

SCIENCE STORIES

SERIES NO. 7

ADVANCES IN LANDSCAPE CONSERVATION PLANNING

A 2023 PILOT PROJECT SHOWED THAT A NEW PLANNING TOOL, CALLED 'WHERE TO WORK', IS EFFECTIVE, FAST AND USER-FRIENDLY. THE PROJECT SUCCESSFULLY USED THIS TOOL IN CREATING A NEW LANDSCAPE CONSERVATION PLAN FOR ALBERTA'S ASPEN PARKLAND/BOREAL FRINGE, A VITAL BUT CHALLENGING REGION FOR CONSERVATION OF WATERFOWL AND OTHER WILDLIFE.

This Nature Conservancy of Canada (NCC) pilot project is part of NCC's current initiative to update its conservation planning process. "Conservation plans are an important foundation of our work at NCC. They help us to focus our resources on where we can make tangible impacts for conservation," explains Katelyn Ceh, NCC's lead for the project.

Where To Work is one of a suite of open-access conservation planning tools that NCC has recently developed in partnership with Carleton University. The tool's purpose is to prioritize where in a landscape to deploy conservation efforts for maximum effect.

Guided by user-specified criteria, the tool draws on various datasets about climate, soils, vegetation, water, species and more, to rapidly generate a conservation priority map.

"Once you get all the data and make some decisions about what is important on the landscape and how much you want to protect, the tool can usually run the analysis in a minute or so," says Ceh. Previously, that analysis was done manually, requiring days of staff time.

"I really like that the tool allows you to test a lot of different scenarios. If you have a question about how changing a scenario impacts the output, you can just run the scenario and answer your question right away."

The pilot project provided a great opportunity to see how the tool works in practice and how it could help NCC make decisions about where to target its conservation efforts.

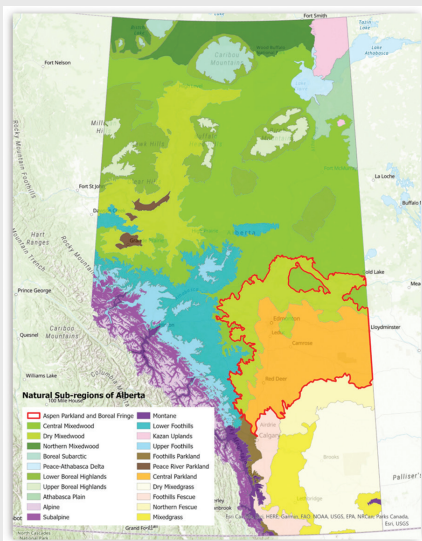
For the pilot's location, NCC choose the Aspen Parkland/Boreal Fringe region in Alberta, a transition zone between the grasslands, the foothills and the boreal forest. Part of the reason for this choice was to test the tool in developing a plan for a landscape that is much larger than the Natural Areas that have been the focus of NCC's conservation plans.

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The new plan encompasses three pre-existing Natural Area Conservation Plans that had been created for smaller areas within the region: the Central Parkland subregion and portions of the Northern Fescue subregion and the Dry Mixedwood subregion.

"Zooming out to the larger landscape scale helps us think more holistically about the landscape, what is important here, what do we want to achieve, who could we be partnering with, and so on," Ceh notes.

Another reason for choosing the Aspen Parkland/Boreal Fringe region was to evaluate the tool's effectiveness in an impacted landscape. This region has been considerably altered by human activities, and much of the connectivity between the remaining intact habitat areas has been lost. But the region is also part of North America's Prairie Pothole Region, known for its remarkable diversity and density of ponds, or 'potholes', and its highly productive habitat for waterfowl, other waterbirds and shorebirds.



Aspen Parkland Boreal Fringe boundary NCC



An Aspen Parkland landscape in Alberta
Sean Feagan, NCC

According to Ceh, the tool was a real bonus in NCC’s multiple sessions with stakeholders and partners across the region during the plan’s development. She says, “It’s a big landscape, and we don’t know everything. We’re relying on data, tools and information, but really checking in with people who are very familiar with areas on the ground level is very helpful.”

At these sessions, the tool and its map output enabled NCC to more easily share information about its planning process, gather input on the draft plan, foster interest and collaboration, and provide real-time results on how different ideas from the participants would affect the map.

“It is really important to include others’ values, knowledge and perspectives in these conservation plans,” she adds. “I think it gives you a much better plan at the end of the day and a much higher chance of successfully implementing the plan.”

The map formed the basis for developing the written part of the Aspen Parkland/Boreal Fringe conservation plan. Completed near the end of 2023, the plan explains the region’s significance, describes the plan’s goal to foster healthy, connected, resilient habitat, and explains how that goal will be achieved.

“The plan helps us define what our role can be in the landscape and where we might be able to partner on projects and initiatives,” explains Ceh.

“The Aspen Parkland/Boreal Fringe is a very dynamic landscape. So, the plan is about protecting what is left and making sure the landscape is resilient in the face of changes and resilient for people, and stewarded through existing and new partnerships. For example, restoration of habitat will be an important focus for us because there has been a significant loss of connectivity and loss of intact habitat. The plan identifies where to focus our restoration efforts and what those efforts could look like.”

The plan’s objectives will be reviewed and updated within a three-year time-frame, providing opportunities to refine workplans based on measurable progress.

Beyond the tool’s value in developing this particular conservation plan, Where To Work is an important component in NCC’s work to modernize its conservation planning across Canada. Ceh says, “The use of this tool will help us standardize how we do planning across NCC as an organization. That is really important to us as we grow and change as a conservation organization.”

Ceh is pleased that Where To Work is freely available at Sites Conservation Canada (ncc.carleton.ca), given the tool’s potential to help a wide range of groups in the conservation community, from local conservation organizations and landowner groups to larger organizations.

“Sharing the tool open-source hopefully will be helpful to others who could use the tool for their own conservation planning work. I’m interested to see how it will be used and where it all goes.”

Along with Where To Work, the Sites website also provides access to What To Do, an interactive tool that helps users identify and choose which conservation actions would be most appropriate for protecting and conserving landscapes. Together, these two robust, easy-to-use, science-based tools have the power to further advance conservation of our natural ecosystems and landscapes into the future.

The pilot project’s funders included the Alberta NAWMP Partnership, the Government of Canada, NCC private donors, and Carleton University private donors.

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