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Natural Resources

The Navy shares its training environments with the wildlife, plants and animals that rely on the land and ocean ecosystems of the Northwest Training Range Complex.

Understanding these complex environments and taking the necessary precautions to minimize potential effects of Navy training activities on these resources are Navy priorities.



Putting the Latest Science and Technology to Practical Use

The National Environmental Policy Act (NEPA) process allows the Navy an opportunity to review and assess its training activities, ensuring that the benefits of recent scientific and technological advances are applied toward minimizing environmental effects. As part of this process, scientists have compiled and analyzed all currently available data and research with a focus on understanding species distribution, abundance, and movement patterns with respect to the Navy's Proposed Actions.

Examples of Scientific Data and Research Include:

Integrated Natural/Cultural Resources Management Plans: Comprehensive and integrated management plans for land-based natural/cultural resources protection.

Marine Resource Assessments: Comprehensive reviews of protected species sighting, stranding, and survey data, as well as peer-reviewed literature and National Marine Fisheries Service reports, including stock assessments and recovery plans.

Density Estimates: Estimates of species abundance in a study area based on analysis of shipboard and/or aerial survey data.

Scientific Literature and Study Results: Results of research focused on hearing and diving physiology, behavioral responses to human generated sound, and reducing the effects of sound (e.g., Sound Propagation and Effects Modeling).

Strategic Environmental Research and Development Program (SERDP): A program that funds innovative environmental technologies for the Department of Defense (DoD).

Environmental Security Technology Certification Program. A program that promotes innovative environmental technologies through demonstration and validation at DoD sites.

The Navy's Ongoing Protective and Conservation Measures

Environmental protection efforts have been a standard component of Navy operations for decades, enabling vital Navy training while protecting the terrestrial and marine environments. The Navy has developed a set of procedures and tools to avoid harm and minimize effects to terrestrial and marine species and habitats. To protect and safeguard the marine environment, every Navy ship and its crew are thoroughly trained in and follow specific standard operating procedures.

Avoiding Important Habitats and Marine Protected Areas

Marine Protected Areas are important habitats for marine species. Naval Officers are aware of Marine Protected Areas and implement measures to avoid these areas.

In particular, areas where sound energy can be trapped within the ocean's surface layer or be affected by ocean floor topography, and areas where there are limited outlet routes for marine mammals, can create conditions that are potentially hazardous. To minimize this, the Navy will modify their training activities until conditions are less dangerous for the marine mammals.

Terrestrial Measures

Vegetative restoration; endangered species surveys and management; and wetlands surveys and management.

Establishing Safety Zones for Marine Species

The Navy uses all available means to detect marine mammals and powers down sonar



when they are sighted within certain distances to avoid collisions and minimize exposures of marine mammals to mid-frequency active sonar.

Posting Shipboard Lookouts

Navy shipboard lookouts (also referred to as "watchstanders") are highly qualified and experienced observers that undergo extensive training to certify that they have the necessary skills to detect activity on the water that could be marine mammals. These personnel undergo extensive training and learn their role in environmental protection, laws governing the protection of marine species, and the Navy's commitment to environmental stewardship.

Monitoring for Marine Species Prior to Training Exercises

Prior to training, Navy personnel monitor the ocean area, both visually and acoustically, for marine mammal activity. If the animals are present, the training activity is altered or suspended to minimize the potential for effects.

Supporting Vital Marine Mammal Research

The U.S. Navy is a world leader in marine research. In the past five years the agency funded over \$100 million (\$26 million in fiscal year 2008 alone) to universities, research institutions, federal laboratories, private companies, and independent researchers around the world to study marine mammals. The U.S. Navy sponsors seventy percent of all U.S. research concerning the effects of human-generated sound on marine mammals and 50 percent of such research conducted worldwide. Major topics of Navy-supported research include:

- Better understanding marine species distribution and important habitat areas
- Developing methods to detect and monitor marine species prior to and during training
- Understanding the effects of sound on marine mammals, turtles, and fish
- Developing tools to model and estimate potential effects of sound

Resource Analysis

Protecting Marine Resources

The coastal and sea areas of the Pacific Northwest are very important to the people who live there. These same areas are also home to a large variety of marine plants and animals, including baleen and toothed whales, porpoises, seals and sea lions. In addition, the coastal and sea areas are places where people make a living or use for recreation purposes.

The marine areas of the Pacific Northwest, some of which are included in the Northwest Training Range complex, are also important to the U.S. Navy. The Northwest Training Range Complex is a critical component of the Navy's Pacific Fleet in the eastern Pacific Ocean, where Sailors and aviators learn the vital at-sea skills needed to work on Ships, in submarines, and in aircraft. This training is critical in preparing them for response to military activities and humanitarian relief efforts.

Protecting the marine environment of the Pacific Northwest is also an important goal of the U.S. Navy. The Navy follows detailed programs to care for the existing environment and continues to improve these programs as they learn more about the ocean.

Evaluating Resources

The natural resources in and around the Northwest Training Range Complex are enjoyed by many for their livelihoods, recreation purposes and aesthetics. The waters and coastal areas of the range complex are popular for sport fishing, commercial fishing, diving, and other recreational activities (e.g., boating or kayaking). Commercial ships also use the waters and coastal areas throughout the range complex.

Navy activities and commercial and recreational ocean activities have coexisted in the Northwest Training Range Complex for decades. The Navy's public safety and protective measures, such as, advance notification of scheduled activities, minimize inconveniences to public interests and help ensure continued safe and cooperative coexistence.

The Navy understands and recognizes the potential for training activities to affect the community and fishing industries and takes proactive steps to minimize these effects. As part of preparing the EIS/OEIS, the Navy has carefully evaluated potential effects of its current and proposed activities on:

- Terrestrial wildlife and plants
- Marine mammals
- Fish
- Birds
- Sea turtles
- Plankton
- Invertebrates
- Air quality
- Water quality
- Cultural resources



Socioeconomics

Other resources as identified