

# CRS Report for Congress

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## Active Sonar and Marine Mammals: Chronology with References

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### Summary

The deployment of active sonar by the U.S. Navy and its potential impacts on marine mammals has been an ongoing issue of intense debate; regulatory, legislative, and judicial activity; and international concern. This report provides a chronology of significant events and documents since 1994. It will be updated as events warrant.

The Marine Mammal Protection Act (MMPA) of 1972 (16 U.S.C. §§1361, et. seq.) established a moratorium<sup>1</sup> on the “taking” of marine mammals in U.S. waters and by U.S. nationals on the high seas.<sup>2</sup> The MMPA protects marine mammals from “clubbing, mutilation, poisoning, capture in nets, and other human actions that lead to extinction.” The MMPA allows U.S. citizens to apply for and obtain authorization for taking small numbers of mammals incidental to activities other than commercial fishing (e.g., offshore oil and gas exploration and development), if the taking would have a negligible impact on any marine mammal species or stock, and the monitoring requirements and other conditions are met.

Various parties have sought to regulate the use of military sonar under these MMPA provisions due to concerns that high-intensity sound from active military sonar<sup>3</sup> operates

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<sup>1</sup> Although the MMPA (16 U.S.C. §1371) refers to this action as a “moratorium,” some consider this action a ban or prohibition because it was (and is) permanent.

<sup>2</sup> Under the MMPA, in 16 U.S.C. §1362(13), take means “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill.”

<sup>3</sup> Active sonar creates a pulse of sound, often called a “ping”, after which operators of such a system listen for reflections or echoes of the transmitted pulses. Passive sonar involves listening without transmitting a pulse of sound.

at low frequencies used by cetaceans (e.g., whales, dolphins, and porpoises)<sup>4</sup> and may travel long distances in the ocean. When transmission power is high in intensity, there is concern that these low-frequency transmissions may damage hearing in cetaceans or cause them to modify their behavior in ways that are detrimental.

This short report provides a chronology of recent concerns and events related to active sonar and marine mammals. Prior to the late 1990s, concerns focused primarily on the use of underwater sound as a research tool.<sup>5</sup> This report summarizes more recent events as concern shifted increasingly to focus on military sonar. Additional information and background can be obtained from the Navy's website at [<http://www.surtass-lfa-eis.com/>], and from the National Oceanic and Atmospheric Administration's (NOAA) "Ocean Acoustics Program" website at [<http://www.nmfs.noaa.gov/pr/acoustics/>].

- 03/00/1994 – The National Research Council published *Low Frequency Sound and Marine Mammals: Current Knowledge and Research Needs*.<sup>6</sup>
- 07/23/1999 – The U.S. Navy released for public comment a draft environmental impact statement on the world-wide deployment of its Surveillance Towed Array Sensor System (SURTASS) low frequency active (LFA) sonar system.
- 08/12/1999 – The U.S. Navy submitted an application for a Letter of Authorization from NOAA to harass marine mammals incidental to operating SURTASS LFA sonar.<sup>7</sup>
- 00/00/2000 – The National Research Council published *Marine Mammals and Low Frequency Sound: Progress Since 1994*.<sup>8</sup>
- 03/00/2000 – Mass stranding of multiple whale species in the Bahamas and simultaneous disappearance of the region's population of beaked whales occurred during and following the time when the U.S. Navy used its mid-frequency active sonar system.
- 04/06/2000 – The U.S. Navy submitted a revised application for a Letter of Authorization from NOAA to incidentally harass marine mammals incidental to operating SURTASS LFA sonar.<sup>9</sup>

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<sup>4</sup> For example, baleen whales produce underwater sounds at frequencies ranging from 12 Hz up to 8 KHz, although predominantly below 1 KHz.

<sup>5</sup> For background on early research concerns, see archived CRS Report 95-603 ENR, *Acoustic Thermometry of Ocean Climate: Marine Mammal Issues*, available from the author.

<sup>6</sup> [<http://www.nap.edu/books/0309050251/html/>].

<sup>7</sup> [<http://www.surtass-lfa-eis.com/docs/Request%20for%20LOA%2012%20Aug%201999.pdf>].

<sup>8</sup> [<http://books.nap.edu/books/030906886X/html/index.html/>].

<sup>9</sup> [<http://www.surtass-lfa-eis.com/docs/Request%20for%20LOA%206%20Apr%202000.pdf>].

- 01/00/2001 – The U.S. Navy released its final environmental impact statement.<sup>10</sup>
- 10/11/2001 – The House Resources Subcommittee on Fisheries Conservation, Wildlife, and Oceans held a hearing on the MMPA, including a panel on SURTASS LFA.<sup>11</sup>
- 12/00/2001 – The National Marine Fisheries Service (NMFS) and the U.S. Navy completed a *Joint Interim Report — Bahamas Marine Mammal Stranding Event of 15-16 March 2000*.<sup>12</sup>
- 06/10/2002 – The General Accounting Office (GAO) issued a report entitled *Testing Needed to Prove SURTASS/LFA Effectiveness in Littoral Waters*.<sup>13</sup>
- 07/16/2002 – NOAA published a final rule authorizing the U.S. Navy to harass marine mammals incidental to operating SURTASS LFA sonar.<sup>14</sup>
- 07/23/2002 – The U.S. Navy published its record of decision on the world-wide deployment of its SURTASS LFA sonar system.<sup>15</sup>
- 08/07/2002 – Five environmental groups and a concerned individual filed a lawsuit in federal district court in San Francisco seeking to halt Navy deployment of SURTASS LFA sonar (*Natural Resources Defense Council v. Evans*).
- 10/31/2002 – U.S. Magistrate Judge Elizabeth LaPorte granted a preliminary injunction halting Navy deployment of SURTASS LFA after finding NOAA Fisheries issued the Navy a permit that likely violated federal law.<sup>16</sup>
- 11/15/2002 – U.S. Magistrate Judge Elizabeth LaPorte approved a temporary agreement between the Navy and environmental groups allowing limited testing of SURTASS LFA while the federal court considered the lawsuit challenging deployment.<sup>17</sup>
- 02/10/2003 – The National Research Council published *Ocean Noise and Marine Mammals*.<sup>18</sup>

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<sup>10</sup> [<http://www.surtass-lfa-eis.com/docs/FEIS%20Vol%20I.pdf>].

<sup>11</sup> [[http://frwebgate.access.gpo.gov/cgi-bin/useftp.cgi?IPaddress=162.140.64.21&filename=75640.pdf&directory=/diskc/wais/data/107\\_house\\_hearings](http://frwebgate.access.gpo.gov/cgi-bin/useftp.cgi?IPaddress=162.140.64.21&filename=75640.pdf&directory=/diskc/wais/data/107_house_hearings)].

<sup>12</sup> [[http://www.nmfs.noaa.gov/prot\\_res/overview/Interim\\_Bahamas\\_Report.pdf](http://www.nmfs.noaa.gov/prot_res/overview/Interim_Bahamas_Report.pdf)].

<sup>13</sup> [<http://www.gao.gov/new.items/d02692.pdf>].

<sup>14</sup> 67 *Fed. Reg.* 46712-46789.

<sup>15</sup> 67 *Fed. Reg.* 48145-48154; [<http://www.surtass-lfa-eis.com/docs/LFA%20EIS%20ROD.pdf>].

<sup>16</sup> NRDC press release at [<http://www.nrdc.org/media/pressreleases/021031.asp>], visited May 6, 2005. *Natural Resources Defense Council v. Evans*, N.D. Cal., No. C-02-3805, 232 F. Supp. 2d 1003 at [<http://www.animallaw.info/cases/caus232fsupp2d1003.htm>].

<sup>17</sup> [<http://www.ens-newswire.com/ens/nov2002/2002-11-18-06.asp>].

<sup>18</sup> [<http://www4.nationalacademies.org/news.nsf/isbn/0309085365?OpenDocument>].

- 08/26/2003 – U.S. Magistrate Judge Elizabeth LaPorte issued a permanent injunction to restrict the Navy’s use of SURTASS LFA.<sup>19</sup>
- 10/13/2003 – Conservation and animal welfare groups announced a settlement agreement with the U.S. Navy.<sup>20</sup>
- 11/24/2003 – President Bush signed P.L. 108-136, the National Defense Authorization Act for FY2004; §319 amended the MMPA to exempt military readiness activities from “specified geographical region” and “small numbers” requirements.
- 12/11/2003 – The Marine Mammal Commission, an independent federal agency, announced establishment of an Advisory Committee on Acoustic Impacts on Marine Mammals.<sup>21</sup>
- 01/29/2004 – U.S. District Judge Samuel Conti denied a permanent injunction to block testing of SURTASS LFA off the California coast.<sup>22</sup>
- 02/09/2004 – NOAA Fisheries announced release of preliminary report investigating the acoustic exposure of stranded porpoises in Haro Strait, WA, finding no conclusive link between Navy sonar testing and porpoise deaths.<sup>23</sup>
- 02/09/2004 – The U.S. Navy released its report on the *U.S.S. Shoup*/Haro Strait porpoise incident.<sup>24</sup>
- 06/03/2004 – U.S. Navy submitted an annual report to NOAA on SURTASS LFA sonar operations.
- 06/16/2004 – NOAA received an application from the U.S. Navy for two Letters of Authorization for taking marine mammals by harassment incidental to deploying the SURTASS LFA sonar system.<sup>25</sup>
- 06/29/2004 – NOAA published a proposed rule to amend its July 16, 2002 final rule and regulations to implement the provisions of P.L. 108-136.<sup>26</sup>

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<sup>19</sup> *Natural Resources Defense Council v. Evans*, N.D. Cal., No. C-02-3805, 279 F. Supp. 2d 1129.

<sup>20</sup> [<http://www.nrdc.org/media/pressreleases/031013.asp>].

<sup>21</sup> 68 *Fed. Reg.* 69089-69090.

<sup>22</sup> [<http://www.whalesafety.net/OPINION.pdf>]. *Australians for Animals v. Evans*, N.D. Cal., No. C-04-0086, 310 F. Supp. 2d 1114.

<sup>23</sup> [<http://www.nwr.noaa.gov/mmammals/cetaceans/necropsypage.htm>].

<sup>24</sup> [[http://www.cpf.navy.mil/archive/first\\_release.htm](http://www.cpf.navy.mil/archive/first_release.htm)].

<sup>25</sup> [[http://www.nmfs.noaa.gov/prot\\_res/readingrm/MMSURTASS/NavyLFALOA\\_32004Application.pdf](http://www.nmfs.noaa.gov/prot_res/readingrm/MMSURTASS/NavyLFALOA_32004Application.pdf)].

<sup>26</sup> 69 *Fed. Reg.* 38873-38876.

- 08/24/2004 – NOAA published a notice that two one-year Letters of Authorization have been issued to the U.S. Navy to take marine mammals by harassment incidental to operation of the SURTASS LFA sonar system.<sup>27</sup>
- 10/20/2004 – The 9<sup>th</sup> Circuit Court of Appeals affirmed that marine mammals do not have standing to sue the government over the Navy’s testing of SURTASS LFA.<sup>28</sup>
- 10/28/2004 – The European Union’s (EU) Parliament passed, 441-15, a non-binding resolution urging EU member states “... to adopt a moratorium on the deployment of ... LFAS [low frequency active sonar] until a global assessment of its cumulative environmental impacts on whales, dolphins, fish and other marine life is completed.”<sup>29</sup>
- 11/00/2004 – At the second meeting of the parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area (ACCOBAMS; Nov. 9-12, 2004, in Palma, Majorca), the 16 member nations adopted Resolution 2.16 addressing man-made ocean noise, including naval sonar, and guidelines for its use.<sup>30</sup>
- 11/00/2004 – The 3<sup>rd</sup> IUCN-World Conservation Union Congress (Bangkok, Nov. 17-25, 2004) passed a resolution encouraging governments to reduce undersea noise, restrict military active sonar training to low-risk areas and develop “... international standards that regulate its use.”<sup>31</sup> The United States abstained from voting on this resolution.
- 11/11/2004 – The National Research Council published *Marine Mammal Populations and Ocean Noise: Determining When Noise Causes Biologically Significant Effects*.<sup>32</sup>
- 02/10/2005 – A coalition of international conservation organizations petitioned NATO to modify active sonar naval exercise protocols to lessen potential harm to whales and other marine mammals.<sup>33</sup>

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<sup>27</sup> 69 *Fed. Reg.* 51996-51998.

<sup>28</sup> *Cetacean Community v. Bush*, U.S. District Court of Appeals for the Ninth Circuit, No. 03-15866, 386 F.3d 1169.

<sup>29</sup> [[http://www.europarl.eu.int/meetdocs/2004\\_2009/documents/RE/540/540103/540103en.pdf](http://www.europarl.eu.int/meetdocs/2004_2009/documents/RE/540/540103/540103en.pdf)].

<sup>30</sup> [<http://www.accobams.mc/Accob/Wacco.nsf/Fram5Gb!OpenFrameSet>].

<sup>31</sup> [[http://www.iucn.org/congress/members/adopted\\_res\\_and\\_rec/RES/RESWCC3068%20-%20RES053.pdf](http://www.iucn.org/congress/members/adopted_res_and_rec/RES/RESWCC3068%20-%20RES053.pdf)].

<sup>32</sup> [<http://books.nap.edu/catalog/11147.html>].

<sup>33</sup> [<http://www.nrdc.org/media/pressreleases/050210b.asp>] and [<http://www.nrdc.org/media/docs/050210a.pdf>].

Lastly, Marine Mammals Research Association could never be successful without the immense supports of "Turkish Marine Research Foundation", "Rufford Conservation Grant" and "Vanishing Point". Nonetheless the key success was laid in the endless effort of volunteers and interns and we were so lucky to have the best of them.Â skype: aylin.akkaya3 info@dmad.org.tr www.dmad.org.tr.

Summary. Despite of the direct and indirect environmental obligations of the coastal countries regarding the marine-life protection, the marine mammal fauna of the Levantine Sea still stays largely unknown. Non-military active sonars, such as the Integrated Marine Mammal Monitoring Protection System (IMAPS) active tracking system and high-frequency bathymetric mapping sonars, are not the primary focus of this report. 5 Frequency is expressed as the number of cycles or completed alternations per unit time of a sound wave, most often measured in Hertz (Hz).Â This report summarizes administrative, legal, and political events related to active sonar and marine mammals. Tracking marine mammals around marine renewable energy devices using active sonar. Gordon hastie. URN: 12D/328: 31 july 2013.Â Here we describe a program to develop a sonar system that would provide a behavioural monitoring tool for marine mammals around marine energy devices for monitoring around tidal energy turbines that is accurate, user-friendly, and data efficient. PROJECT SCOPE. The 4-phase program involved collaborations between marine mammal specialists, marine renewable developers, and sonar engineers to develop a user-friendly sonar system for the marine renewable industry.

Some of the marine mammal detection modalities used for the detection of animals within a zone of negative influence are visual, passive sonar, active sonar, and x-band sonar. Circumstantial evidence suggests that the use of high-power acoustic sources may have a negative impact on the well being of marine mammals. Do you want to read the rest of this article? [Request full-text](#). Citations (3). References (0). The effect may in these cases be more acute: lethal or deafening effects.