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NATIONAL MARINE WILDLIFE AND HABITAT COMMITTEE

March 31, 2008

Naval Facilities Engineering Command, Atlantic Division
Attn: Code EV22 (Atlantic Fleet Sonar PM)
6506 Hampton Blvd
Norfolk, VA 23508-1278
FAX: (888) 875-6781

Re: Comments on Draft Environmental Impact Statement for Atlantic Fleet Active Sonar Training

To the AFAST Project Manager:

Please accept these comments as official public input in a joint effort from the Sierra Club's Atlantic Coast Ecoregion Task Force, our North Atlantic Right Whale BEACON (Binational Early Alert Coastal Network) project, and the National Marine Wildlife and Habitat Committee. Sierra Club presently represents over a million members and supporters around the U.S.

The Sierra Club commends the Navy for taking the opportunity to evaluate its sonar use in its draft Environmental Impact Statement/Overseas Environmental Impact Statement (EIS). The Sierra Club supports the work the Navy does and understands the need for military readiness; however, we have concerns about current and future sonar use related to training activities along the east coast of the U.S. and the Gulf of Mexico. This letter presents comments in response to the Navy's draft EIS for Atlantic Fleet Active Sonar Training (AFAST), dated February 15, 2008.

Proposed Action

The Proposed Action is to designate areas where mid- and high-frequency active sonar training, maintenance and research and development activities will occur, and to conduct these activities. Four alternatives are evaluated: Alternatives 1-3, and the No Action Alternative.

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- Under Alternative 1, fixed active sonar areas would be designated that would minimize environmental effects while still meeting operational requirements. These areas would be available for use year-round.
- Under Alternative 2, active sonar training areas would be designated, but the areas would be adjusted seasonally to minimize effects to marine resources while still meeting minimum operational requirements.
- Under Alternative 3, environmental analyses were used to identify sensitive habitats that would require increased awareness. Active sonar would not be conducted within these areas of increased awareness.
- The No Action Alternative continues the present course of action; the Navy would continue conducting active sonar activities within and adjacent to existing operating areas rather than designate active sonar areas or areas of increased awareness. U.S. Fleet Forces have selected the No Action Alternative as the preferred alternative.

Discharged/Expended Material

Section 4.3 lists sonobuoy seawater batteries, lithium batteries, explosive source sonobuoys, OTTO fuel II from torpedos, acoustic device countermeasures, expendable mobile acoustic training targets and parachute assemblies as items that will be expended or discharged as a result of sonar training. This includes over 34,000 sonobuoys a year. Torpedoes expend up to 15 miles of guidance wire during a run, as well as 250-foot long flex hoses and lead ballast. [The draft EIS does not fully consider the long-term impacts discarded debris and toxins, and how they will cumulatively affect marine organisms and the aquatic food chain into the future. What will be the total amounts of materials discharged each year?]

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P 4-552 states, "All of the byproducts produced during torpedo use, with the exception of hydrogen cyanide, are below the EPA water quality criteria....Due to the rapid dilution of chemical releases, accumulation of chemicals in sediments is not likely. Therefore, there are no significant impacts to EFH (Essential Fish Habitat) anticipated from torpedo use." [Although the hydrogen cyanide will diffuse, the cumulative, long-term effects of this are not in the EIS. What will be the total discharge per training run? What will happen to fish that happen to be near the path of torpedoes? What about sea turtles or other organisms in the area? What will be the total discharge of hydrogen cyanide each year?]

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987 [Right whales and other baleen whales tend to feed with their mouths open and as a result, many become tangled in fishing gear. Baleen whales could also become entangled in flex hoses or guidance wire before it has sunk to the bottom, as could other marine life, such as sea turtles or sea birds. Sperm whales frequently spend time at the ocean floor, and have been entangled in trans-Atlantic cable. It is possible that sperm whales or other deep-diving marine mammals may become tangled with flex hoses or guidance wire after it has sunk to the bottom; this information should have been included in the draft EIS.]

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Sonar-related Strandings

992 [The EIS uses the sound level threshold of 215 decibels (dB) and above for Level A harassment (potential injury to a marine mammal) and sound levels below 215 dB down to 195 dB for Level B harassment (disruptions of natural behavioral patterns to a point where they are abandoned or significantly altered). We request that the Navy consider this from the Ocean Studies Board

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(2005): "The timing and spatial extent of mass strandings associated with naval maneuvers suggests a possible risk of stranding for whales exposed to noise as low as 160 dB re 1 uPa."]

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[The use of mid-range sonar has been associated with mass strandings on multiple occasions - Weilgart (2007) lists well over 20 instances. Theriault (2005) suggests that the strandings in Greece, the Bahamas, and the Canary Islands could *only* have been caused by sonar. The Navy has acknowledged that beaked whale strandings have been associated with sonar operations, and is treating beaked whales more cautiously than other species as a result in the draft EIS. On page 4-137, the Navy states that it is requesting authorization for 10 serious injury or mortality takes for beaked whales. It does not state what time frame this taking of beaked whales may occur in (is this per year? for the next decade?), but says that this overestimates the potential effects to marine mammals. The Sierra Club disputes this.] 994

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[Not all whales that are affected by sonar are likely to strand or wash up on shore. Many whales may sink and never be seen. Sonar-related injuries to whales may occur far from shore and as a result, many more whales may be dying than are found stranded on shore. In addition, once a whale does wash up on shore, it is extremely difficult to determine whether a sonar-related injury or decompression sickness is the cause of death unless the animal is discovered very shortly after it has died. This makes it difficult to accurately determine the extent of serious injury or mortality resulting from active sonar, and undermines the Navy's determination that it is underestimating potential effects to marine mammals.]

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[Sonar-related beaked whale strandings may have been caused by rapid ascent from deep dives. However, they do not appear to be the only cetaceans to be prone to injury associated with rapid decompression. Stranded Risso's dolphins (*Grampus griseus*), common dolphins (*Delphinus delphis*) and one harbor porpoise (*Phocoena phocoena*) have been found with gas bubbles in their blood vessels and gas-filled cavities in internal organs (Jepson et al., 2003). These are symptoms consistent with decompression sickness. Sperm whale (*Physeter macrocephalus*) bones have also been found to show signs of decompression sickness (Woods Hole Oceanographic Institute, 2004). It is possible that these other species may become injured as a result of rapid ascent from exposure to active sonar use, but this has not been considered in the draft EIS.]

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Right whales
[Page 4-93 states that right whales will be exposed to levels of sound great enough to cause behavioral disturbance: "Acoustic analysis indicates that up to 555 North Atlantic right whales may be exposed to levels of sound likely to result in Level B harassment under the No Action Alternative, 210 under Alternative 1, 197 under Alternative 2, and 495 under Alternative 3." This could easily be an underestimate, as Nowacek et al. (2004) showed that North Atlantic right whales (*Eubalaena glacialis*) respond to acoustic alarms at received levels of under 150 dB.]

Page 4-94 states, "In the southeast North Atlantic right whale critical habitat, activities could include object detection/navigational sonar training and maintenance activities for surface ships and submarines while entering/exiting ports located in Kings Bay, Georgia, and Mayport, Florida. In addition, helicopter dipping sonar would occur off of Mayport, Florida in the

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established training areas within the right whale critical habitat. In the northeast North Atlantic right whale critical habitat, a limited number of torpedo exercises would be conducted."

✓ [The North Atlantic right whale is critically imperiled. Any more pressure on the species could easily extirpate it; the mitigation measures described by the Navy in the draft EIS are insufficient to adequately protect this species while balancing national security needs. Mitigation recommendations are discussed in more detail below.]

Other Marine Life

999 [Page 4-162 states, "Very little information is available regarding the hearing capability of marine invertebrates (NRC, 2003). However, no effects to these resources are anticipated from active sonar since acoustic transmissions are brief in nature." It is completely inappropriate to assume that since little is known about the effects of sound on invertebrates, that no impacts are likely. Maine invertebrates are incredibly diverse and are a vital underpinning of the food chain.]

1000 [The EIS states on page 4-158 that there will be no significant impact to fish populations under any of the alternatives from either active sonar or explosive source sonobuoy. This runs counter to studies have shown mid-frequency active sonar can cause mortality in herring, as mentioned on pages 4-153 and 4-154. Page 4-154 states, "Individual juvenile fish with a swim bladder resonance in the frequency range of the operational sonars, and especially hearing specialists such as some clupeid species, may experience injury or mortality." Page 4-157 notes that navigation by larval fish is also vulnerable to masking from active sonar use.]

1001 [Over 800 species of fishes from 109 families worldwide are known to be vocal, and use sound to overcome the problem of living in a dark or visually opaque medium (Rountree, 2002). Many fish species could be disturbed or harmed as a result of sonar use. The fish's lateral line system contains diverse receptors that are highly sensitive to various conditions in the water, including sound. The Sierra Club does not agree with the Navy's determination that there will be no significant impact to fish populations as a result of active sonar activities.]

Cumulative Effects and Mitigation Measures


1399/1002 [What will be the cumulative effects of long-term sonar exposure to aquatic populations from AFAST - as well as other sonar training activities conducted in the Atlantic? How many decades 1003 has the current level of sonar training been in effect? Is this level of training anticipated to continue indefinitely into the future? There does not appear to be any discussion of this in the draft EIS. Potential cumulative and long-term effects, compounded with the gross uncertainty involved in determining direct effects of active sonar training (let alone indirect effects), as well as the decline of many species of marine mammals, sea turtles, sea birds, corals, and commercial fisheries, warrant much more caution than the Navy is currently providing. Instead of embracing less damaging actions, the Navy asserts that that putting constraints on training would compromise its training objectives, a rationalization that is not substantiated. The Sierra Club requests that the Navy adopt Alternatives 1 or 2 for AFAST, instead of the No Action Alternative, which is the most environmentally damaging alternative.] In addition, we request that the following mitigation measures be implemented:

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- 1401 • [Begin surveillance for marine mammals an hour before the exercises start, including aerial surveillance and passive sonar monitoring.]
- 1402 • [At a minimum, reduce sonar power whenever a marine mammal is spotted within 1,500 meters of the vessel and shut it down completely at 500m.]
- 1403 • [Equip parachutes used for aircraft-launched torpedoes, sonabuys, etc. with biodegradable material, break-away couplings and minimal knots in lines, to reduce entanglement with marine life.]
- 1404 • [Reduce or shut down sonar power when any of the following factors are present: low-visibility and/or night training; rapid change in under water bathymetry; multiple sonar-transmitting vessels; chokepoints (areas surrounded by land masses); and the historical presence of a significant surface duct (an oceanographic condition that allows sound to travel farther without losing power).]

Thank you for this opportunity to comment.

Sincerely,



Kristina Jackson, staff liaison

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