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## U.S. Navy Marine Mammal Program (NMMP)

*www.public.navy.mil*

Everyone is familiar with security patrol dogs. You may even know that because of their exceptionally keen sense of smell, dogs are also used to detect drugs and bombs, or land mines. But a dog would not be effective in finding a sea mine. Sea mines are sophisticated, expensive weapons that are designed to work in the ocean where they can sink ships, destroy landing craft, and kill or injure personnel. Sea mines are made so that they cannot be set off easily by wave action or marine animals growing on or bumping into them. If undetected, sea mines can be deadly, destructive weapons.

But just as the dog's keen sense of smell makes it ideal for detecting land mines, the U.S. Navy has found that the biological sonar of dolphins, called echolocation, makes them uniquely effective at locating sea mines so they can be avoided or removed. Other marine mammals like the California sea lion also have demonstrated the ability to mark and retrieve objects for the Navy in the ocean. In fact, marine mammals are so important to the Navy that there is an entire program dedicated to studying, training, and deploying them.

In the Fleet's operational Marine Mammal Systems (MMS), the Navy uses dolphins and sea lions to find and mark the location of underwater objects. Dolphins, capable of repetitive deep diving, are essential because their exceptional biological sonar is unmatched by hardware sonars in detecting objects in the water column and on the sea floor.

### Mine Hunting Systems

Enemy sea mines have been responsible for 14 of the 19 Navy ships destroyed or damaged since 1950. That is why the Navy created dolphin mine hunting systems. In the operation of these systems, a dolphin waits to receive a cue from its handler before it begins to search a specific area using its biological sonar called echolocation. When a dolphin echolocates, it emits a series of clicks that bounce off an object and return to the dolphin, allowing a dolphin to construct a mental image of the object. The dolphin reports back to its handler, giving one response if a target object is detected and a different response if no target object is detected. If a mine-like target is detected, the handler sends the dolphin to mark the location of the object so it can be avoided by Navy vessels or dealt with by Navy divers.

## Frequently Asked Questions

### **Is the Navy exempt from following regulations for the keeping of marine mammals?**

No. The Navy is subject to all federal laws regarding the protection and humane treatment of marine mammals. These include the Marine Mammal Protection Act (MMPA) and the Animal Welfare Act (AWA). The AWA is administered by the Department of Agriculture and ensures the humane care and treatment of marine mammals in aquariums, zoos, and research facilities. The Navy is responsible for meeting all requirements of these laws regarding acquisition, care and treatment of its marine mammals, and not only meets but exceeds them and leads the industry in many cases. Congress has provided the Navy with exemptions to a few specific requirements in support of national security, but none related to the care and well-being of the animals.

### **Does the Navy train its dolphins for offensive warfare, including attacks on ships and human swimmers or divers?**

No. The Navy does not now train, nor has it ever trained, its marine mammals to harm or injure humans in any fashion or to carry weapons to destroy ships. A popular movie in 1973 (“The Day of the Dolphin”) and a number of charges and claims by animal rights organizations have resulted in theories and sometimes actual beliefs that Navy dolphins are assigned attack missions. This is absolutely false. Since dolphins cannot discern the difference between enemy and friendly vessels, or enemy and friendly divers and swimmers, it would not be wise to give that kind of decision authority to an animal. The animals are trained to detect, locate, and mark all mines or all swimmers in an area of interest or concern, and are not trained to distinguish between what we would refer to as good or bad. That decision is always left to humans.

### **Who sets the care standards for the animals in the NMMP?**

An instruction from the Secretary of the Navy requires that the Navy’s “marine mammals will be provided the highest quality of humane care and treatment.” The NMMP facilities in San Diego are state-of-the-art, including the food storage and preparation facilities, animal enclosures, and veterinary medical facilities. Regularly scheduled physical exams, balanced diets, an extensive database of health records, monthly briefs to all personnel on animal care topics, and a high level of professionalism mixed with genuine compassion all contribute to the health and welfare of the animals.

### **How are animals moved to and from remote deployment sites?**

Over short distances, animals are trained to either swim alongside a small boat or to ride in the boat itself. For long distance trips, animals can be transported by sea in large naval vessels or by air in planes or helicopters. For these trips, dolphins are placed in fleece-lined stretchers that are suspended in fiberglass containers filled with enough water to comfortably support the weight of the animal. On these long transports, a veterinarian oversees the comfort and health care of all the animals while each animal is constantly monitored by an experienced trainer or handler. Upon arrival at their destinations, animals are housed in temporary facilities that are much like those in San Diego. In addition, a portable veterinary clinic accompanies the animals to provide veterinarians with everything they need to care for the health of the animals.

# Mammals in the Military: Navy Dolphins and Sea Lions

CANDICE GAUKEL ANDREWS SEPTEMBER 27, 2012 12



*In the future, will more animals be enlisted in navies around the world? ©Candice Gaukel Andrews*

A squad of about eighty bottle-nosed dolphins is presently serving in the U.S. Navy. Some of these dolphins have been trained to find mines and mark their location by dropping an acoustic transponder. Human divers are then sent in to destroy the explosives.

Under the **U.S. Navy Marine Mammal Program**, established more than forty years ago and based in San Diego, California, dolphins and sea lions are trained to assist in military missions. The only other country to have had a similar, long-standing project has been Russia, which closed its marine mammal program in the early 1990s. In March 2000, however, the Russian Navy transferred their military dolphins to Iran, and the chief trainer has been carrying on his research there.

The U.S. Navy states that it has never trained “its marine mammals to harm or injure humans in any fashion or to carry weapons to destroy ships.” But with other countries now acquiring and training sea mammals, could the employment of animals in offensive battle roles be just around the corner?

## **Enlisting dolphins**



*Sea lions in the U.S. Navy use their superior underwater vision to detect enemy swimmers. ©Steve Morello*

In 1960, the United States Navy implemented a program using dolphins and sea lions to help with defense and the design of new submarines and underwater weapons. Because of their highly evolved biosonar, bottlenose dolphins were enlisted to help find underwater mines, and sea lions were taught to use their impeccable underwater vision to detect enemy swimmers.

Dolphins were used in the First and Second Gulf Wars as minesweepers. A dolphin not only can distinguish between a nickel and a dime at a hundred yards — and among brass, aluminum, and stainless steel, even when the metal is buried under two feet of mud — it can differentiate between natural and man-made objects.

A dolphin's biosonar works by the animal's generation of high-frequency clicking sounds, which pass through an area in its rounded forehead (known as the *melon*), a fat-rich organ that serves as an acoustical lens and focuses the sound like a beam. Sound bouncing off objects travels through the cavities of a dolphin's lower jaw to the inner ear, which transmits the information to the brain by way of the auditory nerve.

The military dolphins' skills have saved the lives of countless U.S. Navy personnel. In March 2003, nine dolphins called Special Clearance Team One became the first marine mammals to take part in mine-clearing operations in an active combat situation. Together with Navy SEALs, Marine Corps reconnaissance swimmers, explosive ordnance disposal divers, and unmanned undersea vehicles, they helped disarm more than one hundred antiship mines and underwater booby traps planted in Umm Qasr's port by Saddam Hussein's forces.

### **Calling for a code**

The navy believes that the risk dolphins take in their military operations is virtually zero because the animals are trained to stay a safe distance away from any mines they find. And sea mines are designed to explode only when a large metallic surface, such as the hull of a ship, passes nearby. The navy also

points out that it hasn't captured wild dolphins since 1999, when it began a captive dolphin-breeding program.



*The U.S. Navy trains its dolphins to stay a safe distance away from any mines they find. Will other nations do the same?*

©Candice Gaukel Andrews

Still, the practice of using dolphins as mine sweepers has its critics. The Connecticut-based **Cetacean Society International** condemns the use of marine mammals in a combat zone. It has issued a statement that it is “evil, unethical, and immoral to use innocents in war because they cannot understand the purpose or the danger, their resistance is weak, and it is not their conflict.”

While the U.S. says it has not and does not use its marine mammals to carry weapons, will other countries establishing military marine mammal programs follow the same rule? ***Is an international code of ethics regarding the use of animals in armed forces in order?***



**How does the Navy currently use marine mammals?**

## **Dolphin Spies** Photo:Beverly & Pack/Flickr

Dolphins have been serving in the U.S. Navy for more than 40 years as part of the Navy's Marine Mammal Program, and they were used during the Vietnam War and Operation Iraqi Freedom. These highly intelligent animals are trained to detect, locate and mark mines — not to mention suspicious swimmers and divers.

For example, in 2009 a group of bottlenose dolphins began patrolling the area around Naval Base Kitsap-Bangor in Washington. The marine mammals are on the lookout 24 hours a day, seven days a week for swimmers or divers in the base's restricted waters.

What happens if a dolphin finds an intruder? The dolphin touches a sensor on a boat to alert its handler, and the handler then places a strobe light or noisemaker on the dolphin's nose. The dolphin is trained to swim to the intruder, bump him or her from behind to knock the device off its nose and swim away while military personnel take over.



Photo:Petty Officer First Class Brien Aho/AP

## **Leg-cuffing sea lions**

Trained sea lions, part of the U.S. Navy's Marine Mammal Program, locate and tag mines just like dolphins, but that's not all these "Navy Seals" do — they also cuff underwater intruders. The sea lions carry a spring clamp in their mouths that can be attached to a swimmer or diver by simply pressing it against the person's leg. In fact, the sea lions are so fast that the clamp is on before the swimmer is even aware of it. Once a person is clamped, sailors aboard ships can pull the swimmer out of the water by the rope attached to the clamp.

These specially trained sea lions, part of the Navy's Shallow Water Intruder Detection System, patrol Navy bases and were even deployed to protect ships from terrorists in the Persian Gulf.

Read more: <http://www.mnn.com/earth-matters/animals/photos/10-ways-animals-have-served-the-military/leg-cuffing-sea-lions#ixzz3aRfZr0Zh>

## Navy's Dolphin Use Raises Questions

Anne Leigh, WrapUp Media

Military dolphins trained in mine detection made their first appearance in 1960. Charmed by this cetacean's abilities, which far exceeded human divers and other underwater apparatus, President John F. Kennedy expanded the program. Since then, dolphins have guarded ammunition piers during the Vietnam War as well as naval vessels off the coast of Bahrain in the Middle East. While former Navy SEAL Brandon Webb claims that dolphins have been trained to track enemies and kill them via gas needle injection, this rumor has never been substantiated. According to a Los Angeles Times article published in March of 2015, the Navy trains ninety dolphins in a program run by the Space and Naval Warfare System Pacific, located on San Diego Bay.

Currently, "war" dolphins are mostly used for mine detection in the Persian Gulf. Their keen echolocation, a sensory system that enables dolphins to transmit sound waves and "read" the returning echoes, allows them to distinguish natural and manmade objects underwater. It is this ability, along with their intelligence, that makes them so well suited for mine detection. When a dolphin locates a mine, it returns for an acoustic transponder, which it deposits near the mine so that divers can find and remove it. Navy handlers assure the public that the dolphins' risks are minimal since they are trained to avoid getting too close to a detected mine. Also, modern-day sea mines are designed to detonate only when a large metallic surface—the hull of a ship—passes by.

Despite these assurances, animal rights activists question the U.S. Navy's use of marine animals in any wartime capacity. Stephanie Boyles, a wildlife biologist for PETA (People for the Ethical Treatment of Animals), argues that war is man's creation, no animal can volunteer to serve, and any animal "serving" cannot be fully aware of its endangerment. From the dolphin's perspective, it is playing a game, not risking its life detecting lethal weapons.

**The high intelligence and "sociability" of dolphins lends them to training and deployment, yet it is this same intelligence that raises ethical concern.**



The high intelligence and "sociability" of dolphins lends them to training and deployment, yet it is this same intelligence that raises ethical concern. Dolphin scientist Thomas White points out that dolphins' acoustic skills enable them to maintain elaborate social and communicative structures; these strong emotional and empathic ties create personal identities. Dolphins are cognitively sophisticated; each has a signature whistle, its "name." Research by University of Chicago professor Dr. Jason Bruck shows that dolphins recognize the whistles of those they once knew for their entire lives.

Marine biologist Jeff Schweitzer believes humans choose to define and measure intelligence based on our greatest strengths and diminish the intelligence of other species in the process. In the case of dolphins, if self-generated sonar used to explore and communicate were included in a definition of intelligence, humans would not be considered particularly smart! Mark Xitco, supervisor of the navy program's scientific and veterinary support branch says, "They [dolphins] are large, smart, socially complex mammals with a mind of their own. We can't force them to do anything they don't want to do." Might this positive judgment be inaccurate due to a limited, human point of view?

Aside from being blown to bits by a sensitive mine, a military "career" jeopardizes dolphins in other ways. It disrupts their natural community, disconnecting tight social arrangements that result in lifetime bonds. For highly intelligent, creative, and social creatures, forced "enlistment" removes their sense of control. That loss of control includes a predictable environment. Though military dolphins are trained in San Diego, they can be deployed anywhere in the world. Deployed dolphins can face a long, disorienting trip. Arriving at their destination means being released into unfamiliar habitats that could possibly expose them to inclement weather, unsuitable temperatures, or life-threatening illnesses for which they have not built an immunity.

Finally, the use of military dolphins endangers the entire dolphin species, not just the warriors. In wartime, an enemy would be unable to tell which ones are "just dolphins" versus ones who pose a threat. The easiest way to solve the problem: mass slaughter.

The U.S. Navy Marine Mammal Program assures that it only deploys dolphins from their captive breeding program, and wild dolphins have not been used since 1999. The navy has also been promising to phase out this program as soon as equally sophisticated antimine robotics become feasible. However, in 2002 NBC reported that the Pentagon plans to back the program through 2020. While little is discussed openly about the U.S. military's use of dolphins, it seems the Pentagon has no intention of retiring its conscripts any time soon.

# Animals in Military Service

**From [all-creatures.org](http://all-creatures.org)**

**Moo-ving people toward compassionate living**

From [The National Humane Education Society](http://The National Humane Education Society)

[Ed. Note: [Ask Congress to End the Military's War on Animals, Support H.R. 4269, the BEST Practices Act](#) - Action Alert 10/7/10.]

## **Animals in Military Service**

Animals have been used in military service to their country for centuries. Some have served in active combat, including elephants, camels, pigeons, and horses. Others, including pigs, oxen, dogs, mules, horses, and camels, have been used to transport troops and supplies. Not one of these animals enlisted.

Animals have also been used in military research laboratories to test conventional, biological, chemical, and nuclear weapons. They have been subjected to injuries and numerous surgeries to determine the effects of weapon damage on a living body.

War weaponry exists for one reason and one reason only—so that one human can kill another. In the process of developing these weapons and learning how to treat those who are injured by them, we have enlisted a wide variety of animals in the deadly pursuit of a better bullet.

## **Animals as Test Subjects for War Weapons**

Millions of taxpayer dollars are used to fund animal experiments aimed at developing the newest weapons, combating bioterrorism, and studying infectious disease control. Animals of choice are guinea pigs, rabbits, mice, dogs, rats, sheep, pigs, boars, and monkeys. Pigs are particularly popular choices, especially for surgical experimentation.

In the United States, there are dozens of Department of Defense (DoD) laboratories and laboratories contracted by DoD worldwide conducting animal experiments. In DoD facilities alone, 350,000 primates, birds, ferrets, dogs, pigs, goats, sheep, rabbits, cats, mice, marine mammals, and other animals are subjected to an array of lethal experiments. The number of animals subjected to tests in contract facilities is not known.

Animals are used in a wide variety of tests. They are subjected to irradiation, burnings, and bombings. They are used to test chemicals both internally and on their skin. They are subjected to a wide variety of blasts, including nuclear blasts, to see what types of injuries occur; are dosed with irritants and bacterial toxins to see how long it takes them to become ill or die; and are studied for physiological shock due to a variety of concussive wounds. They are subjected to

various toxic gases, including nerve and riot gas, and to lasers and high power microwaves. They are used in decompression research. They are strapped into chairs to simulate flight and what happens to them under certain flight situations. Some of the tests are to determine how much blood loss can occur before an animal dies.

Thousands of animals are infected with the Ebola, dengue fever, tick-borne encephalitis, and anthrax, to mention a few. Victims of some of these viruses used in biological warfare hemorrhage internally, become paralyzed, psychotic, and go into terminal shock. Their organs, including their eyeballs, bleed; they vomit.

Some of the animals are anesthetized for these tests, and then when conscious are used again. Many animals are not anesthetized during their experiments. Most are killed either during the experiment or are euthanized later. The majority of animals used in these laboratories are purpose-bred for specific types of testing.

## **Substitutes for Animals in Research**

There is much duplication of tests, tests that don't extrapolate to human beings and are, therefore, unreliable. For instance, an antidote for a nerve gas might prove effective in rats and mice yet fail when tested on guinea pigs and monkeys. Therefore, test results using nonhuman animals are suspect. Tests done on human tissue and organs are far more likely to provide the results scientists need to protect the human animal from some of these deadly weapons of war.

There are additional nonanimal research and training methods, including the Combat Trauma Patient Simulation system, TraumaMan system, SimMan, and the "living" cadaver model. Advances in medical research now show that animal testing in general is unnecessary and has, in some cases, proved misleading when extrapolating data to human beings. Such advances include, in addition to human tissue and organ use, computer-based models and human volunteer studies.

## **Animals in Combat**

During World War II, dogs had explosives strapped to their bodies. Pigeons were trained to guide bombs and carry messages. Dogs were used to attack horses causing rider and horse to fall. Dogs were also trained to attack elephants who would stampede often killing other elephants and their riders in the process.

Today, military working dogs serve as sentries, trackers, search and rescue dogs, scouts, and mascots. Dogs also have been used to sniff out land mines and booby traps. In more recent times, dogs have been used to intimidate prisoners of war. Today, animal carcasses are used to camouflage roadside incendiary devices.

Because of their sensory and diving abilities, dolphins and sea lions are used for underwater sentry and security duty, mine clearance, and object recovery. They are the equivalent of bomb-sniffing dogs. Sea lions can also detect enemy divers. Dolphins have sophisticated sonar and can find mines and other debris on the ocean floor. Sea lions have excellent low-light vision and underwater directional hearing capabilities. They can maneuver in tight spaces and can go on

shore. They both can make repeated deepwater dives without suffering the effects of decompression sickness commonly called “the bends” as humans do.

## **Effects of War Weaponry on Sea Mammals**

Testing of weapons in the ocean can cause injury and death to dolphins and whales whose hearing is extremely sensitive. The sounds of underwater blasts can travel for hundreds of miles. Whales have stranded themselves because of these sonar sounds. In addition, some whales and dolphins have been found to suffer from decompression sickness—bleeding around the brain, ears, and other tissues and large bubbles in their organs—possibly from rapidly changing diving patterns to escape the underwater blasts.

## **Take Action to Help Animals in War**

What can you do to change what is happening to animals used in war and war research? First, focus on peaceful living in your own life. If you are at “war” with your boss, family, friends, neighbors, you will be adding to rather than reducing strife and conflict in your world. Other humane actions include:

- Write your congressional representatives urging them to support legislation to reduce the number of animals used in government and government contracted laboratories.
- Urge your governmental leaders to wage peace, not war.
- Urge the Department of Defense to use nonanimal testing procedures and to stop replicating tests on animals.