



U.S. FLEET FORCES COMMAND



NAVY SONAR

Sonar is essential technology to find enemy ships and mines

- ◆ *Passive sonar* uses underwater microphones to “listen” for sounds
- ◆ *Active sonar* sends a pulse of energy (“ping”) that reflects off of objects



The ocean is a very noisy place, full of sounds from natural sources like marine animals, breaking waves, rain, lightning, and earthquakes, to man-made sources like ships and seismic exploration. This makes listening for enemy submarines extremely difficult.

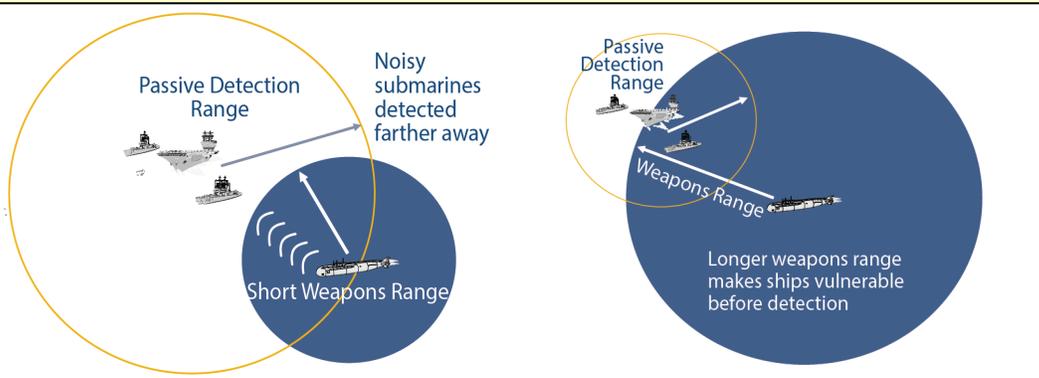
It takes specialized training and lots of practice to be able to find ultra quiet submarines in this noisy environment. Modern submarines are designed to be extremely quiet, with weapons that can fire from long distances.

The Navy needs to conduct realistic training using sonar and explosives

We must be ready to operate when deployed. This training meets the needs established by the President of the United States, the Secretary of Defense, and military Combatant Commanders.

Sonar: Then and Now

Sonar is used to locate enemy submarines, underwater mines and determine water depth. With advances in warfare technology, some of today’s submarines are extremely quiet and hard to detect. They operate on batteries and air-independent propulsion systems, are relatively inexpensive, and are used by many nations around the world. They pose a challenge for the Navy to locate, identify and track them.



Then—1970s

Submarines of previous generations were noisy and could be detected with passive sonar before they came close enough to deploy short-range weapons.

Now

Modern, quiet submarines can approach close enough to deploy long-range weapons before entering the passive sonar detection range of U.S. vessels. Active sonar’s longer detection range is needed to detect a submarine before it is close enough to attack.

NAVY SONAR

The Navy takes positive steps to protect marine life while using active sonar

Protective measures are used that reduce the potential for impacts to the ocean environment

These protective measures are supported by scientific analysis and approved by regulators



Posting trained personnel on ships who look for marine mammals



Surveying the area to ensure no animals are present before training starts



Reducing power or shutting down sonar when marine mammals are sighted within buffer zones

There is a common misconception that exposure to Navy sonar equates to injury to marine life

While animals may react to or move away from the sound made by active sonar, research shows that they are likely to return quickly to the area and resume their normal activities once the active sonar source is gone.

This is also supported by history; the Navy has trained with active sonar for over 60 years with negligible effects to the marine environment.



The Navy monitors its active sonar use, and holds itself accountable for compliance with federal regulations and Navy policy.

The Navy also continues to invest in shipboard technologies and procedures that improve environmental compliance and protect marine life, while ensuring that it can execute the missions the nation requires it to perform.

For more information visit www.greenfleet.dodlive.mil