

Katherine Lavallee, M.S.

Coastal Scientist

EXPERTISE

Coastal processes and sediment transport, estuarine circulation, collection and processing of timeseries data using oceanographic instruments, saltmarsh restoration, groundwater monitoring, and sediment sample collection and characterization.

QUALIFICATION SUMMARY

- Experience deploying and processing timeseries data from ADCPs, CTDs and optical turbidity sensors.
- Experience collecting and characterizing sediment cores and samples for contaminant analysis.
- Experience conducting shoreline change analyses, including RTK GPS topographic and bathymetric surveys and geospatial analysis.
- Experience developing and implementing data quality management plans.
- Strong written and verbal communication skills.
- MATLAB, ESRI ArcGIS, Hypack, Microsoft Office

WORK EXPERIENCE

2018-Present Coastal Scientist, Woods Hole Group, Inc.
2017-2018 Hydrology and GIS Assistant, Cape Cod National Seashore, National Park Service
2015-2017 Research Assistant, Coastal Processes Lab, Boston College
2016 Technical Field Consultant, ESS Group, Inc.
2015-2016 Teaching Assistant, Department of Earth & Environmental Sciences, Boston College
2014 Hydrogeology Assistant, Assateague Island National Seashore, National Park Service



Education

2017 – M.S.
Geology
Boston College
2014 – B.S.
Environmental Geoscience
Boston College

Licenses and Registrations

OSHA 40-Hour HAZWOPER
CPR and First Aid

Professional Affiliations

- New England Estuarine
Research Society
- Geological Society of
America

Publications & Presentations

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KEY PROJECTS

Delaware River Estuary Continuous Water Quality Monitoring- Coastal Scientist and Data Manager

Developed and implemented a data quality management plan for the continuous water quality monitoring of the Delaware River estuary. Woods Hole Group deployed two moored surface buoys equipped with multi-parameter water quality sondes. The data are downloaded bi-monthly and are assessed for quality and processed. Provided data products and analysis to clients.

Water Level and Current Monitoring, Flushing Creek, Queens, NY- Coastal Scientist

Deployed a suite of current meters and tide gages to collect water level and flow data in Flushing Creek in support of a tide gate restoration project, including ADCPs, tilt current meters, and CTDs. Surveyed tide gages with RTK GPS to provide elevation-corrected water levels. Recovered and serviced instruments and was responsible for processing the data sets and providing QA/QC data products and analysis.

Herring River Real-time Tidal Observation Network, Wellfleet, MA- Coastal Scientist

The Herring River Tidal Restoration Project aims to restore 1,000 acres of saltmarsh in Wellfleet and Truro, MA. A significant part of pre-project monitoring efforts includes the continuous monitoring of tide levels and water quality within the watershed. Woods Hole Group designed and installed a network of real-time tidal observation stations. Installed and serviced five stations equipped with CTDs, multi-parameter sondes and telemetry systems. Collaborated with clients to develop and implement a data quality management plan for the continuous dataset.

Eelgrass Monitoring, Sandwich, MA- Coastal Scientist

Conducted a two-part eelgrass monitoring survey at Town Neck Beach in compliance with permitting regarding beach nourishment. The monitoring effort consisted of a wading survey where the benthic characterization and presence of eelgrass were identified visually and a boat-based photo survey. Categorized results and compiled maps of the existing eelgrass beds, calculated annual changes in eelgrass area, and determined potential

PUBLICATIONS & PRESENTATIONS

NEERS Spring 2018 Meeting, Portsmouth, NH, Coastal change along the Outer Cape: application of the digital shoreline analysis system (DSAS) to map the dynamic shoreline of Cape Cod National Seashore; Lavallee, K., and Adams, M.

CERF 2017 Biennial Conference, Providence, RI, Variability of suspended particle characteristics in an energetic estuary: the role of time and discharge; Lavallee, K., Kineke, G., and Milligan, T.

NEERS Spring 2017 Meeting, Groton, CT, Toughies and Fluffies: seasonal patterns of cohesive particle characteristics in the Connecticut River Estuary; Lavallee, K., Kineke, G., and Milligan, T.

NEGSA Spring 2017 Meeting, Pittsburgh, PA, Seasonal patterns of cohesive particle characteristics in the Connecticut River Estuary; Lavallee, K., Kineke, G., and Milligan, T.