

*Experience Nature's Classroom*

# EnvirothonNB.ca

*Mount Allison University*



*May 3 - 4*  
**2026**

## **Non-Point Source Pollution Oral Presentation Scenario**



## *NB Envirothon 2026 Scenario*

### **Blue Bell River Watershed Development Project**

#### **Introduction**



Water is part of our New Brunswick culture, heritage and our sense of identity. It is also an essential part of traditions and practices of Indigenous peoples in the province. We use water for drinking, bathing, and recreation; it powers many of our industries, supports our agriculture and forestry sectors, sustains our ecosystems, and our tourism and fishing industries. In order for New Brunswick's existing surface and groundwater water resources to provide us with abundant clean water now and into the future, they need to be protected and managed responsibly to ensure their long-term sustainability.

Non-point source (NPS) pollution is diffuse water pollution from broad areas, not a single pipe, caused by rainfall or snowmelt washing pollutants like nutrients, pesticides, bacteria, sediment, and trash from land into lakes, rivers, and oceans. It's the collective result of everyday activities from sources like urban runoff, agriculture, and forestry, making it hard to trace but a leading

cause of water quality issues, requiring management through better land use and practices rather than end-of-pipe treatment.

## **Background**

The Blue Bell River Watershed is situated in the Central Uplands of New Brunswick, has a drainage area of 50,000 hectares and includes several tributaries (Figure 1). The region is characterized by rolling terrain, mixed forest cover, and drains into a major river system. There are rural and urban areas, Indigenous land, hobby farms, and businesses within the watershed area.

It is not a designated watershed protected area. Streams in the watershed are a mix of surface runoff, and some are fed by aquifers. Three of the tributaries are spring fed and run into pools in the main stem of the watershed, making them cold water refugia for cold water fish species such as Atlantic salmon and brook trout.

Recreational activities occur throughout the watershed. There is a 40-hectare nature park in the watershed with several hiking trails.

The Blue Bell River Watershed contains floodplain forests and grasslands where water-loving grasses, flowers, shrubs, traditional medicinal plants and aquatic plant species can be found. These floodplain forest and grassland areas are also habitat for species at risk such as wood turtles, bobolink, and other migrating birds such as heron and bittern species. The natural abundance of wetlands within the Blue Bell River Watershed has been impacted by population growth. Some homeowners have even infilled wetland areas to extend their properties.

Fishing is a popular recreational and traditional activity within the watershed, even as there has been a notable decline in cold-water fish species such as Atlantic salmon and brook trout over the past few decades.

Activities in the Blue Bell River Watershed:

- Tubing, canoeing, kayaking
- Recreational fishing for Atlantic salmon, striped bass, and trout
- Hiking
- Indigenous culturally important areas to collect culturally significant medicinal plants
- Harvesting fiddleheads near the river's edge

- Swimming (people and pets)

## **Your Envirothon Challenge**

You are a woodlot owner and land developer who owns a 130-hectare woodlot in the Blue Bell River Watershed (Figure 1).

### **Woodlot Description**

#### *Topography*

- Rolling hills with elevations between 80–180 metres
- Slopes range from gentle (5–15%) to moderate (15–30%)
- Several south facing slopes suitable for residential development
- Low-lying areas near the Blue Bell Creek with flatter terrain ideal for recreation trails and green space

#### *Soils*

- Dominant soils: Humo Ferric Podzols on glacial till — well drained and suitable for construction on upland portions
- Localized imperfectly drained gleysols in depressions and near the tributary
- Sandy loam to loam textures common
- High-value building sites located on well drained ridges and benches

#### *Hydrology*

- The Blue Bell Creek flows southeast, through the woodlot
- Several intermittent streams and seepage zones feed into the Blue Bell Creek
- Potential for waterfront walking trails, viewpoints, and conservation corridors
- Existing forestry roads provide internal access
- Western boundary connects to a public road suitable for subdivision access
- Some interior roads require upgrading for residential traffic

#### *Current Land Use*

- Historically managed as a private woodlot

- No major harvesting or silviculture in the last 10 years. Minimal amount of firewood removal in stand 1
- Forest cover is largely intact and suitable for integrated development planning

The 130-hectare property is forested and comprises three major forest stand types, each with different development potential (Figure 2).

Stand 1 — Tolerant Hardwood Stand (50 hectares) consisting of sugar maple, American beech, yellow birch, white ash and ironwood

- Age: 50–70 years
- Condition: Mature hardwood with high scenic views
- Terrain: Elevated ridge with long views

Stand 2 — Low lying area comprised of a mixture of grasslands, alder swales and woodlands with balsam fir, red maple, white cedar and black ash (30 hectares)

- Age: 40-60 years
- Condition: Moist diverse habitat
- Terrain: Flat to gently sloping near Blue Bell Creek

Stand 3 — Mature Conifer Stand (50 hectares) consisting of red spruce and eastern hemlock

- Age: 80-120 years
- Terrain: Moderate slopes

Your intention is to develop the woodlot into a new housing subdivision. The subdivision you are proposing would consist of 400 affordable housing units, no more than 2 stories (townhouses, single detached homes). Homes would be on separate wells, and a centralized sewage treatment system (60 hectares). In addition, a 9-hole golf course would be developed (40 hectares) and the remaining area will be developed to enhance additional recreational opportunities for the residents and local population (30 hectares).

Before construction can begin, you must present your plan at a town hall meeting for residents in the watershed area. Your plan will focus on the measures you will take to meet all environmental requirements and to mitigate non-point source pollution, primarily affecting water. The impact of this new development should be as low as possible.



Figure 1. Blue Bell River Watershed

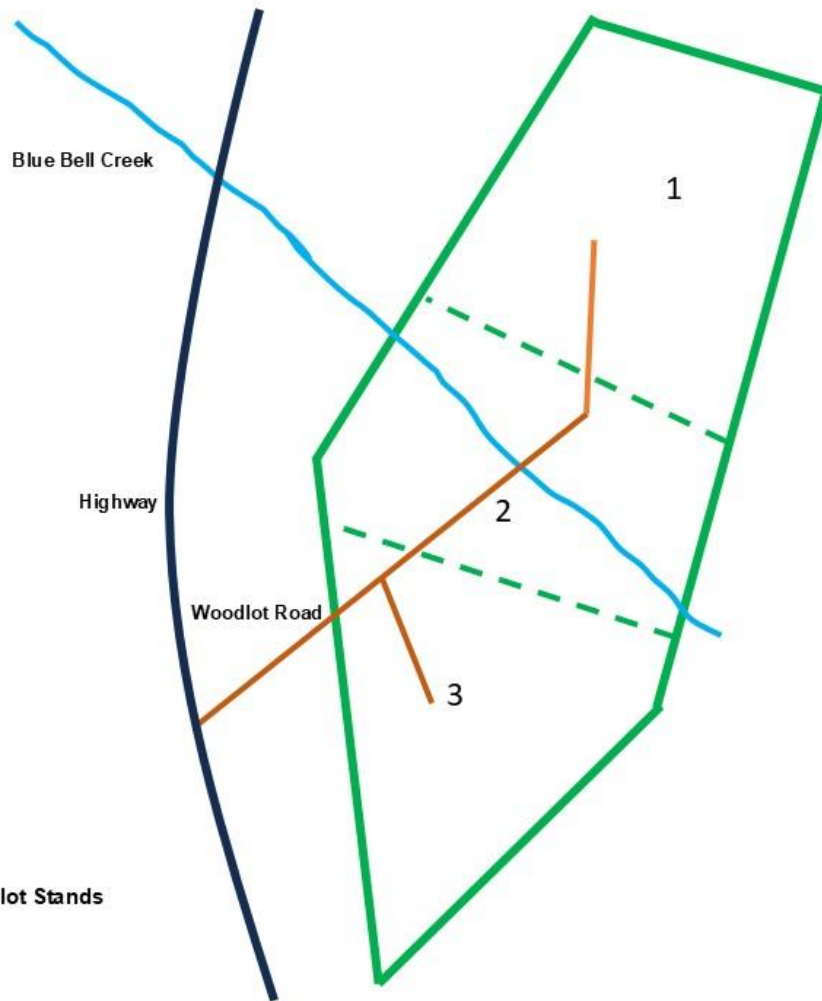


Figure 2. Woodlot Stands



**NOTE: Please review the [Judges Scoring Criteria Sheet](#) on the [EnvirothonNB.ca](#) website, to be aware of how your presentation will be judged.**

**Resources:** [NCF-Envirothon Study Guide 2025 – Click Here](#). *(You may search any resources to help prepare your presentation.)*

## **Oral Presentation**

Work collaboratively in a team to research scientific information, create a solutions to the real-world challenge, prepare a comprehensive presentation, and present the proposed plan to the judges.

- Organize information from credible sources and apply it to the specific scenario.
- Speak clearly and confidently in front of a group.
- Prepare and perform the presentation in the allotted amount of time.
- Create visual aids using Microsoft PowerPoint.
- Answer questions about the presentation content accurately and thoroughly.
- All Teams members *MUST* participate in the presentation.

## Oral Presentation Materials

Teams are to use Power Point as your visual aid.

- Maximum of 20 slides
- Maximum of 20 minutes total presentation time. 10 minutes of questions from judges.

Last slide must be used to display your 5 references (**these references must be said at some point during your presentation as well**).

Do not include your school name or team name on the slide show. No school identifier should be on the slides or clothes.

**Cue Cards:** Teams may bring up to 5 cue cards/person with speaking notes on them to the presentation. Both sides can be used. (Standard Recipe Card Size).

**Memory Sticks:** Teams are to bring their presentation on 2 memory sticks (1 to hand in and 1 for a back-up) to the competition. To be handed in at Registration.

**File Name - must be your “school and team” name. (myschool-myteam.pptx) *NOT* .pdf.**

**Print Slides** - Teams are to bring 1 printed copy of their slides with them to hand in with your memory stick at registration.

## Questions and Clarifications

Students can ask questions or request clarification on the scenario material. Please send your questions by email to the Envirothon NB Director - [Becky.geneau@cwfcocf.org](mailto:Becky.geneau@cwfcocf.org).

### **Next Workshop:**

**April 11<sup>th</sup> from 10 am – 4 pm, Maritime College of Forest Technology**

**Topics include Forestry, Soils and Land Use / Geology, Oral Presentation criteria and Scenario Q & A.**

## **Presentation Day – Envirothon NB competition at Mount Allison University**

Teams will present their oral presentation on Monday, May 4th of the Envirothon NB competition at a time randomly drawn at registration on Sunday, May 3rd.

There will be up to four round times with multiple teams presenting at each time. You will arrive at Oral Presentation (OP) check in 30 minutes before your designated presentation time. Advisors are not allowed to go with the team to practice during this time.

Your team will present to five judges of varying field specialties. There will be a room monitor who will ensure your presentation is ready and will act as official timer.

You will receive a 5 minute, 3 minute, and 1 minute notification during your presentation.

Your advisor(s) are allowed to watch your presentation.

A competition photographer may come in to take photos but will not disrupt your presentation once started.

All team members **MUST** wear the Envirothon NB Shirt provided at the competition.

Remember:

**Practice, Practice, Practice!!!**