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We stand for wildlife



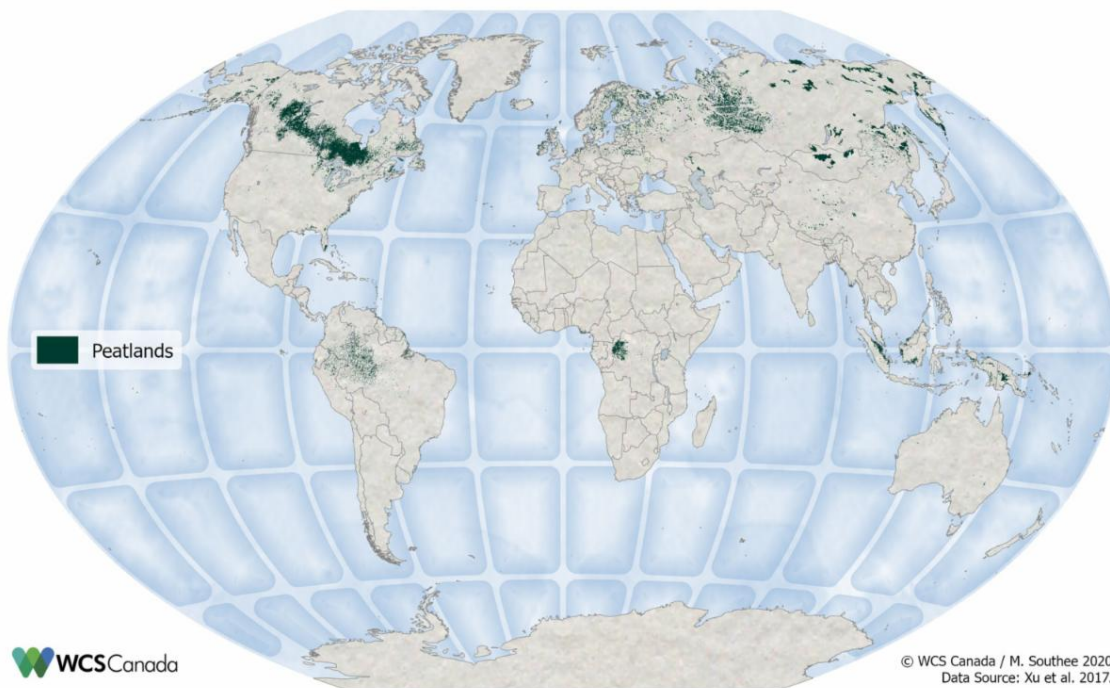
Protecting Canada's carbon riches

Keeping carbon in the ground is critical for controlling climate change

Many people around the world associate Canada with vast forests and an abundance of freshwater in its thousands of lakes and rivers. But what goes often unappreciated is that Canada is also a globally important storehouse of carbon – carbon sequestered in trees, soils, wetlands, and, in particular, [peatlands](#).

Canada is home to 9% of the world's forests, and an even larger proportion of the world's peatlands. These wet boggy areas with dense peat soils formed from dead vegetation seem unexceptional, that is, until you learn that [a hectare of peat stores five times more carbon than a hectare of Amazonian rainforest](#) and has taken thousands of years to accumulate.

Keeping this carbon in the ground is vital if we want to avoid the worst impacts of climate change. But doing so is not simple. First, rising temperatures and drier conditions make peatlands more vulnerable to wildfires and increased decay that releases carbon back to the atmosphere. Second, these peatlands sometimes overlay mineral resources that are sought after by many different industries. This is the case in the one of the world's biggest peatland areas – the Hudson Bay Lowland in the far north in Ontario – which overlays a crescent of dense mineral deposits that has been dubbed the "Ring of Fire." If the Ring of Fire is developed, roads and mines could lead to large-scale peatland destruction and carbon release.



When it comes to natural climate solutions, Canada has a lot to offer thanks to vast carbon-rich peatlands that stretch in a band across the country. Map from Xu, Liu & Holden (2017).

<https://www.sciencedirect.com/science/article/abs/pii/S0341816217303004>

Taking care of our carbon sinks

Indigenous communities have long understood the importance of intact wetlands and peatlands, particularly for wildlife and as sources of clean water for northern rivers. That's why we are urging the federal government to focus funding for nature-based climate solutions on working with Indigenous communities on new flexible conservation approaches for these areas, such as establishing Indigenous Protected and Conserved Areas. Preventing the conversion or degradation of naturally carbon-rich areas needs to be as much a priority as planting trees or restoring degraded areas. To put it simply, we need to keep carbon-rich areas intact while also restoring other natural areas to help ensure a net carbon gain.

Proceeding with roads and mines without a plan for how to conserve these globally important peatland carbon stores in the region, as Ontario is now doing with its disjointed proposals to build multiple roads into the Ring of Fire, is a recipe for trouble – for wildlife and our climate. The federal government's decision to approve a regional assessment for Ring of Fire development is a much better approach. But there is still hard work to be done. We are [urging the federal government to co-develop this regional assessment process with Indigenous communities in order to address all of the socio-ecological values of the Hudson Bay Lowland](#) and not just minerals. We are also calling for Ontario to onboard with the process and to see this as an opportunity to maximize benefits – from mitigating climate change and protecting fresh water to creating new economic opportunities – for all Ontarians.



Forests and wetlands can absorb and store carbon for centuries, but climate change could change this dynamic by increasing forest fires and drying out wetlands. Photo: Garth Lenz.

What's that sound? Our "Guess that Sound" post on [Instagram](#) last week stumped a lot of people. Bearded seals can be a noisy bunch as our marine mammal specialist [Dr. William Halliday explains in this article](#). Follow us on [Instagram](#) or [Facebook](#) to test your animal knowledge!



The far north region of Ontario contains some of the world's last undammed major rivers. This area is important for fish that in turn are a source of sustenance for Indigenous communities. Here WCS Canada scientist Dr. Constance O'Connor releases a lake sturgeon into a northern river. Photo: WCS Canada

Where are the fish?

When most anglers think of their favourite fishing hole, they might think of a bend in the river or a particular bay on a lake that has always yielded a good catch. But our

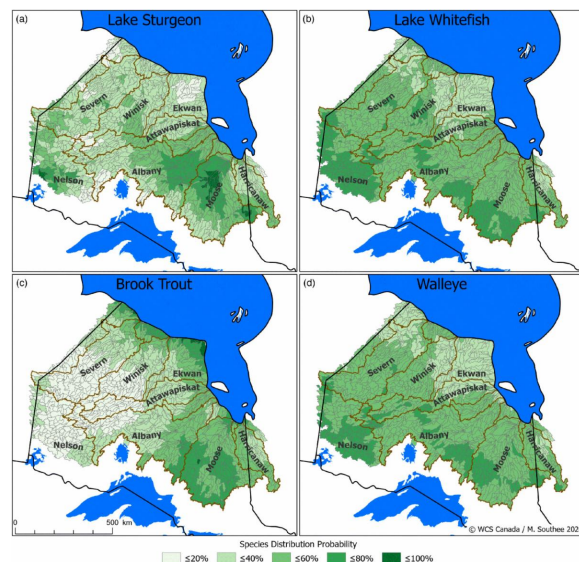
scientists think even bigger. They wanted to know where the watersheds are that boast the biggest diversity of fish species in Ontario.

To find the answer, they [used scientific data on fish occurrences from across northern Ontario and combined it with habitat information to make computer projections](#) of where various species are most likely to be found. By looking at a whole suite of northern species, we were able [to identify areas that are likely “hotspots” for fish diversity](#).

These computer projections help us identify places that require conservation attention in a rapidly changing northern environment, where both climate change and industrial development could quickly reshape entire watersheds. We found, for example, that existing protected areas do not strongly overlap with the most important areas for freshwater fish. On the other hand, some areas proposed by First Nations as new protected areas were flagged as important areas for freshwater fish by our computer algorithms, demonstrating how our scientific approach can complement Indigenous conservation approaches. With Canada committed to protecting 30% of its aquatic landscapes by 2030, we want to ensure that the areas selected for protection will have the highest value from a biodiversity perspective, especially for fish.

We are still diving deeper into this work. We will be distributing the info we have developed to communities as a starting point for better understanding how to conserve freshwater systems, which are in steep decline in many other parts of Canada and the world.

Right: [The study](#) includes projections for areas that are likely to be the most important for key species.



In the News

WCS Canada bat specialist Dr. Cori Lausen in [The Guardian](#):

In the wild, bats frequently move between rock and tree crevices to find the right temperature – not too cold and not too hot. Lausen found that a colony of female big brown bats she studied in Alberta used 72 different rock-crevice roosts during the

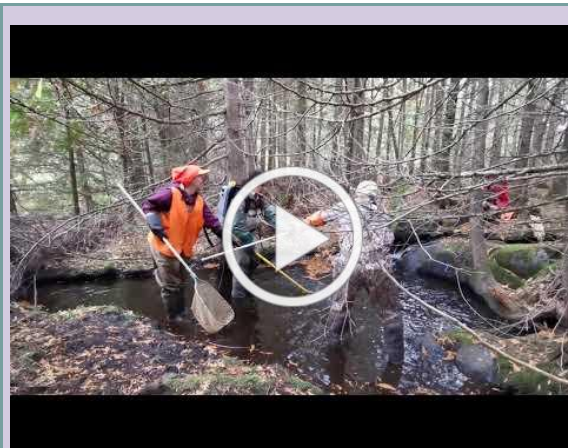
summer. “If you think of a colony in nature needing that many roosts to find the just right temperature every day to raise their pups, how can we possibly give them just one bat box? We can clearly see that they need a lot of choices,” Lausen says.

Muddying through

It has been a challenging year for field science, but half a dozen of our W. Garfield Weston fellows managed to still make progress on projects looking at everything from the implications of permafrost melt to whether fish can navigate a long turbulent climb up a Yukon fish ladder and successfully spawn upstream. The projects that managed to move forward over the past few months have also looked at things like the impact of microplastics on fish health, the recovery of lakes damaged by acid rain around Sudbury, the state of fisheries on Lake Nipigon, and how forestry practices could be changed to reduce the accumulation of mercury in waterways. The smart grad students behind these projects have [explained their work in a set of short videos](#) that capture both the joys of fish sampling on an ice-bound lake and the satisfaction of zoning in on effective conservation solutions.



Will Twardek looks at the [challenges fish face in navigating past a major dam on the Yukon River](#) and what this means for survival and spawning.



Celine Lajoie is researching how forestry operations can increase mercury accumulation in nearby waterbodies and what can be done to reduce these impacts

A day in the life

What’s it like to listen to whales on the move or land on a remote Arctic island in a small plane equipped with “tundra tires?” WCS Canada Arctic scientist Dr. William Halliday [shares](#)

[insights and stories about his work monitoring whales in one of the world's most remote environments with Jesse Hildebrand in the Conservation Stories series](#). Bill recounts his amazement in listening to recordings that seemed filled with endless silence until it was suddenly broken by beluga whistles that echoed through the bay where the recorders had been settled for a year. He also talks about how he hopes to use his work to help protect Arctic whales, especially from growing ship traffic in an increasingly ice-free Arctic.

[Have a listen.](#)



Left: WCS Canada scientist Dr. William Halliday with colleague Dr. Matt Pine in front of Twin Otter on an Arctic beach. Right: Researchers get ready to deploy sound recorder equipment through a hole in the ice. Photos: William Halliday/WCS Canada

Making peace with nature



A new report from the United Nations, [Making Peace With Nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies](#), uses blunt language to stress the importance of changing our approach to the natural world. The report, [which includes WCS President Dr. Cristián Samper and WCS health scientist Dr. Christian Walzer among its authors](#), warns that “Humanity is waging war on nature. This is senseless and suicidal.” It notes that this war is actually happening on three fronts: climate change, biodiversity loss and pollution. But the report also notes that we still

The [report](#) points to the many benefits of resetting our relationship with nature.

have time to change our approaches and embrace solutions that will lead to improved human health, a better quality of life and a healthier environment. In fact, it points out that by tackling the three crisis as one, we can make faster and more effective progress than by treating each problem in isolation.

Support our work to save wildlife!

At WCS Canada, we stand for wildlife and are in the field every day working to save wildlife and wild places. You can support our work by [making a secure donation](#) right now!

Top banner image of wolverine: Susan Morse

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