



CLEAN ANNAPOLIS RIVER PROJECT

WATERSTRIDER

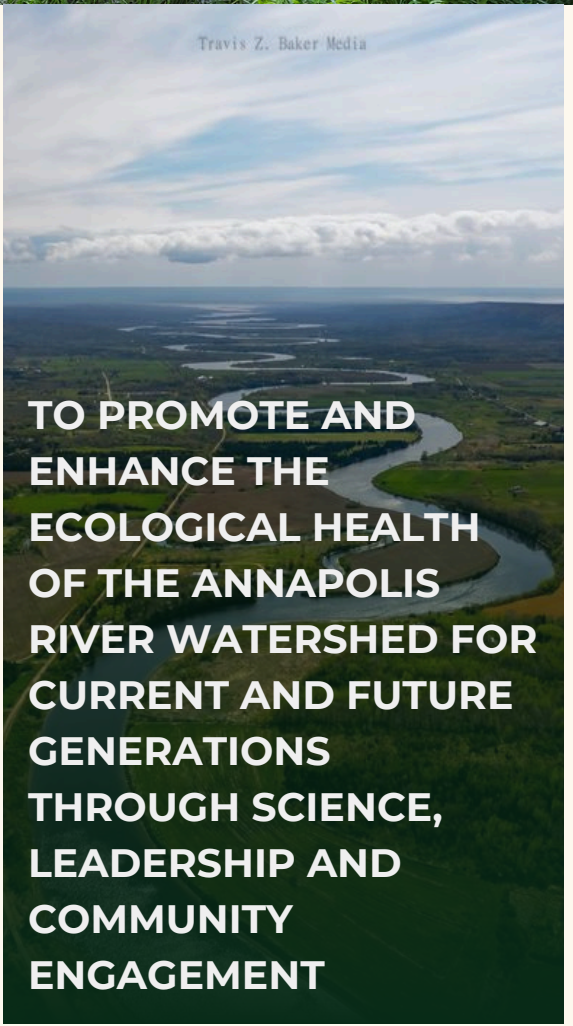
OCTOBER 2025

Clean Annapolis River Project (CARP) is a charitable, community-based, non-governmental organization committed to enhancing the ecological health of the Annapolis River watershed.

In this edition, we're focusing on Nova Scotia's Species at Risk—what that means, what makes them special, the threats they face, and what you can do to help. Keep reading to learn more!

Thank you for your continued support for Clean Annapolis River Project.

Travis Z. Baker Media



**TO PROMOTE AND
ENHANCE THE
ECOLOGICAL HEALTH
OF THE ANNAPOLIS
RIVER WATERSHED FOR
CURRENT AND FUTURE
GENERATIONS
THROUGH SCIENCE,
LEADERSHIP AND
COMMUNITY
ENGAGEMENT**

SPECIES AT RISK:

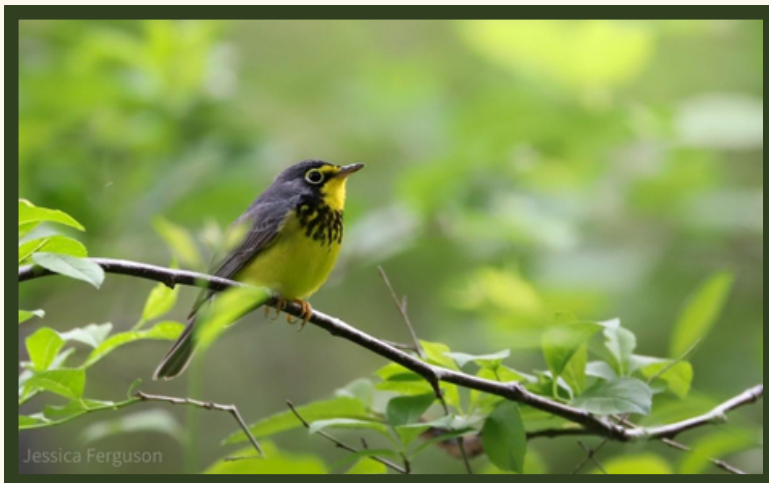
WHAT ARE THEY, AND WHY DO THEY MATTER?

By Jessica Ferguson

A “Species at Risk” is a plant, animal, or other organism in danger of disappearing from the wild. These species face a wide variety of threats that could lead to their extinction at a local or global scale. Scientists, conservation practitioners, and governments use the term to identify species that need protection and management to recover and thrive.



Wood Turtle (*Glyptemys insculpta*): Endangered Globally



A male Canada Warbler (*Cardellina canadensis*) (Endangered) observed during CARP’s annual breeding bird surveys.

Most people have heard of “endangered” species, but not all Species at Risk are on equal footing. While some are critically endangered, others are more secure. To help us better understand how different species are trending, we categorize at-risk species using a status ranking system:

1. **Special Concern/Least Concern:** species that may become threatened or endangered because of a combination of biological characteristics and external threats.
2. **Threatened:** A species that is likely to become endangered if the factors affecting it are not reversed.
3. **Endangered:** A species that is facing imminent risk of extinction in the wild.
4. **Extirpated:** A species that no longer exists in the wild in a particular region, but still exists elsewhere.
5. **Extinct:** A species that no longer exists in the wild anywhere on Earth.

While the idea of losing a single species may seem like a small concern in the grand scheme of global issues, the reality is that each species plays a critical role in the health of our ecosystems—and, by extension, our own survival.

What Causes Species Decline?

There are many factors that drive species to “at-risk” status. It is usually a combination of threats, not one single challenge, that impacts a species at the population level. The leading threats include habitat loss, climate change, overharvesting and poaching, invasive species, pollution, and disease. These threats are compounded in species with specialized needs (like habitat or diet) or slow reproductive rates. Eventually, these factors reduce population sizes by limiting a species’ ability to reproduce, migrate, or even find food.

Why Are Species at Risk Important?

1. Ecological Balance

Every species plays a role in its ecosystem. Predators control the population of prey species; pollinators like bees and moths help plants reproduce; fungi break down organic material to return nutrients to the soil. Losing even one species can ripple through an ecosystem, sometimes with devastating effects. For example, when wolves were removed from Yellowstone National Park, the deer population exploded, leading to overgrazing and erosion of riverbanks, reducing habitat quality for other species. When wolves were reintroduced, the ecosystem gradually returned to a healthier balance.

2. Biodiversity Supports Life

Biodiversity—the variety of life on Earth—is essential for ecosystems to function properly. Healthy ecosystems provide:

- Clean air and water
- Fertile soil and pollinators for crops
- Natural disease control
- Climate resiliency, including buffering against floods and wildfires

A biodiverse ecosystem is a resilient ecosystem. The fewer species we have, the more fragile ecosystems become, making them less able to adapt to changes or recover from disruptions.

3. Medical and Scientific Value

Many medicines have been developed from compounds found in plants and animals. If a species disappears before we’ve had a chance to study it, we may lose potential cures for diseases or insights into biological processes. Preserving biodiversity helps protect a natural library of knowledge.

4. Cultural and Economic Importance

Many species have cultural, spiritual, or economic significance. Salmon, for example, are vital not only to Indigenous cultures but also to fishing economies. Whales and birds are important to both local traditions and ecotourism industries. When these animals are lost, communities often lose part of their heritage and livelihood.



Little Brown Bat (*Myotis lucifugus*): Endangered in Canada



Bank Swallow (*Riparia riparia*): Threatened in Canada



Atlantic salmon (*Salmo salar*): Endangered in Nova Scotia

AT RISK AND ANCIENT: WHY THE SHORTRNOSE STURGEON MATTERS

By Morgan MacDonald



Copyright: Robert S. Michelson/Photography by Michelson, Inc.

The shortnose sturgeon (*Acipenser brevirostrum*) is an ancient fish species that has inhabited North American rivers for over 70 million years, yet today it is considered at risk in Nova Scotia. Found primarily in the Saint John River system, it is the only confirmed reproducing population of this species in Atlantic Canada, making it especially vulnerable to habitat loss, pollution, and climate-related changes. The shortnose sturgeon is biologically important in freshwater and estuarine ecosystems as a long-lived, bottom-feeding species that helps cycle nutrients. Culturally, it has deep significance to Indigenous communities in the region, historically valued as a source of food and a connection to the river. The decline of this remarkable species highlights both ecological and cultural loss, underscoring the importance of ongoing conservation efforts.



Image source: NOAA Fisheries

How to Recognize a Shortnose Sturgeon

Unlike most fish, shortnose sturgeon don't have typical scales. Instead, their bodies are covered in tough, bony plates called scutes that act like armour. Their skin is smooth and leathery, and their bodies are long, cylindrical, and slightly flattened underneath—perfect for gliding along river bottoms. The head is broad and flat, with a short, rounded snout that gives the species its name.

They have four main types of fins, each serving an essential purpose:

- Pectoral fins near the head help steer.
- Anal fin on the underside adds stability.
- Caudal (tail) fin is powerful and propels them forward.
- Dorsal fin on their back keeps them balanced.



NOAA Fisheries

Habitat and Life Cycle

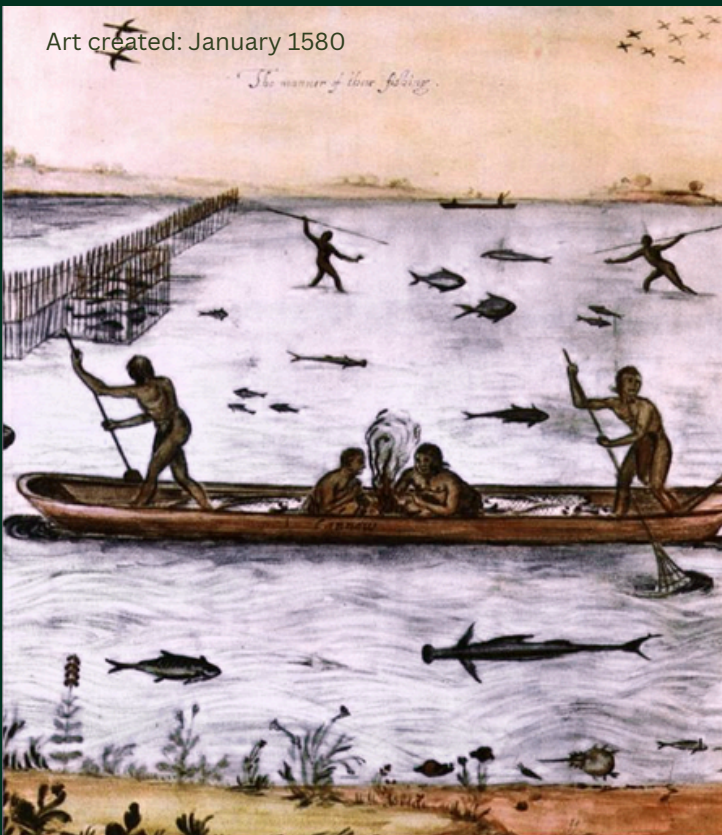
Shortnose sturgeon are highly adaptable, moving between fresh, brackish, and salt water throughout their lives.

Eggs and larvae are usually found in freshwater rivers with rocky or gravelly bottoms—ideal for anchoring eggs.

Juveniles prefer slow-moving freshwater or brackish areas with soft sediments, where food is easy to find.

Adults migrate between estuaries, rivers, and coastal waters. They often feed in estuaries but return to freshwater rivers to spawn in spring, when water temperatures reach 8–12 °C.

Females lay a single clutch of eggs each breeding season, producing anywhere from 10,000 to 20,000 eggs depending on their size and age. After spawning, adults leave the eggs to develop on their own.



Role in the Ecosystem

Shortnose sturgeon are bottom feeders, using their sensitive snouts and barbels to detect prey in the sediment. Their diet includes small invertebrates, mollusks, and crustaceans, making them an important part of nutrient cycling in rivers and estuaries.

Conservation Status

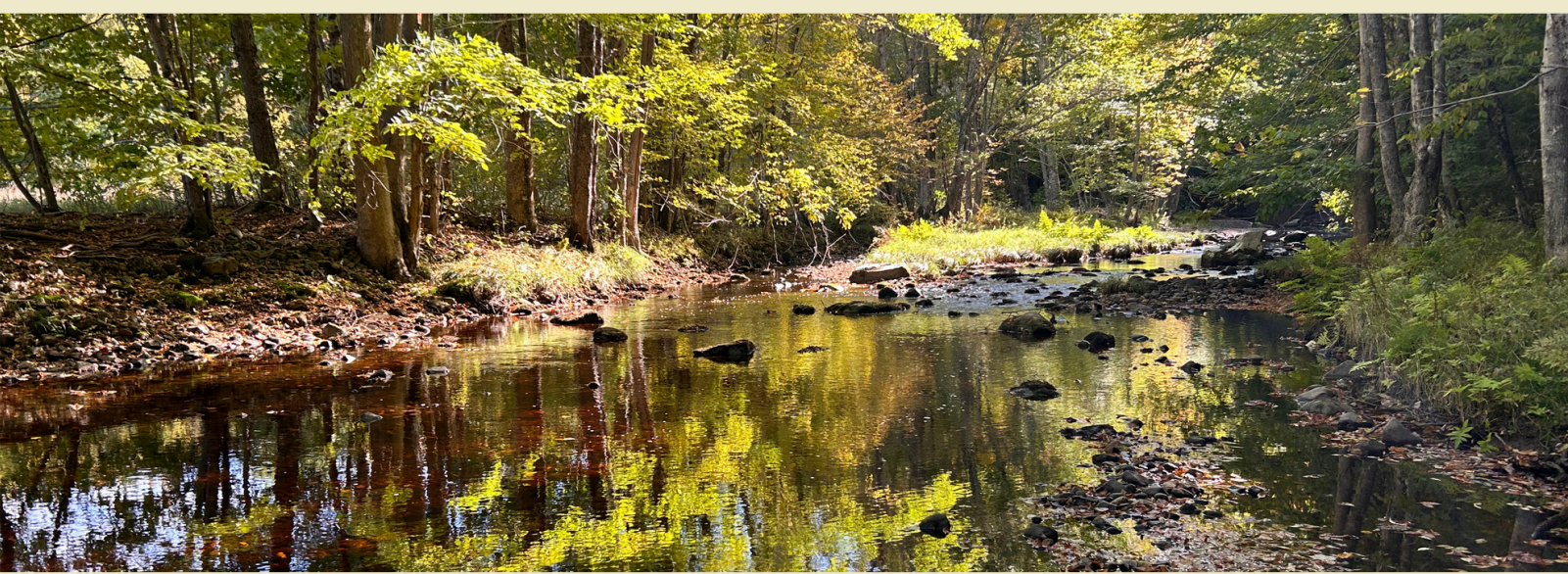
Today, the shortnose sturgeon is listed as endangered. While some sturgeon species are targeted for caviar harvesting, shortnose sturgeon are not. Still, their populations face threats from habitat loss, pollution, and climate change. In Nova Scotia, their presence is largely tied to the Saint John River system, making the protection of this watershed crucial for their survival.



Above: Juvenile short-nosed sturgeon

BROOK FLOATERS: THE SECRET LIFE OF FRESHWATER MUSSELS

By Emma Walker



When most people think of river wildlife, fish or frogs usually come to mind. Yet freshwater mussels are among the most important—and fascinating—creatures living beneath the surface.

One species in particular, the Brook Floater, is both unique and increasingly rare. Smaller than most mussels, Brook Floaters have elongated dark shells and prefer clean, fast-moving water with gravel or sandy bottoms. They are filter feeders, drawing in water and removing particles, which helps keep rivers clean and healthy. A single mussel can filter several liters daily, improving conditions not only for fish but also for insects, plants, and other organisms.

But Brook Floaters are in trouble. They are considered at risk in Canada, with declines linked to poor water quality, barriers like dams, and the loss of host fish species that mussels need to complete their life cycle. Mussel reproduction is one of nature's marvels: females release larvae (glochidia) that must attach to the gills or fins of a specific fish species. Without healthy fish populations and clean water, mussels cannot survive.

Because they are so sensitive to changes in water quality, Brook Floaters and other mussels are often called “living indicators” of river health. If mussels are disappearing, it signals something is wrong in the ecosystem. Protecting them means protecting the rivers on which communities, wildlife, and ecosystems depend.

Conservation efforts include restoring streambanks, reducing runoff and pollution, and ensuring fish passage. These actions not only give Brook Floaters a fighting chance but also benefit countless other species—including us.

So the next time you walk along a stream or paddle a river, remember the hidden residents beneath the surface. Freshwater mussels may not be flashy, but they are quiet guardians of clean, healthy rivers—and they need our help.



Photo Credit: inaturalist – Evan M. Raskin



AMERICAN EEL:

FROM SARGASSO SEA TO NOVA SCOTIA RIVERS

By Jack Morris

For a species as culturally significant, historically abundant, and wide-ranging as the American Eel, it is surprising how little we still know about this species after centuries of inciting debate and eluding science's best attempts to understand their lifecycle. In 2012, the American Eel was designated a threatened species in Nova Scotia. Dams, overfishing, pollution, and a myriad of climate change related effects have heavily reduced eel populations in recent decades. If populations can recover, it will likely come as a direct result of scientists further unravelling the mysteries of this unique catadromous fish.

Today, we know that the life of American Eels starts and ends in the Sargasso Sea. The only named sea bound by ocean currents rather than land, the Sargasso is known for the brownish seaweed of the genus *Sargassum* that floats on its surface. At 5 million square kilometers, it encompasses a vast amount of the Atlantic Ocean.

After having been spawned in the Sargasso, American Eel eggs hatch into tiny leaf-shaped larvae that travel ocean currents until they reach the east coast of North America. By this point, the larvae have grown into transparent "glass eels" that then metamorphose into more pigmented elvers as they continue upstream in fresh water. As they mature, some eels stay in brackish estuaries, while others push further upstream into lakes and rivers. They remain sexually undifferentiated until they undergo their final change – shifting in colour to silver. Their digestive system degenerates, and they stop feeding as they migrate back to the Sargasso, where they ultimately die after spawning. The physical changes that American Eels undergo during their lifecycle are so drastic that their appearance at different life stages has led to their being confused for different species altogether in the past.





Despite scientific efforts that generally confirm the Sargasso Sea as the wider spawning area, scientists have never observed eels spawning in the wild. As a result, the exact “where” of eel spawning remains a mystery. While it is generally understood that changes in water temperature, darkness, and rainfall are all partially responsible for triggering American Eel migration, scientists still puzzle over what exactly causes their journey. As climate change and overfishing continue to contribute to declining populations, the answers to these questions will only become more sought after as scientists attempt to understand the environmental conditions most optimal for these creatures.



Employees from CARP worked extensively with the American Eel this summer as part of electrofishing biodiversity surveys conducted on the Fales River in Greenwood, Nova Scotia. A light electric charge sent into the water briefly paralyzes the fish, giving the researchers a short moment to notice a flash of silver or the wriggle of an eel and capture them with nets. Each American Eel was measured and safely returned to the river after processing. These biodiversity surveys will help CARP understand how the ongoing construction of various river restoration structures intended to create habitat for Atlantic Salmon will affect all species in the Fales River.





Losing Bugs, Losing Birds:

The Common Nighthawk

By Grace Thomas

The Common Nighthawk (*Chordeiles minor*) was once a familiar sight across Nova Scotia's evening skies, but its population has fallen by nearly 50% in the last 40 years. This medium-sized bird is an aerial specialist with a flat head, wide mouth, and long, sickle-shaped wings marked by a bold white bar.

Active at dawn and dusk, nighthawks can often be spotted over rivers, wetlands, and open fields. Their sharp, nasal "peent" call carries through the twilight, sometimes followed by a dramatic booming dive as they swoop after flying insects.

Nighthawks are aerial insectivores, meaning they feed almost entirely on flying insects caught in midair. Their diet includes moths, beetles, mosquitoes, and other night-flying insects. They rely on open, gravelly or sandy areas for nesting, but these habitats are disappearing as land use changes and development spreads. Unfortunately, widespread declines in insect populations caused by pesticide use, habitat loss, and climate change have left nighthawks with food insecurity.

These challenges have led to a steep population decline for nighthawks, mirroring the struggles of many other aerial insectivores. With agriculture dominating much of the landscape in Nova Scotia and many other provinces, the loss of insect diversity and abundance is affecting nearly all species that rely on insects.

How you can help the Common Nighthawk:

- Report sightings to local environmental groups (CARP, DNRR, MTRI or ACDCC)
- Avoid forestry activities during nesting season (May-Aug.)
- Create buffer zones around suspected/confirmed nesting habitat
- Reduce or stop all pesticide & chemical use
- Preserve natural areas and deadwood to increase insect diversity, roosting, nesting and foraging habitat



Photo Credit: iNaturalist - Braden J. Judson. 2025.

Bats & White Nose Syndrome

By: Morgan MacDonald



What is White Nose Syndrome?

White-nose syndrome (WNS) is a devastating fungal disease caused by the fungus *Pseudogymnoascus destructans*. It affects hibernating bats in North America.

Where did it come from?

WNS is believed to have originated in Europe or Asia, where the fungus has long existed. It was first detected in North America in 2006, likely introduced through human activity.

How long has it been here?

WNS was discovered in Nova Scotia in 2011. Within two years, bat populations had decreased by over 90%, marking one of the fastest wildlife declines in Canadian history.

How does WNS affect Bats?

It infects the skin of bats, especially their muzzles and wings, disrupting their hibernation and causing them to burn through fat reserves prematurely.

What can you do to help?

Avoid entering caves or mines where bats hibernate, and always follow decontamination guidelines to prevent spreading the fungus. Support bat conservation by installing bat houses, preserving natural habitats, and reducing pesticide use. Reporting sightings of sick or dead bats helps scientists monitor outbreaks, while sharing information and supporting local wildlife organizations raises awareness and strengthens community efforts to save these essential species.

To report a bat sighting in Nova Scotia, you can use the online reporting form at www.batconservation.ca or call the toll-free hotline at 1-866-727-3447.



By Jessica Ferguson

THE WOOD TURTLE: A SECRETIVE SPECIES AT RISK

The Wood Turtle (*Glyptemys insculpta*) is a freshwater turtle species native to northeastern North America. Populations extend into parts of Canada, including Nova Scotia. This fascinating and secretive species is known for its rugged, sculpted shell that resembles carved wood.

Adult Wood Turtles typically grow between 16 and 25 cm in length. The carapace (top half of the shell) is brown to grey with a characteristic sculpted appearance, while the plastron (bottom half of the shell) is yellow with large, dark blotches. Their legs and neck often show distinctive, bright orange coloration. This species is the most terrestrial turtle in Nova Scotia, relying on a range of habitats from hardwood forests to floodplains. However, it always stays close to clean, flowing streams or rivers with healthy, vegetated riparian areas.

Wood Turtles are omnivorous, feeding on a diet of plants, mushrooms, berries, insects, worms, and even small vertebrates. They are particularly intelligent among turtles, displaying advanced problem-solving abilities and learning behaviours. One incredible example is the Wood Turtle's "rain dance". In a clever attempt to source food, Wood Turtles may tap their feet on the ground to mimic the sound of rainfall. This tricks worms into coming up to the surface, where the hungry turtles await.

Unfortunately, Wood Turtle populations are declining all across their range. This is primarily due to habitat loss, road mortality, illegal collection for the pet trade, and nest predation by "subsidized predators" (predatory species, such as raccoons or coyotes, that benefit from human presence). And, like most other turtle species, Wood Turtles take a very long time to reach breeding age – up to 20 years! Together, these factors make it difficult for turtles to maintain stable populations. The Wood Turtle is listed as Threatened in Nova Scotia and Endangered globally.

Despite all their challenges, turtles are some of the most resilient creatures on earth, and there are many ways to help them recover. Report your sightings, get involved with local conservation work, and spread the word about the amazing wildlife in our backyards.

From collaborating with farmers to develop Best Management Practices, to protecting turtle nests from predators, to restoring critical habitat like rivers and riparian areas, CARP works closely with the community to safeguard the Wood Turtles of the Annapolis River watershed and beyond. These efforts are crucial to ensuring that this unique and beautiful species continues to thrive in North America's woodlands and waterways – and we couldn't do it without your support.

HAVE YOU SEEN A WOOD TURTLE? LET US KNOW! YOU CAN REPORT YOUR OBSERVATIONS TO:

1. Clean Annapolis River Project – carp@annapolisriver.ca
2. Nova Scotia Herpetofaunal Atlas – www.herps.speciesatrisk.ca
3. Department of Natural Resources and Renewables – biodiversity@novascotia.ca

Wiskoq

Fraxinus nigra

By Shauna Forrestall & Ahniya Ustyomenko

Black Ash, or **Wisqoq**, has always been vital to Mi'kmaw culture. Because it is flexible, strong, and easy to work with, it has been used for basketry, furniture, and many other important items. Wiskoq is inconspicuous and can be easily mistaken for White Ash. It is a slow-growing, long-lived tree that can live up to 150 years. However, seeds are produced only every 1-8 years, and seedlings struggle to compete for resources. Habitat loss, land use changes, and overharvesting have placed Black Ash on the Species at Risk list with a Threatened status. Currently, there are only about 1000 known Black Ash trees in Nova Scotia.

Looking at Black Ash projects in PEI, there is hope for increasing their numbers. The MacPhail Woods Ecological Forestry Project more than doubled the Black Ash population in PEI. They chose survey sites based on historical Black Ash locations, analyzed habitat features through mapping, and discovered previously unknown stands.

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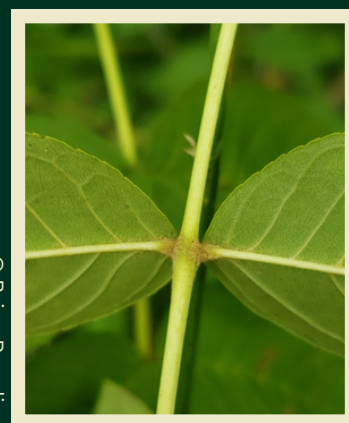
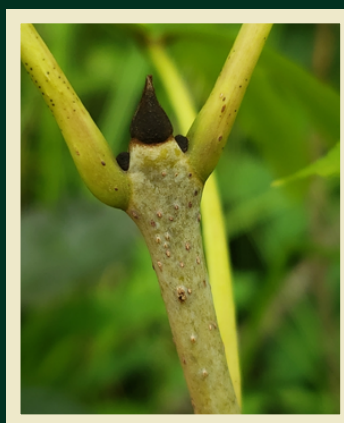
Wiskoq is often found alongside Balsam Fir, Tamarack, Red Maple, Alder-leaved Buckthorn, Dwarf Red Raspberry, Red Osier Dogwood, Shining Rose, and Speckled Alder. Other accompanying species include...

Trees: Paper Birch, Black Spruce, Eastern White Cedar, White Ash, and Yellow Birch.

Shrubs: Beaked Hazel, Canada Yew, Common Winterberry, lowbush blueberry, Mountain Holly, Northern Wild Raisin, Sheep Laurel, and American Witch Hazel.

Wildflowers: Bunchberry, Common marsh bedstraw, Wild strawberry, and Northern starflower

Ferns: Sensitive Fern and Cinnamon Fern.



© Brian Popelier

Dislikes: Habitat loss and alteration of wet areas, Emerald Ash Borer, and overharvesting

Loves: Little disturbance, Forested Riparian Zones, poor drainage, coniferous forests, wooded swamp sites, wet forests with deciduous canopies, organic soil, and fine sandy loam.

Qasgusi

Thuja occidentalis

By Shauna Forrestall & Ahniya Ustyenko

Eastern White Cedar, or **Qasgusi**, is a rare evergreen with strong ties to Mi'kmaw culture. Although *T. occidentalis* is listed as provincially Vulnerable, it remains resilient against both human-caused impacts and natural elements. The coniferous tree is naturally resistant to insects and disease, highly resistant to decay, and long-lived. Historically, Qasgusi was found across ten counties in Nova Scotia; however, the species now exists only in the western parts of the province, with populations estimated between 13,000 and 15,000. These populations initially faced sharp declines due to logging and clear-cutting. Their seeds are dispersed by wind, travelling less than 60 meters, and have a high drought-induced mortality rate, creating challenges for restoration efforts.

Qasgusi is an essential ceremonial plant in Mi'kmaw culture. Sweetgrass, Qasgusi, sage, and tobacco are burned together during smudging ceremonies. It can also be used medicinally, including to treat headaches.

© birderbb



Qasgusi also plays a vital role in supporting wildlife that forage and seek shelter in the tree during winter. Several avian species, such as Pileated woodpeckers (*Dryocopus pileatus*), often use mature trees for nesting cavities.

At a glance, Qasgusi can be mistaken for Eastern Hemlock. Instead of flat needles, Qasgusi has flat branches with scale-like leaves. Its bark is red-brown with vertical peeling lines, and cones are ovoid (egg-shaped), appearing in yellow-green clusters when immature and brown when mature.



© lefevermathieu

© Jason J. Dombroskie



Dislikes: Unsustainable forestry practices, habitat alteration, deer and lagomorph browsing, drought conditions, poor soil pH

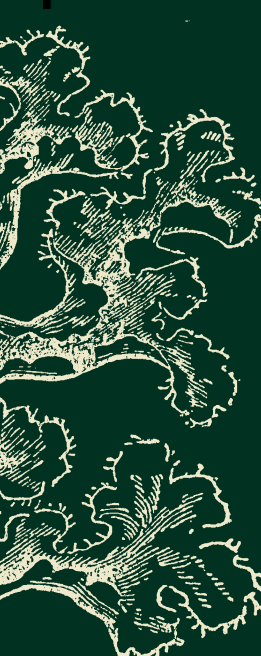
Loves: Cool, moist, shaded habitat, moderate drainage, and calcareous nutrient-rich soils. Often found in swamps, riparian areas, woodland forests, and old pastures.

Lichens

By Shauna Forrestall & Ahniya Ustymenko

Lichens are organisms formed by the symbiosis of fungi with algae or cyanobacteria. Lichens can be fruticose (shrubby), foliose (leaf-like), or crustose (crust-like). Lichens reproduce sexually through apothecia (disc-shaped structures that produce fungal spores) and asexually through pycnidia (flask-shaped structures that produce conidia spores).

Forestry, climate change, air pollution, acid rain, development, and grazing from native and invasive gastropods are all factors that put lichens at risk in Nova Scotia.



Blue Felt Lichen (*Degelia plumbea*)

In the cool, humid mixed wood forests that line the Nova Scotia coast, the cyanolichen known as Blue Felt may be found growing on mature Red Maple or Balsam Fir near Shagnum moss and cinnamon fern. *D. plumbea* is also known as Leaden Lichen due to the reddish apothecia covering its upper surface. On its lower surface, this lichen is dark blue-black with white, blue or black rhizohypae covering the underside. *D. plumbea* is 5-10 cm wide, foliose, and has rounded lobes with scalloped edges and longitudinal ridges.

© bobkennedy



© Ben Mitchell



Wrinkled Shingle Lichen (*Pannaria lurida*)

In wet areas of undisturbed mature forests, look for a brown-grey foliose lichen on the bark of deciduous trees. This cyanolichen is aptly called the Wrinkled Shingle lichen and forms rosettes up to 10 cm wide with lobes measuring 1-4 mm. It appears frosted or dusty, especially along the edges. *P. lurida* features red-brown apothecia with grey edges. In Canada, 90% of known occurrences are in NS. Look for Red Maples or Trembling Aspen, as *P. lurida* prefers the rough or moss-covered trunks of these broad-leaved trees.

© Katie Porter

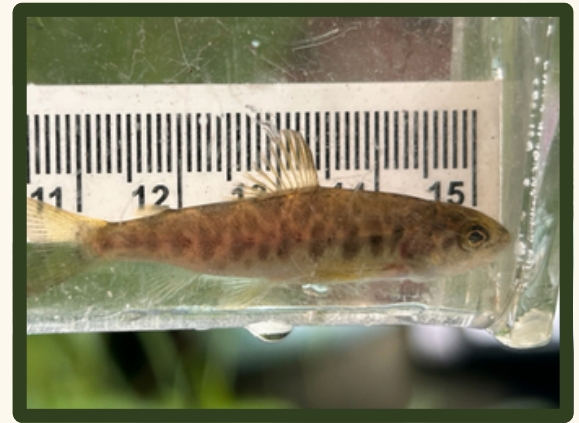


Black-foam Lichen (*Anzia colpodes*)

Through the subtle gap in the canopy of a mature forest, where sunlight spotlights and humidity moistens the rough bark of a deciduous tree, look 3 meters up, and you may find the sponge-like fungal filaments characteristic of the Black-foam lichen. *A. colpodes* is foliose and pale green-grey, growing in rosettes up to 20 cm, with lobes 1-2 mm wide. Black pycnidia are present at the tip of the lobes, and rust-brown apothecia grow among the lobes. *A. colpodes* has not been spotted outside Nova Scotia in two decades.

Protecting Atlantic Salmon in Nova Scotia

By Rachel Walsh



Identifying Atlantic Salmon Parr:

- 8–11 dark vertical bars (parr marks) along each side of the body, with an alternating row of red spots
- Few spots below the lateral line
- 1–4 spots on the gill plate, often with one large spot
- Streamlined body with a deeply forked tail

Atlantic salmon (*Salmo salar*) are one of Nova Scotia's iconic species—but today, they are also recognized as a species at risk. These remarkable fish live a complex life, traveling from freshwater rivers to the ocean and back again.

Young salmon, called parr, spend two to four years in rivers, marked with distinctive vertical stripes and red spots along their sides. As they mature, they transform into smolts, lose their markings, and migrate to the sea in early spring. After one or two years in the ocean, adults return to freshwater rivers to spawn. Females dig gravel nests, called redds, where they lay eggs to begin the cycle again.

Salmon are cold-water fish that depend on cool, clean, and well-oxygenated streams. They thrive in rivers with plenty of shade from streamside trees, undercut banks, large woody debris, and healthy gravel beds where they can spawn.

Unfortunately, Atlantic salmon face many challenges. Habitat loss, streambank erosion, warmer water temperatures, nutrient pollution, and reduced shade cover are all major threats to their survival. These pressures make it harder for salmon to find the clean, cool habitats they need throughout their life cycle.

The good news is, there are ways we can all help. If you happen to catch an Atlantic salmon, be sure to release it. Report sightings, advocate for clean water and healthy habitats, and consider volunteering with stewardship programs like CARP or Adopt a Stream.

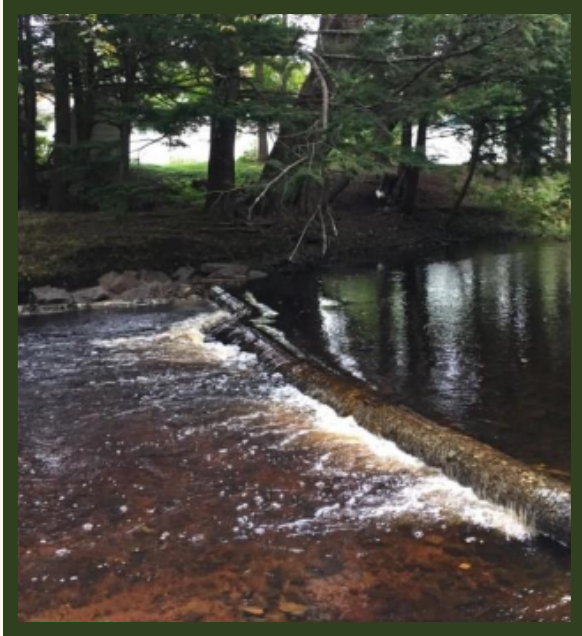


IN-STREAM RESTORATION METHODS

By Rachel Walsh

SandWanding

Over-sedimentation can smother salmon habitats. Sandwanding is a restoration method that uses a pressurized wand to remove excess sand and silt from spawning gravel. Clearing fine sediment restores oxygen flow in the streambed, improving conditions for salmon eggs, fry, and aquatic insects.



Digger Logs and Deflectors

A digger log is a large log anchored across the stream channel, often with one end slightly elevated. As water flows over and under the log, it scours out a pool on the downstream side, creating important holding and rearing habitat for salmon. These pools offer refuge from predators, cool water during summer, and resting areas during migration. Digger logs also add woody material to the stream, which increases habitat diversity and supports aquatic invertebrates, a key food source for salmon.



Log Cribs

A log crib is a box-like structure made from interlocked logs, usually filled with rocks to hold it in place. Positioned along streambanks or within channels, log cribs provide cover for salmon, stabilize eroding banks, and create sheltered areas with slower currents. By combining wood and rock, log cribs mimic natural features, offering shade, refuge, and feeding opportunities for salmon at different life stages.

WHAT CAN WE DO?

By Jessica Ferguson

Protecting species at risk requires coordinated global and local action. In Nova Scotia, species experts form “recovery teams” to share knowledge and develop conservation strategies. These strategies may include:

- Habitat protection: Establishing protected wilderness areas helps preserve important habitat features such as nesting grounds and hibernation sites.
- Habitat restoration: Replanting degraded habitats, restoring natural features, and creating connectivity between natural areas.
- Legislation and enforcement: Laws like the Species at Risk Act and the Nova Scotia Endangered Species Act provide legal protection.
- Education and awareness: Teaching people about the importance of biodiversity can lead to more informed decisions and support for conservation.
- Support on-the-ground action: Supporting local conservation organizations helps protect nature in your backyard - and beyond.

THE WRAP UP

By Jessica Ferguson

Species at risk are not just statistics or faraway animals in documentaries—they live in our own backyards and are vital threads in the web of life that supports us all. Protecting them is not only a shared responsibility but a practical necessity for the health of our planet. By working together, we can help these species not just survive, but thrive.

Species at Risk

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 A D V N R I N W L T P I T C H E H J M W V Y C D U
 I O U X T C A A B F Y V U U M K M Q X S G B R A T
 M W B G W A Z F H O X O R T L O Q O D Q V A Z N W
 Y M F G M N G D D D I R G I R G N V H Z C F P G D
 Z Y T R A E X D S V S E E K H U N A J G L I B E T
 E T G T S E O R K O G S O A S S N D R X A W U R K
 C T D S D L H N F F Z F N W G Z E V J C U A T E N
 X Q D M O I T Q N Z C H S G V K H B Q B H S E D D

shortnosesturgeon

brookfloaters

fragmentation

americaneel

insectivores

pollinator

threatened

woodturtle

vulnerable

monarch

Bats

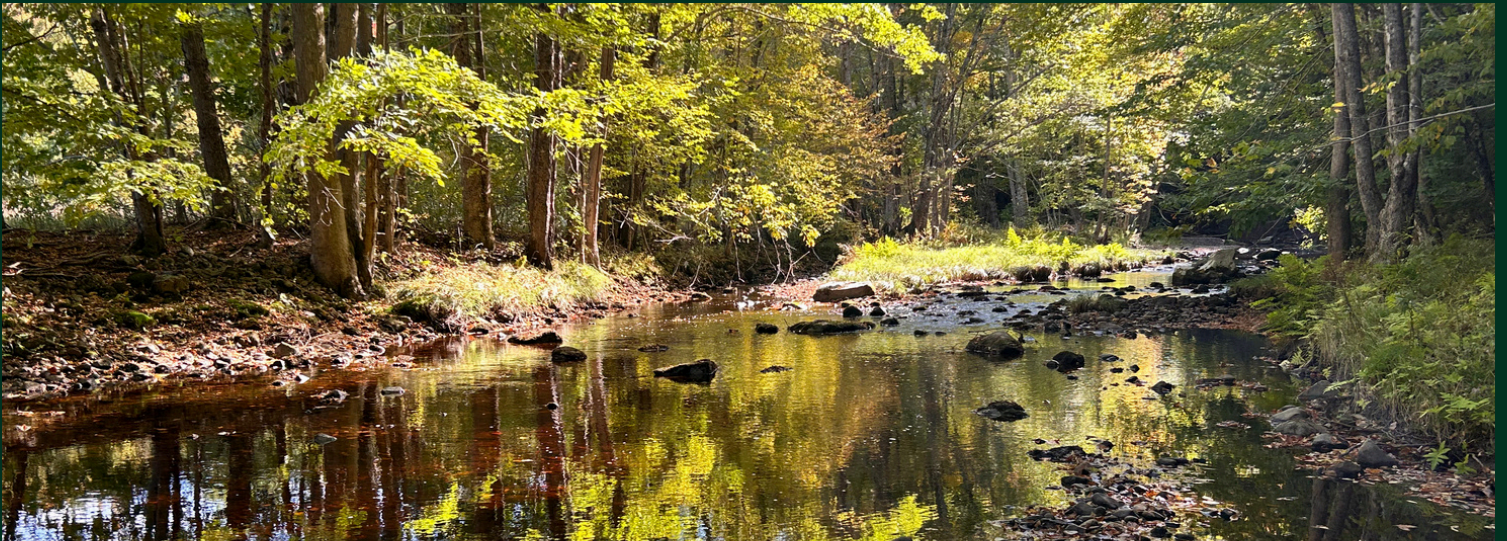
endangered

habitat

SARA

TRUE OR FALSE TRIVIA

- 1.The Atlantic Salmon is endangered throughout all Canadian waters.
- 2.The Piping Plover nests on sandy beaches in Nova Scotia and is listed as endangered.
- 3.The Monarch Butterfly can be found in Nova Scotia and is considered a species of special concern.
4. The Barn Swallow population in Nova Scotia is growing due to increased nesting habitat.
- 5.American Eels are listed as threatened in Canada and occur in rivers and lakes across Nova Scotia.
- 6.Blanding's Turtles are common across Nova Scotia.
- 7.Chimney Swifts often roost in old chimneys in Nova Scotia towns and are a threatened species.
- 8.The Little Brown Bat is endangered in Nova Scotia due to white-nose syndrome.
9. The Wood Turtle is a threatened freshwater turtle found in Nova Scotia rivers.
10. The Shortnose Sturgeon is endangered and only occurs in Nova Scotia.
- 11.Bank Swallows, which nest in sandbanks and gravel pits, are threatened in Nova Scotia.
- 12.The Brook Floater, a freshwater mussel, is a species of special concern in Nova Scotia.
- 13.The Blue Whale is considered endangered in Canadian waters and has been sighted off Nova Scotia.
- 14.Eastern Ribbonsnakes in Nova Scotia are a unique population and listed as threatened.
- 15.Atlantic Puffins are endangered in Canada.



1. False (some populations are endangered, especially in the Maritimes, but not all)
2. True
3. True
4. False (it is threatened and declining)
5. True
6. False (they are endangered and limited to a few locations in the southwest)
7. True
8. True
9. True
10. False (it is endangered but is only found in Saint John New Brunswick)
11. True
12. True
13. True
14. True
15. False (they are not considered at risk)

Species at Risk

Q V C C W K Y K M D H B V H O U V S Y C H Z G E R
O U W P X F K Q W E D P M S S S K L A W D Y L P M
J E Q V U L N E R A B L E Z V A V W O V P G R G Y
W X C F F Z O C T R Y G T L T R V O P F O R J C B
M I Q P I O A I B I C W H Y H A B O G W L J T C Z
N J E F Q R U I R V V U G B R U X D H U L Q Y O W
C N W R P W I B O T R S P F E Q X T L V I X S X D
T Z M A C P Z A O U U Z S L A B C U C P N G G J B
Q F C G O H P T K W R E H Z T K Y R A T A T X V W
G P Z M M T K S F G N V O L E H Y T O K T A I H Z
Z A D E J K J M L S X J R T N F Q L H X O X L H U
X N O N L K E E O H Q I T T E A S E W Q R E A T I
W L J T X X O S A A Y N N D D B S J K S M K C K J
C M C A W A V K T B N S O N S S K R Q R F W J J B
J J E T M M Y B E I K E S D X W V B T R S Y D B S
U L T I S E K H R T G C E A D F E O X T L E I E H
O N F O F R M D S A Y T S V E P Y G R C O E E N M
A D V N R I N W L T P I T C H E H J M W V Y C D U
I O U X T C A A B F Y V U U M K M Q X S G B R A T
M W B G W A Z F H O X O R T L O Q O D Q V A Z N W
Y M F G M N G D D D I R G I R G N V H Z C F P G D
Z Y T R A E X D S V S E E K H U N A J G L I B E T
E T G T S E O R K O G S O A S S N D R X A W U R K
C T D S D L H N F F Z F N W G Z E V J C U A T E N
X Q D M O I T Q N Z C H S G V K H B Q B H S E D D



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