

From Data to Decisions

Spatial Decision-support Tools for Sustainable Forest Management

Marie-Michèle Rousseau-Clair, Chief Conservation Officer – NCC

Montreal, May 6th 2026

Our Vision

Our Purpose

With nature, we build a thriving world.

Our highest calling is:
We are one with nature.

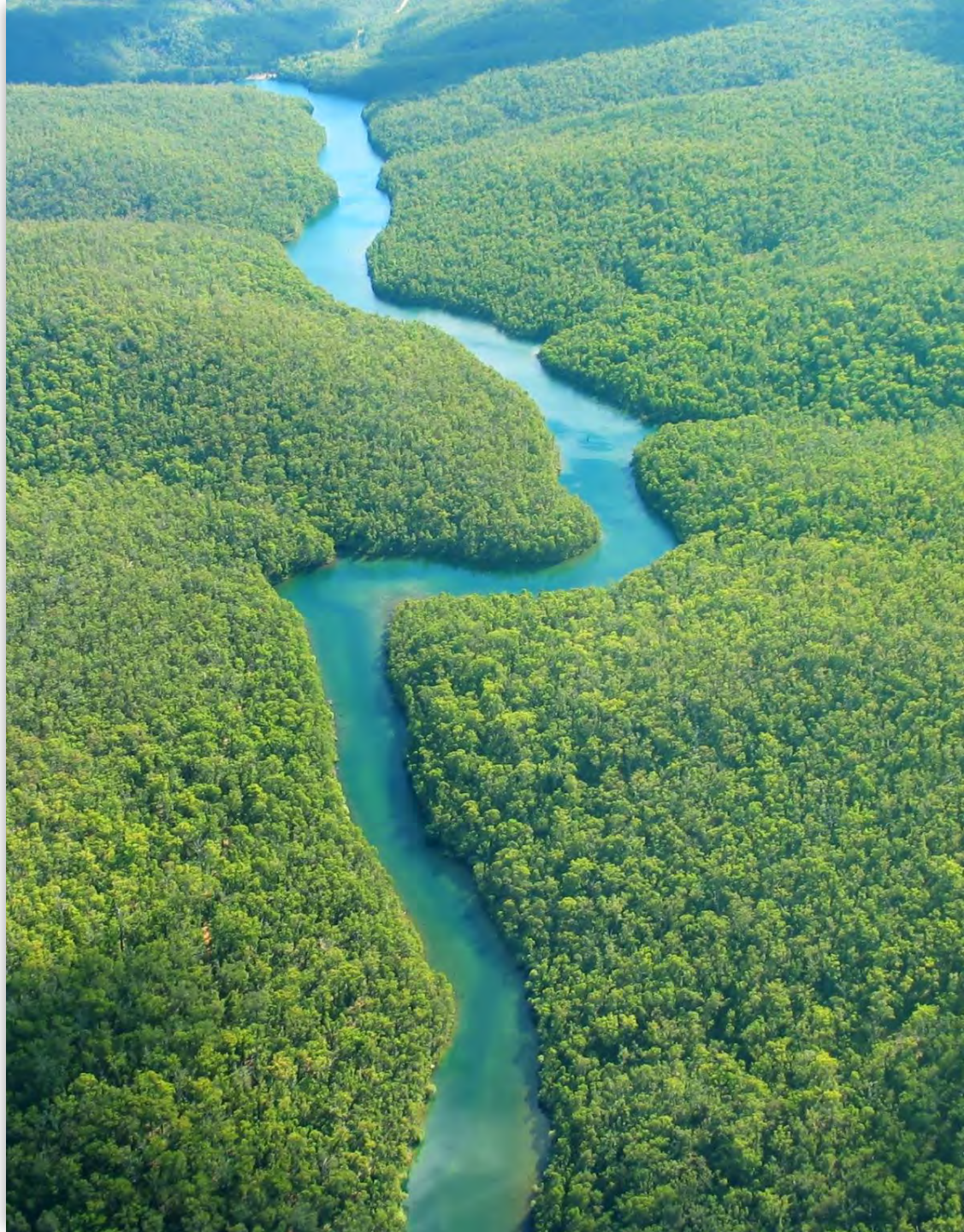


SITES

Resiliency Webtools enable you to decide **where to work** and **what to do** for nature positive outcomes

- Resiliency status reports
- Develop and run scenarios analysis
  - Optimal nature contributions
  - Trade-off assessments
- Site-specific Evaluation

NATURE CONSERVANCY CANADA



SFI 2022 FOREST MANAGEMENT STANDARD OBJECTIVES

SUSTAINABLE FORESTRY INITIATIVE

OBJECTIVE 1. FORESTMANAGEMENTPLANNING



OBJECTIVE 2. FOREST HEALTH AND PRODUCTIVITY



OBJECTIVE 3. PROTECTION AND MAINTENANCE OF WATER RESOURCES



OBJECTIVE 4. CONSERVATION OF BIOLOGICAL DIVERSITY



OBJECTIVE 5. MANAGEMENT OF VISUAL QUALITY AND RECREATIONAL BENEFITS



OBJECTIVE 6. PROTECTION OF SPECIAL SITES



OBJECTIVE 7. EFFICIENT USE OF FIBER SOURCES



OBJECTIVE 8. RECOGNIZE AND RESPECT INDIGENOUS PEOPLE'S RIGHTS



OBJECTIVE 9. CLIMATE SMART FORESTRY



OBJECTIVE 10. FIRE RESILIENCE AND AWARENESS



OBJECTIVE 11. LEGAL AND REGULATORY COMPLIANCE



OBJECTIVE 12. FORESTRY RESEARCH, SCIENCE AND TECHNOLOGY



OBJECTIVE 13. TRAINING AND EDUCATION



OBJECTIVE 14. COMMUNITY INVOLVEMENT AND LANDOWNER OUTREACH



OBJECTIVE 15. PUBLIC LAND MANAGEMENT RESPONSIBILITIES



OBJECTIVE 16. COMMUNICATIONS AND PUBLIC REPORTING



OBJECTIVE 17. MANAGEMENT REVIEW AND CONTINUAL IMPROVEMENT



SFI 2022 FIBER SOURCING STANDARD OBJECTIVES

SUSTAINABLE FORESTRY INITIATIVE

SFI-00001

OBJECTIVE 1. BIODIVERSITY IN FIBER SOURCING



OBJECTIVE 2. ADHERENCE TO BEST MANAGEMENT PRACTICES



OBJECTIVE 3. USE OF QUALIFIED RESOURCE PROFESSIONALS, QUALIFIED LOGGING PROFESSIONALS AND SFI-CERTIFIED LOGGING COMPANIES



OBJECTIVE 4. LEGAL AND REGULATORY COMPLIANCE



OBJECTIVE 5. FORESTRY RESEARCH, SCIENCE AND TECHNOLOGY



OBJECTIVE 6. TRAINING AND EDUCATION



OBJECTIVE 7. COMMUNITY INVOLVEMENT AND LANDOWNER OUTREACH



OBJECTIVE 8. PUBLIC LAND MANAGEMENT RESPONSIBILITIES



OBJECTIVE 9. COMMUNICATIONS AND PUBLIC REPORTING



OBJECTIVE 10. MANAGEMENT REVIEW AND CONTINUAL IMPROVEMENT

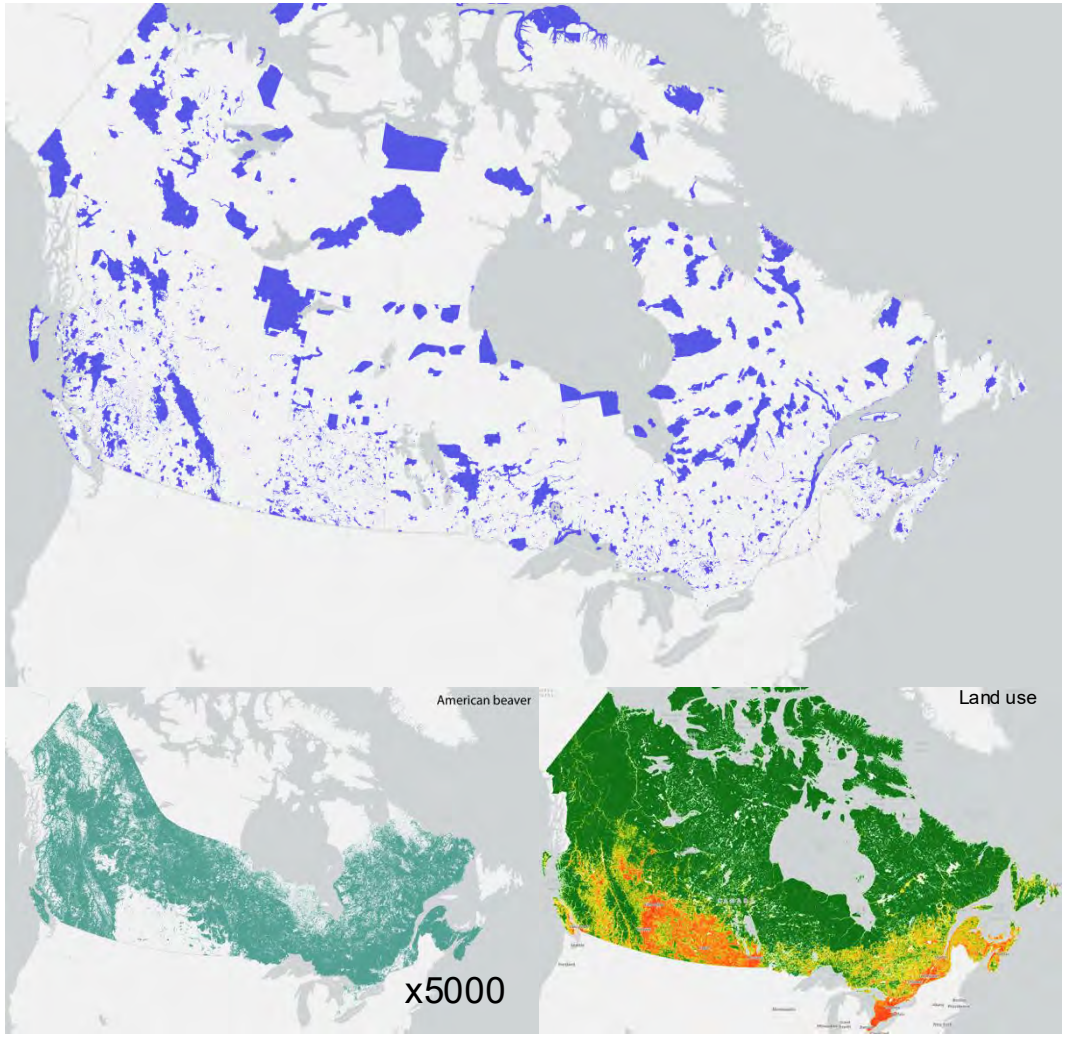


OBJECTIVE 11. AVOID CONTROVERSIAL SOURCES

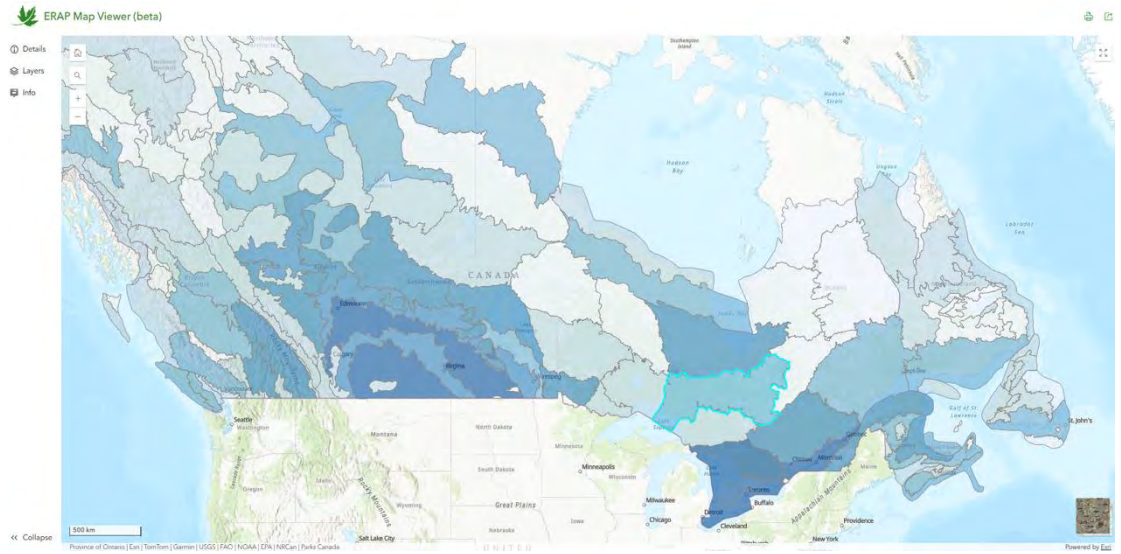


Resiliency Status Reports & Assessment

Data



Assessment tools and reports



NATURE CONSERVANCY CANADA

Info

Ecoregions: Abitibi Plains

Zoom to

Summary

Ecoregion Name	Abitibi Plains
Ecoregion ID	96
Ecozone Name	Boreal Shield
Ecozone ID	6
Ecoregion (terrestrial) protected (%)	11.38
Where to Work (terrestrial) area (%)	4.40

Habitat

Habitat	% cover in ecoregion	% of habitat protected	% of habitat overlapping
Forest	81.25	10.68	3.90
Grassland	0.00	0.00	0.00
Wetland	11.44	17.68	2.79
Lakes	6.57	20.50	4.32

Habitat	Total in ecoregion (km)	% of habitat protected	% of habitat overlapping
Rivers	210,225	12.62	4.04
Shoreline	671	41.58	10.12

Land Use

Forestry footprint (%)	9.11
Agriculture footprint (%)	0.15
Transport footprint - higher intensity (%)	1.14
Transport footprint - lower intensity (%)	8.59
Energy and mining footprint (%)	0.21
Urban and build-up footprint (%)	0.15

Opportunities

Pie chart shows the split between intact and modified land (existing areas of protection are excluded). Highly intact ecoregions will generally have a greater focus on protecting existing habitat, whereas highly modified ecoregions will have a greater focus on landscape-scale restoration.



Action recommendations

More details on how actions are triggered can be found in the action recommendation reference table. The following actions are recommended for this ecoregion:

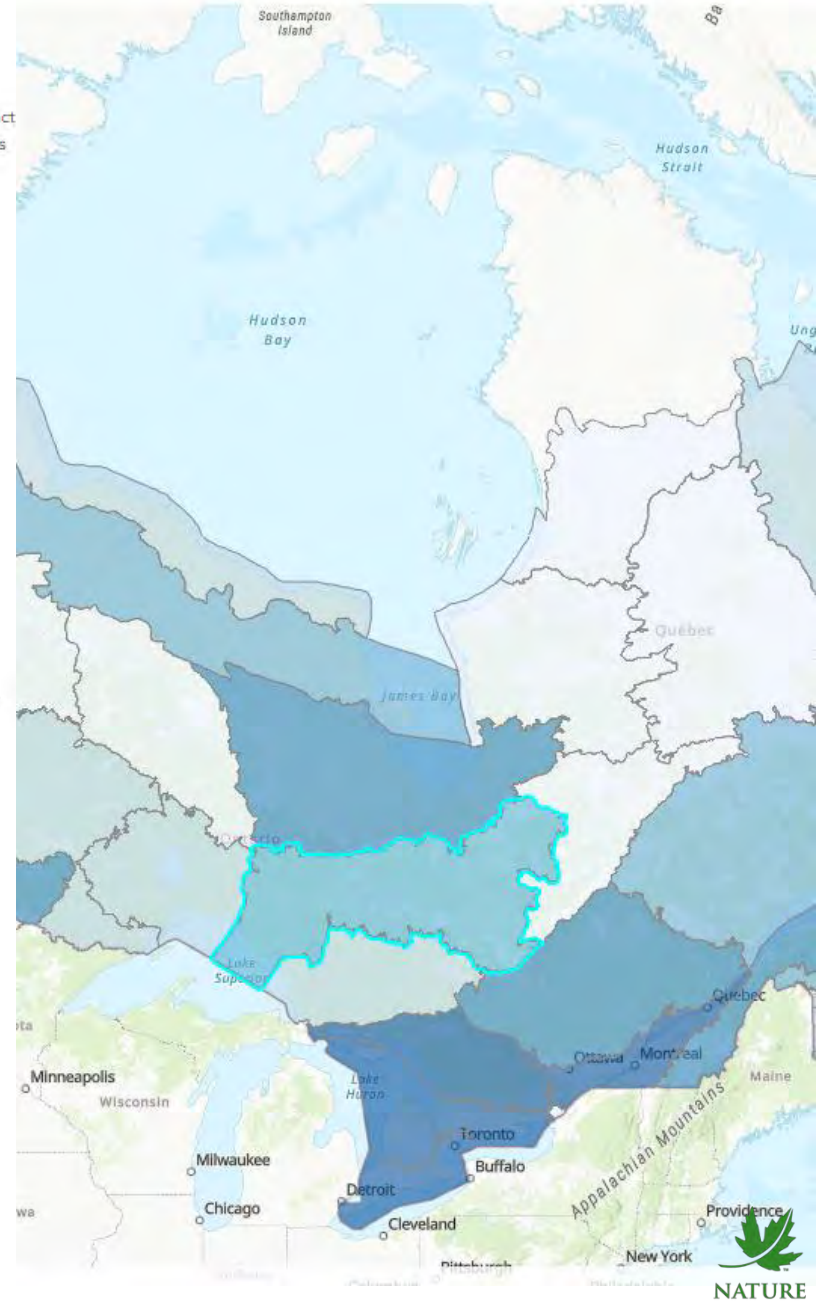
Area-based conservation - 30x30 goals
Recommended because current protection is less than 30%

Site / Area stewardship
Recommended because NCC is the management authority on projects and needs to manage or steward land to maintain or enhance landscape resiliency

Alliance & Partnership Development - land sharing
Recommended because NCC owns fee-simple land and should consider appropriate land sharing strategies

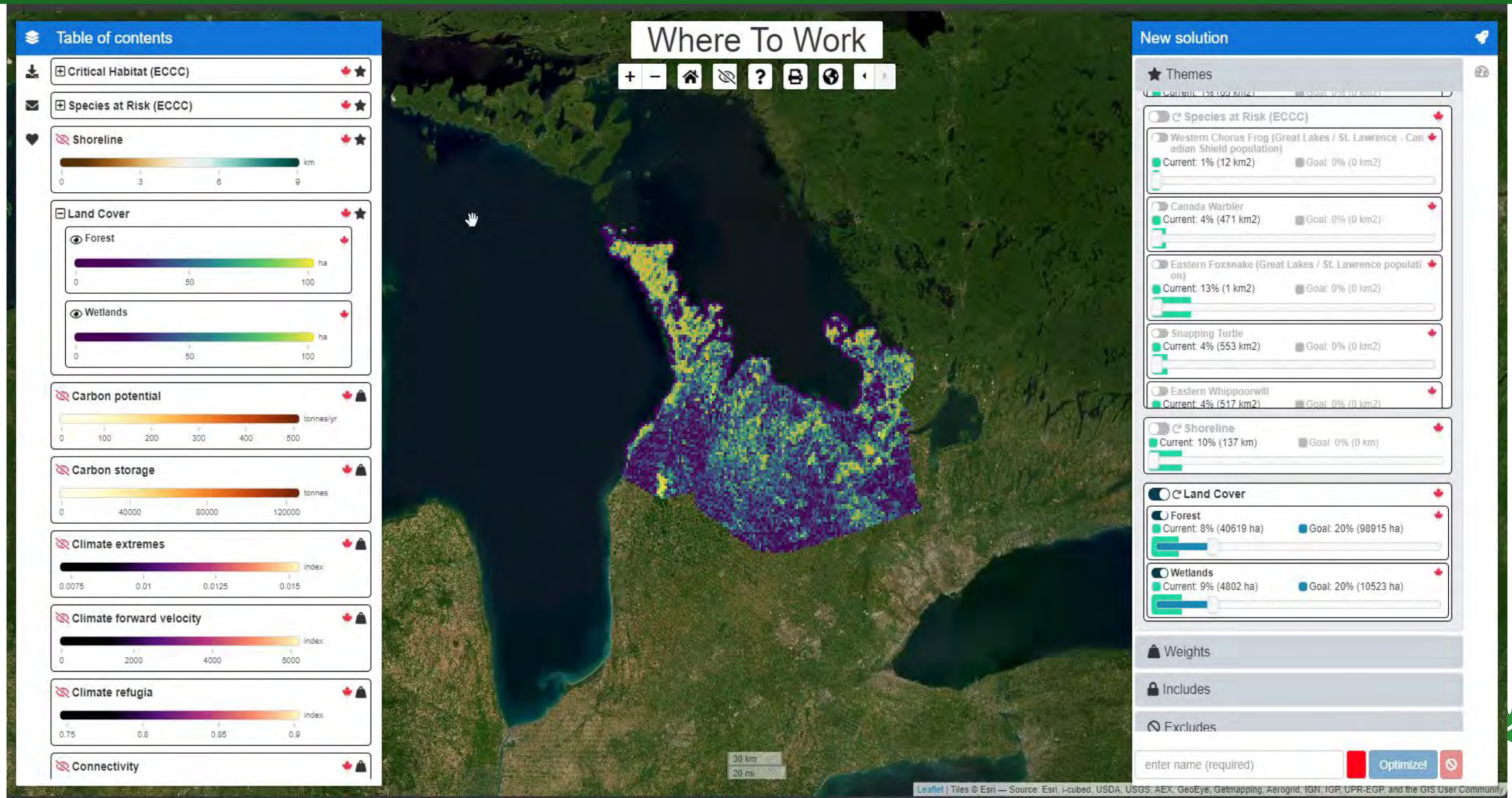
Indigenous Territories

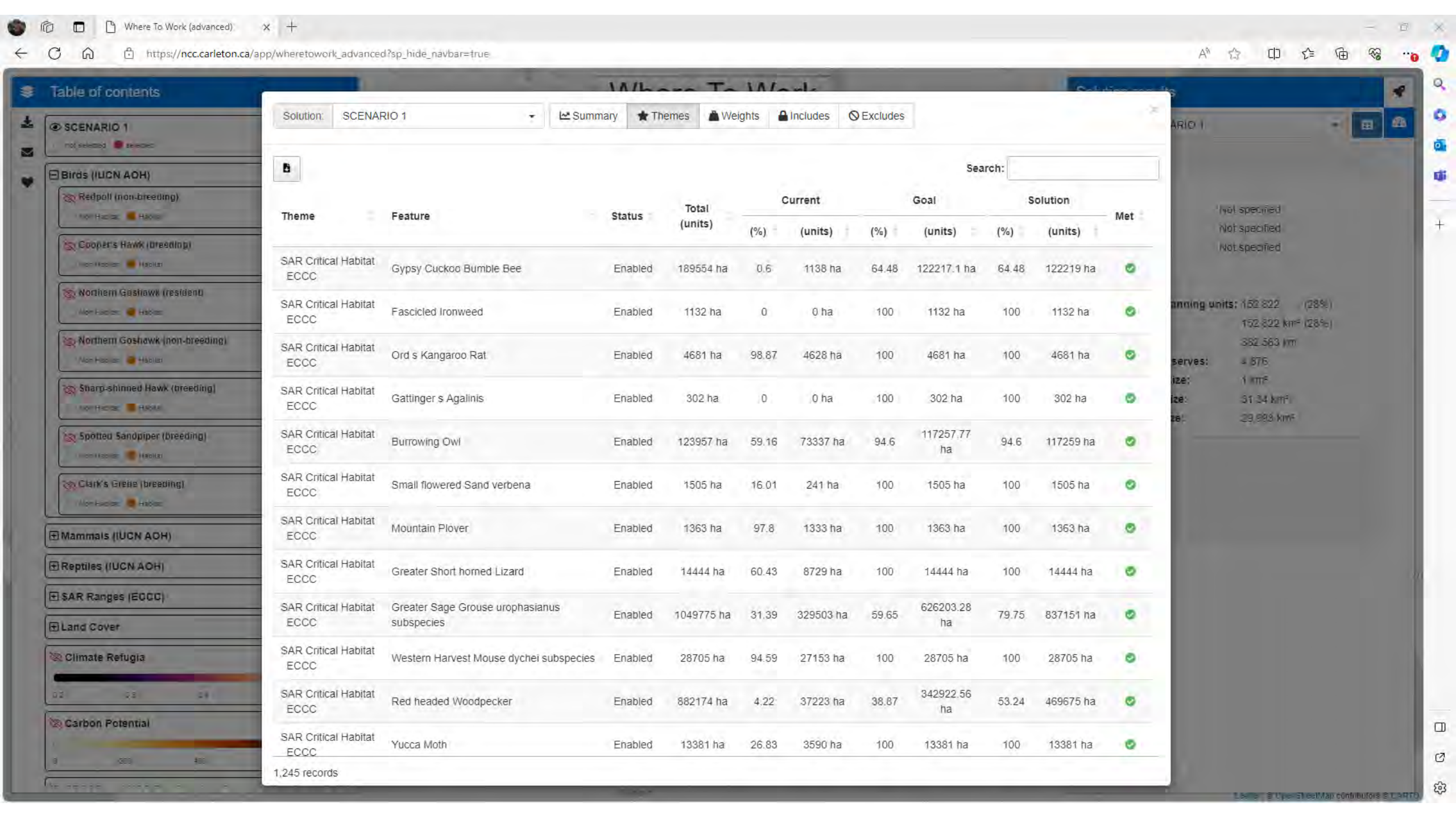
Abitibiwinni Aki
Anishininiimowin (Oji-Cree)
Omàmiwininiwag (Algonquin)
Anishinabewaki ᐊᓂᔑᓇᐯᒧᐎᓐ
Eeyou Istchee
ᐃᓕᓴᕆᔨ Ililiwaskiy (Moose Cree)
Michif Piyii (Métis)
Cree

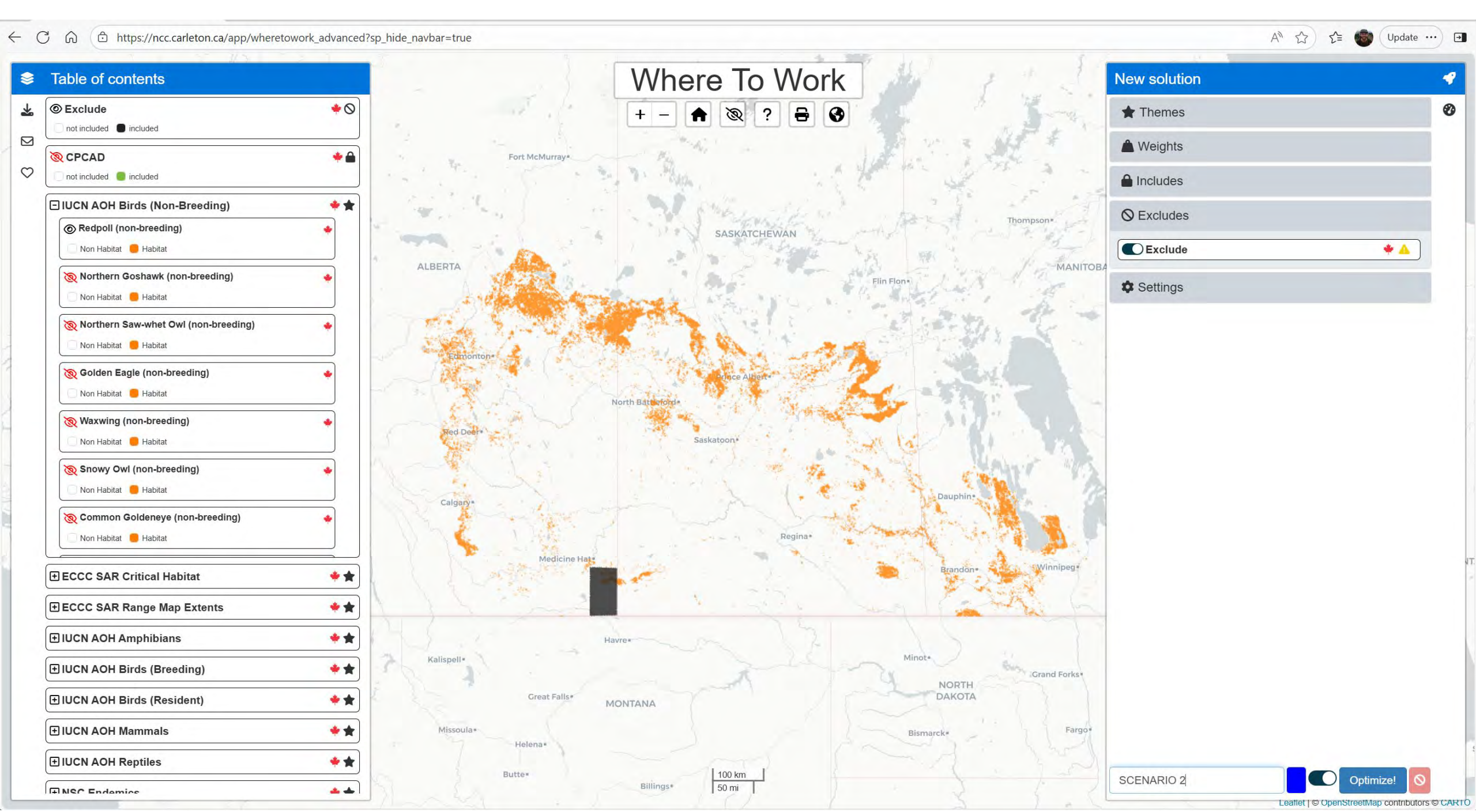


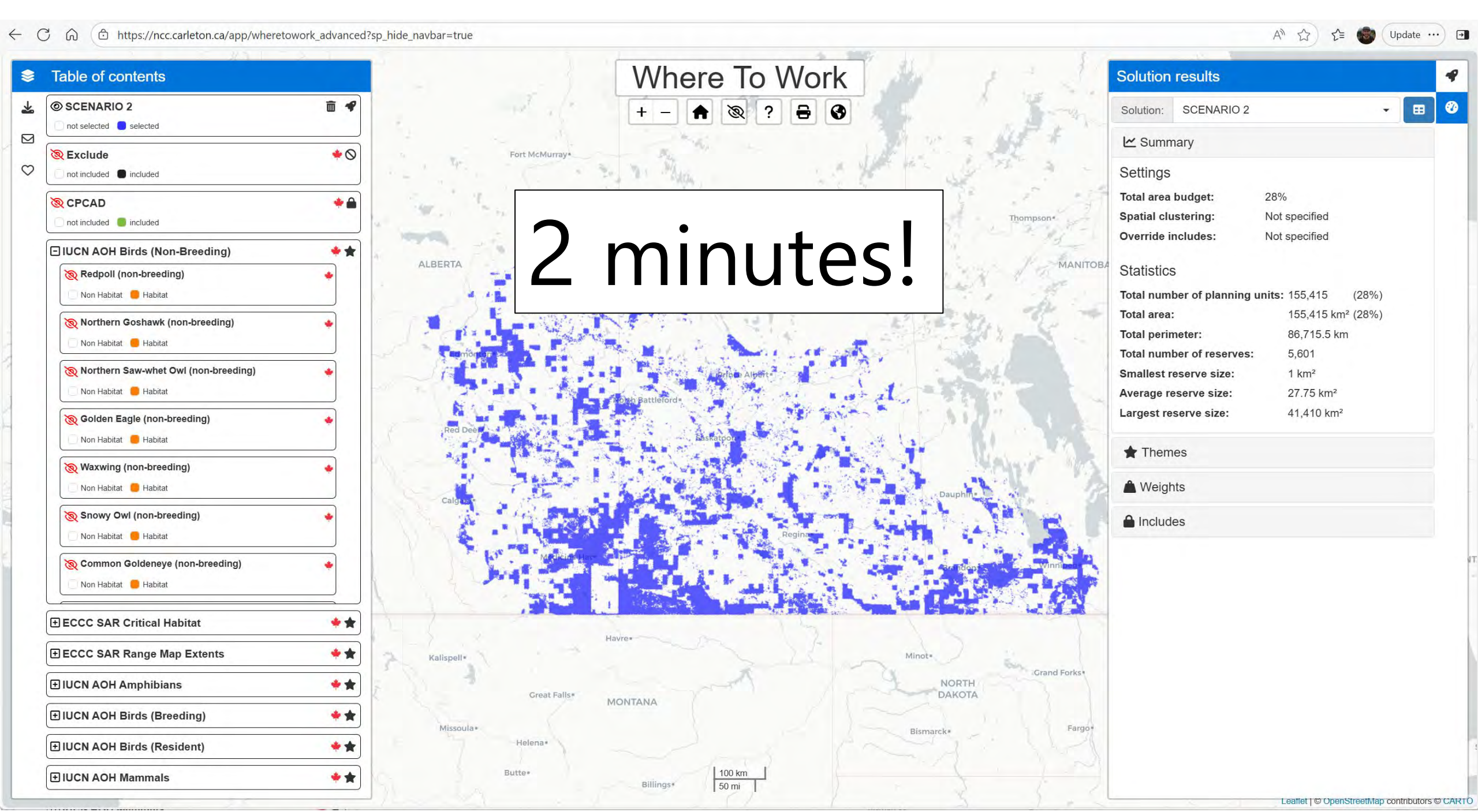
NATURE CONSERVANCY CANADA

Scenario Analysis

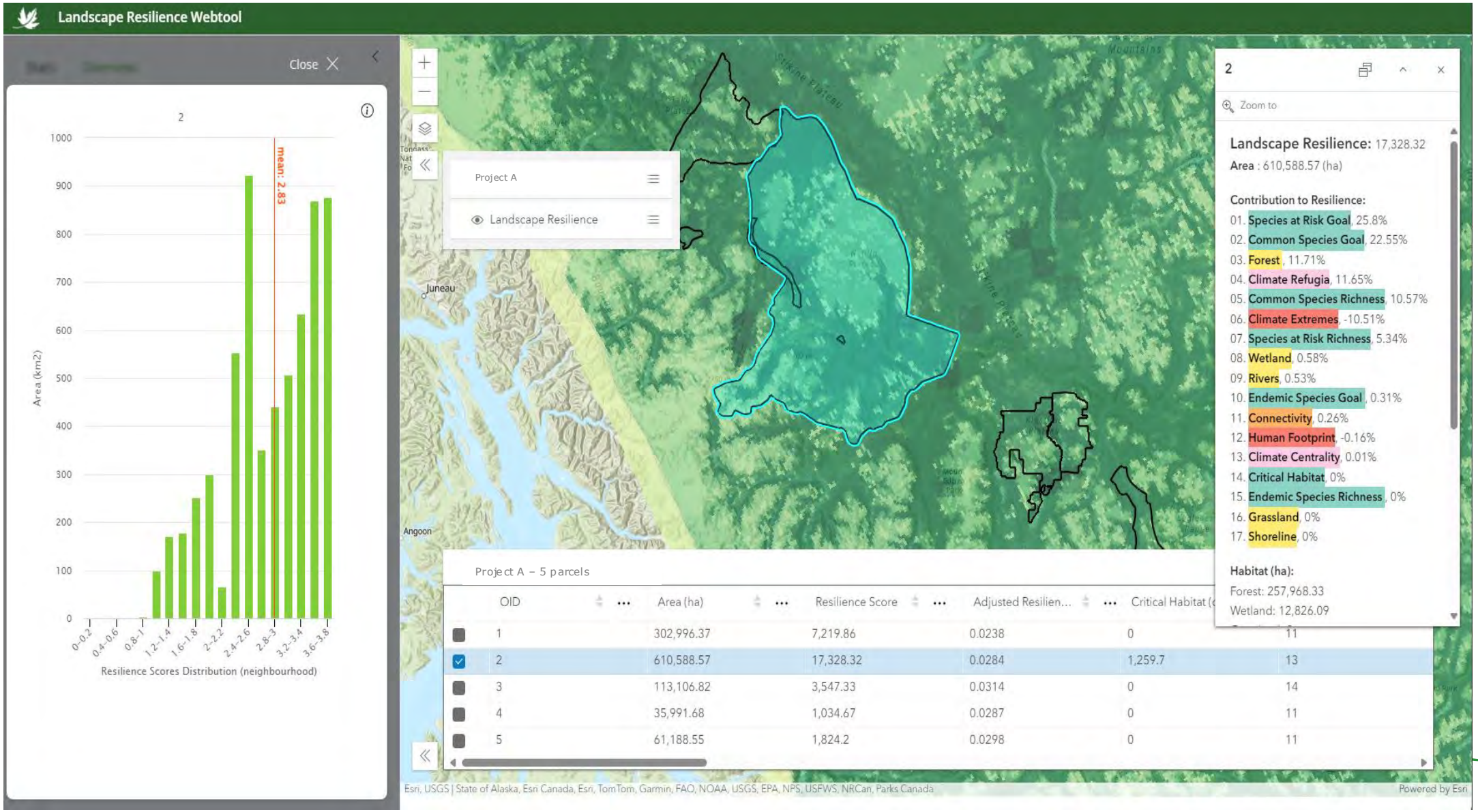



Where To Work (advanced)
https://ncc.carleton.ca/app/wheretowork_advanced?sp_hide_navbar=true
Table of contents
SCENARIO 1
Birds (IUCN AOH)
Redpoll (non-breeding)
Cooper's Hawk (breeding)
Northern Goshawk (resident)
Northern Goshawk (non-breeding)
Sharp-shinned Hawk (breeding)
Spotted Sandpiper (breeding)
Clark's Grebe (breeding)
Mammals (IUCN AOH)
Reptiles (IUCN AOH)
SAR Ranges (ECCC)
Land Cover
Climate Refugia
Carbon Potential
Solution: SCENARIO 1
Summary
Themes
Weights
Includes
Excludes
Search:
Theme
Feature
Status
Total (units)
Current
Goal
Solution
Met
(%)
(units)
(%)
(units)
(%)
(units)
SAR Critical Habitat ECCC | Gypsy Cuckoo Bumble Bee | Enabled | 189554 ha | 0.6 | 1138 ha | 64.48 | 122217.1 ha | 64.48 | 122219 ha
SAR Critical Habitat ECCC | Fascicled Ironweed | Enabled | 1132 ha | 0 | 0 ha | 100 | 1132 ha | 100 | 1132 ha
SAR Critical Habitat ECCC | Ord s Kangaroo Rat | Enabled | 4681 ha | 98.87 | 4628 ha | 100 | 4681 ha | 100 | 4681 ha
SAR Critical Habitat ECCC | Gattinger s Agalinis | Enabled | 302 ha | 0 | 0 ha | 100 | 302 ha | 100 | 302 ha
SAR Critical Habitat ECCC | Burrowing Owl | Enabled | 123957 ha | 59.16 | 73337 ha | 94.6 | 117257.77 ha | 94.6 | 117259 ha
SAR Critical Habitat ECCC | Small flowered Sand verbena | Enabled | 1505 ha | 16.01 | 241 ha | 100 | 1505 ha | 100 | 1505 ha
SAR Critical Habitat ECCC | Mountain Plover | Enabled | 1363 ha | 97.8 | 1333 ha | 100 | 1363 ha | 100 | 1363 ha
SAR Critical Habitat ECCC | Greater Short horned Lizard | Enabled | 14444 ha | 60.43 | 8729 ha | 100 | 14444 ha | 100 | 14444 ha
SAR Critical Habitat ECCC | Greater Sage Grouse urophasianus subspecies | Enabled | 1049775 ha | 31.39 | 329503 ha | 59.65 | 626203.28 ha | 79.75 | 837151 ha
SAR Critical Habitat ECCC | Western Harvest Mouse dychei subspecies | Enabled | 28705 ha | 94.59 | 27153 ha | 100 | 28705 ha | 100 | 28705 ha
SAR Critical Habitat ECCC | Red headed Woodpecker | Enabled | 882174 ha | 4.22 | 37223 ha | 38.87 | 342922.56 ha | 53.24 | 469675 ha
SAR Critical Habitat ECCC | Yucca Moth | Enabled | 13381 ha | 26.83 | 3590 ha | 100 | 13381 ha | 100 | 13381 ha
1,245 records


https://ncc.carleton.ca/app/wheretowork_advanced?sp_hide_navbar=true
Update
Where To Work
Table of contents
Exclude
not included
included
CPCAD
not included
included
IUCN AOH Birds (Non-Breeding)
Redpoll (non-breeding)
Non Habitat
Habitat
Northern Goshawk (non-breeding)
Non Habitat
Habitat
Northern Saw-whet Owl (non-breeding)
Non Habitat
Habitat
Golden Eagle (non-breeding)
Non Habitat
Habitat
Waxwing (non-breeding)
Non Habitat
Habitat
Snowy Owl (non-breeding)
Non Habitat
Habitat
Common Goldeneye (non-breeding)
Non Habitat
Habitat
ECCC SAR Critical Habitat
ECCC SAR Range Map Extents
IUCN AOH Amphibians
IUCN AOH Birds (Breeding)
IUCN AOH Birds (Resident)
IUCN AOH Mammals
IUCN AOH Reptiles
NSC Endemics
Fort McMurray
SASKATCHEWAN
ALBERTA
MANITOBA
Thompson
Flin Flon
Edmonton
Prince Albert
North Battleford
Red Deer
Saskatoon
Calgary
Dauphin
Regina
Medicine Hat
Brandon
Winnipeg
Havre
Kalispell
Great Falls
MONTANA
Minot
Grand Forks
NORTH DAKOTA
Missoula
Helena
Bismarck
Fargo
Butte
Billings
100 km
50 mi
New solution
Themes
Weights
Includes
Excludes
Exclude
Settings
SCENARIO 2
Optimize!
Leaflet | © OpenStreetMap contributors © CARTO


https://ncc.carleton.ca/app/wheretowork_advanced?sp_hide_navbar=true
Update
Table of contents
SCENARIO 2
not selected selected
Exclude
not included included
CPCAD
not included included
IUCN AOH Birds (Non-Breeding)
Redpoll (non-breeding)
Non Habitat Habitat
Northern Goshawk (non-breeding)
Non Habitat Habitat
Northern Saw-whet Owl (non-breeding)
Non Habitat Habitat
Golden Eagle (non-breeding)
Non Habitat Habitat
Waxwing (non-breeding)
Non Habitat Habitat
Snowy Owl (non-breeding)
Non Habitat Habitat
Common Goldeneye (non-breeding)
Non Habitat Habitat
ECCC SAR Critical Habitat
ECCC SAR Range Map Extents
IUCN AOH Amphibians
IUCN AOH Birds (Breeding)
IUCN AOH Birds (Resident)
IUCN AOH Mammals
Where To Work
2 minutes!
Fort McMurray
ALBERTA
Thompson
MANITOBA
Prince Albert
North Battleford
Red Deer
Saskatoon
Dauphin
Regina
Brandon
Havre
Kalispell
Minot
Grand Forks
Great Falls
MONTANA
NORTH DAKOTA
Missoula
Helena
Bismarck
Fargo
Butte
Billings
100 km
50 mi
Solution results
Solution: SCENARIO 2
Summary
Settings
Total area budget: 28%
Spatial clustering: Not specified
Override includes: Not specified
Statistics
Total number of planning units: 155,415 (28%)
Total area: 155,415 km² (28%)
Total perimeter: 86,715.5 km
Total number of reserves: 5,601
Smallest reserve size: 1 km²
Average reserve size: 27.75 km²
Largest reserve size: 41,410 km²
Themes
Weights
Includes
Leaflet | © OpenStreetMap contributors © CARTO

Project Evaluation



Project Evaluation

Information	Landscape	Percent Protected	Project	Project - Percent of Ecoregion
Name	**ECOREGION A**		**PROJECT A**	
Total Area	9,379,409 ha	16.6%	194,849 ha	2.1%
Forest	6,483,741 ha	15.9%	147,085 ha	2.3%
Grassland	0 ha	N/A	0 ha	N/A
Wetland	374,452 ha	19.8%	11,207 ha	3.0%
Lakes	1,283,080 ha	20.7%	26,333 ha	2.1%
Rivers	53,985 km	14.6%	0 km	0.0%
Shoreline	1,814 km	70.0%	382 km	21%
Percent overlap with optimal areas for biodiversity protection (WTW map)	6.9%		4.60%	
Number of species expected	406		248	61%
Number of species expected that are in need of more protection	145 (36% of species)		21	15%
Number SAR species expected	30		20	67%
Number SAR species expected that are in need of more protection	5 (17% of SAR)		1	20%
Of remaining unprotected, percentage intact	82.7%			
Intact percent	-		73%	
Most widespread land use(s)	-Forestry (9% of ecoregion) -Low intensity transportation corridors (6% of ecoregion)		-Forestry (26% of project) -Low intensity transportation corridors (1% of project)	

Ecoregion resiliency needs recommendations:

-Increase protection in the ecoregion, with a focus on forest and rivers because they are under-protected

-Ecoregion is not critical for biodiversity protection. However, shoreline is the most important habitat in the ecoregion for addressing biodiversity protection needs within the ecoregion (based on overlap with WTW map)

-As there is a high percentage of intact land remaining, securement should focus on protecting intact land

Project contributions:

-Project will contribute a significant amount of forest and shoreline protection, along with other habitats

-Project will contribute a significant amount of intact land protection

-Project is expected to protect the ranges of a significant number of expected species, particular species-at-risk


You focus on forestry
NCC takes care of biodiversity outcomes

THANK YOU

Marie-Michèle Rousseau-Clair

Chief Conservation Officer

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514-688-1665

For direct inquiry, just scan this QR Code

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