

**COMMITTEE ON NATURAL RESOURCES
SUBCOMMITTEE ON WATER, OCEANS, AND WILDLIFE
HYBRID LEGISLATIVE HEARING**

March 17, 2022

1:00 p.m. ET

Legislative Hearing on H.R. 3431, H.R. 6491, H.R. 6651, H.R. 6785, and H.R. 6987

Question for the Record for Ms. Janet Coit, Assistant Administrator, National Marine Fisheries Service, Acting Assistant Secretary of Commerce for Oceans and Atmosphere, Deputy NOAA Administrator

Questions from Rep. Ed Case, HI

Section 1 of H.R. 6987 creates a grant program to monitor soundscapes by expanding observing systems for the purposes of collecting a baseline of underwater sound and continuing to develop and apply standardized forms of measurements to assess sounds produced by marine animals, physical processes and anthropogenic activities.

1. What monitoring data and other evidence has NOAA compiled through its Ocean Noise Strategy and other programs that show anthropogenic noise is harmful to marine mammals, such as whales and other cetaceans and their prey?
 - NOAA's Ocean Noise Strategy highlights two broad categories of harm to marine life due to noise: acute and chronic. Acute harm due to noise is the focus of NOAA's efforts to reduce the effects that loud events can have on animals in relatively close proximity, both through damage to their bodies and in eliciting behavioral responses that, if prolonged or repeated can reduce reproductive success and fitness or, in extreme cases, can be lethal. Several U.S. federal agencies, including NOAA, but also prominently the U.S. Navy and the Bureau of Ocean Energy Management, continue to sponsor research and undertake monitoring associated with sound-producing activities that continue to grow our understanding of which animals are the most vulnerable to acute noise responses and under what conditions. This in turn has supported our approaches to preventing harm.

The Strategy also emphasizes the increasing problem of chronic harm. Rising background noise impedes the ability of marine species to hear and interpret critical acoustic cues that are necessary for communication, predator and prey detection, and navigation. Accordingly, the Strategy calls for designing monitoring systems that track noise over longer timescales, across larger areas, and as influenced by multiple types of activities—how long-lived animals experience noise in the ocean. Under the Strategy, NOAA implemented a Noise Reference Station network that allows the agency to measure levels of underwater sound frequencies that are both used by wildlife for critical biological functions and produced by wide-ranging noise sources (e.g., vessels, offshore oil

and gas exploration, large-scale construction events). The Sanctuary Soundscapes project, co-led by NOAA and the US Navy, augmented the Noise Reference Station network in select national marine sanctuaries to improve understanding of how human-generated noise interacts with biological functions in these protected areas.

In implementing these monitoring systems, NOAA and partners have developed standardized ways to collect data and compare risks across places. Standardized sound measurements have enabled tracking of changes in noise relative to changes in human activities, such as during the COVID-19 pandemic. They also help the overall monitoring of marine mammal distribution in response to stressors such as climate change. In addition, researchers can now explore correlations between noise data with other types of sampling—such as stress hormone samples taken from foraging whales—to better animal responses to chronic noise. These studies are ongoing. Finally, NOAA’s standardized monitoring systems allow us to compare chronic noise status, trends and evaluate benchmarks for harm within international frameworks that are addressing noise as a global environmental concern.

2. What type of harm to marine mammals is occurring due to anthropogenic noise? What data and other evidence has NOAA compiled through its Ocean Noise Strategy and its other programs shows that the increase in anthropogenic noise this past decade has likewise increased the rate of harm?
 - Acute and chronic noise exposure has the potential to result in harm to marine mammals including behavioral disturbance, increased stress, masking of communication and critical acoustic cues, hearing loss, physical injury, and, in certain circumstances, mortality. NOAA is especially concerned with prolonged or repeated behavioral disturbance, which can lead to impacts on reproduction and survival, and rising background noise, which makes it increasingly more difficult for marine mammals to hear and interpret the sounds necessary for communication, finding food, avoiding predators, and effectively navigating their environment.

As marine activities and their associated ocean noise contributions continue to increase, evidence of the detrimental acute, chronic, and cumulative impacts of noise on marine species continues to mount, as described in *The Soundscape of the Anthropocene Ocean* (Science, 2021).

Numerous scientific studies show how acute noise exposure can result in higher stress levels, behavioral disturbance, and noise-induced hearing loss. Energetic models illustrate the impacts that prolonged or repeated stress and behavioral disturbance can have on survival and reproductive success of individual marine mammals. Further, a few targeted field studies have shown a more direct

connection between disturbance and reduced rates of reproduction and survival in exposed populations.

In addition, long term monitoring of soundscapes has shown that in some areas, chronic noise from commercial shipping has significantly altered background sound levels, making it more difficult for large baleen whales to communicate effectively.

NOAA's Ocean Noise Strategy provides a framework through which NOAA's science and management programs can better coordinate and apply the rapidly evolving science on acoustic impacts to NOAA's management actions under multiple regulatory programs and other efforts. Through the Ocean Noise Strategy, NOAA continues to engage with federal agencies, academic and industry groups, and international partners to collect data needed to support better acoustic impact risk assessments and minimization measures.

3. What quantifiable data and other monitoring measures has NOAA compiled to show that impacts of vessel traffic, including vessel strikes, are harmful to marine mammals, such as the right whale?

- There are many tools in place that provide quantitative data on the impacts of vessels to marine mammals through monitoring programs, efforts by the Marine Mammal Health and Stranding Response Program (MMHSRP), and vessel strike risk models. Visual (vessel and aerial) and acoustic monitoring programs are in place that provide species spatial distribution and density data as well as health information for individuals (i.e., scars or wounds from vessel strikes). Stranding and necropsy data are valuable in evaluating vessel strike contributions to mortality and or injury for marine mammals. Data regarding human interactions are collected from all stranded marine mammals and document observed vessel strike injuries. As an example, in 2017 an Unusual Mortality Event (UME) was declared for North Atlantic right whales, of which there are fewer than 350 individuals remaining. Of the 50 mortalities and serious injuries included in the UME to date, 13 were attributed to vessel strikes; an additional 11 were unable to be examined or were severely decomposed and cause of death could not be identified.

In addition to these known vessel strike injuries and mortalities, many models have been created to evaluate and predict impacts from vessels to marine mammals, particularly large whales. Most vessels greater than 65 feet in length are required to carry Automatic Identification System (AIS) transceivers, and many vessels under that length also carry AIS, which provides vessel traffic data including spatial distribution and amount of vessel traffic as well as information on vessel movements, speed, and characteristics of the vessels with AIS units. The marine mammal distribution data from acoustic and visual surveys can then be used with vessel data to evaluate the impacts of vessel traffic, including

vessel strikes to marine mammals. NOAA is currently developing a coast-wide vessel strike mortality risk model to specifically evaluate the risk of North Atlantic right whales being struck and killed by vessels in U.S. waters. This model will evaluate areas and times with the highest risk of vessel strike mortalities for right whales and is similar to other modeling approaches that have been applied to large whales elsewhere, including large whales on the U.S. west coast as well as right whales off the coast of Florida. Impacts from vessel strikes through observed and known serious injuries and mortalities, as well as quantitative models show that impacts of vessel traffic, including vessel strikes, are harmful to marine mammals and one of the major contributing factors of decline for certain species, including the endangered North Atlantic right whale.

4. How have speed restrictions contributed to lessening the number of vessel strikes to marine mammals? How would providing grants to seaports help further reduce strikes and reduce these impacts?
 - Numerous studies indicate that slowing vessels reduces the likelihood of vessel strikes and the risk of lethal vessel strikes, particularly in areas where whales are abundant and vessels that would otherwise be transiting at high speeds is common. As an example, in 2008, NMFS implemented the North Atlantic Vessel Strike Reduction Rule, and in 2021 published the North Atlantic Right Whale Vessel Speed Rule Assessment. The speed rule assessment showed a reduction in observed right whale serious injuries and mortalities that resulted from vessel strikes since the implementation of the 2008 speed rule. Other investigations published prior to the 2021 speed rule assessment also indicate NMFS speed regulation reduced the risk of lethal vessel strikes to right whales.

Although risks have been reduced through speed restrictions, these studies also highlighted the need for further protection measures and higher levels of risk reduction for right whales. Providing grants to seaports through Section 2 of H.R. 6987 could help fund aerial surveys, acoustic monitoring programs, tagging, and other research activities that are needed to improve our understanding of marine mammal distribution. It could also fund activities that would collect and provide additional information on vessel traffic, including traffic conditions that allow for safe transits at slower speeds, information from known vessel strike events, and continued mariner outreach and education. This could enhance information available on marine mammal and vessel distribution data to reduce the risk of vessel strikes.

Another witness, Mr. Marks, claimed that H.R. 6987 is duplicative, unnecessary and even questionable that NOAA can achieve the mandates under the monitoring program.

5. What is NOAA's response to Mr. Marks? Does NOAA believe H.R. 6987 is necessary and achievable? If so, how?

- NOAA already has the statutory authority under the MMPA and ESA to conduct real-time monitoring of large whales. The provisions included under H.R. 6987 would authorize real-time monitoring of large whales to inform management including addressing vessel impacts. For large whale monitoring, there are a variety of technologies and methods that we currently use and are constantly improving, as well as new technologies (e.g., very high-resolution satellite imaging) that will offer novel opportunities for monitoring in the future and could be enhanced under the H.R. 6987. However, real-time monitoring for large whales has limitations. Monitoring can be challenging in poor-weather conditions and for certain demographic groups and the availability of real-time data is only as useful as our ability to translate it into real-time management action.

In addition, this bill would enhance NOAA's efforts and abilities to address vessel noise impacts by providing additional tools, technologies, and necessary resources for monitoring ocean noise and its impacts on marine mammals, as described in detail below in Question 6.

6. What additional tools and resources would be made available by H.R. 6987? What requirements would be put in place that are not required now?

- NOAA has been successful in partnership with the US National Park Service in establishing the Noise Reference Station Network and the Passive Acoustic Data Archive and public access services that this bill would maintain and expand. NOAA's work to establish sound monitoring capacity in US National Marine Sanctuaries has been supported by US Navy and sunsets in spring 2022. This bill would authorize NOAA to sustain these capabilities and, in close collaboration with NOAA's Integrated Ocean Observation System, partner with non-federal sound monitoring stakeholders who are active in regional associations. Similarly, NOAA has supported the development of near real time capacity and implementation of data from such platforms for decision support This bill also authorizes grants for industry partnerships in seaports and in the development of technological quieting solutions.

Section 3 of the bill will require NOAA and the U.S. Coast Guard to establish a real-time large whale monitoring and mitigation program to reduce vessel collisions and minimize risk to whales.

7. Which geographic areas, species and certain times of the year require extra focus?

- Areas with heavy vessel traffic, transiting at high speeds, particularly near large ports, commercial shipping lanes, pose a risk to many marine mammals. Extra efforts for vessel strike mitigation should include geographic areas and times of the year when marine mammal core habitat overlaps with areas of dense and high-speed vessel traffic. This can include already identified marine sanctuaries

or critical habitat, foraging grounds, calving grounds, nursing grounds, migratory routes, and other areas or times when marine mammals are in dense aggregations or spending long periods of time at the surface and are the most vulnerable to vessel strikes. Calving females as well as mother-calf pairs are especially at high risk to vessel strikes, as certain species will frequently rest and nurse in nearshore habitat or the surface of the water where vessels pose a risk. An increase in large whale monitoring programs and additional vessel transit information could help better determine specific geographic areas and times of the year that are vulnerable for whale species through enhanced vessel strike risk reduction models and other efforts. These real-time monitoring and mitigation efforts are most valuable when they can trigger management actions, which is difficult using existing monitoring technologies, and additional measures (i.e., vessel speed) may be necessary to minimize vessel strike risk to whales.