



September 21, 2009

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**Re: NRDC Comments on the Draft Proposed Outer Continental Shelf (OCS) Oil and Gas Leasing Program, 2010-2015, (January, 2009)**

On behalf of the Natural Resources Defense Council ("NRDC") and our more than 1.2 million members and online activists, we respectfully submit to the Minerals Management Service (MMS) of the Department of Interior (the Department, Interior, or DOI), these comments on the Draft Proposed Outer Continental Shelf (OCS) Oil and Gas Leasing Program, 2010-2015 (Draft Program or DPP).<sup>1</sup>

Our ocean is a tremendous resource providing important ecological and economic services, generating billions of dollars each year for the Nation. For example, the U.S. ocean sector contributed over \$230 billion to the nation's GDP in 2004, with over 2 million jobs and over \$128 billion in GDP coming from tourism, recreation and living resources alone.<sup>2</sup> However, our marine resources are under enormous strain as a result of overexploitation, habitat degradation, coastal pollution and climate change. Globally, 80 percent of the world's fish stocks are either fully exploited or overexploited and highly migratory species of large tunas, marlin and sharks have declined by as much as 90 percent in some regions.<sup>3</sup> In U.S. waters, roughly 20 percent of the 230 major fishery stocks that have been assessed are currently

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<sup>1</sup> U.S. Department of Interior, Minerals Management Service, *Draft Proposed Outer Continental Shelf (OCS) Oil and Gas Leasing Program, 2010-2015*, (Jan., 2009), (DPP), available at <http://www.mms.gov/5-year/2010-2015New5-YearHome.htm> (last visited 21 September 2009).

<sup>2</sup> National Ocean Economics Program. Market Data: Ocean Economy Data 2004, <http://noep.mbari.org/Market/ocean/oceanEcon.asp> (last visited 21 September 2009).

<sup>3</sup> Food and Agriculture Organization of the United Nations (FAO) Fisheries and Aquaculture Department, *The State of World Fisheries and Aquaculture: 2008*, Rome. at 7, available at <http://www.fao.org/docrep/011/i0250e/i0250e00.HTM> last visited 21 September 2009).; Myers, R. & B. Worm. "Rapid Worldwide Depletion of Predatory Fish Communities." *Nature*. 423: 280-283, (2003).

subject to overfishing and 25 percent are overfished.<sup>4</sup> The number of coastal hypoxic “dead zones” – oxygen-depleted regions devoid of fish, shrimp and crabs – has increased exponentially since the 1970s, including a dead zone roughly the size of Massachusetts that returns every summer in the Gulf of Mexico.<sup>5</sup> Ocean waters are turning increasingly acidic from their intake of carbon dioxide: average surface ocean pH has already decreased by about 0.1 units in seawater pH compared to preindustrial levels, equivalent to a 30 percent increase in acidity.<sup>6</sup> A third of all shallow-water corals – storehouses of marine biological diversity that provide essential habitat to thousands of species – are at risk of extinction.<sup>7</sup>

Exposing our embattled ocean ecosystems to dangerous new activity, the Draft Program proposes to lease vast new areas of the ocean to offshore oil and gas with 31 OCS lease sales in all or some portion of 12 of the 26 planning areas.<sup>8</sup> Of the 31 sales, 10 sales are in 6 areas that were formerly under executive and/or congressional restrictions. The DPP proposes 4 areas off Alaska, 2 areas off the Pacific coast, 3 areas in the Gulf of Mexico, and 3 areas off the Atlantic coast.<sup>9</sup> This Draft Program would undermine the excellent efforts of the Obama Administration to improve ocean governance, perpetuating the paradigm of the Bush Administration – reliance on fossil fuels, to the detriment of our environment and the developing ocean renewable energy industry – rather than seizing the opportunity for a clean energy future through energy efficiency and renewable energy development. The DPP is also based on a fatally flawed analysis of old social and environmental data of insufficient scope.

With these comments, we present our view that the Draft Program should be withdrawn because it:

- 1.) Is contrary to and undermines President Obama’s June 12, 2009 Executive Memorandum<sup>10</sup> and the resulting Interim Report of the Interagency Ocean Policy Task Force, tasked with developing a National Ocean Policy and framework for comprehensive marine spatial planning<sup>11</sup>;
- 2.) Undermines our national imperative to rapidly transition to a clean energy future focused on renewable energy and energy efficiency; and
- 3.) Is substantially deficient because it lacks current or comprehensive information about impacts beyond those to the shoreline and thus MMS has failed to properly analyze environmental impacts under Section 18(a) of the Outer Continental Shelf Lands Act.

Additionally, it is unnecessary and inappropriate that the Secretary should cut short the existing 5-year plan in order to open new areas to oil and gas exploration, simply because the moratorium on new exploration lapsed last year. The DPP under consideration is a relic of the Bush Administration, and for the reasons enumerated throughout these comments, it should be withdrawn. The current OCS Oil & Gas Leasing for 2007-2012<sup>12</sup> should be allowed to run its course, with the exception that the Arctic Ocean and

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<sup>4</sup> National Marine Fisheries Service, *2008 Report to Congress: The Status of U.S. Fisheries*. Silver Spring, MD. Appendices 1-3, available at <http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm>.

<sup>5</sup> PEW Oceans Commission, *America’s Living Oceans: Charting a Course for Sea Change*, (2003) Arlington, at 62, available at [http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting\\_ocean\\_life/env\\_pew\\_oceans\\_final\\_report.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/env_pew_oceans_final_report.pdf) (last visited 21 September 2009)..

<sup>6</sup> O. Hoegh-Guldberg, et al. “Coral Reefs Under Rapid Climate Change and Ocean Acidification.” *Science*. 318 (2007): 1737-1742.

<sup>7</sup> Carpenter, Kent E., et al. “One-Third of Reef-Building Corals Face Elevated Extinction Risk from Climate Change and Local Impacts.” *Science*. 321(2008): 560-563.

<sup>8</sup> DPP at 3.

<sup>9</sup> *Id.*

<sup>10</sup> President Barak Obama, *Memorandum for the Heads of Executive Departments and Agencies, Subject: National Policy for the Oceans, Our Coasts, and the Great Lakes*, June 12, 2009, available at [http://www.whitehouse.gov/assets/documents/2009ocean\\_mem\\_rel.pdf](http://www.whitehouse.gov/assets/documents/2009ocean_mem_rel.pdf) (last visited 21 September 2009).

<sup>11</sup> The White House Council on Environmental Quality, *Interim Report of the Interagency Ocean Policy Task Force*, (September 10, 2009), (Interim Report) available at, [http://www.whitehouse.gov/assets/documents/09\\_17\\_09\\_Interim\\_Report\\_of\\_Task\\_Force\\_FINAL2.pdf](http://www.whitehouse.gov/assets/documents/09_17_09_Interim_Report_of_Task_Force_FINAL2.pdf)

<sup>12</sup> See, MMS 5-year program information, <http://www.mms.gov/5-year/2007-2012FiveYearProgram.htm> (last visited 21 September 2009).

Bristol Bay should be removed from the program and a time-out called on potentially harmful oil and gas activity in the Arctic Ocean until further study and a comprehensive plan have been completed. If new oil and gas leasing activities are even to be considered, they should be preceded by collection of significant new data, the codification of a National Ocean Policy, and the implementation of comprehensive, integrated eco-system based coastal and marine spatial planning and management.

**I. The Draft Program is contrary to and undermines President Obama’s June 12, 2009 Executive Memorandum and the resulting Interim Report of the Interagency Ocean Policy Task Force for developing a National Ocean Policy and framework for comprehensive marine spatial planning.**

To carry out the directive of President Obama’s Executive Memorandum of June 12, 2009, an Interagency Ocean Policy Task Force prepared an *Interim Report*, the fundamental recommendation of which is:

A national policy that ensures the protection, maintenance, and restoration of the health of ocean, coastal, and Great Lakes ecosystems and resources, enhances the sustainability of ocean and coastal economies, preserves our maritime heritage, provides for adaptive management to enhance our understanding of and capacity to respond to climate change, and is coordinated with our national security and foreign policy interests.<sup>13</sup>

It is important to note that the Task Force is comprised of 24 senior policy-level officials from Federal executive agencies, including representation from the Department of the Interior. The Task Force solicited feedback from a broad range of stakeholders, including energy sector representatives, in preparing this report.

The Task Force suggests nine priority objectives for implementation of the National Policy, including: “**Coastal and Marine Spatial Planning:** Implement comprehensive, integrated, ecosystem-based coastal and marine spatial planning and management in the United States.”<sup>14</sup> The Draft Program, because it would allow for massive expansion of oil and gas leases off our coasts, would preempt the comprehensive integrated marine spatial planning that is necessary to minimize conflicts among ocean users and protect and restore the health of our coasts and oceans.<sup>15</sup>

The Draft Program, through its very limited consideration of readily available information about uses and conditions of U.S. ocean areas, is an example of the type of “siloe” ocean management that the President’s order, the work of the Interagency Task Force, and the *Interim Report* are working to change for integrated, ecosystem based management. Two seminal reports on ocean governance, the findings of which provide a basis for the *Interim Report*, identified our current fragmented governance structure – in which over 20 agencies work to implement the 140 laws related to ocean management but often fail to coordinate effectively – as one of the most important problems undermining effective management of coastal and ocean resources.<sup>16</sup> The DPP, on the other hand, maintains the siloe, single agency management of ocean resources, to the detriment of all uses that would be impacted by new offshore oil and gas leases.

The Draft Program, because it is contrary to, and undermines the efforts of the President and the Interagency Task Force, should be withdrawn.

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<sup>13</sup> *Interim Report* at 5.

<sup>14</sup> *Id.*

<sup>15</sup> The recommendations of the Interagency Task Force on national Ocean Policy and Marine Spatial Planning, and the substantive planning that results from these efforts will provide a critical information to enable MMS to effectively consider the possible uses of OCS resources and space as required by Section 18(a)(2)(D) of OCSLA.

<sup>16</sup> U.S. Commission on Ocean Policy, at 76, available at <http://www.oceancommission.gov>; PEW Oceans Commission, *America’s Living Oceans: Charting a Course for Sea Change*, (2003) at 102, available at [http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting\\_ocean\\_life/env\\_pew\\_oceans\\_final\\_report.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/env_pew_oceans_final_report.pdf) (last visited 21 September 2009).

## **II. The Draft Program undermines our national imperative to rapidly transition to a clean energy future, focused on renewable energy and energy efficiency**

The passage of the Outer Continental Shelf Lands Act Amendments of 1978 (OCSLA) took into account two primary factors that were not adequately addressed by the 1953 version of the act – the need to develop national energy independence, and the important desire by both state and local governments, to protect their coastlines from the devastating impacts experienced with the blowout of an OCS drilling project in the Santa Barbara Channel on January 28.<sup>17</sup> The Amendments allowed for review of energy project in the OCS, subject to environmental safeguards to protect not only the natural resources, but the livelihoods and leisure activities that are dependent on healthy ocean ecosystems.<sup>18</sup>

In the Draft Program, MMS has acknowledged the importance of considering renewable energy production by incorporating a review of some ocean renewable energy activities in each region. Chapter III of the Draft Program is entitled “Information on Leasing and Development of Alternative Energy Resources on the OCS During the 2010-2015 Time Frame”; but the DPP contains no meaningful analysis of the tradeoffs between ocean renewable energy versus convention exploration or how expanded oil and gas leasing will impact the transition to renewable energy and energy efficiency in our nation. MMS also has the ability to chose renewable energy over expanded oil and gas leasing because it has jurisdiction over both activities in the OCS.<sup>19</sup>

Offshore drilling will not lower energy costs, reduce our dependence on foreign oil, or create millions of new jobs the way that investing in clean renewable energy will. Transitioning to clean energy will create a new economic sector with millions of sustainable jobs here at home and allow America to compete in the global marketplace. Discussions of offshore drilling continue to distract the nation from the real wealth and benefit that can be achieved by improving energy efficiency and through developing clean, safe, renewable energy.

Energy efficiency – in brief, the opportunity to do more with less – is the smartest way to cut energy consumption and jumpstart the transition to a sustainable green economy. Energy efficiency provides the most cost-effective and environmentally sound way of meeting the nation’s energy needs. It can serve as an important bridge to a future of clean renewables. A recent McKinsey & Company report revealed the significant economic potential generated by adopting a range of energy efficiency measures: investing \$520 billion through 2020 in efficiency programs could save consumers \$1.2 trillion in gross savings during this same time period – roughly the same amount as the 2009 federal deficit. This approach could also cut the overall energy consumption in the United States by 23 percent over the next decade, eliminating the need for significantly greater fossil fuel development. Energy efficiency programs and retrofits could create 600,000 to 900,000 sustainable green jobs during this timeframe.<sup>20</sup>

The nation also must ramp up investment and development in renewable energy development, including offshore sources of energy. It is estimated that wave and current technologies have the potential to supply at least 10 percent of today’s electrical demand, making a significant contribution to greenhouse gas

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<sup>17</sup> 43 U.S.C. s 1332(3); *Watt I* at 1315, 1295-96.

<sup>18</sup> *Watt I* at 1296.

<sup>19</sup> The Energy Policy Act of 2005, amended the Outer Continental Shelf Lands Act. Under new authority in these amendments, the Secretary maintains discretionary authority to issue leases, easements, or ROWs on the OCS for previously unauthorized activities that: (i) Produce or support production, transportation, or transmission of energy from sources other than oil and gas; or (ii) use, for energy-related or other authorized marine-related purposes, facilities currently or previously used for activities authorized under the OCS Lands Act. Department of the Interior, Minerals Management Service, *Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf; Final Rule*, 30 CFR Parts 250, 285, 290 (April 29, 2009), available at <http://www.mms.gov/offshore/RenewableEnergy/PDF/FinalRenewableEnergyRule.pdf> (last viewed 20 September 2009).

<sup>20</sup> McKinsey & Company. *Unlocking Energy Efficiency in the U.S. Economy*. (Jul. 2009) at. iii-iv, 99.; Sahadi, Jeanne. “\$1.2 trillion deficit looms.” *CNNMoney.com* (7 Jan. 2009).

reduction.<sup>21</sup> The Department of the Interior's *Survey of Available Data on OCS Resources and Identification of Data Gaps* noted that the Atlantic Region alone could provide 253.2 GW in offshore wind, and a total of 1,024 GW once wind can be sited in depths greater than 30 meters.<sup>22</sup> Further, as stated in a recent Department of Energy report:

For most coastal states, offshore wind resources are the only indigenous energy source capable of making a significant energy contribution. In many congested energy-constrained regions, offshore wind plants might be necessary to supplement growing demand and dwindling fossil supplies.<sup>23</sup>

In the past, to achieve the purposes of the Act, the Department has focused on the extraction of oil and gas resources. In achieving the energy-production component of the OCSLA, the Secretary of Interior has significant discretion<sup>24</sup>; the Secretary also has jurisdiction over renewable energy in the OCS. Today we are privy to the development of new ocean renewable energy technologies that were never before viable. Ocean renewable energy projects could make a significant contribution to our energy needs. Given the importance of protecting our coastal and ocean resources, the dangers presented to these resources by oil and gas development offshore, and the availability of viable renewable energy alternatives, the Secretary should withdraw this Draft Program and focus the Department's efforts on promoting renewable energy

### **III. The Draft Program's Section 18(a)(2) analysis is inadequate for failure to incorporate sufficient current and detailed information about ecological conditions and impacts of new oil and gas exploration.**

As acknowledged by the Draft Program, Section 18(a)(2) of the OCSLA requires that the "timing and location of exploration, development, and production of oil and gas among the oil- and gas-bearing physiographic regions of the outer Continental Shelf shall" be based on a consideration of eight enumerated factors.<sup>25</sup> In analyzing the adequacy of the Secretary's application of these factors, the DC Circuit Court in *California v. Watt (Watt I)*, stated:

Congress intended the Secretary to consider all factors listed in section 18(a)(2) in developing the leasing program, and did not envision the deferral thereof until some later date. We also conclude that the Secretary must base the leasing program upon the result of his consideration of these factors."<sup>26</sup>

While the Secretary is not required to assess these factors based on perfect information, it is necessary to perform the assessment of all eight factors at the program stage, based on existing information.<sup>27</sup> The Section 18(a)(2) analysis in the Draft Program, particularly Sections 18(a)(2)(A) and (G), are so inadequate for failure to evaluate readily available information as to undermine the validity of this Draft Program. Two examples of federal government resources that contain important marine and ocean resources information, but were not included in the DPP are HD.gov ("Human Dimensions"), which connects to many important sources of information about the socioeconomic value of our oceans, and the NOAA Multipurpose Marine Cadastre, a marine information system for the outer continental shelf and state waters.<sup>28</sup>

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<sup>21</sup> Bedard, Roger of Electric Power Research Institute, et al. *North American Ocean Energy Status – March 2007*, available at, [http://oceanenergy.epri.com/attachments/ocean/reports/7th\\_EWTEC\\_Paper\\_FINAL\\_071707.pdf](http://oceanenergy.epri.com/attachments/ocean/reports/7th_EWTEC_Paper_FINAL_071707.pdf)

<sup>22</sup> DOI. *Survey of Available Data on OCS Resources and Identification of Data Gaps*, (2009) at I-14. <http://www.doi.gov/ocs/report.pdf>.

<sup>23</sup> DOE. *20% Wind Energy by 2030: Increasing Wind Energy's Contribution to U.S. Electricity Supply*, (July 2008) p. 48. <http://www.20percentwind.org/20p.aspx?page=Report>.

<sup>24</sup> *Watt I* at 1302-03; quoted by *Center for Biological Diversity v. U.S. Dept of Interior*, 563 F.3d 466 at 484.

<sup>25</sup> 43 U.S.C. 1331, Sec. 18(a)(2); DPP at 1.

<sup>26</sup> *State of Cal. By and Through Brown v. Watt*, C.A.D.C.1981, 668 F.2d 1290, 215 U.S.App.D.C. 258 at 1305.

(*Watt I*). The court held that the "Secretary failed to base timing and location of leasing activities among the OCS regions on all of the factors listed in section 18(a)(2)." *Watt I* at 1315,

<sup>27</sup> See, *Watt I* at 1307.

<sup>28</sup> See, <http://www.hd.gov> ; <http://www.csc.noaa.gov/mbwg/htm/multipurpose.html>.

The information MMS considered in preparing the Draft Program is not only very limited, much of it is old, relative to the readily available information and recent findings about, for example, climate change impacts on the sensitive Arctic.<sup>29</sup> Many of the reports cited in this Draft Program were those used in preparing the current OCS oil and gas leasing program for 2007-2012.<sup>30</sup> Additionally, as described in comment letter submitted by our colleagues, there are significant data gaps about critically sensitive areas, such as the Arctic.<sup>31</sup> The dated materials used to prepare the DPP demonstrates the serious inadequacy of the environmental analysis.

In April 2009, the DC Circuit court ruled that the insufficient consideration of just one of these factors, Section (a)(2)(G), required re-evaluation of the previous leasing program for the Arctic.<sup>32</sup> The Draft OCS Oil and Gas Leasing Program suffers from precisely the flaws which caused the DC Circuit Court to vacate the program in Alaska and should therefore be withdrawn – the analysis of all new leasing areas in the OCS is based only on consideration of shoreline impacts.<sup>33</sup>

1. 18(a)(2)(A) existing information concerning the geographical, geological, and ecological characteristics of such regions.

There is readily available data describing the geographical, geological, and ecological characteristics of each OCS region, which should be used in determination of the timing and location of any new oil and gas leasing activities. The Draft Program contains virtually no specific information about key characteristics of each region. The following subsections provide examples of the type of information that is readily available in OCS regions. The failure to include significant and readily available regional information is a serious deficiency of the Draft Program, not only because it hinders informed decision making, but also because the DPP is likely to undermine regional ocean management efforts, if it does not even take them into account.

*a) Submarine canyons of the Mid-Atlantic*

As a result of the mid-Atlantic's climate variation – ocean waters here experience the most extreme temperature fluctuations of any marine body in the world – and its variety of physical features, the region is blessed with an array of fish, shellfish, sea turtle, and dolphin populations.<sup>34</sup> The Mid-Atlantic is traversed each fall by pregnant whales migrating from New England and Canadian waters to give birth in the warmer waters of the southeast United States and then returning to these feeding grounds in the spring.<sup>35</sup>

One prime example of the region's astonishing marine diversity can be found in the series of ancient submarine canyons and seamounts that line the continental shelf offshore from Massachusetts to

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<sup>29</sup> See e.g., Intergovernmental Panel on Climate Change (IPCC), *Summary for Policymakers*, in Climate Change 2007: The Physical Science Basis, Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change at 7 (2007), available at, <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf>.

<sup>30</sup> DPP at 25-26.

<sup>31</sup> See, Comments of Alaska Wilderness League, Center for Biological Diversity, Center for Water Advocacy, Defenders of Wildlife, Earthjustice, National Audubon Society, Natural Resources Defense Council, Northern Alaska Environmental Center, The Ocean Conservancy, Oceana, Pacific Environment, Sierra Club, The Wilderness Society, and the World Wildlife Fund on the *Draft Proposed Outer Continental Shelf (OCS) Oil and Gas Leasing Program, 2010-2015*, (January, 2009) at 19-25, submitted September 18, 2009, (Comments of Alaska Wilderness League, et.al).

<sup>32</sup> *Center for Biological Diversity* at 488.

<sup>33</sup> *Center for Biological Diversity* at 489; *Center for Biological Diversity v. U.S. Dept of Interior*, Order No. 07-1247, July 28, 2009, clarifying that relief granted in the opinion issued April 17, 2009 relates only to Alaska, specifically leasing in the Chukchi, Beaufort, and the Bering Seas.

<sup>34</sup> Natural Resources Defense Council. *Priority Ocean Areas for Protection in the Mid-Atlantic: Findings of NRDC's Marine Habitat Workshop*, (Jan. 2001) at 1.

<sup>35</sup> *Id.* at 41.

Virginia.<sup>36</sup> The canyons plummet down several miles and their solid undersea walls provide a hard substrate foundation for bottom dwelling species.<sup>37</sup> At the northern end of the canyons' range, four massive underground seamounts, essentially "extinct drowned volcanoes," rise thousands of feet over the ocean floor.<sup>38</sup> These structure, combined with the fact that fast flowing currents carry in microscopic food and remove waste from the canyons, make the areas marine oases for an abundance of fish, mammals, and invertebrates.<sup>39</sup> The Atlantic canyons and seamounts provide valuable habitat for species like monkfish, hakes, skates, American lobster and red crab, as well as such less well-known species as the cod-like grenadiers and bioluminescent lanternfish.<sup>40</sup> Tilefish construct large burrows into the clay canyon walls, giving them the appearance of miniature, underwater versions of the pueblo villages of the American Southwest.<sup>41</sup> Endangered sperm whales, beaked whales, dolphins, and other marine mammals come to the canyons and seamounts to feed on the schools of squid and fish that congregate there.<sup>42</sup> More

<sup>36</sup> OCEANA. *There's No Place Like Home: Deep Seafloor Ecosystems of New England and the Mid-Atlantic*, (2007) at 26, 28, available at [http://www.oceana.org/fileadmin/oceana/uploads/reports/NewEnglandTrawlReport\\_low.pdf](http://www.oceana.org/fileadmin/oceana/uploads/reports/NewEnglandTrawlReport_low.pdf).

<sup>37</sup> *Id.* at 25, 27.

<sup>38</sup> *Id.* at 17, 19-20.

<sup>39</sup> Canals, Miguel, P. Puig, X. Durrieu de Madron, S. Heussner, A. Palanques, & J. Fabres. 2006. "Flushing Submarine Canyons." *Nature*. 444: 354-357.; Vetter, E.W. & P.K. Dayton. 1999. "Organic Enrichment by Macrophyte Detritus, and Abundance Patterns of Megafaunal Populations in Submarine Canyons." *Marine Ecology Progress Series*. 186: 137-148.; OCEANA. *There's No Place Like Home*, at 17, 26; NOAA Ocean Explorer. "Deep Atlantic Stepping Stones: Exploring the Western North Atlantic Seamounts", at <http://oceanexplorer.noaa.gov/explorations/05stepstones/logs/summary/summary.html> (last viewed 21 July 2009); NEFMC. "Chapter 7.2: Alternatives to Designate Habitat Areas of Particular Concern (HAPC)." *Essential Fish Habitat Omnibus Amendment, Draft Supplemental EIS*. Mar. 2007. p. 1240.

<sup>40</sup> Natural Resources Defense Council. *Priority Ocean Areas for Protection in the Mid-Atlantic: Findings of NRDC's Marine Habitat Workshop*, (Jan. 2001); NOAA Fisheries Service. "Resource Survey Report: Bottom Trawl Survey. March 7 – April 28, 2007." [http://www.nefsc.noaa.gov/esb/rsr/sbts/sbts\\_2007/large\\_file.pdf](http://www.nefsc.noaa.gov/esb/rsr/sbts/sbts_2007/large_file.pdf) (last viewed, 8 July 2009); NMFS & NEFMC. *Protecting Sensitive Deep-Sea Canyon Habitats through Fisheries Management: A Case Study in the Northeastern United States*, available at [http://www.nefmc.org/habitat/managing\\_fisheries\\_poster.pdf](http://www.nefmc.org/habitat/managing_fisheries_poster.pdf) (last viewed 4 Aug. 2009); Marine Conservation Biology Institute. "Places in the Sea: Hudson Canyon," available at [http://www.mcbi.org/shining\\_sea/place\\_atlantic\\_hudson.htm](http://www.mcbi.org/shining_sea/place_atlantic_hudson.htm) (last viewed 16 July 2009.); NEFSC. 42<sup>nd</sup> Northeast Regional Stock Assessment Workshop: 42 SAW Assessment Summary Report, (2006) at 27, available at <http://www.nefsc.noaa.gov/publications/crd/crd0609/atxt.pdf>; NOAA Ocean Explorer. "Mission Plan: Mountains in the Sea," available at <http://oceanexplorer.noaa.gov/explorations/03mountains/background/plan/plan.html> (last viewed 21 July 2009); Lumsden, S.E., T.F. Hourigan, A.W. Bruckner, & G. Dorr (eds.) *The State of Deep Coral Ecosystems of the United States*. NOAA Technical Memorandum CRCP-3, (2007) at 211, available at, [http://coris.noaa.gov/activities/deepcoral\\_rpt/pdfs/DeepCoralRpt2007.pdf](http://coris.noaa.gov/activities/deepcoral_rpt/pdfs/DeepCoralRpt2007.pdf); NOAA Ocean Explorer. "Explorations: Deep East: Logs: Summary of the Expedition," available at, <http://oceanexplorer.noaa.gov/explorations/deepeat01/logs/oct1/oct1.html> (last accessed 8 July 2009.); Moore, J., M. Vecchione, B. Collette, R. Gibbons, & K. Hartel, (2004). "Selected Fauna of Bear Seamount (New England Seamount Chain), and the Presence of "Natural Invader" Species." *Archive of Fishery and Marine Research* 51(1-3): 241-250.

<sup>41</sup> Natural Resources Defense Council. *Priority Ocean Areas for Protection in the Mid-Atlantic: Findings of NRDC's Marine Habitat Workshop*, (Jan. 2001); Lumsden, S.E., T.F. Hourigan, A.W. Bruckner, & G. Dorr (eds.) (2007). *The State of Deep Coral Ecosystems of the United States*. NOAA Technical Memorandum CRCP-3. Silver Spring, MD, at 211, available at, [http://coris.noaa.gov/activities/deepcoral\\_rpt/pdfs/DeepCoralRpt2007.pdf](http://coris.noaa.gov/activities/deepcoral_rpt/pdfs/DeepCoralRpt2007.pdf).

<sup>42</sup> NMFS. "Sperm Whales (*Physeter macrocephalus*)," available at <http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/spermwhale.htm#description> (last 4 Aug. 2009); Waring, G.T., T. Hamazaki, D. Sheehan, G. Wood, & S. Baker "Characterization of Beaked Whale (*Ziphiidae*) and Sperm Whale (*Physeter macrocephalus*) Summer Habitat in Shelf-Edge and Deeper Waters Off the Northeast U.S." *Marine Mammal Science*. (2001), at 17(4): 703-717.; NMFS. *Cuvier's Beaked Whale (*Ziphius cavirostris*): Western North Atlantic Stock*. Oct. 2008, <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2008whcb-wn.pdf> (last visited 31 July 2009.); NMFS. *Atlantic White-Sided Dolphin (*Lagenorhynchus acutus*): Western North Atlantic Stock*. Oct. 2008, available at <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2008dows-wn.pdf> (last visited 3 Aug. 2009); NMFS. *Risso's Dolphin (*Grampus griseus*): Western North Atlantic Stock*, (Oct. 2008), available at <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2008dori-wn.pdf> (last visited 3 Aug. 2009.); NMFS. *Striped Dolphin: (*Stenella coeruleoalba*): Western North Atlantic Stock*, (Oct. 2007), available at, <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2007dost-wn.pdf> (last visited 3 Aug. 2009.)

than 200 species of invertebrates have been identified in the Atlantic submarine canyons and seamounts, including species of black corals, boreal red corals, sponges, and feather-like sea pens.<sup>43</sup>

New oil and gas exploration, including drilling and seismic surveys, would introduce significant oil, toxics, and undersea noise pollution into these delicate marine environments. Between 1959 and 1983 dozens of exploratory oil and gas wells were drilled in or near several major submarine canyons off the Atlantic continental shelf.<sup>44</sup> With the moratoria now lifted, a number of oil and gas companies have applied for permits to obtain new data on resources in these same areas.<sup>45</sup> Even small oil spills can kill marine organisms and disrupt the function of marine ecosystems. Field studies have shown that oil concentrations as low as 0.7 ppb caused developmental malformations, genetic damage, mortality, decreased size at hatching, and impaired swimming in exposed herring populations.<sup>46</sup> Marine mammals like dolphins and whales can also inhale oil when they surface to breathe which causes damage to mucous membranes and airways and can be fatal.<sup>47</sup> As previously noted, even without the dangers of an oil spill, each drilled well also generates drilling muds, cuttings, and produced water which contain toxic metals.

Furthermore, as described below, seismic exploration using high-intensity airgun arrays would cause displacement and disrupt essential behavior in marine life, such as endangered species of baleen whales known to occur in the region. The particular susceptibility of the region to these and other impacts receives virtually no consideration in the Draft Program. If oil and gas exploration and development advance into the Atlantic submarine canyons and seamounts, the unique and fragile ecosystems may never fully recover.

#### *b) California's Marine Protected Areas*

California ocean habitats are among the most productive and diverse in the world. Major upwelling centers nourish the state's coastal waters, fueling them with nutrients from the deep. A vast range of habitats, including kelp forests, eel grass, estuarine nurseries, wetlands, rocky reefs and pinnacles, intricate hydrocorals, diverse sponges, sandy beaches, steep canyons and the margins of offshore islands, supports a remarkable variety of ocean life, including dozens of marine mammal species and about 65 species of rockfish. The ocean off California has many iconic places that are also diversity hot spots. For example, the Farallon Islands support a growing population of the almost extirpated northern fur seals, threatened Steller sea lions, numerous other marine mammals and the largest seabird colony in the continental U.S, with thirteen different species breeding on the islands.<sup>48</sup> The ocean economy generated about \$43 billion for the state in 2000.<sup>49</sup> Uncounted in that number is the enormous contribution oceans make to our quality of life and the high value of coastal real estate. According to a report prepared by the Sea Grant Programs, seventy-seven percent of Californians live in coastal counties. California has the highest value ocean tourism and recreation sector in the nation.<sup>50</sup>

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<sup>43</sup> OCEANA. *There's No Place Like Home* at 9; Lumsden, S.E. at 200, 203; Natural Resources Defense Council. *Priority Ocean Areas for Protection in the Mid-Atlantic: Findings of NRDC's Marine Habitat Workshop*. Jan. 2001.

<sup>44</sup> DOI. *Survey of Available Data on OCS Resources and Identification of Data Gaps*. (2009), at II-19.; MMS. *George's Bank Petroleum Exploration: Atlantic Outer Continental Shelf*. (May 2000) at 1.

<sup>45</sup> DOI. *Survey of Available Data on OCS Resources and Identification of Data Gaps*. (2009) at II-22.

<sup>46</sup> National Research Council. *Oil in the Sea III: Inputs, Fates, and Effects*, (2003) at 128.

[http://www.nap.edu/catalog.php?record\\_id=10388](http://www.nap.edu/catalog.php?record_id=10388).

<sup>47</sup> Australian Maritime Safety Authority. "The Effects of Maritime Oil Spills on Wildlife Including Non-Avian Marine Life," *available at*, [http://www.amsa.gov.au/Marine\\_Environment\\_Protection/National\\_Plan/General\\_Information/Oiled\\_Wildlife/Oiled\\_Wildlife\\_and\\_Non-Avian\\_Marine\\_Life.asp#4gen](http://www.amsa.gov.au/Marine_Environment_Protection/National_Plan/General_Information/Oiled_Wildlife/Oiled_Wildlife_and_Non-Avian_Marine_Life.asp#4gen), (last updated 8 May 2002; last visited 10 July 2009).

<sup>48</sup> Farallon National Wildlife Refuge, *at* <http://www.fws.gov/refuges/profiles/index.cfm?id=81641> (last visited 21 Sept. 2009).

<sup>49</sup> Kildow, Judith T, Charles S.Colgan and Jason Scorse. *State of the U.S. Ocean and Coastal Economies 2009*, National Ocean Economics Program, (2009) at 25, *available at*, <http://www.oceaneconomics.org/download>.

<sup>50</sup> *Id.*



The ecological, social, and economic value of California's coast and ocean depends on restoring and maintaining healthy natural systems. Protecting ecologically sensitive areas, centers of productivity, and natural heritage sites can help rebuild depleted marine populations, protect healthy ones, foster sustainable tourism, and provide insurance against future crises.

The State of California, private, and public supporters have invested millions of dollars and tens of thousands of hours in the implementation of the Marine Life Protection Act (MLPA).<sup>51</sup> The MLPA is a visionary law that uses science guidelines, expert advisers, and extensive public stakeholder participation to design a network of marine protected areas (MPAs) throughout the state's waters. Marine protected areas help increase the resilience of marine ecosystem, enabling them to better withstand the impacts of ocean pollution, ocean acidification, and other stresses. The MPAs are designed to encompass biodiversity hot spots and the full range of habitats in California marine waters, and to be big enough to cover the home ranges of species likely to benefit from protected areas. The spacing of MPAs considers the distances of larval transport to provide connectivity among these safe havens.

The state has committed an estimated \$33 million to map its ocean floor and collect baseline data necessary for designing and monitoring the success of the MPAs. MMS neither took this valuable data into account nor does the Draft Program recognize that new oil and gas development off the California Coast will threaten the MPAs that are being painstakingly designed and implemented throughout the state's waters.

*c) The Chukchi and Beaufort Seas*

The Chukchi and Beaufort seas in the Arctic were leased under the current 5-year program and they are proposed for additional lease sales in the Draft Program (as well as the current program).<sup>52</sup> While there are significant gaps in data available about the impacts of climate change or oil and gas extraction to these vulnerable areas, there is also significant information available about the rare species and ecosystems of these seas. As discussed in subsection 3, below, the DC Circuit court vacated lease sales under the current plan because of insufficient analysis of environmental factors.<sup>53</sup> Examples of the unique wildlife inhabiting the Beaufort and Chukchi seas include populations of: polar bears; Pacific walrus; bearded, spotted, ringed and ribbon seals; beluga, fin, gray, humpback, minke, killer, and endangered bowhead whales; and several million birds of approximately 70 species.<sup>54</sup>

2. Section 18(a)(2)(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.

The Draft Program contains very limited consideration of the perspective of state and regional leaders with regard to new oil and gas leasing, and there is at least one very troubling example where MMS has cited to a document of less relevance than specific statements by the States in response to the new Draft Proposed Plan for 2010-2015. In this particular example: the DPP cites a July 29, 2008 letter from the West Coast Governor's Agreement, regarding the implementation of that Agreement<sup>55</sup>, rather than citing to a September 12, 2008 letter from the three West Coast Governor's to Secretary of Interior Kempthorne regarding the DPP for 2010-2015, which clearly states:

opposition to any action by the federal government that would weaken the national oil and gas leasing moratorium off the West Coast. We remain steadfast in this position to protect the waters, ecosystem and marine life off our shores and to do so into perpetuity.<sup>56</sup>

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<sup>51</sup> See, <http://www.dfg.ca.gov/mlpa/index.asp>.

<sup>52</sup> See, DPP at 34-35.

<sup>53</sup> *Center for Biological Diversity* at 488.

<sup>54</sup> Comments of Alaska Wilderness League, et.al at 10-12.

<sup>55</sup> DPP at 120.

<sup>56</sup> Letter from Governors *Commenting on the Minerals Management Service's Five-Year Outer Continental Shelf (OCS) Oil and Gas Leasing Program: 2010-2015*, September 12, 2009, <http://westcoastoceans.gov/documents/>

This failure to incorporate the relevant comments submitted by the West Coast Governors is extremely troubling and calls into question the sincerity with which MMS has reviewed and considered the perspective of affected States. It is also not clear whether the DPP took account of the position of the West Coast Governors' or other States, as well as public opinion, in crafting the Draft Program or the Leasing Schedule. In California, State leaders and 60 percent of the citizen comments opposed starting a new program, yet the Draft Program includes the entire state for eventual leasing.<sup>57</sup>

3. Section 18(a)(2)(G) the relative environmental sensitivity and marine productivity of different areas of the outer Continental Shelf.

A significant deficiency of the Draft Program's analysis is the reliance on the same measures of environmental sensitivity and marine productivity used in the 2007-2012 Plan, which for the Alaska areas was recently vacated by the DC Circuit Court because it is not consistent with controlling precedent, not based upon the best existing information, and irrational.<sup>58</sup> As with its previous five-year plan, MMS ranked the environmental sensitivity of various program areas in terms of one factor: the physical characteristics of the shoreline areas. In *Center for Biological Diversity*, the DC Circuit Court vacated the leasing program for areas in Alaska on the grounds that:

Interior's failure to properly consider the relative environmental sensitivity and marine productivity of different areas of the OCS under Section 18(a)(2)(G), and its derivative failure to strike a proper balance incorporating environmental and coastal zone factors under Section 18(a)(3).<sup>59</sup>

While Section 18(a)(2)(G) states clearly that an agency must assess the environmental sensitivity of "different areas of the outer Continental Shelf" in order to make its determination of when and where to explore and develop additional areas for oil; MMS has used only the Environmental Sensitivity Index (ESI) while providing:

no explanation for how the environmental sensitivity of coastal shoreline areas can serve as a substitute for the environmental sensitivity of OCS areas, when the coastline and proposed leasing areas are so distant from each other. This interpretation runs directly counter to the statutory language. ... The law plainly requires that Interior examine and compare the environmental sensitivity of different areas of the OCS. Though the law allows Interior to consider the environmental sensitivity of onshore areas to OCS development, it plainly does not allow Interior to consider *only* onshore areas.<sup>60</sup>

The weaknesses found by the court exist in the Draft Program's analysis for all the planning areas. In light of relevant case law and the plainly insufficient information used in performing the Section 18 analysis, the Draft Program should be withdrawn.

IV. Section 18(a)(3) decisions are flawed because they are based on inadequate Sec. 18(a)(2) analysis and utilize a model which underestimate costs of new exploration.

1. Section 18(a)(3) is inadequate because it is based on deficient information provided to fulfill Section 18(a)(2) factors.

Section 18(a)(3) requires that the leasing program be prepared "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."<sup>61</sup> The DC Circuit court explained that these "three elements are, in large part, a condensation of the factors specified in section 18(a)(2)".<sup>62</sup>

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<sup>57</sup> DPP at 46 – 51.

<sup>58</sup> *Center for Biological Diversity* at 488.

<sup>59</sup> *Id.* at 489.

<sup>60</sup> *Id.* at 488.

<sup>61</sup> 43 U.S.C. 1331, Section 18(a)(3).

<sup>62</sup> *Watt I* at 1315. The Court further explains in a footnote, Thus, information gathered in considering the factors specified in sections 18(a)(2)(A), (B), (D), (G), and (H) would inform the Secretary to a large degree of the potential

In *Watt I*, the Court found that the flaws in the Section 18(a)(2) analysis were fatal to the Section 18(a)(3) analysis: “Secretary’s failure to consider and factor in all aspects of section 18(a)(2). This omission precluded him from meeting the requirement of section 18(a)(3) to obtain a proper balance to the maximum extent practicable.”<sup>63</sup> While MMS has paid lip service to an intention to consider the Section(a)(2) factors, the failure to consider readily available information about ecological characteristics and economic activities in the OCS is yet another deficiency which necessitates withdrawal of the Draft Program. The DC Circuit Court reaffirmed the dependent connection between these two sections in *Center for Biological Diversity*, “We have consistently linked the adequacy of Interior’s analysis under Section 18(a)(2) with its analysis under Section 18(a)(3)”.<sup>64</sup>

2. Section 18(a)(3) is also not satisfied because the OECM model does not consider “costs from catastrophic events or impacts on unique resources such as endangered species”.

MMS describes the balancing conducted in the DPP to comply with Section 18(a)(3) as “an estimation of net social benefits for each planning area that is derived by calculating the value of oil and gas resources minus the cost to industry and the environmental and social costs of developing those resources (with consumer surplus benefits then added).”<sup>65</sup> To calculate net social and environmental costs MMS uses the Offshore Environmental Cost Model (OECM) for estimating environmental and social costs associated with OCS activities. The OECM model:

is designed to model the impact of typical activities associated with OCS production and typical oil spills occurring on the OCS. The model uses economic inputs, resource estimates, and exploration and development scenarios as the basis for its calculations. This model is not designed to represent impacts from catastrophic events or impacts on unique resources such as endangered species.<sup>66</sup>

The DC Circuit Court has expressed the need to evaluate the impact of oil spills on coastal and ocean economic activities:

Remaining unexplained, though, is the failure to evaluate the quantifiable impact of an oil spill upon fishing, tourism and other OCS-related enterprises. Estimates of damage to these activities, like estimates of potential oil and gas production, are necessarily speculative to a considerable degree. But, unlike some environmental costs, damage to tourism, fishing, and the like is not inherently insusceptible of quantitative analysis. No reason appears why such estimates cannot be made, and the Secretary offers no satisfactory excuse for the failure to make them.<sup>67</sup>

The impacts of expanded offshore drilling poses the risk of oil spills ruining the country’s coastal and ocean resources – beaches and rich ocean waters that belong to the public – and threatening the jobs, health, and recreation of people who live, work, and vacation along the coasts.

Oil spills quickly travel vast distances. For example, when powered by the Gulf of Mexico’s Loop Current, an oil spill in the eastern Gulf of Mexico could travel around the Florida Keys to wreak havoc on estuaries and beaches from the Everglades to Cape Canaveral.<sup>68</sup> Contamination from the massive 1989

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for environmental damage; the information gathered upon consideration of the factors in sections 18(a)(2)(B), (C), and (D) would be pertinent to the potential for oil and gas discovery; and the information gathered under section 18(a)(2)(F) would be probative of the potential for adverse impact on the coastal zone.” *Id.* at 1315.

<sup>63</sup> *Watt I* at 1318.

<sup>64</sup> *Center for Biological Diversity* at 488, citing *California v. Watt (Watt II)*, 712 F.2d 584 at 599 n. 75(D.C.Cir.1983); *Watt I*, 668 F.2d at 1318.

<sup>65</sup> DPP at 24.

<sup>66</sup> DPP at 94.

<sup>67</sup> *Watt I* at 1319. However, despite this clear deficiency, the Court did not overturn the Department’s analysis.

<sup>68</sup> Gibson, William. “Offshore drilling: A current danger.” *Sun Sentinel* 17 Jun. 2009.; “Special Report: Inside the Loop Current.” *St. Petersburg Times* Accessed 12 Aug. 2009.; Muller-Karger, Frank. Personal Interview. 17 Jun. 2009.

*Exxon Valdez* oil spill reached shorelines nearly 600 miles away; if the spill had occurred on the East Coast, it would have extended from Massachusetts to North Carolina.<sup>69</sup>

Oil spills exact a serious toll on coastal economies, including our approximately \$35 billion commercial fishing and \$60 billion ocean and coastal tourism and recreation industries.<sup>70</sup> The United States cannot afford to lose its rich ocean resources. The damage and clean up costs following the *Exxon Valdez* spill were so extensive that Exxon paid out over a billion dollars to the federal and state governments for damages and clean up costs – and still owes fishermen, Alaska Natives, business owners and others a billion dollars to redress the spill's harm.<sup>71</sup>

It was just last September that at least a half-million gallons of crude oil were released from platforms, tanks, and pipelines throughout the Gulf of Mexico as a result of Hurricane Ike.<sup>72</sup> Nearly 685,000 gallons of petroleum products were released from 125 spills from platforms, rigs, and pipelines on the OCS as a result of previous Hurricanes Katrina and Rita.<sup>73</sup>

Even the best technology cannot eliminate operational and human error or the devastating impacts from accidents in offshore oil and gas operations. The inevitable dangers of offshore oil and gas exploration are tragically clear from the blowout of a well on the West Atlas Montara platform in the Timor Sea. On August 21, 2009, the blowout began spewing somewhere in the range of range of 17,000 to 120,000 gallons of oil per day.<sup>74</sup> As of September 21, 2009 the blowout continues to spew oil, with the oil slick now visible from satellite and covering 7,530 square miles.<sup>75</sup> The plugging of the well is at least three weeks away.<sup>76</sup> Despite a statement by the Australian Petroleum Production and Exploration Association that this is a “very, very rare incident”, the Australian Maritime Safety Authority is as of yet unable to stem the continuous flow of oil into the Timor Sea.<sup>77</sup> The spill is located along the edge of Australia's continental shelf in an area frequented by loggerhead turtles, dolphins, and endangered species like the pygmy blue whale and referred to as “one of the world's last true wilderness areas” by Tourism Australia.<sup>78</sup>

There are few effective techniques to clean massive spills of this type. As Bob Masters of the Kimberley Professional Fisherman's Association described of the efforts to mitigate the impacts of the Timor Sea blowout: “[M]illions of dollars worth of red emperor, snapper, cod and coral trout are found in the waters known as the northern fishing ground ... When dispersants are used to clean up this light crude it forces the dispersed oil into the water column and that's where the fish stocks are and the marine life, living in the water column”.<sup>79</sup> According to the National Academy of Sciences, current cleanup methods can only

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<sup>69</sup> *Exxon Valdez Oil Spill Trustee Council*. 1994. *Exxon Valdez Oil Spill Restoration Plan*. p. 1.

<sup>70</sup> National Marine Fisheries Service. 2009. *Fisheries of the United States 2008*. p. 79.; U.S. Commission on Ocean Policy. 2004. *An Ocean Blueprint for the 21st Century*. p. C-24.

<sup>71</sup> *Exxon Valdez Oil Spill Trustee Council*. "Settlement." Accessed 28 Aug. 2009.  
<http://www.evostc.state.ak.us/facts/settlement.cfm>; “Court rules Exxon owes a billion in damages, interest.” *Anchorage Daily News* 15 Jun. 2009.

<sup>72</sup> DOI. *Survey of Available Data on OCS Resources and Identification of Resource Gaps*. 2009. p. 6.; Cappiello, Dina, Frank Bass and Cain Burdeau. “500,000 Gallons Of Oil Spilled Due To Ike.” *Associated Press* 5 Oct. 2008.

<sup>73</sup> Minerals Management Service. “Setting the Record Straight: Estimated Oil Spills As a Result of Hurricanes Katrina and Rita.” Last updated 20 Jun. 2007. Accessed 22 Aug. 2008.

<sup>74</sup> See, <http://blog.skytruth.org/2009/09/timor-sea-drilling-spill-another-exxon.html>

<sup>75</sup> “Timor Sea Drilling Spill; Closing in on Marine Reserve”, September 18, 2009,  
<http://blog.skytruth.org/2009/09/timor-sea-drilling-spill-closing-in-on.html>

<sup>76</sup> “Fears for sealife in Australian oil spill:,” (Monday September 21, 2009),  
<http://www.radioaustralia.net.au/pacbeat/stories/200909/s2691418.htm>.

<sup>77</sup> Weber, David. “Gorgon gas accident ‘unlikely’.” *ABC.net* 25 Aug. 2009.; Towie, Narelle. “Oil slick endangers whales, turtles.” *Perth Now* 29 Aug. 2009.

<sup>78</sup> “Major oil spill investigation unit to be set up.” *The West Australian* 7 Sept. 2009.; “Oil and Gas Spew from Drilling Rig in Timor Sea.” *Environmental News Service* 24 Aug. 2009.; Scott, Jason. “Woodside Offers Help After West Australian Oil Spill (Update 3).” *Bloomberg*. 25 Aug. 2009.

<sup>79</sup> “Fears for sealife in Australian oil spill:,” (Monday September 21, 2009),  
<http://www.radioaustralia.net.au/pacbeat/stories/200909/s2691418.htm>.

remove a small fraction of the oil spilled into the ocean.<sup>80</sup> Scientists investigating the long-term impacts of the *Exxon Valdez* spill estimate that nearly 20,000 gallons of oil from that spill remain in Prince William Sound, continuing to harm threatened and endangered species and undermine their recovery.<sup>81</sup> Marine mammals, sea birds, fish, shellfish, and other sea life are extremely vulnerable to oil pollution and the long-term toxic effects can impair reproductive success for generations.<sup>82</sup>

Even routine operations associated with exploration and drilling activities release many toxic wastes. For example, each drill well generates tens of thousands of gallons of waste drilling muds and cuttings.<sup>83</sup> Drilling muds contain toxic metals, such as mercury, lead, and cadmium that may bioaccumulate and biomagnify in marine organisms, including in our seafood supply.<sup>84</sup> A toxic brew of arsenic, benzene, and radioactive pollutants is also brought up from each well's water along with oil and gas. Hundreds of thousands of gallons of this toxic mix can be discharged from an oil platform daily, contaminating both local waters and those down current from the discharge.<sup>85</sup>

Before drilling starts, seismic surveys designed to estimate the size of an oil and gas reserve generate serious environmental problems over enormous biological scales. A large seismic array can produce effective peak pressures of sound higher than those of virtually any other man-made source save explosives;<sup>86</sup> and although airguns are vertically oriented within the water column, horizontal propagation is so significant as to make airguns, even under present use, one of the leading contributors to low-frequency ambient noise thousands of miles from any given survey.<sup>87</sup> It is well established that the high-intensity pulses produced by airguns can cause a range of impacts on marine mammals, fish, and other marine life, including broad habitat displacement, disruption of vital behaviors essential to foraging and breeding, loss of biological diversity, and mortalities.<sup>88</sup>

<sup>80</sup> National Research Council, *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope*. Washington, DC: National Academies Press, (2003) at 7.

<sup>81</sup> Walsh, Bryan. "Still Digging Up Exxon Valdez Oil, 20 Years Later." *Time* 4 Jun. 2009.

<sup>82</sup> National Research Council, *Oil in the Sea III: Inputs, Fates, and Effects*. Washington, DC: National Academies Press, (2003) at 127-128; Australian Maritime Safety Authority. "The Effects of Maritime Oil Spills on Wildlife Including Non-Avian Marine Life," *at*, [http://www.amsa.gov.au/Marine\\_Environment\\_Protection/National\\_Plan/General\\_Information/Oiled\\_Wildlife/Oil\\_Spill\\_Effects\\_on\\_Wildlife\\_and\\_Non-Avian\\_Marine\\_Life.asp#4gen](http://www.amsa.gov.au/Marine_Environment_Protection/National_Plan/General_Information/Oiled_Wildlife/Oil_Spill_Effects_on_Wildlife_and_Non-Avian_Marine_Life.asp#4gen), (last updated 8 May 2002; last visited 10 Jul. 2009).

<sup>83</sup> MMS. 2001. *Gulf of Mexico OCS Oil and Gas Lease Sale 181, Final Environmental Impact Statement*. Vol. I, p. IV-28.; MMS. 2008. *Beaufort Sea and Chukchi Sea Planning Areas: Oil and Gas Lease Sales 209, 212, 217, and 221, Draft Environmental Impact Statement*. Vol. II, Chapter 4.4, p. 4-409.

<sup>84</sup> Patin, Stanislav. "Waste Discharged During the Offshore Oil and Gas Activity." Based on *Environmental Impact of the Offshore Oil and Gas Industry*. East Northport: EcoMonitor Pub., 1999. <http://www.offshore-environment.com/discharges.html>.

<sup>85</sup> MMS. 2001. *Gulf of Mexico OCS Oil and Gas Lease Sale 181, Final Environmental Impact Statement*. Vol. I, pp. IV-30-IV-32.; Patin, Stanislav. "Waste Discharged During the Offshore Oil and Gas Activity." Based on *Environmental Impact of the Offshore Oil and Gas Industry*. East Northport: EcoMonitor Pub., 1999. <http://www.offshore-environment.com/discharges.html>.

<sup>86</sup> National Research Council. 2003. *Ocean Noise and Marine Mammals*. Washington: National Academies Press. 208pp.

<sup>87</sup> Nieuwkerk, S.L., K.M. Stafford, D.K. Mellinger, R.P. Dziak, & C.G. Fox. 2004. "Low-frequency whale and seismic airgun sounds recorded in the mid-Atlantic Ocean." *J. Acoust. Soc. Am.* 115(4): 1832-1843.

<sup>88</sup> See, e.g., MMS. 2008. *Beaufort Sea and Chukchi Sea Planning Areas: Oil and Gas Lease Sales 209, 212, 217, and 221, Draft Environmental Impact Statement*. Vol. II, Chapter 4.4, pp. 4-41-4-42. C.W. Clark and G.C. Gagnon. 2006. "Considering the temporal and spatial scales of noise exposures from seismic surveys on baleen whales." IWC Sci. Comm. Paper SC/58/E9. Weller, D.W., A.M. Burdin, B. Würsig, B.L. Taylor, & R.L. Brownell, Jr. "The western Pacific gray whale: A review of past exploitation, current status and potential threats." *J. Cetacean Res. Manage.* 4 (2002): pp. 7-12. Miller, P.J.O., M.P. Johnson, P.T. Madsen, N. Biassoni, M. Quero, & P.L. Tyack. 2009. "Using at-sea experiments to study the effects of airguns on the foraging behavior of sperm whales in the Gulf of Mexico." *Deep-Sea Research I*, doi: 10.1016/j.dsr.2009.02.008. C.L. Parente, J.P. de Araujo, & M.E. de Araujo. 2007. "Diversity of cetaceans as tool in monitoring environmental impacts of seismic surveys." *Biota Neotropica* 7(1). C.W. Clark, W.T. Ellison, B.L. Southall, L. Hatch, S. van Parijs, A. Frankel, & D. Ponirakis. 2009. "Acoustic masking in marine ecosystems as a function of anthropogenic sound sources." IWC

None of these impacts are effectively accounted for by the OECM model. For example, using passive acoustic monitoring, Clark and Gagnon (2006) demonstrated that a single seismic survey off the northeast U.S. coast caused endangered fin whales to cease vocalizing – a behavior essential to the breeding and foraging of this ESA-listed species – over an area larger than New Mexico (100,000 square nautical mile) and potentially an area larger than Alaska (800,000 square nautical miles), for the duration of the survey.<sup>89</sup> Further, recent advances in modeling indicate that several endangered baleen whale species, including fin whales and the North Atlantic right whale, are highly susceptible to masking effects from seismic surveys, over extremely large spatial scales, severely inhibiting communications essential to foraging, finding mates, and avoiding predators.<sup>90</sup> The OECM model makes no attempt to account for the impacts of airgun surveys on foraging rates and other essential behaviors in any marine mammal species, let alone endangered ones. Nor does it attempt to calculate the social cost to fishing communities from the dramatic effects that seismic surveys have on catch rates, again on a broad geographic scale.<sup>91</sup>

Finally, the OECM model fails not only to account for environmental impacts, but also for changes in industry practices, particularly in the use of alternative technologies, that can significantly reduce those impacts. While some technologies, such as the use of passive acoustics for 4-D monitoring, may require considerable further development before they can replace any existing surveys, other technologies – such as marine vibrational devices for use in 2-D and 3-D surveys – have the clear potential to lower effective source levels by several orders of magnitude, reduce horizontal propagation, and eliminate most of the broadband frequency output produced by airguns within the immediate to near term. Airguns by comparison are a coarse 1950s technology. To stimulate development within the highly competitive and risk-averse exploration industry, we strongly urge that MMS mandate the use of vibrational technology for on-water surveys in at least one trial area, under any new 5-year plan. In any case, the OECM accounts for neither the environmental costs of airgun surveys nor the benefits of alternative methods that reduce them, failing to satisfy Section 18(a)(3) and other pertinent sections of OCSLA.<sup>92</sup>

According to the Department of Energy’s Energy Information Administration, drilling in America’s previously closed ocean areas “would not have a significant impact on domestic crude oil and natural gas production ... before 2030 [the end of the analysis period].” Even then, “[b]ecause oil prices are determined on the international market ... any impact on average wellhead prices is expected to be insignificant.”<sup>93</sup> In a recent press release, Secretary Salazar noted that “America’s own oil and natural gas supplies are limited. We sit on 3 percent of the world’s oil reserves. We consume 25 percent of its oil.”<sup>94</sup>

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Sci. Comm. Paper SC-61 E10. Hildebrand, John A., “Impacts of Anthropogenic Sound” in J.E. Reynolds, et al. (eds), *Marine Mammal Research: Conservation beyond Crisis*. 2005. The Johns Hopkins University Press. p. 117. Engås, A., S. Løkkeborg, E. Ona, and A.V. Soldal, “Effects of seismic shooting on local abundance and catch rates of cod (*Gadus morhua*) and haddock (*Melanogrammus aeglefinus*),” *Canadian J. Fish. Aquatic Sci.* 53 (1996): pp. 2238-49.

<sup>89</sup> C.W. Clark and G.C. Gagnon. 2006. “Considering the temporal and spatial scales of noise exposures from seismic surveys on baleen whales.” IWC Sci. Comm. Paper SC/58/E9.

<sup>90</sup> C.W. Clark, W.T. Ellison, B.L. Southall, L. Hatch, S. van Parijs, A. Frankel, & D. Ponirakis. 2009. “Acoustic masking in marine ecosystems as a function of anthropogenic sound sources.” IWC Sci. Comm. Paper SC-61 E10. Paper now under review for publication.

<sup>91</sup> Engås, A., S. Løkkeborg, E. Ona, and A.V. Soldal, “Effects of seismic shooting on local abundance and catch rates of cod (*Gadus morhua*) and haddock (*Melanogrammus aeglefinus*),” *Canadian J. Fish. Aquatic Sci.* 53 (1996): pp. 2238-49. Skalski, J.R., W.H. Pearson, and C.I. Malme. 1992. “Effects of sounds from a geophysical survey device on catch-per-unit-effort in a hook-and-line fishery for rockfish (*Sebastes* spp.).” *Can. J. Fish. Aquat. Sci.* 49: 1357-1365.

<sup>92</sup> A workshop on “Alternative Technologies to Seismic Airgun Surveys for Oil and Gas Exploration and Their Potential for Reducing Impacts on Marine Mammals” was held in Monterey, on Aug. 31 and Sept. 1, 2009, and attended by MMS.

<sup>93</sup> Energy Information Administration. 2007. *Annual Energy Outlook 2007: Impacts of Increased Access to Oil and Natural Gas Resources in the Lower 48 Federal Outer Continental Shelf*. Accessed 13 Aug. 2009. <http://www.eia.doe.gov/oiaf/aeo/otheranalysis/ongr.html>.

<sup>94</sup> DOI. Press Release: Secretary Salazar: U.S. Offshore Wind Resources Could Lead America’s Clean-Energy Revolution. 2 Apr. 2009.

Opening up new offshore areas to drilling risks permanent damage to our oceans and beaches without reducing our dependence on oil.

### **Conclusion**

Our oceans are not just places of wonder and beauty – they provide important human services. Covering over 70 percent of the earth’s surface, oceans are a central part of the global climate system and are a vital food source for a growing world population. America’s oceans are economic engines providing valuable jobs, food, energy resources, and recreation and tourism opportunities. The U.S. ocean economy alone provides more jobs and more economic output than the entire farm sector.<sup>95</sup> The latest data on U.S. ocean sector industries reveals that more than 2 million jobs and over \$128 billion in GDP annually results from just ocean tourism, recreation, and living resources.<sup>96</sup> Protecting these resources means protecting our national economy.

But our ocean resources are under enormous strain as a result of overexploitation, habitat degradation, coastal pollution and climate change. Globally, 80 percent of the world’s fish stocks are either fully exploited or overexploited and highly migratory species of large tunas, marlin and sharks have declined by as much as 90 percent in some regions.<sup>97</sup> In U.S. waters, roughly 20 percent of the 230 major fishery stocks that have been assessed are currently subject to overfishing and 25 percent are overfished.<sup>98</sup> The number of coastal hypoxic “dead zones” – oxygen-depleted regions devoid of fish, shrimp and crabs – has increased exponentially since the 1970s, including a dead zone roughly the size of Massachusetts that returns every summer in the Gulf of Mexico.<sup>99</sup> Ocean waters are turning increasingly acidic from their intake of carbon dioxide: average surface ocean pH has already decreased by about 0.1 units in seawater pH compared to preindustrial levels, equivalent to a 30 percent increase in acidity.<sup>100</sup> A third of all shallow-water corals – storehouses of marine biological diversity that provide essential habitat to thousands of species – are at risk of extinction.<sup>101</sup>

To protect the ecological and economic value of healthy marine ecosystems, MMS must not open vast areas new of our ocean to potentially catastrophic impacts to these resources. As discussed throughout these comments, it is our view the Draft Program should be withdrawn because it is contrary to the work of the Interagency Ocean Policy Task Force and the President’s directive to establish a national ocean policy and comprehensive, ecosystem based marine spatial planning. The Draft Program also undermines our national imperative to rapidly transition to a clean energy future focused on renewable energy and energy efficiency. Finally, the analysis of Section 18(a) factors is inadequate for failing to include sufficient current data and properly analyze environmental impacts to our coasts and oceans. For these reasons, NRDC respectfully requests that the Draft Program be withdrawn; and that under the current program, no further leasing be allowed in Alaska.

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<sup>95</sup> U.S. Commission on Ocean Policy. 2004. *An Ocean Blueprint for the 21<sup>st</sup> Century: Final Report*. Washington, D.C. at 31, available at <http://www.oceancommission.gov>.

<sup>96</sup> National Ocean Economics Program. 2004. “Market Data: Ocean Economy Data,” available at <http://www.oceaneconomics.org/Market/ocean/oceanEcon.asp>. Note: GDP and employment statistics include multipliers (last visited 9 Sept. 2009).

<sup>97</sup> Food and Agriculture Organization of the United Nations (FAO) Fisheries and Aquaculture Department. 2008. *The State of World Fisheries and Aquaculture: 2008*. Rome. at 7. <http://ftp.fao.org/docrep/fao/011/i0250e/i0250e.pdf>; Myers,

R. & B. Worm. 2003. “Rapid Worldwide Depletion of Predatory Fish Communities.” *Nature*. 423: 280-283.

<sup>98</sup> National Marine Fisheries Service. 2008. *2008 Report to Congress: The Status of U.S. Fisheries*. Silver Spring, MD. Appendices 1-3. <http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm>.

<sup>99</sup> PEW Oceans Commission. 2003. *America’s Living Oceans: Charting a Course for Sea Change*. Arlington, VA. at 62. [http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting\\_ocean\\_life/env\\_pew\\_oceans\\_final\\_report.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/env_pew_oceans_final_report.pdf).

<sup>100</sup> O. Hoegh-Guldberg, et al. 2007. “Coral Reefs Under Rapid Climate Change and Ocean Acidification.” *Science*. 318 (2007): 1737-1742.

<sup>101</sup> Carpenter, Kent E., et al. 2008. “One-Third of Reef-Building Corals Face Elevated Extinction Risk from Climate Change and Local Impacts.” *Science*. 321(2008): 560-563.