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 and Securement

RI provides a "catch-all" **Landscape Level** 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 & RELATIVE WEIGHTS

POSITIVE FEATURES

THEMES	FEATURES	SIGN	WEIGHTS	RANKS
Biodiversity	Key Biodiversity Areas	+	15	1
Connectivity	Connectivity	+	13	2
Protection	Existing Conservation	+	12	3
Biodiversity	Critical Habitat	+	9	4
Biodiversity	Endangered	+	8	5
Biodiversity	Threatened	+	7	6
Biodiversity	Special Concern	+	6	7
Climate	Refugia	+	6	7
Climate	Velocity	+	6	7
Carbon	Potential	+	5	8
Carbon	Storage	+	5	8
Habitat	Forest Landcover	+	2	9
Habitat	Grassland	+	2	9
Habitat	Wetland	+	2	9
eServices	Freshwater Provision	+	1	10
eServices	Recreation	+	1	10

NEGATIVE FEATURES

THEMES	FEATURES	SIGN	WEIGHTS	RANKS
Threats	Human Footprint Index	-	38	1
Climate	Extremes	-	12	2

Ranks are rationalized using the **C**onnectivity. **A**dequacy. **R**epresentativeness. **E**fficiency principle.

- Positive weights tally up to **100**
- Negative weights tally up to **-50**

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:

Normalized feature = (feature – min value) / (max value – 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) + (connectivity * 13) + (existing conservation * 12) + (critical habitat * 9) + (endangered species * 8) + (threatened species * 7) + (special concern species * 6) + (climate refugia * 6) + (climate velocity * 6) + (carbon potential * 5) + (carbon storage * 5) + (forest landcover * 2) + (grassland * 2) + (wetland * 2) + (freshwater provision * 1) + (recreation * 1) - (human footprint * 38) - (climate extremes * 12)

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 that comprise the index

Main App Features:

- RI map display
- RI equation display
- RI point extractions and pop-up
- RI download

RI BUILDER

RESILIENCE INDEX BUILDER (i)

Biodiversity

Key Biodiversity Areas: 15
Critical Habitat: 9

Endangered: 8
Special Concern: 6
Threatened: 7

Carbon

Potential: 5
Storage: 5

Climate

Extremes: 12
Refugia: 6
Velocity: 6

Connectivity / eServices

Connectivity: 13
Freshwater Provision: 1
Recreation: 1

Habitat

Forest Landcover: 2
Grassland: 2
Wetland: 2

Protection

Existing Conservation: 12

Threats

Human Footprint Index: 38

Positive Weight tally: 100
Negative Weight tally: -50

RESET RI   UPDATE RI

Download updated RI raster (.tif) and weights (.xlsx)

View PowerPoint

View layers one at a time

Update weights

Toggle overlays

Reset weights to CP&P Recommendation

Update RI on map

Tally of total weights

RI Equation

Click on mapped points to view RI cell value

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
Recreation
Forest Landcover
Grassland
Wetland
Human Footprint Index
Off

Protected
KBA
Points

values
1.0
0.8
0.6
0.4
0.2
0.0

Resilience Index Equation:

(key biodiversity areas * 15) + (connectivity * 13) + (existing conservation * 12) + (critical habitat * 9) + (endangered species * 8) + (threatened species * 7) + (special concern species * 6) + (climate refugia * 6) + (climate velocity * 6) + (carbon potential * 5) + (carbon storage * 5) + (forest landcover * 2) + (grassland * 2) + (wetland * 2) + (freshwater provision * 1) + (recreation * 1) - (human footprint * 38) - (climate extremes * 12)