

Public (when completed)

Common Government

Ministry

Environment and Protected Areas

Describe: Basic Job Details**Position**

Position ID

Position Name (30 characters)

Water Boundary Analyst

Current Class

Program Services 3

Job Focus

Supervisory Level

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Organizational Structure

Division, Branch/Unit

☐ Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Supervisor's Current Class

Design: Identify Job Duties and Value**Changes Since Last Reviewed**

Date yyyy-mm-dd

2024-01-29

Responsibilities Added:

None. Job description updated to reflect organizational structure and modern terminology/organizational units

Responsibilities Removed:

None

Job Purpose and Organizational Context

Why the job exists:

In Alberta, the Crown owns most of the beds and shores of all naturally occurring bodies of water including lakes, ponds and those located within permanent and naturally occurring wetlands, as well as rivers, creeks and streams and other naturally occurring watercourses. There are legislative and common law criteria that must be met prior to asserting ownership to a water body. The Water Boundaries Unit serves

this function and asserts ownership to and protects the Crown's interest in the bed and shore of permanent and naturally occurring bodies of water under Section 3 of the Public Lands Act.

The natural boundaries of bodies of water are also ambulatory and can move over time due to erosion, changes in flow, flooding and climatic changes (e.g., long-term drought). Changes in these boundaries can affect the location of upland property boundaries and land area, and can have implications in boundary disputes or when land is sold or subdivided. The ambulatory nature of these boundaries, the multiple variations in the terms and wording of land grants and land titles, as well as the implications of current and historical legislation (provincial/federal) and related common law principles derived from court decisions, create a complex and highly variable land ownership pattern that frequently requires resolution in order to maintain the certainty of Alberta's land ownership. Landowners may apply to amend land title descriptions to reflect changes in the natural boundary of a water body through specified legislative triggers under Section 89 of the Land Titles Act. There is a legal requirement for the Minister charged with the administration of the bed and shore to provide their consent for the change in boundary. The Water Boundary Analyst has been delegated to provide this consent prior to a proposed survey plan being registered at the Land Titles Office.

The Water Boundary Analyst supports the Water Boundaries Unit with a purpose to protect the Crown's interest in the bed and shore of naturally occurring bodies of water and watercourses in the province. This supports the legal obligation to assert ownership of provincial water bodies. The position works with Albertans requesting water boundary decisions.

The position builds collaborative working relationships within the department and provincial government. Guidance is provided by the Provincial Water Boundary Specialist, senior staff and management in the section and others. This position functions within applicable Ministry and government legislation, regulations, policies, directives and guidelines.

Responsibilities

Job outcomes (4-6 core results), and for each outcome, 4-6 corresponding activities:

1. The Water Boundary Analyst assists with establishing and verifying the Crown's legal interest in land or the bed and shore of bodies of water and the extent of ownership to support integrated resource management. This involves:
 - i) Researching and analyzing historical, legal, scientific and technical documents (such as land titles, land grants, aerial photographs, survey plans, legislation, etc.) from a variety of sources (Provincial Archives, biophysical and engineering reports, federal government records, Municipal Archives, etc.).
 - To establish the evidence to inform decision-making.
 - ii) Methodically and systematically documenting changes to natural boundaries and ownership.
 - ii) Analyzing and interpreting historical agreements such as Orders in Council (e.g., Rupert's Land and the North-western Territory regarding Hudson's Bay Company lands), treaties, indigenous rights and traditional use of land and water bodies, federal government agreements (national parks, military reserves) and other unique ownership situations (court defined rights and grants/land titles specifying ownership of the beds and shores, etc.).
 - iv) Conducting field inspections with Government of Alberta staff, consultants, landowners, municipal planners and others to assess and verify the location of bodies of water and their probable boundaries or directing them to document the location of bodies of water.
 - v) Documenting the evidence of defensible ownership and boundary decision and creating and maintaining records (historical and current) on land ownership including decisions regarding the Crown's claim to the bed and shore of bodies of water.
 - vi) Maintaining awareness and applying findings of court decisions on issues related to natural boundaries, changes in legislation in other jurisdictions, and federally to inform Alberta practices, policy and Alberta's legislation.
2. The position assists others to make decisions to determine bed and shore ownership or changes to the ownership boundaries to protect the land and water body resources held in trust for Albertans. This is accomplished by:
 - Ensuring legislation, regulations, common law principles and natural boundary policies and practices are

consistently applied across the province in the review and assessment of bed and shore ownership and natural boundaries.

- Determining bed and shore ownership and assessing boundary changes within approval time-lines (e.g., Municipal Government Act) and Ministry guidelines with supporting materials.
- Supporting senior staff with rendering and communicating decisions to affected parties through written decisions or verbal discussions, including meeting with landowners and their agents to explain and defend the decisions made.
- Assisting with representing the Crown in examining, rejecting or approving surveyors' plans and submissions prior to land titles registration to show location of or changes to water body boundaries that are shared with other owners.
- Examining subdivision plans and investigating accretion claims in order to identify Crown-owned beds and shores and either approving or rejecting the title amendments to ensure Crown lands are protected (e.g., not encroached upon) or to ensure the Crown does not encroach upon land owned by others.
- Assisting with resolving and/or mediating disputes resulting from decisions made between the Crown and stakeholders.

3. The Water Boundary Analyst supports senior staff with providing advice on technical factors, historical matters, legislative and regulatory interpretation, application of court decisions involving the Crown's ownership of beds and shores and boundary changes to support the effective management of Alberta's resources. This involves:

- i) Developing and assisting with presenting technical reports to internal and external stakeholders. This includes addressing ownership decisions with stakeholders.
- ii) Interpreting land titles, land grants, treaties, Surrendered Indian Reserves documents regarding ownership of beds and shores and boundary determination.
- iii) Supporting senior staff and management when providing advice, information and evidence and background material to GoA legal counsel in actions representing the Crown.
- iv) Preparing aerial photo overlays, sketches, charts, graphics, statistical information and historical ownership and natural evolution of water features for internal and external stakeholders.
- v) Addressing and defending issues of Crown ownership across a variety of stakeholders (e.g., federal, provincial jurisdictions, private landowners, surveyors, land developers, planners, etc.), and developing and drafting responses for ministerial and executive review (e.g., action requests, public enquiries).
- vi) Providing recommendations for the retention of water bodies and their beds and shores throughout Treaty Land Entitlement processes.
- vii) Providing recommendations regarding policy, legislation and regulation changes.

4. The position is responsible for supporting the development and maintaining a productive and professional relationships with internal and external stakeholders to maintain credibility, trust, understanding of the principles of land ownership and boundaries.

This involves:

- i) Ongoing contact with stakeholders to develop a shared understanding of processes, issues, and the Crown's position/interests.
- ii) Managing multiple concurrent proponent files by utilizing organizational skills, project and conflict management skills.
- iii) Developing schedules to prioritize files.
- iv) Pro-actively capitalizing on opportunities to engage stakeholders to expand and develop understanding of natural boundaries and drafting materials geared to different levels of understanding for internal and external presentations (e.g. social media, information bulletins and Ministry website).
- v) Supporting senior staff when representing the interests of the Minister and Crown, cross-ministry and community presentations/panels, meetings, committee work.
- vi) Supporting senior staff when dealing with clients to ensure a common understanding and mitigating potential for litigation.

5. Support other initiatives and priorities of the section, branch, division, department and Government of Alberta, as needed. Apply policy and analytical skills to other projects and assignments, as needed.

Problem Solving

Typical problems solved:

-The Water Boundary Analyst assists with officially clarifying whether the bed and shore of a body of water or any land adjacent to or within the bed and shore is owned by the Crown in right of Alberta or not.
-The Water Boundary Analyst assists with verifying the changes to the natural boundaries as shown on proposed plans whether they are consistent with the common law principles, legislation, regulations and policies or not. If no inconsistency is found, a consent letter will be issued to register the plan. Otherwise, the discrepancies will be brought to the attention of the surveyor for further actions.

Types of guidance available for problem solving:

- Guidance for problem solving will be provided by Provincial Water Boundary Specialist, senior staff and management within the section.

Direct or indirect impacts of decisions:

Decisions made by the Water Boundary Analyst are expected to inform decisions (made by others) to have the following effects:

- Protect the Crown's interest in the bed and shore of bodies of water while respecting the rights of the adjoining riparian landowners.
- Assist the stakeholders and the government agencies to take appropriate steps regarding the proposed activities within the bodies of water.
- Provide assurance for the accuracy of the position of natural ownership boundaries as shown on registered plans.
- Resolve disputes over water body ownership and their boundaries, and to avoid litigations against the Crown.

Key Relationships

Major stakeholders and purpose of interactions:

- Landowners or their agents who would like to amend the legal description of a land title to include accreted former bed and shore areas to the adjoining upland.
- Alberta Land Surveyors who prepare a plan which shows a change in a natural boundary. Under Section 89 of the Land Titles Act, a consent from the Crown as the owner of the beds and shores is required before such a plan can be registered at the Land Titles Office.
- Consulting companies and land developers, oil and gas/utility companies, municipalities or landowners assessing wetlands and bodies of water within areas to be affected by a proposed activity. They need a confirmation from the Crown about the ownership of any existing bed and shore within the proposed activity area.

Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Bachelor's Degree (4 year)	Science	Other	

If other, specify:

Bachelor of Agriculture, Bachelor of Environmental Science

Job-specific experience, technical competencies, certification and/or training:

The Water Boundary Analyst work is not undertaken elsewhere. This position requires a university graduation in a related field and a minimum of four years of progressively responsible related experience (e.g., Physical Geography, Earth Sciences, Geomatics, Land Surveying, GIS, Remote Sensing and aerial photo interpretation, Environmental Science/Engineering, Botany, Land Conveyance/Planning/Management).

The position requires a strong understanding and knowledge in the following areas:

- Alberta Land Survey system including cadastral and parcel mapping
- Land surveying practices including field procedures and survey calculations
- Theory and principles of physical geography and hydrography
- Cartography and mapping projection systems
- Riparian ownership and water boundary principles established by legislation and related court rulings
- Land conveyance practices and documentation
- Ministry policies, programs and business plan including administrative policies, procedures and

regulations

- Public Lands Act and regulations, Surveys Act, Land Surveyor's Act (including Alberta Land Surveyors Association Manual of Standard Practice), Land Titles Act and Procedures Manual, Municipal Government Act, Environmental Protection and Enhancement Act, Water Act, Mines and Minerals Act, Transportation and Utilities Act, Irrigation Act, Heritage Resources Act, Government Organization Act, Transfer of Natural Resources Act, Tax Recovery Act, historical related legislation such as Northwest Irrigation Act, Alberta Wetland Policy and land use planning/management.
- Legislation in other jurisdictions (Federal Fisheries Act, etc.)
- Treaties, land claims, and traditional uses of natural resources

The positions requires the following skills and abilities:

- Strong computer skills and knowledge of some essential software such as all Microsoft applications, AutoCAD and GIS applications
- Strong research skills and techniques
- Strong writing skills to effectively communicate complex and technical information to various audiences
- Strong project management skills to handle multiple priorities
- Strong mediation and issue resolution skills in politically sensitive situations
- Strong and effective communication, diplomacy, conflict resolution and facilitation skills
- Advanced problem solving, analytical and organizational skills in working with multiple stakeholders and in preparing and presenting supporting material for decisions made
- Ability to develop strong interpersonal relationships at all levels with internal and external stakeholders
- Ability to assess complex situations in developing decisions and providing advice to Ministry staff, external stakeholders and legal counsel.

Behavioral Competencies

Pick 4-5 representative behavioral competencies and their level.

Competency	Level					Level Definition	Examples of how this level best represents the job
	A	B	C	D	E		
Develop Self and Others	☒	☐	☐	☐	☐	Develops own career and reduces barriers for others: • Creates development plan with supervisor and seeks feedback • Reflects on performance to identify areas of improvement • Offers knowledge and insight to others • Supports career development of direct reports	Supports career development by creating a plan with supervisor
Creative Problem Solving	☐	☐	☒	☐	☐	Engages the community and resources at hand to address issues: • Engages perspective to seek root causes • Finds ways to improve complex systems • Employs resources from other areas to solve problems • Engages others and encourages debate and idea generation to solve	Incorporate subject matter experts or acquire an appropriate level of documents (historical air photos) to include in the water boundary file review

		problems while addressing risks	
Build Collaborative Environments	○ ○ ● ○ ○	Collaborates across functional areas and proactively addresses conflict: • Encourages broad thinking on projects, and works to eliminate barriers to progress • Facilitates communication and collaboration • Anticipates and reduces conflict at the outset • Credits others and gets talent recognized • Promotes collaboration and commitment	Incorporate the required staff to deliver an efficient process for water boundary file review
Agility	○ ○ ○ ● ○	Proactively incorporates change into processes: • Creates opportunities for improvement • Is aware of and adapts to changing priorities • Remains objective under pressure and supports others to manage their emotions • Proactively explains impact of change on roles, and integrates change in existing work • Readily adapts plans and practices	Ability to proactively schedule work and files to achieve results in the Water Boundaries Unit.

Benchmarks

List 1-2 potential comparable Government of Alberta: [Benchmark](#)