

Name
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Date

Kelly Hammerle
Manger
National OCS Oil and Gas Leasing Program
Bureau of Energy Management
45600 Woodland Rd.
Sterling, VA 20166-9216

Dear Ms. Hammerle,

I am writing to express my concerns regarding the first of three proposals to develop offshore drilling in the areas of the Outer Continental Shelf. My comments, included below, pertain to the Programmatic Environmental Impact Statement for Executive Order 13795 and Secretary's Order 3350.

As a Delaware resident, and a member of the coastal community, I oppose offshore oil drilling and seismic testing in the Atlantic Region, and specifically off of the Delaware coast. Delaware provides habitat for over 32 species of marine mammals and sea turtles, and is a major flyway for 4 species of endangered shorebirds, who land along the Delaware Bay every spring to feast on horseshoe crab eggs. This is one of the few stops they make on the journey of many thousands of miles to their nesting grounds, and healthy beaches and waters are essential for this ecosystem to support this food web.

Despite new technologies there can be no assurances that a catastrophic spill, or even spills during daily operations, can be prevented. As stated in the Bureau of Energy Management's (BOEM) Draft Proposed Program (DPP) under section 7.2.1, "Despite efforts, there is no way to guarantee that oil spills will not occur". This pertains to accidental "small spills", as well as Catastrophic Discharge Events, such as the Deepwater Horizon spill of 2010. More than 80% of oil spills are due to human error.

<http://fuelfix.com/blog/2014/05/12/human-errors-account-for-80-of-offshore-accidents-exec-says/>

Categories of concern, with references:

Ecosystems:

Salt marshes -Oil spills can have dramatic effects on aquatic vegetation and entire marsh systems (*Lin et al., 2016*). Turner, McClenachan and Tweel (2016) showed island erosion rates increasing by 275% in the first six months of oiling and remaining at 200% during the first 2.5 years following the oil spill.

Dolphins- Following the Deepwater Horizon oil spill of 2010 in the Gulf of Mexico, bottlenose dolphins demonstrated highly elevated stranding rates, adrenal insufficiency, high rates of lung disease, low body weight, and reproductive failure rates 4 times greater than non-oiled populations (Lane *et al.*, 2015; Litz *et al.*, 2014; Schwacke *et al.*, 2014; Smith *et al.*, 2017; Venn-Watson *et al.* 2015).

Sea Turtles- McDonald *et al.* (2017) estimated that 402,000 surface-pelagic sea turtles were exposed to oil, of which 54,800 were heavily oiled. Over 600 sea turtles were found dead, of which 75% were Kemp's Ridleys, the most endangered species of sea turtle. (NOAA)
Endangered sea turtles that had migrated to the Gulf from Mexico, South America and West Africa died in the spill, demonstrating the global scale of impacts.

Fishing- There is strong evidence suggesting that oil exposure can affect growth rates of fish (e.g. Red Snapper), influence the developing hearts of large predatory pelagic fish of significant economic and environmental value, and cause DNA damage to blood cells of striped beakfish (Herdter *et al.*, 2017; Incardona *et al.*, 2014; Jeong *et al.*, 2015). In marine mussels, oil spills have been linked to lowered cellular defenses acutely, and lowered energy acquisition and storage chronically (Donaghy *et al.*, 2016). Oil exposure caused heart failure in juvenile bluefin and yellowfin tunas, reduced swimming ability in juvenile mahi-mahi and caused gill tissue damage in killifish.
The impact of the Deepwater Horizon oil spill on fisheries could total \$8.7 billion by 2020, including the loss of 22,000 jobs.

Recreation-

Economy-

According to the State of Delaware's Tourism Department, without tourism, each Delaware household would pay an additional [\\$1,434 in taxes](#). The small stretch of beach makes up for about [42 percent of the state's tourism income](#). Tourism-related jobs make up [16 percent](#) of the Sussex County's employment. Our state representatives, [Gov. John Carney](#), Senators [Tom Carper and Chris Coons](#) have all penned letters to US Department of Interior Secretary Ryan Zinke condemning such measures off our coast, citing a disruption to the \$7 billion the state generates in tourism annually. Our coastal mayors have also signed resolutions opposing seismic testing and oil drilling off of the Delaware coast.

Seismic Testing

In order for drilling to occur, seismic testing would be performed that would have a devastating effect on local marine mammals who use sonar to communicate with one another, find food, orient themselves, stay connected with their offspring and social groups, and detect predators. Increased levels of sound can cause [irreparable physical damage](#) to many species, including many on the endangered list. During seismic testing, vessels can carry as many as 48 guns of differently-sized chambers that blasts released under extremely high pressure. They are fired at regular intervals — every 10 to 15 seconds, up to 24 hours per day, [for weeks or months at a time](#). Previous studies have demonstrated [countless foraging, breeding and migrating impacts](#) on various species, including harbor porpoises, sperm whales, baleen whales, and narwhals.

The impact on local fishing would prove damaging as well, as airguns have been shown to dramatically depress catch rates of various commercial species (some by 40 to 80 percent) over [thousands of square miles around a single array](#). Other impacts on commercially harvested fish include habitat abandonment, reduced reproductive performance, and [hearing loss](#).

Renewable energy development –

The Atlantic doesn't contain enough oil or gas to achieve energy security or independence. The Atlantic contains less than 1% of the U.S. total technically recoverable oil and gas (Energy Information Administration., Annual Energy Outlook 2016 Assumptions Report, Pages 132-3).

The extraction of fossil fuels is harmful to the environment, and so is its use in automobiles and other modes of transportation, contributing to greenhouse gasses, climate change, and ocean acidification. Many other countries, as well as Delaware citizen's, want clean, affordable sources of renewable and alternative energy sources, such as solar, geo-thermal, net-zero housing, and biotech fuels.