

UNITED STATES MISSION TO THE UNITED NATIONS
NEW YORK

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The United States Mission to the United Nations presents its compliments to the United Nations and has the honor to refer to the Secretariat's Note Reference LOS/SGR/2018/1/ST dated October 10, 2017, regarding a request for States to submit a contribution outlining their views on the theme "Anthropogenic underwater noise". The United States hereby presents its enclosed submission to the United Nations Office of Legal Affairs.

The United States Mission avails itself of this opportunity to renew to the United Nations the assurances of its highest consideration.

Enclosure

ERP

DIPLOMATIC NOTE

United States' Submission to the Office of Legal Affairs of the United Nations regarding "Anthropogenic Underwater Noise"

This submission is in response to document LOS/SGR/2018/1/ST, which provides States the opportunity to submit a contribution outlining their views on the theme "Anthropogenic Underwater Noise" that could include:

- (i) challenges posed by anthropogenic underwater noise;
- (ii) actions and activities, including research activities, that have been undertaken at the national, regional and global levels with regard to anthropogenic underwater noise, in particular those undertaken to address its adverse impacts; and
- (iii) any suggestions for further action to address the adverse impacts of anthropogenic underwater noise.

The United States welcomes the theme of "Anthropogenic Underwater Noise" for the nineteenth meeting of United Nations Open-ended Informal Consultative Process on Oceans and Law of the Sea.

Consistent with responsible stewardship of the environment, the United States is mindful of the potential effects that anthropogenic underwater noise may have upon marine life and takes actions and promotes activities to understand and address these impacts.

In the United States, we have primarily approached this difficult issue through domestic legislation such as the Endangered Species Act, Marine Mammal Protection Act and the National Environmental Policy Act. These laws endow federal agencies with marine stewardship responsibilities and require those Federal entities generating noise in the marine environment to evaluate their activities for effects on protected marine life and the environment. As such, the United States has invested resources into understanding the effects that noise generating activities can have on marine mammals and other marine life, some of these efforts are highlighted below.

The National Oceanic and Atmospheric Administration (NOAA), within the Department of Commerce, is the federal agency that is most responsible for protecting aquatic animals and their habitats, through a variety of legal mandates. NOAA has developed a multi-faceted approach to understand and manage ocean noise impacts on living marine resources. The Ocean Noise Strategy (ONS) initiative seeks to guide NOAA toward more comprehensive and effective management of ocean noise impacts over the next decade. Finalized in September 2016, the Ocean Noise Strategy Roadmap was developed following a draft release and integration of input from other U.S. federal agencies, the public and several internationally-based research and management partners. The Roadmap articulates the ONS's goals as they relate to science, management, decision support tools, and outreach and education. It summarizes the status of the science and current understanding of the impacts of anthropogenic underwater noise, and identifies a set of recommended cross-agency actions toward accomplishing ONS goals. NOAA is now undertaking many of these actions. Although the ONS Roadmap focuses primarily on

NOAA's capacities, it also highlights shared research and management needs and ongoing partnerships with other federal agencies that oversee noise-producing activities and conduct research to better understand the impacts of noise.

The Bureau of Ocean Energy Management (BOEM), within the Department of Interior, regulates noise-producing activities, such as oil and gas, renewable energy, and minerals development on the U.S. Outer Continental Shelf. BOEM has sponsored research on ocean sounds since the early 1980s when it explored the effects of industrial sounds on large whale species in the Pacific Ocean. The agency has funded controlled exposure experiments on behavioral responses of sperm whales to air gun sounds in the Gulf of Mexico and humpback whales in Australia. BOEM has also sponsored numerous stakeholder workshops on topics including quieting technologies and the effects of noise on fish, fisheries, and invertebrates. Present-day research covers a range of topics, including: bioacoustics of fish and marine mammals; measuring source levels and propagation from anthropogenic sound sources; ambient noise measurements; methods to detect, classify, and locate marine life; measuring hearing thresholds of key marine species; observing behavioral responses to anthropogenic sound sources; and improving mitigation methods.

As part of its commitment to understanding the impact of anthropogenic noise on marine species, the U.S. Department of Defense is one of the leading sources of research seeking to better understand how marine species react to anthropogenic sound. U.S. Department of Defense research is publicly available so that all stakeholders have the scientific information available to evaluate the effects of ocean noise. In addition, the U.S. Department of Defense has implemented extensive measures aimed at mitigating the impact of its activities on marine species and the marine environment.

The Department of Energy's office of Water Power Technologies is funding research into the effects of marine and hydrokinetic energy on living marine resources. Projects include characterizing the behavioral response of marine species to Tidal Turbine Sound, developing tools and technologies to accurately measure and predict sound propagation, and development of databases to document the effects of marine and hydrokinetic energies on living marine resources.

The long-distance propagation of low frequency noise in the ocean has led the United States to engage internationally, such as the United Nation's International Maritime Organization (IMO), to identify technical solutions at scales appropriate to both the operation of noise sources and their potential impacts. The United States also participates in research conducted in the Scientific Committee of the International Whaling Commission on these issues. In addition, BOEM serves as the chair of the Marine Sound Working Group of the International Offshore Petroleum Environmental Regulators.

There are many challenges to understanding and mitigating impacts of noise to marine wildlife, including understanding under what conditions animals are physically injured, experience reduced ability to hear important acoustic signals and/or alter their behavior, as well as when such alternations contribute to reduction in the long-term viability of populations and ecosystems. Although the physical models used to map underwater sound fields have improved

over the last decades, as have methods for measuring wildlife hearing capacity and behavioral response, significant knowledge gaps related to the effects of noise in the marine environment remain.

The development of better risk assessment frameworks to adequately account for chronic and cumulative noise effects is widely recognized as a priority across the international community and the scientific literature. To that end, the National Academies of Science recently issued a report on Approaches to Understanding the Cumulative Effects of Stressors on Marine Mammals.

Noise generating activities in the marine environment are essential to our economic and national security interests. It is critical that when discussing the effects of anthropogenic noise on marine resources, that the benefits of these activities be balanced with the potential effects of that activity on these resources. In some instances, there is no substitute for the intentional introduction of sound into the marine environment. We use technologies such as sonars for critical research to increase our understanding about ocean, earth, and climate processes. Conducting this type of research can lead to societal benefits such as tsunami and earthquake early warning systems. In other instances, the noise itself plays an important role in maritime security, such as is the case for military use of sonar, which is critical to the national and collective defense of many nations throughout the world, including the United States.

The United States, through domestic legislation, strives to balance national security, economic and environmental conservation priorities in a science-based and informed manner.