Comments of Massachusetts Attorney General Maura Healey to the U.S. Bureau of Ocean Energy Management on the Draft Proposed 2019–2024 National Outer Continental Shelf Oil and Gas Leasing Program and Notice of Intent to Prepare a Programmatic Environmental Impact Statement

Docket No. BOEM-2017-0074

March 9, 2018

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INTRODUCTION

The Office of Massachusetts Attorney General Maura Healey ("MA AGO") appreciates the opportunity to comment on and reiterate strong opposition to the preparation of a new five-year national outer continental shelf ("OCS") oil and gas leasing program. As these comments explain, President Trump's and the U.S. Department of the Interior's ("Department") decision to develop a new national program that would radically expand offshore oil and gas leasing is not in the interests of Massachusetts, other coastal states, or the nation as a whole, and is at odds with federal law.[1] The Secretary of the Interior ("Secretary") cannot reasonably determine that expanded offshore oil and gas leasing—including leasing in the North Atlantic—best meets national energy needs, as federal law requires.

In April 2017, President Trump signed Executive Order 13,795, "Implementing an America-First Offshore Energy Strategy."[2] Despite the fact that there is already a national program in place establishing a schedule of oil and gas lease sales on the OCS through 2022, Executive Order 13,795 called upon the Department's Bureau of Ocean Energy Management ("BOEM") to develop a superseding leasing program for the 2019–2024 period ("2019–2024 Program"). On January 4, 2018, BOEM released the 2019–2024 National Outer Continental Shelf Oil and Gas Leasing Draft Proposed Program ("Draft Program")[3] for public comment.[4] The Draft Program is the first of three decision documents that BOEM must develop before the Secretary may take final action to approve a 2019–2024 Program under the Outer Continental Shelf Lands Act, 43 U.S.C. §§1331 *et seq.* ("OCSLA"). BOEM is simultaneously preparing a programmatic environmental impact statement ("PEIS") for the 2019–2024 Program.[5]

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[1] These comments supplement initial comments submitted by the MA AGO in conjunction with the Department's Open House event in Boston, Massachusetts on February 27, 2018 (attached here as Exhibit A), as well as initial multi-state comments dated February 1, 2018 (Doc. ID. BOEM-2017-0074-4879) and supplemental multistate comments dated March 9, 2018 [hereinafter Supplemental Multistate Comments on the Draft Program]. Also incorporated by reference are comments submitted by the MA AGO on August 17, 2017 in response to BOEM's Request for Information and Comments on the Preparation of the 2019–2024 National Outer Continental Shelf Oil and Gas Leasing Program (Doc ID. BOEM-2017-0050-49550) [hereinafter MA AGO RFI Comments], and Comments from Attorney General Healey and six other attorneys general to the National Marine Fisheries Service [NMFS] regarding seismic testing in the Atlantic dated July 21, 2017, *available at* https://www.fisheries.noaa.gov/action/incidental-take-authorization-oil-and-gas-industry-geophysical-survey-activity-atlantic [hereinafter Multistate Seismic Testing Comments]. The MA AGO RFI Comments and Multistate Seismic Testing Comments are appended to the February 27, 2018 comments attached here as Exhibit A.

[2] Exec. Order No. 13,795, 82 Fed. Reg. 20,815 (Apr. 28, 2017). *See also* Sec'y of the Interior, Order No. 3350 (May 1, 2017), *available at* https://www.doi.gov/sites/doi.gov/files/press-release/secretarial-order-3350-offshore-508.pdf.

[3] BUREAU OF OCEAN ENERGY MGMT. [BOEM], 2019–2024 NATIONAL OUTER CONTINENTAL SHELF OIL AND GAS LEASING DRAFT PROPOSED PROGRAM (Jan. 2018), *available at* https://www.boem.gov/NP-Draft-Proposed-Program-2019-2024/ [hereinafter Draft Program].

[4] 83 Fed. Reg. 829 (Jan. 8, 2018).

[5] *See id.*

The Draft Program would open more than 98 percent of the OCS to oil and gas leasing, including 47 lease sales spanning all four OCS regions and 25 out of 26 planning areas.[6] The unprecedented scale of leasing proposed in the Draft Program is in stark contrast to the 2017–2022 Outer Continental Shelf Oil and Gas Leasing Program ("2017–2022 Program"), which authorizes only 11 lease sales in the Cook Inlet Planning Area and Gulf of Mexico Planning Areas.[7]

The MA AGO strongly opposes action by the Secretary to open up any portion of the Atlantic—or any other new ocean areas—to oil and gas leasing. The United States does not require expanded offshore fossil fuel extraction to meet future energy needs, nor can our nation afford the increased greenhouse gas emissions and other environmental risks that would result from such development. In Boston alone, climate-related damage to buildings, building contents, and associated emergency costs could potentially be as high as *$94 billion* between 2000 and 2100.[8]

In particular, the North Atlantic Planning Area, including waters off the coast of Massachusetts, should remain off the table for oil and gas activity.[9] The significant risks and adverse impacts of oil and gas development to our fragile ecosystems and Massachusetts' ocean-dependent economy far outweigh any speculative benefit.

Despite 43 exploratory wells drilled between 1976 and 1984, there has never been a commercial discovery of oil or gas resources in the North Atlantic.[10] The nutrient-rich and biodiverse North Atlantic waters support a range of other economically and culturally important uses, however, such as commercial and recreational fishing, tourism, shipping, and scientific research. These uses would be adversely affected by oil and gas activities. That is why there has long been fierce opposition to offshore oil and gas leasing in Massachusetts. In the late 1970s, together with fishing industry and environmental allies, the MA AGO obtained the first-ever injunction against an offshore lease sale, citing potentially disastrous risks to marine resources

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[6] The Draft Program would not include a lease sale in the North Aleutian Basin Planning Area, which was withdrawn from consideration for leasing in 2014. *See* Draft Program, *supra* note 3, at 2.

[7] *See* BOEM, 2017–2022 OUTER CONTINENTAL SHELF OIL AND GAS LEASING PROPOSED FINAL PROGRAM (Nov. 2016), *available at* https://www.boem.gov/2017-2022-OCS-Oil-and-Gas-Leasing-PFP/ [hereinafter 2017–2022 Program] (including scheduled lease sales in the Cook Inlet Planning Area and Gulf of Mexico Planning Areas not subject to moratorium or otherwise unavailable). *See* Memorandum from Walter D. Cruickshank, Acting Director, BOEM, to Secretary of the Interior, *Record of Decision and Approval of the 2017–2022 Outer Continental Shelf Oil and Gas Leasing Program* (Jan. 17, 2017), *available at* https://www.boem.gov/2017-2022-Record-of-Decision/ [hereinafter 2017 ROD].

[8] *See* U.S. GLOBAL CLIMATE CHANGE RESEARCH PROG., CLIMATE CHANGE IMPACTS IN THE UNITED STATES 379 (2009), *available at* https://www.globalchange.gov/.

[9] The MA AGO would support action by the Secretary and President Trump to permanently remove all Atlantic planning areas from consideration for oil and gas leasing. The President may withdraw areas from leasing outside of the national leasing program development process under Section 12(a) of OCSLA, 43 U.S.C. § 1341(a), or the Antiquities Act, Pub. L. No. 59-209, 34 Stat. 225 (current version at 54 U.S.C. §§ 320301–320303).

[10] *See* Draft Program, *supra* note 3, at 4-9.

and fishing livelihoods.[11] The MA AGO continued to contest lease sales through the early 1980s, until mounting anti-drilling pressure led Congress and Presidents to protect federal waters off Massachusetts from oil and gas leasing through 2008.

President Trump and the Secretary now propose to reverse course. The MA AGO urges the President and Secretary to reconsider and withdraw the Draft Program. If necessary, the MA AGO would consider appropriate legal action to protect the people, economy, and natural resources of Massachusetts from the grave risks posed by oil and gas leasing off of our coast.

EXECUTIVE SUMMARY: KEY RECOMMENDATIONS

In the detailed comments that follow, the MA AGO identifies legal and factual deficiencies of the Draft Program, and offers guidance on the proper scope of any PEIS.

Key Recommendations for the Draft Program

- ***The Secretary should withdraw the Draft Program*** and maintain the existing 2017–2022 Program—finalized just one year ago—which forecloses leasing in any new areas of the Gulf and Arctic Ocean, and in the entire Atlantic and Pacific Ocean. BOEM has failed to justify reversing course and developing a new, expanded OCS leasing program. The Draft Program is not needed to meet national energy needs, and BOEM fails to consider the nation's transition to a clean energy economy and the impacts of climate change. Additionally, the 2019–2024 Program was tainted by the Secretary's purported exclusion of Florida outside of the required statutory and administrative process, and just days after the Draft Program's release.
- ***Should the Secretary nevertheless proceed in developing the 2019–2024 Program, all Atlantic planning areas should be removed from consideration for oil and gas leasing.*** No drilling has occurred in the Atlantic since the early 1980s—for good reason. Oil and gas leasing is generally incompatible with the environmental sensitivity of the Atlantic Coast, existing marine and coastal uses, and state policies.
- ***The Secretary should follow historical precedent and defer to the people of Massachusetts and other Atlantic coastal states***, who overwhelmingly oppose oil and gas exploration and development off their coast.
- ***The extraordinarily nutrient-rich and biodiverse North Atlantic Planning Area should be excluded from any leasing program***. The Draft Program fails to properly balance the speculative benefits from expanded offshore drilling in the North Atlantic OCS with the grave risk of harm to our coastal and marine ecosystem, and to the commercial fishing, recreation, and tourism industries that account for a substantial portion of the Massachusetts economy.

  BOEM's analysis is incomplete, inadequate, and at times inaccurate. For example, BOEM fails to consider: the Department's proposed weakening of offshore drilling safety

[11] *See Massachusetts v. Watt*, 716 F.2d 946 (1st Cir. 1983) (affirming district court's injunction against oil and gas lease sales near Georges Bank based on probable statutory violations).

rules put in place based on lessons learned from the *Deepwater Horizon* disaster in the Gulf of Mexico; Massachusetts' nation-leading clean energy and climate laws and programs, and pioneering ocean management laws and policies; and the risks, scope, and extent of potential harm that oil and gas activity poses to valuable coastal and marine ecosystems and existing ocean uses.

In particular, the Draft Program disturbingly fails to assess fully the broad-scale and devastating harm caused by the *Deepwater Horizon* disaster, or to consider the devastation an oil spill of similar—or smaller—scope would have on marine and coastal resources in other OCS planning areas, including off the Massachusetts coast.

- ***If the North Atlantic is nonetheless included in the 2019–2024 Program, the Secretary should consider leasing options that would mitigate risks to sensitive resources***. The Secretary is required to tailor leasing activity in order to achieve a balance between the potential for resource discovery and environmental impacts. However, the Draft Program fails to consider leasing options that would mitigate risks to critical North Atlantic resources and areas, such as marine protected areas, important fishing grounds, sensitive shorelines, and habitat for protected species.
- ***Any cost-benefit analysis supporting the 2019–2024 Program should incorporate reasonable assumptions, and consider relevant information regarding environmental impacts and alternatives***. The Draft Program's net social value analysis is deficient because it does not consider climate impacts, reasonable oil price assumptions, the risk of a catastrophic oil spill, or renewable energy as an alternative to offshore oil and gas development.

Key Recommendations for the Programmatic Environmental Impact Statement

At a minimum, any PEIS for the 2019–2024 Program should consider all program activities, impact-producing factors, and potentially affected resources that were analyzed in the PEIS for the 2017–2022 Program ("2016 PEIS").[12] The MA AGO also urges BOEM to expand the scope of the PEIS for the 2019–2024 Program, including by:

- analyzing how greenhouse gas emission-reduction policies and the nation's transition to a clean-energy future will affect demand for oil and gas, as well as determinations of how best to address the nation's energy needs;
- thoroughly analyzing the development of renewable energy as an alternative to expansion of oil and gas lease sales in the OCS; and
- undertaking a full analysis of cumulative climate impacts, cumulative noise impacts—including from exploratory geophysical surveys utilizing seismic testing—and cumulative impacts from increased marine vessel traffic—paying particular attention to the increased risk of ship strikes that injure or kill marine species, especially the critically endangered North Atlantic right whale.

[12] BOEM, OUTER CONTINENTAL SHELF OIL AND GAS LEASING PROGRAM: 2017–2022 FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (2016), *available at* https://www.boem.gov/fpeis/ [hereinafter 2016 PEIS].

ABOUT THE ATTORNEY GENERAL'S OFFICE

Attorney General Maura Healey is the chief law enforcement officer for the Commonwealth of Massachusetts. The MA AGO, through its Energy and Environment Bureau, works to protect utility ratepayers and our environment, and to reduce the threat of climate change for the people and families of the Commonwealth. As the state's Ratepayer Advocate, the MA AGO's Energy and Telecommunications Division represents consumers in matters involving the price and delivery of natural gas, electricity, water, and telecommunication services before state and federal regulators. The MA AGO's Environmental Protection Division and Environmental Crimes Strike Force enforce the laws that protect our air and water, preserve our lands and open space, require the clean-up of contaminated sites, and govern the use of pesticides and the handling and disposal of hazardous waste. The Energy and Environment Bureau's integration of energy and environmental advocacy ensures that the MA AGO speaks with one voice in addressing the intertwined ratepayer and environmental protection matters that impact the Commonwealth and its residents.

Attorney General Healey is committed to a clean energy future in Massachusetts built around cleaner, renewable energy sources that allow Massachusetts to achieve regional and federal climate goals, as well as to meet the mandates of the Massachusetts Global Warming Solutions Act ("GWSA").[13] The MA AGO also acts to protect ratepayers by ensuring that when the Commonwealth makes long-term decisions about additional energy capacity investments, it is done on the basis of facts that quantify future demand, and take into account all cost-effective and clean resources that can be deployed to meet that demand.

[13] St. 2008, c. 298 (codified in part at MASS. GEN. LAWS ch. 21N).

DETAILED COMMENTS ON THE DRAFT PROPOSED 2019–2024 NATIONAL OUTER CONTINENTAL SHELF OIL AND GAS LEASING PROGRAM

The MA AGO's comments on the Draft Program proceed as follows.

Section I outlines the relevant legal standard under OCSLA for approval of a national offshore oil and gas leasing program, including the Secretary's required determination that the lease sales proposed "will best meet national energy needs for the five-year period following its approval . . . ."[14]

Section II explains that the Draft Program fails to support a decision to expand OCS leasing. The Draft Program's analysis relies on factors that are inappropriate for consideration in development of a national leasing program, such as "energy dominance," while failing to consider relevant information that should inform the Secretary's evaluation of national energy needs, such as clean energy trends and climate change.

Section III discusses the Draft Program's failure to properly balance any benefits from potential discovery of oil and gas resources with potentially devastating environmental impacts, as OCSLA requires. The Draft Program fails to acknowledge or consider a range of potential environmental impacts, important features and uses of the North Atlantic region that could be impacted by oil and gas activity, and the policies of Massachusetts. As described herein, the potential for environmental damage and adverse coastal impacts associated with North Atlantic OCS development is so great that the Secretary could only reasonably determine that the region should not be leased.

Section IV describes insufficiencies in BOEM's net social value analysis. BOEM fails to consider important environmental and social costs, while inflating the economic benefits of offshore oil and gas development. A proper cost-benefit analysis would show that the risks of expanded OCS development outweigh any potential benefits.

Finally, Section V discusses the Secretary's recent statements purporting to exclude Florida offshore waters from the 2019–2024 Program, which are at odds with the required administrative and statutory process. In light of this fatal infirmity, the MA AGO urges the Department to withdraw the Draft Program and leave the current 2017–2022 Program in place.

I. Relevant Legal Standard

By way of preface to the detailed comments that follow, this section describes the statutory framework governing the Secretary's decision-making on national OCS oil and gas leasing programs under OCSLA. Section 18 of OCSLA sets forth principles and factors that the Secretary must take into consideration in determining how much, and which areas, of the OCS to lease.

[14] 43 U.S.C. § 1344(a).

Section 18(a) of OCLSA mandates that any national OCS oil and gas leasing program "shall consist of a schedule of proposed lease sales indicating, as precisely as possible, the size, timing, and location of leasing activity" that, in the Secretary's determination, "will best meet national energy needs for the five-year period following its approval . . . ."[15]

Section 18(a)(2) requires that the "[t]iming and location of exploration, development, and production of oil and gas" among the various OCS regions "shall be based on a consideration of" eight factors, including:

> (A) existing information concerning the geographical, geological, and ecological characteristics of such regions;
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> (B) an equitable sharing of developmental benefits and environmental risks among the various regions;
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> (C) the location of such regions with respect to, and the relative needs of, regional and national energy markets;
>
> (D) the location of such regions with respect to other uses of the sea and seabed, including fisheries, navigation, existing or proposed sealanes, potential sites of deepwater ports, and other anticipated uses of the resources and space of the outer Continental Shelf;
>
> (E) the interest of potential oil and gas producers in the development of oil and gas resources as indicated by exploration or nomination;
>
> (F) laws, goals, and policies of affected States which have been specifically identified by the Governors of such States as relevant matters for the Secretary's consideration;
>
> (G) the relative environmental sensitivity and marine productivity of different areas of the outer Continental Shelf; and
>
> (H) relevant environmental and predictive information for different areas of the outer Continental Shelf.[16]

Section 18(a)(3) directs the Secretary, as informed by the Section 18(a)(2) factors, to engage in a balancing analysis. "The Secretary shall select the timing and location of leasing, to the maximum extent practicable, so as to obtain a proper balance between the potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse impact on the coastal zone."[17]

Finally, Section 18(a)(1) requires the Secretary to manage the OCS "in a manner which considers economic, social, and environmental values of the renewable and non-renewable resources contained in the [OCS]."[18]

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[15] 43 U.S.C. § 1344(a).

[16] *Id.* § 1344(a)(2)

[17] *Id.* § 1344(a)(3).

[18] *Id.* § 1344(a)(1).

II. BOEM Fails to Justify a Determination that Expanded Offshore Oil and Gas Leasing "Will Best Meet National Energy Needs."

Section 18(a) of OCLSA mandates that any national OCS oil and gas leasing program "shall consist of a schedule of proposed lease sales indicating, as precisely as possible, the size, timing, and location of leasing activity" that, in the Secretary's determination, "will best meet national energy needs for the five-year period following its approval . . . ."[19] In approving the 2017–2022 Program, the Secretary determined that "national energy needs" would best be met by a program that authorized eleven lease sales in Cook Inlet (off the coast of Alaska) and the Gulf of Mexico.[20]

Now, just one year after finalization of the 2017–2022 Program, BOEM proposes to reject the findings and conclusions of the 2017–2022 Program regarding "national energy needs" and expand leasing dramatically.[21] The Draft Program proposes 47 lease sales in 25 out of 26 planning areas—amounting to more than 98 percent of the OCS. Nowhere does the Secretary identify any change in "national energy needs" occurring over the past year or freshly anticipated that would justify a *327-percent increase* in authorized lease sales.

If the Secretary now believes that dramatically expanded leasing is necessary and appropriate, this new conclusion must be supported by a reasoned justification.[22] The Draft Program claims that expanded leasing would help the United States achieve "energy dominance," contribute to the gross domestic product, and provide revenues for the U.S. Treasury.[23] But this is far from the reasoned explanation necessary to justify the Secretary's decision that the program adopted just one year ago *no longer* meets national energy needs.[24]

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[19] 43 U.S.C. § 1344(a).

[20] *See* 2017 ROD, *supra* note 7, at 1, 3.

[21] The findings and conclusions underlying the 2017–2022 Program were based on a robust administrative record. BOEM considered nearly 3.8 million public comments and held 36 public meetings. *See 2017–2022 Proposed Final Program Frequently Asked Questions – General*, BOEM, https://www.boem.gov/2017-2022-Proposed-Final-Program-FAQs/.

[22] *See F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009) (an agency departing from a prior policy "must show that there are good reasons for the new policy," and "provide a more detailed justification than what would suffice for a new policy" if "its new policy rests upon factual findings that contradict those which underlay its prior policy"); 43 U.S.C. § 1344(a).

[23] *See* Draft Program, *supra* note 3, at 1–2.

[24] The MA AGO is not aware of any precedent for approving a new leasing program so soon after finalization of an existing program, and BOEM has not cited any such precedent in the Draft Program. To our knowledge, if the Secretary finalizes the 2019–2024 Program, this will amount to only the second time in history that a national OCS leasing program has been superseded. There have been nine prior national OCS oil and gas leasing programs, spanning the periods: 1980–1985, 1982–1987, 1987–1992, 1992–1997, 1997–2002, 2002–2007, 2007–2012, 2012–2017, and 2017–2022. *See Past Five Year Programs*, BOEM, https://www.boem.gov/Past-Five-Year-Programs/. The only prior instance was the 1982–1987 national OCS oil and gas leasing program, which superseded the 1980–1985 program after the D.C. Circuit Court of Appeals remanded that program to the agency for violations of OCSLA—circumstances that do not apply here. *See* U.S. DEP'T OF THE INTERIOR, TENTATIVE PROPOSED FINAL 5-YEAR OCS LEASING PROGRAM (1982–1987) 5 (1982), *available at*

As discussed below, the Draft Program fails to articulate any consistent methodology or new information sufficient to support a decision to so massively expand OCS leasing. The analysis provided in the Draft Program fails to consider relevant information that should inform the Secretary's evaluation of national energy needs, such as near-term clean energy trends, climate change, and projections of oil and gas prices. The analysis also relies on factors that are inappropriate for consideration in development of a national OCS oil and gas leasing program, such as the President's desire for "energy dominance." In light of this information, it would be unreasonable for the Secretary to conclude that an enormous expansion of offshore leasing best meets national energy needs.

A. BOEM Fails to Consider Clean Energy Trends.

The Draft Program largely dismisses renewable energy as a viable means to satisfy the nation's near- and long-term energy needs. BOEM claims that "[a]lthough new energy alternatives are gaining market share, they will take decades to displace oil and gas."[25] The Draft Program notes that "[p]olicies or other factors such as technological change could substantially increase the use of renewable energy sources during the life of [the 2019–2024 Program]"; but concludes that "renewable energy sources are not likely to be a major substitute for forgone OCS production."[26] According to BOEM, this is in part because transportation is predominantly fueled by petroleum.[27] Additionally, "the reality of many renewable energy sources is that their growth is predicated on policy initiatives . . . ."[28]

BOEM's failure to evaluate renewable energy resources as an alternative to increased OCS oil and gas development is unreasonable and arbitrary, and would be insufficient under OCSLA to satisfy the Secretary's burden of demonstrating that expanded oil and gas leasing would "best" meet national needs. Given abundant U.S. renewable energy generation potential and projections of slow energy demand growth, it would be unreasonable for the Secretary to conclude that the nation needs new offshore fossil fuel extraction to meet current or future needs. U.S. energy needs are best met by continuing the development and promotion of lower-cost energy efficiency and responsibly sited renewable energy resources.

1. BOEM Ignores the Growth in Market Demand for Clean Energy Across the Economy.

As BOEM acknowledges, it would take decades before an OCS lease sale in a frontier area such as the North Atlantic Planning Area would lead to commercial production.[29] Meanwhile, the efficiency of vehicle and aircraft engines is increasing, materials technology is advancing, electric vehicles are gaining market share, and power needs are increasingly being

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https://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Leasing/Five_Year_Program/PFP%2082-87.pdf. *See also California v. Watt*, 668 F.2d 1290 (D.C. Cir. 1981).

[25] Draft Program, *supra* note 3, at 5.

[26] *Id.* at 6-15.

[27] *Id.*

[28] *Id.*

[29] *See* Draft Program, *supra* note 3, at 1.

met by low-carbon and renewable energy generation. Economics, technological advancements, and policies that incentivize greenhouse gas emissions reductions are driving a national transition to a clean energy future.

As the Wall Street Journal recently reported, "global demand for oil is poised to peak and fall in the coming years," ushering in "the biggest shift in energy consumption since the Industrial Revolution."[30] The U.S. Energy Information Agency ("EIA") projects that U.S. petroleum consumption will generally decrease through 2035, "mainly because of vehicle fuel efficiency gains."[31] In particular, motor gasoline consumption is projected to decrease by 31 percent between 2017 and 2050 (see Figure 1 below).[32] Part of this shift is connected to the exponentially increasing uptake of battery-electric vehicles fueled by electricity rather than petroleum. As the International Energy Agency states, "[n]ew registrations of electric cars hit a new record in 2016, with over 750 thousand sales worldwide."[33] Its projections indicate "a good chance that the electric car stock will range between 9 million and 20 million by 2020 and between 40 million and 70 million by 2025."[34]

As shown in Figure 2 below, EIA predicts that U.S. fuel economy and sales of more fuel-efficient and battery-electric vehicles will grow in the coming years. EIA projects that battery-electric vehicles will account for 7 percent of U.S. vehicle sales in 2025 and 12 percent in 2050.[35] Other projections are even more bullish about the penetration of electric vehicles. For instance, a recent Bloomberg New Energy Finance forecast predicts that plug-in vehicles will outsell fossil-fuel-powered vehicles within two decades and account for a third of the global automobile fleet by 2040.[36]

The momentum of electric vehicles is based in more than just projections. Major auto-manufacturers have made aggressive commitments to electrify their products. Volvo announced in July that all of its models will be hybrids or battery-powered starting in 2019.[37] Volkswagen

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[30] Lynn Cook & Elena Cherney, *Get Ready for Peak Oil Demand*, WALL STREET J. (May 26, 2017), https://www.wsj.com/articles/get-ready-for-peak-oil-demand-1495419061.

[31] *See* U.S. ENERGY INFORMATION AGENCY [EIA], ANNUAL ENERGY OUTLOOK 2018 44, 56 (Feb. 6, 2018), *available at* https://www.eia.gov/outlooks/aeo/pdf/AEO2018.pdf [hereinafter AEO 2018]. EIA projections are provided here for illustrative purposes. The MA AGO does not necessarily endorse or rely on the specifics of EIA projections, which have historically *underestimated* the growth of renewable energy resources and overstated energy demand and fossil fuel prices—rendering the Draft Program's expectations all the more unrealistic. *See, e.g.*, Alexander Q. Gilbert & Benjamin K. Sovacool, *Looking the Wrong Way: Bias, Renewable Electricity, and Energy Modeling in the United States*, 94 ENERGY 533 (2016).

[32] *Id.* at 108.

[33] INT'L ENERGY AGENCY, GLOBAL EV OUTLOOK 2017 5 (2017), *available at* https://www.iea.org/publications/freepublications/publication/GlobalEVOutlook2017.pdf.

[34] *Id.* at 6.

[35] AEO 2018, *supra* note 31, at 116.

[36] *See* Jess Shankleman, *The Electric Car Revolution Is Accelerating*, BLOOMBERG BUSINESSWEEK (July 6, 2017; updated July 7, 2017), https://www.bloomberg.com/news/articles/2017-07-06/the-electric-car-revolution-is-accelerating.

[37] *See* Press Release, Volvo Car Group, Volvo Cars to go all electric (July 5, 2017), *available at* https://www.media.volvocars.com/global/en-gb/media/pressreleases/210058/volvo-cars-to-go-all-electric.

and Mercedes-Benz announced that they will offer an electric version of all of their vehicle models by 2030.[38] And in October, General Motors outlined a pathway to an all-electric, emissions-free future for the company's vehicles.[39]

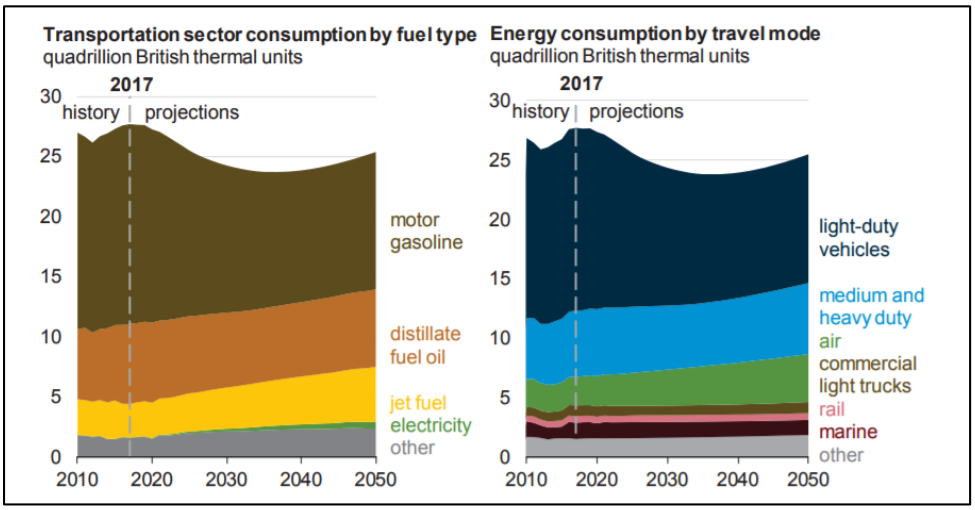

Figure 1. EIA Reference Case – Transportation Energy Consumption Declines, 2019–2035[40]

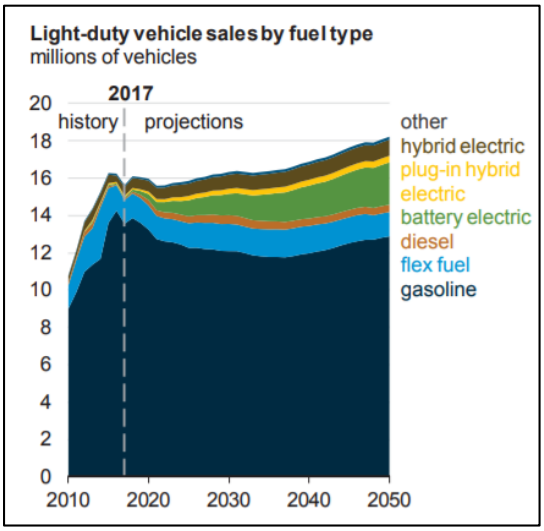

Figure 2. EIA – Light-Duty Vehicle Fuel Economy Improves as Sales of Electric Cars Grow[41]

[38] *Volkswagen plans electric option for all models by 2030*, BBC NEWS (Sept. 11, 2017), http://www.bbc.com/news/business-41231766.

[39] *See* Press Release, General Motors, GM Outlines All-Electric Path to Zero Emissions (Oct. 2, 2017), *available at* http://www.gm.com/mol/m-2017-oct-1002-electric.html.

[40] AEO 2018, *supra* note 31, at 107.

[41] *Id.* at 113.

The electric sector is shifting away from fossil fuel use, too. EIA projects that electricity demand will rise only slowly in the coming demands.[42] Meanwhile, as depicted in Figure 3 below, renewable energy is projected to increase 139 percent by 2050. Notably, EIA projects renewable energy growth under all assumptions, including low electricity demand and low gas prices.[43] Together, wind and solar are projected to account for 64 percent of total electric generation growth through 2050.[44] Solar photovoltaic adoption will continue to increase in the coming years as costs continue to decline (see Figure 4 below).

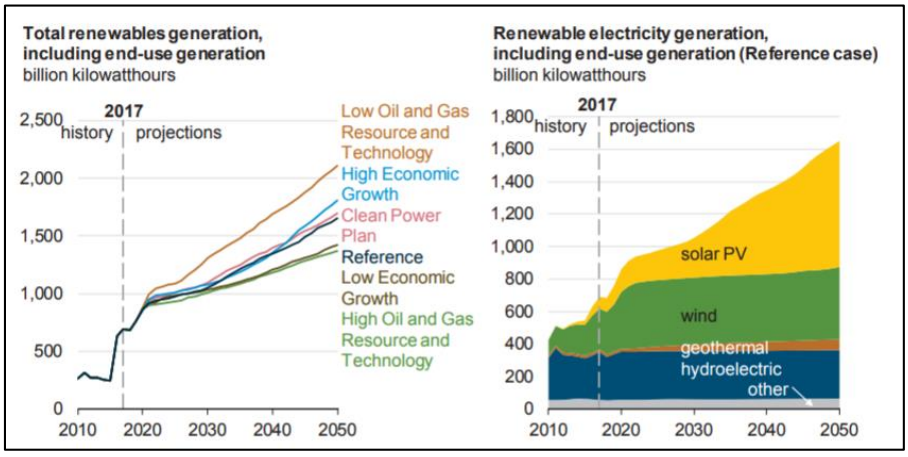

Figure 3. EIA – Projected Growth in Renewable Energy Generation[45]

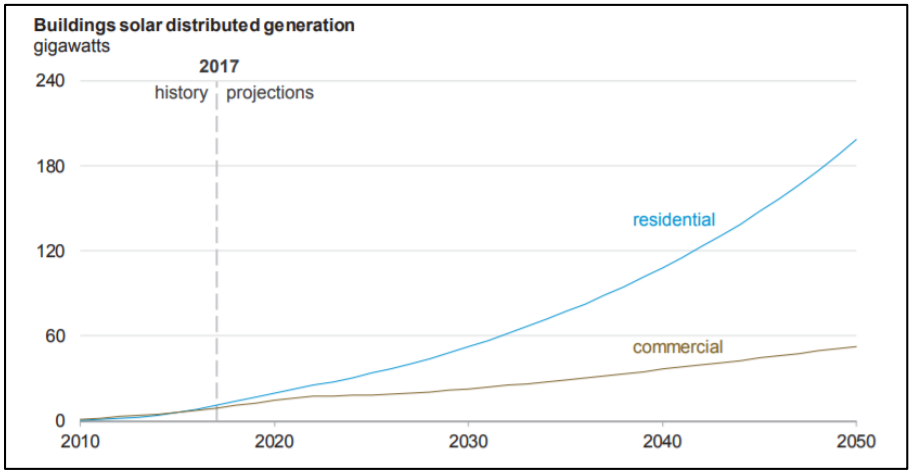

Figure 4. EIA - Solar Photovoltaic Adoption Growth, 2017–2050[46]

[42] *Id.* at 79–80.

[43] *Id.* at 93–94.

[44] *Id.* at 20.

[45] *Id.* at 93.

[46] *Id.* at 129.

2. BOEM Fails to Consider the Near- and Long-Term Impact of Clean Energy Policies.

Trends in clean energy technology advancement, economics, and adoption are being driven in part by policies across all levels of government that seek to lower dangerous emissions of climate-warming greenhouse gases and other pollutants. The Draft Program fails to account for the existence of such policies and their impact over the 2019–2024 period and beyond.

For instance, at the international level, there is a path-breaking treaty designed to drive down global greenhouse gas emissions. In 2015, more than 190 countries adopted the Paris Agreement, committing to take action to maintain global average temperatures well below 2° Celsius above preindustrial levels and pursue efforts to limit temperature increase to 1.5° Celsius.[47] The United States joined the Paris Agreement in 2016.[48]

Recognizing the increasingly urgent need to curb greenhouse gas emissions, the MA AGO initiated and led efforts nearly twenty years ago that culminated in *Massachusetts v. EPA*.[49] In that landmark case, the U.S. Supreme Court ruled that the Environmental Protection Agency has authority to regulate greenhouse gas emissions under the federal Clean Air Act.[50] As a result, and through subsequent federal rulemaking, federal agencies regulate greenhouse gases from sources such as power plants and motor vehicles, and enforce energy efficiency standards.[51] The federal government has a variety of other policies and programs that promote efficiency, conservation, climate adaptation, and emissions reductions.

Massachusetts participates in the Regional Greenhouse Gas Initiative ("RGGI")—the first mandatory, market-based carbon dioxide emissions-reduction program in the United States.

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[47] *See Adoption of the Paris Agreement*, U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE (Dec. 12, 2015), *available at* https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf.

[48] *See* Paris Agreement, art 2.1(a), Dec. 12, 2015, U.N. Doc. FCCC/CP/2015/10/. *See also* Press Release, The White House, President Obama: The United States Formally Enters the Paris Agreement (Sept. 3, 2016), *available at* https://obamawhitehouse.archives.gov/blog/2016/09/03/president-obama-united-states-formally-enters-paris-agreement. President Trump announced on June 1, 2017 that he intends to withdraw the United States from the Paris Agreement. *See* Michael D. Shear, *Trump Will Withdraw U.S. from Paris Climate Agreement*, N.Y. TIMES (June 1, 2017), *available at* https://www.nytimes.com/2017/06/01/climate/trump-paris-climate-agreement.html; Media Note, U.S. Dep't of State, Communication Regarding Intent to Withdraw from Paris Agreement (Aug. 4, 2017), *available at* https://www.state.gov/r/pa/prs/ps/2017/08/273050.htm. But even if realized, such withdrawal could not take place until 2020 at the earliest, per article 28 of the Paris Agreement.

[49] *See Massachusetts v. Envtl. Prot. Agency*, 549 U.S. 497 (2007).

[50] *Id.* The U.S. Court of Appeals for the District of Columbia Circuit has since upheld the Environmental Protection Agency's subsequent finding that greenhouse gas emissions endanger public health and welfare, necessitating regulation of certain sources of greenhouse gas emission under the Clean Air Act. *See Coal. for Responsible Regulation, Inc. v. Envtl. Prot. Agency*, 684 F.3d 102 (D.C. Cir. 2012).

[51] *See, e.g.*, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009); 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62,624 (Oct. 15, 2012); *Appliance and Equipment Standards Program*, U.S. DEP'T OF ENERGY, https://www.energy.gov/eere/buildings/appliance-and-equipment-standards-program.

Through RGGI, nine (soon to be ten) Northeast and Mid-Atlantic states[52] work together to enforce agreed-upon limits for greenhouse gas emissions from power plants. In the RGGI-participating states, fossil-fuel-fired electric power generators with a capacity of 25 megawatts or more are required to buy and sell allowances equal to their carbon dioxide emissions over a three-year control period.[53] In 2014, RGGI set a cap of 91 million short tons of carbon dioxide, which cap then declines 2.5 percent each year from 2015 to 2020.[54] From 2008, the year before RGGI's inception, to 2016, RGGI reduced greenhouse gas emissions from the power sector by 40 percent, and encouraged the development of low-carbon and renewable energy resources.[55] In 2015 alone, participating states invested more than $410 million in RGGI proceeds in multiple clean energy and consumer fuel assistance programs, including renewable energy and greenhouse gas abatement programs, with nearly two-thirds of those funds going to energy efficiency programs.[56]

At the state level, Massachusetts is committed to transitioning away from fossil-fuel-based energy production. In 2008, the Massachusetts legislature enacted the GWSA,[57] requiring what our state's highest court has described as "the most ambitious greenhouse gas reductions for a single state in the entire country."[58] The GWSA requires the state to reduce greenhouse gas emissions 25 percent below 1990 levels by 2020, and 80 percent by 2050, and also requires the state to meet interim targets for 2030 and 2040.[59] The Massachusetts Department of Environmental Protection ("MA DEP") finalized regulations directed at achieving reductions from multiple greenhouse gas emission sources—including power plants, natural gas infrastructure, and public vehicle fleets—to comply with GWSA mandates and Governor

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[52] In January 2018, New Jersey Governor Phil Murphy issued an Executive Order directing his administration to rejoin RGGI. *See* Peter Maloney, *New Jersey to rejoin RGGI in new executive order*, UTILITY DIVE (Jan. 29, 2018), https://www.utilitydive.com/news/new-jersey-to-rejoin-rggi-in-new-executive-order/515802/. RGGI's scope may soon extend further south if the Virginia legislature enacts a joint legislative agenda proposed in January 2018 by former Governor Terry McAuliffe and Governor Ralph Northam. *See* Robert Walton, *With proposal to join RGGI, Virginia would be first Southern state to cap carbon*, UTILITY DIVE (Jan. 10, 2018), *available at* https://www.utilitydive.com/news/with-proposal-to-join-rggi-virginia-would-be-first-southern-state-to-cap-c/514537/.

[53] *See RGGI program overview and design*, THE REGIONAL GREENHOUSE GAS INITIATIVE (2018), https://www.rggi.org/program-overview-and-design/elements.

[54] *Id*.

[55] *See RGGI Emissions Fell Again in 2016*, ACADIA CENTER (Mar. 10, 2017), http://acadiacenter.org/rggi-emissions-fell-again-in-2016/.

[56] *See* Walton, *supra* note 52.

[57] Global Warming Solutions Act, St. 2008, c. 298; *see* MASS. GEN. LAWS c. 21N, §§ 1–9.

[58] *Kain v. Dep't of Envtl. Prot.*, 474 Mass. 278, 282–83 (2016). *See* MASS. GEN. LAWS. c. 21N, §§ 1–9. The GWSA also includes greenhouse gas emission reduction tracking and reporting, including mandatory reporting from facilities that emit more than 5,000 tons of greenhouse gases per year. *Id*. c. 21N, § 2(a)–(c). *See also MassDEP Emissions Inventories*, MASS.GOV (2018), https://www.mass.gov/lists/massdep-emissions-inventories; *MassDEP Greenhouse Gas Emissions Reporting Program*, MASS.GOV (2018), http://www.mass.gov/eea/agencies/massdep/climate-energy/climate/approvals/about-the-greenhouse-gas-emissions-reporting-program.html.

[59] MASS. GEN. LAWS. c. 21N, § 4(a).

Baker's Executive Order 569 issued on September 16, 2016.[60] In 2016, Governor Charles Baker also signed into law An Act to Promote Energy Diversity, which requires the state's electric distribution companies to enter into long-term contracts for the purchase of 2,800 megawatts of cleaner energy, including 1,600 megawatts of offshore wind.[61]

In furtherance of its greenhouse gas emission reduction goals, Massachusetts joined California and other states in adopting a Zero-Emission Vehicle Program to increase the sale of electric and other zero-emission vehicles.[62] In 2013, Massachusetts joined California, Connecticut, Maryland, New York, Oregon, Rhode Island, and Vermont in signing a memorandum of understanding that committed to a collective target of 3.3 million zero-emission vehicles on our roadways by 2025.[63]

Massachusetts has also taken cost-effective measures to reduce carbon emissions from the power sector by establishing a renewable portfolio standard ("RPS") to encourage greater reliance on clean energy. And for the past six years, Massachusetts topped the American Council for an Energy-Efficient Economy's *State Energy Efficiency Scorecard*, leading the nation on energy efficiency efforts.[64] Between 2008 and 2015, Massachusetts energy efficiency programs have delivered $12.5 billion in benefits, and they are expected to provide billions more over the next few years. These policies have helped Massachusetts grow an $11 billion clean energy industry that employs nearly 100,000 people. Today, clean energy accounts for 19 percent of New England's power production.

Massachusetts' 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. Indeed, it would be unreasonable for the Secretary to evaluate national energy needs without considering the near- and long-term impact policies in markets like Massachusetts that are promoting a shift away from oil and gas resources. Massachusetts must continue to advance its clean energy programs in order to achieve emission reductions mandated by the GWSA. Recent modeling by

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[60] *See* 310 MASS. CODE REGS §§ 7.72–7.75 & 60.05–60.06. *See also Kain*, 474 Mass. at 292–94; Mass. Exec. Order No. 569 (Sept. 16, 2016), *available at* http://www.mass.gov/eea/docs/executive-order-climate-change-strategy.pdf.

[61] *See An Act to Promote Energy Diversity*, Stat. 2016, ch. 188, *available at* https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter188.

[62] *See* 310 MASS. CODE REGS § 7.40.

[63] State Zero-Emission Vehicle Programs Memorandum of Understanding (Oct 24, 2013), *available at* http://www.nescaum.org/documents/zev-mou-8-governors-signed-20131024.pdf/.

[64] *See State Energy Efficiency Scorecard*, AMERICAN COUNCIL FOR AN ENERGY-EFFICIENT ECONOMY [ACEEE], http://aceee.org/state-policy/scorecard (last visited March 4, 2018). *See also* Press Release, ACEEE, ACEEE State Energy Efficiency Scorecard: ID, FL, VA Three Most-Improved States, MA Still #1 (Sept. 28, 2017), *available at* http://aceee.org/press/2017/09/aceee-state-energy-efficiency.

MA DEP demonstrates that, as of 2013,[65] continuing business as usual would not allow Massachusetts to meet GWSA mandates beyond 2020.[66]

3. BOEM Fails to Consider Offshore Wind and Other Renewable Energy as an Alternative to Increased Offshore Oil and Gas Activity.

BOEM fails to analyze offshore wind or other forms of renewable energy as an alternative to meeting national energy needs.[67] Unlike oil and gas development, offshore wind and other renewable energy generation would emit fewer emissions of greenhouse gases and other air pollutants, consume less water, and contribute to increased economic development and employment.[68] Furthermore, increased renewable energy development offers energy diversity advantages over increased oil and gas development, at lower risk to the environment and human health.

BOEM attempts to justify the scale of proposed leasing in the Draft Program by claiming that the densely populated Northeast coastal region imports large amounts of fossil fuels, and would directly benefit from the enhanced fuel security offered by offshore energy production near urbanized coastal areas.[69] For instance, the Draft Program states that

> [t]he East Coast . . . is heavily dependent on foreign imports of crude for its refineries. . . . . The imports are especially needed during the winter when demand increases and regional imports are insufficient to meet the increases in demand . . . . [P]roduction from OCS areas along the Atlantic coast could potentially feed directly into the market with the greatest import demand for petroleum products, distillate, and propane.[70]

BOEM fails to mention that the OCS itself is increasingly supporting the national shift toward renewable energy generation, and that this shift undermines the rationale for addressing supposed deficiencies in import capacity. Offshore wind production offers many of the same benefits that BOEM attributes to offshore oil and gas—particularly as transportation fueling

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[65] *See Massachusetts' Progress towards Reducing Greenhouse Gas (GHG) Emissions by 2020*, https://www.mass.gov/massachusetts-progress-towards-reducing-greenhouse-gas-ghg-emissions-by-2020.

[66] *See* MARC BRESLOW ET AL., ANALYSIS OF A CARBON FEE OR TAX AS A MECHANISM TO REDUCE GHG EMISSION IN MASSACHUSETTS, prepared for the Mass. Dep't of Energy Resources, figs.V.1 & V.3 (Dec. 2014), *available at* https://climate-xchange.org/full-study-from-cxc-staff-expert-analysis-of-carbon-pricing-in-massachusetts/.

[67] *See also* Attorney General Healey's Detailed Comments on the Proper Scope of the Programmatic Environmental Impact Statement for the 2019-2024 National Outer Continental Shelf Oil and Gas Leasing Program, *infra* § 0.

[68] *See, e.g.*, BOEM, EVALUATING BENEFITS OF OFFSHORE WIND ENERGY PROJECTS IN NEPA, OCS Study BOEM 2017-048 (2017), *available at* https://www.boem.gov/Final-Version-Offshore-Benefits-White-Paper/.

[69] *See, e.g.*, Draft Program, *supra* note 3, at 6-8 (noting that "[t]he East and West Coasts and Midwest . . . consume close to 70 percent of the domestic oil and natural gas used in the United States, but supply only about 26 percent of domestic oil and 34 percent of natural gas production"); *id.* at 6-8 (noting that coastal areas "all have significant OCS resources that could be used to meet regional energy needs").

[70] *Id.* at 6-4.

increasingly shifts to electricity and away from petroleum—but at lower cost and risk to coastal resources.

As BOEM is well aware, wind energy potential on the OCS is enormous. More than 2,000 GW of offshore wind energy capacity could be secured in U.S. waters with existing technology—which is equivalent to nearly double the total electric generation of the United States in 2015.[71] As BOEM itself stated in the *National Offshore Wind Strategy* it prepared jointly with the U.S. Department of Energy, "total offshore wind energy technical potential equal to about double the nation's demand for electricity, offshore wind energy has the potential to contribute significantly to a clean, affordable, and secure national energy mix."[72] BOEM has already executed eleven competitive OCS leases that could support 14.6 gigawatts of offshore wind energy generation capacity, including multiple lease sales in North Atlantic wind energy areas.[73]

Offshore wind is ideally situated to meet energy demand in coastal states.[74] Some of the nation's best offshore wind resources are located off the coast of Massachusetts. Massachusetts has already taken significant steps to harness this resource and position the state as a national offshore wind energy industry hub, including commitments of limited coastal infrastructure and state resources.

Massachusetts is at the vanguard of the offshore industry, as the first-ever state to pass comprehensive energy policy focused on offshore wind. As noted above, Governor Baker signed An Act to Promote Energy Diversity in 2016.[75] In June 2017, Massachusetts' electric distribution companies and the Commonwealth's Department of Energy Resources released a *Request for Proposals for Long-Term Contracts for Offshore Wind Energy Projects*[76]—the first of multiple solicitations that will seek long-term contracts for at least 1,600 megawatts of offshore wind energy—equivalent to about 10 percent of the state's total power needs—by 2027.

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[71] U.S. DEP'T OF INTERIOR & U.S. DEP'T OF ENERGY, NATIONAL OFFSHORE WIND STRATEGY viii (2016), *available at* https://www.energy.gov/sites/prod/files/2016/09/f33/National-Offshore-Wind-Strategy-report-09082016.pdf.

[72] *Id.* at viii.

[73] *See id.* at iv; *Lease and Grant Information*, BOEM, https://www.boem.gov/Lease-and-Grant-Information/; Draft Program, *supra* note 3, at 6-30.

[74] *See* U.S. DEP'T OF INTERIOR & U.S. DEP'T OF ENERGY, NATIONAL OFFSHORE WIND STRATEGY, *supra* note 71, at iv. *Cf.* 43 U.S.C. § 1344(a)(2)(C) (requiring the Secretary to consider "the location of such regions with respect to, and the relative needs of, regional and national energy markets").

[75] *See An Act to Promote Energy Diversity*, Stat. 2016, ch. 188 (mandating that Massachusetts' electric distribution companies "shall" conduct a solicitation for "long-term contracts for offshore wind energy generation equal to approximately 1,600 megawatts of aggregate nameplate capacity not later than June 30, 2027").

[76] *See* MASS. DEP'T OF ENERGY RESOURCES ET AL., REQUEST FOR PROPOSALS FOR LONG-TERM CONTRACTS FOR OFFSHORE WIND ENERGY PROJECTS (June 29, 2017), *available at* https://macleanenergy.files.wordpress.com/2017/02/section-83c-request-for-proposals-for-long-term-contracts-for-offshore-wind-energy-projects-june-29-2017.pdf (soliciting bids for initial procurement of 400 to 800 megawatts of offshore wind, to partially fulfill total procurement obligation of approximately 1,600 megawatts). *See also* CONN. DEP'T OF ENERGY & ENVTL. PROT., NOTICE OF REQUEST FOR PROPOSALS FROM PRIVATE DEVELOPERS FOR CLEAN ENERGY (Jan. 31, 2018) (seeking bids for procurement of up to 899,250 megawatt-hours per year of renewable energy from offshore wind, fuel cell, and anaerobic digestion resources).

Offshore wind procurement is designed to help reduce greenhouse gas emissions from the state's power sector as required by the state's GWSA. Massachusetts is currently evaluating competitive bids from three offshore wind developers.[77]

These bids are merely the beginning stage of a sustainable, enduring offshore wind energy industry in Massachusetts. New Bedford has made investments and positioned itself to support the development of offshore wind in partnership with the New Bedford Wind Energy Center, the New Bedford Marine Commerce Terminal, and local academic institutions.[78] Additionally, several major wind energy developers have their headquarters or offices in Massachusetts.

Though BOEM references offshore wind a few times in passing in the Draft Program, BOEM fails to consider that procurements by Massachusetts and other states such as Connecticut and Rhode Island could result in offshore wind energy turbines spinning on the OCS and delivering power to the New England regional electricity market during the five-year term of the Draft Program.[79] Indeed, through its forthcoming massive procurements of offshore wind and other cleaner energy resources, as well as other clean energy and energy efficiency programs, Massachusetts is already in the process of addressing the purported energy challenges facing the Northeast region that BOEM cites as justification for increased OCS oil and gas leasing, including the region's energy imports.

B. BOEM Fails to Consider the Urgent Need to Address Climate Change.

Consideration of the urgent need to address the crisis of climate change is vital context for the Secretary's determination of national energy needs.[80] Our nation cannot afford the

[77] Public versions of the bids are available at https://macleanenergy.com/83c/83c-bids/.

[78] *See Political and Business Support*, NEW BEDFORD WIND ENERGY CTR., http://newbedfordwindenergycenter.org/politcal-business-support/.

[79] *See, e.g.*, VINEYARD WIND LLC, SECTION 83C REQUEST FOR PROPOSAL APPLICATION FORM (Dec. 20, 2017), *available at* https://macleanenergy.com/83c/83c-bids/ (proposing 400–800 megawatts of offshore wind power with a 2021 delivery date).

[80] The Draft Program cites *Center for Biological Diversity v. Interior*, 563 F.3d 466 (D.C. Cir. 2009), which found that OCSLA and the National Enviornmental Policy Act [NEPA] do not require the agency to consider the impacts of consuming OCS oil and gas. *See* Draft Program, *supra* note 3, at 2-8. However, the Secretary still can, and should, take lifecycle greenhouse gas emissions associated with OCS oil and gas production into consideration as relevant to his determination of national energy needs. *Cf. Sierra Club v. Federal Energy Regulatory Comm'n*, No. 16-1329 (D.C. Cir. 2017) (holding that the agency's NEPA analysis for a gas pipeline was insufficient because the agency failed to estimate downstream greenhouse gas emissions that would result from burning the gas that the pipeline will transport, or explain why it could not do so). The federal government has determined that greenhouse gases in the atmosphere and their effects on climate may reasonably be anticipated to endanger public health and welfare. *See* Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009). And as the Draft Program recognizes, there is historical precedent for considering greenhouse gas emissions in national OCS leasing programs. In developing the 2017–2022 Program, BOEM "consider[ed] the full lifecycle [of] GHG emissions" in order "to better inform decisionmakers on the impacts of OCS oil and gas leasing." *Id.* at B-10; *see also id.* at 8-11 (acknowledging that "GHGs, like carbon dioxide, could influence climate over decades to millennia"); *id.* at 5-22 (noting the BOEM has information and analysis regarding lifecycle greenhouse gas emissions associated with OCS oil and gas activities). BOEM has offered no explanation for why the agency has decided not to consider lifecycle greenhouse gas emissions in developing the 2019–2024 Program. *See, e.g.*, *id.* at 5-22 (stating, without further support or

climate pollution that would result from the expansive leasing proposed in the Draft Program. As BOEM acknowledged in the 2016 PEIS developed for the 2017–2022 Program, offshore gas and oil leasing and development will "increase global GHG emissions from the use of vessels, drilling equipment, and other activities that burn fossil fuels," as well as from the fugitive emissions and other releases of methane—a greenhouse gas much more potent than carbon dioxide.[81] This increased pollution would contribute to the climate change crisis that is already harming Massachusetts and the nation.

The damaging coastal flooding Massachusetts experienced during winter storms in January and March 2018—including record-setting tides that swamped Boston's Seaport district and caused major erosion and property damage from Cape Cod to Plum Island—highlight that sea-level rise is an increasing danger to the Commonwealth.[82] And Massachusetts is not alone. According to the National Oceanic and Atmospheric Administration ("NOAA"), 2017 was one of the three hottest years on record and also one of the most expensive years on record in terms of weather and climate-change-related disasters, with the costs totaling over $306 billion—not including losses of life and other human health impacts.[83]

Adapting to increased disasters and other climate impacts imposes significant costs on state and local governments. With climate-change-related sea-level rise and increasingly destructive storm surges, many Massachusetts communities face coastal flooding and erosion that threatens public infrastructure, recreation, natural habitats, and coastal wetland ecological functions. 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.[84] Over the past few years, millions of dollars in federal, state, and local funds have been spent on beach nourishment and replenishment projects in Massachusetts coastal areas. [85] For one example, a recent, large-scale beach replenishment

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explanation, that BOEM's cost-benefit analysis "does not include cost estimates for greenhouse gas (GHG) emissions").

[81] *See* 2016 PEIS, *supra* note 12, at 4-4.

[82] *See* Jaclyn Reiss, *Here's How Bad the Flooding Was During Thursday's Storm*, BOSTON GLOBE (Jan. 4, 2018), *available at* https://tinyurl.com/bostonglobe-flooding; John Waller, *33 photos from the nor'easter that show the sheer power of Mother Nature*, BOSTON.COM (Mar. 3, 2018), *available at* https://www.boston.com/news/weather/2018/03/02/photos-boston-noreaster-storm-march-2-2018; John Hilliard, *Coastal residents wait for flooding and winds to subside*, BOSTON GLOBE (Mar. 4, 2018), *available at* https://www.bostonglobe.com/metro/2018/03/03/coastal-residents-wait-for-flooding-and-winds-subside/MnMpBba8WPtY0yGOb8T75N/story.html.

[83] *See Billion-Dollar Weather and Climate Disasters: Overview*, NAT'L OCEANIC & ATMOSPHERIC ADMIN. [NOAA], (2018), https://www.ncdc.noaa.gov/billions/; *see also* Umair Irfan & Brian Resnick, *Megadisasters Devastated America in 2017. And They're Only Going to Get Worse*, VOX (Jan. 8, 2018), https://www.vox.com/energy-and-environment/2017/12/28/16795490/natural-disasters-2017-hurricanes-wildfires-heat-climate-change-cost-deaths; Jennifer Hijazi, *The 16 Billion Dollar Disasters that Happened in 2017*, SCIENTIFIC AMERICAN (Jan. 18, 2018), *available at*: https://www.scientificamerican.com/article/the-16-ldquo-billion-dollar-disasters-rdquo-that-happened-in-2017/.

[84] *See* U.S. GLOBAL CLIMATE CHANGE RESEARCH PROG., *supra* note 8, at 379 (2009).

[85] *See* 2015 MASSACHUSETTS OCEAN MANAGEMENT PLAN, vol I., 2-22 to 2-32 (2015), *available at* https://www.mass.gov/files/documents/2016/08/qh/2015-ocean-plan-v1-complete.pdf. *See also id*. at fig. 24 (mapping at least 150 Massachusetts beach nourishment projects between 1995 and 2014).

project in Winthrop, Massachusetts secured $26 million in state funds for completion.[86] In 2014 alone, Massachusetts invested $50 million in climate adaptation measures.[87]

The Draft Program fails to consider that offshore fossil fuel development would contribute to climate change and hamper state climate adaptation efforts.[88] The Draft Program does not evaluate the additional costs and risks that greenhouse gas emissions associated with OCS leasing would impose on Massachusetts and other states. And the Draft Program fails to evaluate the merits of pursuing a clean energy future aimed at curbing the devastating consequences of climate change instead of expanding OCS oil and gas exploration and extraction, which could lock in decades of climate warming. Without taking these into consideration, it would be unreasonable for the Secretary to conclude that expanded offshore oil and gas leasing best meets national energy needs.

C. BOEM Fails to Consider Fossil Fuel Trends.

In proposing that expanded leasing is necessary to meet national energy needs, the Draft Program also arbitrarily fails to consider projections of oil and gas prices, U.S. energy production trends, and information regarding the U.S. petroleum trade balance.

Though BOEM uses three inflation-adjusted price cases to represent market uncertainty, the Draft Program primarily relies on an assumed price for oil of $100/barrel and an assumed price for gas of $5.34/mcf.[89] These assumed prices are considerably higher than current and projected prices over the five-year program term, and beyond. Oil and gas prices are now relatively low, and they are not projected to rise significantly.[90] According to EIA's *Annual Energy Outlook 2018*, "crude oil prices in 2016 . . . were at their lowest level since 2004, and natural gas prices . . . were the lowest since before 1990."[91] Per EIA's reference case, prices are projected to increase only "modestly" over the coming decades from this low dip.[92] For instance, in the first year of the 2019–2022 Program term, EIA estimates that Henry Hub spot prices for gas will average $3.08/MMBtu (or approximately $3.00/mcf), and North Sea Brent spot prices for crude oil will average $62/barrel.[93] These price projections are far less than the

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[86] *See* Beth Daley, *Sand Wars Come to New England*, BOSTON GLOBE, (Dec. 15, 2013), *available at* https://www.bostonglobe.com/lifestyle/health-wellness/2013/12/15/sand-wars-come-new-england-coast/F2ClK6e20wtcZeCoUQC9AM/story.html.

[87] MASS. DEP'T OF PUBLIC HEALTH, CAPACITY TO ADDRESS THE HEALTH IMPACTS OF CLIMATE CHANGE IN MASSACHUSETTS 1 (2014), *available at* http://www.mass.gov/eohhs/docs/dph/environmental/exposure/climate-change-report-2014.pdf.

[88] *See also infra* § III (identifying various ways in which the Draft Program fails to appropriately analyze impacts) & § IV (critiquing BOEM's failure to consider greenhouse gas emissions as a cost in its net social value analysis of offshore oil and gas leasing).

[89] *See* Draft Program, *supra* note 3, at §§ 5.2.6, 5.3.

[90] *See* AEO 2018, *supra* note 31, at 30.

[91] *Id.*

[92] *Id.*

[93] EIA, SHORT-TERM ENERGY OUTLOOK 1, 2 (Feb. 2018), *available at* https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf.

Draft Program's moderate price cases of $100/barrel and $5.34/mcf—let alone the Draft Program's high price cases of $160/barrel of oil and $8.54/mcf of gas.[94]

In the context of low or moderate fuel price projections, expanded OCS leasing makes no sense. The direct costs of offshore drilling can total more than several billion dollars per well.[95] In the face of such high costs, developers will engage in OCS production only if fuel prices are high enough to provide a return on investment.[96] "Breakeven" economics for offshore wells typically require prices considerably higher than $62/barrel.[97] Given current low fuel prices, some already-leased OCS areas in the Gulf of Mexico are lying dormant and unexploited, and EIA projects that U.S. offshore oil and gas production will remain flat or decline over the next decade and beyond.[98] The fact that developers are not fully exploiting areas already available for exploration and development belies BOEM's claim that increased OCS leasing is necessary to serve national needs.

Moreover, BOEM has failed to support its claims that increased OCS leasing is necessary for U.S. fuel security. The Draft Program claims that increased OCS leasing would benefit the nation by furthering the goal of "reducing U.S. reliance on imported energy."[99] Yet, U.S. oil imports and the petroleum trade deficit are already at historic lows. According to EIA, "[i]n 2016, the petroleum trade balance was −$68.3 billion; this deficit is one-sixth as much as in 2008" and lowest it has been in decades.[100] Thus, BOEM's concerns about foreign oil imports are unfounded and misleading.[101] Even when the U.S. petroleum trade deficit was at its peak, the Secretary did not authorize leasing on the extensive scale proposed in the Draft Program.[102]

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[94] *See, e.g.*, Draft Program, *supra* note 3, at 5-13, tbl.5-1.

[95] *See generally* EIA, TRENDS IN U.S. OIL AND NATURAL GAS UPSTREAM COSTS (2016), *available at* https://www.eia.gov/analysis/studies/drilling/pdf/upstream.pdf.

[96] *See* Keith Schneider, *Trump has big plans for offshore oil development. But will it ever happen?*, L.A. TIMES (Jan. 5, 2018), *available at* http://www.latimes.com/nation/la-na-offshore-oil-drilling-20180105-story.html.

[97] *See* EIA, TRENDS IN U.S. OIL AND NATURAL GAS UPSTREAM COSTS 5, 128, 131 (2016), *available at* https://www.eia.gov/analysis/studies/drilling/pdf/upstream.pdf (estimating that an approximate 20 percent capex cut would be required to move unsanctioned projects in the Gulf of Mexico Lower Tertiary play to a $60/barrel breakeven, and that in general, "substantial capital cost reductions are required . . . to deliver breakeven economics at $60/barrel, in addition to assumed reductions in operating cost").

[98] *See* AEO 2018, *supra* note 90, at 46, 65.

[99] Draft Program, *supra* note 3, at 2. *See also id.* § 1.2.1.3.

[100] *Fact #1002, November 6, 2017: The Trade Deficit of Petroleum in 2016 Was at its Lowest Since 1998*, OFF. ENERGY EFFICIENCY & RENEWABLE ENERGY, U.S. DEP'T OF ENERGY (Nov. 6, 2017), https://energy.gov/eere/vehicles/articles/fact-1002-november-6-2017-trade-deficit-petroleum-2016-was-its-lowest-1998. *See also* Alex Nussbaum, *U.S. Oil Deficit Hits 17-Year Low as Prices Dip and Shale Flows*, BLOOMBERG (June 6, 2016), *available at* https://www.bloomberg.com/news/articles/2016-06-06/u-s-oil-deficit-hits-17-year-low-as-prices-dip-and-shale-flows.

[101] *See, e.g.*, Draft Program, *supra* note 3, at 5, 1-5, 1-7, 6-5, 6-15.

[102] For example, the 2012–2017 OCS Oil and Gas Leasing Program prepared in 2009–2012 offered leases only in waters off the coast of Alaska and the Gulf of Mexico. *See 2012–2017 OCS Oil and Gas Leasing Program*, BOEM, https://www.boem.gov/Five-Year-Program-2012-2017/. Additionally, the 2007–2012 OCS Oil and Gas Leasing Program, which was prepared "in light of the unexpected rapid escalation of oil prices from late 2007 through mid-

EIA now projects that the United States will become, and remain, a net energy exporter by 2022.[103] Meanwhile, domestic oil production, fueled by the growth in onshore tight (shale) oil production, is at an all-time high. Production topped 10 million barrels a day in November 2017 for the first time since 1970, nearly surpassing the all-time U.S. production record.[104] EIA predicts that production will continue at this rate, with the United States poised to claim the mantel as the world's top oil producer.[105] As BOEM notes, as of 2016, the United States was already the world's largest net exporter of refined products.[106]

The Draft Program acknowledges the United States' growing exports, but claims that increased OCS production would nonetheless "help[] to further improve the trade balance."[107] BOEM cites improvement in the petroleum trade balance as if it were a trump card, but OCSLA requires the Secretary to consider and balance numerous factors in determining how much of the OCS to lease.[108] BOEM has failed to justify a conclusion that incremental improvement in the trade balance would tip the scales of the Secretary's required balancing analysis and "best meet national energy needs," given that the trade imbalance is at historic lows and the risks and costs associated with OCS leasing remain so high, as discussed further below.

D. BOEM Inappropriately Considers "Energy Dominance."

BOEM relies on President Trump's "America-First Offshore Energy Strategy" in attempt to justify the Draft Program's proposed expansion of offshore leasing.[109] For instance, BOEM claims that "[i]ncluding . . . nearly the entire OCS for potential oil and gas discovery is consistent with advancing the goal of moving the United States from simply aspiring for energy independence to attaining *energy dominance*."[110] In addition, BOEM claims that its proposal to radically expand leasing "could help maintain the Nation's position as a *global energy leader for 50 or more years* into the future."[111] BOEM further claims that "[e]conomic value will be realized from *decades of oil and natural gas activity and production* that result from leases

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2008," included leases only in waters off the coast of Alaska and the Gulf of Mexico. *Past 5-Year Program Information – 2007–2012*, BOEM, https://www.boem.gov/Oil-and-Gas-Energy-Program/Leasing/Five-Year-Program/2007-2012-Five-Year-Leasing-Plan.aspx.

[103] *See* AEO 2018, *supra* note 31, at 21, 54. *But see id.* at 24 (projecting that the United States will remain a net importer of petroleum and other liquids). *Cf. Ctr. for Sustainable Economy*, 779 F.3d at 609 ("[W]hat matters in determining whether OCS-derived fuel meets national needs is . . . whether it helps to satisfy domestic needs for fuel security and net supply . . . .").

[104] *See* Alison Sider & Lynn Cook, *U.S. Oil Production Tops 10 Million Barrels A Day for First Time Since 1970*, WALL STREET J. (Jan. 31, 2018), *available at* https://www.wsj.com/articles/u-s-oil-production-tops-10-million-barrels-a-day-for-first-time-since-1970-1517429674.

[105] *Id.*

[106] Draft Program, *supra* note 3, at 1-7.

[107] *Id.* at 1-7.

[108] *See* 43 U.S.C. § 1344(a); *see also infra* § III.

[109] *See* Draft Program, *supra* note 3, at 1, 5, 1-5, 4-9, 6-5, 6-15.

[110] *Id.* at 1 (emphasis added).

[111] *Id.* at 5 (emphasis added). *See also id.* at 6-15 ("The President's energy strategy seeks to encourage energy exploration and production to maintain the United States' position as a global energy leader.").

awarded during the implementation of the National OCS Program."[112] In addition, the Secretary has separately stated that the Draft Program is designed to make America "the strongest energy superpower."[113]

To the extent BOEM intends to rely on Executive Order 13,795 to support the 2019–2024 Program's inclusion of additional OCS planning areas, such reliance would be arbitrary and capricious and *ultra vires*.

Executive Order 13,795, and any vision of "energy dominance" or "energy superpower[s]" that the President or Secretary may have, are insufficient to justify either the Secretary's rejection of the 2017–2022 Program or the adoption of a new 2019–2024 Program with dramatically expanded leasing. The Secretary has power to authorize OCS leasing only to the extent delegated by Congress and within the boundaries prescribed by federal statute. Through OCSLA, Congress specified certain procedures the Secretary must follow, and certain considerations and analyses on which he must base any leasing decisions.[114] Nowhere in OCSLA does Congress authorize the Secretary to privilege the President's desire for "dominance" in developing a national leasing program. Instead, OCSLA requires the Secretary to develop and maintain a leasing program "which he determines will *best meet national energy needs for the five-year period following its approval . . . .*"[115] Though the Secretary may consider the dynamics of international fuel markets and fuel security in evaluating "national energy needs," "energy dominance" stretches the statutory term beyond its reasonable limit.[116] And dominance for "50 or more years into the future" extends far beyond the "five-year period" that OCSLA directs the Secretary to consider.

III. The Draft Program Fails to Balance Properly Potential Benefits from Discovery of Additional Oil and Gas with Risks of Devastating Environmental Impacts.

Section 18(a)(3) of OCLSA mandates that "[t]he Secretary shall select the timing and location of leasing, to the maximum extent practicable, so as to obtain a proper balance between the potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse impact on the coastal zone."[117] The Secretary's balancing must be informed by consideration of eight enumerated factors, including, *inter alia*, other uses of the sea

[112] *Id.* at 2-6.

[113] *See* Schneider, *supra* note 96.

[114] *See* 43 U.S.C. § 1344(a).

[115] *Id.* (emphasis added).

[116] *Cf. Ctr. for Sustainable Economy v. Jewell*, 779 F.3d 558, 609 (D.C. Cir. 2015) (finding that the Secretary could reasonably consider the effects of OCS-derived fuel on international oil and gas markets to the extent that fuel consumed abroad would have a direct impact on America's domestic energy supply).

[117] 43 U.S.C. § 1344(a)(3).

and seabed, the laws and policies of affected states, and the geographical, geological, and ecological characteristics of each planning area to be leased.[118]

Proper balancing of the potential risks and benefits of offshore oil and gas leasing can only lead to one conclusion: there should be no leasing in the North Atlantic Planning Area. As discussed below, the potential for environmental damage and adverse coastal impacts associated with North Atlantic OCS development is so great that the Secretary could only reasonably determine that the region should not be leased.[119] This would be the case even if the potential benefits were significant; but in fact, the potential for discovery of significant oil and gas in the North Atlantic is relatively low and benefits are speculative. The North Atlantic has fewer recoverable oil gas resources than most other planning areas, and far fewer resources than areas already open to drilling.[120] As BOEM recognizes, despite 43 wells drilled in the North Atlantic Planning Area, there has never been any commercial production. Any minimal benefits from expanded oil and gas leasing are far outweighed by the grave risks it poses to Massachusetts' coastal ecosystems and to the many profitable activities that the North Atlantic OCS already supports, including ocean-dependent industries that are critical to the state's economy.

The Draft Program's balancing analysis is inadequate in multiple respects. As an initial matter, the MA AGO notes that although Section 3 of the Draft Program provides a comparative overview of the OCS planning areas and some information relevant to the Section 18(a)(2) factors, it fails to explain *how* the Secretary intends to balance the potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse impact on the coastal zone as required by OCSLA.

Even if the Department were to elaborate its balancing methodology, the Draft Program nevertheless fails to acknowledge or consider a range of potential environmental impacts, important features and characteristics of the North Atlantic region that could be impacted by oil and gas activity, and Massachusetts policies. The Department's failure to consider and balance these factors would violate OCSLA.

A. The Draft Program Inadequately Considers and Balances the Impacts of Oil and Gas Development.

In addition to the Draft Program's failure to adequately consider the risks of climate pollution associated with oil and gas leasing, as discussed in Section II-A-2 above, the Draft Program fails to account adequately for multiple other potential adverse impacts from oil and gas activities, including: 1) the effects of oil and gas exploration activities, including geophysical surveys utilizing seismic testing; 2) the impacts of increased marine traffic; 3) the impacts of coastal industrialization; 4) the risks of harm from oil spills, especially catastrophic release events; and 5) the risks of harm from climate pollution associated with oil and gas activities.

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[118] *Id.* § 1344(a)(2).

[119] The following subsections specifically discuss BOEM's analysis of the North Atlantic Planning Area. For the reasons discussed throughout these comments, the impacts of oil and gas development anywhere along the Atlantic coast could adversely affect Massachusetts' coastal environment, natural resources, communities, economy, and welfare.

[120] *See* Draft Program, *supra* note 3, at 5-1 to 5-15.

Below, we discuss each of these activities in turn, along with their adverse—and potentially devastating—impacts.

1. Impacts of Oil and Gas Exploration Activities

Section 7.2 of the Draft Program fails to analyze adverse impacts resulting from exploratory geophysical surveys. While it is true that geophysical surveys, including those utilizing seismic testing, must undergo separate review under the National Environmental Policy Act ("NEPA"),[121] and Marine Mammal Protection Act ("MMPA"),[122] the Department's failure to acknowledge and analyze seismic testing would be arbitrary and capricious, and fail to comply with OCSLA Section 18(a) review requirements.

Given that the North Atlantic is a frontier area with no prior commercial oil and gas production, lease sales in this planning region would first require geophysical exploration.[123] Exploratory geophysical surveys in the North Atlantic would threaten protected marine wildlife and other resources in state and federal waters that that are critical to Massachusetts' coastal economies, including our commercial fishing, recreation, and tourism industries.[124]

Typical geophysical surveys utilize vessels towing large arrays of seismic air-guns, which emit high energy, low-frequency impulsive sound that travel nearly 2,500 miles.[125] These air-guns shoot loud blasts of compressed air through the ocean and miles under the seafloor, every ten seconds, around the clock, 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.[126] These sounds can cause marine mammals and fish to lose hearing and die.[127]

The detrimental impact of seismic surveys has been studied and documented in peer-reviewed scientific literature. In a study published earlier this year, NOAA investigators and two

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[121] 42 U.S.C. §§ 4321 *et seq*.

[122] 16 U.S.C. §§ 1371(a), 1372(a) (prohibiting any unauthorized "take" of a marine mammal).

[123] *See* Draft Program, *supra* note 3, at 1-16.

[124] *See also generally* Multistate Seismic Testing Comments, *supra* note 1 (incorporated here by reference, with many points reiterated here, and attached in Exhibit A).

[125] *See* S.L. Nieukirk et al., *Sounds from airguns and fin whales recorded in the mid-Atlantic Ocean, 1999–2009*, 131 J. ACOUSTICAL SOC'Y OF AM. 1102 (2012). *See also generally* Multistate Seismic Testing Comments, *supra* note 1 (citing other peer-reviewed academic research articles documenting the nature and extent of seismic testing's adverse impacts on several whale species).

[126] *See, e.g.*, Manuel Castellote et al., *Acoustic and behavioral changes by fin whales (*Balaenoptera physalus*) in response to shipping and airgun noise*, 147 BIOLOGICAL CONSERVATION 115 (2012); Salvatore Cerchio et al., *Seismic surveys negatively affect Humpback Whale singing activity off northern Angola*, 9(3) PLoS ONE (2014).

[127] *See, e.g.*, Jason Gedamke et al., *Assessing risk of baleen whale hearing loss from seismic surveys: The effect of uncertainty and individual variation*, 129 J. ACOUSTICAL SOC'Y OF AM. 496 (2011); Manuel Castellote et al., *Potential negative effects in the reproduction and survival on fin whales (*Balaenoptera physalus*) by shipping and airgun noise*, Int'l Whaling Comm'n Working Paper SC/62/E3 (2010), *available at* http://ocr.org/ocr/wp-content/uploads/Manuel_Castellote_Fin_Whales.pdf; Robert D. McCauley et al., *High intensity anthropogenic sound damages fish ears*, 113 J. ACOUSTICAL SOC'Y OF AM 638 (2003).

of the country's most prominent marine research universities concluded that reef fish abundance declined 78 percent during seismic surveying.[128] And just last year, 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.[129] Finding that zooplankton declined by 64 percent 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."[130] The adverse effects of seismic surveys on fish species and zooplankton may therefore also harm marine mammals by reducing or disrupting their food sources.[131] These recent studies demonstrate that seismic surveys pose immediate and far-reaching risks to the health of our marine environment and all industries that depend on healthy ecosystems, including commercial fishing, charter boat operators, recreational anglers, restaurants, and tourism in coastal communities.

In a 2015 letter, seventy-five of the world's leading marine scientists declared that the 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."[132] 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."[133]

Given these grave risks, the MA AGO has opposed the National Marine Fisheries Service's ("NMFS") still-pending proposal to issue incidental harassment authorizations ("IHAs") to "take" marine mammals incidental to conducting geophysical survey activities in the Atlantic Ocean.[134] By comment letter dated July 21, 2017, Attorney General Healey joined the attorneys general of Maryland, Connecticut, North Carolina, Pennsylvania, and Rhode Island, and the District of Columbia in strongly opposing issuance of any IHAs for seismic surveys for oil and gas exploration to five applicants proposing deep penetration seismic surveys using air-gun arrays.[135]

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[128] B. Avery et al., *Seismic survey noise disrupted fish use of a temperate reef*, 78 MARINE POL'Y 68 (2017).

[129] Robert D. McCauley et al., *Widely used marine seismic survey air gun operations negatively impact zooplankton*, 1 NATURE ECOLOGY & EVOLUTION (2017). *See also infra* § III.0.0 (discussing the potential devastating consequences of zooplankton decline for North Atlantic right whales).

[130] McCauley, *supra* note 129.

[131] *See* J. Gordon et al., *A review of the effects of seismic surveys on marine mammals*, 37 MARINE TECH. SOC'Y J., 16 (2003).

[132] Letter from Christopher Clark et al. to the President of the United States (Mar. 5, 2015) (urging the President to reject seismic oil and gas surveys in the Atlantic).

[133] *Id*.

[134] *See* 82 Fed. Reg. 26,244 (June 6, 2017).

[135] *See* Multistate Seismic Testing Comments, *supra* note 1. The IHA applicants include Spectrum Geo Inc., TGS-NOPEC Geophysical Company, ION GeoVentures, WesternGeco, LLC, and CGG.

2. Impacts from Increased Ocean Use Conflicts

The Draft Program fails to adequately consider that oil and gas development would result in increased ocean user conflicts—both during infrastructure construction (*e.g.*, of oil rigs, transportation pipelines, and other infrastructure) and during post-construction, routine gas and oil extraction and transport activities.

Increased marine vessel traffic resulting from both construction and routine operations would compete with Massachusetts' long-established maritime transportation industry, as well as commercial fishing operations. Furthermore, any geophysical surveys in the North Atlantic—or in any Atlantic planning area—would necessarily increase vessel traffic, intensifying the risk and cumulative impacts of ship strikes that injure or kill marine life, including the critically endangered North Atlantic right whale.[136]

3. Impacts of Coastal Industrialization

As the Draft Program acknowledges, the North Atlantic—and all Atlantic regions—lack infrastructure for oil and gas production, refining, processing, and transport.[137] The potential industrialization and development of oil and gas facilities in any Massachusetts coastal areas would present conflicts with, if not substantially displace, existing coastal and marine uses, including our long-established commercial fishing, ocean-tourism, and ocean-recreation industries—which together account for a substantial portion of the Massachusetts economy.

Additionally, as discussed in Section II-A-3 above, Massachusetts has a groundbreaking commitment to procure 1,600 megawatts of offshore wind power by 2027. In furtherance of this goal, the state has devoted a significant amount of our limited coastal industrial areas to development of infrastructure to support offshore wind.

Moreover, Massachusetts boasts a robust maritime transportation industry with seven major ports and the Boston Fish Pier, the country's oldest continuously operating seafood processing facility.[138] The state's two most critical ports, the Ports of Boston and New Bedford, support major cargo businesses. Boston has New England's only dedicated container port and its main automobile importing facility, while New Bedford is regionally important for importation of perishable goods such as fruits and vegetables. New Bedford is also a budding regional onshore support center for the offshore wind industry.[139] The Port of New Bedford generates

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[136] *See* NOAA FISHERIES, NORTH ATLANTIC RIGHT WHALE (*EUBALAENA GLACIALIS*) 5-YEAR REVIEW: SUMMARY AND EVALUATION 17 (2017) [hereinafter Right Whale 5-Year Review] ("Right whales . . . face the risk of being struck by vessels throughout their range."); Sean A. Hayes et al., *US Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2016*, at 14 (NOAA Tech. Memo. 2017), *available at* http://www.nmfs.noaa.gov/pr/sars/pdf/2016_atlantic_sars_final.pdf. (reporting that in 2010–2014, ship strikes accounted for 20 percent of North Atlantic right whale mortalities and serious injuries).

[137] *See* Draft Program, *supra* note 3, at 6-10.

[138] *See* 2015 MASSACHUSETTS OCEAN MANAGEMENT PLAN, vol. 2, BA-50, *available at* http://www.mass.gov/eea/docs/eea/oceans/ocean-plan/2015-ocean-plan-v2-complete.pdf.

[139] MASS. DEP'T OF TRANSP., THE PORTS OF MASSACHUSETTS STRATEGIC PLAN TECHNICAL MEMORANDUM NUMBER 4: ANALYSIS OF THE MASSACHUSETTS PORT SYSTEM 13 (Nov. 8, 2013), *available at* https://www.massdot.state.ma.us/Portals/17/docs/ports/TechMemo4Nov142013access.pdf.

$3,300,000,000 of direct business revenue, and has an overall economic impact equivalent to 2 percent of Massachusetts' gross state product.[140]

4. Gas and Oil Releases and Large-Scale Oil Spills

The Draft Program's review of environmental impacts from accidental oil spills in Section 7.2.1 is incomplete and inadequate, and fails to provide the reasoned analysis required by OCSLA Section 18(a).

As the Draft Program acknowledges, "[d]espite best efforts, there is no way to guarantee that oil spills will not occur."[141] Indeed, spills and other accidents occur all too 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.[142] Yet, the Draft Program fails to account for the fact that the enormous number of lease sales and an expanded geographical scope of leasing that the Department proposes would increase the threat of oil spills and other harms related to offshore oil and gas development. This is particularly the case as the Draft Program proposes to allow leasing in areas where little or no commercial production has ever taken place, including areas in the Atlantic and Pacific Ocean, where there is a lack of spill-response capacity and infrastructure.

Moreover, the Draft Program fails to consider both relevant information regarding the impacts of the *Deepwater Horizon* oil spill and that the Department is poised to weaken offshore drilling safety rules.

The potential impacts of an oil spill on or approaching the scale of the *Deepwater Horizon* disaster are profound and potentially catastrophic, as extensively documented in the more than 90 studies NOAA has sponsored to date on the *Deepwater Horizon* disaster's impacts.[143] One recent study estimated that the spill caused $17.2 billion in damage to natural resources alone.[144] This extensive devastation demonstrates that the risk of harm to North Atlantic coastal communities and the marine environment from expanded offshore fossil fuel development far outweighs any potential benefits.[145] And yet, the Draft Program merely references BOEM's

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[140] *By the Numbers*, NEW BEDFORD WIND ENERGY CTR., http://newbedfordwindenergycenter.org/about-new-bedford/by-the-numbers/.

[141] *See* Draft Program, *supra* note 3, § 7.2.1.

[142] *See* MA AGO RFI Comments, *supra* note 1 (citing *Offshore Incident Statistics*, BUREAU OF SAFETY & ENVTL. ENFORCEMENT, https://www.bsee.gov/stats-facts/offshore-incident-statistics).

[143] *See NOAA Studies Documenting the Impacts of the Deepwater Horizon Oil Spill*, NOAA OFF. OF RESPONSE & RESTORATION, https://response.restoration.noaa.gov/deepwater-horizon-oil-spill/noaa-studies-documenting-impacts-deepwater-horizon-oil-spill.html.

[144] Richard C. Bishop, *Putting a Value on Injuries to Natural Assets: The BP Oil Spill*, 356 SCIENCE 253 (2017).

[145] 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. Rashid Sumaila et al., *Impact of the Deepwater Horizon well blowout on the economics of U.S. Gulf fisheries*, 69 CANADIAN J. OF FISHERIES & AQUATIC SCI. 499 (2012). 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. Christopher Haney et al., *Bird mortality from the Deepwater Horizon oil spill II, Carcass sampling and exposure probability in the coastal Gulf of Mexico*, 513 MARINE ECOLOGY PROGRESS SRS. 239 (2014); Nathan Putman et al.,

2017 analysis of impacts specific to *Deepwater Horizon*.[146] BOEM fails to discuss the far-reaching and long-lasting effects of that spill, or to address the risk of impacts a similar spill would have in other OCS planning areas, including in the North Atlantic.

For instance, the Draft Program acknowledges that, following an oil spill, "direct adverse impacts on trophic levels, and also decreased light penetration/photosynthesis from oil on water surface" would "alter the base of the food chain" and "would necessarily affect the functioning of the system as a whole."[147] But without reference to any scientific studies or other support, the Draft Program states in conclusory fashion that "these effects on primary production most likely would be very short term and of low magnitude."[148] The Draft Program's utter failure to support its bald claim of minimal adverse impacts on the food chain is arbitrary. The claim is also belied by the *Deepwater Horizon* disaster experience.

The *Deepwater Horizon* oil spill further demonstrates how offshore oil drilling carries a significant risk of widespread damage without regard to state borders.[149] Figure 5, below, roughly illustrates the reach and extent of an oil spill on the scale of *Deepwater Horizon*, and shows the potential for an oil spill to devastate Massachusetts' waterfront communities, commercial fishing industry, and tourism and recreation economy. Given the movement of the tides and marine animals, a spill anywhere in the Atlantic could wreak havoc on our state.

Deepwater Horizon oil spill impacts on sea turtles could span the Atlantic, 11 BIOLOGY LETTERS 1 (2015); Rob Williams et al., *Underestimating the damage: interpreting cetacean carcass recoveries in the context of the Deepwater Horizon/BP incident*, 4 CONSERVATION LETTERS 228 (2011).

[146] *See* Draft Program, *supra* note 3, at 7-36.

[147] *See id.* at 7-54.

[148] *Id*.

[149] *See, e.g.*, NAT'L COMM'N ON THE BP DEEPWATER HORIZON OIL SPILL AND OFFSHORE DRILLING, REPORT TO THE PRESIDENT 185–95 (2011).

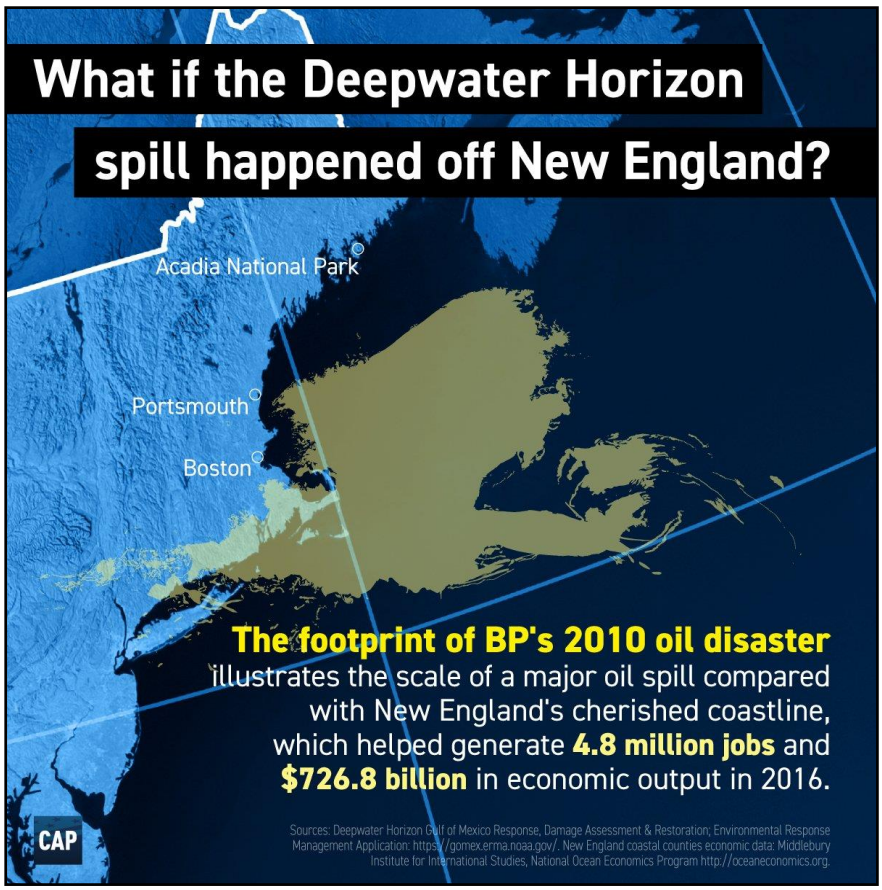

Figure 5. Center for American Progress – What if the Deepwater Horizon *Spill Happened Off New England?*[150]

Even absent a disaster on the scale of *Deepwater Horizon*, offshore oil and gas drilling would threaten Massachusetts. Even a small spill has the potential to devastate sensitive marine and coastal resources and the communities and businesses that depend on them. BOEM fails to acknowledge that spill risks are especially high in frontier areas such as the Atlantic, which have virtually no spill-response infrastructure or capacity.

The Draft Program attempts to justify its proposal to massively expand offshore leasing by relying in part on industry practices and safety rules it asserts have improved following the *Deepwater Horizon* disaster. In passing reference, the Draft program notes "[a]lthough there is always the potential for accidents resulting in an oil spill and/or gas release," federal agency safety requirements and industry practices, including "safeguards for OCS drilling, development and production operations [. . .] have increased in the in the post-*Deepwater Horizon* era."[151]

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[150] Data sources for the graphic include: *Deepwater Horizon* Gulf of Mexico Response, Damage Assessment & Restoration, ENVIRONMENTAL RESPONSE MANAGEMENT APPLICATION, https://gomex.erma.noaa.gov/; Middlebury Inst. for Int'l Studies, NATIONAL OCEAN ECONOMICS PROGRAM, http://oceaneconomics.org. *See generally* CTR. FOR AM. PROGRESS, https://www.americanprogress.org/issues/green/view/.

[151] *See* Draft Program, *supra* note 3, at 7-37.

Impliedly, the Draft Program suggests that these safety and production standard improvements diminish both the likelihood of another spill of significant magnitude, and in the event of such a spill, the extent and scope of environmental harm. But the Draft Program fails to discuss and analyze these improvements in any detail. Astoundingly, the Draft Program fails to acknowledge that BSEE appears poised[152] to *weaken* these very same offshore drilling safety standards, including the Production Safety Systems Rule[153] and Well Control Rule.[154]

The MA AGO strongly opposes any revisions that would undermine or rollback any safety requirements.[155] Any changes by the Bureau of Safety and Environmental Enforcement ("BSEE") that would effectively weaken safety standards at a time when the Department is simultaneously considering a plan to radically expand the scope of offshore drilling would be unlawfully arbitrary. Likewise, radically expanded leasing, as proposed in the Draft Program, would be arbitrary, capricious, and otherwise unlawful in the face of weakened offshore drilling safety controls. Indeed, BOEM's proposed expansion of offshore drilling creates a *heightened* need for robust production safety systems rules.[156]

The Department's contradictory claims in two parallel administrative processes that, on the one hand, expanded offshore drilling will be low-risk due to state-of-the-art safety controls, and, on the other hand, that the same safety controls should be relaxed—underlines the arbitrariness of the Draft Program and the paucity of BOEM's underlying Section 18(a) analysis. Unless and until BSEE takes final agency action regarding drilling safety controls, decision documents prepared for the 2019–2024 Program cannot reasonably assume that the controls will remain in place during the 2019–2024 Program period, or rely on those controls in evaluating the risks of offshore oil and gas development.[157]

Together, the above-reviewed faults of the Draft Program's discussion of the risk of potential oil spill events and resulting environmental damage render BOEM's analysis incomplete, inaccurate, and inadequate for purposes of the reasoned analysis required by OCSLA Section 18(a).

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[152] *See* 82 Fed. Reg. 61,703 (Dec. 29, 2017); *BSEE Reportedly Proposes to Scale Back Well Control Rule*, OFFSHORE MAGAZINE (Dec. 27, 2017), *available at* https://www.offshore-mag.com/articles/2017/12/bsee-reportedly-proposes-to-scale-back-well-control-rule.html.

[153] 81 Fed. Reg. 61,834 (Sept. 7, 2016), *codified at* 30 C.F.R. pt. 250, subpt. H.

[154] 81 Fed. Reg. 25,888 (Apr. 29, 2016), *codified at* 30 C.F.R. pt. 250.

[155] *See* Letter from Attorneys General of Maryland, Maine, Massachusetts, New York, North Carolina, and Virginia to Scott A. Angelle, Bureau of Safety and Environmental Enforcement (Jan. 29, 2018) (Doc. ID. BSEE-2017-0008-0670). Above, we reiterate many of the points in this letter, which is incorporated here by reference.

[156] *Id.* at 3.

[157] For instance, the Draft Program does not address potential safety standard rollbacks in its analysis of the probability (the per well frequency of occurrence) of catastrophic discharge events. *See* Draft Program, *supra* note 3, at 7-26.

B. The Draft Program Inadequately Considers and Balances Potential Impacts to North Atlantic Marine Ecology and Protected Species.

The Secretary's balancing analysis must be informed by consideration of unique North Atlantic resources that could be affected by the impacts of oil and gas activity described above.[158]

As described below, however, the Draft Program's analysis of impacts to ocean productivity and protected species is at best cursory. BOEM fails to consider adequately that oil and gas development in the waters off Massachusetts' coast could degrade our region's nutrient-rich waters, imperil the survival of at-risk species, and otherwise devastate Massachusetts' coastal ecology, communities, and economy.

1. Ocean Productivity

The nutrient-rich North Atlantic Region is among the most biologically productive worldwide, second only to the Cook Inlet in annual net primary productivity.[159] The region's high production of phytoplankton and macroalgae at the base of the marine food chain helps account for the North Atlantic's rich biodiversity.[160]

As the Draft Program acknowledges, "[a]lterations in primary production in an ecosystem will have wide-ranging effects on all dependent species and the chemical processes occurring within the affected system."[161] But BOEM fails to consider that productivity in the North Atlantic Planning Area is already stressed by climate change. Recorded temperatures in the Gulf of Maine have warmed faster than 99 percent of the world's oceans.[162] Rising temperatures and climate-change-related ocean acidification affect organisms throughout the ocean ecosystem. A 2010 study found that since 1950—because of rising ocean surface temperatures—the global phytoplankton population fell by about 40 percent.[163] This in turn affects the production of zooplankton, including copepods—on which the critically endangered North Atlantic right whale depends for survival.[164] Already stressed marine resources could be devastated by the added impacts associated with oil and gas activity. Without considering climate change and other

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[158] *See* 43 U.S.C. § 1344(G), (H) (requiring the Secretary to consider "the relative environmental sensitivity and marine productivity" and "relevant environmental and predictive information for different areas of the [OCS]").

[159] *See* Draft Program, *supra* note 3, § 7.3.3.3.

[160] *See generally* Nat'l Aeronautics and Space Admin., *The Changing Colors of our Living Planet*, GLOBAL CLIMATE CHANGE: VITAL SIGNS OF THE PLANET (Nov 13, 2017), *available at* https://climate.nasa.gov/news/2652/the-changing-colors-of-our-living-planet/.

[161] Draft Program, *supra* note 3, at 7-54

[162] *See Gulf of Maine Explained: The Warming Gulf of Maine*, GULF OF MAINE RESEARCH INST. (Feb. 14, 2018), https://www.gmri.org/news/blog/gulf-maine-explained-warming-gulf-maine.

[163] *See* Lauren Morello, *Phytoplankton Population Drops 40 Percent Since 1950*, CLIMATE WIRE (July 29, 2010), *available at* https://www.scientificamerican.com/article/phytoplankton-population/. *See also* Nat'l Aeronautics and Space Admin., *supra* note 160 (noting that "[a]s ocean waters warm, satellites have detected a shift in phytoplankton populations across the planet's five great ocean basins—the expansion of 'biological deserts' where little life thrives").

[164] *See* Right Whale 5-Year Review, *supra* note 136, at 21.

existing stressors on the marine foodweb, it would be unreasonable for the Secretary to conclude that the impacts of expanded oil and gas activity are outweighed by potential benefits.[165]

Moreover, BOEM fails to mention that the waters off the North Atlantic coast are nationally important for scientific research, exploration, and discovery. Massachusetts is home to the world's leading, independent ocean research and exploration organization, the Woods Hole Oceanographic Institution ("Woods Hole"). Woods Hole is home to important national facilities and research programs. It employs nearly 1,000 people with an annual operating budget of $215 million.[166] Other important marine research institutions include Northeastern University's Nahant Marine Science Center,[167] the University of Massachusetts' School for Marine Science and Technology,[168] and Provincetown's Center for Coastal Studies.[169] Massachusetts is also home to NOAA's Northeast Fisheries Science Center, the regional research arm of NMFS.

2. Protected Species

The Draft Program acknowledges that the North Atlantic and all OCS regions "should be individually considered with a full understanding of species present, their distributions, and habitat needs, and therefore, the individual sensitivity to potential oil and gas activities"[170] but fails to undertake any such analysis.[171] Instead, the Draft Program merely notes that a variety of species—including those listed and protected under the federal Endangered Species Act ("ESA")—are present in the North Atlantic Planning Area, failing to consider or account for the range of protected species and particular risks to their survival posed by oil and gas activity.

Protected species have incalculable value—intrinsically and to the health of the marine ecosystem—and must be thoroughly analyzed in the Secretary's balancing analysis. Although adverse impacts to protected species must be analyzed in the PEIS, the Draft Program's failure to acknowledge and consider protected species impacts in any meaningful way is unreasonable, arbitrary, and fails to comply with OCSLA Section 18(a) requirements. Below, we discuss some of the protected species found in the state and federal waters off the Massachusetts coast and the particular risk of harm posed by oil and gas development.

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[165] In addition, as discussed in Section III-A-4 above, BOEM fails to support its claim that, following an oil spill, the oil slick on surface water would have minimal effects on the functioning of the ecosystem as a whole. BOEM's failure to consider climate change and other existing stressors on the marine foodweb is further evidence of the arbitrariness of the agency's claims regarding impacts to productivity.

[166] *Who We Are*, WOODS HOLE (2018), http://www.whoi.edu/who-we-are/.

[167] *See generally Marine Science Center*, NORTHEASTERN UNIV. COLLEGE OF SCI. (2017), https://cos.northeastern.edu/marinescience/.

[168] *See generally* SCHOOL FOR MARINE SCI. & TECH. UMASS DARTMOUTH (2018), https://www.umassd.edu/smast/.

[169] *See generally* CTR. FOR COASTAL STUDIES (2017), http://coastalstudies.org/.

[170] Draft Program, *supra note* 3, at 7-51.

[171] *See id.* at 7-43 to 7-51.

The Commonwealth's coastal zone is home to many species listed and protected under the ESA and/or the Massachusetts Endangered Species Act ("MESA"), including the following.[172]

Shore Birds. Threatened and endangered shore birds nest along Massachusetts beaches in the spring and summer, including the threatened Piping Plover (*Charadrius melodus*) and endangered Roseate Tern (*Sterna dougallii*), which are protected under both the ESA and MESA.[173] Massachusetts hosts the largest population of breeding Piping Plover pairs along the entire Atlantic coast.[174] 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.[175] Any oil spill in the OCS that reaches Massachusetts coastal waters could wipe out these gains. Notably, the United States and the Commonwealth of Massachusetts secured a natural resource damages award of $715,000 for restoration and monitoring of Piping Plover habitat related to damage from a small oil spill in Massachusetts waters.[176] In addition, as part of a larger $7.3 million award for damage to bird habitat, the United States and the Commonwealth of Massachusetts secured a natural resource damages award of approximately $5 million for restoration and monitoring of Roseate tern and Common tern habitat.[177]

Notably, several other shorebird and seabird species found in Massachusetts coastal areas are protected under the MESA but not the federal Endangered Species Act, including the Common Tern (*Sterna hirundo*), Arctic Tern (*Sterna paradisaea*), and Least Tern (*Sternula antillarum*). Although delisted under the federal ESA, the Bald Eagle (*Haliaeetus leucocephalus*), which forages and nests in estuaries and other coastal areas in Northeast and Southeast Massachusetts, is protected as a threatened species under MESA.[178]

Sea Turtles. Three sea turtles are listed and protected as endangered under the federal ESA and MESA: the Hawksbill (*Eretmochelys imbricate*), Leatherback (*Dermochelys coriacea*),

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[172] MASS. GEN. LAWS c. 131A. *See List of Endangered, Threatened, and Special Concern Species*, MASS. NATURAL HERITAGE & ENDANGERED SPECIES PROG., http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/mesa-list/list-of-rare-species-in-massachusetts.html.

[173] Shore birds found in federal waters off the Massachusetts coast include multiple species listed and protected under the Migratory Bird Treaty Act, 16 U.S.C. §§ 703–12 (prohibiting, *inter alia*, the unauthorized "take," possession, purchase, or transport of dozens of listed migratory bird species).

[174] *See* MASS. NATURAL HERITAGE & ENDANGERED SPECIES PROG., PIPING PLOVER (2015), *available at* http://www.mass.gov/eea/docs/dfg/nhesp/species-and-conservation/nhfacts/charadrius-melodus.pdf; MASS. NATURAL HERITAGE & ENDANGERED SPECIES PROG., ROSEATE TERN (2015), http://www.mass.gov/eea/docs/dfg/nhesp/species-and-conservation/nhfacts/roseate-tern.pdf.

[175] MASS. NATURAL HERITAGE & ENDANGERED SPECIES PROG., SUMMARY OF THE 2016 MASSACHUSETTS PIPING PLOVER CENSUS (2016), *available at* http://www.mass.gov/eea/docs/dfg/nhesp/species-and-conservation/plover-census-report-mass-2016.pdf.

[176] *See* Consent Decree, *United States v. Bouchard Transportation Co., Inc., et al.*, 1:10-cv-11958-NMG, Doc. No. 19 (D. Mass. May 17, 2011).

[177] *See* Consent Decree, *United States v. Bouchard Transportation Co., Inc., et al.*, 1:17-cv-12046-NMG, Doc. No. 14, at app. C (D. Mass. Jan. 24, 2018).

[178] *See* MASS. NATURAL HERITAGE & ENDANGERED SPECIES PROG., BALD EAGLE (2016), *available at* https://www.mass.gov/files/documents/2016/08/rf/haliaeetus-leucocephalus.pdf.

and Kemp's Ridley (*Lepidochelys kempii*). In addition, both the Loggerhead (*Caretta caretta*) and Green sea turtle (*Chelonia mydas*) are listed and protected as threatened under both the federal ESA and MESA.

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.[179] The critically endangered Leatherback sea turtle forages in southern waters of Cape Cod Bay and the waters south of Cape Cod in the summer.[180]

Whales. Six whales are listed and protected as endangered under the federal ESA and MESA:[181] the Sperm Whale (*Physeter microcephalus*), Fin Whale (*Balaenoptera physalus*), Sei Whale (*Balaenoptera borealis*), Blue Whale (*Balaenoptera musculus*), Humpback Whale (*Megaptera novaeangliae*), and the critically endangered North Atlantic right whale (*Eubalaena glacialis*).[182]

The North Atlantic right whale can be found in North Atlantic waters year round. The species forages off the Massachusetts coast in late winter and spring. The waters in Cape Cod Bay and the Great South Channel east of Nantucket are vital North Atlantic right whale feeding grounds because they host an unusually high concentration of zooplankton.[183]

In the *past twelve months*, eighteen North Atlantic right whales have been found dead off the Atlantic coast, bringing the total number of these whales left in existence to only about 430.[184] Alarmingly, this record annual mortality rate has been coupled with historically low calving levels over the past two years, with *no* newborn calves recorded yet this season. According to scientists at the Marine Mammal Center at Woods Hole, the combination of record high mortality and no reproduction could be "catastrophic" for the species' survival.[185]

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[179] *See* MASS. NATURAL HERITAGE & ENDANGERED SPECIES PROG., KEMP'S RIDLEY SEA TURTLE (2015), *available at* http://www.mass.gov/eea/docs/dfg/nhesp/species-and-conservation/nhfacts/lepidochelys-kempii-2015.pdf.

[180] *See* MASS. NATURAL HERITAGE & ENDANGERED SPECIES PROG., LEATHERBACK SEA TURTLE (2015), *available at* https://www.mass.gov/files/documents/2016/09/rn/dermochelys-coriacea-2015.pdf.

[181] Federal waters off the Massachusetts coast also include whale and other marine mammal species listed and protected under MMPA. *See* 16 U.S.C. §§ 1371(a), 1372(a) (prohibiting any unauthorized "take" of a marine mammal).

[182] Massachusetts Natural Heritage and Endangered Species Program fact sheets are available for each of these endangered whales via http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/mesa-list/list-of-rare-species-in-massachusetts.html.

[183] *See* MASS. NATURAL HERITAGE & ENDANGERED SPECIES PROG., NORTHERN RIGHT WHALE, *available at* http://www.mass.gov/eea/docs/dfg/nhesp/species-and-conservation/nhfacts/eubalaena-glacialis.pdf.

[184] *See 2017 North Atlantic Right Whale Unusual Mortality Event*, NOAA FISHERIES (Jan. 4, 2018), http://www.nmfs.noaa.gov/pr/health/mmume/2017northatlanticrightwhaleume.html; David Abel, *After year of record deaths, right whales produce no new calves, which could be 'catastrophic'*, BOSTON GLOBE (Feb. 24, 2018), *available at* https://www.bostonglobe.com/metro/2018/02/25/after-year-record-deaths-right-whales-produce-new-calves-which-could-catastrophic/wzPwtQSk9iRDlIvmaFp5nJ/story.html.

[185] *See* Abel, *supra* note 184. *See also* HEATHER M. PETTIS ET AL., NORTH ATLANTIC RIGHT WHALE CONSORTIUM 2017 ANNUAL REPORT CARD (2017), *available at* https://www.narwc.org/report-cards.html (reporting that calving rates have decreased since 2008); Richard M. Pace III et al., *State-space mark-recapture estimates reveal a recent*

At this stage, the risk of *any* adverse impact to the critically endangered North Atlantic right whale could have devastating consequences,[186] especially because the remaining population faces many other threats that imperil the species' survival, including proposed seismic testing in the Atlantic Ocean. Seismic blasts pose grave risks to the survival of the critically endangered North Atlantic right whale, in particular. Last year, twenty-eight marine biologists with right whale expertise expressed "profound concern" over the impacts of seismic surveys along the Atlantic coast.[187] 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."[188] Considering the grave risks that oil and gas activity poses—including potentially extinction of the species—BOEM's analysis of potential impacts to the North Atlantic right whale is particularly egregious. The Draft Program merely states that the species "could be impacted by potential oil- and gas-related activities."[189] Moreover, the Draft Program's general discussion of the required analysis for species and habitat impacts relies on a sensitivity analysis BOEM conducted for the 2017–2022 Program, which fails to take into account the grave survival risks posed by recent North Atlantic right whale deaths.[190]

C. The Draft Program Fails to Consider and Balance Adequately Potential Impacts to Sensitive and Protected Marine and Coastal Resources that are Critical to Massachusetts' Recreation and Tourism Economy.

Multiple marine and coastal areas in Massachusetts and the OCS off Massachusetts are protected by federal law though designation of a national marine monument and national marine sanctuary, or by creation of a national seashore and several coastal national wildlife refuges. Below, we discuss the marine and coastal resources protected in each of these areas, as well as the adverse impacts that oil and gas activities could have on these resources.

In general, BOEM should consider that these protected areas are important to Massachusetts' thriving ocean- and coastal-tourism economy. As BOEM rightly notes, the ocean-dependent tourism industry in and along the North Atlantic Planning Area is

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decline in abundance of North Atlantic right whales, 7(21) ECOLOGY & EVOLUTION 1 (2017) (stating that North Atlantic right whale productivity in recent years has "likely been less than needed for replacement of dying whales").

[186] Indeed, even a single North Atlantic right whale death would have species-level impacts. The MMPA requires NOAA Fisheries to determine the potential biological removal ("PBR") level for strategic stocks of marine mammals. 16 U.S.C. § 1387(f)(2). The PBR level is the maximum number of non-natural mortalities that allow the stock to reach or maintain its optimum sustainable population. *Id.* § 1362(20). The North Atlantic right whale PBR level is no more than one whale per year. *See* Hayes et al., *supra* note 136, at 12.

[187] Letter from Christopher Clark et al. to the President of the United States (Apr. 14, 2016), *available at* https://nicholas.duke.edu/about/news/letter-to-obama-seismic-effects-whales.

[188] *Id.*

[189] Draft Program, *supra* note 3, at 7-28.

[190] *See id.* at 7-44 to 7-45. *See also* Right Whale 5-Year Review, *supra* note 136, at 15 (stating that "[a] continued threat to the coastal habitat of right whales in the western North Atlantic is the undersea exploration and development of mineral deposits" and "[i]f drilling activities are allowed to occur in the future, there may be consequent adverse effects to the right whale population by vessel movements, noise, spills, or effluents").

"enormous."[191] 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.[192] Saltwater recreational fisheries, including the wild striped bass fishery, are also critical to Massachusetts' economy and support the state's robust coastal tourism industry and charter boat fishing industry. Recreational fishing generated $986 million in sales of goods and services in 2015.[193]

Cape Cod National Seashore. Created by act of Congress in 1961,[194] the Cape Cod National Seashore is a national and international treasure that boasts beautiful beaches and magnificent coastal ecosystems. These valuable ecosystems host and support an array of wildlife, including species listed and protected as endangered under the ESA, such as the Piping Plover. The U.S. National Park Service, in consultation with the Cape Cod National Seashore Advisory Council, manages the Cape Cod National Seashore. Consisting of ten members appointed for two year terms by the Secretary,[195] the Council advises the Secretary and the national seashore superintendent on matters relating the national seashore's use, management, and policies.

As the National Park Service notes, visitors to the Cape Cod National Seashore experience miles of pristine, sandy beaches, walking and bike trails, lighthouses, cultural landscapes, marshes, ponds, and wild cranberry bogs that "offer a glimpse of Cape Cod's past and continuing ways of life."[196]

An offshore oil spill affecting the Cape Cod National Seashore could be ecologically catastrophic. A spill could also disrupt the local tourism economy, which depends on the millions of visitors who travel to the seashore to experience beautiful landscapes, glimpse wildlife, and sample local seafood.

Massachusetts Coastal National Wildlife Refuges. The U.S. Fish and Wildlife Service ("USFWS") National Wildlife Refuge System's mission is to provide for the conservation of wild lands and the perpetuation of diverse and abundant wildlife "essential to the quality of the

[191] Draft Program, *supra* note 3, at 6-28.

[192] *See* MA AGO RFI Comments, *supra* note 1, at 3 (citing D. BORGES ET AL., PUBLIC POLICY CTR., U. MASS. DARTMOUTH, NAVIGATING THE GLOBAL ECONOMY: A COMPREHENSIVE ANALYSIS OF THE MASSACHUSETTS MARITIME ECONOMY 36–37 (2017), *available at* http://publicpolicycenter.org/portfolio-item/navigating-the-global-economy-a-comprehensive-analysis-of-the-massachusetts-maritime-economy/).

[193] NMFS, NOAA Technical Memorandum NMFS-F/SPO-170, 11 (May 2017), *available at* https://www.st.nmfs.noaa.gov/Assets/economics/publications/FEUS/FEUS-2015/Report-Chapters/FEUS%202015%2001-TOCpreface_Final2_508.pdf.

[194] *See* The Cape Cod National Seashore Act, Pub. L. 87-126, 75 Stat. 284 (Aug. 7, 1961), *codified at* 16 U.S.C. 459b-7.

[195] *See* 16 U.S.C. § 459b-7(b), (c).

[196] *See Cape Cod*, NAT'L PARK SERV. (2018), https://www.nps.gov/caco/index.htm.

American life."[197] Where compatible with this mission, national wildlife refuges allow visitors to hunt, fish, observe and photograph wildlife, and participate in education programs.[198]

Figure 6. USFWS – Massachusetts National Wildlife Refuges[199]

Massachusetts is home to seven coastal National Wildlife Refuges managed by the USFWS: Mashpee National Wildlife Refuge, Massasoit National Wildlife Refuge, Monomoy National Wildlife Refuge, Nantucket National Wildlife Refuge, Noman's Land Island National Wildlife Refuge, Parker River National Wildlife Refuge, and Thatcher Island National Wildlife Refuge,[200] all shown in Figure 6 above.

An offshore oil spill could impact these refuges and compromise their mission of protecting and conserving environmental resources and wildlife. Such a spill could also disrupt the local tourism industry based in part on visits to the refuges.

National Marine Sanctuaries. The Gerry E. Studds Stellwagen Bank National Marine Sanctuary is an 842-square-mile open ocean sanctuary in the southwest corner of the Gulf of Maine, located at the mouth of Massachusetts Bay between Cape Cod and Cape Ann, as depicted in Figure 7 below.[201] The Stellwagen Bank National Marine Sanctuary's mission is to "conserve, protect and enhance the biological diversity, ecological integrity and cultural legacy of the sanctuary while facilitating uses that are compatible with the primary goal of resource

[197] *See National Wildlife Refuge System*, U.S. FISH & WILDLIFE SERV. (Oct. 26, 2017), https://www.fws.gov/refuges/about/mission.html.

[198] *Id.*

[199] *See Refuge List by State*, U.S. FISH & WILDLIFE SERV., https://www.fws.gov/refuges/profiles/ByState.cfm?state=MA.

[200] *See id.*

[201] *See generally* U.S. Dep't of Commerce, GERRY E. STUDDS STELLWAGEN BANK NATIONAL MARINE SANCTUARY, https://stellwagen.noaa.gov/maritime/welcome.html.

protection."[202] Designated by Congress in 1992 to "be managed to maintain the habitats and ecological services of the natural assemblage of living resources of the area, as well as its maritime heritage resources," the sanctuary protects a diverse seafloor topography and array of benthic and pelagic habitats.[203] The sanctuary's management plan and environmental assessment promotes capacity building, ecosystem protection, marine mammal protection, and maritime heritage management, utilizing ecosystem-based management to conserve biological communities, habitats, and species populations.[204]

Extensive scientific studies and monitoring projects operate in the Stellwagen Bank National Marine Sanctuary, often through collaborations between NOAA and scientific research institutes including Woods Hole and the Center for Coastal Studies. Historic and ongoing research includes seafloor habitat recovery monitoring, marine mammal surveys, and passive acoustic monitoring to better understand and assess the adverse impacts of multiple sources of underwater noise on marine species.[205]

In addition to commercial fishing, the sanctuary supports recreational activity including world-famous whale watch cruises, sea birding tours, and various educational programs that operate out of multiple Massachusetts waterfront locations, as well as in other New England states. Recreational and educational tours related to whale watching alone are a $100 million industry in New England.[206] NOAA reports that more than 90 percent of New England regional whalewatching effort is directed at Stellwagen Bank.[207] In 1996 alone, it is estimated that more than 860,000 whale watches departing from New England ports toured Stellwagen Bank.[208]

Whale watch tours are also an important part of the Massachusetts tourist economy, bringing indirect revenue to our state through tourist patronage of restaurants, shops, and other business in and around waterfront locations from which whale watch tours operate.

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[202] *See* STELLWAGEN BANK NATIONAL MARINE SANCTUARY, FINAL MANAGEMENT PLAN AND ENVIRONMENTAL ASSESSMENT ii (2010), *available at* https://nmsstellwagen.blob.core.windows.net/stellwagen-prod/media/archive/management/fmp/pdfs/sbnms_fmp_exec_sum.pdf.

[203] *Id.*

[204] *Id.*

[205] *See* U.S. Dep't of Commerce, *Science – Monitoring Programs*, GERRY E. STUDDS STELLWAGEN BANK NATIONAL MARINE SANCTUARY, https://stellwagen.noaa.gov/science/monitoringprograms.html; U.S. Dep't of Commerce, *Science – Research Programs*, GERRY E. STUDDS STELLWAGEN BANK NATIONAL MARINE SANCTUARY, https://stellwagen.noaa.gov/science/researchprograms.html. *See also infra* § III-A-1 (discussing the damaging effects of seismic surveys on marine life).

[206] *See* Madeline Bilis, *Throwback Thursday, When New England's Whale Watching Business Was Born*, BOSTON MAG. (Apr. 13, 2017), *available at* https://www.bostonmagazine.com/news/2017/04/13/whale-watching-business-born/ (citing *Cape Cod Whale Watching*, DICK HILMER'S EXPLORE CAPE COD (2006), http://www.explorecapecod.com/whale_watching.htm).

[207] NOAA, THE ECONOMIC CONTRIBUTION OF WHALEWATCHING TO REGIONAL ECONOMIES: PERSPECTIVES FROM TWO NATIONAL MARINE SANCTUARIES 5 (2000), *available at* https://nmshawaiihumpbackwhale.blob.core.windows.net/hawaiihumpbackwhale-prod/media/archive/documents/pdfs_science/whalewatch_benefits.pdf.

[208] *See* Porter Hoagland & Andrew E. Meeks, Marine Pol'y Ctr., Woods Hole, *The Demand for Whalewatching at Stellwagen Bank National Marine Sanctuary* (2000), *in* NOAA, *supra* note 207, at 53, 56.

Massachusetts-based tours include those sponsored by the New England Aquarium in conjunction with Boston Harbor Cruises,[209] and by the New England Coastal Wildlife Alliance, the Hyannis Whale Watcher Cruises out of Barnstable Harbor, and several that operate out of Provincetown, including Cape Cod Whale Watch. The New England Coastal Wildlife Alliance and other organizations also provide historical and cultural tours in and around Stellwagen Bank.[210] A significant offshore gas or oil release event or spill, increased coastal industrial industrialization, and increased vessel traffic could all have profound economic impacts on this industry.

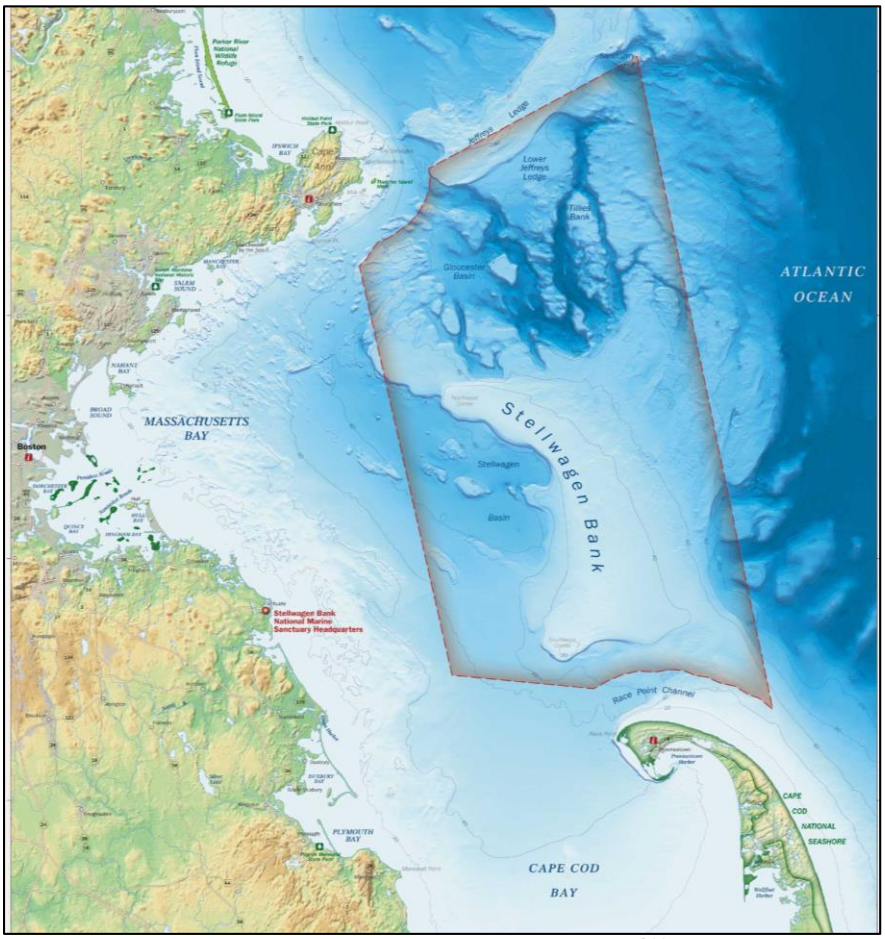

Figure 7. NOAA – Stellwagen Bank[211]

Marine National Monuments. Designated in September 2016 as the first national marine monument in the Atlantic, the Northeast Canyons and Seamounts Marine National Monument protects four seamounts (extinct underwater volcanoes in a submarine mountain range nearly the size and scale of the Rocky Mountains) and three deep sea canyons that extend to depths greater

[209] *See New England Aquarium Whale Watch*, NEW ENGLAND AQUARIUM (2018), http://www.neaq.org/exhibits/whale-watch/.

[210] *See, e.g.*, *NECWA Events*, NEW ENGLAND COASTAL WILDLIFE ALLIANCE (2018), http://www.necwa.org/necwa_events.html.

[211] *Available at* https://upload.wikimedia.org/wikipedia/commons/8/80/Stellwagen_Bank_NMS_map.jpg.

than the Grand Canyon.[212] The monument's submarine canyons and undersea mountains lie in waters approximately 130 miles southeast of Cape Cod, in the areas depicted in Figure 8 below.

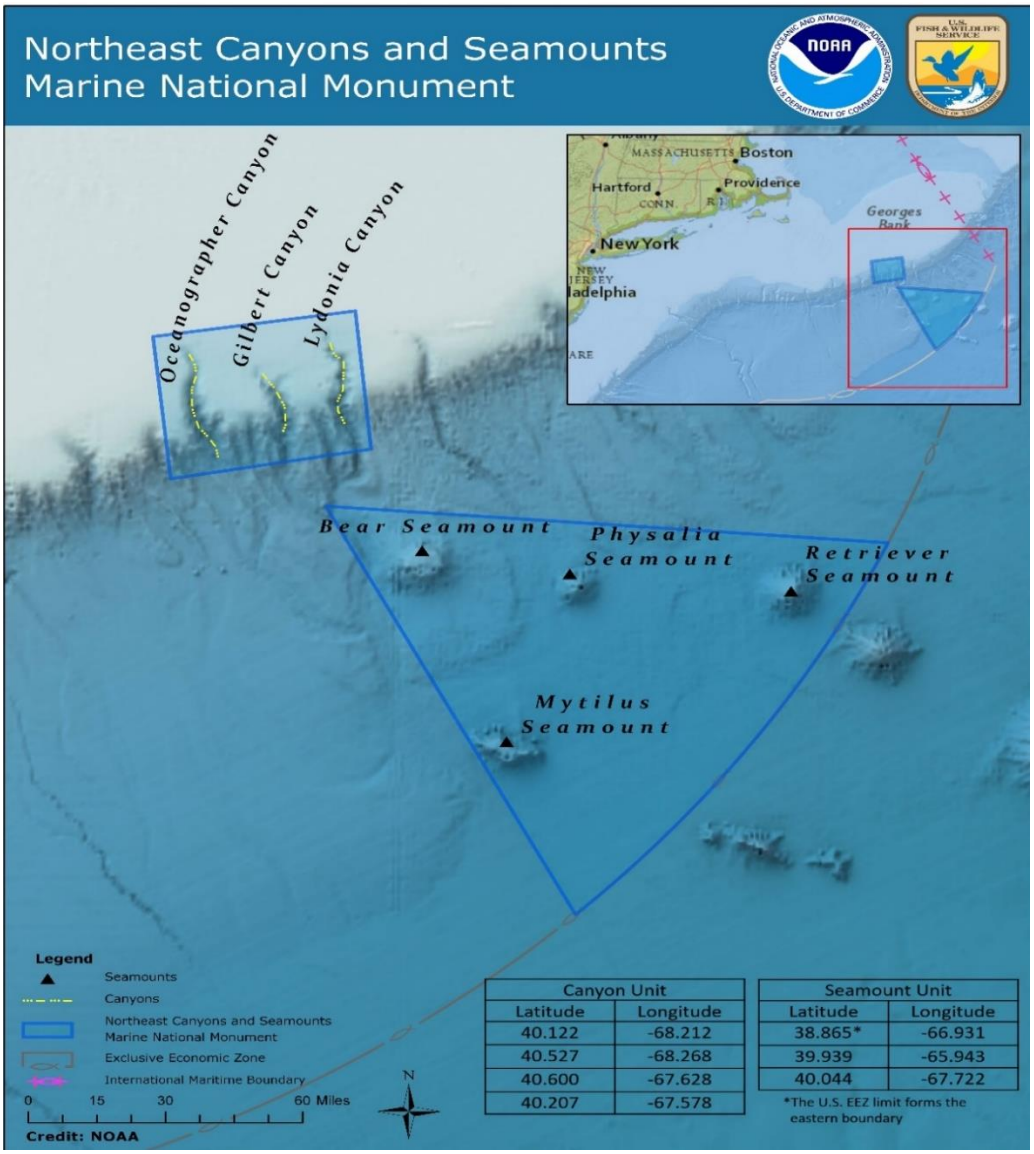

Figure 8. NOAA – Northeast Canyons and Seamounts Marine National Monument[213]

Long the subject of scientific study, the areas protected by the national monument are among the least disturbed submarine geological formations and marine habitats in Atlantic Ocean federal waters. The national monument hosts a diverse and rich marine ecosystem that is

[212] *See* Proclamation of President Barak Obama designating the Northeast Canyons and Seamounts National Marine Monument, The White House (Sept. 15, 2016), *available at* https://obamawhitehouse.archives.gov/the-press-office/2016/09/15/presidential-proclamation-northeast-canyons-and-seamounts-marine [hereinafter Northeast Canyons and Seamounts Proclamation].

[213] *See* Press Release, NOAA, First Marine National Monument Created in the Atlantic (Sept. 15, 2016, updated Sept. 19, 2016), http://www.noaa.gov/news/first-marine-national-monument-created-in-atlantic.

home to more than 1000 marine species. Among the diverse species found in the Northeast Canyons and Seamounts Marine National Monument are thousand-year-old corals, migratory seabirds (including storm petrels, gulls, terns, and endangered Atlantic puffins), octopuses, dolphins, and whales, including endangered sperm whales.[214] Multiple species of sea turtles inhabit the monument, along with sharks and highly migratory fish such as tunas and swordfish that feed in monument's nutrient-rich waters.[215]

Designation of the Northeast Canyons and Seamount Marine National Monument was motivated in part, as the proclamation notes, by new threats from "varied ocean uses, climate change, and related impacts."[216] The protection afforded by the monument designation "provides a living research laboratory within which scientists will be able to study the effects of climate change on relatively undisturbed marine life."[217]

The monument's designation expressly prohibits any oil and gas development activity.[218] By assuring that the monument remains undisturbed by oil and gas development, the designation will continue to allow marine species "to grow, reproduce, and spread outside the monument's borders" creating a "so-called spillover effect [that] can help rejuvenate commercially and recreationally important fish stocks and support whale watching and seabird tourism industries."[219]

Opening up any part of the national monument to oil and gas development—or even just to exploratory geophysical surveys—could undermine research efforts and scuttle the spillover

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[214] *See* Press Release, Anderson Cabot Ctr. for Ocean Life at the New England Aquarium, Exceptional Marine Mammal Diversity and Abundance Sighted at Northeast Canyons and Seamounts National Marine Monument (Nov. 21, 2017), http://www.andersoncabotcenterforoceanlife.org/blog/exceptional-diversity-seen-national-marine-monument/.

[215] *See* Northeast Canyons and Seamounts Proclamation, *supra* note 212.

[216] *See id.*

[217] *See* Michael Conathan & Avery Siciliano, *Big Oil Could Benefit Most From Review of Northeast Canyons and Seamounts*, CTR. FOR AM. PROGRESS (July 25, 2017), https://www.americanprogress.org/issues/green/reports/2017/07/25/436441/big-oil-benefit-review-northeast-canyons-seamounts-monument/.

[218] *See* Northeast Canyons and Seamounts Proclamation, *supra* note 212 ("The Secretaries shall prohibit . . . [e]xploring for, developing, or producing oil and gas or minerals, or undertaking any other energy exploration or development activities within the monument [and] [d]rilling into, anchoring, dredging, or otherwise altering the submerged lands; or constructing, placing, or abandoning any structure, material, or other matter on the submerged lands, except for scientific instruments and constructing or maintaining submarine cables.").

[219] *See* Conathan & Siciliano, *supra* note 217. Pursuant to President Trump's Executive Order 13,795, "Implementing an America-First Offshore Energy Strategy," (*supra* note 2), the Secretary conducted a review twenty-seven national monuments designated since 1996 containing 100,000 or more acres, including national marine monuments. By a final recommendation report made to President Trump, the Secretary recommended changes in the conditions governing the Northeast Canyons and Seamounts National Marine Monument designation, including opening up the monument to commercial fishing. *See* Memorandum for the President from Ryan K. Zinke, Final Report Summarizing Findings of the Review of Designations Under the Antiquities Act (Dec. 5, 2017), *available at* https://www.doi.gov/sites/doi.gov/files/uploads/revised_final_report.pdf. As of the date of this comment letter, President Trump has not issued a proclamation making any changes to the Atlantic's only marine national monument designation.

effects that may benefit Massachusetts commercial fishermen. Attorney General Healey *strongly* opposes any designation change that could open up the Northeast Canyons and Seamounts Marine National Monument to oil and gas development, including any exploratory geophysical surveys utilizing seismic testing.

Massachusetts Exempt Sites. Massachusetts is also home to more than three-dozen culturally and archeologically significant shipwreck sites listed on the national system of Marine Protected Areas.[220] These "exempted" sites designated by the Massachusetts Board of Underwater Archaeological Resources are open to recreational diving.[221] An offshore spill, increased vessel traffic, and impacts to marine wildlife could affect divers' enjoyment of these sites, with resulting adverse effects on Massachusetts' tourism economy.

D. The Draft Program Fails to Consider and Balance Climate Pollution Impacts.

As discussed in Section II-B above, Massachusetts' coastal areas are already experiencing serious climate change impacts, including increasingly severe storm-surge flooding as sea levels rise. Flooding from recent storms have resulted in extreme ecosystem damage and property loss. The Draft Program arbitrarily fails to consider the relationship between expanded leasing and climate impacts.

E. The Draft Program Inadequately Considers and Balances Potential Impacts to the Commercial Fishing Industry.

Section 18(a)(2)(D) of OCSLA requires that the Secretary evaluate the many uses of the sea and seabed, "including fisheries. . . ."[222]

As described above, the North Atlantic region is one of the most the nutrient-rich and biodiverse of all OCS areas. These extraordinary resources support many economically important uses of the sea and seabed in the North Atlantic Planning Area and off the Massachusetts coast.[223] The Draft Program's cursory analysis in Section 6.5.4 fails to consider the potential grave impacts of oil and gas activity on these resources and uses. In particular, BOEM fails to consider adequately commercial fishing activity, which contributes substantially to Massachusetts' and the U.S. economy, health, and welfare.

While BOEM documents that commercial fishing occurs in the North Atlantic Planning Area, the Draft Program's superficial two-sentence analysis[224] does not recognize that the

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[220] *See List of National System MPAs* (2013), https://nmsmarineprotectedareas.blob.core.windows.net/marineprotectedareas-prod/media/archive/pdf/national-system/nationalsystem_siteslist_0713.pdf.

[221] *See BUAR – Exempted Shipwreck Sites*, MASS. BD. OF UNDERWATER ARCHEOLOGICAL RESOURCES (2018), https://www.mass.gov/service-details/buar-exempted-shipwreck-sites.

[222] 43 U.S.C. § 1344(a)(2)(D).

[223] In general, the MA AGO urges BOEM to reference the Northeast Ocean Data Portal (http://www.northeastoceandata.org/) for information about uses of the sea and seabed.

[224] *See* Draft Program, *supra* note 3, at 6-28, 6-29.

historic fishing grounds off the Massachusetts coast are among the nation's richest, and that Massachusetts' fisheries are among the most profitable.

Commercial fisheries, including groundfish, lobster, black sea bass, bluefish, dogfish, mussels, scallops, tuna, skates, striped bass, and other fisheries are critical to the Commonwealth's economy. The Bay State's commercial fishing fleet is the third highest-value fleet in the country. For seventeen years in a row, New Bedford has been ranked as the nation's highest-valued fishing port, landing $327 million in revenue in 2016.[225] The Commonwealth's commercial fishing industry generated $7.3 billion in seafood sales in 2015.[226] With more than 232 million pounds of fish caught in 2015, Massachusetts ranked second nationwide in commercial fish landings.[227]

The Commonwealth also 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.[228] Commercial fishing jobs are particularly important to the economy and irreplaceable culture of Massachusetts' small coastal towns.

Established by Congress in 1976, the New England Fishery Management Council ("NEFMC") is charged with developing management plans for certain commercial fishery resources in federal waters, including resources in the Gulf of Maine and Georges Bank. Under the Magnuson-Stevens Fishery Conservation and Management Act, the NEFMC maintains nine Fishery Management Plans governing commercial fishing operations in federal waters, including waters off the Massachusetts coast. These include Fishery Management Plans for groundfish, sea scallops, and red crabs, among other species.[229] Fishery Management Plans identify broad offshore areas where commercial fishing activity is permitted, including offshore waters in the North Atlantic Planning Area. Fishery Management Plans also designate certain areas closed to commercial fishing activity. The NEFMC and NOAA have identified these closed areas as critical to stock recovery or spawning, or otherwise important to the functioning of the ocean ecosystem.

The Magnuson-Stevens Fishery Conservation and Management Act also provides for the designation of Essential Fish Habitat that is "necessary for managed fish to complete their life

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[225] *See* Michael Bonner, *New Bedford Retains Title of Highest Valued Port for 17th-Straight Year*, SOUTH COAST TODAY (Nov. 1, 2017), *available at* http://www.southcoasttoday.com/news/20171101/new-bedford-retains-title-of-highest-valued-port-for-17th-straight-year.

[226] NMFS, *supra* note 193, at 7–8.

[227] BORGES ET AL., *supra* note 192, at 21.

[228] K. AUGUSTO & G. HOLMES, MASSACHUSETTS SHELLFISH AQUACULTURE ECONOMIC IMPACT STUDY 2, 26–28 (2015), *available at* http://web.whoi.edu/seagrant/wp-content/uploads/sites/24/2015/01/MA-Aquaculture-Economic-Impact-Study-2015.pdf.

[229] *See Management Plans*, NEW ENGLAND FISHERY MGMT. COUNCIL (2018), https://www.nefmc.org/management-plans. NOAA works cooperatively with the NEFMC, the Mid-Atlantic Fishery Management Council, the Northeast Fisheries Science Center, and the Atlantic States Marine Fisheries Commission "to develop, review, and implement fishery management plans in federal waters." NOAA also reviews all fishery actions to ensure compliance with other applicable laws, including the federal ESA and MMPA. *See Greater Atlantic Regional Fisheries Office*, NOAA Fisheries, https://www.greateratlantic.fisheries.noaa.gov/sustainable/index.html.

cycle" and to maintain sustainable fish populations. Habitat Areas of Particular Concern ("HAPCs") are subsets of Essential Fish Habitat that designate habitat areas with extraordinarily important ecological functions and areas that are particularly vulnerable to degradation through fishing or other activities and practices. BOEM should consider the revised Essential Fish Habitat, HAPC, and Designated Habitat Research Area designations in North Atlantic waters recently approved by NOAA.[230]

Nearly every impact associated with oil and gas leasing could disrupt commercial fishing activity on the OCS and in Massachusetts state waters. Increased vessel traffic and offshore drilling platforms would compete with fishing vessels in already crowded offshore areas. Coastal industrialization could burden small coastal fishing towns and disrupt their historic fishing culture. Adverse environmental impacts such as sound, pollution, and spills could jeopardize the recovery of overfished species. Spills would adversely affect the marine resources and ecosystem functioning that are critical to fishermen's livelihoods and the nation's seafood supply and trade. A catastrophic spill could even temporary close fisheries, as occurred following the *Deepwater Horizon* disaster, jeopardizing already razor-thin profit margins. And increased climate pollution would contribute to ocean changes that are already threatening fishing families and coastal communities.

Given the extent of commercial fishing activity in the North Atlantic, and its economic and cultural importance to Massachusetts and the nation, it would be unreasonable for the Secretary to conclude that oil and gas development is a compatible use.

[230] *See* Letter from John Bullard, Regional Admin., NMFS Greater Atlantic Regional Fisheries Off., to Dr. John Quinn, Chairman, New England Fishery Mgmt. Council (Jan. 3, 2018), *available at* https://www.savingseafood.org/news/management-regulation/noaa-partially-approves-omnibus-habitat-amendment-2/; Magnuson-Stevens Fishery Conservation and Management Act Provisions; Fisheries of the Northeastern United States; Essential Fish Habitat, 82 Fed. Reg. 51,492 (Nov. 6, 2017).

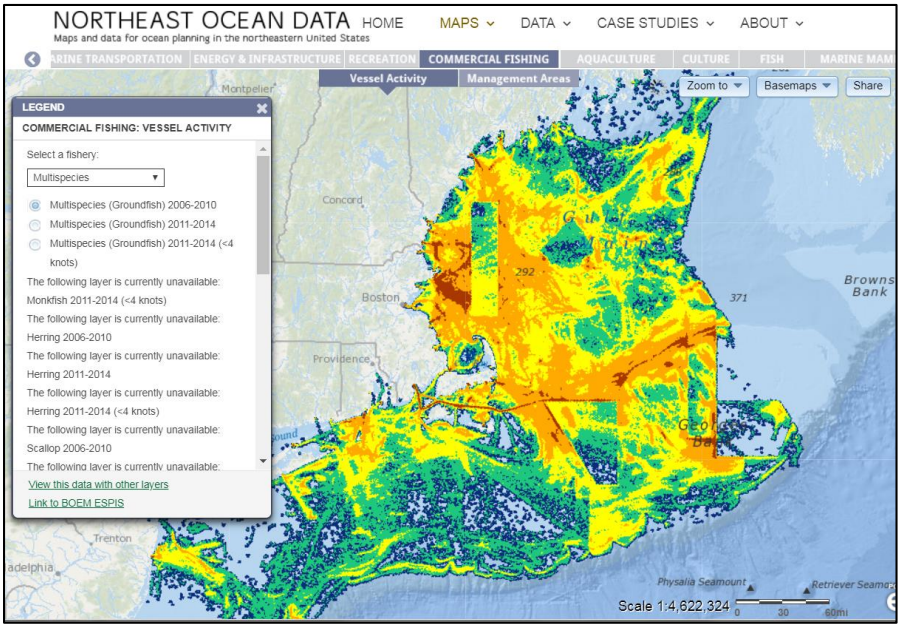

Figure 9. Groundfish Commercial Fishing Vessel Activity in the North Atlantic, 2006–2010[231]

F. The Draft Program Does Not Adequately Consider and Address Massachusetts' Laws, Policies, and Goals.

Section 18(a)(2)(F) of OCSLA requires evaluation of the "laws, goals, and policies of affected States which have been specifically identified by the Governors of such States as relevant matters for the Secretary's consideration." Yet the Draft Program fails to address and consider laws, programs, and policies that protect and conserve Massachusetts' sensitive ecological resources and maritime economy—other than merely referencing and broadly summarizing comments received from Massachusetts' Governor, the Massachusetts Office of Coastal Zone Management ("MA CZM"), and the MA AGO in response to BOEM's July 3, 2017 Request for Information on development of a new leasing program to replace the 2017–2022 Program ("RFI").[232]

Massachusetts Governor Baker submitted comments in response to the RFI. In these comments, Governor Baker opposed oil and gas leasing in any OCS areas in the North Atlantic adjacent to or impacting Massachusetts. Governor Baker also emphasized his support for leasing of offshore wind energy generating facilities off the Massachusetts coast.[233] In addition, the MA CZM, under the Massachusetts Executive Office of Energy and Environmental Affairs,

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[231] *Available at* NORTHEAST OCEAN DATA PORTAL, http://www.northeastoceandata.org/data-explorer/?commercial-fishing.

[232] *See Request for Information and Comments on the Preparation of the 2019–2024 National Outer Continental Shelf Oil and Gas Leasing Program*, 82 Fed. Reg. 30,886 (July 3, 2017).

[233] *See* Draft Program, *supra* note 3, § 9.2.5. *See also id.* at app. A1, p. A-21.

submitted comments on the RFI, reiterating Governor Baker's position and attaching his comment letter.[234]

The MA AGO also commented on the RFI by letter dated August 17, 2017 (appended to the February 27, 2018 letter attached hereto as Exhibit A). In this letter, Attorney General Healey strongly opposed expansion of oil and gas lease sales in *any* new OCS areas, detailing how gas and oil development in the OCS off the Massachusetts coast—or in any portion of the OCS in the Atlantic Ocean—could devastate our ocean-based commercial fishing, tourism and recreational economy, ravage our coastal communities, and spoil our coastal ecosystems and pristine beaches.[235]

The MA AGO RFI comments also discussed and emphasized Massachusetts' leadership in the national transition to a clean energy future though laws, policies, and programs mandating greenhouse gas emission reductions, incentivizing use of no- or low-carbon energy sources, and promoting energy efficiency.[236] In addition, the letter discussed other Massachusetts resource protection laws, including laws and programs that provide protection to endangered, threatened, and vulnerable coastal and marine species and habitat beyond that provided by the federal law.

Additionally, BOEM should take into consideration that on February 28, 2018, Governor Baker, Senator Ed Markey, Congressman Seth Moulton, and the rest of the Massachusetts Congressional Delegation submitted to the Secretary a comment letter that expressed "unequivocal" opposition to "inclusion of the North Atlantic or areas offshore the Commonwealth of Massachusetts" in the 2019–2024 Program.[237] The letter noted the rich natural resources found in Massachusetts and federal waters off our coast, briefly discussed Massachusetts' environmental protection and clean energy laws, policies, and programs—including noting that "the Commonwealth's priority goals and policies are to protect and enhance our commercial and recreational fishing industries, foster critical marine resources and ecosystems, reduce greenhouse gas emissions and advance the effort to responsibly develop offshore wind resources"—and emphasized the risk that offshore drilling poses to Massachusetts' commercial fishing industry. In closing, Governor Baker and the Massachusetts Congressional Delegation informed the Secretary that

> [t]his letter should serve to provide you and BOEM with the input required by OCS Lands Act Section 18(a)(2)(F), that the Commonwealth's priority goals and policies are to protect and enhance our commercial and recreational fishing industries, foster critical marine resources and ecosystems, reduce greenhouse

[234] *See id*.

[235] Although OCSLA Section 18(a)(2)(F) notes that the Secretary must consider state laws and policies identified by the Governor, BOEM included the MA AGO RFI Comments (along with comments submitted by other coastal state attorneys general) as part of the Draft Program record the Secretary must consider during the 2019–2024 Program development process. *See* Draft Program, *supra* note 3, § 9.4.

[236] *See* MA AGO RFI Comments, *supra* note 1, at 5.

[237] *See* Letter from Governor Baker, Massachusetts Senator Ed Markey, Massachusetts Congressman Seth Moulton, and the entire Massachusetts Congressional Delegation to Secretary Ryan Zinke (Feb. 28, 2018), *available at* https://www.markey.senate.gov/news/press-releases/markey-and-moulton-lead-entire-massachusetts-delegation-with-governor-baker-in-calling-for-an-end-to-offshore-drilling-proposal.

> gas emissions and advance the effort to responsibly develop offshore wind resources.[238]

The following subsections provide the Secretary and BOEM with additional information about Massachusetts' laws, programs, and policies to advance the Commonwealth's transition to a clean energy future, and to protect and conserve our coastal and marine natural resources and economy.

1. The Draft Program Fails to Consider Massachusetts' Clean Energy and Climate Leadership.

Any expansion of gas and oil development in the OCS—particularly the broad scope and scale of the lease sales proposed in the Draft Program—are contrary to and conflict with Massachusetts' laws and programs promoting the Commonwealth's transition to a clean energy future built around renewable and low- or no-carbon energy sources. Governor Baker and, especially, the MA AGO made this clear to the Secretary and BOEM last summer in our respective comments on RFI, as discussed directly above.

These Massachusetts' clean energy laws and policies, along with regional programs, are discussed in some detail in Section II-A-2 above.

2. The Draft Program Fails to Consider Massachusetts' Pioneering Ocean Management Laws and Policies.

Opening up new OCS areas in the Atlantic to oil and gas development is also contrary to and conflicts with Massachusetts' law and policies to protect our valuable resources. Massachusetts is a national leader in implementing cutting-edge ocean management policies. As described below, these policies are designed to protect the Commonwealth's valuable coastal and marine resources and maritime economy.

i. The Massachusetts Ocean Sanctuaries Act

Nearly all of Massachusetts' coastal waters—from the mean low-water mark to three miles offshore—are protected under the Massachusetts Ocean Sanctuaries Act.[239] The Massachusetts Ocean Sanctuaries Act created five Ocean Sanctuaries: three in southeastern Massachusetts waters around Cape Cod (the Cape Cod Ocean Sanctuary, Cape Cod Bay Ocean Sanctuary, and Cape and Islands Ocean Sanctuary), and two in waters north of Boston around and to the south of Cape Ann (the North Shore Ocean Sanctuary and South Essex Ocean Sanctuary).[240]

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[238] *Id.*

[239] MASS. GEN. LAWS ch. 132A, §§ 12A–16E, 18.

[240] *Id*. ch. 132A, § 13. The only state waters not protected within a Massachusetts Ocean Sanctuary are those around the greater Boston area. *Id.*

The MA CZM has care, oversight, and control of the Commonwealth's ocean sanctuaries.[241] The Ocean Sanctuaries Act applies to any "activity that would seriously alter or endanger the ecology or appearance of the ocean, seabed, or subsoil of the Ocean Sanctuaries or the Cape Cod National Seashore,"[242] and expressly prohibits drilling or other extraction of minerals, gas, and oil.[243] And yet, the Draft Program proposes oil and gas development in federal waters off our coast—as close as twenty-two miles from edge of our state waters[244]—despite Massachusetts' strict prohibition on any such development in our waters.

ii. The Massachusetts Ocean Management Plan of 2015

In 2009, under the authority of the Massachusetts Oceans Act,[245] the first Massachusetts Ocean Management Plan created "a pragmatic management structure that enables the Commonwealth to proactively balance current and future uses of ocean waters while protecting critical ocean habitats and promoting sustainable economic development," thereby establishing Massachusetts "at the forefront of the nation on comprehensive ocean planning and management."[246]

Updated and revised in 2015, the Massachusetts Ocean Management Plan establishes elevated protection for special, sensitive, or unique resources and important existing water-dependent uses.[247] The 2015 plan includes extensive mapping and delineation of special, sensitive, or unique ocean resources, habitats, and geological areas.[248] It does not directly regulate, prohibit, or restrict uses, activities, or facilities, but instead identifies particular and specific resources afforded heightened protection pursuant to the Massachusetts Oceans Act.[249]

Many of the Commonwealth's ocean management and protection laws and programs discussed above (among others) have been incorporated as enforceable policies into Massachusetts' federally-approved coastal management program for the purpose of

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[241] *Id*. ch. 132A, § 14.

[242] *Id*.

[243] *Id*. ch. 132A, § 15.

[244] Unlike the 2017–2022 Program, which mandated a fifty-nautical-mile coastal buffer, the Draft Program proposes a mere twenty-five-nautical-mile coastal buffer for lease sale locations in the North Atlantic Planning Area. *See* Draft Program, *supra* note 3, at 11.

[245] An Act Relative to Oceans, 2008 Mass. Acts. ch. 114, §§ 1 *et seq.*; MASS. GEN. LAWS ch. 21A, § 4C.

[246] *See* Letter from Maeve Vallely Bartlett, Secretary, Exec. Off. of Energy & Envtl. Aff. (Jan. 6, 2015), *preface to* 2015 MASSACHUSETTS OCEAN MANAGEMENT PLAN, vol I. (2015), *available at* https://www.mass.gov/files/documents/2016/08/qh/2015-ocean-plan-v1-complete.pdf.

[247] *See* MASSACHUSETTS COASTAL PROGRAM POLICIES 28 (2011), *available at* https://www.mass.gov/files/documents/2016/08/ox/czm-policy-guide-policies.pdf [hereinafter MA CZM Program].

[248] *See id.*

[249] *Id.*

Massachusetts consistency reviews required by the federal Coastal Zone Management Act ("CZMA"), discussed below.[250]

iii. Massachusetts CZM Consistency Review for Proposed Activities in the OCS

Under the CZMA, federal actions, including those in federal waters, that have "reasonably foreseeable effects on any land or water use or natural resources of the [Massachusetts] Coastal Zone" must be consistent with the enforceable policies of the state's federally approved coastal management program.[251] Massachusetts consistency reviews are administered in conformity with the Massachusetts coastal management program ("MA CZM Program"),[252] and the federal consistency review regulations at 15 C.F.R. 930 Subparts A through I.[253] Enforceable Massachusetts policies[254] include those regarding mineral, gas, or oil exploration and extraction—which is explicitly prohibited in Massachusetts waters.[255] For MA CZM policies not incorporated as enforceable polices for the purposes of federal consistency review, federal permit applicants are required to "demonstrate adequate consideration of [approved coastal management program] policies that are in the nature of recommendations."[256]

Consistency reviews performed by the MA CZM would scrutinize proposals for oil and gas development in the OCS to ensure that Massachusetts resources are protected. Specifically, these reviews assure that state standards protecting special, sensitive, and unique estuarine and marine resources and water-dependent uses are met, that risks of harm to fish spawning areas are assessed, avoided, or minimized, and that potential damage to or interference with fishing grounds are evaluated and avoided. Risks of harm to critical habitat for threatened and endangered species must be evaluated, avoided, or minimized, and potential harm to wintering, nesting, or migratory-stopover areas for wildlife must be assessed and minimized.[257]

In particular, the risks of oil and gas spills and spill trajectories must be evaluated with appropriate protection measures implemented. The MA CZM Program also directs avoidance of structure siting in geologically hazardous areas in order to minimize risks such as pipeline damage and leaks. The MA CZM Program further directs that any disposal of drilling muds and drill cuttings not damage marine habitat, including spawning areas and fishing resources, and

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[250] *See* 16 U.S.C. §§ 1451 *et seq.*

[251] *See* 301 MASS. CODE REGS. 20.02.

[252] MA CZM Program, *supra* note 247, at 36–38.

[253] *See* FEDERAL CONSISTENCY REVIEW, *available at* http://www.mass.gov/eea/docs/czm/fcr-regs/czm-policy-guide-fcr.pdf.

[254] "Enforceable policies are defined by the federal Coastal Zone Management Act as 'state policies which are legally binding through constitutional provisions, laws, regulations, land-use plans, ordinances, or judicial or administrative decisions, by which a State exerts control over private and public land and water uses and natural resources in the coastal zone.'" 15 C.F.R. § 930.11(h). "Consistency with an enforceable policy cannot be achieved without compliance with its underlying state authorities." MA CZM Program, *supra* note 247, at 1.

[255] *See* MA CZM Program, *supra* note 247, at 36 (Ocean Resource Policy Number 2).

[256] *See* MA CZM Program, *supra* note 247, at 1. *See generally* 15 C.F.R. pt. 930.

[257] *See* MA CZM Program, *supra* note 247, at 36–37.

that any necessary dredging, dredged material disposal, and facility structure construction avoid or minimize damage to the marine environment.[258]

Although OCSLA Section 18(a)(2)(F) requires that the Secretary not only identify, but consider, our state ocean management policies, the Draft Plan proposes oil and gas lease sales in federal waters off our coast—as close as 22 miles from edge of our state waters—despite Massachusetts' strict prohibition on any such development in our waters. Recognizing the risks posed by drilling in the OCS off our coast, the MA CZM Program discusses the fact that exploratory oil and gas development on George's Bank in the early 1980s "raised many concerns, principally conflicts with fisheries and potential impacts of release or spill," emphasizing the subsequent exclusion of the entire North Atlantic Planning Area from every national oil and gas leasing program hence.[259]

G. BOEM Should Follow Historical Precedent of Deferring to Local Opposition to Offshore Leasing, and Exclude the Atlantic Coast from Leasing.

BOEM should follow its historical precedent of considering local opposition to offshore leasing and exclude the North Atlantic Planning Area from the 2019–2024 Program. The people of Massachusetts and their government representatives have overwhelmingly declared their opposition to oil and gas exploration and development off our coast.[260] In fact, more than 42,000 businesses and 500,000 commercial fishing families along the Atlantic coast from Maine to Florida oppose offshore oil and gas drilling and exploration.[261] Furthermore, as discussed above, the Draft Program would run directly to Massachusetts' long-standing national leadership in combating climate change, promoting renewable energy, and pioneering science-based ocean management. Deferring to coastal states makes sense, and there is no reason for BOEM to depart from its precedent here.[262]

In the course of developing the prior two national OCS oil and gas leasing programs, the Secretary excluded the Atlantic planning areas from consideration due to opposition to leasing in Atlantic coastal states. For instance, in developing the 2012–2017 national OCS oil and gas leasing program, the Department initially proposed five lease sales in the North Atlantic, Mid-Atlantic, and South Atlantic planning areas.[263] Adjacent states opposed the proposed leases, and the Department's subsequent EIS scoping notice eliminated the North Atlantic Planning Area

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[258] *Id*.

[259] *See infra* § III-G (discussing the Secretary's history of deferring to arguments and recommendations of Atlantic coastal states to keep the Atlantic OCS closed to oil and gas development).

[260] *See supra* § III-F.

[261] *See* BUSINESS ALLIANCE FOR PROTECTING THE ATLANTIC COAST, https://protectingtheatlanticcoast.org/.

[262] *Cf. F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009) (an agency departing from a prior policy "must show that there are good reasons for the new policy").

[263] MINERALS MGMT. SERV., OUTER CONTINENTAL SHELF (OCS) OIL AND GAS LEASING PROGRAM 2010–2015 9 (2009), *available at* https://www.boem.gov/Oil-and-Gas-Energy-Program/Leasing/Five-Year-Program/DPP_FINAL-pdf.aspx.

from consideration.[264] The 2017–2022 Program development process followed a similar process. The Department's RFI sought "information on all 26 planning areas, including areas currently under moratorium or otherwise withdrawn."[265] In response, the Governor of Massachusetts requested exclusion of adjacent OCS areas from the Draft Proposed Program.[266] Accordingly, the Draft Proposed 2017–2022 Program did not propose any lease sales in the North Atlantic. Ultimately, the 2017–2022 Program did not include *any* lease sales in the Atlantic, [267] citing, among other reasons, "strong local opposition" to drilling on the Atlantic OCS.[268]

As discussed in further detail in supplemental multistate comments submitted separately to BOEM,[269] the Department's historic process of deferring to coastal states makes good sense. First, states are in the best position to evaluate the costs and benefits associated with OCS oil and gas drilling adjacent to their coastlines, including local and regional energy needs, employment impacts, and the risk of discharge events and catastrophic spills. Second, state support for OCS development is critical to ensure that related activities can proceed with necessary permitting and review processes, integrate with existing marine and coastal uses, and share necessary infrastructure. OCS development requires state and federal interagency cooperation; without local buy-in for the offshore drilling enterprise, projects are at risk for costly delays, controversy, and failure. BOEM has failed to provide any explanation that would justify departing from its past practice of deferring to coastal states, and it should not do so.

H. The Secretary Should Consider Leasing Options that Would Mitigate Risks to Sensitive North Atlantic Resources.

Despite OCSLA's requirement that the Secretary "select the timing and location of leasing" that would balance the risks and benefits of offshore oil and gas leasing "to the maximum extent practicable," the Draft Program fails to consider numerous leasing options that could meaningfully mitigate risks to ecologically important and sensitive areas and resources in the North Atlantic.[270]

The Department proposes three options for leasing in the Atlantic planning areas, including: 1) an unrestricted option with six lease sales in the Atlantic planning areas; 2) option 1, but excluding the Atlantic Canyons; and 3) option 1 with a twenty-five-nautical-mile coastal buffer to accommodate existing uses.[271] While these include options that would mitigate some

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[264] Notice of Intent to Prepare and Scope an Environmental Impact Statement (EIS) for the Outer Continental Shelf (OCS) Oil and Gas Leasing Program for 2012-2017, 75 Fed. Reg. 16,828, 16,829 (Apr. 2, 2010).

[265] 79 Fed. Reg. at 34,351.

[266] BOEM, 2017–2022 OUTER CONTINENTAL SHELF OIL AND GAS LEASING DRAFT PROPOSED PROGRAM S-3, 3-10 (2015), *available at* https://www.boem.gov/2017-2022-DPP/.

[267] *See id.* at S-2.

[268] *Id.*

[269] *See* Supplemental Multistate Comments on the Draft Program, *supra* note 1.

[270] *See* 43 U.S.C. § 1344(a)(3).

[271] *See* Draft Program, *supra* note 3, at 11.

risks to some of North Atlantic region's sensitive marine and coastal resources to some extent, these options are far from the "maximum" efforts the Secretary could take to minimize the risks of leasing in the North Atlantic Planning Area.

At the very least, any future decision documents for the 2019–2024 Program should consider leasing options that would mitigate risks to the ecologically important marine areas, marine protected areas, and other sensitive resources that could be affected by oil and gas activities in the North Atlantic Planning Area, as identified in these comments. For instance, areas that should be off the table for leasing include, but are not necessarily limited to: marine protected areas, including marine reserves, sanctuaries, and monuments such as Stellwagen Bank National Marine Sanctuary and Northeast Canyons and Seamounts Marine National Monument; underwater canyons; groundfish closed areas; deepwater coral habitat; critical habitat for endangered or threatened marine species, including the North Atlantic right whale; critical commercial fishing grounds, including Georges Bank; fish spawning areas and Essential Fish Habitat; locations of cultural and archaeological resources; and any other ecologically important areas identified by state or federal entities (*see* Section III-C above). In addition, leasing should be prohibited in any area that could adversely affect these sensitive resources, as well as coastlines, beaches, and state waters.

BOEM should also consider program options that would include fewer lease sales in the North Atlantic and Mid-Atlantic Regions.

In general, in evaluating resources and areas, BOEM should reference the Northeast Ocean Data Portal,[272] as well as the Northeast Regional Ocean Plan,[273] and the Massachusetts Ocean Management Plan.[274]

IV. The Draft Program's Proposed Net Social Value Analysis Is Deficient.

Section 18(a)(1) of OCSLA requires the Secretary to manage the OCS "in a manner which considers economic, social, and environmental values of the renewable and non-renewable resources contained in the [OCS]."[275] To satisfy this requirement, BOEM proposes to undertake an analysis of the net social value ("NSV") of OCS oil and gas development, considering:

1) the *economic value* that would be realized from oil and gas activity, such as employment, wages, and government royalties;

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[272] *Available at* http://www.northeastoceandata.org/.

[273] NORTHEAST REGIONAL PLANNING BODY, NORTHEAST REGIONAL OCEAN PLAN (2016), *available at* https://neoceanplanning.org/plan/. The Northeast Regional Planning Body includes representatives from the Department, as well as other federal agencies, six federally recognized tribes, and the six New England states. The National Ocean Council certified the NORTHEAST REGIONAL OCEAN PLAN as consistent with the National Ocean Policy on December 1, 2016.

[274] *See supra* § III-F-2-ii.

[275] 43 U.S.C. § 1344(a)(1).

2) the *social value* of leasing activity, or the extent to which leasing "generate[s] improvements in the lives of people or benefits to society" or "result[s] in adverse consequences . . . such as highly damaging event like a large oil spill"; and

3) the *environmental value* of leasing activity—"the worth society places on the intrinsic natural capital in the OCS's renewable and non-renewable resources."[276]

For each planning area with more than "negligible development potential," BOEM will "comput[e] the benefits less private, social, and environmental costs of extracting [OCS] resources" to determine NSV. The NSV estimates represent BOEM's "appraisal of each planning area's value after considering the resources and the costs associated with extracting those resources."[277] BOEM will then use the NSV estimates to quantitatively rank planning areas.[278]

As BOEM notes, the NSV estimates set forth in the Draft Program precede "the Secretary's initial decision on size, timing, and location of lease sales for the 2019–2024 Program"; in future stages of analysis, BOEM will analyze "only production to be leased in the proposed lease sales."[279] Even at this preliminary stage, however, it is clear that the NSV analysis outlined in the Draft Program is deficient. BOEM fails to consider important environmental and social costs, while inflating the economic benefits of offshore oil and gas development. If BOEM were to undertake a proper cost-benefit analysis, the results would show that the risks of expanded OCS development outweigh any potential benefits.

A proper NSV analysis for 2019–2024 Program would incorporate the following recommendations.

- *BOEM should assume realistic oil prices*. The range of price cases BOEM selected to represent "different sets of energy market conditions"—$40/barrel, $100/barrel, and $160/barrel of oil—is unreasonable.[280] As described in Section II-C above, near-term and long-term oil and gas price projections are considerably lower than BOEM's selected reference case of $100/barrel. For instance, EIA estimates that in 2019, spot prices for crude oil will average $62/barrel.[281] BOEM's assumed price cases inflate the net economic value of OCS oil and gas development. For instance, were BOEM to use a more realistic reference price case of $62/barrel instead of $100/barrel, the net economic value of development in the North Atlantic Planning Area would be close to zero.[282]
- *BOEM should consider the risks and costs of a catastrophic oil spill.* BOEM unjustifiably fails to consider catastrophic spills in the NSV analysis. The model

[276] Draft Program, *supra* note 3, at 2-6 to 2-7.

[277] *Id.*

[278] *Id.* at 5-16.

[279] *Id. See also id.* at 5-22.

[280] *See id.* at 5-17 to 5-18.

[281] *See supra* § II-C.

[282] *See* Draft Program, *supra* note 3, at 5-18, fig. 5-13.

BOEM uses to calculate costs only considers a range of spills up to 100,000 barrels.[283] BOEM claims it is appropriate not to model catastrophic spills because they are "unpredictable" and have "uncertain" costs.[284] This explanation is, frankly, ludicrous given the wealth of information and research available to BOEM regarding the costs of the *Deepwater Horizon* disaster.[285] BOEM's failure to model such costs is arbitrary and capricious.

- *BOEM should consider the costs of greenhouse gas emissions.* Without any explanation, BOEM fails to consider cost estimates for greenhouse gas emissions.[286] Ignoring the imperative of assigning a cost to greenhouse gas emissions that reflects the full range of climate harms would be arbitrary and capricious.[287]

- *BOEM should consider renewable energy as a substitute for offshore oil and gas production*. In future stages of NSV analysis, when BOEM considers the environmental and social costs of OCS oil and gas development in relation to "the most likely energy substitutes," BOEM should consider renewable energy resources, energy efficiency, and storage as a substitute for offshore oil and gas production.[288] As discussed above, given national and regional clean energy trends, it would be unreasonable for BOEM to fail to consider renewable energy as a potential alternative to meet energy needs. In particular, in regards to the North Atlantic region, BOEM should consider offshore wind energy potential, as well as Massachusetts' and other Northeast states' commitments to procure offshore wind power.[289] Furthermore, although BOEM states that substitute energy resources "have their own environmental and social costs,"[290] the agency should consider that renewable energy substitutes could potentially have net environmental and social benefits.

[283] *See id.* at 5-19.

[284] *Id.*

[285] *See, e.g.*, *supra* note 145.

[286] *See* Draft Program, *supra* note 3, at 5-22.

[287] This is especially so in light of the growing industry practice of using a proxy for the costs of greenhouse gas emissions. *See, e.g.*, Taneesha Kulshrestha, *Surge in Companies Managing Cost of Carbon*, GLOBAL FINANCE MAG. (Oct. 12, 2017), *available at* https://www.gfmag.com/topics/capital-markets-and-corporate-finance/surge-companies-planning-and-managing-cost-carbon (reporting that "nearly 1400 companies factor[ed] an internal carbon price into their business plans globally in 2017").

[288] *See* Draft Program, *supra* note 3, at 5-22.

[289] *See supra* §§ II-A-2, II-A-3.

[290] *See* Draft Program, *supra* note 3, at 5-22.

V. The Secretary's Purported Exclusion of Florida Offshore Waters Is at Odds with the Required Decision-making Process.

Section 18(a) of OCSLA dictates a specific process the Secretary must follow in developing any national OCS oil and gas leasing program. As summarized in the Draft Program, "Section 18(a) of the OCS Lands Act contains four subsections which set forth specific principles and factors that guide National OCS Program formulation and which, together, provide the foundation for the Bureau's analysis that is used in the development of . . . a schedule of proposed lease sales."[291] The Secretary's determination of the size, timing, and location of OCS leasing activity, like other federal agency actions, must be supported by a reasoned analysis and based on the Secretary's consideration of information in the administrative record.[292]

The Secretary's recent conduct in connection with the Draft Program is at odds with the required administrative and statutory process, and calls the integrity of the Draft Program into question.

On January 9, a mere five days after the Draft Program's release, and following a brief meeting with Florida Governor Rick Scott, the Secretary announced on the social media platform Twitter that he was "taking #Florida off the table for offshore oil and gas."[293] The Secretary defended his announcement by proclaiming that "[l]ocal voice [sic] matters," but the Secretary declined to mention the many other states, including Massachusetts, that were on the record voicing significant concerns about oil and gas leasing.[294] The Secretary's "full statement on taking #Florida off the table" is a mere five sentences long, noting that "Florida is unique and its coasts are heavily reliant on tourism as an economic driver."[295] The statement does not mention the full range of factors and principles that Section 18(a) of OCSLA requires the Secretary to consider and balance in deciding which OCS areas to lease, and it does not consider comments and information submitted by other stakeholders in response to the Draft Program. In fact, the Secretary issued this "full statement" nearly two months prior to the close of the comment period on the Draft Program. The Secretary later elaborated on his announcement of Florida's exclusion, asserting that off the coast of Florida, "coastal currents are different, the layout of

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[291] *Id.* at 2-1.

[292] *See* 5 U.S.C. § 706(2)(A), (D) (authorizing courts to invalidate agency actions, findings, and conclusions that are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law" or "without observance of procedure required by law . . . .").

[293] Ryan Zinke (@SecretaryZinke), TWITTER (Jan. 9, 2018, 3:20 PM), https://twitter.com/SecretaryZinke/status/950870010242719745.

[294] *Id.* *See* MA AGO RFI Comments, *supra* note 1 (strongly opposing any leasing in the OCS off the coast of Massachusetts due to environmental and economic risks). *Cf.* Draft Program, *supra* note 3, at 6 (assuring that "[t]he input of the states, particularly coastal states, is given specific consideration when deciding which areas of the OCS will be included in the final National OCS Program").

[295] Ryan Zinke (@SecretaryZinke), TWITTER (Jan. 9, 2018, 3:48 PM), https://twitter.com/secretaryzinke/status/950876846698180608?lang=en.

where the geology is."[296] But once again, this incoherent defense failed to explain how Florida's unique features factor into the specific decision-making process required by OCSLA.

Overall, the Secretary's statements do not reflect the careful consideration and balancing of the Section 18(a)(2) factors that OCSLA requires. If the Secretary's statements regarding Florida represent official policy, the decision would be arbitrary and an abuse of agency power. If the Secretary's statements were premature, they nonetheless raise very serious concerns about the Department's adherence to the administrative process, and the Secretary's ability and willingness to fairly consider all states' concerns and interests. Either way, the Secretary's statements regarding Florida have irrevocably tainted the 2019–2024 Program development process. The MA AGO urges the Department to honor the vital importance of upholding public trust in the federal administrative process and, in light of this fatal infirmity of the process, withdraw the Draft Program and leave the current 2017–2022 Program in place.

* * *

For all of the foregoing reasons, the MA AGO urges the Secretary to withdraw the Draft Program and abandon efforts to develop a new 2019–2024 Program. The United States does not require expanded offshore fossil fuel extraction to meet future energy needs, nor can our nation afford the increased greenhouse gas emissions and other environmental risks that would result from such development.

Should the Secretary nonetheless proceed with developing the 2019–2024 Program, future decision documents should incorporate the above recommendations, and the Atlantic Coast—and the North Atlantic Planning Area, in particular—should be excluded from consideration for leasing. The significant risks and adverse impacts of oil and gas development to our fragile ecosystems and Massachusetts' ocean-dependent economy far outweigh any speculative benefits.

[296] *See* Pamela King & Nathanial Gronewold, *What Makes Fla. So Special? Currents, Geology, Zinke Says*, E&E NEWS (Jan. 26, 2018), https://www.eenews.net/energywire/2018/01/26/stories/1060072045.

DETAILED COMMENTS ON THE PROPER SCOPE OF THE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR THE 2019–2024 NATIONAL OUTER CONTINENTAL SHELF OIL AND GAS LEASING PROGRAM

For the reasons discussed above, Attorney General Healey strongly opposes any expansion of OCS gas and oil leasing, including any leasing in the North Atlantic Planning Area. If BOEM abandons development of a new 2019–2024 Program and maintains the existing 2017–2022 Program, as the MA AGO recommends, there would be no need for a new PEIS. Should BOEM nonetheless continue in the process of developing a 2019–2024 Program, the MA AGO provides these brief comments on the proper scope of the accompanying PEIS.

Overall, BOEM's proposed approach to the PEIS, if employed to evaluate the impacts of the 2019–2024 Program, would be inadequate and inconsistent with the requirements of the NEPA.[297]

NEPA is "our basic national charter for protection of the environment."[298] Its requirements are designed "to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man."[299] To that end, NEPA requires federal agencies to prepare an environmental impact statement for certain actions prior to making decisions. Environmental impact statements, including PEISs, must take a "hard look" at the impacts of a proposed action,[300] including evaluation of:

- "the environmental impact of the proposed action"—including direct, indirect, and cumulative impacts;
- "any adverse environmental effects which cannot be avoided";
- "alternatives to the proposed action"; and
- "the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity."[301]

Additionally, the acting agency must include in the environmental impact statement "appropriate mitigation measures not already included in the proposed action or alternatives."[302] Overall, the acting agency's analysis must be based on "high quality" information and "accurate scientific

[297] *See generally* 42 U.S.C. §§ 4321 *et seq*.

[298] 40 C.F.R. § 1500.1(a).

[299] 42 U.S.C. § 4321.

[300] *See Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976) (citation omitted).

[301] 42 U.S.C. § 4332(c)(1). *See also* 40 C.F.R. §§ 1502.16, 1508.7; MICHAEL BOOTS, U.S. COUNCIL ON ENVTL. QUALITY, MEMORANDUM FOR HEADS OF FEDERAL DEPARTMENTS AND AGENCIES: EFFECTIVE USE OF PROGRAMMATIC NEPA REVIEWS 19 (Dec. 18, 2014).

[302] 40 C.F.R. § 1502.14(f).

analysis."[303] In general, NEPA requires the agency to conduct independent research or otherwise compile any missing information that is essential to its analysis.[304]

The PEIS scope proposed by BOEM is too narrow to satisfy NEPA's requirements. It fails to encompass consideration of key impacts, such as the climate impacts of OCS oil and gas activity. It also fails to include evaluation of a reasonable range of alternatives to expanded OCS leasing. Furthermore, the proposed scope of BOEM's cumulative impacts analysis is inappropriately narrow.

First, at minimum, the PEIS should consider the activities, impact-producing factors, and potentially impacted resources and environmental conditions considered in the 2016 PEIS, which BOEM finalized for the 2017–2022 Program just over a year ago. The Draft Program incorporates the 2016 PEIS by reference.[305] The 2016 PEIS does not address impacts from oil and gas activities in the Atlantic or Pacific planning areas, as those areas were not included in the 2017–2022 Program. Nonetheless, the 2016 PEIS addresses a broad range of activities, impact-producing factors, and potentially impacted resources and environmental conditions. In the event that the Secretary excludes the North Atlantic Planning Area from the 2019–2024 Program, the PEIS need not consider impacts from North Atlantic leasing. If the North Atlantic Planning Area does remain in the 2019–2024 Program, however, the MA AGO believes that the scope of the 2016 PEIS analysis establishes—at a minimum—a floor for the scope of the PEIS for the 2019–2024 Program. For the reasons discussed below, however, we urge BOEM, to undertake an impact analysis that is in several respects more comprehensive than that in the 2016 PEIS, including by expanding the scope and number of alternatives considered and undertaking a more thorough analysis of cumulative impacts.[306]

Furthermore, to satisfy NEPA's requirements, and adequately inform the agency and the public about the impacts of the 2019–2024 Program, BOEM should incorporate the following recommendations.

1. BOEM should consider how greenhouse gas emission-reduction policies and the nation's transition to a clean-energy future will affect national energy needs.

The Draft Program PEIS "must begin with a complete and inclusive statement of purpose and need."[307] An appropriate purpose and need statement is critical because "the range of alternatives that is deemed reasonable depends upon the underlying purpose and need to which the agency is responding."[308] BOEM's purpose and need analysis should thoroughly analyze the

[303] 40 C.F.R. § 1500.1(b).

[304] *Id.* § 1502.22(a).

[305] *See generally* 2016 PEIS, *supra* note 12.

[306] *See also generally* Supplemental Multistate Comments on the Draft Program, *supra* note 1, at 1, 14. The MA AGO reiterates above many of the points made in the Supplemental Multistate Comments on the Draft Program, which is also incorporated here by reference.

[307] 40 C.F.R. § 1502.13.

[308] *Natural Resources Defense Council v. Evans*, 232 F. Supp. 2d 1003, 1038 (N.D. Cal. 2002).

growth of alternative and renewable energy along with greenhouse gas emission-reduction climate policies, and the effect of both on the nation's need for additional oil and gas.

Despite the urging of numerous stakeholders, the 2016 PEIS did not analyze how greenhouse gas emission-reduction climate policies and the growth of alternative and renewable energy would affect the demand for oil and gas over the 2017–2022 Program period.[309] The 2016 PEIS acknowledged that "[t]the development of renewable energy sources is strategically important, but the development of these resources in the foreseeable future does not fully or partially satisfy the purpose and need [for lease sales in the 2017–2022 Program]."[310]

As discussed above in Section II of the MA AGO's comments on the Draft Program, BOEM fails to account for the national transition to a clean energy future, including fossil fuel trends, clean energy trends, the impacts of clean energy and climate policies, and the impacts of climate change. It is reasonable and necessary for BOEM to undertake a thorough consideration of these factors and their impact on the need for additional OCS oil and gas development

2. BOEM should thoroughly analyze alternatives that would mitigate risks of OCS oil and gas activity.

Analysis of alternatives is "the heart of the environmental impact statement," and "should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public."[311] CEQ regulations make clear that BOEM must "rigorously explore and objectively evaluate all reasonable alternatives . . . devot[ing] substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits."[312] Analysis of alternatives must include "the alternative of no action."[313]

As noted above, MA AGO strongly urges exclusion of all Atlantic planning areas—especially the North Atlantic—from the 2019–2024 Proposed Plan. Should those areas remain in the Proposed Plan, in order to comply with its NEPA obligations, the PEIS should, at a minimum, thoroughly analyze multiple alternatives that would mitigate the risks and adverse impacts associated with OCS oil and gas activity. At a minimum, a reasonable range of alternatives would include:

- the no action alternative;

[309] *See* 2016 PEIS, *supra* note 12, at 1-11 to 1-12.

[310] *Id*. at 1-11.

[311] 40 C.F.R. § 1502.14.

[312] *Id.* §§ 1502.14(a)–(b).

[313] *Id.* § 1502.14.

- the projected development of renewable energy as an alternative to expansion of OCS oil and gas leasing,[314]
- exclusion of important ecological areas from leasing, including all areas identified in Section III-C of the MA AGO's Draft Program Comments above;[315]
- exclusion of the North Atlantic Planning Area in its entirety; and
- one or more alternatives in which the North Atlantic planning is subject to fewer lease sales than proposed in the Draft Program.[316]

The MA AGO notes that an alternative in which BOEM uses the OCS for renewable energy development rather than for oil and gas development is reasonable because there is no national need for additional offshore oil and gas development; OCSLA does not require BOEM to recommend oil and gas leasing to the Secretary; and there is increasing national demand for renewable energy, including to satisfy state, regional, and federal policies promoting greenhouse gas emission-reductions.[317]

3. BOEM should thoroughly analyze direct and indirect impacts, IPFs, and potentially affected resources.

The PEIS should, at a minimum, analyze all direct and indirect impacts assessed in the 2016 PEIS, including all oil and gas development activities to be considered in the impact analysis, the IPFs, and potentially affect resources.[318] Activities analyzed in the 2016 PEIS include the following:

- Exploration: The draft PEIS should consider impacts resulting from exploration of potential hydrocarbon resources on the OCS. Such exploration includes seismic and other geophysical and geotechnical surveys.

- Development: The draft PEIS should consider impacts resulting from development activities including construction of the infrastructure (including oil rigs, transport pipeline and other infrastructure, onshore facilities for the processing, refining, or storage of oil or natural gas).

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[314] The 2016 PEIS considered, but rejected, analyzing the development of renewable energy sources as a complete or partial alternative to oil and gas leasing in the OCS. *See* 2016 PEIS, *supra* note 12, at 1-11 to 1-12, 2-20, 2-21 to 2-22.

[315] *See* 2016 PEIS, *supra* note 12, at 2-20, 2-22 (considering but rejecting exclusion of additional areas from the 2017–2022 Program).

[316] *See id.* at 2-20, 2-21 (considering but rejecting fewer lease sales in the 2017–2022 Program). The MA AGO does not suggest that new oil and gas leasing in the North Atlantic Planning Area would somehow be acceptable if the number of lease sales were reduced, or if only it were confined to certain regions within these planning areas. Further, we reserve the opportunity to suggest additional alternatives if the North Atlantic Planning Area is included in the PEIS.

[317] *See generally supra* § II-A-3 & note 61. *See also* Supplemental Multistate Comments on the Draft Program, *supra* note 1, at 1–2, 7, 9–10. BOEM manages both forms of development from the OCS, so this alternative is within BOEM's jurisdiction to consider.

[318] For further discussion, *see* Supplemental Multistate Comments on the Draft Program, *supra* note 1, at 14–19.

- Production: The draft PEIS should consider impacts resulting from the production of oil and gas, including the extraction procedures; transportation of oil or gas to processing facilities; processing, storage, or refining of crude oil or natural gas.

- Oil Spills and other oil and gas release events. The Draft PEIS should consider impacts potentially resulting from spills and related pollution and discharge events.[319]

The PEIS should also consider, at a minimum, the impact-producing factors analyzed in the 2016 PEIS, including noise, traffic, and competing and conflicting ocean uses.[320]

Additionally, the PEIS should consider potential impacts from the foregoing factors on at least those resources analyzed in the 2016 PEIS, including:

- air quality and climate impacts;[321]
- coastal and Estuarine Habitats (which vary regionally and can include wetlands, bays, barrier islands, submerged aquatic vegetation, and beaches); [322]
- marine benthic and pelagic communities;[323]
- marine mammals, including species listed and protected under the MMPA;[324]
- birds, including species protected under the Migratory Bird Treaty Act;[325]
- species protected under the ESA, including the leatherback turtle, loggerhead turtle, piping plover, sperm whale, blue whale, and the critically endangered North Atlantic right whale; [326]
- archaeological, cultural, and historical resources;[327]
- fishes and commercial and recreational fisheries, including activities and resources in state waters that could be affected by OCS oil and gas activities, and essential fish habitat;[328]

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[319] *See also supra* § III-A.

[320] *See also supra* §§ III-A to III-E.

[321] *See also supra* §§ II-B & III-D.

[322] *See also supra* § III-C.

[323] *See also supra* § III.

[324] *See* 16 U.S.C. §§ 1371(a), 1372(a). *See also supra* § III & note 122.

[325] *See* 16 U.S.C. §§ 703–12. *See also supra* § III & note 173.

[326] *See also supra* § III-B-2.

[327] *See also supra* § III-E.

[328] *See also supra* § III-C.

- tourism and recreation, including fishing, kayaking, hiking, boating, sightseeing, beachgoing, swimming, and wildlife viewing, and Massachusetts' $100 million whale watching industry;[329]
- sociocultural systems, including port and maritime communities and economies, indigenous peoples, and communities that rely on subsistence fishing and hunting;[330] and
- the extent to which environmental or health impacts would disproportionately impact low-income or minority populations.

4. BOEM should consider cumulative impacts, including climate, noise, and vessel traffic impacts.

BOEM must consider cumulative impacts from its 2019–2024 Program. Cumulative impacts result from "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency . . . or person undertakes such other actions."[331] In other words, for each alternative considered, BOEM must consider the total impacts from *all* leasing considered in that alternative. As the Council on Environmental Quality notes, PEISs, in particular, are "an ideal tool for assessing cumulative impacts of multiple agency activities that fall within the purview of the program being analyzed."[332]

At a minimum, BOEM should analyze the cumulative impacts assessed in the 2016 PEIS. But the MA AGO urges BOEM to expand the scope of its cumulative impact analysis over that in the 2016 PEIS to undertake a comprehensive and robust analysis of the 2019–2024 Program's cumulative impacts, including climate impacts,[333] noise impacts (including from exploratory geophysical surveys utilizing seismic testing), and impacts from increased marine vessel traffic.[334] With regard to noise impacts from seismic testing and the threat of ship strikes, the MA AGO urges BOEM to pay particular attention to its analysis of cumulative impacts to marine life, especially the North Atlantic right whale, which is already at grave risk of extinction from existing impacts.[335]

* * *

To comply with the requirements of NEPA, the MA AGO urges BOEM to incorporate all of the foregoing recommendations in developing the PEIS for the 2019–2024 Program.

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[329] *See also supra* § III-C.

[330] *See also supra* § III-A-3.

[331] 40 C.F.R. § 1508.7.

[332] BOOTS, *supra* note 301, at 10.

[333] *See* 2016 PEIS, *supra* note 12, at 4-6 (discussing cumulative climate impacts).

[334] *See also* Supplemental Multistate Comments on the Draft Program, *supra* note 1, at 15, 18.

[335] *See supra* § III-B-2.

CONCLUSION

For all of the foregoing reasons, the MA AGO reiterates strong opposition to action by the Secretary to open up the North Atlantic Planning Area—or any other new ocean areas—to oil and gas leasing. The significant risks and adverse impacts of oil and gas development far outweigh any speculative benefit. If necessary, the MA AGO would consider appropriate legal action to protect the people, economy, and natural resources of Massachusetts from these risks and impacts. Therefore, once again, the MA AGO urges the Secretary to withdraw the Draft Program.

Thank you for your consideration of these comments.

Respectfully submitted,

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EXHIBIT A:

ATTORNEY GENERAL HEALEY'S COMMENTS ON THE DRAFT PROGRAM SUBMITTED IN CONJUNCTION WITH BOEM'S BOSTON OPEN HOUSE EVENT (FEB. 27, 2018) (ATTACHING ATTORNEY GENERAL HEALEY'S COMMENTS IN RESPONSE TO BOEM'S REQUEST FOR INFORMATION AND COMMENTS ON THE PREPARATION OF THE 2019–2024 PROGRAM (DOC ID. BOEM-2017-0050-49550) (AUG. 17, 2017))

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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.

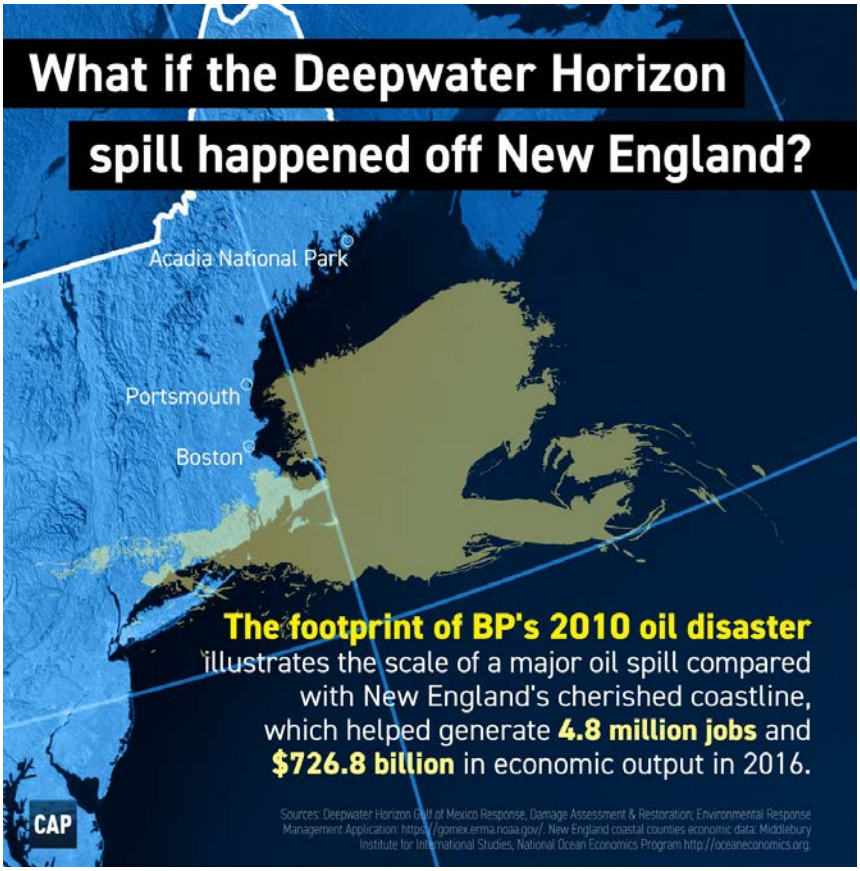

Exhibit 1

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,

MAURA HEALEY
ATTORNEY GENERAL OF MASSACHUSETTS

ATTACHMENT:

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

THE COMMONWEALTH OF MASSACHUSETTS
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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 coastline[9] 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 2016[12]—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

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[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

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[17] *See* Massachusetts Natural Heritage and Endangered Species Program Piping Plover fact sheet, http://www.mass.gov/eea/docs/dfg/nhesp/species-and-conservation/nhfacts/charadrius-melodus.pdf, and Roseate Tern fact sheet, http://www.mass.gov/eea/docs/dfg/nhesp/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/nhesp/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.

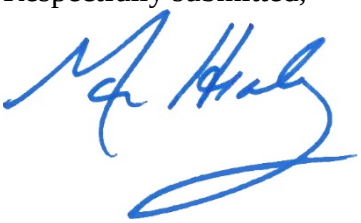
[21] Business Alliance for Protecting the Atlantic Coast, http://protectingtheatlanticcoast.org/about-us/.

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.

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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* Nieukirk, 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

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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

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[7] Avery B. Paxon, 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

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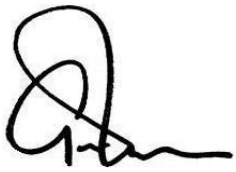
marine vibroseis array and those from an airgun array for some typical seismic survey scenarios, Marine Pollution Bulletin, Volume 119, Issue 1, June 15, 2017, pp. 277-288, https://doi.org/10.1016/j.marpolbul.2017.04.001.

[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.

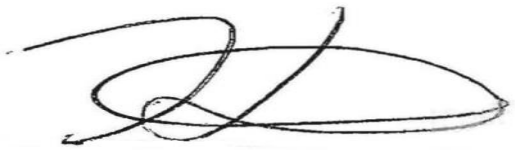
Sincerely,

BRIAN E. FROSH
Attorney General of Maryland



GEORGE JEPSEN
Attorney General of Connecticut

MATTHEW DENN
Attorney General of Delaware



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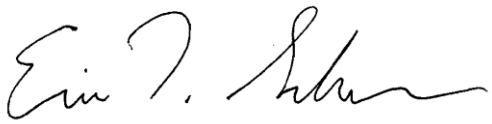

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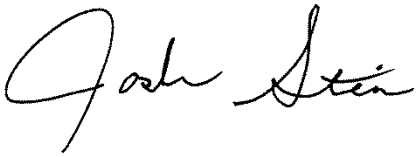

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