IDENTIFICATION

Department	Position Title	
Environment and Climate Change	Conservation Areas GIS Analyst	
Position Number	**Community**	**Division/Region**
23-10490	Yellowknife	Conservation and Sustainable Livelihoods /HQ

PURPOSE OF THE POSITION

The Conservation Areas GIS Analyst (Analyst) provides geographic information system analysis and expertise to support identification and establishment of conservation areas through the Northwest Territories (NWT) conservation planning processes.

SCOPE

Located in Yellowknife and reporting to the Manager, Conservation Planning (Manager), the Conservation Areas GIS Analyst provides expertise to support identification, evaluation, and establishment of conservation areas through the NWT Protected Areas Strategy processes.

The Conservation and Sustainable Livelihoods Division (Division) bears the primary Government of Northwest Territories (GNWT) roles and responsibilities related to conservation planning. The Division was established to protect special natural and cultural areas or protect core representative areas within each eco-region, within the Department of Environment and Climate Change (ECC). All department initiatives have territorial or national implications and therefore require timely and effective analyses to enhance GNWT and partner decision making and actions.

Developing a system of conservation areas in the NWT is a key policy commitment of the GNWT. The Protected Areas Strategy provides an effective community-based tool for advancing culturally and ecologically significant areas to long-term protected status. The Conservation Areas GIS Analyst provides expertise and technical support to inform the identification and evaluation of candidate conservation areas and makes recommendations

on conservation areas analysis and assessment strategies.

This position directly affects the success of achieving the goals of the Protected Areas Strategy and the ability of ECC to manage conservation of biodiversity. The Conservation Areas GIS analyst ensures that digital spatial information and map products on an area's ecological characteristics and values are available for full consideration by decision makers to maximize opportunities for NWT communities and the GNWT.
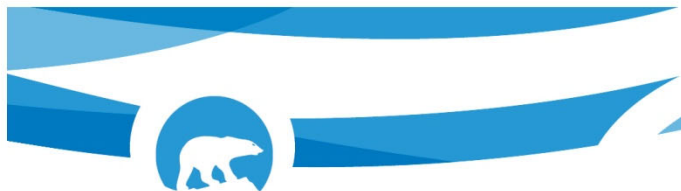
The Protected Areas Strategy is implemented in close cooperation with Aboriginal Affairs Northern Development Canada (AANDC) and other Federal and Aboriginal Governments and agencies, as well as environmental and industry organizations. As part of the Protected Areas Secretariat, the incumbent provides GIS advice and support to all Protected Areas partners, working independently or collaboratively.

The incumbent manages and administers GIS related projects, including funding. On occasion, the incumbent oversees the work of casual or contract staff on occasion.

RESPONSIBILITIES

1. **Establishes and maintains a geo-referenced conservation areas GIS database to support identification, evaluation, and establishment of conservation areas through the NWT Protected Areas Strategy processes:**
    - Defines data requirements for identifying and assessing ecological representation and resource potential of candidate conservation areas and for any other conservation areas data analysis and mapping projects.
    - Obtains spatial data from multiple sources, including accessing GIS servers, downloading data from the web, and processing data collected in the field, digitizing, and integrating it into GIS.
    - Creates and maintains geodatabases, shapefiles, and tabular data.
    - Assesses the accuracy, adequacy, completeness, and usefulness of data to ensure quality of data, data analyses and final products. This includes identification of data gaps.
    - Converts data to required formats and projects data to common coordinate system where necessary.
    - Establishes metadata in accordance with accepted GNWT standards and other documentation and prepares data for input into GNWT geospatial data warehouse.
    - Interacts with representatives of GNWT departments and other government agencies, Aboriginal, industry and environmental organizations to coordinate data needs.
    - Responds to GIS data and information requests related to conservation planning from other GNWT departments, federal government agencies, Aboriginal and

environmental organizations, industry, consultants, and research agencies.

2. **Provides expert advice to support decision-making for conservation areas planning, establishment, and management, as well as to meet the goals of the Protected Areas Strategy; this requires developing modeling strategies, conducting advanced spatial analyses, interpreting results, and presenting analyzed products:**
   - Develops analysis criteria and modeling strategies to provide a science-based framework for identifying potential core representative areas and assessing ecological representation of candidate conservation areas.
   - Conducts advanced spatial and tabular analysis of geo-referenced data and applies site selection modeling software to identify potential core representative areas and evaluate the ecological representation of candidate conservation areas.
   - Performs GIS queries, calculations, and geostatistical analyses.
   - Evaluates analysis and modeling results, then refines or updates analyses as needed or as new data becomes available.
   - Writes scripts to automate complex analysis procedures and steps so as to limit the potential for error and to facilitate updates and re-runs.
   - Generates clear and informative maps and spreadsheets to visually communicate ecological representation analysis and modeling results to the Protected Areas Secretariat, Protected Areas partners, communities, aboriginal organizations and other decision- makers.
   - Prepares technical presentations and writes technical reports in both scientific and plain language to explain analysis methods and findings to decision-makers and other interested parties.
   - Leads the Protected Areas Science Team or other technical groups to provide expertise and advice on ecological principles, conservation science and methodologies, as well as performs scientific analyses in support of the goals of the NWT Protected Areas Strategy.
   - Regularly updates software skills to maintain proficiency with current software.

3. **Interacts with and provides expert advice and mapped products to representatives of ECC and other GNWT departments and federal government agencies, Aboriginal, industry and environmental organizations on GIS- related projects and data related to conservation areas planning under the Protected Areas Strategy:**
   - Attends meetings, workshops, conferences, and otherwise communicates with relevant organizations to share information and stay abreast on other agencies' GIS projects, data, and modeling developments.
   - Provides advice on the use of GIS applications and site selection modeling software to Protected Areas partners and land use planning boards.

- Reviews new data products and accompanying reports created by ECC and federal government agencies.
- Regularly updates territorial and national reporting on status of NWT conservation areas and provides GIS data on NWT conservation areas for various global and national mapping initiatives and GIS portals.
- Creates thematic maps related to protected areas, land use, resource values, or other related matters for the Protected Areas Secretariat, Protected Areas partners, community meetings, workshops, tradeshows, publications and Protected Areas website to inform about Protected Areas Strategy progress as well as to inform a variety of decision-making and planning processes, including ECC and ITI sponsorship of candidate conservation areas.
- Acts as a departmental GIS expert on GIS analytical processes.
- Prepares associated briefing notes and correspondence as required.

4. **Manages budget and staff resources related to GIS projects:**
   - Administers contracts for GIS projects as needed, conforming to GNWT financial requirements.
   - Works closely with the Manager, Conservation Planning to ensure an effective information, including GIS, management system is established for conservation planning.
   - Supervises and mentors casual GIS staff as required.

WORKING CONDITIONS

Physical Demands

No unusual physical conditions

Environmental Conditions

No unusual environmental conditions.

Sensory Demands

Preparing digital maps, the incumbent must pay close attention to colours, textures and tones. The incumbent must be able to monitor a full range of colours and variations in minute detail.

Mental Demands

Occasional out-of-town travel is required.

KNOWLEDGE, SKILLS, AND ABILITIES

- Proficiency with commercial ESRI GIS software (ArcGIS) products.
- Understanding of Microsoft Office products (Word, Excel, PowerPoint, Outlook, Access) and other basic computer and networking functions.
- Knowledge and understanding of GIS data formats, geographic coordinate systems, GIS data conversions, GIS metadata standards.
- Knowledge of GIS analysis techniques, including geoprocessing model development, topology, and related tools.
- Knowledge of cartographic concepts and GIS mapping techniques, attention to details, patience, and ability to perform intricate mapping tasks and the ability to create informative, visually appealing maps and presentations.
- Knowledge of satellite image analysis and environmental data integration.
- Knowledge of programming with open source and/or ArcGIS Desktop software such as Python, VBA.
- Experience in the creation and maintenance of GIS data.
- Familiarity with conservation and land management within the appropriate GNWT and Federal regulatory framework.

- Knowledge of protected area planning processes, including GNWT strategies and policies related to land management and conservation areas.
- Professional qualifications in scientific associations and post-degree training through seminars, and short courses.
- Ability to pay close attention to detail and accuracy for extended periods of time.
- Ability to take broad direction and set priorities considering multiple simultaneous projects and partnership demands.
- Managerial and Supervisory:
- Organizational skills and time management skills to manage multiple GIS projects concurrently, on time and on budget.
- Ability to self-direct, working independently with minimal supervision.
- Ability to participate effectively in multi-disciplinary teams associated with the collaborative multi-party nature of the NWT Protected Areas Strategy.
- Ability to supervise and mentor GIS staff from time to time.
- Analytical skills to develop analysis strategies and to evaluate the accuracy, adequacy, completeness, and usefulness of data for GIS projects.
- Diplomacy and excellent interpersonal, verbal, and written communication skills to communicate effectively with clients with varying technical expertise, including staff from the Protected Areas Secretariat, Protected Areas partners, Aboriginal governments, and organizations, GNWT and federal departments and agencies, as well as environmental and industry associations, often working in a cross-cultural setting.
- Ability to present technical information clearly through visually appealing maps and technical and plain language reports or presentations.

- Ability to commit to actively upholding and consistently practicing personal diversity, inclusion, and cultural awareness, as well as safety and sensitivity approaches in the workplace.

Typically, the above qualifications would be attained by:

Completion of a bachelor's degree in geography, ecology, biology, environmental sciences or natural resources surveys, and a degree or certification in GIS or training in GIS through college, university, or other post-secondary institutions as well as software and environmental companies; along with a minimum three (3) years working experience with ESRI GIS software (ArcGIS) products.

Equivalent combinations of education and experience will be considered.

ADDITIONAL REQUIREMENTS

Position Security (check one)

☒ No criminal records check required.
☐ Position of Trust – criminal records check required.
☐ Highly sensitive position – requires verification of identity and a criminal records check.

French language (check one if applicable)

☐ French required (must identify required level below)
    Level required for this Designated Position is:
        ORAL EXPRESSION AND COMPREHENSION
           Basic (B) ☐   Intermediate (I) ☐   Advanced (A) ☐
        READING COMPREHENSION:
           Basic (B) ☐   Intermediate (I) ☐   Advanced (A) ☐
        WRITING SKILLS:
           Basic (B) ☐   Intermediate (I) ☐   Advanced (A) ☐
☐ French preferred

Indigenous language: Select Language

☐ Required
☐ Preferred