HEIDI J. CLARK, PH.D.

Environmental Scientist

Qualifications Summary

- 15 years of research and consulting experience with industry, government, and scientific institutions
- Extensive field sampling and laboratory work on large and small projects in marine, estuarine, and terrestrial environments
- Sediment sampling
- Biological tissue sampling
- Ecological risk assessment
- Human health risk assessment
- Natural resource damage assessment
- Management plans for eutrophic waterbodies, contaminated sediment sites, and rivers
- State and federal permitting, including preparation of Environmental Impact Statements
- Dredged material management
- Long-term monitoring of shellfish resources and water quality
- Eelgrass restoration via seeding and transplants
- Coastal dune, vernal pool, and water feature construction and monitoring
- Native plant cultivation, plantings, and maintenance
- Collaboration with economists and statisticians on a variety of projects including environmental policy analysis, program evaluation, and bio-economic model development

Fields of Expertise

Research, technical writing, and project management for coastal projects. Technical specialties include field sampling, data analysis, and reporting for all types of audience. Areas of scientific expertise include contaminated site assessment, remediation, and restoration. Current work includes coastal habitat restoration/creation projects including dunes, water features, and dredging projects. Prior work focused on shellfish aquaculture in both commercial and research settings. Special interest and experience in collaborating with economists, policy analysts, and construction specialists on multi-disciplinary projects.

Higher Education

Ph.D. Environmental Science-Yale University (2000)
M.F.S. Forest Science-Yale University (1997)
M.S. Exercise Science-University of Massachusetts (1991)
B.A. Biology-University of California, Santa Cruz (1987)

Employment History

2009-Present	Environmental Scientist, Woods Hole Group *and* Crew Member, Miskovsky Landscape Construction.
2005-2008	Associate, Industrial Economics Incorporated
2003-2005	Coastal Scientist, Woods Hole Group
2001-2003	Guest Scientist, Woods Hole Oceanographic Institution
1995-2001	Self Employed Environmental Consultant
1996-1997	Aquaculture Technician, Marine Biological Lab
1995-2000	Guest Student, Woods Hole Oceanographic Institution
1993-1995	Hatchery Technician, Taylor Seafood Inc.

Key Projects

Remedial Investigation/Feasibility Study: New Bedford Harbor Superfund Site; US Army Corps of Engineers – Project Manager and Environmental Scientist
Project management and technical work for the development of a Remediation Investigation/Feasibility Study (RI/FS) for Operable Unit #3, New Bedford Harbor Superfund Site. Work includes sampling design, Quality Assurance Project Plan (QAPP) preparation, field data collection (sediment, water, and biota), contaminant fate and transport analysis, and preparation of RI/FS report including ecological and health risk assessments.

Investigation of Upland, Beneficial Reuse, and Sediment Dewatering Sites for Dredged Materials Management in Long Island Sound; US Army Corps of Engineers – Project Manager and Environmental Scientist
Project management and technical work on an evaluation of upland disposal options for dredged material. Work included investigations at 104 upland, beneficial reuse, and sediment dewatering sites for dredged material in the Long Island Sound area. Site visits were carried out for all 100+ sites. Photographs were taken and data were collected to evaluate the feasibility of each site for dredged material disposal. Site summaries were developed to describe the general location, ownership, surrounding land use, zoning, wetland resources, proximity to habitat for rare and endangered species, sediment type, site access, and staging areas. Conceptual engineering designs were developed and site capacities were determined. A technical report was prepared, describing each site individually, as well as the overall capacity of upland sites throughout the region to accommodate dredged material.

Evaluation of Potential Dredged Material Containment Sites, Long Island Sound Dredged Material Management Plan; US Army Corps of Engineers – Project Manager and Environmental Scientist
Project management and technical work on a dredged material containment project for Long Island Sound. Work included site by site descriptions of over 50 potential dredged material containment sites in Long Island Sound, and evaluation of potential impacts on environmental, cultural, physical, and infrastructure resources. Containment technologies included confined aquatic disposal (CAD), nearshore confined disposal, and island confined disposal. Nearshore berm sites were also evaluated as placement options for clean sand. Conceptual engineering designs were developed for containment sites; site capacities were determined; and potential impacts were described.

Literature Review and Database Development: Long Island Sound Dredged Materials Management Planning; US Army Corps of Engineers – Project Manager and Environmental Scientist
Project management and technical work on a review of literature on dredge materials management for Long Island Sound. This project included collection of all relevant publications and gray literature and development of an ACCESS database containing a summary of information in each document. The database and information therein were summarized in a report describing available information and data gaps.

Key Projects (continued)

Dune Restoration and Construction
Coastal dune construction/restoration projects for private clients. Planting and maintenance of native vegetation for erosion control and aesthetic appeal. Project planning and multi-year monitoring.

Eelgrass Restoration for Cape Cod: Evaluation of Potential Sites and Test Transplants; Nature Conservancy – Environmental Scientist
Project planning, grant writing, field sampling, and technical reporting on eelgrass restoration projects on Cape Cod. Work included grant writing, field data collection, data analysis, and trial transplants of eelgrass (*Zostera marina*). Potential sites were evaluated using a site selection model developed for this project. Test transplants were conducted in Fall 2010 and monitored through 2012. A full report and a short blog post were prepared to describe the potential and the challenges associated with eelgrass restoration on Cape Cod.

Natural Resource Damage Assessment and Restoration Planning: Lead-Zinc Mining Sites in the Tri-State (Oklahoma, Missouri, Kansas) Area; US Fish and Wildlife Service - Environmental Scientist
Assessment of damages to riverine resources resulting from lead-zinc mining. Work included data collection and analysis; evaluation of contaminant fate and transport, technical reporting, and support for litigation. Restoration planning included riparian corridor development and in-stream habitat improvement projects.

Natural Resource Damage Assessment: Kuwait Oil Damage from 1991 Gulf War; SAFEGE Co, France – Project Manager/Environmental Scientist
Assessment of damages to coastal and marine resources resulting from oil released during the 1991 Iraqi invasion of Kuwait. Work included assessment of ecosystem services lost due to oil damage, estimates of recovery time, and development of appropriate restoration projects. Presented results to the United Nations Compensation Commission (UNCC) in Geneva.

Ecological Effects of Acid Deposition: Support for EPA's Retrospective Evaluation of the Clean Air Act and Amendments; USEPA - Environmental Scientist
Review of literature on environmental damage due to acid deposition in the United States. Work included compilation of extensive database and annotated bibliography, as well as a written report on the subject.

Liquid Natural Gas (LNG) Deepwater Port Environmental Impact Statement (EIS): Support for US Coast Guard's EIS Development - Project Manager and Environmental Scientist
Preparation of Marine Resources sections of an EIS for a deepwater LNG port. Work included evaluation of pre-project conditions, potential impacts on fish, benthic communities, and other marine resources. Also included consultation with resource agencies regarding time of year restrictions on project construction, endangered species impacts, and essential fish habitat assessment.

Publications and Presentations

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