NOAA Community-based Restoration Program

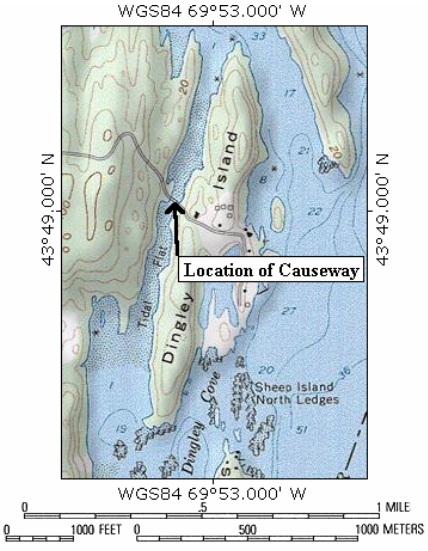
Dingley Island Tidal Flow Restoration Harpswell, Maine

The Dingley Island causeway, located in Casco Bay – Cundy's Harbor in Maine, connects Dingley Island with the Town of Harpswell. This causeway is surrounded by some of Harpswell's richest soft-shell clam-flats (*Mya arenaria*) and the clam beds bring in an annual harvested value of over $200,000. Unfortunately, when the causeway was widened in 1949, the pre-existing bridge was filled in blocking any flow of water between the two sides of the causeway. This barrier has led to silt accumulation on both sides of the causeway making the immediate surrounding area unsuitable soft-shell clam habitat. Soft-shell clams, historically found adjacent to the bridge, are now only abundantly found several hundred feet from the causeway.

Dingley Island Causeway in the 1890's

With assistance from the NOAA Community-based Restoration Program, the Town of Harpswell along with support from other project partners completed the restoration of tidal flow between the two sides of the causeway by replacing it with a bridge. Restoring tidal flow under the causeway is expected to decrease silt deposition and thus promote soft-shell clam habitat. Six acres of flats on both sides of the causeway are expected to directly benefit from the project though ultimately the entire 45-acre area will benefit from improved water quality, circulation and flushing. Biological benefits of increased tidal flow are expected to be numerous including increased nutrient, larvae and fish exchange between the two sides of the bridge. Furthermore, reopening the waterway will increase recreational opportunities in Harpswell by allowing the passage of small boats at high water. Moreover, this project will provide educational opportunities for students at Bowdoin College to conduct pre and post monitoring of the clam-flats. Through support from the faculty and students from the Coastal Sciences Center, studies were conducted to examine the effects of the present causeway on sediment deposition and oxygen levels in the mudflats. Ongoing projects also include monitoring soft-shell clam populations as well as characterizing benthic invertebrate communities in the area.

Dingley Island Causeway in 2001



Local community involvement by residents and the Town of Harpswell has been instrumental in raising support to restore tidal flow to the clam-flats. Elsa Martz, project manager and local resident, has been vital in ensuring success of the project. First inspired to replace the causeway after she and some neighbors

noted rising silt levels, Martz's commitment, organization and diligence have been critical in raising awareness, garnering community support as well as forming partnerships with federal, national and state organizations and agencies.

The Navy Seabees, a division of the military focused on construction and defense, was actively involved with the design, planning and construction of the new bridge. Using the project as a training exercise through the Navy's Innovative Readiness Training Program, the Navy Mobile Construction Battalion 27 provided the excavating equipment as well as the labor for the construction of the new bridge.

Bowdoin students collecting benthic invertebrate samples

Navy Seabees construct the new bridge

In addition to the NOAA Community-based Restoration Program and the Town of Harpswell, many other individuals, organizations and agencies made significant contributions toward restoring tidal flow and promoting clam habitat at Dingley Island including Dingley Island residents and neighbors, US Navy Innovative Readiness Training program & the NMCB-27 Seabees, Maine Corporate Wetlands Restoration Partnership (Duke Engineering, Maritimes & Northeast Pipeline, H B Fleming, RA Webber & Sons, Dragon Products Company, Central Maine Power), Bowdoin College, Maine Department of Transportation, New Meadows River Watershed Project, Coastal America Foundation, USDA Natural Resources Conservation Service, and the MER Assessment Corporation. Total costs for this project are estimated to be $174,000 and was completed in August 2003.

The NOAA Community-based Restoration Program seeks to involve communities in the restoration of marine and estuarine habitat. Partnerships with Federal agencies, states and local governments, non-governmental and non-profit organizations, businesses, industry and schools have assisted over 700 projects nationally including 49 within the Gulf of Maine to restore coastal habitat. The NOAA Community-based Restoration Program and its partners provide funding and expertise to projects that promote coastal stewardship and a conservation ethic. Through partnerships, the Community-based Restoration Program has been able to leverage $3-$5 on average for every NOAA dollar invested.

Clamming near Dingley Island

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