Wildlife Permits for Energy Development in the Gulf of Mexico

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Two lawsuits claim that the National Marine Fisheries Service (NFMS) should not have issued wildlife permits for oil and gas exploration and development activities in the Gulf of Mexico. The permits allow oil and gas companies to unintentionally harm or kill species protected under the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA).

According to a suit filed by the Sierra Club and other environmental groups in November 2020, NMFS violated the ESA by allowing oil and gas activities to harm protected species.[1] A separate lawsuit was filed in July 2021 in the same Maryland federal court by the Natural Resources Defense Council (NRDC) and other environmental organizations. It claims NMFS, which is part of the National Oceanic and Atmospheric Administration (NOAA), should not have authorized incidental harm to marine mammals such as dolphins and whales by companies conducting geophysical testing for oil and gas exploration.[2] While the lawsuits are concerned that potential oil spills will affect listed species, they also address the impacts of seismic surveys by oil and gas companies on marine mammals.

Geophysical Testing

Less than two months before the wildlife permits were issued, the Bureau of Ocean Energy Management (BOEM) of the Department of the Interior completed its evaluation of the environmental impacts of geological and geophysical (G&G) exploration in the Gulf of Mexico, producing a Programmatic Environmental Impact Statement which considered the direct and indirect effects as well as the cumulative impacts of such activities.[3] BOEM issues permits to companies for G&G exploration for offshore energy development.

Eighty-three percent of the G&G permits ever issued by BOEM have been for the Gulf of Mexico, which translates to over 2.3 million miles of exploration as of October 2017.[4] The Alaska, Pacific, and Atlantic regions received 8, 6, and 2 percent of BOEM permits, respectively. Geophysical exploration includes gravity, electromagnetic, and seismic testing.[5] Ninety-four percent of all exploration permits are for geophysical exploration as opposed to geological exploration, and according to BOEM, oil and gas development "almost exclusively" uses deep-penetration seismic airgun surveys.[6]

Seismic testing shoots soundwaves into the ocean floor to indicate any obstacles to erecting an oil rig, as well as to identify potential oil patches. BOEM describes the process like this:

> Deep penetration seismic surveys are conducted by vessels towing an array of airguns that emit acoustic energy pulses into the seafloor over long durations and large areas. Seismic airguns can penetrate several thousand meters beneath the seafloor.[7]

According to BOEM, the negative impacts from G&G permits "might include" the following:

- behavioral changes and auditory impacts to marine mammals, sea turtles, fish, and birds;
- individual mortality of species from vessel strike, entanglement, or indirect effects of exposure to intense underwater sound; and
- short-term interruption of fishing.[8]

More particularly, BOEM concluded that seismic testing impacts on marine mammals from deep-penetration seismic airgun surveys may have short-term, but not severe, impacts on a large number of animals, "with possible, albeit limited, physical injury or possible mortality (resulting only from vessel collisions)."[9]

NMFS says the seismic exploration in the Gulf of Mexico will occur for 24-hours a day when needed.

NRDC claims that the noise levels can reach 250 dB. To give an idea of what that means, a gunshot heard 100 feet away is 140 dB. And, of course, noise travels differently in water. According to NRDC, the noise levels in the Gulf of Mexico "are among the highest measured anywhere in the world." The official notice for the 5-year MMPA permit for the Gulf states that the amount, types, and locations of seismic testing are not known but that the impacts on the protected animals cannot exceed certain levels. Separate guidance prepared by NOAA indicates that for baleen whales the point at which permanent hearing loss occurs from seismic testing is between 183-219 dB.[10] For dolphins, the range is 155-202 dB.

Marine Mammal Protection Act

There are 28 species of marine mammals in the Gulf, including whales, dolphins, and manatees. Most notable among those is the Bryde's whale, a baleen whale. In August 2021, NMFS identified the Gulf population of Bryde's whale as a distinct species called Rice's whale.[11] According to NMFS, "underwater noise pollution can interrupt [Rice's] whales' normal behavior by hindering their ability to use sound, causing a disruption of their ability to communicate, choose mates, find food, avoid predators, and navigate."[12]

The MMPA makes it illegal "for any person or vessel … to take any marine mammal in waters or on lands under the jurisdiction of the United States." 16 U.S.C. § 1372(a)(2)(A). The term "take" under the MMPA means harassing (such as by disrupting feeding or breeding), hunting, capturing, collecting, or killing.

The law provides for exceptions to the prohibition on taking, such as for incidental takes, which is when the harm occurs unintentionally as part of a lawful activity. NMFS will issue a Letter of Authorization (LOA) under the MMPA (16 U.S.C. § 1371(a)(5)(A)) allowing parties to "take" small numbers of marine mammals incidental to a legal purpose. The regulations pertaining to LOAs explain what is meant by incidental: "This does not mean that the taking is unexpected, but rather it includes those takings that are infrequent, unavoidable or accidental."[13] In order to qualify for a LOA, the party conducting the "take" must demonstrate that harm to marine mammals will have "a negligible impact on the species or stock."[14]

NMFS issued an LOA in early 2021 for G&G exploration in the Gulf of Mexico, noting that the eastern portion of the Gulf, known as the Eastern Planning Area, was removed from consideration by BOEM due to a moratorium on oil and gas development imposed by Congress.[15] This Eastern Planning Area includes the known habitat of the Rice's whale.

Endangered Species Act

Many of the marine mammal species protected under the MMPA are also protected under the ESA, including seven whale species. The ESA lists species that, based on the best available science, were found to be endangered (likely to become extinct in the foreseeable future) and threatened (likely to become endangered in the foreseeable future). In addition to mammals, other listed species in the Gulf of Mexico include species of fish – such as oceanic whitetip shark, smalltooth sawfish, and Gulf sturgeon – and five sea turtles – Kemp's ridley, hawksbill, green, leatherback, and loggerhead.

Like the MMPA, the ESA prohibits taking listed species, defining "take" to include harass, harm, kill, and wound; ESA regulations define harm to mean killing or injuring a species including by "significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering."[16]

A notable difference between the ESA and the MMPA is that the ESA requires federal agencies to consult with NMFS on whether the impacts of their actions will jeopardize the continued existence of a listed marine species or adversely impact their critical habitat. This is known as a Section 7 consultation. As part of the consultation process with NMFS, the agency will issue a Biological Opinion (BiOp) on the impacts the proposed federal action will have on listed species as well as any measures to avoid that harm. Permits for incidental takes are also part of the Section 7 consultation process and are called Incidental Take Statements.

In March 2020 NMFS issued a BiOp regarding whether oil and gas exploration and development authorized by BOEM for the next 50 years would jeopardize the continued existence of ESA listed species. The 2020 BiOp found that oil and gas production was "likely to adversely affect" sperm whales, Rice's whales, oceanic whitetip sharks, giant manta rays, and Gulf sturgeon, as well as sea turtles. The actions likely to adversely affect those species include seismic testing, noise from production, vessel strikes, oil spills, and discharge of marine debris.

It seems Rice's whale would bear the most impact. The exact population of Rice's whales is unknown but small.

According to NMFS, a 2016 study identified 33 then-called Bryde's whales. When issuing the BiOp, NMFS relied on a survey that ended in 2009 which found 40 whales. NMFS acknowledged that the study may no longer be accurate as whales "are thought to have recently experienced a decline" due to the 2010 oil spill. The BiOp estimated that 17 whales could be killed by vessel strikes during the 50 years of planned oil production, although NMFS thought the actual number would be lower, as much of the production would be outside of the area the whale is known to be found.

Significantly, a so-called jeopardy finding was issued for Rice's whale as part of the 2020 BiOp. It means NMFS found that the planned oil and gas development could cause the whale's extinction. Such a determination is rare.

In making the finding, the agency did not count the hazard from certain vessel strikes that would occur "outside of the [Rice's] whale area," but it included all harm from noise. NMFS concluded:

> …[O]ver the course of the 50-year proposed action, the entire small, isolated [sic] of Gulf of Mexico Bryde's whales is expected to experience a reduction in fitness from combined stressors resulting from the proposed action.… Given these wide-ranging, combined multiple effects to the small and likely declining population of this species, we find that the proposed action is likely to jeopardize the continued existence of the Gulf of Mexico Bryde's whale.

When NMFS makes a jeopardy determination, the ESA requires the agency to issue reasonable and prudent alternatives (RPAs) to the proposed action to minimize the harm. NMFS issued one RPA to reduce vessel strikes, suggesting slower vessel speeds, no travel at night, and use of an observer. No alternatives to the sound impacts were proposed despite finding that the whales could experience twelve injury-causing exposures a year for 50 years and also experience 451 sound impacts per year that would adversely affect their behavior.

Conclusion

Energy development in the Gulf of Mexico requires multiple reviews by different federal agencies to assess the impacts of those activities on protected species. While the federal agencies work together, they appear to have reached separate conclusions. BOEM's review of all oil and gas exploration activities by all producers, concluded the impacts to protected species were "possible, albeit limited, physical injury or possible mortality (resulting only from vessel collisions)," compared to NMFS, which concluded that such activities could lead to the extinction of Rice's whale. The environmental plaintiffs assert in two separate suits that allowing oil and gas development poses significant harm to wildlife that violates the law. A court will decide.

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Endnotes

1. Sierra Club v. NMFS, No. 20-CV-03060 (D. Md. *filed* Nov. 21, 2020).
2. NRDC v. Coit, No. 21-CV-01827 (D. Md. *filed* July 22, 2021).
3. BOEM, *Record of Decision: Gulf of Mexico Outer Continental Shelf Proposed Geological and Geophysical Activities Western, Central, and Eastern Planning Areas Final Programmatic Environmental Impact Statement* (Nov. 30, 2020) (hereinafter *PEIS Record of Decision*).
4. BOEM, *Geological & Geophysical Data Inventory: Outer Continental Shelf through 2017* (BOEM 2018-04), pp. 6-10.
5. 30 C.F.R. § 551.1. Geological exploration includes coring and test drilling, well logging, and bottom sampling. *Id.*
6. BOEM, *PEIS Record of Decision*, p. 4.
7. BOEM Press Release, *BOEM Denies Atlantic Seismic G&G Permits* (Jan. 6, 2017).
8. BOEM, *PEIS Record of Decision*, p. 4.
9. BOEM, *PEIS Executive Summary*, p. 19.
10. NOAA, *2018 Revision to Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing: Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts* (ver. 2). The term used is permanent threshold shift, or the point at which the animal's ability to hear changes.
11. 86 Fed. Reg. 47022 (Aug. 23, 2021). *See also*, NOAA Fisheries Press Release, *New Species of Baleen Whale in the Gulf of Mexico* (Jan. 22, 2021). For the purposes of this article, where possible, the name Rice's whale will be used even for documents pre-dating NOAA Fisheries' recategorization.
12. NOAA Fisheries, *Species Directory: Bryde's Whale.*
13. 50 C.F.R. § 216.103.
14. 50 C.F.R. § 216.106(e).
15. 86 Fed. Reg. 5322 (Jan. 19, 2021) (referring to the withdrawals under the Gulf of Mexico Energy Security Act (GOMESA) (Pub. L. 109-432, § 104)).
16. 16 U.S.C. § 1532(19); 50 C.F.R. § 222.102.