



UNIVERSITY of NEW HAMPSHIRE

UNH Pier Facility Programmatic Overview (Updated February 2007)

The Pier Facility proposed for the university's property on Fort Point in New Castle is a central and unique component to a diverse Marine Program at the University of New Hampshire. This overview provides a brief synopsis of the broader marine activities at UNH and highlights the role that this new facility will fill in the context of these broader efforts.

Overview of the UNH Marine Program: The Marine Program at the University of New Hampshire was established in 1975 to build and maintain an academic base of excellence in marine-related research, education, and service at UNH. The Marine Program is composed of nearly 40 individual faculty members from several of the university's academic departments and units who have established a clear and major commitment to marine research and education. This faculty is responsible for implementing numerous undergraduate and graduate academic programs in marine sciences at the university, primarily associated with the College of Life Sciences & Agriculture (COLSA), the College of Engineering & Physical Sciences (CEPS) and the Graduate School. The Marine Program is the organizational entity that is responsible for integrating the academic missions of the colleges and departments with collaborative and experiential programs such as the Shoals Marine Laboratory, Sea Semester and the Seacoast Science Center.

The Marine Program also helps integrate a wide range of research projects by individual faculty in areas ranging from ocean engineering to marine biology and oceanography. In recent years, the university has developed a strong research partnership with the National Oceanic and Atmospheric Administration (NOAA) that has supported the creation of numerous programs and centers of excellence including the Cooperative Institute for New England Mariculture and Fisheries (CINEMar), the Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET), the Joint Hydrographic Center (JHC), the UNH Center for Coastal and Ocean Mapping (CCOM), the UNH Center for Excellence in Coastal Ocean Observation and Analysis (COOA) and the UNH Sea Grant Program (the first three of which are formal cooperative programs). It is through these academic programs, institutes and centers for excellence that UNH acts to serve the marine education and research needs of the university, the citizens of New Hampshire and the nation in areas ranging from fisheries to coastal ecosystem management and coastal mapping and navigation.

Current Marine Program Facilities: In support of marine activities at UNH, the Marine Program oversees and operates a number of specialized facilities, each with a specific role in support of the university's education and research missions in marine science. The **Jere A. Chase Ocean Engineering Laboratory** (COEL), located on the main campus, houses the Marine Program administrative offices, the Ocean Engineering Program, the Center for Coastal Ocean Mapping (C-COM), the Joint Hydrographic Center (JHC), and experimental wave tank and deep tank facilities. The **Jackson Estuarine Laboratory** (JEL), located on the Great Bay estuary approximately 5 miles from Durham, has been a core marine research facility of UNH for the past 32 years supporting 8 faculty and serving as the base for estuarine research and education on the seacoast. The **Shoals Marine Laboratory** (SML), located on Appledore Island, is jointly run by UNH and Cornell University in support of undergraduate summer courses and research in the marine sciences. Finally, the **Coastal Marine Laboratory** (CML), located adjacent to Fort Constitution in New Castle, is the site of a small experimental marine aquaculture and fisheries laboratory that was established in 1989.

Programmatic Need for a Pier Facility: Since its inception in 1975, the Marine Program and associated marine activities at UNH have grown to the point where extramural support now exceeds \$20 million per year. While this level of activity ranks UNH near the top 10 universities in marine research and funding activity nationally, our seawater laboratory and pier facilities do not match those of the other top marine institutions. Construction of the proposed pier facility is an essential step in bringing these capabilities up to the level necessary to maintain the research excellence that we have achieved, particularly in the areas of marine fisheries management, mariculture and coastal ocean mapping.

Proposed UNH Pier Facility:

The proposed pier will for the first time provide a centralized support facility for UNH vessels and a general staging associated with offshore projects and, as is the case now, include open bays under the pier that will provide relatively protected space for mussel research and grow-out pens associated with aquaculture research being carried out in the laboratory.

Over the past decade, the university has acquired several new vessels, including the University's main research vessels, the *R/V Meriel B.* and *R/V Gulf Challenger*, several vessels that support the Center for Coastal Ocean Mapping (*Coastal Surveyor* and *Pontoon Boat*) and several boats in support of the Cooperative Institute for New England Mariculture and Fisheries (*Red Cloud*, *First Light* and *Galen J. II*). Currently these vessels are dispersed at several different facilities around Portsmouth and the Great Bay where they are: (1) poorly supported in terms of infrastructure and utilities, (2) threatened with uncertain lease arrangements, (3) difficult to fuel and stage for daily activities, (4) often subject to lengthy steaming times before reaching the open waters at the mouth of the river, and (5) lacking in shore-based support and office facilities (e.g. storage, workshop space, dive lockers, offices).

In addition, the lack of a central pier facility limits the ability of researchers to stage for projects requiring multiple vessels and limits our ability to stage non-UNH vessels.

In addition, dock space is needed to support our partnership efforts with NOAA (*new SWATH Vessel*) and with Cornell University/Shoals Marine Laboratory (SML). SML vessels, *R/V Kingsbury* and *R/V Heiser*, will utilize the proposed pier facility for winter/storm berthing and regular provisioning; however, student ferrying activities will remain elsewhere. The pier is being designed to serve as the home port for a new NOAA SWATH research vessel that will focus on coastal ocean hydrography and mapping research, thus complementing and enhancing the capability of vessels available to support the programs described above. The SWATH is currently in design, with delivery of the vessel anticipated for 2007. The pier is also being designed to support the periodic berthing of visiting research vessels in order to stage joint UNH/NOAA research activities in the southern Gulf of Maine. These activities will further enhance the capabilities of UNH faculty and students to carry out important marine research in the region.

Finally, the replacement pier will also accommodate under-pier fish pens and mussel seed collection rafts, critical to the University's Open Ocean Aquaculture Program.

The proposed pier support facility will be a compact cluster of residential-scale wood-frame structures. The main structure will provide approximately 4,500 square feet of conditioned interior space including offices, a dive locker, a workshop, and tempered storage. Two additional buildings are proposed in the interest of containing the variety of equipment and supplies typically associated with marine operations. One is a 1,100 square foot covered storage area in which 20-foot storage containers will be placed. The other is a 1,300 square foot residential barn-like structure in which materials will be stored that would otherwise be kept out-of-doors. It is planned that this latter structure will also include restrooms to serve pier as well as nearby historic properties that are owned by the New Hampshire Division of Parks and Recreation, for which there are currently no public toilets. The location of the support facility directly adjacent to the reconstructed pier on the Fort Point site is integral to the efficient operation of the pier. The support facility was designed in collaboration with the surrounding community in an attempt to ensure that the facility will be as unobtrusive as possible and, in fact, blend with the historic neighborhoods surrounding the site.

The proposed site in New Castle is uniquely and ideally suited for the proposed pier facility. It provides easy access to the Gulf of Maine, has sufficiently deep water for berthing of the NOAA SWATH vessel, is protected from the brunt of storms by the Fort Point peninsula, and has the full-strength seawater critically needed for the under-pier fish pens. And, as it is the location of an existing pier, construction of a shorter replacement pier will result in little environmental impact.