

Robert P. Hamilton, Jr., M.C.E., B.S.

President/Coastal Engineer

EXPERTISE

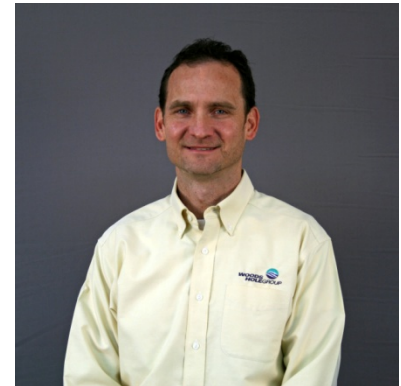
Business and Project Management in Environmental Consulting sector with focus on coastal and oceanographic environments. Business and client development in government, private, power utilities, oil and gas, and manufacturing markets. Technical specialty solving problems and managing projects related to planning, engineering design and environmental permitting for shore protection, dredging, habitat restoration, and infrastructure development (e.g., seawalls, pipelines) in the coastal zone. Advanced technical skills related to numerical modeling, data collection and analysis, and integration with environmental policy and stakeholder requirements to solve complex, multi-disciplinary problems.

QUALIFICATION SUMMARY

- Provides strategic advice and a high level of service to key clients
- Manages multi-disciplinary projects
- Maintains diverse technical expertise related to coastal and environmental sciences and engineering
- Completes QA/QC review of deliverables
- Possesses strong writing and verbal communication skills
- Delivers short and long-term sales objectives
- Establishes and implements strategic plans for corporate growth
- Wave, circulation, sediment transport, water quality, and pollutant dispersion models, data collection, and analysis.
- Environmental impact assessments, permitting, and compliance.
- Federal contract management

WORK EXPERIENCE

2014-Present President, Woods Hole Group, Inc.
2003-2014 Vice President, Business Development, Woods Hole Group, Inc.
2001-2003 Vice President, Scientific Operations, Woods Hole Group, Inc.
1998-2001 Business Unit Director, Woods Hole Group, Inc.
1994-1998 Coastal Engineer, Aubrey Consulting, Inc.
1993-1994 Teaching and Research Assistant, University of Delaware
1991-1992 Civil Engineering Assistant, KCI Technologies, Inc.



Education

1994 – MCE
Civil Engineering
University of Delaware
1992 – BS
Civil Engineering
Lehigh University

Licenses and Registrations

N/A

Professional Affiliations

Environmental Business Council, Director
Northeast Shore and Beach Preservation Association, Director
Marine and Ocean Technology Network, Director
American Society of Civil Engineers
NERACOOS Strategic Planning & Implementation Team

Publications & Presentations

17

KEY PROJECTS

Great Marsh and Plum Island Evaluation, Merrimack Valley Planning Commission – Project Manager / Sr. Coastal Engineer

A stakeholder group led by MVPC was awarded a NFWF grant to better understand circulation in the marsh system as it related to wetland health, and to understand sediment transport patterns along Plum Island as related to shoreline erosion and stability. A team effort was completed together with BU to collect a comprehensive data set, and to apply high resolution numerical models to the system. A CMS circulation and salinity model was applied to the Great Marsh system, and focused on the influence of the Plum Island Turnpike bridge constriction on circulation. Present day and future scenarios were examined, including sea level rise and high precipitation/runoff. Multiple bridge configurations also were simulated to determine if modifications could help enhance marsh resiliency. For the beach, a high resolution wave and sediment transport model was applied to understand rates and directions of longshore sediment transport to provide a more solid basis for future coastal erosion project planning. Comprehensive reports and electronic deliverables, including visualization tools and GIS work products, were delivered. The project will be completed on the grant schedule and within prescribed budgets. Woods Hole Group provided matching in kind services and high performance computing resources.

Coastal Engineering Services, Town of Palm Beach, FL – Senior Coastal Engineer/Project Manager

In 2009, Woods Hole Group was awarded a 5-year Coastal Engineering services contract. Primary deliverables developed between 2012 and 2013 included a technical review of the overall proposed coastal management program. Results were presented to Town Council. The 10-year program was conceptually accepted, and the first fiscal year was approved for action. Previously, between 1997 and 2002, Mr. Hamilton represented Woods Hole Group as the Town's expert Coastal Engineering Peer Review Consultant. Services included review of long-term comprehensive management plans, and presentation of targeted recommendations to improve the performance and cost-effectiveness of future shore protection projects. Key recommendations included a phased approach to a 30-year barrier-wide shoreline erosion management plan, including specific beach nourishment and coastal structures projects. An adaptive management and monitoring strategy also was incorporated to improve the design of future projects based on the performance of past projects. The resulting plan allowed for high priority projects to be permitted and constructed in the short-term, and provided the basis for substantial savings of municipal and state tax dollars.

Environmental Planning and Consulting Services Task Order Contract, US Army Corps of Engineers New England District – Senior Engineer/Corporate Support

Woods Hole Group is the prime contract holder for a Task Order contract with USACE NED that will extend up to 5 years and \$15M beginning in November 2008. The scope of work includes a diverse suite of environmental consulting services, such as field data collection and monitoring, laboratory studies, risk assessments, EIS preparation, HTRW site support, and other specialty service areas as required by NED and other Districts within the North Atlantic Division (e.g., oceanography, coastal modeling, environmental economics, archaeology, etc.). Mr. Hamilton developed the team, led the proposal effort, and completed the contract negotiation process. He

KEY PROJECTS (CONTINUED)

will support the ongoing Program in a corporate function, and provide project management and technical support for some of the individual Task Orders.

Hydraulic Study to Assess Feasibility of Tidal Restoration within Stony Brook, Town of Brewster, MA – Coastal Engineer/Project Manager

Completed a field data collection and numerical modeling investigation of the Stony Brook system upstream from Rte. 6A to assess the potential for restoration of salt marsh habitat and the anadromous fish run. The scope of work included collection of synoptic tide and salinity data, calibration of a hydrodynamic and salinity model (EFDC), evaluation of restoration alternatives, and recommendations for conceptual engineering alternatives and potential environmental impacts. Woods Hole Group also made a contribution to the Corporate Wetlands Restoration Partnership (CWRP) in the form of bathymetric data collection, land surveying, and numerical modeling.

Reverse Osmosis Water Treatment Facility Discharge Dilution Analysis and Environmental Impact Assessments, Various Locations in Florida as Prime and Subcontractor– Engineer/Project Manager

Demand for potable drinking water has spurred a need for desalination facilities to supplement the local freshwater supply in Florida. For communities in the Town of Jupiter, Palm Coast, Tarpon Springs, City of Melbourne, and the South Martin Regional Utility, Woods Hole Group has conducted dilution studies of reverse osmosis discharge concentrate. The scopes of work have been diverse, involving field data collection (water quality and circulation parameters), numerical modeling (CORMIX and EFDC), and environmental impact studies. Contaminants of interest have included heavy metals, radionuclides, and overall acute toxicity. Results from the work include support for environmental permit approvals, including mixing zones, and engineering recommendations for diffuser configurations to support expansion of water treatment facilities while minimizing environmental impacts.

Environmental Impact Statement (EIS) for the HubLine Natural Gas Pipeline, Massachusetts Bay, MA, Federal Energy Regulatory Commission (FERC) c/o Foster Wheeler, Inc. – Project Manager

Prepared marine portion of the EIS for the controversial HubLine pipeline working under tight scheduling constraints. Compiled data and formulated environmental impact assessment of impacts related to physical oceanography, sediment transport and geology, marine benthic habitat, as well as marine fisheries and shellfish. The scope included preparation and approval of an expanded Essential Fish Habitat (EFH) Assessment. Close cooperation with Foster Wheeler and FERC was required. The document was accepted by the federal authorities, and provided the basis for the state and local level environmental impact report, permits, and monitoring/mitigation protocols. The project was constructed.

Evaluation of Thermal Discharge and Intake Processes and Regulatory Compliance at Salem and Hope Creek Stations, Newark, NJ, Public Service Electric and Gas Co. - Coastal Engineer/Project Manager

Key member of a multi-disciplinary team conducting 316(a) and 316(b) federal water quality standards regulatory demonstrations. Performed numerical modeling, data analysis, and technical writing to support a

KEY PROJECTS (CONTINUED)

comprehensive hydrothermal and biothermal assessment of a cooling water discharge system in an Estuary. Completed analysis of the region of influence of cooling water intake on circulation patterns and waterborne eggs and larvae. Completed extensive and innovative scope of work of unprecedented scientific and engineering defensibility within required fast-track schedule. Excellent communication with team members and the client was essential for the successful completion of this project. NJDEP granted approval based on comprehensive materials that demonstrated compliance with 316(a) and 316(b) requirements.

Natural Resources and Beach Management Plan for Sandy Neck Beach, Town of Barnstable, MA - Project Scientist and Manager

Lead multi-disciplinary team to develop a management plan for a controversial set of beach users related to ORV use, private property access, endangered species protection (i.e., piping plovers, least terns, and diamondback terrapins), recreational use, and municipal management and revenue needs/objectives. Conducted research, site assessments, public and environmental regulatory workshops; prepared documents; held public hearings; and obtained environmental permits. Final management plan was used to resolve pending appeals of environmental permits, resolve stakeholder conflicts, and secure new permits for beach use.

Identification of 1-, 10-, 20-, and 50-Year Design Wave Conditions for the Deer Island Waste Water Treatment Facility Shoreline Protection, Boston, MA, Parsons Brinckerhoff - Coastal Engineer/Project Manager

Completed storm wave modeling and analysis to support the design of extensive shore protection structures for a large wastewater treatment facility in Boston, MA. The scope of work included specification of offshore wave conditions in Massachusetts Bay, wave diffraction/refraction modeling (REF/DIF) into Boston Harbor, and site-specific extremal analysis to calculate design conditions for wave height, period, runup and overtopping. Results were used to size armor stone, and specify revetment toe depth and crest elevation. Maintained long-term support throughout the duration of the project.

Tidal Flushing and Water Quality Assessment of Cape Cod Estuaries, Cape Cod Commission and Municipalities - Coastal Engineer/Project Manager

Designed and participated in field data collection programs related to bathymetric surveying and tide gauging. Completed numerical modeling of tidal circulation (RMA-2) and water quality (RMA-4) processes, and technical report writing. Work was completed within the Three Bays Estuary, Popponesset Bay, Centerville River, Upper Bass River, Pleasant Bay, Red Brook Harbor, and West Falmouth Harbor. Presented results at public meetings. Results included residence time calculations that were used by the Cape Cod Commission to determine impacts of current and future developments. Results also provided a basis for the Massachusetts Estuaries Program to evaluate manageable nutrient loading rates and needs for wastewater management facilities.

Shoreline Erosion and Management Planning and Beach Nourishment Performance Monitoring, Town of Jupiter Island, FL – Coastal Engineer/Project Manager

The Town of Jupiter Island has a long-term commitment to managing coastal erosion through beach nourishment by dredging sand from the offshore regions and placing sand on its beaches. Woods Hole Group worked with the Town to develop a large-scale beach nourishment design. Mr. Hamilton completed the bulk of

KEY PROJECTS (CONTINUED)

the technical work for the project, including wave data collection and analysis, wave modeling (REF/DIF), sediment transport modeling, and shoreline change modeling (GENESIS). The models were developed and calibrated to the Jupiter Island coast from St. Lucie Inlet south to Jupiter Inlet. The calibrated models then were applied to simulate a range of shore protection alternatives, including various beach nourishment design configurations, and combinations of coastal structures to hold the sand on the beaches. Beach nourishment projects were constructed in 1996 and in 2003 according to the updated design. Beach profile monitoring data were collected and analyzed, and demonstrated that the new project design provides improved protection, including hurricane flood damage control. Substantial costs were saved by nourishing longer stretches of the shoreline, over-nourishing at historical hot-spots of beach erosion, and insisting on a course grain size. The more robust design also proved effective at minimizing hurricane damage. The design also qualified the project for damage claims from FEMA in response to storm-induced erosion.

PUBLICATIONS & PRESENTATIONS

- Weggel, J. Richard, Ph.D., Robert Hamilton, Kirk Bosma, P.E., Jeffrey Gebert, and J. Bailey Smith. 2015. Spatial Analysis of New Jersey Offshore Sand Resources. *Approved for Publication* in *Shore & Beach* Volume 83, Number 2.
- Stoeckenius, Till, Chris Lindhjem, Tejas Shah, and Robert Hamilton. 2015. Streamlined Development of Improved Air Pollutant Emissions Estimates for Beach Nourishment and Coastal Restoration Projects: The Dredge Project Emissions Calculator. *Submitted* to PIANC Dredging 2015, Savannah, GA.
- Hamilton, R.P. Jr. and John Winkelman. 2013. New England District Regional Sediment Management Initiatives. Northeast Shore & Beach Preservation Association Conference, Stockton College, New Jersey.
- Hamilton, R.P. Jr, Dr. Leonid Ivanov and Dr. Heidi Clark. 2012. Measuring the Flux of Contaminants at a Tidal Inlet – Lessons Learned and Utility for Restoration/Remediation Planning. Restore Americas Estuaries 6th National Conference on Coastal and Estuarine Habitat Restoration, Tampa, FL.
- Hamilton, R.P. Jr. 2011. Using Directional Wave Data to Calibrate Nearshore Wave Transformation Models for Shore Protection Planning and Design. ADCPs in Action, San Diego, CA. Conference Presentation and Proceedings.
- Hamilton, R.P. Jr. and M. Shultz. 2010. Salt Marsh and Anadromous Fish Run Restoration at Stony Brook, Brewster, MA. Restore Americas Estuaries, Galveston, TX. Conference Presentation and Proceedings.
- Hamilton, R.P. Jr. 2009. Session Chair: Sea Level Rise and Climate Change – Future Challenges and Risks to Coastal Systems. Northeast Beaches Conference, Woods Hole, MA.
- Ivanov, L.I., B.A. Magnell, R.A. Catalano, R.P. Hamilton, and L. Fagan. 2007. “Met-Ocean Measurements and Seasonal Variability of the Wind Profile in Nantucket Sound.” American Wind Energy Association, Conference Presentation and Proceedings

PUBLICATIONS AND PRESENTATIONS (CONTINUED)

Hamilton, R.P. Jr., Z. Willis, R. Lunde, R. Rayner, B. Magnell, and H. Kite-Powell. 2007. "Ocean Observing Systems Overview and Business Opportunities." OceanTech Expo. Panel Moderator.

Hamilton, R.P. Jr. 2006. "Using Real-Time Environmental Data to Manage Maritime Emergencies." Ocean Innovation Conference. Invited Speaker.

Hamilton, R.P. Jr., B. Caufield, L. Ivanov, and C. Johnsen. 2006. "Beach Monitoring and Beach Nourishment Design at Siasconset, MA." National Conference on Beach Preservation Technology, Florida Shore and Beach Preservation Conference Presentation.

Hamilton, R.P. Jr., C. Bryant, J. Spurgeon, and M. Utku. 2000. "Beach Replenishment Performance at Jupiter Island, FL." Florida Shore and Beach Preservation Conference Presentation.

Ramsey, J.S. and R.P. Hamilton Jr. 1997. "Analysis of Sediment Transport Patterns and Shore Protection Alternatives at Westport, MA." National Conference on Beach Preservation Technology, Florida Shore and Beach Association, Conference Proceedings.

Hamilton, R.P. Jr., J.S. Ramsey, and D.G. Aubrey. 1996. "Numerical Predictions of Erosional Hot-Spots and Optimization of Shore Protection Alternatives at Jupiter Island, FL." National Conference on Beach Preservation Technology, Florida Shore and Beach Association, Conference Proceedings.

Ramsey, J.S., R.P. Hamilton, Jr. and D.G. Aubrey. 1995. "Nested Three-Dimensional Hydrodynamic Modeling of the Delaware Estuary." 4th International Conference on Estuarine and Coastal Modeling, ASCE Waterway, Port Coastal and Ocean Division.

Hamilton, R.P. Jr., R.A. Dalrymple, J. Oltman-Shay, and U. Petrevu. 1994. "Wave Group Forcing of Low Frequency Surf Zone Motion." American Geophysical Union, Fall Meeting, San Francisco, CA.

Hamilton, R.P. Jr. and R.A. Dalrymple. 1994. "Estimating Two-Dimensional Wave Spectra: Application of the Maximum Likelihood and Maximum Entropy Methods, CACR." University of Delaware, Newark, DE.