

Description of Facilities & Equipment

Sea Research Foundation, Inc. d/b/a Mystic Aquarium, a nonprofit 501(c)3 organization is counted among the nation's leading aquariums with more than 300 species and an extensive collection of marine mammals, including New England's only beluga whales. Mystic Aquarium has been a pioneer in offering guests a variety of up close encounters with a wide range of marine animals. The mission of Mystic Aquarium is to inspire people to care for and protect our ocean planet through conservation, education, and research.

As one of America's premier nonprofit marine science research and education institutions, Mystic Aquarium has hosted more than 20 million visitors, provided direct educational programs for over 2 million children and adults, published over 150 scientific reports, and pioneered the care, display and study of thousands of species of marine life. Approximately 750,000 annual visitors explore Mystic Aquarium's 11 acres, home to over 4,000 animals, including fish and invertebrates, reptiles, amphibians and marine mammals.

Mystic Aquarium is firmly committed to engaging students and the community at large to discover and learn about the wonders of our ocean planet. The Aquarium is the largest informal science education provider in Connecticut, reaching over 100,000 students annually. In 2014, Mystic Aquarium was honored by the White House with the Institute for Museum and Library Services National Medal, the nation's highest honor for service to the community. In 2015, Mystic Aquarium launched a 5-year strategic plan entitled, "One Ocean, One Mission." The plan brings together the institution's conservation, education and research initiatives under a newly created Mission Programs area. This highly collaborative and integrated effort reaffirms Mystic Aquarium's commitment to local and global conservation.

In January of 2017, Mystic Aquarium achieved certification by the American Humane Conservation program, the country's first national humane organization and the world's largest certifier of animal welfare and well-being. Mystic Aquarium joins an elite group of fewer than a dozen Humane Certified™ institutions worldwide. The American Humane Conservation program uses comprehensive, evidence-based animal welfare standards developed by an independent Scientific Advisory Committee comprised of world-renowned leaders in the fields of animal science, animal behavior, animal ethics, and conservation. The certification process utilizes rigorous criteria exhaustively verifies the many dimensions of animal wellbeing, with areas of assessment including: excellent health and housing; positive social interactions within groups of animals, as well as between animals and handlers; safe and stimulating environments, enriched with concern for factors such as appropriate lighting, sound levels, air quality, and thermoregulation; and evidence of thorough preparation and protocols established to prevent and manage medical or operational emergencies.

Mystic Aquarium leads the response to stranded marine animals throughout New England as a founding member of the Northeast Regional Stranding Network, providing state-of-the-art animal care, rehabilitation, and research. Conservation, Education and Research are the major pillars of the Aquarium's mission. Its animal collection includes marine mammals, e.g. beluga whales, Steller sea lions, harbor seals, and California sea lions as well as African penguins, fish, and invertebrates, facilitating research investigations under controlled conditions. Mystic

Aquarium is an accredited member of the Association of Zoos & Aquariums and the Alliance of Marine Mammal Parks and Aquariums.

A strategic partnership between Mystic Aquarium's Research Department and the University of Connecticut (UConn) allows the Aquarium's research operation to be housed at UConn, Avery Point (approximately 15 min from the Aquarium). The Aquarium's Research Department benefits from the University's state-of-the-art laboratories, the faculty's scientific expertise, and access to students, library use and other amenities afforded at a University. Approximately 1,200 square feet of laboratory space accommodates Mystic Aquarium's research activities at the University of Connecticut's Avery Point campus and includes separate spaces for sterile tissue culture activities, molecular analyses and proper storage and archival of marine mammal tissues.

Laboratory facilities include an FACSVERSE (BD Biosciences) Flow Cytometer and Computer Station, a Waters High Performance Liquid Chromatography system, two fume hood work stations, two laminar flow hoods, two CO₂ incubators (one self-sterilizing), a refrigerated centrifuge (IEC Centra GP8R), ultra-pure water system (Millipore), cryostat (IEC), electrophoresis apparatus, Northern, Southern, Western blotting capabilities, Applied Biosystems 7300 Real time PCR system, two microcentrifuges (Eppendorf), a spectrophotometer (Pharmacia Biotech), a UV cross-linker (Stratagene), three water baths, a shaking bacterial incubator, three balances, three shakers/rotators, five refrigerators/freezers, an inverted microscope and Olympus microscope with a 35 mm camera body and epifluorescence capabilities, and Epoch plate reader (Biotek Instruments). Liquid Nitrogen dewars, a centrifuge and an Abaxis Vetscan hematology machine are available to take into the field for health related animal research. There is also shared access to a dark room and automatic developer. Moreover, active research collaborations provide access to other facilities and equipment through the Department of Marine Sciences, University of Connecticut, and Pfizer.

The Mystic Aquarium Research Department also has library privileges at the University of Connecticut.