considered

⁷ Avery B. Paxson, J. Christopher Taylor, Douglas P. Nowacek, Julian Dale, Elijah Cole, Christine M. Voss, Charles H. Peterson, Seismic survey noise disrupted fish use of a temperate reef, *Marine Policy*, Volume 78, April 2017, pp. 68-73, <https://doi.org/10.1016/j.marpol.2016.12.017>.

⁸ McCauley, R. D., Day, R. D., Swadling, K. M., Fitzgibbon, Q. P., Watson, R. A., Semmens, J. M., Widely used marine seismic survey air gun operations negatively impact zooplankton, *Nature Ecology & Evolution*, Volume 1, Number 0195, June 22, 2017, <http://dx.doi.org/10.1038/s41559-017-0195>.

⁹ *Id.*

¹⁰ See Gordon, J., Gillespie, D., Potter, J., Frantzis, A., Simmonds, M. P., Swift, R., Thompson, D., A review of the effects of seismic surveys on marine mammals, *Marine Technology Society Journal*, Volume 37, Number 4, Winter 2003, pp. 16-34, <http://dx.doi.org/10.4031/002533203787536998>.

¹¹ Letter urging the President to reject seismic oil and gas surveys in the Atlantic, March 5, 2015, <http://news.neaq.org/2015/03/full-text-letter-urging-president-to.html>.

¹² *Id.*

¹³ One of the inventors of the seismic air-gun is among those developing this new technology designed to be much less harmful and disruptive to the marine environment. See Neel Keller, *Could New Technologies Make Seismic Testing Safer*, *Outer Banks Sentinel*, May. 3, 2016, http://www.obsentinel.com/news/could-new-technology-make-seismic-testing-safer/article_433a122e-f5c9-11e5-b119-1b520f9b596a.html. Recent research suggests that marine vibroseis may be less environmentally impactful than seismic air-guns. Duncan, A., Weilgart, L., Leaper, R., Jasny, M., Livermore, S., A modelling comparison between received sound levels produced by a

them in proposing these authorizations. The proposals also make no effort to eliminate overlapping survey areas. The five applicants appear to be proposing to conduct seismic surveys in the same general areas collecting essentially the same data. This senseless redundancy increases the potential for significant long-lasting impacts on the marine mammal populations off the coasts of our states.

The proposed seismic surveys are designed to acquire data over large areas to screen for potential oil and gas drilling and would be conducted in an area extending from Delaware to Florida. These authorizations are a precursor and, in fact, were integral to any campaign to allow oil and gas drilling in the Atlantic. That plan, however, was roundly rejected when, after an extensive public input process, the Bureau of Ocean Energy Management removed from the Five-Year Program (2017-2022) the sale that was proposed for the Mid- and South Atlantic area. The Bureau's decision to remove the Atlantic program area from this most recent leasing plan acknowledged that drilling off the Atlantic coast is ill-advised due to market dynamics, strong local opposition, and conflicts with competing commercial and military ocean uses.

Every step of the oil and gas exploration process threatens irreplaceable natural resources, including the testing and drilling needed to locate deposits; extraction, transfer, and transport of fuels; and the inevitable spills and blowouts that occur during drilling activity. As you know, these risks are not theoretical. As manifested in Prince William Sound following the Exxon Valdez spill and along the Gulf Coast following the Deepwater Horizon disaster, they are concrete, enduring, and profound. These risks have prompted more than 120 East Coast communities, including the City of Baltimore and Ocean City, Maryland, as well as local, state, and federal elected officials to formally oppose oil and gas exploration, including seismic survey activities. More than 35,000 businesses and 500,000 commercial fishing families along the Atlantic Coast from Maine to Florida oppose seismic testing and offshore oil and gas drilling exploration because it threatens the coastal ecosystem on which 1.4 million commercial fishing, tourism, and recreation jobs depend.¹⁴

The Atlantic shoreline boasts some of the most pristine beaches in the country, as well as some of the most historically productive estuaries, including the Chesapeake Bay. The well-documented injury to marine resources presented by seismic testing could adversely impact fisheries and tourism industries along the Atlantic coast, and put at risk billions of State and federal dollars invested in the restoration and maintenance of coastal resources.

Simply put, the harassment of marine life to be authorized under this proposal is unjustified and unwarranted. For all of the above reasons, the proposed seismic surveys present

marine vibroseis array and those from an airgun array for some typical seismic survey scenarios, *Marine Pollution Bulletin*, Volume 119, Issue 1, June 15, 2017, pp. 277-288, <https://doi.org/10.1016/j.marpolbul.2017.04.001>.

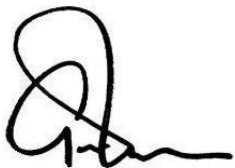
¹⁴ Business Alliance for Protecting the Atlantic Coast, <http://protectingtheatlanticcoast.org/about-us/>. See also *New Jersey Chamber Exec Elected Chair; Business Alliance Formally Organized*, Cape May County Herald, March 15, 2017, http://www.capemaycountyherald.com/community/business/article_c0b9cebc-0999-11e7-a75d-27d7076a9cc4.html.

risks to the affected regions that far outweigh any benefit. Accordingly, all five pending applications should be denied.

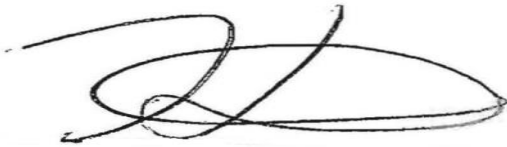
Sincerely,



BRIAN E. FROSH
Attorney General of Maryland



GEORGE JEPSEN
Attorney General of Connecticut



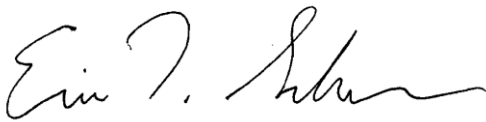
KARL A. RACINE
Attorney General for the District of Columbia



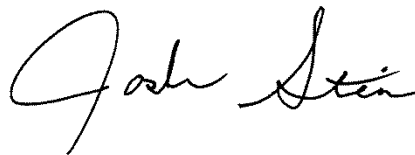
MATTHEW DENN
Attorney General of Delaware



MAURA HEALEY
Attorney General of Massachusetts



ERIC T. SCHNEIDERMAN
Attorney General of New York



JOSH STEIN
Attorney General of North Carolina



JOSH SHAPIRO
Attorney General of Pennsylvania



PETER F. KILMARTIN
Attorney General of Rhode Island