Animals

The Navy's work with marine mammals has been ongoing for many years, beginning in the late 1950s when the Navy began to study the unique attributes of marine mammals such as the hydrodynamics of the dolphin. By understanding how dolphins move in the water, perhaps the Navy could improve torpedo, ship, and submarine designs. Soon the Navy realized that dolphins would be valuable assistants to Navy divers working in the open ocean. They also found that dolphins and sea lions are highly reliable, adaptable and trainable marine animals that could be conditioned to search for, then detect and mark the location of objects in the water.

Training

Ever since the Navy realized the amiability of dolphins and sea lions and their potential for working in the sea with human partners, the Navy Marine Mammal Program has relied on the proven techniques of operant conditioning, emphasizing the use of positive reinforcement (correct responses are rewarded while incorrect responses are ignored) to train its animals.

Health Care

- The primary focus of the health care program is to keep the marine mammals healthy and fit for duty. Cutting-edge marine mammal health care techniques and technologies are actively evaluated and developed. Research to support the health of the animals incorporates fields such as immunology, virology, epidemiology, microbiology, toxicology, and vaccination development. In this regard, the Navy continues its time-honored tradition of being an important National resource for the study of marine mammal nutrition, medicine, physiology, and ecology.

- Preventative medicine

Research

- Animal Health: To ensure the ongoing health and overall longevity of our animals, a major effort is made to explore and improve marine mammal medicine and care. Today veterinary techniques take advantage of animals cooperatively participating in routine medical examinations that involve the drawing of blood and the use of endoscopy and ultrasound scans to monitor the condition of each animal. Research on marine mammal immune systems, the development of DNA-based vaccines, and the assessment of risks that may be posed by various infectious diseases are critical to the health and operability of the animals.

- The Biosonar Program has two main efforts: 1) the development of a biosonar measurement tool (BMT) and 2) the design, fabrication and testing of a prototype dolphin-based sonar (DBS) as a test platform to evaluate various biomimetic signal-processing strategies gleaned from the BMT.

- Hearing: The potential effects of anthropogenic (human-generated) sound on marine mammals have gained the attention of lawmakers, the military, and conservation groups. How much noise is too much?

- Environmental compliance support

- Dolphin breeding program: The objectives of the program are to promote successful calf production and to develop young dolphins so that they are ready for more advanced, follow-on training. Because of the success of this program, no dolphins have been collected from the wild since 1988; all new animals have been born at the facility.

Internship

In the Animal Care and Training Internship Program, students provide support to Navy Marine Mammal Program Staff while getting a dynamic educational experience in the field of marine mammal care and training. The internship program is designed to give undergraduate students hands-on experience with marine mammals. Students are responsible for a number of support tasks with dolphins and sea lions throughout the course of the internship. These responsibilities include diet preparation, sanitation, and equipment and facility maintenance. Interns may also have the opportunity to assist the marine mammal training staff in husbandry and open ocean training.

To do: Veterinary Medical Externship!!!