Non-Point Source Pollution

Non-point source pollution is the **leading cause of water quality impairment** in rivers, streams, lakes, and wetlands across Canada and the world. Unlike a pipe you can see and regulate, it seeps, flows, and drifts from every field, road, and rooftop — making it the most complex water quality challenge of our time.

2026 ENVIROTHON FOCUS

Non-point source (NPS) pollution is the designated environmental issue focus for the 2026 NCF-Envirothon competition. Students will be expected to demonstrate deep understanding of NPS sources, pathways, impacts on aquatic ecosystems, and best management practice (BMP) solutions. This module covers all core content areas for the 2026 station test.

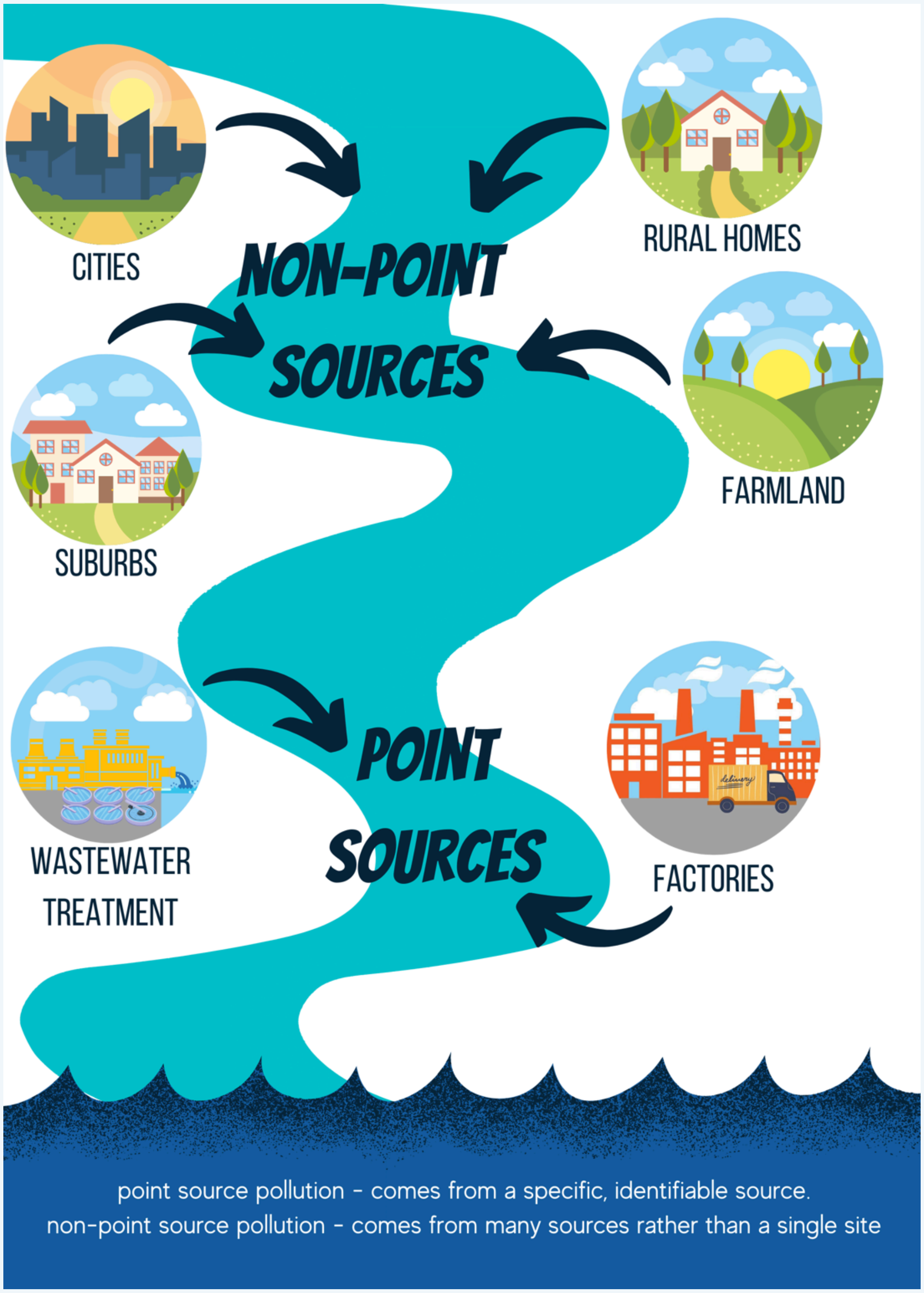
1. Point source vs. non-point source pollution

All water pollution originates from somewhere — but the key distinction in water quality management is whether we can trace it to a single identifiable location (point source) or not (non-point source). This distinction fundamentally changes how we regulate and manage it.

Characteristic	Point source (PS)	Non-point source (NPS)
Origin	Single, identifiable location — a specific pipe, outfall, or discharge point	Diffuse, spread across a landscape — no single origin
Examples	Sewage treatment plant outfall, industrial discharge pipe, fish processing facility	Agricultural runoff, urban stormwater, road salt, septic seepage, atmospheric deposition
When it occurs	Continuous or scheduled discharges; relatively predictable	Tied to rain events, snowmelt, and seasonal activity; highly variable
Regulation	Requires a permit (WAWA, industrial effluent rules); enforceable discharge limits	Harder to regulate; relies on voluntary BMPs and watershed planning
Monitoring	Measurable at the outfall pipe	Requires watershed-scale monitoring; difficult to attribute to specific source
NB legislation	Regulated under Clean Environment Act, Clean Water Act discharge provisions	Addressed through WAWA buffer zones, NB Water Strategy, voluntary programs

THE HARD TRUTH ABOUT NPS

Point source pollution has been dramatically reduced in Canada since the 1970s through regulation and enforcement. Non-point source pollution has not — it continues to be the dominant cause of water quality impairment because it is so difficult to regulate, monitor, and control. The 2026 Envirothon focus reflects the growing recognition that NPS is now the priority water quality challenge.



Point vs. non-point source.

https://www.teacherspayteachers.com/

2. How non-point source pollution moves through the landscape

NPS pollution is inherently linked to the water cycle. Pollutants accumulate on the land surface during dry periods, then are mobilized and transported to waterways during rain events and snowmelt. Understanding the pathways of transport is essential to understanding how to stop them.

The three main transport pathways

Pathway	How it works and what it carries
Surface runoff	Water flows over the land surface when the soil cannot absorb it fast enough. Picks up sediment, nutrients, pesticides, oil, bacteria, and litter. The primary pathway for most NPS pollutants. Impervious surfaces (pavement, roofs) dramatically increase runoff volume.
Leaching / infiltration	Water and dissolved chemicals (especially nitrates and some pesticides) percolate through the soil into groundwater. Can contaminate drinking water wells and contribute to stream baseflow for months or years after application.
Atmospheric deposition	Pollutants are carried by air currents and deposited on land and water surfaces through wet deposition (rain, snow) or dry deposition (dust, particles). Historically important for acid rain (sulphur dioxide); also carries nitrogen compounds from combustion.

The first flush effect

After a dry period, pollutants accumulate on roads, parking lots, and agricultural fields. When the first significant rain event occurs, a highly concentrated pulse of pollutants washes into streams and rivers before the water quality begins to recover. This 'first flush' is often the most toxic period for aquatic life and is one reason why monitoring during rain events is critical.

IMPERVIOUS SURFACES AND THE NPS CONNECTION

Natural landscapes absorb roughly 50% of precipitation through infiltration. Paved urban landscapes may let only 10–15% infiltrate — the rest becomes runoff. Every 10% increase in impervious surface area in a watershed roughly doubles stormwater runoff volume and dramatically increases the transport of NPS pollutants to waterways. This is why urban development without proper stormwater management so severely degrades stream health.

3. Agricultural non-point source pollution

Agriculture is the largest single source of non-point source pollution in Canada and worldwide. In New Brunswick, the Wolasatoq (Saint John River) valley, Kennebecasis River corridor, and potato-growing regions of the province are areas where agricultural NPS has significant impacts on stream and river health.

Major agricultural NPS pollutants

Pollutant	Sources	Aquatic impacts
Excess nitrogen (N)	Synthetic fertilizers, manure, legume crops, septic systems	Nitrate leaches to groundwater; stimulates algal growth; CCME limit < 3 mg/L N
Excess phosphorus (P)	Fertilizers, manure, eroded soil particles (P binds to sediment)	Key driver of eutrophication and cyanobacteria blooms in NB lakes
Sediment	Tillage erosion, bare soils, livestock stream access, bank erosion	Smothers macroinvertebrates & fish eggs; reduces light; fills spawning gravel
Pesticides	Herbicides, insecticides, fungicides applied to crops and orchards	Toxic to aquatic invertebrates; bioaccumulates; Atlantic Canada has highest runoff risk
Livestock waste (E. coli)	Direct stream access by cattle; manure runoff from feedlots and fields	Beach closures; drinking water contamination; high nutrient loading
Sediment-bound metals	Manure (copper, zinc from feed additives); eroded soils	Toxic to macroinvertebrates at elevated concentrations

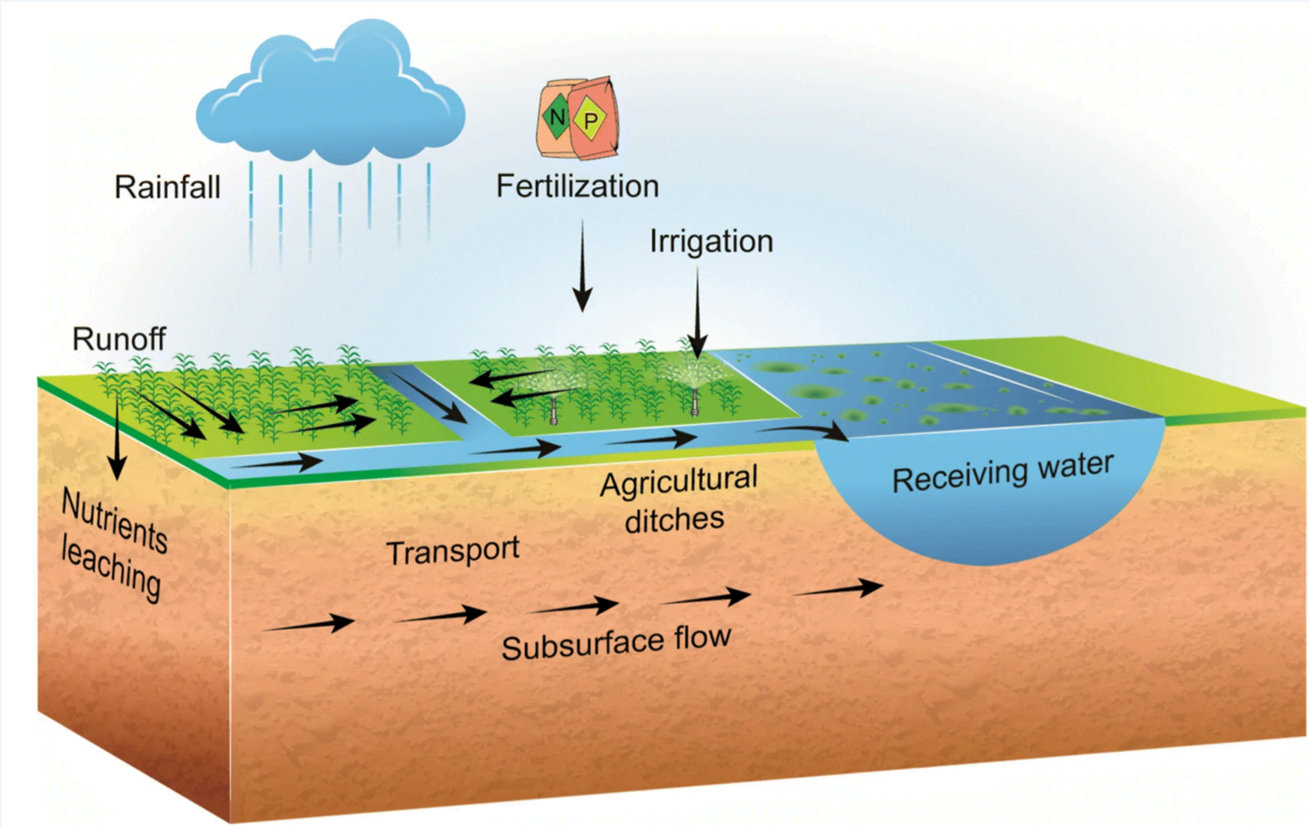
ATLANTIC CANADA — HIGHEST PESTICIDE RUNOFF RISK IN CANADA

Agriculture Canada data shows that Atlantic Canada has the **highest average number of surface runoff days (42 days/year)** of any region in Canada — nearly double Ontario and Quebec (30 days) and four times the Prairies (11 days). This wet climate dramatically increases the risk that pesticides applied to crops will wash off into nearby streams.

In NB, potato farming is a significant agricultural land use. Potatoes require high pesticide application rates. Heavy rain events immediately after application can transport pesticide concentrations that are acutely toxic to aquatic invertebrates — especially EPT taxa — into headwater streams.

WOLASTOQ (SAINT JOHN RIVER) INITIATIVE — FEBRUARY 2026

In February 2026, the Government of Canada announced $2.3 million for 14 projects under the Wolastoq (Saint John River) Freshwater Ecosystem Initiative. One project — by the Kennebecasis Watershed Restoration Committee — specifically targets reducing nutrients and pesticides from farm runoff through riparian buffer zone setbacks, rotational grazing, alternative water sources for livestock, and pollinator planting. This is exactly the kind of watershed-scale BMP approach needed to address agricultural NPS in NB.



Agricultural non-point source pollution pathways.

https://link.springer.com/article/10.1186/s13765-020-0493-6

4. Forestry non-point source pollution

Forestry operations — particularly logging and road construction — can be a major source of sediment and temperature-related NPS pollution, especially in New Brunswick where forestry is a dominant land use. The impacts depend heavily on how operations are managed and how well best practices are followed.

Forestry NPS pollutants and mechanisms

Issue	How it occurs and why it matters
Sediment from logging roads	Roads are the largest source of sediment from forestry operations. Unpaved surfaces erode easily; road ditches channel sediment directly to streams if improperly designed.
Stream crossings / culverts	Poorly designed or undersized culverts cause erosion, block fish passage, and concentrate sediment delivery. 'Broken brooks' — culverts that act as fish barriers — are a specific issue in NB (PWA Broken Brooks project).
Clear-cutting near streams	Removing riparian canopy eliminates shading, raises water temperature, removes CPOM inputs (leaf litter), and destabilizes banks. Direct NPS link to EPT richness decline.

Forest floor disturbance	Heavy equipment compacts soil, reducing infiltration. Compacted soils increase runoff volume and sediment delivery.
Pesticide application	Aerial application of herbicides to manage competing vegetation (e.g. in plantations) can drift or run off into nearby water bodies.
Slash and debris in streams	Logging debris left in or near streams can alter flow patterns and increase turbidity during rain events.

> **NB'S 30-METRE BUFFER RULE APPLIES TO FORESTRY**
> New Brunswick's Watercourse and Wetland Alteration Regulation (WAWA) requires that forestry activities maintain a 30-metre buffer zone around all watercourses and wetlands. No harvesting is permitted in this zone without a permit. This is a key NPS management tool for forestry in NB — but enforcement and compliance remain ongoing challenges, particularly for small private woodlots.

5. Urban non-point source pollution

Urban and suburban areas generate a complex cocktail of NPS pollutants. As cities grow and impervious surfaces expand, stormwater runoff increases dramatically — collecting pollutants from every road, parking lot, lawn, and rooftop before discharging them into streams and rivers.

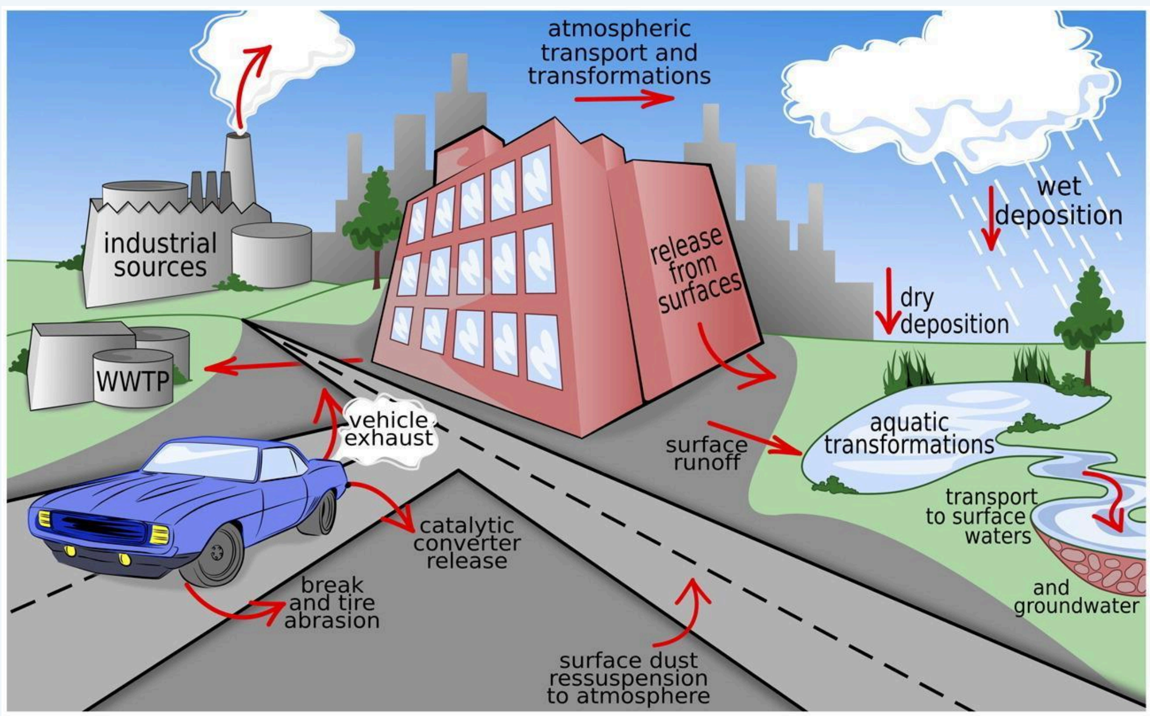
Major urban NPS pollutants

Pollutant	Urban sources	Aquatic impacts
Oil, grease & hydrocarbons	Vehicle leaks, parking lots, gas stations, road runoff	Toxic to aquatic invertebrates; coats stream substrate; reduces oxygen transfer
Road salt (chloride)	Winter de-icing on roads, parking lots, sidewalks	Elevates conductivity; toxic to freshwater invertebrates and amphibians; shifts algae communities toward cyanobacteria
Sediment & fine particles	Construction sites (bare soil); eroding stream banks from high flows	Smothers benthic habitat; carries adsorbed pollutants including metals and pesticides
Nutrients (N & P)	Lawn fertilizers; pet waste; leaking septic systems; organic debris	Drives eutrophication in urban ponds, lakes, and slow streams
Bacteria (E. coli)	Pet waste, failing septic systems, wildlife, combined sewer overflows	Beach closures; recreational water health risk
Heavy metals	Brake dust (copper); tire wear (zinc); roofing (copper, zinc); road paint	Toxic to aquatic invertebrates at elevated concentrations; bioaccumulates

Litter & microplastics	Littering; plastic breakdown; synthetic fabric wash-water	Ingested by wildlife; fragments into persistent microplastics in sediment
Thermal pollution	Hot impervious surfaces heat stormwater; loss of riparian shade	Raises stream temperature above tolerance thresholds for cold-water species

ROAD SALT AND CYANOBACTERIA — A NEW CONNECTION

Recent research (2025) found that urban stormwater ponds with higher road salt (chloride) contamination showed significantly greater cyanobacteria dominance in summer. Road salt shifts the competitive balance in aquatic algal communities, favouring cyanobacteria over green algae. This is an emerging NPS concern for NB urban streams and stormwater ponds as winter road maintenance increases.



Urban NPS sources.
NOTE: WWTP stands for wastewater treatment plant.

https://www.sciencedirect.com/science/article/pii/S0048969716305587

6. How NPS pollution harms aquatic ecosystems

NPS pollutants don't just dirty the water — they trigger cascading ecological effects that can fundamentally alter aquatic communities. Understanding these impact chains is key to answering Envirothon questions.

The eutrophication chain

Step	What happens
1	Excess nitrogen (N) and phosphorus (P) enter a lake or slow river from agricultural or urban runoff.
2	Nutrients stimulate rapid growth of algae and cyanobacteria — an algal bloom forms.
3	The bloom blocks sunlight from reaching submerged aquatic plants — they die.
4	The massive algal biomass dies and begins to decompose. Bacteria multiply.
5	Bacterial decomposition consumes dissolved oxygen — dissolved oxygen (DO) drops sharply (hypoxia).
6	Fish, invertebrates, and other oxygen-dependent organisms suffocate or flee.
7	Cyanobacteria may release toxins (cyanotoxins) harmful to wildlife, pets, and humans.
8	Dead organisms accumulate as sediment — the lake shallows and ages (eutrophication).

The sediment chain

Step	What happens
1	Erosion from bare soils, roads, or streambanks suspends sediment in water.
2	Turbidity increases — light penetration decreases, limiting photosynthesis.
3	Fine sediment settles into gravel substrates, clogging spaces that fish eggs and macroinvertebrates need.
4	Stonefly, mayfly, and caddisfly populations decline (sensitive EPT taxa).
5	Salmon and trout lose spawning habitat — egg survival drops dramatically.
6	Sediment-bound nutrients and pesticides enrich the streambed, causing further degradation.
7	Food webs collapse from the bottom up: fewer invertebrates means less food for fish.

NPS CONNECTS ALLS

Non-point source pollution is the thread connecting every module in this course. It degrades water quality (Module 3), impacts macroinvertebrate communities (Module 4) and fish (Module 5), removes riparian zones and wetland function (Module 2), and undermines the watershed processes that keep streams healthy (Module 1). Understanding NPS is understanding the biggest single threat to NB's aquatic ecosystems.

7. Best management practices (BMPs) — solutions

Best management practices (BMPs) are science-based techniques and approaches used to reduce NPS pollution. They work by preventing pollutants from leaving the land, intercepting them before they reach water, or treating runoff before it enters streams. No single BMP solves NPS — an effective approach uses multiple, layered practices across the watershed.

Agricultural BMPs

BMP	What it does	Effectiveness
Riparian buffer strips	Vegetated zones (trees, shrubs, grass) filter runoff before it reaches streams. Mandatory 30 m in NB.	Remove 50–80% of sediment; 54–70% of N; 61–89% of P from runoff
Cover crops	Plants grown between cash crops to hold soil, take up residual nutrients, and reduce erosion over winter.	Reduce erosion 50–90%; reduce nitrate leaching 20–50%
Conservation / no-till	Leaving crop residue on soil surface instead of ploughing. Reduces bare soil exposure.	Reduces erosion 50–95%; keeps nutrients in field; improves soil health
Nutrient management plans	Soil testing + calibrated fertilizer application rates at the right time and rate.	Prevents over-application; keeps N and P in the crop root zone where needed
Rotational grazing	Moving livestock between paddocks so no single area is overgrazed. Prevents soil compaction and bare patches.	Reduces runoff and erosion; allows vegetation recovery
Livestock exclusion fencing	Keep cattle out of streams with fencing and off-stream watering. Prevents direct stream access.	Eliminates direct fecal loading; reduces bank erosion; allows riparian recovery
Constructed wetlands	Engineered wetland areas to capture and treat agricultural runoff before it reaches natural waterways.	Can remove 60–80% of nutrients from tile drainage
Integrated pest management (IPM)	Using biological controls, resistant varieties, and targeted pesticide applications to reduce overall pesticide use.	Reduces pesticide runoff risk; protects aquatic invertebrates

Urban BMPs (green infrastructure)

BMP	How it reduces NPS pollution
Rain gardens	Shallow depressions filled with native plants and porous soil that capture stormwater runoff from roofs and driveways, allowing infiltration and filtering.
Permeable pavement	Allows stormwater to pass through paving material into a gravel bed below, then infiltrate into the ground. Reduces runoff volume and first flush effects.
Green roofs	Vegetated rooftop layers absorb precipitation, reducing stormwater volume by 50–80% and filtering runoff that does occur.
Bioswales / vegetated swales	Sloped channels filled with vegetation and engineered soil that slow, filter, and infiltrate stormwater runoff along roadsides and parking lots.
Stormwater retention ponds	Engineered ponds that capture runoff and allow sediment and pollutants to settle before slow release. Common in new NB subdivisions.
Street sweeping	Regular removal of pollutants (sediment, oil residue, litter) from road surfaces before rain mobilizes them.
Road salt reduction	Precision application, anti-icing, pre-wetting, and alternative materials (e.g., sand, beet juice brine) to reduce chloride loading on urban streams.
Riparian buffers around urban streams	Maintaining or restoring native vegetation along urban watercourses filters runoff and cools stream temperature.

Forestry BMPs

BMP	How it reduces NPS pollution
Streamside management zones (SMZ)	Leaving unlogged buffers of specified width around all water bodies during harvesting operations. NB requires 30 m under WAWA.
Proper road design and drainage	Water bars, cross-drains, and sediment traps prevent roads from channelling runoff and sediment directly to streams.
Proper culvert sizing	Correctly designed culverts pass peak flows without eroding stream channels and allow fish passage.
Seasonal harvest restrictions	Avoiding harvest during spring freshet and wet conditions when soils are most susceptible to compaction and erosion.
Reforestation and replanting	Rapid re-establishment of vegetation after harvesting reduces the window of soil exposure and erosion risk.

BMPS WORK BEST AS A SYSTEM

Research shows that combining multiple BMPs — rather than relying on a single practice — is most effective. For example, a farm that installs a riparian buffer AND uses conservation tillage AND has a nutrient management plan will see dramatically better water quality outcomes than one that implements any single practice alone. The Kennebecasis watershed project funded in 2026 is combining riparian setbacks, rotational grazing, and alternative watering sources as an integrated package.

8. New Brunswick spotlight — NPS in action

Wolastoq (Saint John River) — NB’s most impacted system

The Wolastoq drains more than 55,000 km² across New Brunswick, Maine, and Quebec - the largest watershed entirely or mostly within Atlantic Canada. Its lower reaches pass through some of NB's most intensive agricultural land, including the potato-growing regions of the Upper Saint John Valley and the mixed farming of the Kennebecasis and Nashwaak watersheds.

The river has experienced increasing cyanobacteria blooms, elevated nutrient levels, and declining water quality in its lower reaches. A 2026 federal investment of $2.3 million across 14 projects signals recognition of the scale of the NPS challenge in this watershed.

Potato farming and NPS in NB

New Brunswick is Canada's second-largest potato producer. Potato cultivation involves intensive tillage, high pesticide use, and fertilizer application on steep slopes — conditions that maximize NPS runoff risk. The Carleton County region in western NB has some of the province's most productive potato land, and streams draining these agricultural areas have shown elevated nutrient and pesticide levels.

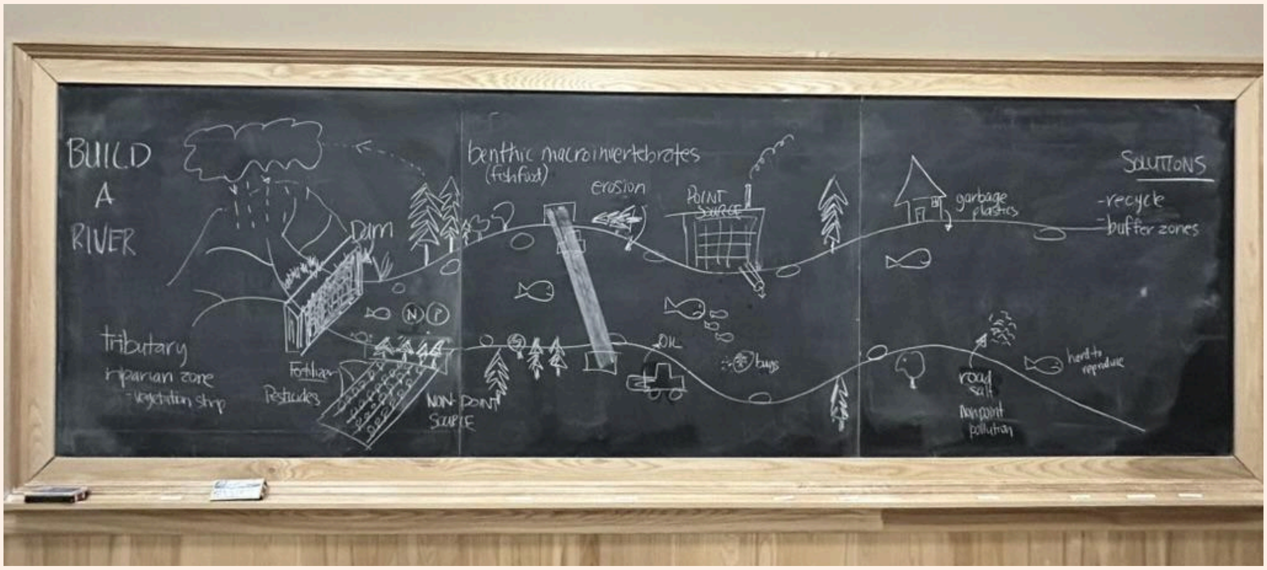
Certified seed potato programs and pesticide application regulations under NB's Pesticide Control Act provide some controls — but the combination of Atlantic Canada's high runoff climate and intensive potato culture makes this an ongoing water quality challenge.

Urban NPS in Moncton-Dieppe-Riverview

Southeastern NB has experienced rapid urban growth around the Moncton area. Jonathan Creek (a tributary monitored by PWA), and many other urban streams in the region, show classic symptoms of urban NPS pollution: elevated turbidity, high conductivity (from road salt), elevated E. coli, degraded macroinvertebrate communities, and warm water temperatures from impervious surface thermal loading. PWA's Jonathan Creek restoration project is a direct response to urban NPS impacts.

2026 AQUATIC WORKSHOP — THE CHALKBOARD REVISITED

The 'Build a River' diagram from your 2026 Envirothon workshop captured the key NPS concepts:



NPS sources shown: fertilizers, pesticides (from agricultural non-point source); oil (from transportation/urban); garbage, plastics, road salt (from urban/suburban areas)

Solutions shown: recycling (reduces solid waste NPS); buffer zones (riparian buffers — the single most important NPS BMP in NB)

This module is the science behind that diagram. Every label connects to a mechanism and a solution covered here.

9. Regulation and watershed-scale management in NB

Because NPS pollution is diffuse and weather-driven, it cannot be controlled through permits and discharge limits the way point sources can. NB's approach combines regulatory minimums with voluntary programs and watershed-scale planning.

Tool / program	What it does for NPS
WAWA 30 m buffer rule	Mandatory protection zone around all watercourses and wetlands. The single most important NPS regulatory tool in NB for both agriculture and forestry.
NB Water Strategy 2018–2028	Identifies watershed-based management, wetland protection, and algal bloom response as priorities. Goal 3 explicitly addresses NPS through ecosystem preservation actions.
Pesticide Control Act (NB)	Regulates sale, storage, and use of non-domestic pesticides; banned 240+ over-the-counter lawn care products to reduce residential NPS pesticide loading.
Watershed groups & alliance	Community-based organizations like PWA, Nashwaak Watershed Association, Hammond River Angling Association monitor water quality

	and implement on-the-ground BMPs with funding from the NB Environmental Trust Fund.
Wolastoq Freshwater Initiative	Federal program (2024–2026): $2.3M for 14 NPS-focused projects including riparian buffers, rotational grazing, cyanobacteria monitoring, and Indigenous knowledge integration.
Canada Water Agency	New federal body (2023) with a mandate to coordinate freshwater protection including NPS management at the national level.
Clean Water Act – Watershed Protection	All 29 source watersheds supplying drinking water to NB local governments have been protected under the Clean Water Act since 2001. Landowner activities in designated watersheds are subject to stricter controls.

10. What individuals and communities can do

One of the most important messages about NPS pollution is that everyone contributes — and everyone can be part of the solution. Unlike a factory discharge, NPS comes from collective everyday decisions about land use and management.

On the farm

- Test soil before fertilizing — apply only what the crop needs, at the right time.
- Plant and maintain 30 m riparian buffers along all watercourses.
- Keep livestock out of streams with fencing; provide off-stream water sources.
- Use cover crops over winter to hold soil and absorb residual nutrients.
- Consider conservation tillage or no-till to reduce erosion.

In towns and cities

- Use fertilizer sparingly on lawns — and never before rain.
- Pick up pet waste; it's a direct E. coli input to storm drains.
- Maintain septic systems; failing systems leak nutrients and bacteria.
- Wash cars on grass or at a commercial carwash (not on pavement draining to storm sewers).
- Plant native vegetation to increase infiltration and reduce runoff from your property.
- Never dump oil, paint, or chemicals down storm drains - they connect directly to waterways.

In the watershed

- Support local watershed groups through volunteer monitoring, stewardship events, and funding advocacy.
- Report suspected NPS pollution events (turbid water, fish kills, algal blooms) to NB DELG.
- Advocate for riparian buffer protection in your municipality's land use plan.
- Learn which watershed you live in - and care about what happens in it upstream of you.

11. Key terms

non-point source (NPS) pollution Pollution from diffuse, widespread sources across the landscape rather than a single identifiable discharge point.	**point source (PS) pollution** Pollution from a single, identifiable, and regulated discharge location such as a pipe or outfall.
surface runoff Water that flows over land surfaces when infiltration capacity is exceeded; the primary NPS transport mechanism.	**first flush effect** The initial, highly polluted pulse of runoff that occurs at the start of a rain event after a dry period of pollutant accumulation.
impervious surface Hard, non-absorbent surfaces (roads, parking lots, roofs) that prevent infiltration and increase runoff volume.	**cultural eutrophication** Human-accelerated eutrophication driven by excess nutrients from NPS pollution (fertilizers, manure, septic systems).
best management practice (BMP) Science-based technique to reduce NPS pollution from agriculture, urban areas, or forestry.	**riparian buffer strip** Vegetated zone along a watercourse that intercepts runoff and filters NPS pollutants before they reach the stream. Mandatory 30 m in NB.
cover crop Plants grown between cash crop seasons to hold soil, reduce erosion, and absorb residual nutrients.	**conservation tillage / no-till** Leaving crop residue on soil surface instead of ploughing to reduce erosion and nutrient runoff.
nutrient management plan Farm plan that matches fertilizer application rates and timing to crop needs, reducing excess nutrient runoff.	**green infrastructure** Urban systems (rain gardens, permeable pavement, bioswales) that manage stormwater using natural processes.
rain garden Shallow planted depression that captures and infiltrates stormwater runoff from roofs and pavement.	**bioswale** Vegetated drainage channel that slows, filters, and infiltrates stormwater runoff.
leaching Movement of dissolved chemicals (e.g. nitrates) downward through soil into groundwater.	**atmospheric deposition** Pollutants deposited from the air onto land and water via rain, snow, or dry particles.
road salt (chloride) Winter de-icing chemical (NaCl) that is an emerging NPS pollutant; elevates conductivity and is toxic to freshwater invertebrates.	**livestock exclusion fencing** Fencing that keeps cattle out of streams; prevents direct fecal loading and bank erosion.

12. Quick check

This is the 2026 focus topic for Envirothon — be thorough. Can you answer all of these?

Quick Check — Review Questions

1. Define point source and non-point source pollution. Give two NB examples of each.
2. Explain the three main transport pathways for NPS pollutants. Which is most important and why?
3. Why does Atlantic Canada have the highest pesticide runoff risk in Canada? What role does climate play?
4. Trace the complete eutrophication chain from a farmer applying fertilizer to a fish kill in a downstream lake. Name at least 7 steps.
5. A farmer installs a 15-metre riparian buffer strip along a stream. Based on Canadian research, approximately what percentage of sediment, phosphorus, and nitrogen might it remove from runoff?
6. List four urban NPS pollutants and explain how each enters the stream. For each, name one BMP that would reduce it.
7. How does road salt act as a non-point source pollutant, and what is its emerging connection to cyanobacteria?
8. What is the 'first flush effect' and why is it ecologically significant?
9. The NB WAWA regulation requires a 30-metre buffer around watercourses. How does this specifically address NPS pollution from agriculture and forestry?
10. BONUS: A new subdivision is proposed on land that currently includes a stream, a small wetland, and a farmer's field. Identify five specific NPS risks the development would create, and for each risk propose a green infrastructure or BMP solution.

13. Further resources

🌐 **EPA — Basic Information about Nonpoint Source Pollution** Comprehensive overview of NPS sources, pathways, and management approaches including agriculture, urban, and forestry. *epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution*

🌐 **Agriculture Canada — Water Contamination by Pesticides** Canadian data on pesticide runoff risk by region; Atlantic Canada highest risk. Includes BMP recommendations. *agriculture.canada.ca/en/environment/resource-management/indicators/water-contamination-pesticides*

🌐 **Canada.ca — Wolastoq/Saint John River Freshwater Initiative** February 2026 announcement of $2.3M for 14 NPS-focused watershed projects including NB agricultural BMPs. *canada.ca/en/canada-water-agency/news/2026/02/backgrounder-canada-enhances-wolastoqsaint-john-river-health*

🌐 **NB DELG — Wetlands & WAWA** Official NB guidance on the 30-metre buffer regulation that is NB's primary NPS regulatory tool. *gnb.ca/content/gnb/en/departments/elg/environment/content/wetlands.html*

🌐 **Petitcodiac Watershed Alliance** NB watershed group implementing NPS monitoring and BMP projects including Jonathan Creek restoration. *petitcodiacwatershed.org*

▶ **EPA — Nonpoint Source Agriculture (video resources)** Fact sheets and resources on agricultural NPS and how farmers reduce polluted runoff. *epa.gov/nps/nonpoint-source-agriculture*

🌐 **Conservation Council of NB — Rivers & Climate** CPAWS NB and Conservation Council advocacy on riparian buffers and NPS in NB rivers. *cpawsnb.org/campaigns/rivers-cc/*

← **Previous:** Module 5: Fish
→ **Next:** Module 7: Legislation & Water Governance