



By Electronic Submission

August 12, 2009

Michael Payne, Chief
Permits, Conservation and Education Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Re: Taking and Importing Marine Mammals; Navy Training Activities
Conducted Within the Northwest Training Range Complex; Proposed Rule

Dear Mr. Payne:

On behalf of the Natural Resources Defense Council (“NRDC”), the International Fund for Animal Welfare, Animal Welfare Institute, Center for Biological Diversity, Cetacean Society International, Friends of the Earth, Friends of the San Juans, the Humane Society of the United States, Ocean Futures Society, Ocean Mammal Institute, People for Puget Sound, Turtle Island Restoration Network, Whale and Dolphin Conservation Society, David Bain, Jean-Michel Cousteau, and our millions of members and activists, thousands of whom reside in Washington, Oregon, and California, I appreciate the opportunity to submit comments on the National Marine Fisheries Service’s (“NMFS”) Proposed Rule authorizing the take of marine mammals incidental to training activities conducted in the Northwest Training Range Complex (“NWTRC”). See 74 Fed. Reg. 33828 (July 13, 2009). Please include these comments and attachments in the administrative record.¹

The Navy’s NWTRC Draft Environmental Impact Statement (“DEIS”) contemplates extensive sonar training. See 73 Fed. Reg. 79856 (Dec. 30, 2008).² Using the Navy and NMFS’ analysis, the training will cause almost 130,000 biologically significant impacts on marine mammals along the Washington, Oregon, and California coasts – nearly 650,000 takes during the 5-year life of a Marine Mammal Protection Act

¹ We are aware that comments may be submitted separately by government agencies, individual scientists, environmental organizations, and the public. All of these comments are hereby incorporated by reference. The comments that follow do not constitute a waiver of any factual or legal issue raised by any of these organizations or individuals and not specifically discussed herein.

² NRDC incorporates by reference our letter dated March 10, 2009 commenting on the Navy’s NWTRC DEIS, attached, and our letter dated April 10, 2009 commenting on the scope of NMFS’ NWTRC rule making.

incidental take permit. The vast majority of take will be borne by harbor porpoises, an annual take of nearly 120,000 for affected stocks of approximately 55,000 animals. As NMFS notes, “the number of harbor porpoises behaviorally harassed by exposure to MFAS/HFAS is higher than the other species (and, in fact, suggests that every member of the stock could potentially be taken by Level B harassment multiple times).” 74 Fed. Reg. 33891. The area under review is also home, for a substantial part of every year, to the endangered Southern Resident killer whale. With a population that may be as low as 83, any threats to individual whales must be thoroughly examined and eliminated, especially given the animals’ Potential Biological Removal level. Under these circumstances, the Navy’s exercises must be undertaken with particular care.

In addition to adversely affecting the highly endangered southern resident killer whale and harbor porpoises, the Navy’s training on the range will also adversely impact other whales, fish, and other wildlife that depend on sound for breeding, feeding, navigating, and avoiding predators. Many of the exercises proposed will employ the same sonar systems that have been implicated in mass injuries and mortalities of whales. The same technology is known to affect marine mammals in numerous other ways, inducing panic responses, displacing animals, and disrupting crucial behavior such as foraging. The proposed activity would also affect fisheries and release a variety of hazardous materials into coastal waters.³

The Navy’s primary method of reducing harm to marine mammals is to power down or secure sonar on visually sighting marine mammals within a very short distance of its sonar arrays. As you are aware, this mitigation method is of very limited effectiveness, given both the extension of MFA sonar’s impact radius well beyond the horizon line and the Navy’s low probabilities of detecting marine mammals, particularly deep-diving and cryptic species.⁴ Barlow and Gisiner (2006) estimated that the Navy’s probability of visually sighting beaked whales, which represent roughly one-fourth of all cetacean species and are considered acutely vulnerable to MFA sonar,⁵ stands at two percent for

³ We also wish to confirm that the Navy will not release depleted uranium anywhere in the NWTRC. While the Navy discussed the use of depleted uranium in its NWTRC DEIS, it announced at a meeting of the Mendocino County Board of Supervisors (March 31, 2009) that the use of depleted uranium would be halted immediately. Given this ambiguity, NMFS should clarify whether depleted uranium will enter the NWTRC environment.

⁴ Barlow, J. and Gisiner, R., Mitigation, monitoring and assessing the effects of anthropogenic sound on beaked whales, 7 Journal of Cetacean Research and Management 239 (2006); ECS Working Group, Technical report on effective mitigation for active sonar and beaked whales (European Cetacean Society 2009); Parsons et al., Navy sonar and cetaceans: just how much does the gun need to smoke before we act?, 56 Marine Mammal Bulletin 1248 (2008).

⁵ Cox, T.M., et al., Understanding the impacts of anthropogenic sound on beaked whales, 7 Journal of Cetacean Research and Management 177 (2006); Fernandez, A., et al., ‘Gas and fat embolic syndrome’ involving a mass stranding of beaked whales (family *Ziphiidae*) exposed to anthropogenic sonar signals, 42 Veterinary Pathology 446 (2005); Hooker, S.K., et al., Could beaked whales get the bends? Effect of diving behavior and physiology on modeled gas exchange for three species: *Ziphius cavirostris*, *Mesoplodon densirostris*, and *Hperoodon ampullatus*, Respiratory Physiology and Neurobiology (2009 in press); Parsons, E.C.M., et al., Navy sonar and cetaceans: just how much does the gun need to smoke before we act?, 56 Marine Mammal Bulletin 1248 (2008).

animals swimming directly in the trackline of the sonar vessel. More generally, the Navy and NMFS have assumed, in the case of the Navy's slower-traveling low-frequency sonar (SURTASS LFA) system, that detection probabilities for all marine mammal species averages nine percent (NMFS 2007).

In light of the deficiencies of the Navy's safety zones, NMFS should require a more effective mitigation scheme based on geographic and seasonal mitigation. There is general consensus that limitations on the use of sonar in areas and/or times with high marine-mammal densities is one of the most effective ways to lessen the harm from sonar.⁶ 74 Fed. Reg. 4860. To realize the advantages of geographic mitigation, we have elsewhere proposed the establishment of a panel of marine mammal and oceanographic experts with regional expertise on marine mammal distribution, abundance, habitat, or population structure and ecology, or general expertise on marine mammal density, habitat suitability, and/or distribution modeling. Optimally, the panel would identify high-value habitat by reviewing and analyzing the published literature, survey data, and predictive models. The use of sonar in such habitat would be prohibited or subject to additional operational measures to ensure greater protections for animals in the area.

The practicability of limiting sonar use in such areas should be self-evident, given that the total surface area of the NWTRC Offshore Area is 122,400 nm². 74 Fed. Reg. 33829. NMFS notes that the use of sonar in the NWTRC is small compared to other ranges – only about 110 hours of annual use. Given this limited use and the vast size of the NWTRC Offshore Area – the Navy's second largest operating area off the U.S. coast – it is unlikely that the Navy needs complete access to the entire range over the course of the permit.

Understanding that the establishment of a panel and its work could not occur prior to NMFS' need to issue a final rule, we recommend that NMFS consider imposing the following protection areas in the interim.

Coastal Exclusion Zone for Northwest Harbor Porpoise Populations

The use of sonar should be prohibited in coastal areas landward of the 100 meter isobath and in an adjacent buffer zone.

Waters out to at least the 100 meter isobath represent vital habitat for two discrete populations of harbor porpoise, the Oregon/Washington Coast stock and the Northern California/Southern Oregon stock. This species is known for its acute sensitivity to

⁶ See, e.g., 74 Fed. Reg. 4860 (Final Rule for Atlantic Fleet Active Sonar Training); International Whaling Commission, 2004 Report of the IWC Scientific Committee, Annex K at § 6.4 (2004) (recommending steps to protect large whale critical habitat worldwide from noise impacts); Agardy et al., A Global Scientific Workshop on Spatio-Temporal Management of Noise (Leviathan Sciences 2007); ECS Working Group, Technical report on effective mitigation for active sonar and beaked whales (European Cetacean Society 2009); Parsons et al., Navy sonar and cetaceans: just how much does the gun need to smoke before we act? 56 Marine Mammal Bulletin 1248 (2008).

acoustic sources, responding strongly in both lab and field studies to various sources of anthropogenic noise at received pressure levels well below 140 dB re μPa .⁷ Indeed, for the NWTRC proposed rule, NMFS includes in its take estimates any harbor porpoise exposed to sound pressure levels above 120 dB. As NMFS notes, the estimated resulting take of harbor porpoise is dramatic in comparison to all other species in the NWTRC. The offshore populations of approximately 55,000 porpoises in total will be taken nearly 120,000 times, with thousands of animals potentially harassed on multiple occasions, representing nearly 92 percent of all take authorized under the proposed rule. 74 Fed. Reg. 33891. These high numbers of “Level B” take may not account for all types of harm resulting from some exercises because of the species’ use of near-coastal habitats lacking full egress.

Impacts on harbor porpoises would be substantially reduced, and take numbers lowered, by establishing a protection area within waters landward of the 100 meter isobath, as the vast majority of harbor porpoises are found within this range.⁸ In addition, a buffer zone reflecting the sensitivity of the species should be applied beyond the 100 meter isobath, optimally ensuring that exposure levels within the 100 meter isobath do not exceed 120 dB. In this regard, we recommend that NMFS ask the Navy to prepare a nominal propagation analysis for the coast to determine what stand-off distances are necessary to reduce exposure levels below this threshold. The benefit of such a buffer zone will also extend to harbor porpoise occurring outside of the 100 meter isobath. For example, the most recent Pacific stock assessments estimated that nearly a quarter of harbor porpoise along the Washington and Oregon coast are found within the 100m and 200m isobaths.⁹

Olympic Coast National Marine Sanctuary

The NWTRC completely encompasses the Olympic Coast National Marine Sanctuary (“NMS”), a region of extraordinary biological diversity. Twenty-nine species of marine mammals occur in the Olympic Coast NMS, including eight threatened or endangered species of whales, pinnipeds, and otters. The sanctuary provides important regular

⁷ R.A. Kastelein, W.C. Verboom, M. Muijsers, N.J. Jennings and S. Van Der heul, The influence of acoustic emissions for underwater data transmission on the behaviour of harbor porpoises (*Phocoena phocoena*) in a floating pen, 59 Marine Environmental Research 287 (2005); R.A. Kastelein, A.N. Jennings, W.C. Verboom, D. De Haan and N.M. Schooneman, Differences in the response of a striped dolphin (*Stenella coeruleoalba*) and a harbour porpoise (*Phocoena phocoena*) to an acoustic alarm, 61 Marine Environmental Research 363 (2006); National Marine Fisheries Service, Assessment of acoustic exposures on marine mammals in conjunction with USS Shoup Active Sonar Transmissin in the Easter Strait of Juan de Fuca and Haro Strait, Washington, 5 May 2003 (2005); ; P. Olesiuk, M.A. Bigg and G.M. Ellis, Life history and population dynamics of resident killer whales (*Orcinus orca*) in the coastal waters of British Columbia and Washing state, Reports of the International Whaling Commission 12:209-243 (1990).

⁸ J.V. Carretta, et al., U.S. Pacific Marine Mammal Stock Assessments: 2008, NOAA-TM-NMFS-SWFSC-434, U.S. Department of Commerce (2008).

⁹ *Id.* To protect coastal species, we also recommend that exercises be planned to eliminate or minimize ship movements towards shore when sonar systems are active.

foraging habitat for humpback and killer whales, including the endangered Southern Resident killer whale population. Gray whales use the sanctuary during biannual migrations between calving and feeding areas, and a small, possibly distinct, group of gray whales known as “summer residents” use the area for feeding every summer.

Additional cetacean species that have been observed in the waters of the sanctuary include: minke whales, fin whales, sei whales, sperm and pygmy sperm whales, blue whales, Hubbs’ beaked whales, Cuvier’s beaked whales, Baird’s beaked whales, Stejneger’s beaked whales, Risso’s dolphins, false killer whales, common dolphins, northern right whale dolphins, Pacific white-sided dolphins, Dall’s porpoises, and harbor porpoises. Sea otters and pinnipeds such as Steller and California sea lions, harbor seals, and elephant seals use near-shore areas within the sanctuary, haul out on land at a number of locations along the coast, and use deeper waters for foraging. In addition to marine mammals, the sanctuary includes habitat for abundant fish and invertebrate species, including many commercially important fish and shellfish and important prey fish for marine mammals.

A recent NOAA report specifically identified both military activities and underwater noise pollution as two of several emerging threats to the Olympic Coast NMS.¹⁰ The report recognizes that noise pollution has the potential to compromise habitat quality for the marine mammals, fish, and other wildlife that inhabit the sanctuary. In particular, it finds that “an increase in Navy activity or areas of operation, if not properly controlled, could have potential to disturb the seabed, introduce pollutants associated with test systems, and produce sound energy that could negatively alter the acoustic environment within the sanctuary.”¹¹

Given the abundance of marine mammals and other wildlife and the importance of maintaining sanctuary values, NMFS should provide additional protection from the use of sonar within the sanctuary. Specifically, NMFS should include measures to prohibit sonar exercises from taking place in sanctuary waters. If this proves impracticable, we urge NMFS to substantially limit the number of exercises taking place by requiring prior approval from Pacific Fleet command or other means to minimize sonar use in the area.

Puget Sound and the Strait of Juan de Fuca

The Greater Puget Sound, including the waters of the Strait of Juan de Fuca and the Strait of George, is one of the most important habitats for the Southern Resident community of killer whales (and their near-exclusive habitat in summer/autumn months). The population is listed as endangered under the Endangered Species Act. In addition, Greater Puget Sound constitutes important habitat for many other marine mammal species, including minke whales, harbor porpoises, Dall’s porpoises, and

¹⁰ NOAA, Olympic Coast National Marine Sanctuary, Condition Report 2008 (September 2008), available at <http://sanctuaries.noaa.gov/science/condition/ocnms/download.html>.

¹¹ *Id.* at 31.

several species of pinnipeds. Because of the enclosed nature of the Sound, with its many steep, reflective walls, concern is warranted over the propagation of sonar signals and the behavior of marine animals in the area (see NMFS 2005, noting the effects of reverberation).

In light of this, we are encouraged to see that the proposed “taking of marine mammals by the Navy is only authorized if it occurs within the Offshore area of the Northwest Training Range Complex (NWTRC),” which excludes all waters west of the mouth of the Strait of Juan de Fuca. 74 Fed. Reg. 33893. This proposed authorization appears to be in accord with the Navy’s application for a letter of authorization, wherein the Navy states that “[a]ll ASW training activities proposed in this authorization request take place in the Pacific Northwest Ocean Surface/Subsurface Operating Area (PACNW OPAREA).” Application Request at 4. In other words, the final rule will not authorize the Navy to take any marine mammal from the use of an MFA/HFA acoustic source during any event (*e.g.*, training, RDT&E, maintenance, etc.) in the waters of the Greater Puget Sound, including the Strait of Juan de Fuca. Instead, any take in this inshore area by the use of an MFA/HFA acoustic source will be covered by separate rule making (*i.e.*, rulemaking for the NAVSEA NUWC Keyport Range Extensions).

Given the above and to make NMFS’ rulemaking clear to all interested parties and the public, we strongly urge that NMFS identify the Greater Puget Sound as a protection area (except for RDT&E activities potentially authorized by the Keyport final rule) as a condition of this proposed rule. Establishing a protection area is consistent with the Navy’s application, which encompasses activities throughout the NWTRC – including the inshore area of the Greater Puget Sound, where the Navy 3 OPAREA, Darrington OPAREA, and other military use areas include inshore waters. If, ultimately, NMFS believes it does not have authority to establish Puget Sound as a protection area without a change in the Navy’s application, and if the Navy is unwilling to make such a change, we ask that it make the following clarifications in its final rule:

- That any use of MFA sonar for training or maintenance in the Greater Puget Sound would first require the Navy to obtain an incidental take permit given the potential for serious injury or mortality to marine mammals in the area;
- That the Navy has agreed to conduct neither sonar training nor maintenance activities in the Greater Puget Sound without MMPA authorization;
- That the Navy has internal checks, in addition to the MMPA requirement, on non-RDT&E sonar use in the Greater Puget Sound (*e.g.*, requiring approval from Fleet Command).

Canyons and Banks of Northern Washington State and Oregon

We recommend that NMFS establish a seasonal protection area in certain canyons and banks on the NWTRC that represent important foraging habitat particularly for humpback whales.

Although humpback whales have not been studied as intensively off Oregon and Washington as they have further south off California, annual feeding does occur in the Pacific Northwest study area, mostly within about 100 nautical miles of the coast (Carretta et al. 2007). Humpback are the most common large whale species seen off northern Washington in summer. Line transect surveys suggest that in most years between 1995 and 2000, approximately 100 humpback whales were present off northern Washington, but in 2002 the estimate increased to over 500 whales (Calambokidis et al. 2004). There is limited interchange of whales from this area with those further south in Oregon and California, suggesting the existence of a more-or-less distinct feeding aggregation in these waters (Calambokidis et al. 2004). Within their study site off the Olympic Peninsula, Calambokidis et al. (2004) found humpback whales to occur mostly in the northern part of the area, in a region informally known as the "Prairie." Other areas of concentration occur near the mouth of Juan de Fuca Canyon, Swiftsure Bank, and an area between Barkley and Nitinat canyons (Calambokidis et al. 2004), all in Washington, and Heceta Bank, off Oregon (Green et al. 1992). Humpbacks occupy the Pacific Northwest study area primarily in the summer (and to a lesser extent, autumn) seasons, migrating in the winter and spring to their breeding grounds in Mexico and Central America (Calambokidis et al. 2001). The evidence for a more-or-less-distinct feeding aggregation off northern Washington dictates that special caution be exercised in this area. We therefore recommend a seasonal protection area for the "Prairie," Juan de Fuca Canyon, Swiftsure Bank, Barkley and Nitinat Canyons, and Heceta Bank, during the main humpback whale feeding season from June to October.

Lower Continental Slope Waters Between the 500 and 2,000 Meter Isobath

This bathymetry represents important habitat for beaked whales as indicated by several studies, in other locations, of beaked whale habitat preferences.

All beaked whales are largely oceanic in distribution and occur almost exclusively offshore of the shelf edge. They also seem to prefer waters with a sloping seabed (MacLeod 2005). In some areas, such as the Gulf of Mexico, there is a slight concentration in very deep water with a depth range of about 1,000-3,000 meters (Maze-Foley and Mullin 2006). Beaked whales of the genus *Mesoplodon* (mostly Blainville's) have been found to prefer relatively shallower waters (mostly less than 1,000 meters (MacLeod and Zuur 2005; MacLeod et al. 2004; Claridge 2006; Baird et al. 2004, 2006), while Cuvier's beaked whales were found to prefer deeper waters greater than 1,000 meters in depth (to more than 2,000 meters) (Cañadas et al. 2002; MacLeod et al. 2004; Baird et al. 2006; Moulins et al. 2007). Cuvier's were most often seen in waters with a slope of 11-31 m/km (Moulins et al. 2007).

More specific to the NWTRC, several beaked whales sightings were made during a 1994 marine mammal survey conducted by NOAA Fisheries off the coasts of Oregon and Washington (see Forney and Brownell 1996). On one day (27 July 1994), 17 beaked whale sightings were made, about half of them *Ziphius cavirostris* and the other half *Mesoplodon* spp. At least one of the mesoplodont sightings was of a group

containing an adult male and the unique diagnostic characters of *M. carlhubbsi* could be clearly seen. Most of the beaked whale sightings were in an area of slick water (perhaps a large eddy), with abundant seabirds, tunas, baitfish, and surface invertebrates (T. A. Jefferson and R. L. Pitman, pers. obs.). It is unknown if this day was an anomalous event, but clearly there are reasonably large numbers of Cuvier's and mesoplodont beaked whales in this general area, at least some of the time.

While there are no particular areas of known concentration for beaked whales in the NWTRC, most species appear to have a general preference for waters of the lower continental slope. This habitat preference is probably most apparent for the Baird's beaked whale, which appears to have a strong preference for continental slope and seamount areas. However, Ferguson (2005) cautioned that the standard definition of beaked whale habitat used in the past tends to be too narrow, and these animals can actually be found in a wide range of conditions, from slopes to abyssal plains, and from well-mixed to highly-stratified (see also Ferguson et al. 2006).

We encourage NMFS to advocate avoidance, or a reduction of training activity, within areas between 500 and 2,000 meters depth with unusual bottom topography (such as canyons). But more work is clearly needed to accurately identify high-value habitats for these animals in the Pacific Northwest area (see Ward et al. 2005). We note that NMFS has prioritized beaked whales in the Navy's proposed Monitoring Plan for the area (74 Fed. Reg. 33870). This prioritization should include a firm, multi-year commitment to sponsor fine-scale surveys with the aim of identifying important beaked whale habitat for avoidance.

Thank you for considering our comments. We welcome the opportunity to discuss this important matter with you at any time.

Sincerely,



Zak Smith
Attorney

Encl.: NRDC comments on the Navy's NWTRC DEIS