DEPARTMENT OF NATURAL RESOURCES
POSITION DESCRIPTION

Working Title: Lake Superior Sediment and Monitoring Coordinator
Classification: Water Resources Management Specialist – Advanced
Location: North District – Superior, Ashland, Spooner
Position Number: 336332

Position Summary: This position is in Office of Great Waters (OGW) and serves as the Department expert for (1) sediment and dredge material management and (2) water and sediment quality monitoring and assessment in Lake Superior. The position serves as the Department lead for all aspects of dredge material management for Lake Superior, including the beneficial use of dredge material and other sediment related issues and will develop, oversee, and manage beneficial use of dredge material projects and special designation projects. Position also coordinates with the Remediation and Redevelopment Program to address beneficial use impairments associated with contaminated sediments in the St. Louis River Area of Concern (AOC). This position develops, reviews and evaluates sediment quality and water quality monitoring data, policies, and practices to ensure consistency with Great Lakes and statewide sediment and water quality programs, often working with other DNR program staff, state, federal, tribal and other local organizations and partners to coordinate Lake Superior sediment and water quality monitoring needs. The position will also participate in the development of a water quality, contaminant, and ecosystem monitoring strategy for the Great Lakes. Position collaborates with DNR staff, EPA and other U.S. and Canadian federal agencies, neighboring states, provinces, tribal governments, academic institutions, and nongovernment organizations to evaluate the status of the Lakes' ecosystems and contribute toward the St. Louis River AOC Remedial Action Plan (RAP) targets, Lake Superior Lakewide Action and Management Plan (LAMP) objectives and other watershed and tributaries in the Great Lakes Basin.

Geographic Scope and Travel Requirements: This position covers Wisconsin’s portion of Lake Superior and the basin, but at times may also be involved with Great Lakes-wide initiatives or efforts. Work is conducted primarily from the Superior or Ashland office, but Wisconsin participation in Great Lakes partnerships and lake issues typically extend to all the Great Lakes basin regions. Occasional overnight travel will be required. The position is required to do some travel statewide and occasional travel across state lines; therefore, the incumbent must have the ability to travel to locations throughout the state, Great Lakes basin and Canada at times.

Scope of Authority: This position reports to the Lake Superior Team Leader, works under general supervision with generally broad authority, and routinely engages with members of the Office of Great Waters, other department program staff and partners working in the Lake Superior basin, Great Lakes states, federal agencies, tribes and statewide teams.

Time Goals and Worker Activities

50% A. Expert for Lake Superior Sediment and Dredge Material Management

A1. Serve as the Department’s Lake Superior sediment expert on cross-program and interagency sediment and dredge material management teams, including the Office of Great Waters (OGW) Dredge Material Management Team, Integrated Sediment Team, Duluth/Superior Port Harbor Technical Advisory Dredging Subcommittee, U.S. Army Corps of Engineers (ACE) Dredge Material Management Stakeholder Team, and other identified teams.

A2. Coordinate with the Remediation and Redevelopment (RR) program staff to review environmental data and address beneficial use impairments associated with contaminated sediments in the St. Louis River Area of Concern (SLRAOC). Support the RR program, when requested, by serving on project teams and providing technical review and input during the
identification, investigation, cleanup, and long-term monitoring of contaminated sediment sites in the SLRAOC with an emphasis on addressing beneficial use impairments.

A3. Collaborate with the OGW Sediment Coordinator, OGW Dredge Material Management Team, and other DNR programs, to develop criteria, policies, procedures, and guidance for environmentally sound dredging practices and the beneficial use of dredged material on land and in-water, where appropriate.

A4. Provide expert advice to DNR management and others on navigation dredging or other in-water projects including the identification of appropriate best management practices, evaluation of beneficial use alternatives, and all proposals for in-water placement of dredged material. Serve as the liaison to the United States Army Corps of Engineers (USACE) Detroit District and other stakeholders for Lake Superior harbors for the planning and implementation of dredging projects. Serve on the multi-state interagency Duluth/Superior Harbor Dredge Material Management Stakeholder Team.

A5. Identify, develop and assess feasibility of projects that entail the placement of dredge material for beneficial use on-land or in-water in accordance with state criteria, policies, procedures, and guidance in coordination with other DNR staff, the USACE, and other partners.

A6. Serve as the project manager for DNR supported habitat and resiliency projects, including, but not limited to projects involving in-water beneficial use of dredge material. Project management entails proposal development, coordinating and leading project team, developing scope of work and budgets, selecting and directing contractors, processing invoices, overseeing budget and schedule, tracking and communicating project status and progress.

A7. Evaluate water quality and wetland implications of proposed federal dredging projects for navigation and habitat improvement projects. Collaborate with regional and central office programs (e.g. fisheries, waterways, wetlands, wildlife) on regulatory review and permitting.

A9. Serve as the Lake Superior resource expert to provide input during review of dredging projects under Wis. Adm. Code Ch. NR 347, sediment transport and loading studies, and other studies as directed.

40% B. Expert for Lake Superior Water & Sediment Quality Monitoring and Assessment

B1. Serve as the Department’s Lake Superior water and sediment quality monitoring expert on cross-program and interagency teams, such as the OGW Monitoring Team, Lake Superior Nearshore Monitoring Team, Lake Superior Algal Bloom Subgroup, and other identified teams.

B2. Lead Lake Superior monitoring and assessment efforts, including design, implementation and oversight for the National Coastal Condition Assessment (NCCA), tributary phosphorus monitoring and other related nearshore monitoring such as the Harmful Algal Bloom (HAB’s) monitoring in coordination with OGW’s Monitoring Coordinator. For Lake Superior fisheries related issues, consult and coordinate with the Department’s Lake Superior Fisheries team and for aquatic invasive species (AIS) consult and coordinate with the Lake Superior AIS Coordinator. For the Lake Superior Cooperative Science and Monitoring Initiative (CSMI) provide input on Wisconsin’s needs and recommendations.

B3. Coordinate monitoring needs and efforts within the basin with the OGW Monitoring Coordinator, the Department’s Water Quality Program, the Northern District’s Lakes and Streams Biologists, Lake Superior LAMP Coordinator, Lake Superior Aquatic Invasive Species Coordinator and St. Louis River Area of Concern Coordinator.
B4. Serve as the lead or a member of the Lake Superior Nearshore Monitoring Team to collaborate with federal, tribal, state and local partners working on the south shore and in western Lake Superior to identify and implement monitoring and assessment needs.

B5. Develop, review and evaluate sediment quality data in Lake Superior and its tributaries to identify the presence of chemical, physical, or biological impairments of water bodies and, when requested, assist the Remediation and Redevelopment program with the investigation and clean-up of contaminated sediment sites.

B6. Evaluate available USACE data, and collect additional information where necessary, to assess proposals involving the beneficial use of dredge material to determine if dredge material meets applicable standards and is acceptable for use at the proposed location. Conduct technical analysis and prepare memos or other communication to convey findings and recommendations to management, partners, or the general public.

B7. Evaluate sediment and water quality by developing, implementing or overseeing projects to monitor the chemical, physical, and biological characteristics of Lake Superior, and its coastal wetlands and tributaries. Develop monitoring projects including, but not limited to; the preparation of proposals and quality assurance project plans, collection of field data and environmental samples, coordination with laboratories, preservation and shipment of samples, organization and analysis of results, making summary tables and figures, writing scientific reports, and tracking or uploading project data and deliverables in Department data systems.

B8. Assist with AOC and LAMP related monitoring to evaluate AOC impairment targets and LAMP objectives, including project effectiveness.

B9. Coordinate and lead development of a bistate long-term monitoring strategy for the St. Louis River after the AOC is delisted with local partners and experts.

B10. Evaluate and assess sediment transport through watershed processes and tributary mobilization, as well as ecological implications of sediment loading and transport in the nearshore of Lake Superior.

B11. Assist with development and implementation of the OGW Monitoring Strategy.

5% C. Contribute Expertise to Lakewide Management and Area of Concern Programs

C1. Coordinate with the Office of Great Waters and Lake Superior Team members to identify where assistance and support is needed, specifically for the Lake Superior Lakewide Management (LAMP) and the St. Louis River Area of Concern (SLRAOC) programs.

C2. Serve as Wisconsin co-lead for the SLRAOC Degradation of Benthos and the Restrictions on Dredging Beneficial Use Impairments responsible for tracking and reporting Wisconsin’s actions and assessing impairment targets. When impairment targets are met, co-leads will draft impairment removal package and coordinate request for removal to EPA.

C3. Serve on the Lake Superior LAMP Chemical Committee providing input on the Zero Discharge Demonstration Program (ZDDP) and other issues pertaining to persistent bio accumulative compounds and emerging contaminants.

5% D. Other Duties

D1. Participate in job-related training and meetings.

D2. Complete administrative requirements such as time reporting, expenses, etc.
D3. Conduct all activities in accordance with the Office of Great Waters, Water Quality Bureau and Department safety guidance.

D4. Other duties or special assignments as assigned by supervisor.

Knowledge, Skills & Abilities

- Knowledge of biology, aquatic biology, chemistry, water chemistry, geology or earth sciences, environmental toxicology (aquatic emphasis), water resources management, environmental engineering, water resources engineering, or its equivalent in professional water resources management work experience.
- Knowledge of Great Lakes ecosystem, resource management, water quality issues, aquatic invasive species, and other issues effecting Great Lakes ecosystem health.
- Knowledge of sediment management & associated water quality issues
- Knowledge of issues related to contaminants in the environment, particularly associated with sediments.
- Knowledge of water quality and limnological principles, monitoring methods and water quality assessments, particularly those used to collect and sample sediment, macroinvertebrates, and water quality and quantity.
- Skill in conducting sediment and water quality monitoring field work involving the use of boats, associated sampling equipment and ability to work in various weather conditions.
- Knowledge of principles of quality management and quality assurance techniques related to collection, handling, and laboratory analysis of sediment and water quality sampling data.
- Knowledge of the principles of fluvial geomorphology and sediment transport.
- Knowledge of the uses and applications of spatial models especially those that relate to contaminated sediment and nearshore and hydrologic processes.
- Knowledge of habitat protection principles for water, wetlands and terrestrial ecosystems.
- Knowledge of state water program regulatory requirements.
- Skill in managing projects including coordinating with multiple parties and monitoring progress relative to established objectives and timelines
- Ability to productively manage complex situations, manage conflict, evolve partnerships, and develop consensus to achieve goals
- Skill in effective written and oral communication
- Skill in collaborative problem solving.
- Ability to use office technology systems, such as MS Office, data management systems, and internet applications. Experience with data or statistical analysis tools, such as R or others.
- Knowledge of the Lake Superior ecosystem, resource management, sediment quality, dredging and dredged material management, water quality issues, aquatic invasive species, and other issues affecting Lake Superior.
- Knowledge of Great Lakes and Lake Superior use and applications of spatial models especially those that relate to
- Knowledge of Lake Superior monitoring needs and coordination needed to effectively collaborate with other DNR programs and external partners.
- Knowledge of programs and plans specifically related to Great Lakes and specifically Lake Superior, such as Areas of Concern (AOC), Lakewide Management Plans (LAMP’s), Bi-National Program, Remedial Action Plans (RAPs), Great Lakes Water Quality Agreement (GLWQA), etc.
- Knowledge of Great Lakes and Lake Superior organizations, i.e. Federal, Tribal, other Great Lakes states, non-governmental, Areas of Concerns, etc.
- Knowledge of state activities and processes to implement requirements of the Clean Water Act, including water quality certifications under CWA 401 for activities that may affect water quality and that require a federal license or permit.
- Knowledge of Wisconsin assessment and listing methodology (WisCALM) for Clean Water Act reporting, assessment protocols to determine condition and to plan management options
- Knowledge of Department of Natural Resources policies, procedures and management systems.
Physical Requirements and Environmental Factors

**Sedentary work** (exerting up to 10 pounds of force occasionally and/or a negligible amount of force frequently) about 80% of the time during the course of the year.

**Light work** (exerting up to 20 pounds of force occasionally and/or up to 10 pounds of force frequently) about 10% of the time during the course of the year.

**Medium Work** (exerting up to 20-50 pounds of force occasionally and/or up to 25-50 pounds of force frequently) about 5% of the time during the course of the year.

**Heavy Work** (exerting up to 50-100 pounds of force occasionally and/or up to 25-50 pounds of force frequently) about 5% of the time during the course of the year.

Physically, the position requires bending at the waist, kneeling, crouching, climbing, balancing, lifting, carrying, pushing, pulling, reaching, handling, fingering, sitting, standing, talking, hearing, seeing (clarity of vision at 20 feet or more, clarity of vision at 20 inches or less), walking on foot, and riding/operating boats and equipment in calm to rough conditions.

**Environmental Factors:** Depending on the time of year, activities occur inside and outside. The employee will be exposed to extreme cold (temperatures below 32 degrees for periods of an hour or more), extreme heat (temperatures above 100 degrees for periods of more than one hour), sun, wind, and rapidly changing weather conditions. There may be situations involving sufficient noise to cause the employee to shout in order to be heard. There may be exposure to physical hazards such as submersion in water, wavy or rough water causing significant jarring, winter work on ice-covered waters, proximity to mechanical parts, electrical current, etc. and/or exposure to conditions that affect the respiratory system or the skin, such as fumes, odors, acids, and chemicals that could result in bodily injury if not properly handled.

**Equipment Used:** Car or truck; boats & trailers, cell phone; GPS (Geographic Positioning System) units; lake and stream water samplers; field water chemistry monitors (grab & recording); sediment samplers, electrofishing equipment; velocity meters, ice augers; computer including word processing, spreadsheet, data base, GIS, ArcView, weather and flow data access and multimedia presentations software; hand-held data recorders. Computer keyboarding will be common and frequent at all times of the year.