

Development, Permitting, and Compliance Monitoring in Protected Public Water Supply Areas

**2023 Drinking Water Workshop
Trent Pollett (WRMD)**

Introduction

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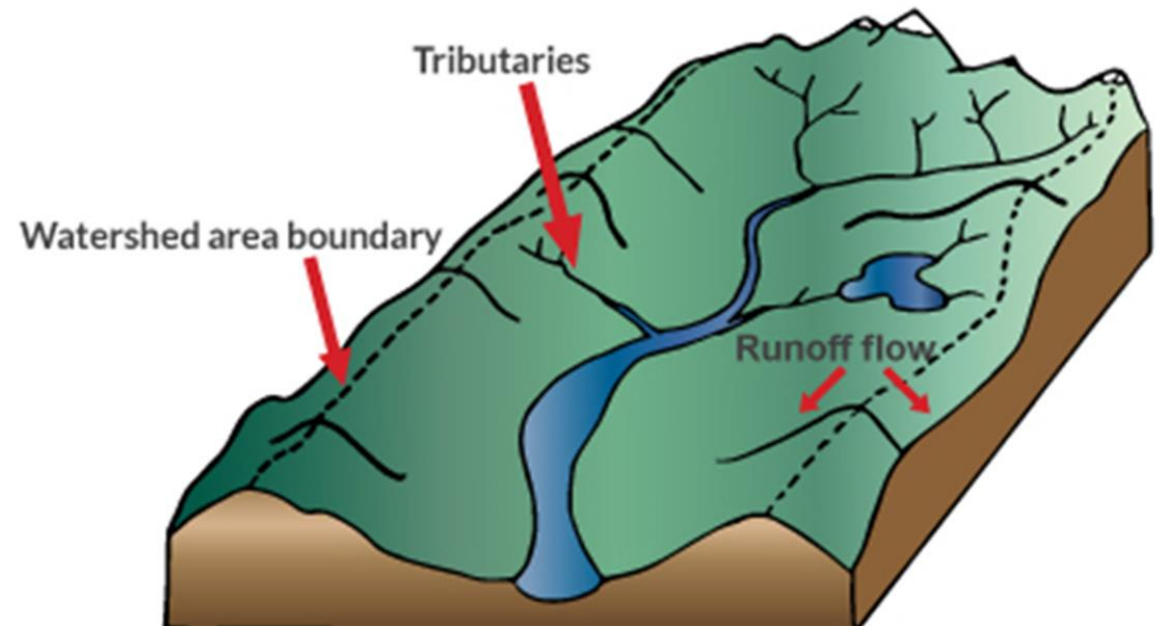
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Member of the Drinking Water Section of WRMD (central region) since May 2020



Protected Public Water Supply Area (PPWSA)

- Protected public water supply areas (PPWSAs) are protected under Section 39 of the Water Resources Act.
- All activities in a PPWSA (either a protected public water supply area or a wellhead protected water supply area) require a permit under the Water Resources Act.

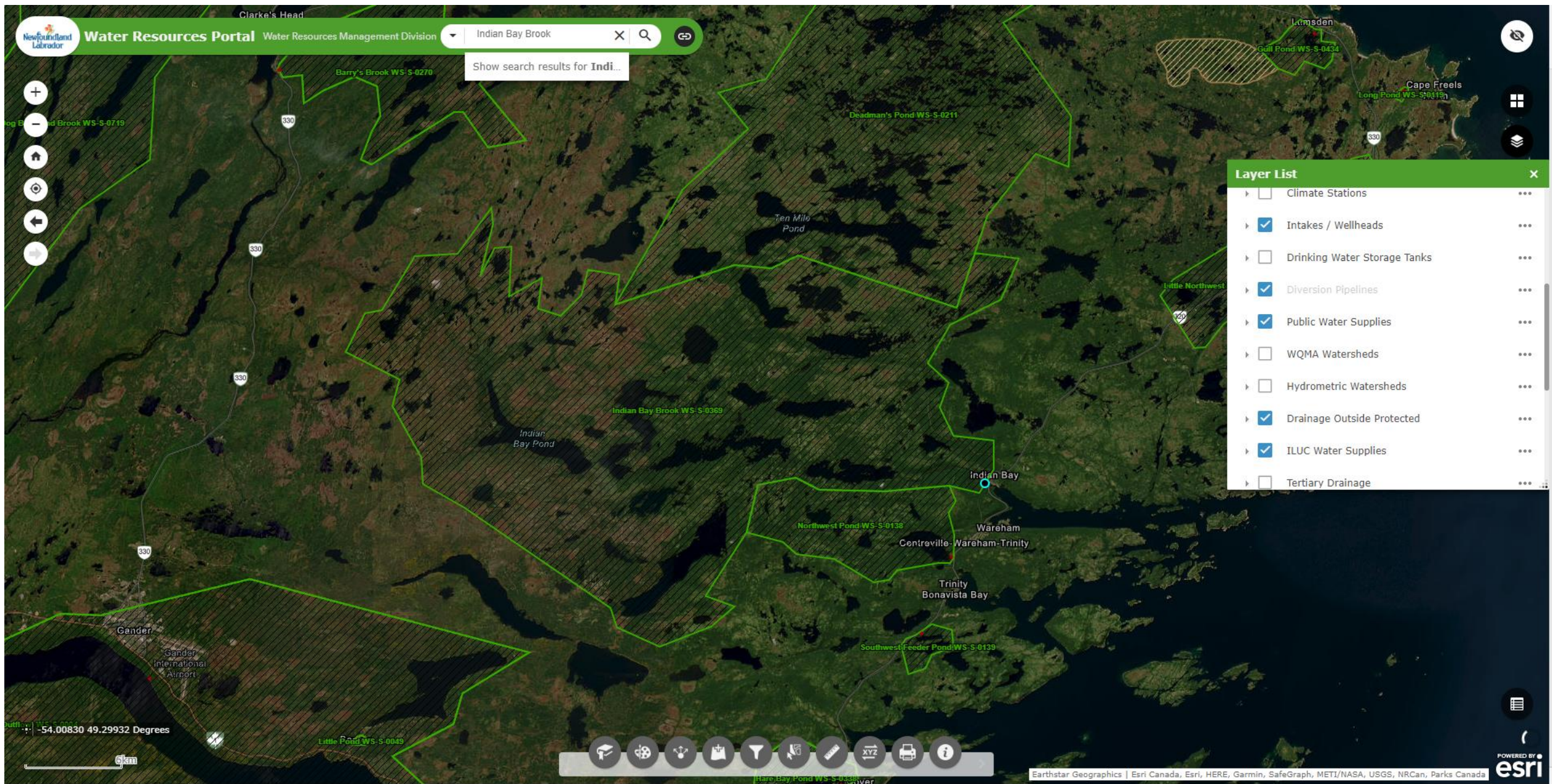


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Layer List

- Climate Stations ...
- Intakes / Wellheads ...
- Drinking Water Storage Tanks ...
- Diversion Pipelines ...
- Public Water Supplies ...
- WQMA Watersheds ...
- Hydrometric Watersheds ...
- Drainage Outside Protected ...
- ILUC Water Supplies ...
- Tertiary Drainage ...



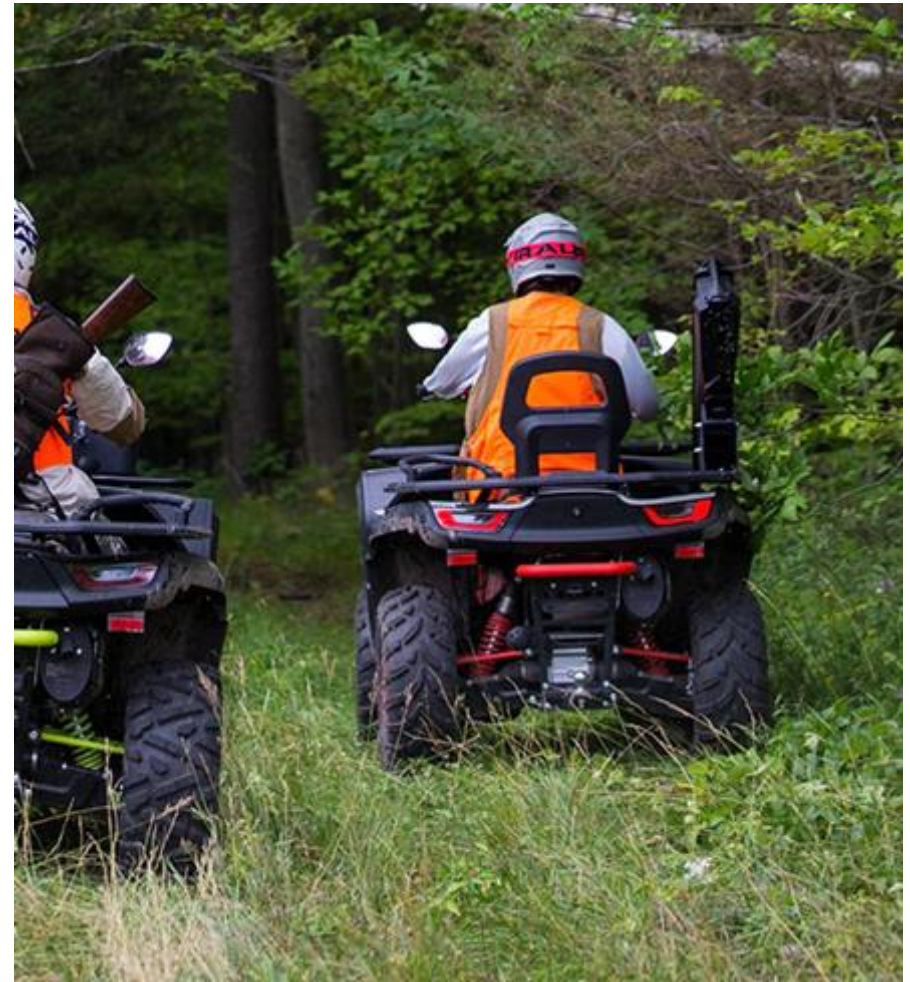
Potential Risks to Water Quality

- Sedimentation
- Fuel Spills
- Sewage Effluent
 - Bacteria/Viruses
- Garbage and Waste
- Toxins and Chemicals
 - Treated wood
 - Pesticides



Balancing Activity with Protection

- **It's not realistic to prohibit all activities in all PPWSAs.**
- Often Large Areas
- Close to Town
- Often Have Existing Developments
- Essential Infrastructure
- Economic Potential



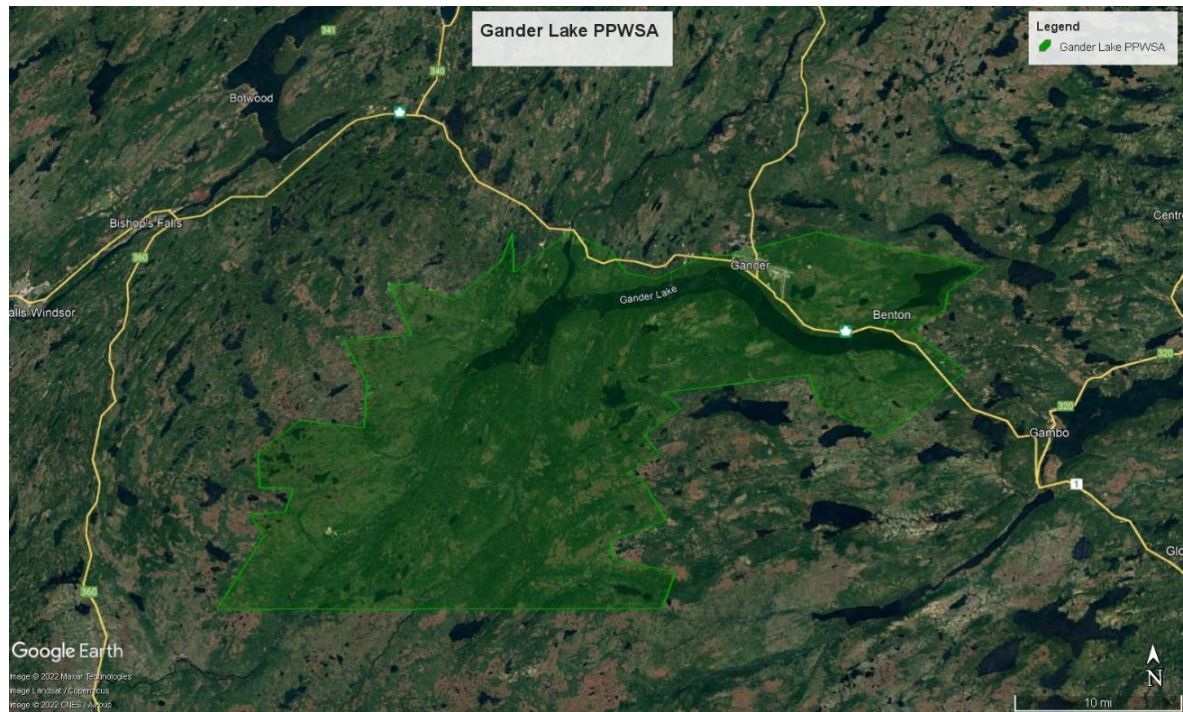
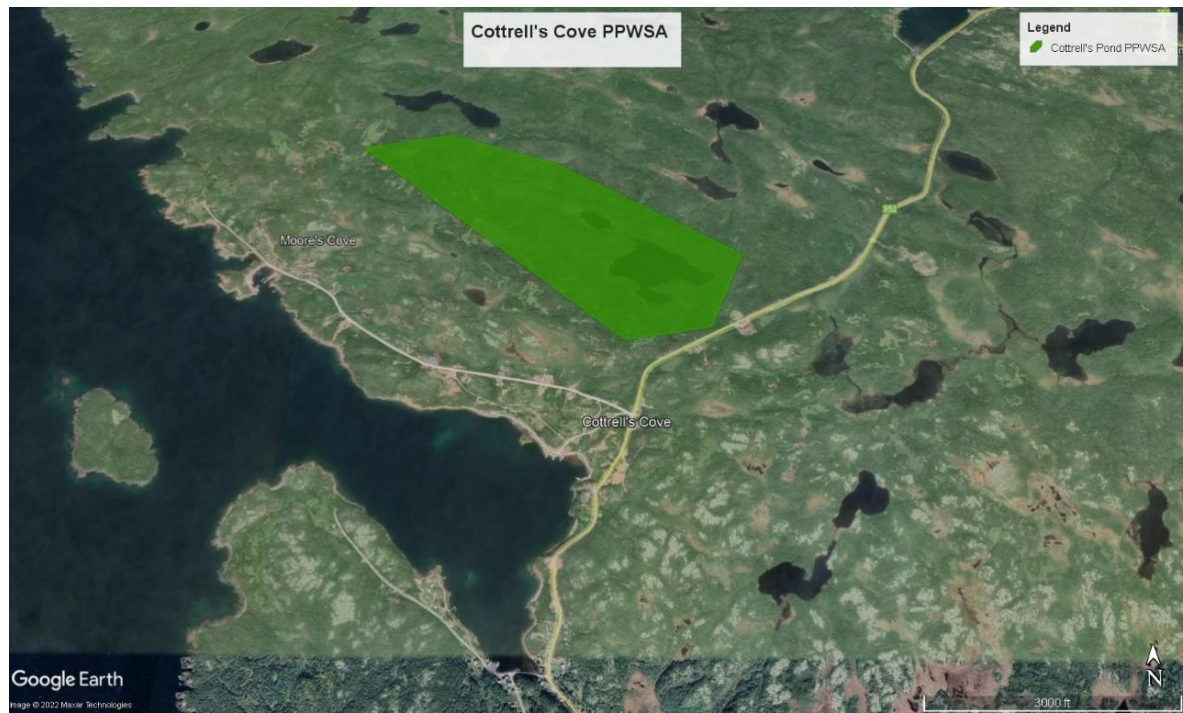
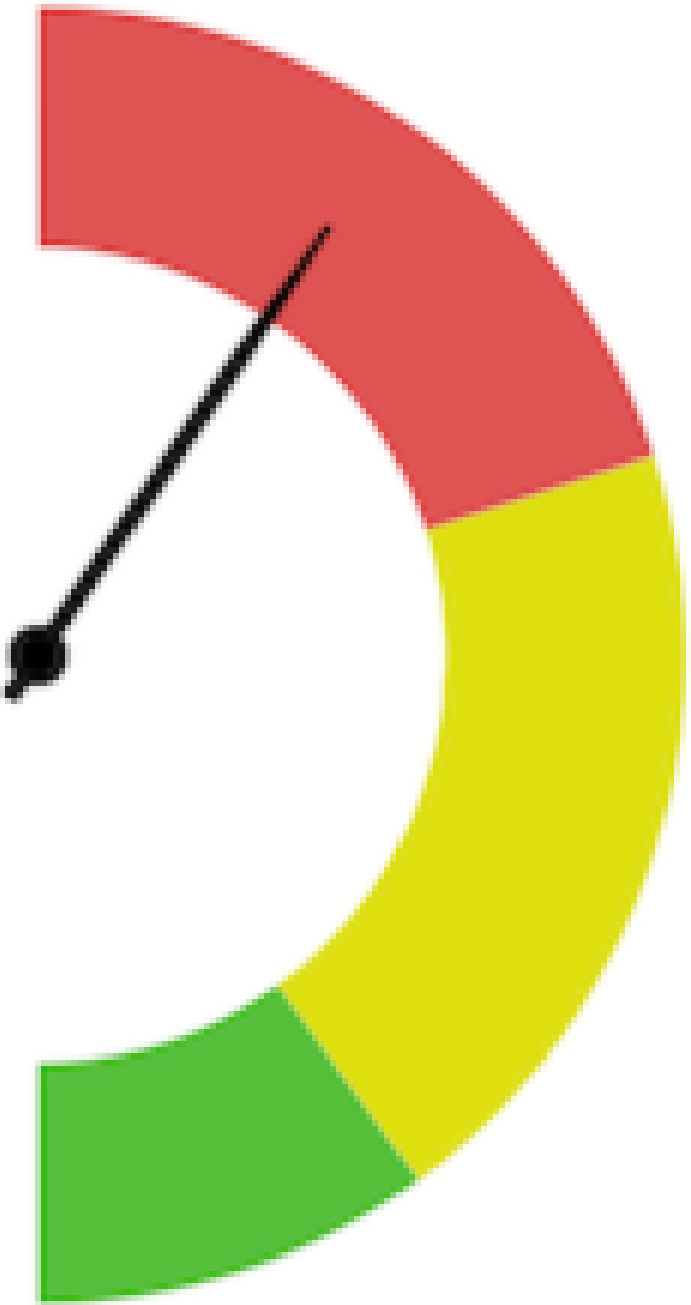
Watershed Classification

Each PPWSA is given a sensitivity classification (Low/Medium/High).

Based on characteristics like size, slope, and vegetation cover.

Large watersheds with a “low” sensitivity classification can support a number of activities without negatively affecting drinking water quality.

Watersheds classified with a “high” sensitivity may be frozen to any additional development as the risk to water quality is much higher.



Permitted Developments

Cabins

Commercial and Domestic Forestry

Linear Development

Exploration and Mines

Agriculture

Other Commercial and Domestic
Developments



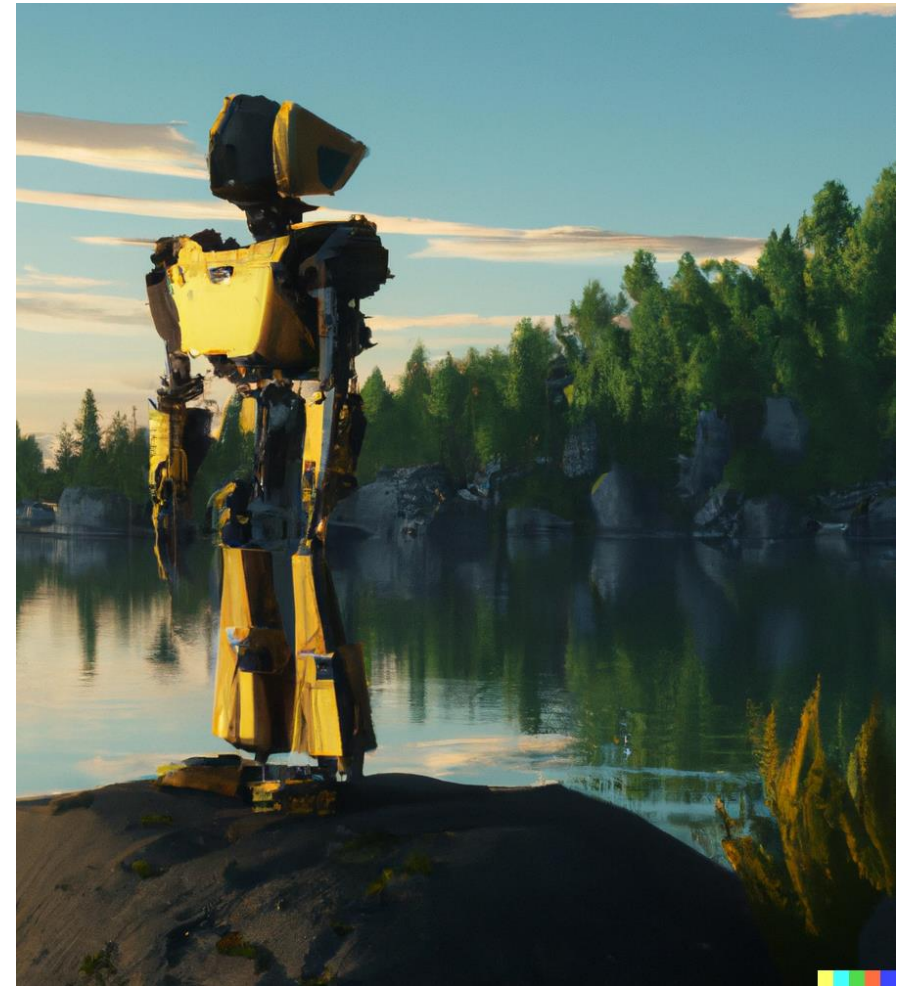
Prohibited Developments

- Vehicle Maintenance Facilities
- Warehouses
- Service Stations
- Chemical and Salt Storage
- Pesticide and Manure Storage
- Golf Courses
- Asphalt Plants
- Waste Disposal Facilities



Watershed Management

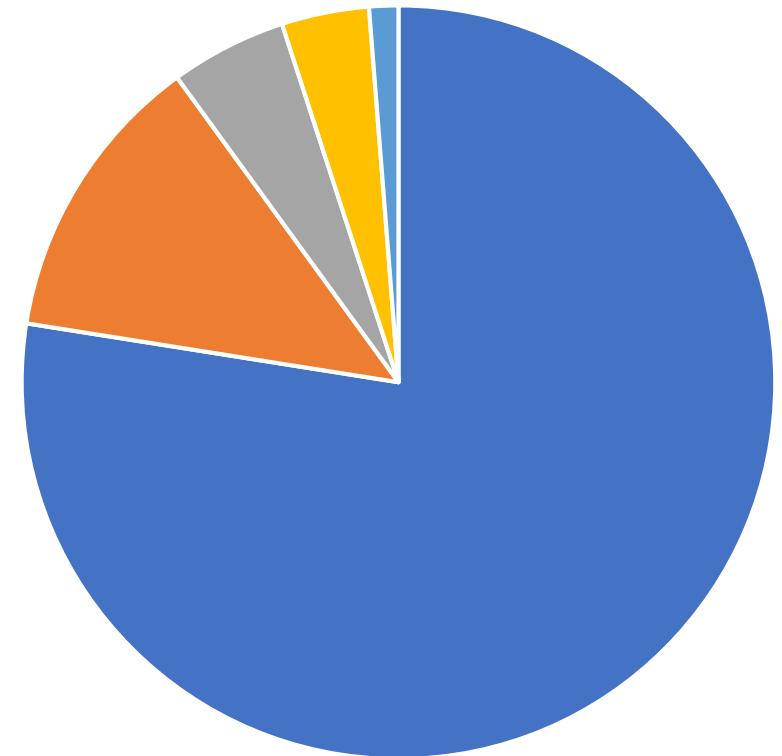
- Though some activities can be permitted in less-sensitive PPWSAs, they have to be managed to minimize risk.
- PPWSA management is accomplished through:
 - Referrals
 - Watershed Management Committees
 - Watershed Management Plans
 - Freezing Highly-Developed Areas (Cottages)
 - Permits
 - Buffer Zones
 - Monitoring



Referrals

Referrals allow us to “catch” any development inside PPWSAs when a proponent applies for approvals from other branches of government.

- Interdepartmental Land Use Committee (ILUC)
- Fisheries, Forestry and Agriculture (DFFA)
 - Crown Lands/Forestry
- Industry, Energy and Technology (IET)
 - Mines Branch
- Environmental Assessment (EA)



■ DFFA ■ IET ■ ILUC ■ EA ■ Other

Referrals in 2020

Watershed Management Committees

Existing Committees in NL:

- Gander
 - Steady Brook
 - Grand Falls -Windsor
 - Clarenville
 - Corner Brook
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- Made up of stakeholders and community representatives.
 - Meets regularly to discuss issues.
 - Review permit referrals.
 - Can create management plans tailored to the PPWSA.



Buffers

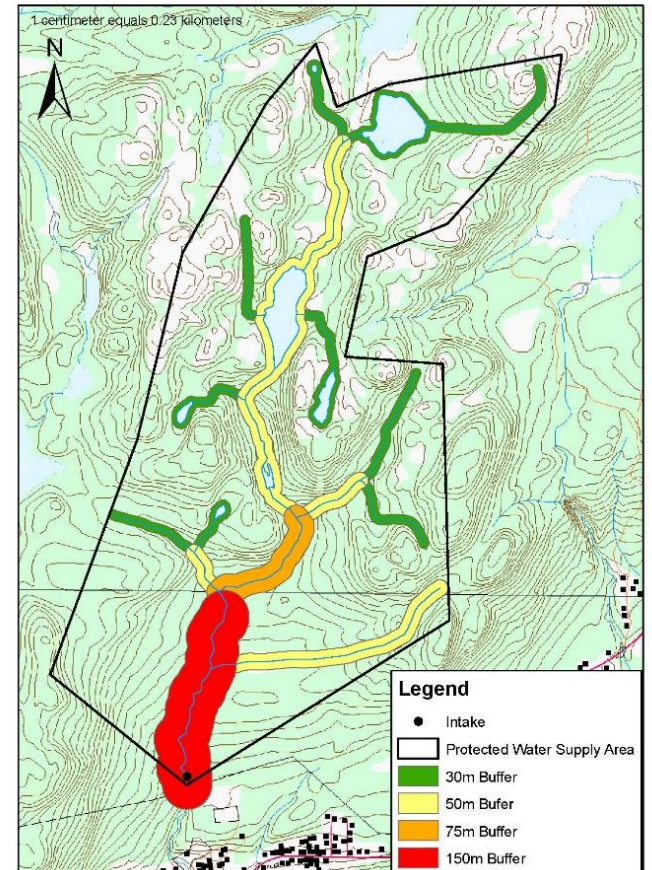
Standard Buffers within the PPWSA:

- 150 and 75 meter intake buffers
- 100 and 50 meter tributary buffers
- 30 meter buffer for all other water bodies

Specialized Buffers:

- Gander Lake (300 meters)

Irishtown Brook Protected Water Supply Area
WS-S-0371- Buffer Width Regime



Permits

- Any development within a PPWSA requires a Permit under Section 39 of the Water Resources Act.
- The proponent must submit an application to Water Resources Management Division (WRMD).
- Permits outline conditions that must be followed by the proponent while carrying out an activity in the PPWSA to limit risk to water quality.

Permitting Process

1. Proponent submits the permit to WRMD.
2. WRMD checks the sensitivity classification and the development thresholds to determine if a permit can be issued.
3. The application is sent to the community or the watershed management committee for them to provide comments.
4. WRMD will then review the application and any community comments, then issue a permit with activity-specific conditions if the activity can be completed with a minimal risk to drinking water quality.

Crown Lands/Cabins

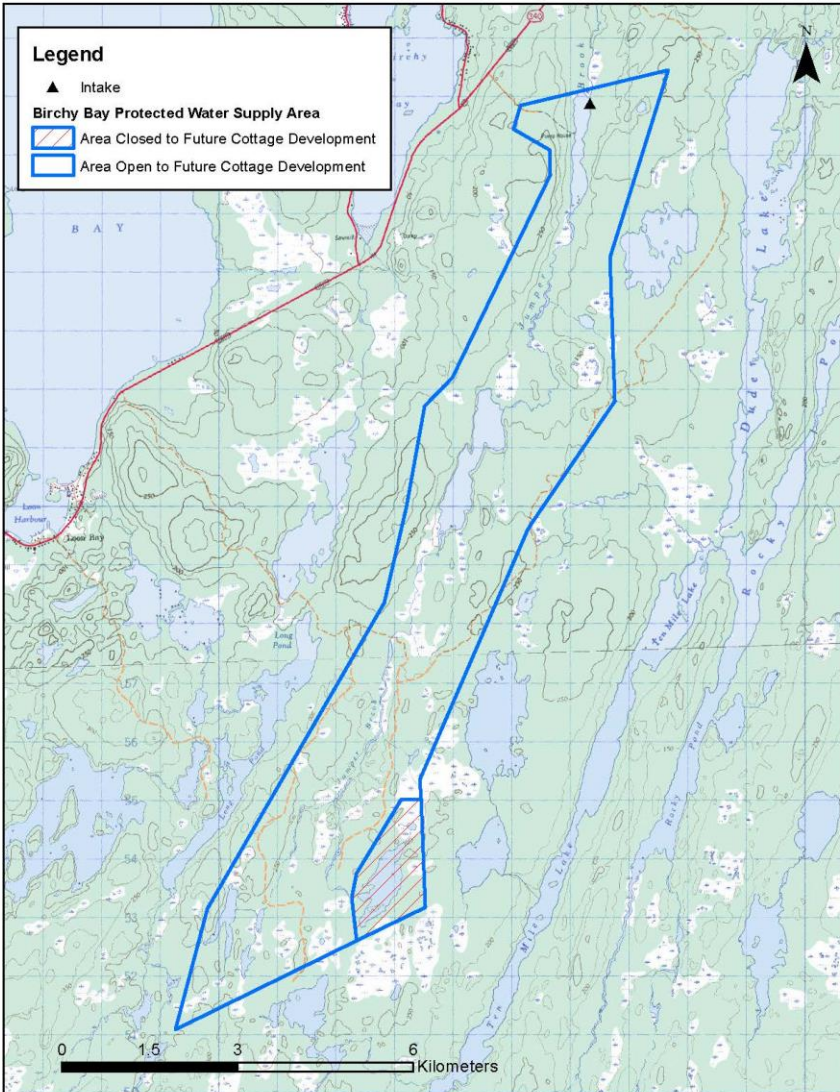
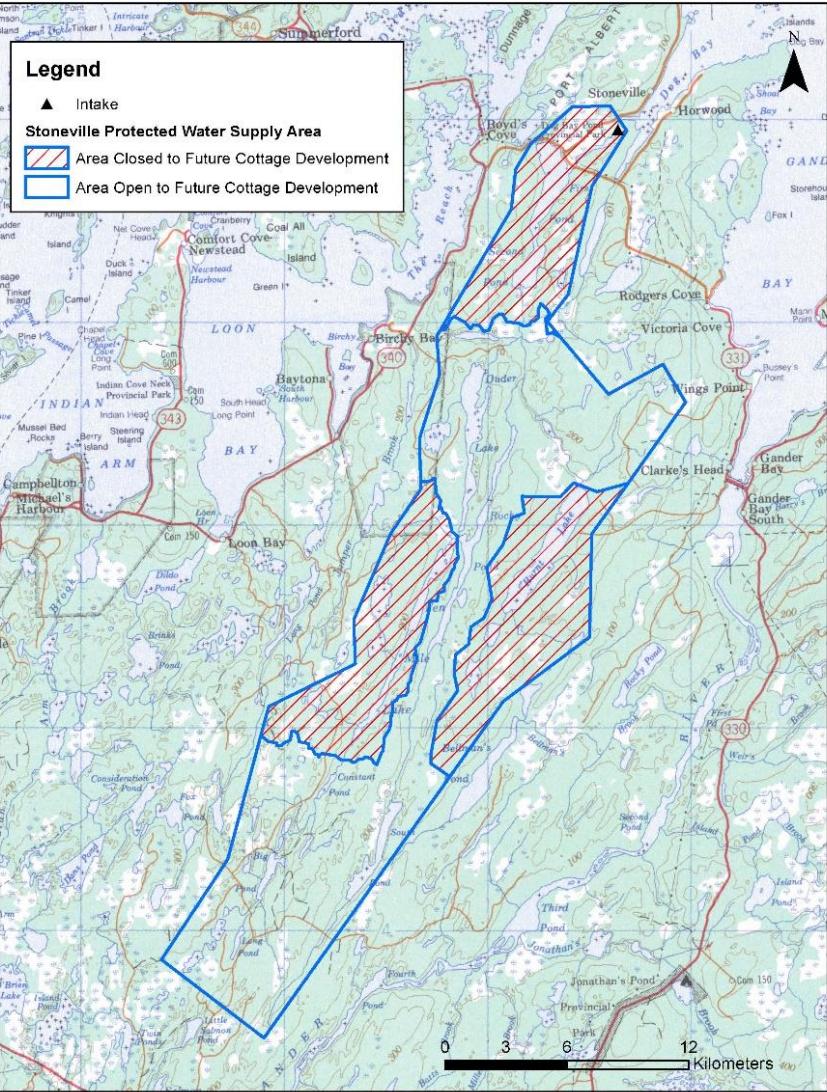
- PPWSAs are generally low-development areas with lakes, ponds, and/or rivers (i.e. prime cottage country).
- Over-developed cottage areas create potential risks to water.
 - Sewage Effluent
 - Sedimentation

Protections:

- Cottage Management Plans
- Development Thresholds
- Frozen Areas
- Sewage Restrictions
- Equipment and Fuel Restrictions



Cottage Frozen Areas



Forestry

- Domestic and Commercial Forestry
- Applied for by DFFA (Generally)
- Includes Harvesting, Silviculture, and Road Building

Protections:

- Time-Based Development Thresholds
- Fuel Storage Limitations
- Planting and Regeneration Requirements



Linear Development



Powerlines

- Essential Infrastructure
- Protections:
 - Treated wood restrictions.
 - Herbicide Restrictions
 - Limitations to equipment near waterbodies



Roads and Trails

- Usually essential with the exception of recreational trails
- Protections
 - Trail management plans
 - Fill and boardwalk requirements
 - Access Limitations (ATV)

Mineral Exploration and Mines

Massive increase in exploration
(Gander Lake)

Relatively higher risk activity due to
ground disturbance (drilling/trenching)

Protections:

- Sampling Requirements
- Effluent Requirements
- Borehole Capping
- Trenching Requirements
- Drilling Density Limitations
- Drill Fluid Limitations
- Development Thresholds
- Fuel Storage Requirements



Agriculture

Limited Agriculture Developments in PPWSAs in NL, but they do exist.

Protections:

- Fertilizer and manure spreading
- Fuel/Equipment storage
- Pesticide use



Other Types of Permitted Activities



- Commercial Buildings
 - Municipal Developments
 - Maintenance Activities
 - Infrastructure Upgrades
-
- These activities are usually managed on a case-by-case basis.

Monitoring and Compliance

WRMD completes site inspections to ensure compliance with permit conditions, or to assess development in an area.



Drones

Relatively new addition for WRMD

Variety of uses

- Sedimentation Sources
- Algae Blooms
- Assessing Developments





Key Messages

Protection of water quality is the first priority, but some activities can safely take place within PPWSAs.

Each PPWSA is unique, and are managed individually.

There are multiple layers of protection that WRMD can use to protect water quality within a PPWSA.

Any development activity within a PPWSA requires a permit from WRMD, and each permit contains conditions for specific to the activity.

WRMD tracks development and monitors activities to ensure compliance with PPWSA protections.

Thank You

