Lethal Sounds
The use of military sonar poses a deadly threat to whales and other marine mammals

Whales and other marine mammals rely on their hearing for life’s most basic functions, such as orientation and communication. Sound is how they find food, find friends, find a mate, and find their way through the world every day.

So when a sound thousands of times more powerful than a jet engine fills their ears, the results can be devastating -- and even deadly.

This is the reality that whales and other marine mammals face because of human-caused noise in the ocean, whether it’s the sound of airguns used in oil exploration or subs and ships emitting sonar. Manmade sound waves can drown out the noises that marine mammals rely on for their very survival, causing serious injury and even death.

How Sonar Harms Whales
If you’ve ever seen a submarine movie, you probably came away with a basic understanding of how sonar works. Active sonar systems produce intense sound waves that sweep the ocean like a floodlight, revealing objects in their path.

Some systems operate at more than 235 decibels, producing sound waves that can travel across tens or even hundreds of miles of ocean. During testing off the California coast, noise from the Navy’s main low-frequency sonar system was detected across the breadth of the northern Pacific Ocean.

By the Navy’s own estimates, even 300 miles from the source, these sonic waves can retain an intensity of 140 decibels -- a hundred times more intense than the level known to alter the behavior of large whales.

There is no question that sonar injures and kills whales and dolphins.

– Joel Reynolds, NRDC senior attorney

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Watch this 1-minute preview, or click for the full movie (about 5 minutes) narrated by Pierce Brosnan.

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responsibility, the government's investigation established that mid-frequency sonar caused the strandings.

After the incident, the area's population of Cuvier's beaked whales nearly disappeared, leading researchers to conclude that they either abandoned their habitat or died at sea. Similar mass strandings have occurred in the Canary Islands, Greece, Madeira, the U.S. Virgin Islands, Hawaii and other sites around the globe.

A NATO naval exercises near shore.

October 1999 Four beaked whales strand in the U.S. Virgin Islands during Navy maneuvers offshore.

October 1997 At least nine

Deadly Impacts of Sonar

Many of these beached whales have suffered physical trauma, including bleeding around the brain, ears and other tissues and large bubbles in their organs.

These symptoms are akin to a severe case of "the bends" — the illness that can kill scuba divers who surface quickly from deep water. Scientists believe that the mid-frequency sonar blasts may drive certain whales to change their dive patterns in ways their bodies cannot handle, causing debilitating and even fatal injuries.

Stranded whales are only the most visible symptom of a problem affecting much larger numbers of marine life. Naval sonar has been shown to disrupt feeding and other vital behavior and to cause a wide range of species to panic and flee. Scientists are concerned about the cumulative effect of all of these impacts on marine animals.

Even the Navy estimates that increased sonar training will significantly harm marine mammals more than 10 million times during the next five years off the U.S. coast alone.

NRDC has been a leader in the battle to regulate sonar use and protect whales and other species from its harmful effects. In 2008, a case filed by NRDC against the U.S. Navy was heard by the U.S. Supreme Court.

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Cuvier's beaked whales strand in the Ionian Sea, with military activity reported in the area.

May 1996 Twelve Cuvier's beaked whales strand on the west coast of Greece as NATO ships sweep the area with low- and mid-frequency active sonar.

October 1989 At least 20 whales of three species strand during naval exercises near the Canary Islands.

December 1991 Two Cuvier's beaked whales strand during naval exercises near the Canary Islands.

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