

# Engineering Services and Environmental Impact Evaluation Hammonasset Beach State Park, CT

## Project Characteristics

- *Alternatives Analysis*
- *Engineering Feasibility and Environmental Impact Statement Reporting*
- *Numerical Wave and Sediment Transport Modeling*

Woods Hole Group, Inc. of Massachusetts teamed with Fuss & O'Neill to perform an engineering feasibility study and environmental impact assessment of Hammonasset Beach for the Connecticut Department of Environmental Protection (DEP). Hammonasset Beach State Park is home to Connecticut's largest swimming beach and campground. In 2006, 1.8 million people visited the 2.5 mile stretch of beach, which in places is now nearly non-existent during high tide. Due to severe ongoing erosion and storm damage, critical beach features (bath houses, boardwalk) are now at risk and require constant maintenance actions.

The team recommended the most technically feasible and cost-effective solution with the least amount of environmental impact. Short- and long-term recommendations were based on an environmental feasibility study of alternatives to mitigate erosion, including assessment of a wide range of alternatives (both coastal structures and soft solutions, such as dune reconstruction and beach nourishment).



The causes of the ongoing erosion were evaluated through the use of historical shoreline change data, newly collected bathymetry and wave data, and wave and sediment numerical modeling. Bottom-mounted ADCPs were deployed in the nearshore coastal zone to collect current and directional wave data. The models were calibrated to the observed wave data and used to assess the various design alternatives. There also is a proactive public outreach component to involve stakeholders in the design process.