



## Stop Seismic Airgun Testing in the Atlantic Ocean



Proposed Area to Conduct Seismic Airgun Testing for Oil and Gas in the Mid- and South Atlantic (Source: U.S. Department of the Interior, 2012)

## Overview

The U.S. Department of the Interior (DOI) is currently deciding if seismic airgun testing should be allowed to search for oil and gas in the Atlantic Ocean. While the proposed area for seismic airgun testing spans along the coasts of seven states from Delaware to Florida, the impacts it will have on shared marine resources could be felt along the entire East Coast.

Seismic testing involves the use of airguns, which are towed behind ships and shoot loud blasts of compressed air at 250 decibels through the water and miles into the seabed to search for oil and gas deposits. These airguns make intense pulses of sound, almost as loud as explosives, every ten seconds, 24 hours a day, for days to weeks on end. The blasts are so loud and constant that they can injure or disturb vital behaviors in fish, dolphins, whales and sea turtles. If approved, seismic airguns will threaten marine life, fisheries and coastal economies throughout the Atlantic.

## Severe Impacts Predicted for Atlantic Marine Life

Seismic airguns can harm whales, dolphins and other marine animals that are found in the Atlantic Ocean. Their impacts can include temporary and permanent hearing loss, abandonment of habitat, the disruption of vital behaviors such as mating and feeding, and even beach strandings and deaths. According to DOI's own assessment,<sup>1</sup> which is likely an underestimate of the impacts, the proposal to open up a large area of the Atlantic Ocean to seismic airgun testing would:

- Injure 138,500 dolphins and whales
- Cause 13.5 million disruptions to the vital behaviors of marine mammals such as feeding, calving and breeding
- Injure nine critically endangered North Atlantic right whales and disturb the vital behaviors of each remaining individual five times
- Interrupt threatened loggerhead sea turtles as they travel to nesting beaches



**There are only 361 North Atlantic right whales left in the world, making it the rarest among large whale species. Seismic airgun testing threatens this endangered species along its migratory route and within its only known breeding and calving grounds in Georgia and Florida.**

*(Photo Credit: NOAA)*

## Seismic Airguns Threaten Fisheries

The proposed use of seismic airguns in the Atlantic Ocean also threatens fisheries and local communities. Airgun noise has been shown to displace commercially valuable species of fish across vast areas as well as decrease catch rates for coastal fisheries.

- Fisheries for cod and haddock showed decreased catch rates of 40 to 80 percent surrounding the use of a single airgun array<sup>ii</sup>
- Fishermen in Norway requested compensation for losses to their catch rates following seismic testing
- Commercial and recreational fishing off the mid- and southeast Atlantic, where seismic airgun testing is being proposed, generates \$11.8 billion annually and supports 222,000 jobs
- Several ports within the proposed area for seismic airgun testing have among the highest commercial fishing revenues in the U.S.<sup>iii</sup>
- Seismic airgun testing could impact 108 fishing communities along the coast from Delaware to Florida<sup>iv</sup>

## Timeline of Marine Wildlife Impacts Following Seismic Testing

### **1994**

Sperm whales displaced in the Gulf of Mexico<sup>v</sup>

### **1997-2000**

Sightings of dolphins and whales reduced in the United Kingdom and adjacent waters<sup>vi</sup>

### **2001**

Critically endangered western gray whales abandoned a primary feeding area off Sakhalin Island, Russia<sup>vii</sup>

### **2002**

Two beaked whales stranded in the Gulf of California, Mexico<sup>viii</sup>

### **2003**

Two separate strandings of giant squid that had damaged ears and lesions never before seen in the species occurred off the coast of Spain in 2001 and 2003

### **2004**

More than 30 endangered sea turtles washed up on the beaches of Yucatan, Mexico<sup>ix</sup>

### **2008**

Dozens of melon-headed whales stranded and died in Madagascar<sup>x</sup>

### **2012**

About 900 long-beaked common dolphins and black porpoises washed up dead along a desolate stretch of beach in Peru. Although the cause of death is unclear, necropsies of the dolphins showed blood coming from their ears and fractures in their periotic ear bones, which could have been caused by seismic testing<sup>xi</sup>

## Recommendations

- DOI should halt permitting plans for seismic airgun testing for oil and gas in the Atlantic Ocean
- State and federal policymakers should instead focus on expanding offshore wind development off the Atlantic coast. Offshore wind provides more jobs and energy than offshore drilling<sup>xii</sup> without the risks to the environment from seismic airguns, oil spills and carbon emissions

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<sup>i</sup> BOEM. (2012). Atlantic OCS Proposed Geological and Geophysical Activities Mid and South Atlantic Planning Areas Draft Programmatic Environmental Impact Statement, Vol I: Chapter 1-8.

<sup>ii</sup> Engas, A., S. Lekkeborg, E. Ona, and A.V Soldal, (1996). "Effects of seismic shooting on local abundance and catch rates of cod (*Gadus morhua*) and haddock (*Melanogrammus aeglefinus*)", *Canadian J. Fish. Aquatic Sci.*, 53: pp. 2238-49.

<sup>iii</sup> BOEM. (2012). Atlantic OCS Proposed Geological and Geophysical Activities Mid and South Atlantic Planning Areas Draft Programmatic Environmental Impact Statement, Vol I: Chapter 1-8. pp. xix.

<sup>iv</sup> Id.

<sup>v</sup> Mate, B.R., Stafford, K.M. and Ljungblad, D.K., (1994). A change in sperm whale (*Physeter macrocephalus*) distribution correlated to seismic surveys in the Gulf of Mexico. *J. Acoustical Soc. Am.* 96: pp. 3268-69.

<sup>vi</sup> Stone, C.J. and Tasker, M.L. (2006) The effects of seismic airguns on cetaceans in UK waters. *J. Cetacean Res. Manage.* 8(3):255-263.

<sup>vii</sup> Weller, D. W., A. Burdin, A.L. Bradford, G.A. Tsiudlko, Y.V. Ivashchenko. (2003). "Gray whales off Sakhalin Island, Russia: June-September 2001: A joint U.S. – Russia scientific investigation." *U.S. Department of the Interior*, Paper 134.

<sup>viii</sup> Hildebrand, J., "Impacts of anthropogenic sound on cetaceans," Paper submitted to the IWC Scientific Committee (2004) (SC/56/E13).

<sup>ix</sup> Secretaria de Medio Ambiente y Recursos Naturales, Direccion General de Vida Silvestre, Delegacion Federal en Campeche. (2004) "Relacion de tortugas varades en la costa de Campeche del 20 de Diciembre de 2003 al 12 de Febrero de 2004".

<sup>x</sup> BBC News. "Whales stranded off Madagascar." 9 June 2008. Available at: <http://news.bbc.co.uk/2/hi/africa/7443559.stm>

<sup>xi</sup> Interview with Dr. Yaipen-Llanos. Article: "Expert Links Dolphin Deaths to Sonar Testing." New York Times, 28 May 2012. <http://green.blogs.nytimes.com/2012/05/28/expert-links-dolphin-deaths-to-sonar-testing/>

<sup>xii</sup> Mahan, S. I. Pearlman, J. Savitz. "Untapped Wealth: Offshore Wind Can Deliver Cleaner, More Affordable Energy and More Jobs than Offshore Drilling." Oceana, September 2010. [http://oceana.org/sites/default/files/reports/Offshore\\_Wind\\_Report\\_-\\_Final\\_1.pdf](http://oceana.org/sites/default/files/reports/Offshore_Wind_Report_-_Final_1.pdf)