

Marine Mammals Join the Navy

A highly secret program in which dolphins and sea lions are studied and trained for military duties has garnered unprecedented attention as the program expands and critics charge mistreatment

CONSIDER THE MILITARY MERITS of "a self-propelled marine vehicle, or platform; with a built-in sonar sensor system suitable for detecting and classifying targets; and carrying an on-board computer . . . capable of being programmed for complex performance."

That description, contained in a brochure recently issued by a sonar manufacturer, could apply to any one of a number of complex and sophisticated new weapons coming down the Pentagon pike. But it is not a chunk of hardware. It is a uniquely intelligent form of living "software"—dolphins.

The military potential of dolphins and other marine mammals has intrigued the U.S. Navy for more than a quarter century. In an unusual and highly secret program, the Navy has been studying how the animals move and navigate, and it has trained several of them to perform a variety of tasks.

The program is apparently growing. In

closed door testimony last March before the House Appropriations Subcommittee on Defense, the Chief of Naval Research, Rear Admiral John R. Wilson, Jr., asserted that military dolphins will be utilized in "expanding roles." Intriguingly, Wilson also said that "we are aware of the Soviets' increased efforts in the mammal area." This Soviet research "is focused on the same areas that we are in," Wilson added, "and this increased effort, in our judgment, is basically to catch up to where the U.S. Navy is today."

Little is publicly known about the Navy's program, which, as a House Armed Services Committee aide puts it, is "one of the most sensitive things that you'll run up on." Moreover, in 1986 it was moved even further from public view when Congress amended the defense authorization bill to allow the Navy to collect 25 marine mammals every year for "national defense purposes" outside the guidelines of the Marine Mammal Protection Act. That 1972 law had placed the Navy program under the partial oversight of the Commerce Department's National Marine Fisheries Service and the Marine Mammal Commission.

Nevertheless, the program has recently garnered an unprecedented spate of publicity. One bell ringer was a public notice filed in June by the U.S. Army Corps of Engineers, announcing its plans to construct underwater pens at the Bangor Naval Submarine Base to house 16 dolphins—intended to serve as watch dogs over the Trident nuclear missile submarines based in Washington's Puget Sound. Even more sensational, in early fall, Richard L. Trout, a trainer working for Seaco Inc., the San Diego-based company that trains dolphins and sea lions for the Navy, went public with charges that animals in the program are routinely mistreated by

Salvage duty. Sea lions have been trained to retrieve test hardware from the ocean floor by homing in on acoustic beacons and emplacing a grabbing device. The item is then hauled up.

inexperienced staffers.

A Seaco official declined adamantly to comment upon any aspect of the company's dolphin work. "The only thing I can say," he said, "is that everything must be referred to the public affairs office at the Naval Ocean Systems Center," or NOSC, the San Diego-based Navy office in charge of the dolphin program. "Generally speaking," said NOSC spokesman Thomas J. LaPuzza, "our policy is that we will not do interviews about the marine mammal program."

According to a three-page NOSC "brief history," the program's origins date back to 1960, when the Navy began running studies on a Pacific white-sided dolphin with a view to applying the hydrodynamic lessons learned to the design of torpedoes.

In the years since, the program has expanded exponentially, with the Navy having trained and worked with a total of approximately 240 animals—mostly bottlenosed dolphins and California sea lions, but also a handful of killer, pilot, and beluga whales. Most of the Navy dolphins are captured in Gulf Coast waters.

The current military marine mammal inventory is officially pegged at roughly 115 animals. According to Navy budget documents, almost \$29 million has been spent between fiscal years 1985 and 1989 on research into "advanced marine biological systems," the euphemism for the program.

"A great deal of the research is on their sonar," said Kenneth B. Ross, a Navy spokesman in Washington. "We check to see how they can navigate and locate things underwater where there is no visibility [and] how we can assimilate that into machinery that is used in the Navy."

An unclassified 60-page annotated bibliography of publications generated by the Navy marine mammal program cites a 1976 study typical of this aspect of the program in which "human divers, instrumented with 'bionic' sonar equipment based on the porpoise echolocation system and presented with targets earlier used in porpoise sonar discrimination experiments, made scores as good as or better than the porpoises had."

Dolphin hydrodynamic studies such as those that originally sparked the marine mammal program have also been resumed, according to NOSC, to "determine if the dolphin does indeed possess a highly evolved drag-reducing system."

Besides serving as subjects for applied research, marine mammals are also trained for more mission-oriented tasks. Project Quick Find, for one, in operation since 1975, involves sea lions trained to home in on acoustic beacons attached to reusable items of weapons test hardware lost on the ocean floor. After locating the test ordnance,



the sea lion uses a nose cup to emplace a grabbing device so that it can be hauled to the surface.

Sea lions routinely dive to depths of about 500 feet, but the Navy has also examined, in the now-discontinued Project Deep Ops, using pilot and killer whales to recover lost test torpedoes from depths as great as 1654 feet. The retrieval capabilities of beluga, or white, whales, which can dive to depths of at least 2100 feet, have also been explored.

Quick Find is not considered a highly classified activity; other marine mammal projects most definitely are. In 1971, the Navy dispatched a team of dolphins to Vietnam to guard the U.S. fleet anchored in Cam Ranh Bay against saboteurs. Similarly, six dolphins trained in San Diego were ferried to the Persian Gulf last year and charged with seeking out Iranian mines and underwater guerrillas seeking to attack the Navy's floating command post. And, while the Navy provides no confirmation, the dolphins destined for the Bangor Trident facility are expected to be prototypes for a second Trident base at Kings Bay, Georgia, that will open for business next year.

Precisely what the dolphins have been trained to do should they encounter saboteurs remains wrapped in mystery and controversy. In 1976 testimony before the Senate Select Committee on Intelligence, Michael Greenwood, a veteran of the Navy dolphin project, asserted that dolphins assigned to the "swimmer nullification" program were equipped with carbon dioxide-filled syringes with which to kill intruders.

But, as *Discover* magazine reported in its October issue, no evidence or subsequent testimony has since surfaced to bolster Greenwood's claim. There is reason to believe, however, that some "watch dolphins" have been trained not only to sound an alarm, but also to attack intruders by disabling their breathing apparatus or prodding them to the surface.

Certainly, the Navy contests Greenwood's story. "They are not trained to kill, not trained for anything near the activity that he alleges," Ross said. "The closest thing to that would be surveillance and detection. We don't train them to do anything that would cause them bodily harm or injury. It costs a lot of money to train them and keep them healthy and happy and we don't want to do anything to jeopardize that expense."

Richard Trout, in turn, contests the claim that the Navy's marine mammals are healthy and happy. A 15-year veteran of various dolphin training programs, Trout has worked for Navy contractor Seaco since 1985. Having recently broken with the company, Trout now recites a litany of animal abuse.

"Dolphins have been hit if they don't come up to the stretcher when they should; hit up side the head with fists and boots," Trout said. He also alleges that food deprivation—a practice known as "axing"—is regularly employed. These incidents are not prompted by mean-spiritedness, but arise because inexperienced trainers are injected into the project by high turnover in Seaco's staff, Trout said. The program "has gotten bigger and . . . there's only a few of us who have dealt with all of the different personalities that come at you," Trout said. "You can't cookie-cutter these animals. They will starve on occasions if they feel messed over. I've seen animals go into doldrums if they are handled negatively. I've never seen this before I came to the Navy, but I've seen dolphins come out of the water to bite at people's ankles."

Seaco is not talking to reporters. But the Navy heatedly disputes Trout's allegations. "The U.S. Navy does not mistreat marine mammals," said LaPuzza. "All training of marine mammals is based on positive reinforcement with food reward. Punishment is

An increasingly militant animal rights movement could well pose a serious challenge to the program.

not used."

Some Navy dolphins have suffered worse than alleged blows or descents into the doldrums. Skippy, one of the dolphins dispatched to the Persian Gulf last year, died shortly thereafter of what the Navy termed a bacterial infection. (The autopsy report itself is classified.)

Responding to a widely disseminated early November story in the *Seattle Post-Intelligencer*, the Navy now acknowledges four dolphin deaths since January 1987. One of those was caused by pneumonia and two others were due to bacterial infections. The cause of the fourth mortality is still under investigation. A Navy official said that "it appears to also be an infection," but that death has also been alleged to have been caused by some kind of poison.

"None of them are related to this alleged mistreatment of the animals," LaPuzza said. "Someone recently asked me, 'So, what does this tell you about your program.' And I said, 'What it tells me is that living things die.' " With a 5% dolphin mortality rate, according to LaPuzza, "NOSC has the lowest dolphin mortality rate for captured dolphins and a lower mortality rate than they do in the wild."

A growing chorus of critics in the animal rights movement, however, is challenging the humaneness of the Navy marine mammal program, regardless of the mortality rate. Noting that some marine veterinarians have attributed Skippy's death to the stress of being moved to the very hot waters of the Persian Gulf, Nancy D. Hicks, East Coast director of the 170,000-member Animal Protection Institute, questioned the wisdom of going to the opposite extreme by moving 16 dolphins to Bangor. "The idea of taking bottlenosed dolphins from the Gulf of Mexico and sending them up to Seattle is outrageous," she said. One of the dolphins that recently succumbed to bacterial infection had been flown from Hawaii to the Indian Point naval annex in the Puget Sound only 11 days before its death.

Other activists pose an ethical, rather than medical, critique of the program. "Dolphins and whales are inherently intelligent, and in interaction with humans, generally peaceful animals," according to Ben Deeble, an ocean ecology campaigner for Greenpeace in Seattle. "One must question the ethics of harnessing these animals to carry out the violent activities of humans."

And some have taken direct action. One night last May, someone billing himself only as "Charly Tuna of RainBoWarriors," cut the nets around four of the San Diego dolphin enclosures. The five dolphins released stayed close by, however, and swam back into their enclosures the next morning after trainers came by and repaired the nets.

Even the worst of the abuses charged by Trout, of course, cannot begin to equal the veritable "dolphin holocaust" caused by fishing boats "setting" on dolphins in purse seining for tuna. (Some 6 million dolphins have been killed by the tuna industry since 1959, according to various estimates.) But, as the Navy dolphin program expands and moves into such higher profile missions as patrolling Trident bases, an increasingly militant animal rights movement could well spawn many more Charly Tunas and pose an unprecedented challenge to the program.

Among the reasons that the Navy has striven so mightily to keep its dolphin work under such heavy wraps, it is generally believed, is precisely the fear of exciting public opposition to its efforts, opposition sparked by the great affinity that so many humans feel for these engaging creatures. The Navy's dolphin handlers, therefore, can hardly be thrilled in the wake of last month's negative news stories to read commentaries like the *Los Angeles Times* op/ed decrying "the militarization of our friend Flipper."

■ **DAVID C. MORRISON**

David C. Morrison is national security correspondent for National Journal.