



## IDENTIFICATION

Department	Position Title	
Environment and Climate Change	Ecosystem Forester	
Position Number	Community	Division/Region
23-7822	Hay River Reserve	Forest Management

## PURPOSE OF THE POSITION

The Ecosystem Forester (Forester) acts as the divisional authoritative expert on matters related to forest ecology, and is responsible for planning and conducting monitoring, research and management with an aim to improving knowledge of forest health and northern ecosystem dynamics, providing input to various departmental strategies, plans and policies, and providing climate change impact mitigation and adaptation strategies.

## SCOPE

Located on the Hay River Reserve, adjacent to the Town of Hay River, and reporting to the Manager, Forest Resources (Manager), the Ecosystem Forester controls an annual budget of up to \$100,000, and covers a broad range of forest ecology topics including forest health monitoring and analysis, invasive plants, climate change impacts and adaptation, forest and wildfire ecology, biodiversity, ecosystem classification, forest disturbance and renewal, and wetland/peatland management.

The Forest Management Division (FMD) provides the policy, planning, and regulatory framework for the stewardship, protection, and sustainable management of forest resources on 80 million hectares of forested land in the Northwest Territories (NWT).

The Forest Resources Section (Section) is responsible for sustainable forest management, which is ensured through the collection of information on the state of forest resources; forest management planning; monitoring of forest health and changes to forest landscapes; regulation of forest practices and planning; and compliance and reporting.



The Ecosystem Forester acts independently to develop, conduct and implement monitoring, research, strategies and management plans related to ecology of forest lands, including wetlands and peatlands. The position also collaborates with other resource managers, Indigenous governments, co-management boards, and other agencies at international, national and provincial levels to share resource management information. The position develops research partnerships and acts as a lead science advisor and coordinator for the Forest Management Division.

The Ecosystem Forester provides leadership and expert advice in ecosystem management, advises on ecosystem classifications and encourages co-operative initiatives promoting sustainable forest ecosystem management.

The Forester coordinates and manages project and program with various partners. To develop and foster partnerships, the position is required to reach out and work with many parties including federal and territorial government, Indigenous Government Organizations, Non-government Organizations, community governments, other resource managers and the public.

## **RESPONSIBILITIES**

- 1. Develop and implement projects, plans and programs to advance understanding of climate change impacts on northern forest ecosystems.**
  - Building on the NWT Climate Change Adaptation Strategy and Framework, the Government of Northwest Territories (GNWT) Knowledge Agenda and forest vulnerability risk assessments, identify priority climate change information/knowledge gaps and provide recommendations on addressing those gaps.
  - Prepare project plans, budget submissions and schedules.
  - Monitor and assess effects of climate change on forest ecosystems (such as phenology, species range, changes in wildfire regime, forest carbon, forest regeneration and succession, mortality, and health) and conduct monitoring to track changes in ecosystem components and function as they change and adapt to climate change.
  - Complete forest ecosystem climate change vulnerability assessments, as required.
  - Assess, recommend, and, as feasible, implement methods for managing climate change impacts on forest ecosystems.
  - Lead and participate in research and field work related to forest climate change impacts and adaptation.
  - Direct the work of regional staff and/or contractors.
- 2. Design and conduct collaborative research and monitoring programs related to forest ecology with co-management boards, Indigenous governments and organizations, other agencies (e.g. Canadian Forest Service) and universities.**
  - Identify priority research needs; develop and implement plans to address those needs.



- Maintain an on-going liaison and information exchange with other department staff, forest managers, researchers (locally, nationally, internationally).
- Develop partnerships with universities and other research agencies for research in the areas of forest and wildfire ecology, climate change adaptation, forest carbon and forest renewal.
- Act as a Divisional representative on committees and working groups.

**3. Manage the territorial forest health survey program for the Department.**

- Lead and/or participate in annual aerial and ground-based forest health surveys to map and assess impacts of forest insects, disease, abiotic and climatic factors impacting forest health.
- Develop, update and adapt forest health survey standards, protocols and processes.
- Work with contractors, regional staff, Indigenous governments, co-management boards and protected areas staff in the implementation of forest health surveys which span territorial, Indigenous, co-managed and federal lands. Establish contracts and agreements as required.
- Maintain and analyze forest health data sets.
- Manage insect pest trapping program including ordering pheromones and traps, determining locations for traps, oversee setting and retrieval of traps, and reporting.
- Complete and publish annual forest health reports. Prepare presentations, posters, newsletters and other information for internal and external audiences, media and social media.
- Provide expert professional advice and promote awareness in the Department and to the public on forest health issues.
- Represent the Department on territorial and national working groups.

**4. Provide expert advice on forest ecology to the division and partners to ensure appropriate management considerations in programs, plans and strategies.**

- Identify emerging issues and challenges in forest ecosystem health and function in the NWT and recommend approaches to address them.
- Provide advice to other divisions, outside agencies and communities on climate change adaptation related to forest health and renewal.
- Contribute to development of appropriate ecosystem management practices, standards and guidelines to mitigate the impacts of developments.
- Review and provide input to Departmental reviews, plans and strategies related to invasive plant species, habitat management, species-at-risk, developments, climate change, wetlands and peatlands.
- Meet with co-management boards, Indigenous governments and other stakeholders to provide technical briefings as needed.
- Participate in local, regional, territorial and national meetings, workshops and conferences.



- Respond to information requests and concerns made by the public, Department, GNWT, and outside agencies.

**5. Advance knowledge of forest renewal after natural and human disturbances and provide expert advice to staff implementing silviculture projects.**

- Monitor, evaluate and report on results of silvicultural activities in the NWT to ensure that forest renewal objectives are met.
- Lead initiatives to investigate changes in forest regeneration after wildfire.
- Contribute to silviculture strategies, guidelines, and standards to meet forest renewal objectives.
- Contribute to standards for pre-harvest ecological assessments, silvicultural prescriptions, post-harvest assessments, and post-harvest silvicultural strategies.
- Provide input into the development of strategic management plans (forest management plans, protected areas, habitat management).

**6. Develop, maintain and update forest ecosystem and ecosite classifications.**

- Maintain and update the NWT ecological land classification by participating on territorial, national and international working groups.
- Establish ecological land classification and forest ecosite classification priorities for the NWT.
- Network with other agencies (federal/provincial/territorial) in ecological land classification, forest ecosite classification and vegetation classification

**WORKING CONDITIONS**

This position requires fieldwork 6 to 8 weeks per year. Weather permitting, surveys continue non-stop for several weeks (forest health surveys, mainly in July). This position also travels to participate in local, regional, territorial and national meetings, workshops and conferences approximately 6 times per year.

**Physical Demands**

Fieldwork requires extensive hiking through unbroken terrain, carrying heavy equipment, and occasional use of brush saws or chainsaws. To get to field locations, the incumbent will use All Terrain Vehicles (ATV's), snowmobiles, and/or boats, which involves loading and unloading ATVs on truck.

Aerial surveys involve sitting in a small, confined space and wearing headsets for long hours.



## **Environmental Conditions**

Fieldwork may involve exposure to extreme weather, biting insects, wet, cold, heat and wildlife. The incumbent may be exposed to and required to handle chemicals related to the insect pest trapping program.

Aerial surveys may involve risks of accidents and discomfort while flying low level in helicopters and small, single engine aircraft in remote locations with distance from airports and medical facilities, with harsh or unpredictable climatic conditions, or in mountainous terrain.

## **Sensory Demands**

Work in the field requires greater concentration and sensory attention for safety. Aerial surveys requires constant concentrated eyesight for observation and recording.

## **Mental Demands**

Travel and work away from home may cause disruption to lifestyle and separation from family.

## **KNOWLEDGE, SKILLS, AND ABILITIES**

- Knowledge and understanding of boreal forest ecology, tree physiology and silvicultural systems.
- Knowledge of native and alien forest insects, plants, diseases, other organisms, and abiotic factors which affect forest health.
- Knowledge of climate change impacts and adaptation practices in Canada and the boreal forest.
- Knowledge of the effect of climate and natural disturbances such as wildfire on the forest landscape and how to assess change with respect to risk and vulnerabilities.
- Knowledge of the legislation, regulations, policies and procedures pertinent to forest management, sustainability practices and the use of forest lands in NWT.
- Knowledge of forest ground and aerial survey methodologies, experimental design, data collection techniques, and use of field equipment, computer software, dataloggers and GPS.
- Knowledge and familiarity with project management methodologies, tools and best practices.
- Knowledge of and experience in budgeting, expense tracking and reporting.
- Analytical, planning, and organizational skills.
- Communication and interpersonal skills to work with researchers, resource managers and external partners such as co-management boards and Indigenous governments.
- Oral and written communication skills for writing, preparing and presenting reports and presentations to various audiences including media interaction.



- Problem-solving skills to develop and implement complex logistics, research projects, monitoring plans and strategies.
- Ability to interpret, synthesize and analyze technical information blending science, management and regulatory information and provide advice and/or recommendations.
- Ability to work independently and exercise judgment and initiative as appropriate.
- Ability to plan, organize, implement, and manage complex field delivered programs in a changing, flexible environment.
- 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:**

A Science degree in forestry or ecology recognized by the Forest Professional Regulators of Canada; or a member in good standing of any of Canada's regulating bodies for Professional Foresters or Biologists, plus a minimum of three (3) years of current and directly related experience including boreal forest ecology, and forest health monitoring within the last seven (7) years.

Equivalent combinations of education and experience will be considered.

**ADDITIONAL REQUIREMENTS**

Class 5 Driver's License.

**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