



Michael J. Marcus

Principal, Senior Scientist

Summary

Founder and Principal of New England Environmental, Inc. (NEE), Mr. Marcus has nearly three decades of experience as an environmental scientist and project manager, and has worked on over 3000 specific environmental projects. Mr. Marcus' expertise includes: environmental permitting; wetland and river restoration; salt marsh and coastal bank/dune restoration; bank stabilization and bioengineering; pond management; ecological restoration; recreational planning, wildlife habitat assessment; sediment and erosion control plans; lake and pond management; and control of invasive species. Mr. Marcus regularly serves as an expert witness wetland and wildlife cases and has testified in Superior Court, Land Court, Federal Court, Grand Jury, and in adjudicatory hearings.

Areas of Expertise

- State, Federal and Local Environmental Permitting
- Ecological Restoration Design (rivers, wetlands, lakes, ponds, salt marshes coastal beaches and dunes & upland habitats)
- Wetland Delineation and Assessment
- Stormwater Management Design
- Development of Sediment and Erosion Control Plans

Education

M.S., Zoology (Wildlife) - University of Maine-Orono 1984

B.S., Biology – (Botany & Ornithology) Marlboro College, VT 1978

Graduate Coursework in Wetland Ecology and Hydric Soils – University of Massachusetts, Amherst

Credentials

Professional Wetland Scientist (SWS #1635)

Massachusetts Certified Aquatic Pesticide Applicator (#30027)

Certified Professional in Erosion and Sediment Control (#1504)

Certified Professional in Stormwater Quality (#0248)

US Fish & Wildlife Service Habitat Evaluation Procedures (HEP)

US Army Corps of Engineers – Use of Wetland Evaluation Techniques (WET)

Railroad Safety Training

SCUBA Certified (NAUI)



NEW ENGLAND ENVIRONMENTAL, INC.

ENVIRONMENTAL CONSULTING SERVICES



Experience	New England Environmental, Inc.	1988-present
	Responsible for project management of wetland and wildlife projects and environmental permitting, and environmental planning. Specific work includes: river morphology and river restoration projects; freshwater wetland restoration; coastal wetland and dune restoration projects; air-photo interpretation of wetlands; development of ecological restoration plans; wildlife habitat assessments; peer reviews for municipalities; soil bioengineering and slope stabilization; invasive species control plans; highway projects; hydropower permitting; gas pipelines, electric power lines, and fiber optic utility projects; provides expert witness testimony in state and federal wetland cases.	
	IEP, Inc. Senior Scientist & Project Manager	1985-1988
	Wetland delineation and assessments throughout New England; environmental permitting; town-wide wetland mapping by aerial photo interpretation; wildlife surveys for U.S. Army Corps of Engineer projects; Salt marsh surveys for Saugus and Pines River flood control project; wetland and wildlife assessments for New Bedford Harbor Superfund site; lake and pond management; rare species assessments; assessment of U.S. Army Corps of Engineers permits throughout New England; computer models for wetland function and value assessments.	
	Normandeau Associates, Inc. Consulting Wetlands/Wildlife Biologist	1981-1984
	Conducted an environmental assessment of a 10,000 acre Maine peatland to determine the effects of peat mining on terrestrial plants and animals. Year-round bird surveys, mammal live trapping, and herpetofauna pit-trapping. Surveyed and mapped peatland plant communities.	
	Smithsonian Institute Rare Species Wildlife Biologist	1984-1985
	Conducted survey of terrestrial animals in a tropical rainforest in eastern Panama.	
	Swift River Co. Consulting Wildlife Biologist	1982
	Surveyed all terrestrial animals affected by the proposed hydro-electric project on the Penobscot River in Bangor, ME.	
	University of Maine Research Technician/Teaching Assistant	1981-1984
	Conducted population studies of terrestrial animals. Taught courses in Anatomy & Physiology, Animal Biology and Basic Biology.	
	Massachusetts Audubon Society	1981
	Conducted Natural History Tours for high school students in New England and adults in Central America.	





**United States Peace Corps & Honduran Department of
Natural Resources
Wildlife Biologist and Park Planner****1979-1981**

**Professional
Training/Education**

- River Restoration Design Implementation (2005)
- Natural Rivers: Mechanisms, Morphology & Management (2003)
- Natural Channel Design and River Restoration (2001)
- River Assessment and Monitoring (2001)
- River Morphology and Application (2001)
- Applied Fluvial Geomorphology (2001)

**Affiliations/
Memberships**

- Society of Wetland Scientists (SWS) Past Chair, New England Chapter
- Association of Massachusetts Wetland Scientists (AMWS), Past President
- Massachusetts Association of Conservation Commissions (MACC), Board of Directors Member
- Society of Ecological Restoration, New England Chapter Board Member
- International Erosion Control Association (IECA), New England Chapter Board Member
- Aquatic Plant Management Society
- Aquatic Ecosystem Restoration Foundation
- American Water Resources Association
- Maine Association of Wetland Scientists
- New Hampshire Association of Natural Resource Scientists
- Association of State Wetland Managers
- The Wildlife Society
- International Erosion Control Association
- Soil and Water Conservation Society

Public Service

- DEP Stormwater Advisory Committee, Appointed 2006
 - ROW Advisory Panel (EOEA), Appointed 2006
 - DCR Lakes and Ponds Committee, Appointed 2006
 - DEP 401 Advisory Committee, past
 - DEP Subcommittee on Wetland Delineation, past
 - EOEA State Commission on Water, Soil & Related Resources, past
 - DEP Subcommittee on External Affairs, past
 - Amherst Conservation Commission, Wetland Officer, past
 - Brookfield Conservation Commission, past
 - Connecticut River Advisory Council, past
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Publications

Marcus, M.J. 2009. Stabilization of Coastal Banks and Dunes using soft engineering techniques. In Abstracts, Northeast Beaches Conference, Woods Hole Oceanographic Institution, Woods Hole, MA.

Marcus, M.J. and K. Frost. 2009. Riverbank restoration and the protection of rare Odonates. In Conference Abstracts, SERI World Conference on Ecological Restoration, Perth, Western Australia, Australia. p 240.

Marcus, M. J. 2008. Effective Management of wetland stormwater facilities. In Society of Wetland Scientist, Washington DC abstracts.

_____ and Andrew Bohne. 2008. Bank Stabilization techniques on Large Rivers. In 9th biennial river Management Society Symposium, Portland, Maine.

_____ 2007. Successful Bioengineering Techniques on large Rivers. In The Ecological Society of America official meeting program and abstracts, San Jose, CA.

_____ 2007. Invasive Species Control at a Superfund Wetland Restoration Site in Massachusetts. In SWS International Conference: Water, Wetlands and Wildlife-Resolving Conflicts and Restoration Habitat. Sacramento, CA.

_____, 2006. Sediment and Erosion Control on Construction Sites: Technique Which Work. In Catchments to Coast 2006, SWS Cairns, Australia.

_____, 2005. Wetland Restoration: Techniques That Work. The World Conference on Ecological Restoration, Zaragoza, Spain, Society of Ecological Restoration. Page 104.

_____, 2005 Restoration of Degraded Rivers Using Natural Restoration Techniques. In Urban River Rehabilitation, Proceedings of the International Conference on Urban River Rehabilitation, Dresden, Germany. Pp 221-223.

_____, 2005, Protecting Wetlands During Construction. In Proceedings of Society of Wetland Scientists, Charleston, South Carolina.

_____, 2005 Riparian Buffer and Stream Bank Restoration: Designs That Work. In Proceedings of American Water Resources Association, Honolulu, Hawaii.

_____, 2005 Integrated Restoration of Riverine Wetlands, Streams, Riparian, Areas, and Floodplains in Watershed Context. Association of State Wetland Managers, University of Massachusetts, Amherst, MA.

_____, G. Liberman, and I. Marcus. 2004 Integrating GIS, GPS, and Video for Watershed Mapping, Assessment, and Restoration. American Water Resources Association Abstract.

Marcus, Michael J. 2003. Assessment and Control of Invasive Plant Species with Wetlands. In New England Invasive Plant Summit Abstracts, Page 27. IPANE and NIPGro.

Marcus, M.J., K Frost, and J. Fiske. 2003. Control of Invasive Species in Wetland Mitigation Areas: Long-term Monitoring Trends, In proceedings of SWS Annual Conference, New Orleans, LA.

_____, 2002. Analysis of River Bank Erosion Using Geo-Referenced Video Techniques on Large River Systems. In proceedings of SWS Annual Conference, Lake Placid, NY.

Hegeman, I.E., P. Garner, and M.J. Marcus. 2002. Early Succession in Wetland Restoration: Are the Data Predictive? SWS Annual Conference, Lake Placid, NY.

Marcus, M.J. and W. Cohen. 2001. Urban Stormwater Renovation Using Turf Reinforcement Mats. In proceedings of American Society of Civil Engineers, Chicago, IL.

_____, 2000. Wetland Restoration Following Hazardous Waste Removal: Techniques That Work. In SWS proceedings, Quebec 2000: Millennium Wetland Event, Quebec, Canada, Abstracts, Page 280.





- _____. 1997. Principles of Erosion and Sediment Control. MACC Newsletter.
- _____, and Stephanie Ciccarello. 1997. Plant Material Selection fro Soil Bioengineering Projects. In proceedings of Society of Wetland Scientists.
- _____, and Stephanie Ciccarello. 1996. The Role of Private Organizations in Streambank Erosion Control: A Case History of the Connecticut River in Massachusetts. In Proceedings of Society of Wetland Scientists.
- _____, Steve Johnson, and Alec MacLeod. 1996. Long Term Monitoring of Emergent and Submergent Wetland Vegetation in Response to Municipal Water Withdrawals. Society of Wetland Scientists.
- _____. 1993. Model Local Wetland Bylaws, Ordinances and Board Regulations. In Proceedings of New England Environmental Exposition. Boston, MA.
- _____. 1992. Pond Construction in Wetlands. In Proceedings, Wetland Conference. Society of Soil Scientists of Southern New England. Sturbridge, MA.
- _____, and W. Smith, 1992. Streamlining Wetland Permitting in Massachusetts. In Invitation to Change, Pioneer Institute fro Public Policy Research, PP 17-27. Boston, MA.
- _____, and W. Smith. 1992. Creation of Vernal Pools in Wetland Replication Areas. In Proceeding SWS Annual Meeting, New Orleans, LA.
- _____. 1991. Science for Lawyers: Wetlands. In Environmental Law for the General Practitioner. (92-09.02) MCLE. Boston, MA.
- _____. 1991 Creation of Small Wetland Replication Areas in Massachusetts: Small is Not Beautiful. SWS Annual Meeting, Ann Arbor, MI.
- _____. 1988. Wetlands and Wildlife Protection Under the New Regulations. MACC, MA.
- _____. 1997. Conversion of Vegetated Wetlands to Ponds for the Enhancement of Wildlife Habitat Value. In Proceeding of the 44th N.E. Wildlife Conference. Boston, MA
- _____. 1987. Creation of Wildlife Impoundments in Massachusetts. In Proceedings of the Society of Wetland Scientists, Seattle, WA.
- _____. 1986. Bird Use in Maine Peatlands. In Freshwater Wetland and Wildlife. University of Georgia, Savannah River Ecology Laboratory.
- _____. 1985. Feeding Associations Between Capybaras and Jacanas: A Case of Interspecific Grooming Possibly Mutualism. *Ibis*, 127 (2):290-293.
- _____. 1984. Notes on the Great Green Macaw (*Ara ambigua*) in Honduras. *Ceiba*, 25:151-155.
- _____. 1983. Sexual Dimorphism, Cheek Pouch Formation, and Behavior in Paca (*Agouti Paca*, Rodentia). In American Society of Mammalogists 63rd Annual Meeting Abstracts. Gainesville, FL.
- _____. 1983 Additions to the Avifauna of Honduras. *Auk*, 100:621-629.



NEW ENGLAND ENVIRONMENTAL, INC.

ENVIRONMENTAL CONSULTING SERVICES



Presentations	International Erosion Control Association Northeast Chapter Meetings Massachusetts Association of Conservation Commissions (Annual Meetings) Association of Massachusetts Wetland Scientists
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Teaching	River Morphology Workshops Sediment and Erosion Control workshops Soil Bioengineering workshops Conservation Commission workshops (various topics)
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Languages	Spanish
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