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## Noise from seismic air guns could be skirmish before war over offshore drilling

By [Lenny Bernstein](#), Published: August 18, 2013

The proposed use of “seismic air guns” to determine how much oil and gas lies beneath a vast swath of the ocean floor off the southeastern coast of the United States is provoking an early skirmish in a battle over oil drilling that is still years away.

The devices, towed behind vessels that trace grids on the ocean surface, emit blasts of compressed air that both energy companies and conservationists acknowledge are at least as loud as a roaring jet engine. They also agree that to use the reflected sound to map what lies thousands of feet beneath the ocean floor, those pulses must be emitted every 10 or 15 seconds, for days, weeks and possibly months at a time.

That’s about where the accord ends.

Though drilling cannot begin off the Mid-Atlantic or southeast coasts until at least 2017, conservationists and some members of Congress are demanding that the Interior Department and its new secretary, Sally Jewell, block the use of the technology, contending that the practice is harmful to ocean mammals.

“I think it’s fair to say that to a marine mammal, it must be like being in a war zone,” said Michael Jasny, director of the [Natural Resources Defense Council’s](#) marine mammal project, which was part of a recently settled lawsuit over use of the air guns in the Gulf of Mexico. “Every 10 to 12 seconds, boom! . . . And then you combine that with [noise from shipping and other activity] — it’s just unimaginable.”

Oil and geophysical companies say this is an ill-disguised attempt to prevent all drilling in the huge area President Obama opened to exploration in 2010, and other members of Congress have demanded that exploration proceed.

Chip Gill, president of the [International Association of Geophysical Contractors](#), said there has been no evidence of air guns harming marine mammals in the nearly four decades since they replaced dynamite as the preferred method of mapping mineral deposits below the seabed in sites around the world. Companies go to extraordinary lengths to protect marine life, and they must map the earth below the ocean floor not only to determine what it holds but also to ensure that oil rigs can be safely erected, he said.

“Isn’t it in the best interests of the American people to at least go image the subsurface so our resource managers, the federal government, have the best information on which to make these decisions?” Gill asked. “I would submit yes.”

Interior’s [Bureau of Ocean Energy Management](#) was originally scheduled to rule on the use of air guns last fall, but that deadline has slipped to next March, spokesman John Filostrat said.

In the meantime, the National Oceanic and Atmospheric Administration is updating its standards for the level of noise that is harmful to sea life, something it hasn’t done since 1998, said Amy Scholik-Schlomer, a biologist for NOAA Fisheries. That effort should be completed by the end of this year or the beginning of 2014, in time to figure into BOEM’s decision, she said.

In 2010, Obama opened 330,000 square miles of ocean, from Delaware Bay to Cape Canaveral, to oil and gas exploration, which can’t begin until at least 2017 because no leases are currently planned. BOEM believes there are [3.3 billion barrels of oil and 31.3 trillion cubic feet of gas](#) off the East Coast, but that is based on surveys conducted in the early 1980s, when technology wasn’t as sophisticated as it is now.

The oil industry notes that when companies began exploring in the Gulf of Mexico and using updated survey technology, estimates of oil reserves there in 2011 grew by five times compared with 1987 values.

“There is old data available, but there have been great advances in the way data is collected and the way it’s processed,” said Andy Radford, senior policy adviser for offshore issues for the [American Petroleum Institute](#). “A much better technology should be used to determine what potential resources lie off the Atlantic coast.”

In June, conservation groups, government agencies and the geophysical industry settled a lawsuit over the use of seismic air guns in the gulf, putting some areas off limits for 30 months while officials conduct more tests, including some between March 1 and April 30 of each year, when dolphins are calving.

Gill said the industry “agreed to it because, operationally, it’s workable for us. A number of aspects of that settlement have no scientific basis behind them.”

Now attention is turning to the Mid- and South Atlantic, with energy companies applying to determine how much oil and gas might be available and conservation groups determined to stop them.

In June, the House approved an amendment offered by Rep. Scott Rigell (R-Va.) that would require BOEM to allow air gun testing in the Atlantic by Dec. 31. In January, Rep. Frank Pallone Jr. (D-N.J.)

and Sen. Frank R. Lautenberg (D-N.J.) [sent letters to Obama](#) criticizing seismic air gun testing as the first step toward allowing offshore drilling, and Pallone questioned Jewell about it at a hearing in July.

“We don’t think drilling is safe, and we don’t want it expanded into the Atlantic,” said Matthew Huelsenbeck, a marine scientist for [Oceana](#), the conservation group that is leading the fight against air guns in the Atlantic.

In its [draft environmental impact statement](#), BOEM estimates that air-gun noise of 180 decibels might affect the feeding, migration or other behavior of nearly 1,000 sperm whales, 39 humpback whales and a few other cetaceans annually. It predicted that blasts of 160 decibels could affect 1.1 million bottlenose dolphins and hundreds of thousands of each of five other dolphin species.

Conservation groups said the impact would be much more dire, with effects including possible deafening of endangered whale species, such as the right whale, and injuring or killing of others. In the darkness beneath the ocean, Huelsenbeck said, whales and dolphins depend almost entirely on their hearing for survival.

Hearing loss is “a death sentence for a marine mammal,” he said. “It might not kill them right away. [But] they’re not going to be able to socialize, to find their pod, to find food.”

In laboratory experiments, researchers have seen temporary auditory injuries at 180 decibels, Scholik-Schlomer said, but it is difficult to know whether that translates to animals in the wild.

Gill said there is no evidence of any such harm occurring, despite the use of air guns around the world for the past 40 years. Vessels carry observers who must shut down the air guns if dolphins or whales are seen, and the volume of the devices is ramped up slowly, scaring sea creatures away before the noise reaches its peak.

If the goal is to shut down oil and gas exploration in favor of constructing wind turbines, Gill said, pile-driving for windmill construction will be louder than air guns.

Both sides point to a device that uses vibrations instead of sound for mapping, but Gill said it is not known whether it will be reliable.

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