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Job Specification

Position Title: Aquatic Assessment Science Specialist - Quetico Milles Lacs FAU
Job Code: OPSEU - Biologist 3 B/U, 14026
Job ID: 19931

Purpose of Position:

Under the general direction of the Science Coordinator, contributes to the measurable advancement of sustainable resource management in the Northwest Region by identifying, planning, organizing, coordinating and leading the acquisition, development and transfer of site specific long-term, trend-thru-time aquatic ecosystem monitoring data required to accurately evaluate and assess the impact of identified biological and environmental 'stressors on fish communities and populations, aquatic habitat and water quality in support of an integrated program of science and knowledge acquisition, synthesis and transfer; assist in the regional coordination and delivery of programs (e.g. broad-scale fisheries monitoring, aquatic ecosystem classification, climate change, invasive species); supports other program areas.

Duties/Responsibilities:

1. Participates in the development and implementation of an integrated aquatic science and information program by contributing to the development of 3-5 year strategic aquatic science and fisheries assessment and monitoring plans, developing annual work plans and program status reports, preparing budget proposals and monitoring expenditures.
2. Identifies the science and information required by resource practitioners relative to development, calibration, and use of fisheries populations, productivity, harvest estimation, allocation tools, the development, refinement and implementation of population monitoring and assessment techniques by identifying and analyzing resource management and assessment problems (e.g. the potential impacts of identified biological and environmental 'stressors on fish communities and populations, aquatic habitat and water quality and the implications for future resource management regulations); liaising with local resource management practitioners, including staff from MNR Districts and other resource management partners.
3. Identifies the best existing science, knowledge, information, and technology available to meet the needs of resource management practitioners in managing fisheries stocks and aquatic ecosystems, the conservation of aquatic diversity and minimizing the impacts of invasive species and climate change on aquatic ecosystems and fish populations by conducting reviews of scientific literature, environmental scans and synthesizing information from scientific and resource management literature (e.g. development of management 'tool boxes, factors influencing year class strength in lake trout, impact of climate change on fish communities and population dynamics, impact of invasive species on fish communities), literature syntheses, information updates; maintaining active liaison and partnerships with researchers, science specialists, and experts within the ministry, other government agencies and jurisdictions, and the scientific, academic, and resource management communities.
4. Develops and calibrates/validates practices, standards, indices and tools related to monitoring, assessment and reporting on fish communities and populations, the ecology of aquatic ecosystems, and for rapid assessment of change detection by designing, implementing, and coordinating long-term assessment and monitoring programs, experimental management projects, case studies, and other investigative projects in concert with other team members and in cooperation with other researchers and specialists from other agencies and jurisdictions; analyzing and reporting on existing datasets collected through operational monitoring and assessment programs.
5. Leads and/or participates on project/task teams and other forums to develop agreement on practices, standards, and resource management guides by ensuring the soundness of content, statistical design, analytical procedures, and scientific review of projects through appropriate tactical plans; promoting improvements in integrated resources management and the application of existing resource management tools and knowledge by promoting the use of adaptive management principles in fisheries and aquatic ecosystem management.
6. Transfers existing science, knowledge, information and technology related to fish communities and populations, aquatic ecosystems, their monitoring and management, and the impacts of identified biological and environmental 'stressors on resource management decisions and regulations by providing direct technical assistance, consultation and advise in the use and interpretation of science and information (e.g. assessment of fish populations for specific water-bodies); publishing the results of literature reviews, assessment and monitoring programs and other investigative projects in a variety of media including, lake syntheses reports, species stock-status reports, scientific journals, technical reports

and notes, as well as newsletters and popular magazines; packaging existing science and information for a variety of audiences to assist field practitioners in dealing with their clients (e.g. workshops, presentations on fish population status and sustainability, development of State of the Resource Reports).

7. Provides advice and guidance to resource practitioners on fisheries populations, productivity, harvest estimation and allocation tools, and in the development, refinement and implementation of population monitoring and assessment techniques, the management of information (e.g. data definitions, data collection methodologies, field applications), and the impact of different stresses on fish communities and aquatic ecosystems and their diversity (e.g. exploitation, climate change, invasive species, water level fluctuations) by reviewing fisheries management plans and strategies; providing on-site assistance and participating on regional and provincial task teams and committees (e.g. BROADSCALE Fisheries Monitoring Implementation Team),

Managers have the right to assign additional duties

The incumbent shall, work in compliance with the Occupational Health and Safety Act and its regulations and any workplace practices as directed by the employer. The incumbent shall ensure that workers take precautions to protect the health and safety of themselves and others by complying with such acts, codes, policy, procedures or accepted workplace practices as may be appropriate. The incumbent shall advise workers of actual and potential dangers in the workplace and take the required precautions.

Knowledge:

Job requires advanced knowledge of the theory, principles and practices of aquatic ecosystem management, fisheries population ecology and management, aquatic ecosystems classification and productivity, aquatic habitat classification, fish physiology and behavior, monitoring and biometrics to identify science needs, develop new practices, technologies and transfer science, information and tools to Ministry staff (e.g. the development and refinement of new standard index netting protocols for lake systems). Job requires knowledge of resource management legislation, regulations, policies and guidelines relative to Ontario (e.g. Environmental Bill of Rights, Environmental Assessment Act, Green Energy Act, Federal Fisheries Act, SPOF II) in order to develop technology, standards, techniques and tools consistent with the needs of resource managers and Government Legislation (e.g. identification of science needs associated with environmental assessment processes). Job requires knowledge of scientific methods such as experimental and sampling design and statistical analysis (multi-variate and trend-thru-time) in order to design, organize and implement science and monitoring projects and to advise on internal and external clients projects (e.g. by conducting statistically sound analyses of population responses to new fishing regulations). Job requires knowledge of computer software including word processing, data management, spreadsheets, and statistical analysis programs in order to access and analyze information, prepare scientific reports/technical papers, publications and presentations. Job requires thorough knowledge of GIS and proven ability to create, manipulate and query spatial data. Job requires knowledge of database design and architecture principles to extract and synthesize similar primary and derived data from large disparate datasets.

Staffing and Licensing Requirements:

Valid Drivers License. Current Standard or Wilderness First Aid Certificate; Pleasure Craft Operators Certificate as issued by Transport Canada.

Skills:

Job requires project management and organizational skills to determine client needs by leading working groups and workshops, interviewing staff and researching available scientific/technical information to meet those needs, (e.g. organizing facilitating a regional / provincial workshop to determine how to interpret lake productivity data in concert with standardized population sampling protocols). Job requires analytical and problem solving skills to clarify problems evaluate options and identify approaches to address fisheries population management problems (e.g. leading the development of fisheries toolkits for population management and assessment). Job requires interpreting and synthesizing to translate information from scientific studies into solutions by developing guidelines and recommendations. Job requires excellent written communication skills to provide input to strategic and operational plans, scientific publications and reports and prepare project proposals and status reports. Job requires excellent oral communication skills to present project/program proposals to clients, partners and Ministry staff; transfer science and technology in symposia and workshops and provide guidance and advice to partners/clients. Job requires strong interpersonal and consultative skills to facilitate cooperation between researchers, clients and partners (e.g. development of collaborative studies involving researchers and specialists from government as well as academia and first nation resource management specialists to determine significance of different mortality factors on sea-run brook trout in northern rivers). Job requires group leadership skills to provide advice and guidance to field staff.

Freedom of Action:

Job requires working within legislation, regulations, policies and program standards governing natural resource management and research in Ontario (e.g. Federal Fisheries Act, Act, Public Lands Act, Environmental Assessment Act) and within recognized technical and scientific procedures and practices for surveying and research (e.g. sampling methods and standards). Job requires making decisions to determine and prepare work program/project plans, budget submissions and schedules using input from program clients, research scientists, peers and other research interests in accordance with policies, directives and administrative practices. Job requires consulting/liasing with supervisors, collaborators and clients to develop and refine project directions and plans. Job requires communicating project implementation strategies and project progress to supervisors, collaborators and clients to ensure broader resource program goals and directions are met and links to other science and technology programs are made. Job requires referring only unusual situations such as requirement for increased budget to

supervisor or possible conflict with accepted scientific or technical methodologist to research community.