MINNEHAHA CREEK WATERSHED DISTRICT
QUALITY OF WATER QUALITY OF LIFE

Job Description

Position Title: Water Resource Scientist

Accountable To: Research and Monitoring Program Manager

FLSA Status: Exempt

Primary Objective of the Position:
Performs difficult skilled technical work developing hydrologic and water quality monitoring plans, analyzing watershed data to identify system issues and drivers, recommending watershed management strategies, assisting in the implementation of District capital projects, and overseeing the District's hydrologic and water quality programming, and related work as apparent or assigned. Work is performed under the general direction of the Research and Monitoring Program Manager.

Qualification Requirements:
To perform this job successfully, an individual must be able to perform each essential function satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Essential Job Functions:
Strategy Development:
Implement strategic organizational and departmental objectives, and assist the Research and Monitoring Program Manager in aligning and managing workflow, finances, and scientific approach to achieve established priorities in the areas of data analysis, monitoring, and capital project development.

Develop and implement plans for hydrologic, water quality, and ecological field data collection to support evolving organizational priorities by conducting subwatershed diagnostic assessments that identify issues, drivers and management strategies, and evaluating capital project effectiveness with pre and post construction data.

Under the direction of the Program Manager, analyze biological, water quality and hydrologic data to support the District's mission, including pollutant and hydrologic mass balance assessments, statistical analysis, watershed and lake model development, and ecosystems assessments.

In collaboration with District Planning, Outreach, Policy, and Permitting program staff, develop data-driven stories using written, verbal, and visual methods based on insights obtained from data collection and analysis. The conversion of insights into compelling stories will allow the organization to identify, implement, and evaluate capital projects.

External Coordination:
Develop and maintain strategic external relationships to continually improve the District's ability collect, analyze, and communicate information about our natural systems and drive the District's mission of implementing high impact capital projects.

The Water Resource Scientist will interact and maintain positive relationships with cities and townships; state and local agencies; congressional, state, regional, and local governments, and the public; engages cities, citizens, and other stakeholders in the development of District plans, programs, and policies.

Oversee the development of Total Maximum Daily Load (TMDL), Biological Stressor Identification, and Index of Biological Integrity (IBI) studies within the District and provide technical support to the Minnesota Pollution

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Control Agency (MPCA) and Minnesota Department of Natural Resources (MnDNR). The Water Resource Scientist will serve as a liaison between the MPCA, MnDNR, and local stakeholders.

Administrative and Management:
Develop and manage project/program work plans (including goals, budget, and schedule), write grant applications, review Scope of Work documents, and Requests for Proposals to procure design and engineering services; prepare annual reports to the Board and state agencies.

Provide direction or training to District Technicians on data collection methodologies that support data analysis, statistical modeling, or mechanistic modeling frameworks.

Prepare and present recommendations, Requests for Board Action (RBAs) and resolutions to the Board of Managers for research and monitoring activities, including, department work plans, policy development, and special projects.

Education and Experience:

Bachelor's degree with coursework in hydrology, environmental science, ecology, biology, natural resources, or related field and 2-5 years of experience dealing with the practical aspects of hydrology, ecology, biology, water quality, and water resource management, or equivalent combination of education and experience.

Knowledge, Skills and Abilities:

Technical proficiencies:

- Extensive understanding of watershed concepts such as hydrology, aquatic chemistry, limnology, and aquatic ecology
- Ability to statistically describe and analyze water quality, lake levels, streamflow, and pollutant loading with industry standard software (i.e. R, Excel, FLUX, Python, SAS)
- General knowledge of hydrologic and water quality sampling methodologies including stream sampling, lake sampling, automated sample collection, stream geomorphology surveys, and remote sensing techniques
- Ability to identify and implement novel hydrologic and water quality modeling and data analysis methods
- Ability to make arithmetic computations, mass balance calculations, and perform statistical analysis
- Ability to build, edit, and obtain output from hydrology and water quality models such as P8, BATHTUB, GWLF, and other industry standard watershed and lake models
- General knowledge of traditional biological community and habitat survey methodologies including wetland and aquatic plant surveys, fish community monitoring, stream fish and macroinvertebrate surveys, stream geomorphology and habitat surveys, and other biological community monitoring protocols
- Ability to understand, implement, and analyze standard indices of biological integrity (IBI) such as the MnDNR lake fish IBI or MPCA stream macroinvertebrate IBI
- Familiarity with data visualization software or scripting languages such as R, Python, Tableau, ArcGIS, or Javascript
- General knowledge of laboratory analytical standard methods
- Ability to develop and implement field monitoring protocols, sampling plans, quality assurance plans, and standard operating procedures
- Ability to implement standard operating procedures developed by other agencies such as the USGS, MPCA, MnDNR, USEPA, or MCES
- Proficiency operating standard office equipment, computer equipment including related hardware and

software and job-specific devices (i.e. WISKI, Python, R, ArcGIS)
- Ability to operate water quality monitoring equipment (e.g. level sensors, sondes, and flow meters) and ability to trailer and operate motorized watecraft
- Ability to reliably identify fish, plants, and invasive species in the field including a knowledge of published research studies and field guides for plant and animal identification
- Ability to operate biological monitoring equipment (e.g., sonar, fish nets, invertebrate samplers) and ability to trailer and operate motorized watercraft
- Ability to work occasional evenings and weekends

Project management and professional proficiencies:
- Comprehensive written and oral communications skills and ability to be an objective listener and respect the opinion of others
- Thorough organizational skills to maintain and prioritize caseloads while managing several complicated investigations simultaneously
- Thorough skill processing and analyzing information related to GIS mapping, budgets, contracts, work plans, policies, grants and projects
- Thorough skill operating standard office equipment, computer equipment including related hardware and software, and job-specific devices and equipment
- Strong understanding of fundamental project management principles including scope, schedule and budget
- Ability to develop and maintain a working knowledge of the District's operations and policies, and state rules and regulations necessary to satisfactorily complete assigned responsibilities
- Ability to provide superior customer service and interaction in a friendly, professional manner, and ability to maintain a flexible attitude toward job responsibilities and procedural changes, with a willingness to help others as needed
- Ability to participate in educational opportunities to stay abreast of changes related to program area
- Ability to develop and maintain positive, cooperative, working relationships with all District employees/consultants and the general public

Physical Requirements:

This work requires the frequent exertion of up to 10 pounds of force and occasional exertion of up to 50 pounds of force; work frequently standing, walking, sitting, speaking or hearing, using hands to finger, handle or feel and reaching with hands and arms and occasionally requires climbing or balancing, stooping, kneeling, crouching or crawling, tasting or smelling, pushing or pulling, lifting and repetitive motions; work requires close vision, distance vision, ability to adjust focus, depth perception, color perception and peripheral vision; vocal communication is required for expressing or exchanging ideas by means of the spoken word; hearing is required to perceive information at normal spoken word levels and to receive detailed information through oral communications and/or to make fine distinctions in sound; work requires preparing and analyzing written or computer data, using of measuring devices, operating machines, operating motor vehicles or equipment and observing general surroundings and activities; work frequently requires exposure to outdoor weather conditions and occasionally requires working near moving mechanical parts, exposure to fumes or airborne particles, exposure to toxic or caustic chemicals, exposure to vibration and wearing a self-contained breathing apparatus; work is generally in a moderately noisy location (e.g. business office, light traffic).

Special Requirements:

Trailering and operation of motorized watercraft
Valid driver's license

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Acknowledgement:

_____ _____

Employee Date

_____ _____

Supervisor Date

The above is intended to describe the general content of and requirements for performance of this job. It is not to be construed as an exhaustive statement of duties, responsibilities or requirements.