



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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August 28, 2020

Alexander Hutchison  
Captain, U.S. Navy  
United States Pacific Fleet  
250 Makalapa Drive  
Pearl Harbor, Hawaii 96860-3131

**Re: Ecology's Coastal Zone Management Act Federal Consistency Conditional Concurrence for the U.S. Navy's NW T&T SEIS**

Dear Captain Hutchison:

The state of Washington abounds in natural, breathtaking beauty and possesses a rich bounty of cultural, economic, and environmental resources. The Pacific Northwest is also an important military location for our national defense. For almost 180 years, the U.S. Navy has operated in the Pacific Northwest. For decades, the state has worked in close collaboration with the Navy to help protect Washington's air, land, and water. We appreciate the Navy's vitally important work safeguarding our national security and maritime shipping trade while working with the state to protect our environmental resources.

On June 1, 2020, the U.S. Navy submitted a Consistency Determination to the Washington State Department of Ecology seeking confirmation that the Navy's draft Northwest Training and Testing Supplemental Environmental Impact Statement is consistent to the maximum extent practicable with the enforceable policies of Washington's federally-approved Coastal Zone Management Program. These policies include state laws and regulations governing shoreline and ocean management, and clean water and air.

The state's original decision was due July 31, 2020, and the Navy granted an extension until August 15, 2020. On August 6, 2020, the Navy granted Ecology a second extension until August 28, 2020.

The Navy's proposed action seeks to continue and expand future sea and air training and testing activities in Washington waters using sonar, explosives, and other simulated military actions. These activities are to take place in the Study Area, made up of "previously established maritime operating and warning areas in the eastern North Pacific Ocean region, and training and testing areas within inland Washington State waters in the Strait of Juan de Fuca and Puget Sound."

According to the Navy's June 1 Consistency Determination, the following activities would be new to Washington waters and coastal zone area.

They also have the potential to affect our state's coastal resources or uses (CD: pp 15-18). These include:

- Torpedo Exercise (non-explosive; Unmanned Underwater Vehicle Training)
- At-Sea Sonar Testing
- Mine Countermeasure and Neutralization Testing
- Propulsion Testing
- Undersea Warfare Testing
- Vessel Signature Evaluation
- Acoustic and Oceanographic Research
- Radar and Other Systems Testing;
- Simulant Testing
- Intelligence Surveillance, Reconnaissance/Electronic Warfare Triton Testing

These activities and their impacts are discussed in greater detail in section "Activities and their Effects" on p. 6.

According to the Navy's Consistency Determination, the activities associated with the Proposed Action are to be conducted at sea and at select Navy pier-side and harbor locations, and the air and water space within and outside portions of Washington's coastal zone. In addition, the Study Area includes Navy pier-side locations where sonar maintenance and testing occurs as part of overhaul, modernization, maintenance, and repair activities (e.g., Naval Base (NAVBASE) Kitsap Bremerton, NAVBASE Kitsap Bangor, and Naval Station Everett).

## Decision

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Pursuant to Section 307(c)(1) of the Coastal Zone Management Act, as amended, and 15 C.F.R. § 930.4, the Department of Ecology (Ecology) is issuing a Conditional Concurrence for the U.S. Navy's 2019 Northwest Training and Testing Draft Supplemental Impact Statement (NWTT SEIS). Ecology has concluded the Navy's proposed action **is not consistent** with Washington's Coastal Zone Management Program and its enforceable policies. Therefore, Ecology is issuing the Navy a "Conditional Concurrence" that outlines specific measures to be put in place to protect Washington's coastal resources, including threatened and endangered marine mammals and other wildlife species, related forage and habitat areas, and state water quality. The conditions contained in this decision will ensure that the Navy's Proposed Action is consistent, to the maximum extent practicable with Washington's Coastal Zone Management Program policies, provided the Navy modifies its Proposed Action in accordance with these conditions.

Ecology's conditions are necessary to protect Washington's endangered Southern Resident Killer Whales (orcas), which may benefit other cetaceans and marine mammals, and other numerous species. In addition, Ecology's conditions include measures to ensure that Washington's coastal zone waters remain free of pollutants from the Navy's use of explosives, simulants, and other testing media. Refer to page 11 for the complete set of conditions.

## Washington's Coastal Resources

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A significant enforceable policy is found in the Ocean Resources Management Act (ORMA) 43.143.030(2), which calls for projects to have no significant adverse impacts on marine resources. Thus,

a description of the coastal resources that Ecology seeks to protect through its conditions is necessary to lay the foundation in satisfying the enforceable policy. Following the discussion of coastal resources, Ecology discusses the potential significant impacts that the Navy's Proposed Action will have on our coastal resources, particularly our Southern Resident orcas.

Excluding federal parks and marine reserves and tribal reservations, Washington's coastal zone areas include the entirety of the state's 15 counties contiguous to Puget Sound, Strait of Juan de Fuca, and Pacific Ocean coast out to 3 nautical miles. Washington's coastal areas include some of the most highly productive and diverse ecosystems on the planet. The health and status of marine flora and fauna, their habitats, and the coastal ecosystems in which they reside are of primary importance to tribes, coastal communities, Washington residents and the state.

Washington's biologically productive coastal waters support a diversity of habitats and species, many of which are important ecologically, culturally, and economically to Washington, the United States, and the world. The coastal areas are comprised of many habitats which support numerous species of fish, mammals, birds, and other marine fauna. Several habitats occur within the coastal zone and the Pacific coastal area where the majority of the Navy's proposed activities will occur: pelagic, seafloor, kelp forest, rocky shores, sandy beaches, and large coastal estuary habitat. These habitats support an impressive, diverse array of species that form a large, complex food network. Ecology is concerned about effects to many species in a variety of habitats.

Many species of seabirds and marine mammals feed and transit through the coastal areas, and numerous species of marine birds live, reproduce, feed, and transit through the area, some migrating thousands of miles to "winter" in Washington's coastal waters. These animals feed on zooplankton, forage fish, salmon, and other fishes. Occasionally, leatherback sea turtles also feed in the pelagic habitat. They forage off the coast, inhabiting open ocean and occasionally use inshore waters (bays and estuaries), with nesting on sandy beaches.

Several fishes live within coastal rocky shores, moving in and out with the tides and residing in tide pools. Common species include small sculpins and gunnels. Many seabirds, shorebirds, raptors, and general foraging bird species use rocky shores. Oystercatchers, gulls, and crows forage within the rocky intertidal zones. Species such as petrels, cormorants, gulls, tufted puffins, and murre nest in colonies on offshore rocky islands and sea stacks. Harbor seals are common in rocky intertidal habitats along the outer coast, and are year-round residents. Rocky islands are also used as haul-outs for Steller sea lions and California sea lions. Northern elephant seals have been observed occasionally at some rocky islands.

## **SHELLFISH & ESTUARIES**

The large coastal estuaries of the Columbia River, Willapa Bay and Grays Harbor are semi-enclosed, brackish bodies of water that form where rivers meet the ocean. They are highly productive ecosystems that support a wide range of species at different life history stages, along with numerous ecosystem services. They are also important transitional systems that are linked to freshwater, terrestrial, and marine processes. Washington's coastal estuaries are critical habitat for a variety of marine and terrestrial organisms. Primary producers include phytoplankton, benthic microalgae, macroalgae, and macrophytes, such as eelgrass, kelp, salt marsh plants and terrestrial plants.

Shellfish and fish are abundant in the estuaries and Puget Sound. Specific shellfish species include the Olympia oyster, non-native Pacific oyster, non-native manila clam, Dungeness crab, and others.

Numerous listed and commercially important fishes spend at least some part of their life-cycle within estuaries and Puget Sound. Specific fish species include six species of salmon, herring, three-spined

stickleback, sturgeon, sevengill sharks, and many others. Estuaries and Puget Sound provide crucial nursery habitat for many species of juvenile fishes and crabs.

Ecology is concerned about high pH levels that could potentially affect the water quality within marine waters, particularly estuaries and Puget Sound, leading to effects on shellfish, plankton and other fauna.

## **FISH**

Washington's coastal areas serve as habitat for a variety of fishes. Fishes are important both ecologically and economically to the state of Washington. Several species of forage fish inhabit the coastal waters, and they tend to be present in high abundance, feed on plankton for a portion of their life cycle, and form dense schools or aggregations.

- Salmonids (salmon and related species) and other anadromous fishes are of high ecological and economic importance in Washington. Anadromous species spawn in freshwater systems, migrate to nearshore and offshore marine areas to feed and grow, then return to home rivers and streams upon maturity to start the cycle again. Seven salmonids, Pacific eulachon, green sturgeon, white sturgeon, and Pacific lamprey occur within the coastal waters. Eight of the twelve anadromous species in the coastal area are listed under the federal Endangered Species Act (ESA) or Washington State species of concern lists.

## **SEABIRDS**

Numerous bird species use and transit through Washington's coastal waters. Many species, including seabirds, raptors, marshbirds, waterbirds, and shorebirds, forage and nest in sea stacks, rocky offshore islands, cliffs, bluffs, dunes, marshlands, estuaries, tidal flats, coastal beaches, and old-growth forests. Seabird and shorebird populations occur throughout the outer coast of Washington, with the majority located along the west coast of the Olympic Peninsula. Washington is also along the Pacific Flyway, a migratory pathway for millions of waterbirds, shorebirds, and raptors. Some seabird species migrate thousands of miles to forage in the offshore waters, such as albatross and shearwaters. Estuaries are also crucial habitat for several resident and migratory bird species. Five National Wildlife Refuges have been established in or directly adjacent to Washington's coastal waters to protect land-based resources where large concentrations of birds occur and where seabirds nest.

## **MARINE MAMMALS**

At least 29 species of marine mammals inhabit or transit through the coastal waters at some point in their lives. Species include baleen and toothed whales, seals and sea lions, and sea otters. Many marine mammals are top predators within the ecosystem, while some large baleen whales are primarily filter or bottom feeders (e.g. Humpback and Gray whales). Diets vary from krill, invertebrates, forage fish, salmon, other fishes, and even other marine mammals. About 20,000 Gray whales migrate through the coastal waters, with the abundance of Gray whales at any time influenced by environmental variability within the Arctic feeding grounds and the timing of migration.

- Southern Resident Killer Whales (Orcas): Southern Resident orcas are a unique group of orcas that spend over half the year in the Salish Sea, which includes Puget Sound, the Strait of Juan de Fuca and the Strait of Georgia. For the other half, they are found foraging for salmon along the west coast as far south as Monterey Bay. Males can live 50-60 years and females for 90 years or more. Southern Resident killer whales are the only endangered population of killer whales in the United States, ranging from central California to southeast Alaska. The Southern Resident orca is one of NOAA Fisheries' "Species in the Spotlight."

## **WATER QUALITY**

All of the coastal resources mentioned above rely on clean water; i.e. healthy water quality. Water quality refers to a chemically and biologically balanced water column, extending from the bottom of the waterbody's bed to the water's surface. The presence and distribution of plants and animals are determined by a combination of physical factors such as salinity, wave exposure, sediment type, and temperature.

Clean water sustains healthy watersheds and communities and ensure that it supports a wide variety of beneficial uses, including recreational and business activities, supplies for clean drinking water, and the protection of fish, shellfish, wildlife, and public health. Clean water is critical to the health of marine and freshwater habitats and the organisms that live in them. As described in this resource section, Washington's coastal waters support a stunning array of wildlife, maintain cultural identities, and provide many different uses that benefit the entire state.

## **Stressors**

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The CZMA's federal regulations call for federal agencies to review their proposed projects and activities to determine if they will have foreseeable, potential effects on states' coastal resources and uses. If there are such effects, then the federal agency must prepare a Consistency Determination (CD) describing how the proposed activity or project meets the states' coastal zone management programs by demonstrating consistency with the applicable enforceable policies of the programs.

In this case, the Navy prepared a Consistency Determination, thereby acknowledging effects to coastal resources and uses within Washington's coastal zone. The Navy's CD categorizes effects or impacts as different types of "stressors" that could occur with the each of the activities described associated with the various activities. The following stressors are described in the Navy's CD at pp 19-20 as excerpted below:

### **PHYSICAL DISTURBANCES AND STRIKES**

(Vessel movement, in-water devices, aircraft and aerial targets, military expended material, and seafloor devices)

Vessel movement is similar to or less than those of general maritime environment and has the potential for short-term behavioral disturbance of marine species (e.g., birds) and recreational activities. Surface and subsurface vessels may have the potential for short-term behavioral disturbance on marine species.

### **ENERGY**

(In-air electromagnetic energy, in-water electromagnetic energy, and high-energy lasers)

In-air electromagnetic energy is operated at power levels, altitudes, and distances from people and animals to ensure that energy received is well below levels that could disrupt behavior or cause injury. Most in-air electromagnetic energy is reflected by water. Potential minor and temporary effects may occur to bird species resulting in no population level effects.

### **EXPLOSIVES**

(e.g., in-water explosives, in-air explosives)

The use of explosives could result in a disturbance to behavior, or lethal or non-lethal injuries. The majority of explosives are used either far offshore or on established ranges where the explosive activity is closely monitored to be protective of marine species. Most explosives would occur at or near the ocean surface, minimizing effects to habitat.

Chemical byproducts from the use of explosives would be subject to physical, chemical, and biological processes that would render the materials harmless or otherwise disperse them to undetectable levels.

### **ENTANGLEMENT**

(Wires and cables, decelerators/parachutes, biodegradable polymer)

The use of wires, cables, and decelerators/parachutes may have the potential to result in effects on marine mammals through entanglement. The likelihood that a marine species would encounter and become entangled in these items is considered low as there have been no known instances of entanglement of any marine mammals involving the use of wires and cables associated with Navy training and testing activities.

### **INGESTION**

(e.g., military expended materials)

The use of military expended materials have the potential to result in effects on marine species due to ingestion. While heavier debris sinks to the seafloor, some remains floating or suspended within the water column. The likelihood that a marine species would encounter and then ingest a military expended item associated with activities is considered low.

### **ACOUSTICS**

(Sonar and other transducers, vessel noise, aircraft noise, and weapons noise)

Active sonar may result in a wide range of effects from injury to behavioral changes to loss of hearing, and depends on the frequency and duration of the source, the physical characteristics of the environment, and the species (among many other complex factors).

## **Activities and their Effects**

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The Navy's CD describes the particular activity; e.g. "Torpedo Exercise," and then includes a description of the activity, the type of stressor, and potential impacts for each. Each exercise described below has at least two, and some have up to six, of the stressors described above. For example, the Mine Countermeasure and Neutralization Testing exercise has 6 stressors: (i.e., acoustic, explosive, physical disturbance/strike, ingestion, energy and entanglement).

### Training

**TORPEDO EXERCISE (NONEXPLOSIVE) – SUBMARINE:** Submarine crews search for, detect, and track a surface vessel or threat submarine to develop firing position to launch a non-explosive torpedo. A single submerged submarine operates at slow speeds and various depths while using its hull-mounted or towed array sonar to track a surface vessel or threat submarine. Passive sonar is used almost exclusively.

Passive sonar is used almost exclusively. However, some active sonar is required for this activity, and although intensity diminishes with distance, sound emitted outside of the coastal zone may propagate into the coastal zone. Any marine mammals exposed to sonar or other acoustic effects outside of the coastal zone are not likely to remain affected if the animal were to return to the coastal zone, because the vast majority of predicted effects are temporary effects to behavior, which would no longer be present when the animal is in the coastal zone.

**UNMANNED UNDERWATER VEHICLE TRAINING:** Conducted with unmanned platforms on which various payloads are attached and used for different purposes. Training can range from basic remote control and autonomous navigation tests to deployment and activation of onboard systems that may include hydrodynamic instruments, launchers, and recovery capabilities.

Active sonar is required for this activity and may result in a wide range of effects from injury to behavioral changes to loss of hearing, and depends on the frequency and duration of the source, the physical characteristics of the environment, and the species (among other complex factors).

### Testing

**AT-SEA SONAR TESTING:** Tests consist of electronic support measurement, photonics, and sonar sensor accuracy testing. In some instances, a submarine's passive detection capability is tested when a second submarine utilizes its active sonar or is equipped with a noise augmentation system in order to replicate acoustic or electromagnetic signatures of other vessel types or classes.

Active sonar is required for this activity and may result in a wide range of effects from injury to behavioral changes to loss of hearing, and depends on the frequency and duration of the source, the physical characteristics of the environment, and the species (among many other complex factors).

**MINE COUNTERMEASURE AND NEUTRALIZATION TESTING:** Uses air, surface, and subsurface units to evaluate the effectiveness of tracking devices, countermeasure and neutralization systems, and general purpose bombs to neutralize mine threats. Testing uses explosives in the water column and would occur in waters 3 NM or greater from shore at the Quinault Range Site (outside the Olympic Coast National Marine Sanctuary) or 12 NM or greater from shore elsewhere in the NWTT Offshore Area.

Explosives are required for this activity. The use of explosives could result in a disturbance to behavior, or lethal or non-lethal injuries (quantitative analysis done for this activity did not predict any lethal injuries for marine mammals). Most explosives would occur in the water column, minimizing effects to habitat.

**PROPULSION TESTING:** During this activity the ship is tested for maneuverability, including full power and endurance runs. Surface ships will operate at least 10 NM from shore, across the full spectrum of capable speeds.

Coastal effects are not reasonably foreseeable because the stressors to biological resources (i.e., acoustic and physical disturbance and strike) associated with the activity would not likely affect coastal zone uses or resources. This activity would occur at least 10 NM from shore and involves the use of surface ships.

**VESSEL SIGNATURE EVALUATION:** While this activity is not new, it includes a new location in inland waters. Passive monitoring of surface ships and submarines, conducted on new ships and periodically throughout a vessel's life cycle, to assess the vessel's vulnerability to various types of detection systems when operating in different profiles (e.g., with or without a communication buoy deployed). Signature testing may include the subject vessel's own safety and navigation systems, tracking devices and range safety systems, radar systems, and underwater or in-air communications equipment. Submarines move through the test site, but in-water devices may be towed. Data may be collected by passive acoustic hydrophones, by passive electro-magnetic or infrared sensors, or by radar.

During this activity the ship is tested for maneuverability, including full power and endurance runs. Surface ships will operate at least 10 NM from shore, across the full spectrum of capable speeds. Vessel movement is similar to or less than those of general maritime environment and has the potential for short-term behavioral disturbance of marine species (e.g., birds) and recreational activities. Surface and subsurface vessels may have the potential for short-term behavioral disturbance on marine species.

**ACOUSTIC AND OCEANOGRAPHIC RESEARCH:** Active acoustic transmissions are used for engineering tests of acoustic sources, validation of ocean acoustic models, tests of signal processing algorithms, and characterization of acoustic interactions with the ocean bottom, fish and ocean surface. Standard oceanographic research sensing (acoustic Doppler current profiler, fathometer-like systems) will also be employed. The CD has no stressors noted for this activity.

**RADAR AND OTHER SYSTEM TESTING:** Includes new stressor (high-energy laser weapon) and a laser-based optical communication system (tested in both the Inland Waters and Offshore Area).

- At-sea testing may include use of military or commercial radar, communication systems (including laser-based optical communication systems), or high-energy laser weapons. Air and surface targets used in testing may include unmanned aerial vehicles, small craft (e.g., floating cardboard triwalls, towed, anchored, or self-propelled vessels) or shore-based platforms.
- Testing of laser-based optical communication systems may include air and subsurface transmissions with targets that include stationary/moored platforms, manned or unmanned underwater vehicles, and unmanned aerial vehicles. High-energy laser weapons testing may include tracking, scoring, and neutralization runs with single or multiple targets.
- High-energy laser weapons would be tested only in the Offshore Area beyond 3 NM from shore. Laser-based optical communication systems would be tested in the Dabob Bay Range Complex or the Offshore Area (including the Quinault Range Site).

This activity would occur both within and outside of the coastal zone and involves the use of surface ships, rotary-wing aircraft, unmanned aerial vehicles, stationary/moored platforms, support craft, shore-based facilities, aerial targets, surface targets, and/or sub-surface targets.

**SIMULENT TESTING:** The capability of surface ship defense systems to detect and protect against chemical and biological attacks are tested. All chemical simulants have low toxicity to humans and the environment. Examples of chemical simulants include glacial acetic acid and triethyl phosphate. All biological simulants are considered to be Biosafety Level 1 organisms (e.g. spore-forming bacteria, non-spore-forming bacteria, the protein ovalbumin, MS2 bacteriophages, and the fungus *Aspergillus niger*).

Coastal effects are not reasonably foreseeable because the stressors to biological resources (i.e., acoustic, physical disturbance/strike, and energy) associated with the activity would not likely affect coastal zone uses or resources. This activity would occur at least 3 NM from shore, outside of the coastal zone, and involves the use of fixed-wing aircraft, rotary-wing aircraft, and/or surface combatants.

**INTELLIGENCE SURVEILLANCE, RECONNAISSANCE/ELECTRONIC WARFARE TRITON TESTING:** Testing will evaluate the sensors and communication systems on board the MQ-4C Triton unmanned aerial system. This activity typically occurs at altitudes greater than 5,500 feet above mean sea level.



The Navy concludes in its CD that the proposed training and testing activities are not expected to have long-term consequences for the populations or stocks of marine mammals. Ecology disagrees about the effects of the activities on marine mammals, particularly Southern Resident orcas, and, thus, is attaching the conditions below that will ensure that the Navy's activities are consistent to the maximum extent practicable with the Enforceable Policies of the WCZMP.

## Specific Effects on Marine Resources

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Ecology and other Washington State officials and resource agencies are concerned that, without Ecology's conditions, the Navy's activities will have significant long-term effects on Washington coastal resources. Given the numerous marine animals and other resources that are likely to suffer the effects from the Navy's new activities compounded by previously authorized activities, Ecology is highlighting the effects to the Southern Resident orcas and other large cetaceans. As described in the CD, the Navy's mitigation measures are insufficient to provide necessary protections to the vulnerable, declining populations of key marine mammals, particularly Southern Resident orcas, of Washington's coastal zone and lead to the conclusion that conditions are necessary to alleviate adverse effects.

Ongoing Naval exercises in the air and water around Washington pose a serious threat to **Southern Resident orcas**, and the impact of new and expanded activities will further threaten this vulnerable population. Ecology's conditions will help minimize the threats to these animals. An icon of the Pacific Northwest, Southern Resident orcas have captured the hearts of Washington's residents, citizens, and visitors and hold significant cultural value for Washington's tribes. With the apparent loss of three whales last summer 2019, Southern Resident orcas appear to have a population of just 73 whales—the lowest population level in more than 40 years.

Given this declining population, the loss of even one more whale could greatly undermine recovery efforts for decades. The most up-to-date information on the Southern Resident orca population, must be relied on, and assessments of impacts must be based on current data, which projects the existing population of 73 whales. Thus, the potential harm of the Navy's activities on this vulnerable population has been underestimated. With such a small and shrinking population, the impact of each take is amplified within the population.

The Navy's actions could result in a total of 51 annual "takes" a year of Southern Resident orcas in the form of Level B harassment. Given the imperiled nature of this population, this number of takes threatens a significant impact on the population from the Navy's training and testing activities. Furthermore, these take numbers do not account for the fact that Southern Resident orcas generally travel in pods and thus likely underestimate the potential adverse impact to this precarious population since activities could impact multiple animals at once. Additionally, three orcas appear to be carrying young, which makes them more vulnerable, as well as their future calves.

The cumulative impact of repeated exposures to the same whales over time needs to be seriously considered, and Ecology's conditions can address these impacts. The Navy's testing and training activities have already been authorized twice before, and are likely to continue into the future. According to the Washington Department of Fish and Wildlife, "Due to the longevity of Southern Resident orcas and the estimated percentage of take for the population [being] so high (68%), the effects of take will be compounded over time and may have cumulative effects, such as behavioral abandonment of key foraging areas and adverse, long term effects on hearing and echolocation." Instances of temporary hearing loss, such as the Temporary Threshold Shifts (TTS) can be cumulative

and lead to long-term hearing loss. This could have a significant impact on Southern Resident orcas, which rely on hearing for communication, feeding, and ship avoidance.

In addition, Level B Harassment can disrupt "migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where such behavioral patterns are abandoned or significantly altered," all behaviors critical to survival of the Southern Resident orcas. Given the many stresses already faced by this endangered population, repeated harassment on this scale could be significant and even lead to mortality.

The Navy's use of mid-frequency sonar can impact wildlife within 2,000 square miles and mine explosives can cause death or injury. Although these activities may affect a wide range of marine mammals, the potential impact of these activities on endangered Southern Resident orcas is of particular concern, given their dangerously low population size. This is the third consecutive authorization period during which the Navy may be approved for such testing and training exercises and these or similar activities are likely to continue for decades. For long-lived marine species, the effects of take will be compounded over time and may have cumulative effects, such as behavioral abandonment of key foraging areas and adverse, long-term effects on hearing and echolocation. Again, the Navy finds these effects of minor significance, a finding with which Ecology disagrees.

**Gray whales** are currently undergoing an unexplained die-off leading to 352 strandings between January 2019 and July 2020, including 44 strandings along the coast of Washington alone. NOAA is investigating the die-off as an Unusual Mortality Event. While it is not clear what specifically is driving this event, many animals show signs of "poor to thin body condition." Because the cause of the Unusual Mortality Event is unknown, the Navy cannot cite an increasing population and then assert that its activities for a seven-year period are insignificant because the health of the gray whale population could decline.

For several species, including **harbor seals, Dall's porpoise, and harbor porpoise**, the Navy's near constant harassment every year for a seven-year period could significantly damage the population of those species. For example, the Navy's proposal could lead to a take 30 times the abundance of the Hood Canal population of harbor seals every year, 3,084 percent of population abundance, and similarly authorizes high levels of takes for Southern Puget Sound harbor seals (168 percent of population abundance). This high level of take could lead to interruptions in foraging that could lead to reproductive loss for female harbor seals. However, there is no analysis regarding how this harassment and loss of reproduction could affect the population as a whole, beyond an assertion that these impacts "would not be expected to adversely affect the stock through effects on annual rates of recruitment or survival."

The rates of take for populations of Dall's porpoises (131 percent of population abundance) and the populations of harbor porpoises on the Northern OR/WA Coast (244 percent of population abundance) and in Washington Inland Waters (265 percent of population abundance) are also exceptionally high. These porpoises are particularly vulnerable to the impacts of anthropogenic sound. This level of take could also lead to reproductive loss.

The **leatherback turtle** is classified as endangered under the ESA and has Critical Habitat designated within the Study Area. The western Pacific leatherback sea turtle populations are particularly at risk, and the SEIS states that (the effort to analyze population structure and distribution by distinct population segment...) is critical to focus efforts to protect the species, because the status of individual stocks varies widely across the world. Western Pacific leatherbacks have declined more than 80 percent and eastern Pacific leatherbacks have declined by more than 97 percent since the 1980s. Because the threats to

these subpopulations have not ceased, the International Union for Conservation of Nature has predicted a decline of 96 percent for the western Pacific subpopulation.”

## Effects on Water Quality

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Ocean acidification and changes to pH within the estuaries and Puget Sound have already had documented impacts to water quality and biological resources of the state of Washington, particularly shellfish and other fish. It has been a large enough concern that the state has developed and implemented a comprehensive action plan to address ocean acidification (<http://oainwa.org/>). Naval activities that alter the pH would further exacerbate these conditions.

The discharges from the simulant testing and explosive activities have potential to harm state waters, insofar as they affect Washington's coastal water quality, and the resources relying on water quality. The Navy must demonstrate that the effects from proposed activities meet the enforceable policies of Washington's CZMP through implementing the conditions of the conditional concurrence.

## Conditions & Enforceable Policies

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The following analysis includes the Condition and why the Condition is necessary along with the applicable enforceable policy, language from the Navy's Consistency Determination, and supporting language justifying the Condition. Conditions 1 – 3 are required for consistency with the Ocean Resources Management Act, and the basis for those Conditions is found in the attached letters to this document. Conditions 4 – 7 are required for consistency with the Water Pollution Control Act. The supporting documentation for these conditions is contained in Attachments 1, 2, and 3.

Within this conditional concurrence Ecology must notify the Navy of the following requirements:

Pursuant to §930.4 Conditional concurrences:

(a)(1) The State agency shall include in its concurrence letter the conditions which must be satisfied, an explanation of why the conditions are necessary to ensure consistency with specific enforceable policies of the management program, and an identification of the specific enforceable policies. The State agency's concurrence letter shall also inform the parties that if the requirements of paragraphs (a)(1) and (2) of the section are not met, then all parties shall treat the State agency's conditional concurrence letter as an objection.

(2) The Federal agency shall modify the applicable plan or project proposal pursuant to the State agency's conditions. The Federal agency, applicant, person or applicant agency shall immediately notify the State agency if the State agency's conditions are not acceptable;

(b) If the requirements of paragraphs (a)(1) and (2) of this section are not met, then all parties shall treat the State agency's conditional concurrence as an objection.

Thus, according to the above CFR, if the Navy does not accept Ecology's conditions and does not modify the project, then Ecology's Conditional Concurrence will be treated as an objection under §930.43 State agency objection. The Navy must immediately notify Ecology if it finds Ecology's conditions unacceptable.

**Condition 1.** The Navy shall cease active sonar exercises when any orca is detected within 1000 yards and refrain from resuming transmissions until the orca has left the mitigation zone.

Considering the potential for negative impacts from exposure to sonar, the Navy shall be required to cease transmission of active sonar when orcas are detected within 1,000 yards. The Navy's current mitigation zones include powering down by degrees at distances within 1000 yards but not ceasing activity until marine mammals, including orcas, are within 100-200 yards. This condition is necessary because the effects from the Navy's proposed activities are likely to have long-term, adverse significant impacts on marine resources, particularly Southern Resident Orcas. Due to the difficulties of distinguishing between orca ecotypes, especially with increased distance, the shut-down applies to all orcas. The enforceable policies of the Washington Coastal Management Program (WCZMP) require a finding that the Proposed Action will not be likely to have long-term significant adverse impacts to coastal or marine resources or uses, including the resources and uses described above. Additionally, all reasonable steps must be taken to avoid and minimize the adverse environmental impacts. Between onboard lookouts and the use of the additional detection measures cited in Condition 2 (see below), we believe this to be a feasible and appropriate precaution. While the Navy's CD concludes that the Proposed Action would not significantly affect marine habitats or decrease the overall fitness of WA coastal resources, the evidence suggests otherwise.

Analysis of the Navy's SEIS has identified active (e.g., DICASS) and Multistatic Active Coherent sonobuoys (AN/SSQS-125) to be the source of the majority of Northwest Training and Testing disturbance to Southern Resident orcas. The areas identified for that activity, while greater than 12 nautical miles offshore, overlap with documented Southern Resident use. As noted in a joint letter to NMFS, Washington State natural resource agencies asserted that "such systems only operate above 200dB (and appear to be omnidirectional), making them much louder, more potentially damaging, and with a much greater range than the MF1 and MF5 systems that are currently profiled" (State of Washington to Jolie Harrison, July 16, 2020, Attachment 3). As discussed above, Southern Resident orcas rely heavily on hearing for important functions necessary to their survival. The Navy's SEIS does not make clear the potential damage to Southern Residents and other cetaceans from this activity. This lack of clarity regarding the potential impacts demands a more cautious approach than currently proposed by the Navy.

Based on the effects to Washington's Southern Resident orcas, Ecology finds that the Navy's proposed action will result in long-term significant impacts, and it does not take all reasonable steps to avoid and minimize adverse environmental impacts to them. Additionally, given the stated adverse impacts to orcas, as well as other marine mammals, Ecology is concerned about whether all reasonable steps are taken to avoid and minimize adverse impacts to the marine life and resources of the Columbia River, Willapa Bay and Grays Harbor estuaries, and the Olympic national park. If the proposed action is modified in accordance with Condition 1, then it will be consistent with these enforceable policies to the maximum extent practicable.

**Applicable Enforceable Policies:**

**ORMA RCW 43.143.030(2):** Uses or activities that require federal, state, or local government permits or other approvals and that will adversely impact renewable resources, marine life, fishing, aquaculture, recreation, navigation, air or water quality, or other existing ocean or coastal uses, may be permitted only if the criteria below are met or exceeded:

(c) There will be no likely long-term significant adverse impacts to coastal or marine resources or uses.

The Navy's CD says: "Analyses in the Supplemental EIS/OEIS (see Section 3) indicate that the Proposed Action would not significantly affect marine habitats nor would it effect the ability of

*marine substrates to serve their function as habitat. The Proposed Action is also not expected to decrease the overall fitness of any marine mammal, sea turtle, marine invertebrate, fish, or marine vegetation population."*

**(d)** All reasonable steps are taken to avoid and minimize adverse environmental impacts, with special protection provided for the marine life and resources of the Columbia river, Willapa Bay and Grays Harbor estuaries, and Olympic National Park.

The Navy's CD says: *"Within the Study Area, the Navy implements standard operating procedures, mitigation measures, and marine species monitoring and reporting. Navy standard operating procedures have the indirect benefit of reducing potential effects on marine resources. Mitigation measures are designed to reduce or avoid potential effects on marine resources. Marine species monitoring efforts are designed to track compliance with take authorizations, evaluate the effectiveness of mitigation measures, and improve understanding of the effects of training and testing activities on marine resources."*

**Condition 2.** In addition to onboard spotters, the Navy shall consult whale location data available through NOAA's hydrophone network and Washington's Whale Report Alert System, prior to active sonar-testing and training activities.

This condition is necessary because the mitigation activities proposed are dependent upon observations by onboard Lookouts. Detection of an animal is dependent on many factors, such as availability, group size and surfacing behavior. This additional mitigation step represents use of the best available data, should cause minimal impact to the Navy's ability to perform exercises, and has the potential to reduce impacts to Southern Resident orcas and other cetaceans.

Real-time whale alert systems include NOAA's hydrophone network and data from the Whale Report Alert System currently used by Washington State Ferries. Passive acoustic monitoring in the waters in and around Washington can provide real time data to the Navy. This data is readily available and serves as a useful resource for the Navy to plan out its testing and training activities to reduce impacts to marine mammals. It may also increase the effectiveness of the Navy's testing and training activities if it helps to reduce the number of delayed or canceled actions due to animal presence.

**Applicable Enforceable Policies:**

**ORMA RCW 43.143.030(2):** Uses or activities that require federal, state, or local government permits or other approvals and that will adversely impact renewable resources, marine life, fishing, aquaculture, recreation, navigation, air or water quality, or other existing ocean or coastal uses, may be permitted only if the criteria below are met or exceeded:

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The Navy's CD says: *"Analyses in the Supplemental EIS/OEIS (see Section 3) indicate that the Proposed Action would not significantly affect marine habitats nor would it effect the ability of marine substrates to serve their function as habitat. The Proposed Action is also not expected to decrease the overall fitness of any marine mammal, sea turtle, marine invertebrate, fish, or marine vegetation population."*

**(d)** All reasonable steps are taken to avoid and minimize adverse environmental impacts, with special protection provided for the marine life and resources of the Columbia river, Willapa Bay and Grays Harbor estuaries, and Olympic national park.

The Navy's CD says: *"Within the Study Area, the Navy implements standard operating procedures, mitigation measures, and marine species monitoring and reporting. Navy standard operating procedures have the indirect benefit of reducing potential effects on marine resources. Mitigation measures are designed to reduce or avoid potential effects on marine resources. Marine species monitoring efforts are designed to track compliance with take authorizations, evaluate the effectiveness of mitigation measures, and improve understanding of the effects of training and testing activities on marine resources. Mitigation measures are coordinated with NMFS and USFWS through the consultation and permitting processes."*

**Condition 3:** As the Navy has done for other forms of sonar, the Navy shall provide a table estimating the ranges of temporary and permanent threshold shifts for the Anti-Submarine Warfare 2 (ASWR) sonar bin and clarifying predicted effects on marine mammals. The Navy shall also submit reports on its use of the Whale Report Alert System and communications with National Oceanic and Atmospheric Administration NMFS to obtain near real-time information on the location of Southern Resident orcas to the state department of Ecology.

According to information cited in the letters in Attachments 1, 2, and 3 of this Conditional Concurrence letter, this condition is necessary because, as described below, sonar can impact marine mammals within a 2,000 square mile area, much farther than the 100 yards proposed for some of the Navy's proposed activities and the 1000 yards included in Condition 1. As previously discussed in the "Effects on Marine Resources" at p.9, Southern Resident orcas and other cetaceans rely heavily on hearing for important functions necessary to their survival. The use of sonar can disrupt these functions and lead to harm. Additionally, prior authorizations for similar activities, when added to the instant proposed authorization, and potential future authorizations, amount to a lifetime of sonar exposure and increased potential for permanent damage and population-level effects.

According to the Navy's SEIS, activities in the ASW2 sonar bin are responsible for the majority of Southern Resident orca impacts. Despite this fact, the Navy has not adequately documented potential threshold shifts in hearing for the Southern Resident orcas associated with these activities. It is possible that the effects are unlikely to be significant, but this omission renders Ecology unable to make a determination. In order to demonstrate the lack of significant impact on coastal resources, we require the Navy to provide a table estimating the potential impacts of these activities to marine mammals.

Ecology disagrees that the Proposed Action's impacts will not significantly affect coastal resources, rather, Ecology finds that the impacts are long-term and significant. The Navy has not demonstrated that the adverse impacts from this project will be avoided, minimized or mitigated enough to prevent long-term significant impacts.

**Applicable Enforceable Policies:**

**ORMA RCW 43.143.030(2):** Uses or activities that require federal, state, or local government permits or other approvals and that will adversely impact renewable resources, marine life, fishing, aquaculture, recreation, navigation, air or water quality, or other existing ocean or coastal uses, may be permitted only if the criteria below are met or exceeded:

**(c)** There will be no likely long-term significant adverse impacts to coastal or marine resources or uses.

The Navy's CD says: *"Analyses in the Supplemental EIS/OEIS (see Section 3) indicate that the Proposed Action would not significantly affect marine habitats nor would it effect the ability of marine substrates to serve their function as habitat. The Proposed Action is also not expected to decrease the overall fitness of any marine mammal, sea turtle, marine invertebrate, fish, or marine vegetation population."*

**(d)** All reasonable steps are taken to avoid and minimize adverse environmental impacts, with special protection provided for the marine life and resources of the Columbia river, Willapa Bay and Grays Harbor estuaries, and Olympic national park.

The Navy's CD says: *"Within the Study Area, the Navy implements standard operating procedures, mitigation measures, and marine species monitoring and reporting. Navy standard operating procedures have the indirect benefit of reducing potential effects on marine resources. Mitigation measures are designed to reduce or avoid potential effects on marine resources. Marine species monitoring efforts are designed to track compliance with take authorizations, evaluate the effectiveness of mitigation measures, and improve understanding of the effects of training and testing activities on marine resources. Mitigation measures are coordinated with NMFS and USFWS through the consultation and permitting processes."*

**Condition 4.** The Navy shall implement best management practices (BMPs) to protect water quality, prevent or reduce water pollution, and minimize any discharges from the proposed activities.

The Navy shall implement BMPs, including but not limited to practices for product storage, operations/use and disposal of unused product and associated wastes.

Washington's enforceable policies help protect and restore Washington's waters, while sustaining healthy watersheds and communities. They also ensure that state waters support beneficial uses such as recreational and business activities, provide clean drinking water, and protect fish, shellfish, wildlife, and public health. The discharges from the Navy's training and testing activities, specifically simulant testing and explosive activities, have potential to harm state waters insofar as they affect Washington's coastal water quality and coastal resources such as marine mammals and other Endangered Species Act-listed species along with their habitat.

Therefore, naval activities need to be conducted in a manner that minimizes the amount of debris and toxins discharged to water to ensure that the water quality standards are not violated and demonstrate that the effects from proposed activities meet the enforceable policies of Washington's CZMP.

While the Navy's assessment is that the chemical simulants would have low toxicity to humans and the environment and the biological simulants are considered "Biosafety Level 1 organisms," without further information, Ecology cannot come to the same conclusion. Depending on the simulants utilized, disbursement, volumes, etc., it is expected that as the material settles on the water surface it can get concentrated by currents and wind and, as a result, the local exposure might be very high. Further, airborne chemical substances may be inhaled by marine mammals, birds or people at sea or concentrated at the surface and ingested in a different way), and airborne biologics may be inhaled by marine mammals, birds or people at sea or deposited at the sea surface, resulting in a higher contact concentration for seabirds and marine mammals than anticipated. Finally, Ecology is concerned about

high pH levels that could potentially affect the water quality within marine waters (i.e., ocean acidification), particularly in estuaries and Puget Sound, leading to effects on shellfish, plankton, and other fauna.

While the Navy states that [c]hemical byproducts from the use of explosives would be subject to physical, chemical, and biological processes that would render the materials harmless or otherwise disperse them to undetectable levels," Ecology remains concerned that about the effect of these byproducts on state waters and sediments.

The Navy's proposed best management practices and mitigation measures do not alleviate Ecology's concerns about the direct, indirect, and cumulative effects on its coastal water quality, and insufficient information was provided for Ecology to conclude that these activities would not have an effect on its coastal resources; Washington's coastal waters are likely to be degraded and marine life may be impacted from discharges associated with simulant and explosive activities.

This proposed action allows discharges of matter from simulant testing and explosive activity which may impact receiving waters. RCW 90.48.080 specifically prohibits the discharge of organic matters into waters of the state that shall cause or tend to cause pollution according to the determination of the department. The extent of the impact from these discharges cannot be readily determined based on the information within the CD.

- The Navy's CD states: "**Clean Water Act/Washington Water Pollution Control Act (Chapter 90.48 RCW)** – Discharge permits are not required for the Proposed Action. Therefore, this enforceable policy, as it relates to Federal Consistency with the Washington CZMP, is not applicable to the Proposed Action. The Proposed Action is in compliance with the federal Clean Water Act".

The CD wrongly assumes that Chapter 90.48 only applies when discharge permits are required and does not address best management practices for water quality protection.

#### **Applicable Enforceable Policies:**

##### **Chapter 90.48.080 RCW – Discharge of polluting matter in water prohibited**

"It shall be unlawful for any person to throw, drain, run, or otherwise discharge into any of the waters of this state, or to cause, permit or suffer to be thrown, run, drained, allowed to seep or otherwise [be] discharged into such waters any organic or inorganic matter that shall cause or tend to cause pollution of such waters according to the determination of the department, as provided for in this chapter."

##### **WAC 173-201A-020 – Definition of "Pollution" from the WQ standards**

Pollution means such contamination, or other alteration of the physical, chemical, or biological properties, of any waters of the state, including change in temperature, taste, color, turbidity, or order of the waters, or such discharge of any liquid, gaseous, solid radioactive, or other substance into any waters of the state aa will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to the public health, safety, or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

##### **WAC 173-201A-240 -Toxic substances**

- (1) Toxic shall not be introduced above natural background levels in waters of the state which have the potential either singularly or cumulatively to adversely affect characteristic water uses,



cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department.

- (2) The department shall employ or require chemical testing, acute and chronic toxicity testing and biological assessments, as appropriate, to evaluate compliance with subsection (1) of this section and to ensure that aquatic communities and the existing and designated uses of the waters are being fully protected.

#### **WAC 173-201A-260(2) - Natural conditions and other water quality criteria and applications**

- (1) **Toxics and aesthetics criteria.** The following narrative criteria apply to all existing and designated uses for fresh and marine water:

- (a) Toxic, radioactive, or deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health (see WAC [173-201A-240](#), toxic substances, and [173-201A-250](#), radioactive substances).
- (b) Aesthetic values must not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste (see WAC [173-201A-230](#) for guidance on establishing lake nutrient standards to protect aesthetics).

#### **WAC 173-201A-310 - Tier I — Protection and maintenance of existing and designated uses.**

- (1) Existing and designated uses must be maintained and protected. No degradation may be allowed that would interfere with, or become injurious to, existing or designated uses, except as provided for in this chapter.

#### **WAC 173-201A-510(3) - Means of implementation.**

- (3) **Nonpoint source and stormwater pollution.**

- (a) Activities which generate nonpoint source pollution shall be conducted so as to comply with the water quality standards. The primary means to be used for requiring compliance with the standards shall be through best management practices required in waste discharge permits, rules, orders, and directives issued by the department for activities which generate nonpoint source pollution.
- (b) Best management practices shall be applied so that when all appropriate combinations of individual best management practices are utilized, violation of water quality criteria shall be prevented. If a discharger is applying all best management practices appropriate or required by the department and a violation of water quality criteria occurs, the discharger shall modify existing practices or apply further water pollution control measures, selected or approved by the department, to achieve compliance with water quality criteria. Best management practices established in permits, orders, rules, or directives of the department shall be reviewed and modified, as appropriate, so as to achieve compliance with water quality criteria.
- (c) Activities which contribute to nonpoint source pollution shall be conducted utilizing best management practices to prevent violation of water quality criteria. When applicable best management practices are not being implemented, the department may conclude individual

activities are causing pollution in violation of RCW [90.48.080](#). In these situations, the department may pursue orders, directives, permits, or civil or criminal sanctions to gain compliance with the standards.

**Condition 5.** The Navy shall conduct visual monitoring during simulant testing activities looking for effects to water appearance (e.g., color, sheen, floating debris, etc.) and distressed animals as a result of exposure to chemical or biological simulants.

No degradation may be allowed that would interfere with, or become injurious to, existing or designated uses. By conducting visual monitoring, the Navy will demonstrate whether water quality impacts caused by the simulant testing activity are occurring. Therefore, the Navy shall conduct visual monitoring (i.e., spotting) during this activity, looking for effects to water appearance (e.g., color, sheen, floating debris, etc.) and observations of distressed animals such as marine mammals, seabirds, fish, sea turtles, or shellfish, as a result of exposure to chemical or biological simulants. Any observations of effects to the water appearance or distressed animals as a result of simulant activities shall be recorded and reported to Ecology per Condition 7 below.

Depending on the simulants utilized, disbursement, volumes, etc., it is expected that as the material settles on the water surface it can get concentrated by currents and wind and, as a result, the local exposure might be very high. Further, airborne chemical substances may be inhaled by marine mammals, birds or people at sea or concentrated at the surface and ingested in a different way), and airborne biologics may be inhaled by marine mammals, birds or people at sea or deposited at the sea surface, resulting in a higher contact concentration for seabirds and marine mammals than anticipated.

- The Navy's CD says: "**Clean Water Act/Washington Water Pollution Control Act (Chapter 90.48 RCW)** – Discharge permits are not required for the Proposed Action. Therefore, this enforceable policy, as it relates to Federal Consistency with the Washington CZMP, is not applicable to the Proposed Action. The Proposed Action is in compliance with the federal Clean Water Act". The CD does not include sufficient information regarding the protection of water quality.

**Applicable Enforceable Policies:**

**RCW 90.48 – Water Pollution Control Act**

**RCW 90.48.080– Discharge of polluting matter in water prohibited**

**WAC 173-201A – Water Quality Standards for Surface Waters of the State of Washington**

**WAC 173-201A-210 – Marine water designated uses and criteria**

**WAC 173-201A-240 -Toxic substances**

**WAC 173-201A-260(2) - Natural conditions and other water quality criteria and applications -Toxics and aesthetics criteria.**

**WAC 173-201A-310 - Tier I — Protection and maintenance of existing and designated uses.**

**Condition 6.** Geographic Limitation on Simulant Testing - Simulant testing shall not be conducted within Puget Sound.

While the CD states that simulant testing would be conducted at least 3 nautical miles from shore and the activity appears to be focused in the Offshore Area, Table 3, Summary of Navy Effects Test to Identify Elements of the Proposed Action (Naval Sea Systems Command Testing Activities) with

Reasonable Foreseeable Coastal Effects, includes a footnote covering the entire Location column, stating that "Locations given are areas where activities typically occur. However, activities could be conducted in other locations within the Study Area." As noted under Condition #5 above, the Ecology is particularly concerned with the potential effects of simulant testing on water quality within Puget Sound, along with effects on coastal resources such as shellfish, plankton, marine mammals such as the Southern Resident orca, seabirds, salmonids, etc. Depending on the simulants used, disbursement, volumes, etc., we would expect that as the material settles on the water surface it can get concentrated by currents and wind and, as a result, the local exposure might be very high. Further, airborne chemical substances may be inhaled by marine mammals, birds or people at sea or concentrated at the surface and ingested in a different way), and airborne biologics may be inhaled by marine mammals, birds or people at sea or deposited at the sea surface, resulting in a higher contact concentration for seabirds and marine mammals than anticipated. Finally, Ecology is concerned about high pH levels that could potentially affect the water quality within marine waters (i.e., ocean acidification), particularly in estuaries and Puget Sound, leading to effects on shellfish, plankton, and other fauna.

*As noted in the Navy's FEIS for these activities (2015, Section 5.5, p. 311):*

Water quality appears poised to have larger-scale effects on the marine ecosystem of the Puget Sound – Georgia Basin as evidenced by the intensity and persistence of water stratification in the basin. Historically, Puget Sound was thought to have an unlimited ability to assimilate waste from cities, farms and industries in the region and decisions about human occupation of the landscape were based on that belief. More recent data suggests that the marine ecosystems of the basin have a much more limited ability to assimilate pollution, particularly in areas such as Hood Canal, south Puget Sound, inner Whidbey basin and the central Georgia Basin. In these areas, as strong stratification has developed and persisted, the respective water quality has steadily decreased. As waters become more stratified, through weather, climate or circulation changes, they become even more limited in their ability to assimilate pollution.

The State of Washington is charged with protecting these waters and the resources which depend on them. Restricting simulant activity from Puget Sound aids in this goal.

- The Navy's CD says: "**Clean Water Act/Washington Water Pollution Control Act (Chapter 90.48 RCW)** – Discharge permits are not required for the Proposed Action. Therefore, this enforceable policy, as it relates to Federal Consistency with the Washington CZMP, is not applicable to the Proposed Action. The Proposed Action is in compliance with the federal Clean Water Act". The CD does not include sufficient information regarding the protection of water quality.

#### **Applicable Enforceable Policies:**

**RCW 90.48 – Water Pollution Control Act**

**RCW 90.48.080– Discharge of polluting matter in water prohibited**

**WAC 173-201A – Water Quality Standards for Surface Waters of the State of Washington**

**WAC 173-201A-210 – Marine water designated uses and criteria**

**WAC 173-201A-240 -Toxic substances**

**WAC 173-201A-260(2) - Natural conditions and other water quality criteria and applications -Toxics and aesthetics criteria.**

**WAC 173-201A-310 - Tier I — Protection and maintenance of existing and designated uses.**

**Condition 7.** The Navy shall notify and submit reports to the Department of Ecology as described below:

- a. The Navy shall immediately report any sheen or unusual appearance on the water surface to Ecology and document these in an annual report. Additionally, any observations of distressed animals as a result of the training and testing activities shall be reported to Ecology immediately and documented in an annual report.
- b. The Navy shall summarize any sheens or unusual appearances on the water surface, as well as any observations of distressed animals per condition 7.a. in an annual report to be submitted to Ecology.
- c. The Navy shall submit to Ecology a copy of any monitoring report that is submitted to NMFS, at the same time the report is submitted per the Biological Opinion.

Immediate reporting to Ecology would provide the State of Washington the opportunity to respond appropriately to impacts on state waters or coastal resources. The annual reporting would capture more fully these effects over a longer timeframe, as well as the monitoring and mitigation activities conducted by the Navy that would support the State's understanding of the effects of the training and testing activities on coastal resources.

#### **Applicable Enforceable Policies**

**RCW 90.48 – Water Pollution Control Act**

**RCW 90.48.080– Discharge of polluting matter in water prohibited**

**WAC 173-201A – Water Quality Standards for Surface Waters of the State of Washington**

**WAC 173-201A-210 – Marine water designated uses and criteria**

**WAC 173-201A-260(2) - Natural conditions and other water quality criteria and applications**

**WAC 173-201A-310 - Tier I — Protection and maintenance of existing and designated uses.**

- The Navy's CD says: "***Clean Water Act/Washington Water Pollution Control Act (Chapter 90.48 RCW) – Discharge permits are not required for the Proposed Action. Therefore, this enforceable policy, as it relates to Federal Consistency with the Washington CZMP, is not applicable to the Proposed Action. The Proposed Action is in compliance with the federal Clean Water Act***". The CD does not include sufficient information regarding the protection of water quality.

## **Conclusion**

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Ecology fully appreciates and understands that the Navy's Proposed Action is designed to ensure that the Navy can maintain, train, and equip combat-ready naval forces capable of winning wars, deterring aggression, and maintaining freedom of the seas. Ecology also has a responsibility to protect our coastal resources, especially the endangered Southern Resident orcas, other cetaceans and marine mammals, an array of other fish and wildlife species, habitat areas, and water quality. Our conditions are designed to help ensure the Navy's future sea and air training and testing activities are consistent with Washington's Coastal Zone Management Program as well as enforceable policies under the state Ocean Resources Management Act and State Water Pollution Control Act.

We look forward to working with the Navy and other interested parties on this project. Should you have any questions regarding this Conditional Concurrence, please contact Therese Swanson at (360) 407-6789 or [tswa461@ecy.wa.gov](mailto:tswa461@ecy.wa.gov) or Loree' Randall at (360) 485-2796 or [lora461@ecy.wa.gov](mailto:lora461@ecy.wa.gov).

## YOUR RIGHT TO APPEAL

You have a right to appeal this federal consistency decision to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this decision. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001 (2).

To appeal you must do all of the following within 30 days of the date of receipt of this decision:

- File your appeal and a copy of this decision with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this decision on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

### ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
<b>Department of Ecology</b> Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	<b>Department of Ecology</b> Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
<b>Pollution Control Hearings Board</b> 1111 Israel RD SW STE 301 Tumwater, WA 98501	<b>Pollution Control Hearings Board</b> PO Box 40903 Olympia, WA 98504-0903

Sincerely,



Brenden McFarland, Section Manager  
Environmental Review and Transportation Section  
Shorelands and Environmental Assistance Program

Attachments (3): Governor Inslee Letter  
Attorney General Ferguson Letter  
Washington State Agency Letter

EC: Jacqueline Queen, Navy

John Mosher, Navy  
Laura Watson, Ecology  
Heather Bartlett, Ecology  
Denise Clifford, Ecology  
Sharlatt Mena, Ecology  
Gordon White, Ecology  
Brian Lynn, Ecology  
Loree' Randall, Ecology  
Rebekah Padgett, Ecology  
Jim Baumgart, Governor's Office  
Jennifer Hennessey, Governor's Office  
Tom Young, AAG  
Sonia Wolfman, AAG  
Todd Hass, Puget Sound Partnership  
Laura Blackmore, Puget Sound Partnership  
Jessica Stocking, WDFW  
Julie Watson, WDFW  
Hannah Anderson, WDFW  
Cyrilla Cook, DNR  
David Kaiser, NOAA/OCM  
Kerry Kehoe, NOAA/OCM  
Kris Wall, NOAA/OCM  
ECYREFEDPERMITS



STATE OF WASHINGTON  
OFFICE OF THE GOVERNOR

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July 17, 2020

Jolie Harrison, Chief  
Permits and Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910

Dear Chief Harrison:

On behalf of the State of Washington, I write today regarding the proposed rule on marine mammal take as part of the U.S. Navy's Northwest Training and Testing Activities (NOAA-NMFS-2020-0055). As you know, our state has made significant investments to restore the ecosystem of the Puget Sound and our coastal waterways. These efforts have involved working with state and federal partners, the maritime and fishing industries, conservation and environmental groups, and Native American and Indigenous people. The Navy remains a committed partner with the state in these efforts and participated in our Southern Resident Killer Whale Task Force. The Navy has operated in the waterways of the Puget Sound since before our statehood, and has maintained installations in our state for over 75 years.

However, those operations — combined with commercial, scientific and recreational activities in our waterways — have had a cumulative impact on this unique and fragile ecosystem. We recognize and appreciate the Navy's longstanding commitment to responsible stewardship of our natural resources, including the Southern Residents. We believe that commitment needs to drive a more robust avoidance and mitigation strategy in protection of marine mammals. It is in this spirit I write to share our state's concerns with the proposed rule, and to urge the National Marine Fisheries Service (NMFS) to work with the U.S. Navy on significant revisions that incorporate more robust avoidance and mitigation measures in their application to dramatically reduce the number of incidental takes of marine mammals.

In my comments to NMFS and the U.S. Navy last year regarding the Supplemental Environmental Impact Statement (SEIS) on Northwest Testing and Training Activities, I expressed concern over the amount of sonar exposure to marine life at-sea and pier side, as well as growing concern over vessel strikes. Based on the proposed rule it is clear these concerns have not been addressed and further changes are needed. Simply put, Washington considers the level of incidental takings of marine mammals in the proposed rule to be unacceptable. Additional mitigation and avoidance measures should include but not be limited to: (1) expanding the "no use" range for sonar to be 1,000 yards of any killer whales; (2) incorporation of real-time whale alert systems, in addition to the manned spotter systems onboard vessels; and (3) establishing seasonal limitations on the use of sonars in traditional whale foraging areas. Additional detail on each of these recommendations, among other concerns, can be found in the attached comments submitted by Washington state agencies under executive branch purview.



Thank you for your consideration of these comments. Washington understands that a trained and capable U.S. Navy is integral to our nation's defense. We look forward to continued partnership with NMFS and the Navy as we work together on this very important issue.

Very truly yours,

A handwritten signature in black ink, appearing to read "Jay Inslee". The signature is fluid and cursive, with a large initial "J" and "I".

Jay Inslee  
Governor





**Bob Ferguson**  
**ATTORNEY GENERAL OF WASHINGTON**

Administration Division  
PO Box 40100 • Olympia WA 98504-0100 • (360) 753-6200

July 17, 2020

VIA EMAIL and REGULATIONS.GOV

Jolie Harrison  
Chief, Permits and Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910  
ITP.Piniak@noaa.gov

**RE: Taking and Marine Mammals Incidental to the U.S. Navy Training and Testing Activities in the Northwest Training and Testing Study (NWTT) Area, 85 Fed. Reg. 33,914 (June 2, 2020)**

Dear Ms. Harrison,

I submit these comments on the June 2, 2020 proposal by the National Marine Fisheries Service (the Service) to issue regulations and subsequent Letters of Authorization to the Navy to take marine mammals incidental to training and testing activities conducted in the Northwest Training and Testing (NWTT) Study Area (Proposed Rule).<sup>1</sup> I recognize the important role the Navy plays in our nation's national defense and the Navy's long-standing commitment to steward the unique natural resources of this region. However, based on my office's review of the Proposed Rule, the Service has failed to meet its obligations under the Marine Mammal Protection Act (MMPA) and did not meet its burden to establish that the Navy's actions will have a negligible impact on marine mammals in and around Washington. The Service must fully analyze the impacts to marine mammals from the Navy's proposed actions and require mitigation to ensure the least practicable adverse impact to marine mammals in Washington, especially Southern Resident orcas.

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<sup>1</sup>Taking and Importing Marine Mammals; Taking Marine Mammals Incidental to the U.S. Navy Training and Testing Activities in the Northwest Training and Testing (NWTT) Study Area, 85 Fed. Reg. 33,914 (June 2, 2020), Docket ID No. NOAA-NMFS-2020-0055.

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The Service proposes to allow the Navy to impose significant harm to marine life along the West coast, including all of Washington's coastline, and particularly to the already-threatened Southern Resident orcas. Although the Service's proposed authorization covers the Navy's ongoing activities, the Service also proposes to authorize several new activities, including undersea warfare testing and sonar testing.<sup>2</sup> Governor Jay Inslee's Southern Resident Orca Task Force identified ongoing Naval exercises in the air and water around Washington as a threat to Southern Resident orcas,<sup>3</sup> and the Service does not fully take into account the impact of new and expanded activities on this vulnerable population. The Service's preliminary determination of negligible impact<sup>4</sup> on Southern Resident orcas and other marine mammals does not fully account for all of the harmful impacts of the Navy's activities.

Additionally, the Service has failed to impose adequate mitigation requirements on the Navy's activities to ensure the long-term health of Washington's marine wildlife. The Service's proposal to authorize the Navy's activities after failing to sufficiently analyze the impact of the Navy's proposed activities and failing to impose necessary mitigation measures violates the Service's obligations under the MMPA and is further arbitrary and capricious in violation of the Administrative Procedure Act.

### **I. DETAILED COMMENTS**

The Service has obligations under the MMPA to analyze the actions of the Navy's proposed testing and training activities and to assess whether or not the actions meet the legal thresholds set forth in the statute. The Service has an additional obligation to satisfy the mandates of the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA). The Service has failed to fulfill its legal obligations under each of these statutes.

#### **A. The Service Did Not Meet Its Statutory Obligations Under the MMPA**

The MMPA seeks to protect marine mammals from extinction or depletion as a result of human activity,<sup>5</sup> and broadly prohibits "take" of marine mammals, including harassing, hunting, capturing, or killing any marine mammal.<sup>6</sup> As an exception to this broad prohibition on take, the Service may authorize taking of marine mammals associated with military readiness activities if certain conditions are met.<sup>7</sup> For military readiness activities, the MMPA defines harassment to include Level A harassment which is "any act that injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild" and Level B harassment, which is

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<sup>2</sup> 85 Fed. Reg. at 33,915.

<sup>3</sup> Southern Resident Orca Task Force, Report and Recommendations, 84 (Nov. 16, 2018)

[https://www.governor.wa.gov/sites/default/files/OrcaTaskForce\\_FinalReportandRecommendations\\_11.07.19.pdf](https://www.governor.wa.gov/sites/default/files/OrcaTaskForce_FinalReportandRecommendations_11.07.19.pdf).

<sup>4</sup> 85 Fed. Reg. at 34,038.

<sup>5</sup> 16 U.S.C. § 1361.

<sup>6</sup> *Id.* §§ 1361(2), 1362, 1371.

<sup>7</sup> *Id.* § 1371(5)(A).

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“any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including but not limited to migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where such behavioral patterns are abandoned or significantly altered.”<sup>8</sup> The MMPA directs the Secretary of the Service to authorize the requested take only if the Secretary finds that the takings will have a “negligible impact” on species or stock and prescribes in regulations mitigation measures to limit harm to marine mammals to the “least practicable adverse impact.”<sup>9</sup>

The Service’s June 2, 2020 Proposed Rule proposes to authorize takes of marine mammals from the Navy’s use of sonar and other transducers and in-water detonations and from ship strikes that may occur during training or testing activities over a seven-year period starting November 2020.<sup>10</sup> The testing and training area would cover air and water space from northern California to Alaska.<sup>11</sup> The Service proposes to authorize over 2,800 Level A harassment exposures and over 1.7 million Level B harassment exposures to marine mammals in these waters over the seven-year authorization period,<sup>12</sup> including up to three vessel strikes to large whales that are likely to result in mortality or serious injury.<sup>13</sup>

As explained below, this high level of takes does not meet the “negligible impact” standard in the MMPA and the Service does not provide mitigation measures to ensure the least practicable adverse impact. The Service does not sufficiently consider the already imperiled status of Southern Resident orcas and gray whales in determining a negligible impact. The Service similarly overlooks the impact of repeated exposures to animals in the NWTT Study Area. The Service also fails to sufficiently consider the potential impact of emerging naval technologies, naval overflights and climate change. Furthermore, the Service has failed to propose sufficient mitigation to ensure the least practicable adverse impact from the Navy’s proposed testing and training activities in the NWTT Study Area. The mitigation zones proposed by the Service are inconsistent with existing Washington State law to protect Southern Resident orcas and insufficient to ensure a negligible impact to other marine mammals. The Service does not require the use of additional practicable mitigation measures including the use of publicly available whale sighting data to reduce the chance of negative interactions between the Navy and marine mammals.

### **1. The Service’s negligible impact analysis is deficient**

The Service did not meet the legal standard in the MMPA to find that the Navy’s proposed actions “will have a negligible impact on” the species and stocks of marine mammals living in

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<sup>8</sup> 16 U.S.C. § 1362(18)(B).

<sup>9</sup> 16 U.S.C. § 1371(a)(5)(A); *Natural Res. Def. Council, Inc. v. Pritzker*, 828 F.3d 1125, 1129–30 (9th Cir. 2016).

<sup>10</sup> 85 Fed. Reg. at 33,915.

<sup>11</sup> 85 Fed. Reg. at 33,914.

<sup>12</sup> *See, e.g.* Tables 32-33, 85 Fed. Reg. at 33982-84.

<sup>13</sup> 85 Fed. Reg. at 33,986.

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the NWT Study Area.<sup>14</sup> The Service defines “[n]egligible impact” as an impact “that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.”<sup>15</sup> The Service must make the negligible impact based on the “best available science.”<sup>16</sup> However, the Service does not adequately engage with identified impacts to vulnerable species, including Southern Resident orcas and gray whales, assess potential impacts of emerging naval technologies, analyze impacts of Naval aircraft, or address the role of climate change in exacerbating anticipated impacts of Naval activities. For these reasons, the Service cannot justify its finding of negligible impact based on the record in the Proposed Rule.

**a. Impacts to Southern Resident orcas are not negligible**

The Service’s lack of justification is particularly stark for Southern Resident orcas. An icon of the Pacific Northwest, Southern Resident orcas have captured the hearts of Washington’s residents, citizens, and visitors and hold significant cultural value for Washington’s tribes. With the apparent loss of three whales last summer, Southern Resident orcas appear to have a population of just 73 whales—the lowest population size in more than 40 years.<sup>17</sup> Given this declining population, the loss of even one more whale could greatly undermine recovery efforts for decades.<sup>18</sup> However, just as I noted in my comment letter on the Navy’s application to the Service,<sup>19</sup> the Service does not consider the most up-to-date information on the Southern Resident orca population. While the Service purports to rely on the “best available science” in developing stock numbers, the Service actually assesses impacts based on a potentially outdated population size of 75, and does not note the data indicating the population may sit at just 73 whales.<sup>20</sup> As a result, the Service fails to ensure its reliance on the best and most-up-to-date scientific information, which could result in the Service’s underestimating the harm of the Navy’s activities on this vulnerable population. With such a small and shrinking population, the impact of each take is amplified within the population.

The Service ultimately finds that the Navy’s actions will result in a total of 51 annual “takes” of Southern Resident orcas in the form of Level B harassment,<sup>21</sup> a significant increase from the two

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<sup>14</sup> 16 U.S.C. §§ 1371(a)(5)(A)(i), (D)(i)(I).

<sup>15</sup> 50 C.F.R. § 216.103.

<sup>16</sup> 50 C.F.R. § 216.102(a).

<sup>17</sup> Center for Whale Research (Dec. 31, 2019) <https://www.whaleresearch.com/orca-population>.

<sup>18</sup> Letter from Director Kelly Susewind to Naval Facilities Engineering Command Northwest, at 2 (May 31, 2019) (hereinafter WDFW DSEIS Letter) (attached as Ex. 1). *See also* Carretta, J.V., U.S. Pacific Marine Mammal Stock Assessments: 2018, Killer Whale, Eastern North Pacific Southern Resident Stock (2019).

<sup>19</sup> Letter from Office of the Washington State Attorney General to National Marine Fisheries Service, (Sept. 5, 2019) (hereinafter Ferguson Letter) (attached as Ex. 2).

<sup>20</sup> 85 Fed. Reg. at 33,929–30.

<sup>21</sup> 85 Fed. Reg. at 34031.

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annual takes identified in the Navy's application<sup>22</sup>. Given the imperiled nature of this population, this number of takes threatens a significant impact on the population from the Navy's training and testing activities. Furthermore, these take numbers do not account for the fact that Southern Resident orcas generally travel in pods and thus likely underestimate the potential adverse impact to this precarious population.

Nor does the Service adequately assess the cumulative impact of repeated exposures to the same whales over time. The Navy's testing and training activities have already been authorized twice before, and are likely to continue into the future. As noted by the Washington Department of Fish and Wildlife (WDFW) in their comment letter on the Proposed Rule, due to the longevity of Southern Resident orcas "and the estimated percentage of take for the population [being] so high (68%), the effects of take will be compounded over time and may have cumulative effects, such as behavioral abandonment of key foraging areas and adverse, long term effects on hearing and echolocation."<sup>23</sup> Instances of temporary hearing loss, such as the Temporary Threshold Shifts (TTS) contemplated in the Service's authorization, can be cumulative and lead to long-term hearing loss.<sup>24</sup> This could have a significant impact on Southern Resident orcas, which rely on hearing for communication, feeding, and ship avoidance.<sup>25</sup> In addition, Level B Harassment can disrupt "migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where such behavioral patterns are abandoned or significantly altered,"<sup>26</sup> all behaviors critical to survival of the Southern Resident orcas. Given the many stresses already faced by this endangered population, repeated harassment on this scale could be significant and even lead to mortality. The Service has thus failed to show that these impacts are negligible under the MMPA.

The Proposed Rule also does not incorporate the latest, most seasonally specific distribution and hotspot information for Southern Resident orcas. In particular, the Service does not specifically propose to use recent monitoring evidence from the National Oceanic and Atmospheric Administration's (NOAA) hydrophone network in its analysis.<sup>27</sup> While the Navy did propose to work with the Service to determine the likelihood of gray whale and Southern Resident orca presence, the Service does not require itself or the Navy to rely on NOAA's hydrophone network.<sup>28</sup> This omission is of particular concern because NOAA's monitoring shows

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<sup>22</sup> U.S. Navy, Commander U.S. Pacific Fleet, Request for Regulations and Letters of Authorization for the Incidental Takings of Marine Mammals Resulting from U.S. Navy Training and Testing Activities in the Northwest Training and Testing Study Area (Rev. June 21, 2019) (hereinafter Navy Request).

<sup>23</sup> Letter from Director Kelly Susewind et al to Chief Jolie Harrison, at 2 (July 16, 2020) (hereinafter WDFW Letter) (attached as Ex. 3).

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> 16 U.S.C. § 1362(18).

<sup>27</sup> WDFW DSEIS Letter, *supra* n.18, at 2.

<sup>28</sup> U.S. Navy's Northwest Training and Testing Draft Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement, (March 2019) at K-12.

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considerable temporal and spatial overlap between high-use testing areas for active sonar and explosives and high-use areas by Southern Resident orcas off Washington's north coast.<sup>29</sup>

Additionally, as WDFW noted in comments on the Navy's Draft Supplemental EIS, the Navy's use of mid-frequency sonar can impact wildlife within 2,000 square miles and mine explosives can cause death or injury.<sup>30</sup> Although these activities may affect a wide range of marine mammals, the potential impact of these activities on endangered Southern Resident orcas is of particular concern, given their dangerously low population size.

**b. The Service failed to properly assess impacts to other species**

For other marine mammal species in the NWTT Study Area, the Service similarly failed to show that impacts will be negligible based on the best available science.

Gray whales are currently undergoing an unexplained die-off leading to 352 strandings between January 2019 and July 2020, including 44 strandings along the coast of Washington alone.<sup>31</sup> NOAA is investigating the die-off as an Unusual Mortality Event.<sup>32</sup> While it is not clear what specifically is driving this event, many animals show signs of "poor to thin body condition."<sup>33</sup> In the Proposed Rule, the Service relies on the increasing population of the stock to assert that the Navy's proposed takes will not be exacerbated by the Unusual Mortality Event to the point of affecting annual rates of recruitment or survival.<sup>34</sup> However, as the exact cause of the Unusual Mortality Event is not known, the Service also cannot know if the current Unusual Mortality Event is indicative of a longer-term trend in the population, potentially linked to the impacts of climate change. The Service's reliance on an increasing stock may be misplaced, particularly in light of the fact that the Service will authorize the Navy's activities for a seven-year period during which the health of the gray whale population could decline.

For several species, including harbor seals, Dall's porpoise, and harbor porpoise, the Service proposes to allow the Navy's near constant harassment every year for a seven-year period. For example, the Service proposes to authorize the Navy to take 30 times the abundance of the Hood

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<sup>29</sup> *Id.*

<sup>30</sup> WDFW DSEIS Letter, *supra* n.18, at 2; *see also* Letter from the Washington Office of the Attorney General to Jacqueline Queen, (June 12, 2019) (hereinafter AG Letter) (included as Ex. A attached to Ex. 2).

<sup>31</sup> 2019-2020 Gray Whale Unusual Mortality Event along the West Coast and Alaska.

<https://www.fisheries.noaa.gov/national/marine-life-distress/2019-2020-gray-whale-unusual-mortality-event-along-west-coast-and> .

<sup>32</sup> 85 Fed. Reg. at 33933.

<sup>33</sup> *Id.* *See also* NMFS, "Frequent questions: 2019 gray whale Unusual Mortality Event along the west coast,"

<https://www.fisheries.noaa.gov/national/marine-life-distress/frequent-question-2019-gray-whale-unusual-mortality-event-along-west> (last visited July 12, 2020).

<sup>34</sup> 85 Fed. Reg. at 34025, ("... this population of gray whales is not endangered or threatened under the ESA and the stock is increasing.")

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Canal population of harbor seals every year, 3,084 percent of population abundance,<sup>35</sup> and similarly authorizes high levels of takes for Southern Puget Sound harbor seals (168 percent of population abundance<sup>36</sup>). Although the Service states that this high level of take could lead to interruptions in foraging that could lead to reproductive loss for female harbor seals,<sup>37</sup> the Service does not analyze how this harassment and loss of reproduction could affect the population as a whole, beyond baldly asserting that these impacts “would not be expected to adversely affect the stock through effects on annual rates of recruitment or survival.”<sup>38</sup>

The Service also seeks to minimize the impact of these repeated harassments by relying on the possibility of habituation. The Service notes, “some animals may habituate or learn to tolerate the new baseline or fluctuations in noise level” when discussing impacts to pinnipeds.<sup>39</sup> However, the Service’s analysis on this issue is inadequate. Some research on sound impacts to pinnipeds observed changes in behavior in response to noise and human disturbance and damage to pinniped hearing from noise.<sup>40</sup> The Service does not cite or engage with these studies and has thus ignored an important aspect of the problem and failed to ensure that it relies on the best available science in reviewing the Navy’s application.

The rates of take for populations of Dall’s porpoises (131 percent of population abundance<sup>41</sup>) and the populations of harbor porpoises on the Northern OR/WA Coast (244 percent of population abundance) and in Washington Inland Waters (265 percent of population abundance<sup>42</sup>) are also exceptionally high. As noted by the service, these porpoises are particularly vulnerable to the impacts of anthropogenic sound.<sup>43</sup> The Service recognizes that this level of take could also lead to reproductive loss, but again asserts, without thorough analysis, that it “would not be expected to adversely impact annual rates of recruitment or survival.”<sup>44</sup> However, the service goes on to authorize these very high levels of take. Such “cursory” statements are not enough under the MMPA.<sup>45</sup> Rather the Service has a legal obligation to assess these impacts using the best available science.<sup>46</sup>

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<sup>35</sup> 85 Fed. Reg. at 34,036, Table 57.

<sup>36</sup> 85 Fed. Reg. at 34,036, Table 57.

<sup>37</sup> 85 Fed. Reg. at 34,037.

<sup>38</sup> 85 Fed. Reg. at 34,038.

<sup>39</sup> 85 Fed. Reg. at 34,037.

<sup>40</sup> See Alejandro Acevedo-Gutierrez and Sara Cendehas-Zarelli, *Nocturnal haulout patterns of harbor seals (Phoco vitulina) related to airborne noise levels in Bellingham, Washington, USA*, *Aquatic Mammals* 37(2),167-174 (2011); D. Katsak, & C Reichmuth Katsak, *Noise impacts on pinniped hearing. Final Technical Report to the Office of Naval Research*. Grant No. N00014-04-1-0284 (2006).

<sup>41</sup> 85 Fed. Reg. at 34,033, Table 56.

<sup>42</sup> 85 Fed. Reg. at 34,033, Table 56.

<sup>43</sup> 85 Fed. Reg. at 34,034.

<sup>44</sup> 85 Fed. Reg. at 34,034.

<sup>45</sup> *Conservation Council for Hawaii v. Nat’l Marine Fisheries Serv.*, 97 F. Supp.3d 1210, (D. Hawaii 2015) (finding that a “cursory” analysis under the MMPA was arbitrary and capricious).

<sup>46</sup> 50 C.F.R. § 216.102(a).

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**c. The Service must carefully evaluate emerging technologies**

My previous comments highlighted the need for the Service to review the Navy's plans to rapidly increase its use of emerging technologies, including the use of unmanned underwater systems in Puget Sound and off the Washington coastline and the use of sonar, high-energy lasers, payload systems, kinetic energy weapons, and biodegradable polymers.<sup>47</sup> However, the Proposed Rule does not include a detailed analysis of potential impacts from these activities. The Service should thoroughly analyze the impacts of these emerging technologies on marine mammals and prescribe any necessary mitigation measures, including seasonal restrictions and monitoring of short- and long-term impacts and careful testing and monitoring of the impacts of new technologies, to ensure that the Navy's activities have the least practicable adverse impact on marine mammals.

**d. The Service failed to evaluate potential harms from Navy overflights**

The Service mentions potential impacts from overflight of Navy aircraft in the NWTT Study Area only to dismiss it as a potential source of harassment to marine mammals.<sup>48</sup> The Service relies exclusively on the analysis of potential impacts from overflights of the Navy's EA-18 Growler aircrafts in the 2019 NWTT draft Supplemental Environmental Impact Statement/ Overseas Environmental Impact Statement (DSEIS).<sup>49</sup> However, the Navy's analysis in the DSEIS is insufficient to justify this conclusion.<sup>50</sup>

While the scientific literature regarding impacts of aircraft on marine mammals is less extensive than that for vessel impacts, the Service still has an obligation to assess the potential impacts from these Growler flights, which the Navy recently authorized to increase by 33 percent.<sup>51</sup> Multiple studies demonstrate behavior impacts to cetaceans from aircraft.<sup>52</sup> The Service should review these studies to ensure that it does not overlook scientific evidence in reviewing the Navy's application and to ensure that Navy aircraft overflights not have more than a negligible impact on marine mammals in the NWTT Study Area, including when analyzed in the context of the cumulative impacts associated with all of the Navy's training and testing activities.

This analysis is especially relevant for the endangered population of Southern Resident orcas. The Governor's Orca Task Force noted the importance of addressing sound impacts to Southern

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<sup>47</sup> See Ferguson Letter, *supra* n. 19.

<sup>48</sup> 85 Fed. Reg. at 33,918.

<sup>49</sup> *Id.*

<sup>50</sup> See, e.g., AG Letter, *supra* n. 30.

<sup>51</sup> See Record of Decision for the Final Environmental Impact Statement (EIS) for EA-18G "Growler" Airfield Operations at Naval Air Station Whidbey Island Complex, Island County, Washington, (March 12, 2019).

<sup>52</sup> See, e.g. Luksenburg, J.A., and Parsons, E.C.M., The effects of aircraft on cetaceans: implications for aerial whalewatching, *Proceedings of the 61<sup>st</sup> Meeting of the International Whaling Commission* (2009). (reviewing multiple studies that address aircraft noise effects on cetaceans) (attached as Ex. 4).



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Resident orcas from the Navy's overflights.<sup>53</sup> The Service's dismissal of the possibility of impacts from Growler overflights fails to recognize this potential impact. As discussed above, this population is already under threat and any additional stress could lead to significant impacts.

**e. The Service fails to consider the impact of climate change on the authorization**

I noted in my comments on the Navy's application for authorization that the Service must also account for current and future impacts of climate change on marine mammals and their habitat in the action area in assessing the harm from the Navy's proposed activities and in determining how to best mitigate that harm.<sup>54</sup> However, the Service has no substantive discussion of climate change in the Proposed Rule. This lack of acknowledgement of the role of climate change and lack of engagement with the potential impacts of climate change on marine mammals present in the NWT Study Area could lead to the Service missing important significant impacts to these populations that will be exasperated by the Navy's activities and the authorized levels of take. Climate change could lead to significant changes in prey availability, water temperature, and weather patterns going into the future that could stress already vulnerable populations, such as the Southern Resident orcas. The impacts of the Navy's proposed testing and training activities could be magnified over time as the impacts of climate change exacerbate existing stresses on the marine mammal populations in the NWT Study Area.

**2. The Service must require mitigation measures to ensure the least practicable adverse impact**

The MMPA requires the Service to prescribe "methods" and "means of effecting the least practicable adverse impact" on marine mammals.<sup>55</sup> The Service must meet this obligation even if it finds that the authorized actions will have a negligible impact on marine mammal populations.<sup>56</sup> The Service must consider "personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity" in assessing potential mitigation measures.<sup>57</sup> The mitigation measures "must be both effective in reducing impact, but also not so restrictive of military activity as to unduly interfere with the government's legitimate needs for military readiness activities."<sup>58</sup> Additionally, the Service "cannot just parrot what the Navy says" with respect to analysis of the practicability of mitigation measures.<sup>59</sup>

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<sup>53</sup> Final Report and Recommendations, Southern Resident Orca Task Force, Nov. 2019, at 11.

<sup>54</sup> Ferguson Letter, *supra* n. 19.

<sup>55</sup> 16 U.S.C. §§ 1371(a)(5)(A)(ii), (D)(vi).

<sup>56</sup> *NRDC v. Pritzker*, 828 F.3d 1125, 1134 (9th Cir. 2016)(Compliance with the "negligible impact" requirement does not mean there was compliance with the "least practicable adverse impact" standard during rulemaking.)

<sup>57</sup> 16 U.S.C. § 1371(a)(5)(A)(ii).

<sup>58</sup> *NRDC v. Pritzker*, 828 F.3d at 1134-35.

<sup>59</sup> *Conservation Council*, 97 F.Supp.3d at 1230.

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However, in the Proposed Rule, the Service has done little more than parrot the Navy's position on mitigation for actions in the NWTT Study Area, asserting an independent review of the Navy's assertions of impracticability but providing no substantiation of that review.<sup>60</sup> Even if the Service did conduct such a review, the Service failed to consider and implement additional mitigation measures that are both practicable and effective to reduce the adverse impacts to marine mammals in the NWTT Study Area.

WDFW and I provided comments on the Navy's DSEIS and the Navy's request for authorization that outlined specific mitigation measures the Navy could incorporate into its training and testing activities.<sup>61</sup> More specifically, we suggested that the Service consider seasonal closures based on Southern Resident orca presence, require additional mitigation in the Southern Resident orca offshore habitat area, use of real-time whale reporting, and additional mitigation measures regarding impulsive sound and sonar exposure.<sup>62</sup> However, the Service did not assess or incorporate these practicable and effective mitigation measures.

**a. The Service must increase Mitigation Zones to at least 1,000 yards**

The Service proposes to authorize procedural mitigation for active sonar, explosive sonobuoys, and various explosives activities that include mitigation zones.<sup>63</sup> The Navy proposes to implement mitigation, often the cessation of an activity, when a marine mammal is observed within a mitigation zone.<sup>64</sup> These mitigation zones can drop to a distance as small as 100 yards.<sup>65</sup>

This is an insufficient mitigation measure. Sonar can impact marine mammals within a 2,000 square mile area, much farther than the 100 yards proposed for some of the Navy's proposed activities.<sup>66</sup> Consistent with Washington State law which imposes restrictions on vessel speeds within 1,000 yards of an orca<sup>67</sup>, these mitigation zones should be at least 1,000 yards or one-half nautical mile, for the protection of the marine mammals, and especially for Southern Resident orcas. As discussed above, Southern Resident orcas rely heavily on hearing for important functions necessary to their survival. The use of sonar and explosive sonobuoys can disrupt these functions and lead to harm. Additionally, the Service's prior authorizations, when added to the instant proposed authorization, and potential future authorizations, amount to a lifetime of sonar exposure. In light of the potential for negative impacts to a lifetime of exposure to sonar, the Navy must expand the mitigation zones. When Southern Resident orcas are spotted within this 1,000-yard zone, the Navy should be required to postpone or cancel any exercises.

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<sup>60</sup> 85 Fed. Reg. at 33990–91.

<sup>61</sup> See Ferguson Letter *supra* n. 19; WDFW DSEIS Letter, *supra* n. 18.

<sup>62</sup> *Id.*

<sup>63</sup> 85 Fed. Reg. at 33,992–34,000.

<sup>64</sup> 85 Fed. Reg. at 33,991.

<sup>65</sup> See, e.g. Fed. Reg. at 33,992.

<sup>66</sup> WDFW DSEIS Letter, *supra* n. 18.

<sup>67</sup> RCW 77.15.740(1)(e).

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**b. The Service should require use of available whale location data**

Additionally, the mitigation zones required to mitigate the impact of the Navy's testing and training activities are based purely on animal sightings by vessel board lookouts.<sup>68</sup> Should any animals be underwater they could be easily missed. However, as WDFW and I urged previously, there are additional measures the Navy can take to operate on the best available data and reduce adverse impacts to the marine mammals in the NWTT Study Area.

Most notably, the Navy could use information from real-time whale alert systems. This includes NOAA's hydrophone network and data from the Whale Report Alert System used by the Washington State Ferries. Passive acoustic monitoring in the waters in and around Washington can provide real time data to the Navy. However, the Service does not evaluate the possibility of using this data from either an effectiveness or practicability standpoint.

This data is readily available and serves as a useful resource for the Navy to plan out its testing and training activities to reduce impacts to marine mammals. In fact, it could even increase the effectiveness of the Navy's testing and training activities if it helps to reduce the number of delayed or canceled actions due to animal presence. I recommend that the Service amend its proposed authorization to require the Navy to utilize readily available whale location data as a form of mitigation.

**c. The Service should include temporal restrictions based on Southern Resident orca activity**

The Service should consider temporal restrictions on the Navy's activities to reflect the best available location data of marine mammals. Specifically, the Service should consider limitations on the Navy's activities in the Marine Species Coastal Mitigation Area, which covers winter habitat areas for Southern Resident orcas.<sup>69</sup> The Service should limit naval activities, which have the capacity to harm Southern Resident orcas, especially mid-frequency sonar, over the winter months in order to limit harm to this endangered species.

**B. The Service must meet its obligations under NEPA and the ESA**

The Service has an obligation under the National Environmental Policy Act (NEPA) to take a "hard look" at the Navy's proposed testing and training activities before making a decision on the Navy's request.<sup>70</sup> This includes a review of the environmental impacts anticipated, potential alternatives and mitigation measures.<sup>71</sup>

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<sup>68</sup> 85 Fed. Reg. at 33,991.

<sup>69</sup> See 80 Fed. Reg. 9,682 (Feb. 24, 2015).

<sup>70</sup> 85 Fed. Reg. at 34,038; 40 C.F.R. §§ 1500.1(b), 1502.1; *Balt. Gas & Elec. v. NRDC*, 462 U.S. 87, 97 (1983)

<sup>71</sup> *Id.*

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Here, the Service proposes to adopt the Navy's NWTT SEIS/OEIS in order to fulfill its own obligations under NEPA.<sup>72</sup> However, the Service cannot adopt another agency's EIS where it does not "meet the standards for an adequate statement" under NEPA regulations.<sup>73</sup> As detailed in Washington's comments on the DSEIS, the DSEIS is deficient and does not meet this standard.<sup>74</sup> Unless these deficiencies are remedied in the Final SEIS, the Service cannot rely on the deficient SEIS to satisfy its own obligations under NEPA.<sup>75</sup> The Service also risks adopting an EIS that does not address its specific needs here.<sup>76</sup> Before issuing its Final Rule, the Service must ensure compliance with NEPA.

Additionally, the Service must also ensure that the Navy's activities will not jeopardize endangered species in the NWTT Study Area, including the Southern Resident orca population, as required by the Endangered Species Act.<sup>77</sup> The Service and the Navy must fully comply with their obligations under the ESA.

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<sup>72</sup> 85 Fed. Reg. at 34,038.

<sup>73</sup> 40 C.F.R. § 1506.3(a).

<sup>74</sup> Comments of Attorney General on the Navy's DSEIS/OEIS (included as Ex. A attached to Ex. 2); Comments of Governor Jay Inslee on the Navy's DSEIS/OEIS (included as Ex. B attached to Ex. 2); Comments of WDFW on the Navy's DWEIS/OEIS (included as Ex. C attached to Ex. 2).

<sup>75</sup> See *Sierra Club v. U.S. Army Corps of Eng'rs*, 701 F.2d 1011, 1030 (2d Cir. 1983) (holding that permitting agency cannot rely on action agency's inadequate EIS).

<sup>76</sup> See *Conservation Council*, 97 F. Supp. 3d at 1236 (holding that the Service had violated the MMPA by simply adopting, without modification, a Navy EIS that reflected a different "purpose and need").

<sup>77</sup> 16 U.S.C. § 1536(a)(2).

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**II. CONCLUSION**

For the above reasons, I strongly urge the Service to revise its proposed authorization and mitigation measures to better protect Washington's marine mammals, including endangered Southern Resident orcas, in accordance with the MMPA. The Service bases its authorization on inadequate data and does not require sufficient mitigation measures. As a result, the Service's findings of negligible impact and least practicable adverse impact and proposed approval violate the MMPA and are further arbitrary and capricious under the Administrative Procedure Act.

Thank you for your consideration of my comments on this important matter.

Sincerely,

A handwritten signature in blue ink that reads "Bob Ferguson". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

ROBERT W. FERGUSON  
Attorney General of Washington



## STATE OF WASHINGTON

July 16, 2020

Jolie Harrison, Chief  
Permits and Conservation Division, Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910

*Comments submitted electronically*

**Re: Taking Marine Mammals Incidental to the U.S. Navy Training and Testing Activities in the Northwest Training and Testing Study Area, NOAA-NMFS-2020-0055**

Dear Jolie Harrison:

On behalf of the state of Washington, we write today regarding the proposed rule for *Taking Marine Mammals Incidental to the U.S. Navy Training and Testing Activities in the Northwest Training and Testing Study Area*. As you know, our state has made significant investments to restore the ecosystems of the Puget Sound and our coastal waterways. We appreciate that the National Marine Fisheries Service (NMFS) and the U. S. Navy have a history of partnering with the Washington Department of Fish and Wildlife, the Puget Sound Partnership, the Department of Natural Resources, and many other state agencies on a number of important issues. We also appreciate that NMFS and Navy staff actively participated in Governor Inslee's Southern Resident Killer Whale (SRKW) Task Force proceedings during its second year.

However, we have serious concerns with NMFS's proposed rule for the incidental take of Southern Resident Killer Whales by the Navy and urge that no such rule be finalized until significant revisions are made.

The amended Navy application and NOAA's proposed rule now predict and would allow for a vastly increased level of incidental take—formerly 2 takes, now 51 takes—every year. **The approval of such a high level of incidental take without requiring any additional mitigation measures represents gross neglect of the agency's management responsibilities under the Endangered Species Act and the Marine Mammal Protection Act to avoid or mitigate impacts to this highly endangered and iconic species.**

In our review of the application and many supporting documents, we have deduced that because 49 of 51 estimated takes are in "testing" rather than "training," and because the vast

majority of testing activities are deployments of sonobuoys off the coast, that it would be the active (e.g., DICASS) and Multistatic Active Coherent sonobuoys (AN/SSQS-125) that would lead to the most incidental takes. This seems logical, as those types of sonobuoys emit sonar that is omni-directional on the horizontal plane, expanding the range of impact and potential overlap with nearby cetaceans. Based on the potential magnitude of takes of SRKWs, the difficulty of distinguishing SRKWs from other orca ecotypes (such as Transients and Offshores), and the currently far-too-lax standards for canceling an exercise in the presence of cetaceans (usually only when within 200 yards), **we urge NMFS to require the Navy to update its mitigation measures so the Navy must postpone or cancel any exercises when spotters detect any killer whales within 1,000 yards (i.e., 0.5 nautical miles) of the exercise.**

Despite the apparent attempt to be representative and comprehensive, Tables 19-31 fail to include the potential effects of ASW2 mid-frequency sonar on marine mammals. This type of sonobuoy is expected to be used during antisubmarine exercises. According to the document, such systems only operate above 200dB (and appear to be omnidirectional), making them much louder, more potentially damaging, and with a much greater range than the MF1 and MF5 systems that are currently profiled. Combined, there are 590 planned deployments of ASW2 expected annually during the proposed training and testing activities. Although it appears that such tests will only occur 12 or more nautical miles offshore, the distribution of Southern Resident orcas and many other cetaceans still have considerable potential overlap with that zone. We therefore believe that **NMFS must require the Navy to provide a table showing the ranges to temporary and permanent threshold shifts for the ASW2 sonar bin and clarifying the predicted effects on marine mammals before approving the use of such sonar/activities.**

In addition, we are concerned that this is the third consecutive authorization period during which the Navy may be approved for such testing and training exercises and that these or similar activities are likely to continue for decades. Because SRKWs are so long-lived, and the estimated percentage of take for the population is so high (68%), the effects of take will be compounded over time and may have cumulative effects, such as behavioral abandonment of key foraging areas and adverse, long-term effects on hearing and echolocation. Over the next seven years, the estimated incidental take for SRKW Temporary Threshold Shifts (TTS) is at least 14. This total would add to the cumulative levels of take experienced by SRKWs over the past decade of similar training activities. Leading scientific authorities have cautioned that in situations like this, managers should apply “distinct and different marine mammal exposure criteria that consider potential long-term hearing loss produced by cumulative exposure over years, decades, or lifetimes.”<sup>1</sup> NMFS has also asserted as recently as 2018<sup>2</sup> that repeated TTS

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<sup>1</sup> Southall, B. L., J. J. Finneran, C. Reichmuth, P. E. Nachtigall, D. R. Ketten, A. E. Bowles, W. T. Ellison, D. P. Nowacek, and P. L. Tyack. 2019. Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. *Aquatic Mammals* 45(2):125-232.

<sup>2</sup> 83 FR 28824.

exposures can lead to long-term hearing loss<sup>3,4</sup>, which can affect the survival and fitness of cetaceans that are heavily reliant on hearing for communication, feeding and avoidance of ship strikes. Furthermore, NMFS<sup>2</sup> has suggested that longer-term considerations that weigh the impact of noise exposure over a lifetime of exposure (e.g., 29 CFR Part 1926 over 40 years) are needed for marine mammals. To mitigate such long-term effects, we again **urge that the Navy be required to cease active sonar exercises if any orcas are sighted within 1,000 yards, rather than the proposed 200- or 100-yard shut-down mitigation zones.** This minimum distance aligns with Washington State law which requires most vessels slow down to 7 knots when within 0.5 nautical miles of Southern Resident orcas in order to mitigate noise impacts and disturbance.

Finally, as mitigation for active sonar training and testing activities in Puget Sound, **NMFS should require the Navy to consult regional real-time whale alert systems rather than relying solely on human observers on Navy vessels and communications with NMFS.** There are additional, often superior sources of such near real-time information at the state and local level, including the Whale Report Alert System used by Washington State Ferries and many other maritime professionals.

Without bold and immediate actions, the SRKW may become functionally extinct before the end of the century. We urge NMFS to recognize that the repeated exposure of more than half of the SRKW population annually to incidental take does not equate to “negligible harm” in any year—let alone over the course of decades. The population of Southern Resident orcas has suffered additional declines even since the population count used in the Navy’s Environmental Impact Statement calculations, resulting in the take estimates to now represent at least 70% of the current population.

We strongly urge NMFS to revise its proposed rule by changing the determination of negligible impact and then working with the Navy to incorporate improved monitoring and mitigation measures, in order to significantly reduce the number of Southern Resident orcas authorized for incidental take.

Thank you for your consideration of these concerns. Washington looks forward to our continued partnership with NMFS and the Navy on these and many other critical issues.

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<sup>3</sup> Kastak, D., J. Mulsow, A. Ghoul, and C. Reichmuth. 2008. Noise-induced permanent threshold shift in a harbor seal. *Journal of the Acoustical Society of America* 123:2986.

<sup>4</sup> Reichmuth, C. 2009. Effects of Noise and Tonal Stimuli on Hearing in Pinnipeds. [Report on Grant N000140610295](#).



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Sincerely,



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Kelly Susewind, Director  
Washington Department of Fish and Wildlife




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Laura Blackmore, Director  
Puget Sound Partnership




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Kaleen Cottingham, Director  
Recreation and Conservation Office



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Hilary Franz, Commissioner of Public Lands  
Washington Department of Natural Resources



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Erik Neatherlin, Executive Coordinator  
Governor's Salmon Recovery Office