NATURE CONSERVANCY CANADA

RESILEINCE INDEX (RI)

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RI OVERVIEW

The **goal** of the RI is to:

1. Capture National Conservation data into a single metric
2. Enhance Where To Work site selection outputs
3. Drive What To Do management action optimizations
4. Guide Project Management Plans

RI provides a "**catch-all**" metric that aids in comparing the relationship between location and conservation impact.

RI INPUT DATA

Conservation data has been captured into 8 broad **Themes**.

A. Biodiversity
B. Carbon
C. Climate
D. Connectivity
E. Environmental Services
F. Habitat
G. Protection
H. Threats

Features (layers) that make up each theme have been **weighted** by importance.

RI FEATURES & RANKS

ADDITOINS

1. Key Biodiversity Areas
2. Connectivity
3. Climate Refugia, Climate Velocity
4. Existing Conservation
5. Critical Habitat Area
6. Endangered Species Ranges
7. Threatened Species Ranges
8. Special Concern Species Ranges
9. Carbon Potential, Carbon Storage
10. Forest, Grassland, Wetland
11. Freshwater provision, Recreation

SUBTRACTIONS

1. Climate Extremes
2. Human Footprint Index

RI PREP DETAILS

Each feature is **scaled** between **0** and **1** before the RI equation is executed. This step is required in order to combine features that have different units of measurement.

Scaling equation:

$$\text{Normalized feature} = (\text{feature} - \text{min value}) / (\text{max value} - \text{min value})$$

RI EQUATION

RI = (feature * weight) + (feature * weight) - (feature * weight) etc.

CP&P has provided an RI recommendation for review.

Resilience Index Equation:

(key biodiversity areas * 15) + (critical habitat * 10) + (endangered specices * 5) + (special concern species * 1) + (threatened species * 3) + (carbon potential * 1) + (carbon storage * 1) - (climate extremes * 10) + (climate refugia * 15) + (climate velocity * 15) + (connectivity * 20) + (freshwater provision * 1) + (forest landcover * 1) + (grassland * 1) + (wetland * 1) + (existing conservation * 10) - (human footprint index * 10)

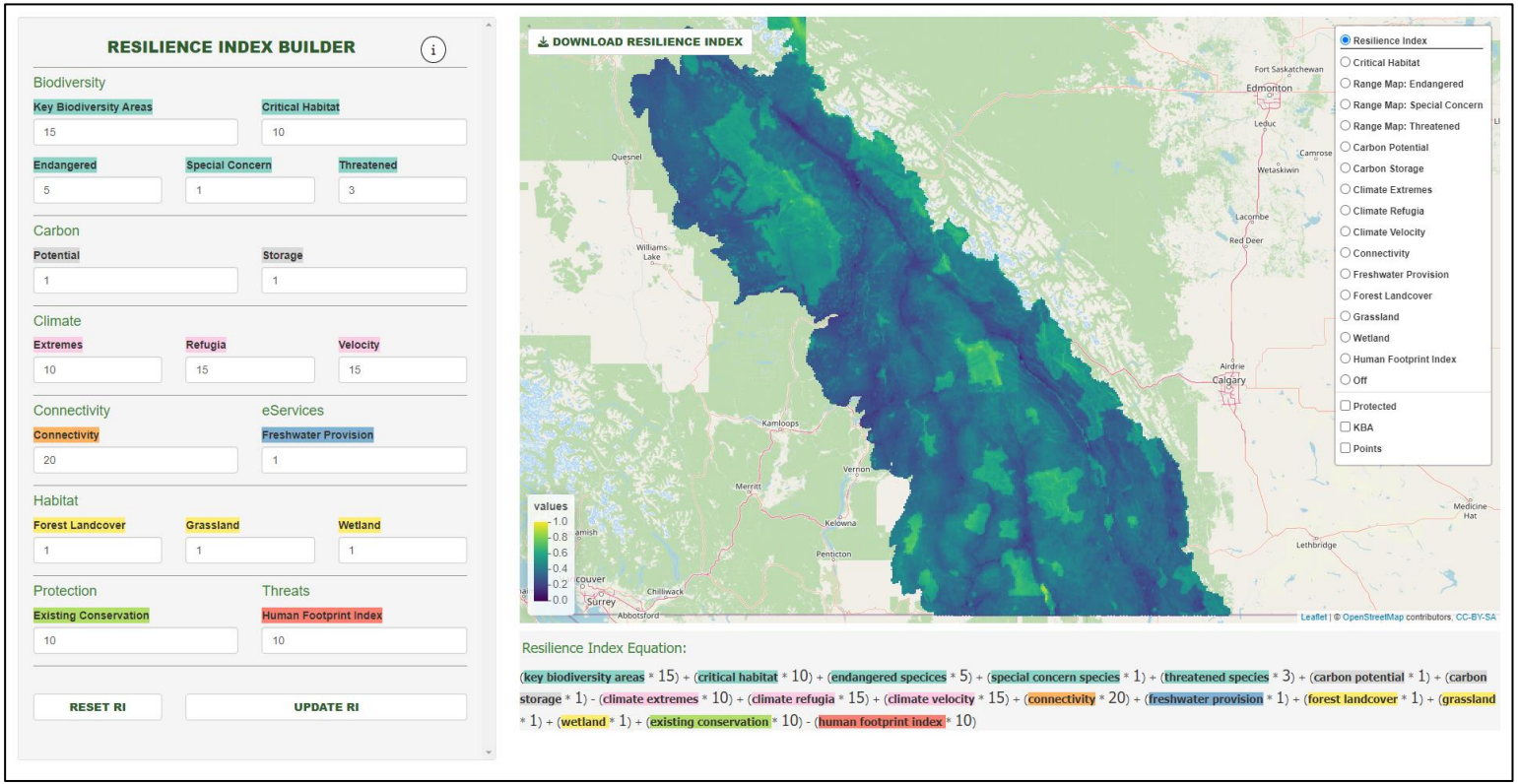
RI BUILDER

- Designed as an **engagement** tool that shows transparency in the make-up of the index.
- Users can **change** weights and update the RI in real time. This provides a means to reason with the relative importance of layers the comprise the index

Main App Features:

- Display
- RI point extractions and pop-up
- RI Download

RI BUILDER


RESILIENCE INDEX BUILDER
Biodiversity
Key Biodiversity Areas
15
Critical Habitat
10
Endangered
5
Special Concern
1
Threatened
3
Carbon
Potential
1
Storage
1
Climate
Extremes
10
Refugia
15
Velocity
15
Connectivity
Connectivity
20
eServices
Freshwater Provision
1
Habitat
Forest Landcover
1
Grassland
1
Wetland
1
Protection
Existing Conservation
10
Threats
Human Footprint Index
10
RESET RI
UPDATE RI
DOWNLOAD RESILIENCE INDEX
Resilience Index
Critical Habitat
Range Map: Endangered
Range Map: Special Concern
Range Map: Threatened
Carbon Potential
Carbon Storage
Climate Extremes
Climate Refugia
Climate Velocity
Connectivity
Freshwater Provision
Forest Landcover
Grassland
Wetland
Human Footprint Index
Off
Protected
KBA
Points
values
1.0
0.8
0.6
0.4
0.2
0.0
Edmonton
Calgary
Kamloops
Kelowna
Vernon
Penticton
Merritt
Williams Lake
Quesnel
Red Deer
Lethbridge
Medicine Hat
Surrey
Abbotsford
Chilliwack
Leaflet | © OpenStreetMap contributors, CC-BY-SA
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