



## By Regular and Electronic Mail

January 20, 2009

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Re: Taking and Importing Marine Mammals; U.S. Navy Training in the Undersea Warfare Training Range

Dear Mr. Payne:

On behalf of the Natural Resources Defense Council (“NRDC”), The Humane Society of the United States, International Fund for Animal Welfare, Defenders of Wildlife, Cetacean Society International, North Carolinians for Responsible Use of Sonar, Ocean Futures Society, and Jean-Michel Cousteau, and on behalf of our millions of members and activists, thousands of whom reside in Florida and Georgia, I am writing to submit comments and information regarding the U.S. Navy’s (“Navy”) request for authorization to take marine mammals incidental to construction of and training activities in an Undersea Warfare Training Range (“USWTR”). See 73 Fed. Reg. 77631 (Dec. 19, 2008); see also “Final Request for Letter of Authorization Under Section 101(A)(5)(A) of the Marine Mammal Protection Act Incidental to Undersea Warfare Training Range Activities,” *available at* [http://www.nmfs.noaa.gov/pr/pdfs/permits/uswtr\\_loa.pdf](http://www.nmfs.noaa.gov/pr/pdfs/permits/uswtr_loa.pdf) (May 2008) (“LOA Application”).

Under no circumstance should the National Marine Fisheries Service (“NMFS”) authorize the incidental take of marine mammals at the proposed USWTR site. The proposed USWTR site off the coast of northeastern Florida is a poor choice from a biological perspective because it is located adjacent to designated critical habitat for the highly endangered North Atlantic right whale – “the world’s most critically endangered large whale species and one of the world’s most endangered mammals.”<sup>1</sup> This critical

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<sup>1</sup> 73 Fed. Reg. 60173 (Oct. 10, 2008), Endangered Fish and Wildlife; Final Rule to Implement Speed Restrictions to Reduce the Threat of Ship Collisions With North Atlantic Right Whales.

habitat is the *only* known calving ground for the approximately 300 remaining North Atlantic right whales. NMFS stressed the importance of this calving ground, describing it as “a location vital to the [right whale] population. It is a very high-risk area for pregnant females, new mothers, and calves.”<sup>2</sup> Siting USWTR adjacent to this calving ground would therefore pose enormous risk for mother and calf pairs vulnerable to both noise disturbances and ship strikes. Indeed, siting USWTR in this area would not only undermine the considerable conservation and regulatory effort – by NMFS and others – that has been undertaken over many years to recover this species, but would also be inconsistent with NMFS’ past regulatory decisions under the Marine Mammal Protection Act (“MMPA”), 16 U.S.C. § 1361 *et. seq.*, and Endangered Species Act (“ESA”), 16 U.S.C. § 1531 *et. seq.*<sup>3</sup> The proposed USWTR site would also pose an undue risk to beaked whales, five species of threatened or endangered sea turtles, and valuable fisheries species including snapper, grouper and biogenic reef communities.

Given these insurmountable risks, the Navy should have never proposed siting USTWR off the coast of northeastern Florida. See enclosed NRDC comment letter on USWTR dated October 27, 2008. Unless and until the Navy changes the siting of USWTR, affected species – particularly the North Atlantic right whale – will suffer far more than a “negligible impact” and NMFS should thus deny the Navy’s LOA Application.

The Navy’s LOA Application – and the Navy’s Draft Environmental Impact Statement (“DEIS”) – also suffers from fundamentally flawed science and methodology. Further, the mitigation measures proposed by the Navy do not cure the fundamental defects of the USWTR proposal, which cannot be fixed without meaningful seasonal and geographic exclusions. Before NMFS even considers authorizing the incidental take of marine mammals in the proposed USTWR site, it must, at a minimum, impose rigorous seasonal and geographic mitigation measures.

In addition, before even considering issuing a LOA, NMFS should first require the Navy to explain several discrepancies that have emerged. First, NMFS should investigate why the Navy made assurances, outside the DEIS and indeed the administrative record itself, that only one percent of its training would affect right whale habitat.<sup>4</sup> Relevant information regarding the proposed training should have been included in the DEIS, and the Navy cannot not rely on this information after the fact.

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<sup>2</sup> NMFS, Final Environmental Impact Statement to Implement Vessel Operational Measures to Reduce Ship Strikes to North Atlantic Right Whales at 3-6, Prepared for NOAA, NMFS, Office of Protected Resources (Aug. 2008), *available at* <http://www.nmfs.noaa.gov/pr/pdfs/shipstrike/feis.pdf>.

<sup>3</sup> For example, the Navy’s proposed location extends into NMFS’ Southeast Seasonal Management Area for right whales and crosses the mandatory ship reporting boundary – areas NMFS has found to be key, even outside of the designated critical habitat. See 73 Fed. Reg. 60173, 60174, 60179, 60189 (Oct. 10, 2008), Endangered Fish and Wildlife; Final Rule to Implement Speed Restrictions to Reduce the Threat of Ship Collisions With North Atlantic Right Whales.

<sup>4</sup> See Susan Respass, Proposed training stirs concerns of whale advocates, Tribune & Georgian (Jan. 13, 2009), *available at* [http://www.tribune-georgian.com/articles/2009/01/07/news/top\\_stories/1topstory1.7.txt](http://www.tribune-georgian.com/articles/2009/01/07/news/top_stories/1topstory1.7.txt).

Indeed, information not cited in the DEIS cannot cure its deficiencies.<sup>5</sup> Second, the Navy must explain why its estimated take numbers differ between its DEIS and LOA Application. For instance, the Navy estimated in its LOA Application that 44 North Atlantic right whales would experience behavioral impacts each year (LOA Application at 112) whereas the Navy's DEIS estimated that 47 North Atlantic right whales would suffer behavioral effects (DEIS at 4.3-61). That the number of takes would decline is extraordinary, especially considering the fact the Navy actually increased the number of proposed training exercises from 470 (DEIS at 2-15) to 480 (LOA Application at 22) per year.

In sum, we urge NMFS to deny the Navy's LOA Application because of the proposed site's proximity to North Atlantic right whale critical habitat and calving grounds. In denying the Navy's LOA Application, NMFS should work with the Navy to identify a more prudent site for its USWTR – a site well away from the only known North Atlantic right whale calving ground.

## **I. Proposed USWTR Activities**

The proposed USWTR would be the site of intensive, year-round exercises employing active sonar and other active acoustic sources. It would effectively transform the waters off the Florida coast into one of the nation's epicenters of sonar use. The Navy envisions an approximately 500 square nautical mile area on the sea floor laced with a network of undersea cables and up to 300 "acoustic transducer devices" – either four-foot domes or 25-foot tethered sensors – connected with over 600 square nautical miles of fiber optic undersea cable, both buried and unburied. See LOA Application at 3. Around 470 (DEIS at 2-15) to 480 (LOA Application at 22) individual training exercises are proposed to occur on the range each year, scheduled without apparent interruption throughout the seasons, and sometimes with more than one exercise occurring in a single day.

A battery of acoustic sources would be used in these exercises, deployed from surface ships, submarines, aircraft, training targets, and range sources. See LOA Application at Table 1-1. Among the high-intensity active sonars to be employed are the two systems that caused 16 whales to strand in the Bahamas in 2000 following a Navy exercise, and are believed to have been involved in several other mass mortalities.<sup>6</sup> Those two systems, known as SQS-53 and SQS-56, would emit sound on the proposed range at nominal source levels of 235 dB and 225 dB re 1  $\mu$ Pa respectively. These source levels

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<sup>5</sup> See *Center for Biological Diversity v. USFS*, 349 F.3d 1157, 1169 (9<sup>th</sup> Cir. 2003) (finding that the "mere presence of information alone" cannot cure a deficient EIS); see also *False Pass v. Watt*, 565 F.Supp. 1123, 1141 (D.Alaska 1983) (holding that neither the administrative record outside of the environmental impact statement itself nor any other evidence may be used to remedy deficiencies in the environmental impact statement) (citing *Grazing Fields Farm v. Goldschmidt*, 626 F.2d 1068, 1074 (1st Cir.1980)), *aff'd sub nom. False Pass v. Clark*, 733 F.2d 605 (9th Cir.1984).

<sup>6</sup> Department of Commerce & Secretary of the Navy, Joint Interim Report: Bahamas Marine Mammal Stranding Event of 15-16 March 2000 at iii, 16, 23 (2001).

equal or approach the levels used by the Navy in the Bahamas stranding event.<sup>7</sup> But acoustics are not the only source of impacts. Construction and operation of the range will damage bottom habitat, release hazardous materials into the coastal environment, cause entanglements and ship collisions with marine wildlife, potentially cause adverse effects on sea turtle hatchlings on shore, and negatively affect the critically endangered North Atlantic right whale.

## **II. The Proposed USWTR Activities Will Have Significant Impacts on Species and Habitat**

Siting USWTR off the coast of northeastern Florida will have significant impacts on North Atlantic right whales, beaked whales, sea turtles and a host of other species and habitat. The USWTR site is located only 35 nautical miles from federally designated critical habitat for the highly endangered North Atlantic right whale. This critical habitat is the only known calving ground for right whales. The potential impacts on beaked whales, sea turtles, snapper, grouper, and biogenic reef communities further highlight the problems with siting USWTR off the coast of Florida.

### **A. North Atlantic Right Whales**

Despite the Navy's claims otherwise, sonar training exercises in the current USWTR area will have far more than a "negligible impact" on the North Atlantic right whale species. LOA Application at 114. Hunted nearly to extinction, North Atlantic right whales are one of the world's most critically endangered species, with only about 300 remaining. Although the North Atlantic right whale has been protected under the Endangered Species Act since 1973, it has made little recovery, which is attributable to the continuing threats posed by ship strikes, entanglement in fishing gear, and other stressors.

The Navy's proposed sonar training exercises off the coast of northeastern Florida will further exacerbate the tenuous grip this species has on survival. In fact, the National Oceanographic and Atmospheric Administration ("NOAA") has concluded in past consultations that the "loss of even a single individual right whale may contribute to the extinction of the species," and that "preventing the mortality of one adult female alters the projected outcome."<sup>8</sup> Thus, "the population can sustain no deaths or serious injuries due to human causes if its recovery is to be assured."<sup>9</sup>

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<sup>7</sup> *Id.* at 24, 26; International Whaling Commission, 2004 Report of the Scientific Committee, Annex K at § 6.3.

<sup>8</sup> 69 Fed. Reg. 30857, 30858 (June 1, 2004), Endangered Fish and Wildlife; Advance Notice of Proposed Rulemaking (ANPR) for Right Whale Ship Strike Reduction.

<sup>9</sup> 73 Fed. Reg. 60173, 60176 (Oct. 10, 2008), Endangered Fish and Wildlife; Final Rule to Implement Speed Restrictions to Reduce the Threat of Ship Collisions With North Atlantic Right Whales.

North Atlantic right whales are predicted to occur within the proposed USWTR site. The USWTR site is only 35 miles from North Atlantic right whale critical habitat, and lies directly offshore from one of two areas of particularly high right whale concentration during calving season based on Sightings-Per-Unit-Effort modeling.<sup>10</sup> Right whales use the coastal waters of Georgia and northern Florida as calving grounds, and this area represents the only calving grounds known for this species. While this habitat is primarily used during winter months – November through March – right whales have been sighted in the southeastern U.S. as early as September<sup>11</sup> and a mother-calf pair was recently sighted off northeastern Florida in July 2007.<sup>12</sup> As summarized in the Marine Resource Assessment prepared for the Navy,<sup>13</sup> many right whale sightings have occurred outside of the area defined as critical habitat. Sightings extend to the shelf break where the proposed USWTR site is located, and NMFS is currently considering expanding critical habitat for right whales. Further, increasing reports of trans-Atlantic observations (including this year's report of a North Atlantic right whale off the Azores) and offshore migration suggest that right whales are not limited to nearshore migratory pathways and calving habitat as once thought.<sup>14</sup> And even the Navy acknowledges that right whales may occur year round from nearshore to the continental shelf break in the area, with peak concentrations occurring November through March. See DEIS at 3.2-61.

### 1. Mother-Calf Sensitivity

The western boundary of the proposed USWTR site is only 35 nautical miles from the easternmost boundary of the Southeast Right Whale critical habitat, which extends approximately 15 nautical miles seaward. Every fall, pregnant females leave the right whale feeding grounds off the coast of New England and migrate south to this calving ground. Here, next to the proposed USWTR site, mothers and calves will be particularly susceptible to disturbances as a result of Navy training exercises.

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<sup>10</sup> See Figure B-2-1 in Department of the Navy. 2008. Marine Resources Assessment Update for the Charleston/Jacksonville Operating Area. Naval Facilities Engineering Command, Atlantic; Norfolk Virginia. Contract Number N62470-02-D-9997, Task Order Number 0056. Prepared by Geo-Marine, Inc., Hampton, Virginia.

<sup>11</sup> Kraus SD, Pace III RM, Frasier TR. 2007. High investment, low return: The strange case of reproduction in *Eubalaena glacialis*. Pages 172-199 in Kraus SD, Rolland RM, eds. The urban whale: North Atlantic right whales at the crossroads. Cambridge, Massachusetts: Harvard University Press.

<sup>12</sup> NOAA Fisheries Service. 2007. Important sighting of mother and calf right whales confirmed off northeast Florida: NOAA asks mariners to keep a lookout and report future sightings. Press Release. 19 July. St. Petersburg, Florida: Southeast Regional Office.

<sup>13</sup> Department of the Navy. 2008. Marine Resources Assessment Update for the Charleston/Jacksonville Operating Area. Naval Facilities Engineering Command, Atlantic; Norfolk Virginia. Contract Number N62470-02-D-9997, Task Order Number 0056. Prepared by Geo-Marine, Inc., Hampton, Virginia.

<sup>14</sup> Jacobsen KO, Marx M, Øien N. 2004. Two-way trans-Atlantic migration of a North Atlantic right whale (*Eubalaena glacialis*). Marine Mammal Science 20:161-166.

Mothers and their newborn calves are the most vulnerable segment of the population, and North Atlantic right whale cow-calf pairs in particular can ill-afford any increase in risk of harassment, injury or mortality that may occur from sonar training exercises or ship strikes. In fact, the loss of as few as two right whale females per year may result in extinction of the species.<sup>15</sup> As NMFS has emphasized, right whale females are a “vital reproductive component of the population.”<sup>16</sup> A female must produce at least 4 calves to replace herself, as the survival of female calves to adulthood is less than 0.5.<sup>17</sup> Further, records show that females make up a disproportionate number of right whale deaths: up to 80 percent of deaths for which sex and size are known.<sup>18</sup>

Calving habitat is critical to species survival because of the sensitivity at this life history stage, when mothers and calves are especially susceptible to human presence and disturbance. *Any disturbance whatsoever could affect the survival of the right whale.* NMFS itself has acknowledged that “calving season is the most vulnerable time in the entire life of a right whale – any disturbance could affect calving, nursing, or other behaviors critical to the survival of the species.”<sup>19</sup>

While few studies have examined the effects of noise and other forms of disturbance on cow-calf pairs, it has been noted that such disruptions could lead to interruption of nursing or even abandonment.<sup>20</sup> Extended disruptions could lead to starvation and potentially death of neonates. Premature weaning could also carry a cost to young whales in terms of lost nutrition. Consistent with these hypotheses, cow-calf pairs have been shown to maintain a greater avoidance distance than single whales from disturbances such as seismic airguns,<sup>21</sup> and humpback mother-calf pairs were found to

<sup>15</sup> Fujiwara, M. and Caswell, H., Demography of the Endangered North Atlantic Right Whale, *Nature*, 414:537-543 (2001); Caswell, *et al.*, Declining survival probability threatens the North Atlantic right whale, *Proceedings of the Nat. Acad. of Sci.*, 96:3308-3313 (1999); See also NOAA Fisheries Southeast Region, Right Whale Fact Sheet, *available at* <http://sero.nmfs.noaa.gov/pr/mm/rightwhales/pdf/RightWhaleFactSheetFINALPRINT.pdf>.

<sup>16</sup> NMFS, Final Environmental Impact Statement to Implement Vessel Operational Measures to Reduce Ship Strikes to North Atlantic Right Whales at 4-13.

<sup>17</sup> 73 Fed. Reg. 60173 (Oct. 10, 2008), Endangered Fish and Wildlife; Final Rule to Implement Speed Restrictions to Reduce the Threat of Ship Collisions With North Atlantic Right Whales.

<sup>18</sup> *Id.*

<sup>19</sup> NOAA Fisheries Southeast Region, Right Whale Fact Sheet, *available at* <http://sero.nmfs.noaa.gov/pr/mm/rightwhales/pdf/RightWhaleFactSheetFINALPRINT.pdf>.

<sup>20</sup> Aplin D, Elliott W. 2007. Conservation concerns for cetaceans in the Bering Sea and adjacent waters: offshore oil development and other threats. Paper SC/59/E9 presented to the Scientific Committee of the International Whaling Commission. Anchorage, Alaska; Ward-Geiger L, Silber G, Baumstark R, Pulfer T. 2005. Characterization of ship traffic in right whale critical habitat. Coastal Management 33:263-278; Parsons ECM, Birks I, Evans PGH, Gordon JCD, Shrimpton JH, Pooley S. 2000. The possible impacts of military activity on cetaceans in West Scotland. European Research on Cetaceans 14:185-191.

<sup>21</sup> McCauley RD, Fewtrell J, Duncan AJ, Jenner C, Jenner M, et al. 2000. Marine seismic surveys: analysis and propagation of air-gun signals and effects of air-gun exposure on humpback whales, sea turtles, fishes and squid. Center for Marine Science and Technology, Australia. Prepared for Australian Petroleum Production Exploration Association.

move away from areas where human activity was high.<sup>22</sup> In Hawaii, humpback mothers and calves have been moving further offshore to rest and nurse, possibly due to increased human activity in shallow nearshore areas.<sup>23</sup> Survival in bottlenose dolphin calves was found to decrease in areas where whale watching vessels were present, possibly due to the effects of noise listed above.<sup>24</sup>

Given this extreme sensitivity, the Navy's conclusion that USWTR activities would result in "short-term effects" and would not "affect annual rates of recruitment or survival" of right whales ignores both the scientific literature and NMFS' own assessment that any disturbance during calving season will threaten the survival of right whales.<sup>25</sup>

## 2. Vulnerability to Ship Strikes

The increase in vessel traffic, during both construction and training, also poses a substantial risk to right whales. Right whales are uniquely vulnerable to ship strikes because they often hover on or near the surface of the water. Due to their dark coloration and lack of a dorsal fin, however, they are difficult to detect. Mothers and calves, in particular, are more likely to remain on or near the surface as a result of the limited lung capacity of newborns. In an EIS aimed at reducing ship strikes to right whales, NMFS concluded that "longer intervals at the surface between foraging dives have been observed in reproductively active females and their calves, which makes

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<sup>22</sup> Salden DR. 1988. Humpback whale encounter rates offshore of Maui, Hawaii. Journal of Wildlife Management 52:301-304.

<sup>23</sup> Glockner DA, Venus SC. 1983. Identification, growth rate and behaviour of humpback whale (*Megaptera novaeangliae*) cows and calves in the waters off Maui, Hawaii. Pages 223-258 in R. Payne, (ed.) Communication and behaviour of whales, Westview Press, Boulder, CO; Glockner-Ferrari DA, Ferrari MJ. 1985. Individual identification, behaviour, reproduction and distribution of humpback whales, *Megaptera novaeangliae*, in Hawaii. MMC-83/06, U.S. Marine Mammal Commission, Washington, DC. (NTIS PB85-200772). 35 pp., available from the U.S. Marine Mammal Commission, Washington, D.C.; Glockner-Ferrari DA, Ferrari MJ. 1990. Reproduction in the humpback whale (*Megaptera novaeangliae*) in Hawaiian waters, 1978-1988: The life history, reproductive rates and behaviour of known individuals identified through surface and underwater photography. Reports of the International Whaling Commission Special Issue 12:161-169; Green M, Green RG. 1990. Short-term impact of vessel traffic on the Hawaiian humpback whale (*Megaptera novaeangliae*). Paper presented at Annual Meeting of the Animal Behavior Society, June, 1990, SUNY, Buffalo, NY, available at [www.oceanmammalinst.com/w90.htm](http://www.oceanmammalinst.com/w90.htm).

<sup>24</sup> Bedjer L. 2005. Linking short and long-term effects of nature-based tourism on cetaceans. PhD thesis, Department of Biology, Dalhousie University, Halifax, N.S., Canada.

<sup>25</sup> NOAA Fisheries Southeast Region, Right Whale Fact Sheet, available at <http://sero.nmfs.noaa.gov/pr/mm/rightwhales/pdf/RightWhaleFactSheetFINALPRINT.pdf>.

them more susceptible to ship strikes.”<sup>26</sup> In fact, calves and juvenile whales are hit more often than adults.<sup>27</sup> NMFS further explained this vulnerability:

Whale calves and juveniles are much more susceptible than adults to serious injury or death from ship strikes; one reason for this may be that they spend more time at the surface than adults do. Calves are also slower swimmers than adults, do not dive as deep or as long, and spend more time at the surface while nursing. Of 16 right whale mortalities by ship strikes recorded between 1970 and 1999, almost one-third – 31 percent, or five individuals – were calves and juveniles, and three others were no more than two years old. Over the same period, of 56 documented right whales seriously injured by ship strikes or entanglement, more than one-third were calves or juveniles; the others were adults. Vessels of all sizes can seriously harm calves and juveniles. In addition, a vessel strike to a new mother leaves a calf alone, which is most likely to lead to the death of the calf. The death of any one member of the population would seriously hinder recovery of the population and, in fact, could contribute directly to the extinction of the western stock of the North Atlantic right whale . . . .<sup>28</sup>

Right whales are also vulnerable to ship strikes because of their unresponsiveness to vessel sound.<sup>29</sup> "Ship noises are not as loud near the surface as they are 5-10 meters beneath it because the water surface reflects sound waves. This is known as the Lloyd mirror effect [which is] stronger in the low frequency range, in calm sea states, and when the source and/or receiver are near the surface. Therefore, in certain conditions, a whale might be less likely to hear a vessel when the whale is at or near the surface, which is precisely the location where it is also at high risk of being struck."<sup>30</sup> Thus, according to NMFS, “reducing the number of vessels that transit in areas where right whales aggregate in the [waters adjacent to the proposed USWTR site] is important.”<sup>31</sup>

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<sup>26</sup> NMFS, Final Environmental Impact Statement to Implement Vessel Operational Measures to Reduce Ship Strikes to North Atlantic Right Whales at 3-6.

<sup>27</sup> Laist, D. 2005. Ship Collisions. Unpublished power point presentation, *cited in* NMFS, Final Environmental Impact Statement to Implement Vessel Operational Measures to Reduce Ship Strikes to North Atlantic Right Whales at 4-13.

<sup>28</sup> *Id.* at 4-4; see also Knowlton, A.R., M.K. Marx, H.M. Pettis, P.K. Hamilton, and S.D Kraus. 2001. Scarification analysis of North Atlantic right whales (*Eubalaena glacialis*): Monitoring rates of entanglement interaction. Final Report to the National Marine Fisheries Service. Available From: New England Aquarium, Central Wharf, Boston, MA 02110.

<sup>29</sup> Nowacek, D.P., Johnson, M.P., Tyack, P.L. 2004, North Atlantic right whales (*Eubalaena glacialis*) ignore ships but respond to alerting stimuli. Proceedings of the Royal Society of London, B 271, 227-231.

<sup>30</sup> NMFS, Final Environmental Impact Statement to Implement Vessel Operational Measures to Reduce Ship Strikes to North Atlantic Right Whales at 3-9.

<sup>31</sup> *Id.* at 4-13.



In fact, within 1.5 nm of ships, only 33 percent of mother-calf pairs present were detected and only 55 percent of those at the surface were seen.<sup>32</sup> This calls into question the value of the Navy's primary mitigation measure – shipboard lookouts – in detecting whales in any area, let alone the USWTR area, which is adjacent to calving grounds. Other researchers similarly cast doubt on the ability of ship-board observers to detect whales or for vessels to avoid collisions, particularly as the size of the vessel increased or visibility decreased.<sup>33</sup> Even with heightened awareness of risk to whales, naval vessels have continued to be involved in collisions.<sup>34</sup> For example, in 2004 and 2005 there were three instances in waters off the Southeastern coast where one ship strike resulted in the death of both a pregnant female and her fetus.<sup>35</sup> In addition, a pregnant right whale was mortally injured off the Virginia coast in November 2004 by a Navy ship that was reportedly following protocol.<sup>36</sup> NMFS' own "ship strike database reflects a disproportionately high number of ship strikes attributable to [Coast Guard] and Navy vessels."<sup>37</sup> And a 2003 study found that the Navy was responsible for 17 percent of collisions where the vessel operator was identified.<sup>38</sup> These repeated disturbances could also cause a shift away from preferred calving grounds or migratory routes that would particularly impact mother-calf pairs, especially if it increases energetic costs to females who are both nursing and fasting during the winter. Furthermore, right whales have been shown to engage in dramatic surfacing behavior, increasing their vulnerability to ship strikes, on exposure to mid-frequency alarms

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<sup>32</sup> Hain, J. and Ellis, S., Sightability of right whales in coastal waters of the southeastern United States with implications for the aerial monitoring program, in Garner et al. (eds), Marine Mammal Survey and Assessment Methods, Balkema, Rotterdam at 191-206 (1999).

<sup>33</sup> Clyne, H. and Leaper, R., Modelling collisions between whales and ships: Assessing the potential for vessels to take avoiding action in response to sightings of whales, SC/56/BC6 available at <http://www.nero.noaa.gov/shipstrike/doc/Clyn%201999%20paper.pdf> (1999).

<sup>34</sup> Morrello, C., Whale's Death brings calls for sea speed limits, Washington Post, December 5, 2005 (detailing the death of a female right whale and her near-term calf in the mid-Atlantic after being struck by a naval vessel); Jensen, A.S. and Silber, G.K., Large Whale Ship Strike Database, US Department of Commerce, NOAA Technical Memorandum NMFS-OPR-25 (2003) (noting the Navy's responsibility for 17 percent of collisions with whales in year where the vessel could be identified).

<sup>35</sup> Kraus, S.D., M.W. Brown, H. Caswell, C.W. Clark, M. Fujiwara, P.K. Hamilton, R.D. Kenney, A.R. Knowlton, S. Landry, C.A. Mayo, W.A. McLellan, M.J. Moore, D.P. Nowacek, D.A. Pabst, A.J. Read, and R.M. Rolland. 2005. North Atlantic right whales in crisis. Science 309:561-562; see also NMFS, Final Environmental Impact Statement to Implement Vessel Operational Measures to Reduce Ship Strikes to North Atlantic Right Whales at 4-13.

<sup>36</sup> C. Morello, "Whale's Death Brings Calls for Sea Speed Limits," Washington Post, Dec. 5, 2005.

<sup>37</sup> 73 Fed. Reg. 60173, 60174 (Oct. 10, 2008), Endangered Fish and Wildlife; Final Rule to Implement Speed Restrictions to Reduce the Threat of Ship Collisions With North Atlantic Right Whales.

<sup>38</sup> Jensen, A.S. and Silber, G.K., Large Whale Ship Strike Database, US Department of Commerce, NOAA Technical Memorandum NMFS-OPR-25 (2003).

above 133 dB re 1  $\mu$ Pa (SPL)<sup>39</sup> – a level of sound that can occur tens of miles away from the sonar systems slated for the range.

For these reasons, we believe that conservation of the right whale species requires the choice of another site for the USWTR area.

## **B. Beaked Whales**

The continental shelf break over which the proposed USWTR site lies may represent important habitat for beaked whales, including Cuvier's, True's, Gervais' and Blainville's beaked whales. Abundance is predicted to be highest near warm-core rings that develop off the Gulf Stream. Beaked whale sightings in and around the proposed USWTR area have been concentrated seaward of the shelf break between the 200m and 2000m isobaths.<sup>40</sup> Moreover, the nearby Blake Escarpment is also an area of steep topography and high productivity, representing good foraging habitat for a variety of cetaceans.

## **C. Other Species of Concern**

### **1. Sea Turtles**

Five endangered or threatened species of sea turtles inhabit the USWTR area year round, including leatherbacks, Kemp's ridleys, hawksbills, loggerheads, and green turtles. The area is important for juvenile sea turtles that use the lagoons, estuaries, bays and offshore reefs for foraging and resting habitats. DEIS at 3.2-34. Area beaches provide important nesting habitats, and mature females travel long distances to reach adjacent ocean-facing beaches. *Id.* Loggerhead turtles are the most common species of turtle present at the proposed USWTR site. Several locations along the coast adjacent to the Jacksonville Operating Area have high-density nesting beaches for loggerhead turtles, which are used May through September. Hatching occurs between June and November. Juveniles and sub-adults make up more than 80% of loggerheads observed along the southeastern Atlantic coast between August and March.<sup>41</sup> Leatherbacks forage on the continental shelf from March through November, move to off-shelf waters from December to February, and use beaches in Brevard County and south for nesting. Green turtles are concentrated over the continental shelf to the west of the Gulf Stream. Nesting occurs from April to September. Kemp's ridleys overwinter off the coast of Florida but nest only rarely on Florida beaches.

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<sup>39</sup> Nowacek et al., North Atlantic Right Whales, 271 Proceedings of the Royal Society of London, Part B: Biological Sciences at 227.

<sup>40</sup> Department of the Navy. 2008. Marine Resources Assessment Update for the Charleston/Jacksonville Operating Area. Naval Facilities Engineering Command, Atlantic; Norfolk Virginia. Contract Number N62470-02-D-9997, Task Order Number 0056. Prepared by Geo-Marine, Inc., Hampton, Virginia.

<sup>41</sup> Henwood TA. 1987. Movements and seasonal changes in loggerhead turtle *Caretta caretta* aggregations in the vicinity of Cape Canaveral, Florida (1978-84). Biological Conservation 40:191-202.

Despite the presence of these threatened and endangered species of turtles, the Navy decided not to evaluate acoustic impacts on sea turtles. The Navy claimed that sea turtles have limited hearing abilities and thus “[b]ecause the best hearing rate for sea turtles is most likely less than 1 kHz . . . the potential for sea turtles to experience direct acoustic effects from USWTR operations is negligible.” *Id.* at 3.3-12. As discussed in the enclosed NRDC comment letter, this claim is unsupported by the best available science. The best scientific data show that both juvenile and adult loggerheads hear sounds at least to 1 kHz, the lower end of the mid-frequency sonar sources intended for the USWTR area. *Id.* Furthermore, they have been shown to engage in startle and escape behavior – behavior that may involve diving and surfacing – and to experience heightened stress in response to vessel noise.<sup>42</sup> This available information, including studies cited by the Navy itself, contradicts its conclusion that impacts on sea turtles will be “negligible.” DEIS at 3.3-12.

## 2. Fish and Essential Fish Habitat

In addition, hundreds of species of fish could be adversely affected by the proposed USWTR site. Two hundred and ninety species of fish are expected to be found within the range, including four species that are either endangered or species of concern. DEIS at 3.2-9 to 10. The proposed USWTR area also overlaps with essential fish habitat, the North Florida Marine Protected Area, and nine South Atlantic Fishery Management Council management units for fish species. DEIS at 3.2-18 to 19. For instance, it falls within the distributions of blueback herring (*Alosa aestivalis*) and Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), both listed by NMFS as Species of Concern. In addition, around 67% of the proposed USWTR site is classified as biogenic reef community within Essential Fish Habitat designations. These biogenic reefs are used by 13 fish species in three management units. The proposed USWTR site also overlaps with a designated marine protected area for the snapper/grouper complex, created as part of the fisheries management plan for a complex of 73 tropical and subtropical fish species including snappers, groupers, sea basses, porgies, grunts, tilefishes, triggerfishes, wrasses, and jacks.<sup>43</sup>

In its DEIS, the Navy concluded that acoustic impact on all species of fish will be insignificant. DEIS at 4.3-145. The best available scientific data, however, suggests that at least some fish species may suffer tissue damage, hearing loss, and behavioral and reproductive effects from ocean noise, including high intensity sonar.<sup>44</sup> The

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<sup>42</sup> National Research Council, *The Decline of Sea Turtles: Causes and Prevention* (1990).

<sup>43</sup> SAFMC (South Atlantic Fishery Management Council). 2007. Snapper-grouper amendment 14-MPAs. Accessed 19 April 2007, available at <http://www.safmc.net/MPAInformationPage/tabid/469/Default.aspx>.

<sup>44</sup> R. McCauley, J. Fewtrell, and A.N. Popper, High Intensity Anthropogenic Sound Damages Fish Ears, 113 *Journal of the Acoustical Society of America* 640 (2003); A.R. Scholik and H.Y. Yan, Effects of Boat Engine Noise on the Auditory Sensitivity of the Fathead Minnow, *Pimephales promelas*, 63 *Environmental Biology of Fishes* 203-09 (2002); A.R. Scholik and H.Y. Yan, The Effects of Noise on the Auditory Sensitivity of the Bluegill Sunfish, *Lepomis macrochirus*, 133 *Comparative Biochemistry*

potential impacts on these fish species and their designated protected areas highlights yet another problem with the proposed USWTR site.

For these reasons, we urge that the Navy's LOA Application be denied. However, should NMFS move forward with the Navy's LOA Application, it must ensure that take estimates, cumulative impacts analysis, and mitigation measures are implemented to effect the least practicable adverse impact on marine mammals and other marine life.

### **III. Should NMFS Decide to Authorize the USWTR Activities Proposed by the Navy, It Must Prescribe "Methods" and Means" of "Effecting the Least Practicable Adverse Impact" on Marine Mammals**

If NMFS decides to accept the Navy's LOA Application and commence rulemaking, it must take several steps when developing its proposed rule to satisfy its obligations under the MMPA. As an initial matter, NMFS must reject the Navy's take analysis, relying instead on estimates developed from a review and understanding of *all* the scientific literature on behavioral and other impacts to marine mammals from intense sound, not just the scientific literature that supports the Navy's position. For example, in its development of thresholds for physiological and behavioral effects, the Navy disregards a great deal of relevant information adverse to its interests, uses approaches and methods that are unacceptable in the scientific community, and ignores whole categories of impacts. Instead, NMFS should formulate its own estimates of the impacts from the Navy's proposed activities and ensure that those estimates are not at odds with underlying data. Unlike the Navy, NMFS should also subject its marine assessment data and analytical procedures used to estimate risks to expert peer review. Only with an accurate understanding of the impacts of the Navy's proposal can NMFS adequately designate the means of effecting the least practicable adverse impact on marine mammals from the proposed range.

Rejecting the Navy's analysis, which cursorily dismisses cumulative impacts, NMFS should also analyze and include the cumulative impacts from the 470-480 planned exercises per year when formulating the means of effecting the least practicable adverse

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and Physiology Part A at 43-52 (2002); M.E. Smith, A.S. Kane, & A.N. Popper, Noise-Induced Stress Response and Hearing Loss in Goldfish (*Carassius auratus*), 207 Journal of Experimental Biology 427-35 (2003); A.N. Popper, Effects of Anthropogenic Sounds on Fishes, 28(10) Fisheries 26-27 (2003); M.C. Hastings & A.N. Popper, Effects of Sound on Fish 19 (2005) (Report to the California Department of Transportation, Contract No. 43A0139), p., 19; C. Booman, J. Dalen, H. Leivestad, A. Levsen, T. van der Meeren, and K. Toklum, Effector av luftkanonskyting på egg, larver og yngel (Effects from Airgun Shooting on Eggs, Larvae, and Fry), 3 Fisken og Havet 1-83 (1996) (Norwegian with English summary); J. Dalen and G.M. Knutsen, Scaring Effects on Fish and Harmful Effects on Eggs, Larvae and Fry by Offshore Seismic Explorations, in H.M. Merklinger, Progress in Underwater Acoustics 93-102 (1987); A. Banner and M. Hyatt, Effects of Noise on Eggs and Larvae of Two Estuarine Fishes, 1 Transactions of the American Fisheries Society 134-36 (1973); L.P. Kostyuchenko, Effect of Elastic Waves Generated in Marine Seismic Prospecting on Fish Eggs on the Black Sea, 9 Hydrobiology Journal 45-48 (1973).

impact on marine mammals from the training range. In its DEIS, the Navy concludes that the sum of the various environmental impacts from the USWTR will not be significant, but fails to provide support for this assertion or even to explain what the sum of these impacts is expected to be. Its LOA Application is equally lacking in its analysis of cumulative impacts. Spending less than a page on “long-term effects,” the Navy admits that there may be effects that occur as a result of repeated use of sonar, but nonetheless asserts that all behavioral impacts are short-term in nature and that there is no correlation between mid-frequency sonar use and long-term abandonment or significant changes in behavioral patterns. The Navy’s claims have been disputed by NMFS itself, which characterized the behavioral response during the Haro Strait incident as “profound,” and by the scientific community, which noted zero sightings for nearly two years of one species of beaked whales in an area of the Bahamas where sonar caused a mass stranding.<sup>45</sup> NMFS must account for the cumulative impact of thousands of hours of sonar activity per year, scheduled to occur on an almost daily basis, before allowing any incidental take of marine mammals.

Finally, NMFS should require the Navy to utilize significant protective measures when conducting exercises. In its comments on the Navy’s DEIS, NRDC identified over 30 measures that the Navy should adopt to help protect marine mammals from sonar’s harmful impacts. NMFS similarly should analyze and require these measures as means of effecting the least practicable adverse impact on marine mammals from the Navy’s activities. The measures range from operational requirements to adequate monitoring, with the most important measures being geographic and seasonal exclusions. Given the proximity of the Navy’s proposed range to right whale critical habitat, use of the range should be prohibited during the season(s) when right whales occupy their critical habitat.

To protect right whale mothers and calves from the impacts of sonar use and ship strikes, NMFS should not permit any activities on the Navy’s range during the right whale calving season that takes place during the winter months from November through March.<sup>46</sup> Pursuant to ESA, NMFS should also carefully examine seasonal and geographic restrictions to protect the various sea turtles that occur year-round in the proposed range. Finally, NMFS should determine the impacts of USWTR activities on the marine protected area for the snapper/grouper complex that overlaps with the range and proscribe measures that will minimize these impacts.

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<sup>45</sup> Parsons, E.C., et al., Navy sonar and cetaceans: just how much does the gun need to smoke before we act?, 56 Marine Pollution Bulletin 1248-1257 (2008).

<sup>46</sup> See Letter from Rodney Weiher, NMFS, to Keith Jenkins, Naval Facilities Engineering Command Atlantic at 6 (Jan. 30, 2006) (NMFS comments on first Navy DEIS for USWTR, encouraging “consideration of operational restrictions [at proposed North Carolina site], especially during right whale migration periods in the spring and fall”).

#### **IV. Conclusion**

For the reasons detailed above, we urge NMFS to deny the Navy's LOA Application. Alternatively, if NMFS commences rulemaking, it should properly analyze estimated take numbers, account for cumulative impacts, and impose meaningful mitigation measures such as seasonal and geographic exclusions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Taryn Kiekow".

Taryn Kiekow  
Staff Attorney

Zak Smith  
Litigation Fellow

Encl.: NRDC comments on the USWTR DEIS