

The Index of Ecological Integrity

Combining a set of key metrics for intactness and resiliency to measure the potential for individual sites to support biodiversity in the long term, the Index provides a tool to prioritize actions intended to conserve high quality habitat by enabling users to compare the integrity of different sites of the same ecosystem type.

PRODUCTS:

- Maps that show the relative integrity of more than 140 different ecological systems at regional, state, and watershed scales

DEVELOPED BY:

The University of Massachusetts Amherst Designing Sustainable Landscapes Project

WHO IS USING IT?

Katie Callahan, GIS Specialist,
New Hampshire Fish and Game Department

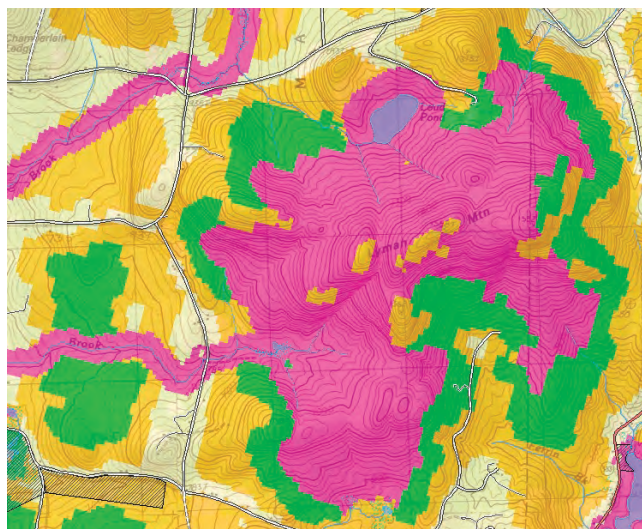
HOW IS IT BEING APPLIED?

Callahan used the Index of Ecological Integrity (IEI) to refine New Hampshire’s approach for identifying resilient wildlife habitat as part of the mandatory ten-year update of its State Wildlife Action Plan.

To provide clear guidance that can help resource managers, conservation professionals, and planners identify areas that offer the best prospects for long-term conservation, New Hampshire ran an in-depth analysis to assess the condition of all habitat types in the state.

“This is the third time we’ve done a condition analysis for New Hampshire, and we found that even though IEI is weighted evenly with other datasets, it really helped to refine what we delineated as the areas in the state in the best relative ecological condition,” said Callahan.

IEI adds value because it captures the potential for a site to support biodiversity over time by assessing how vulnerable it is to disturbances, and how likely it is to withstand environmental change over time.



HIGHEST RANKED WILDLIFE HABITAT BY ECOLOGICAL CONDITION 2015

- Highest Rank Habitat in New Hampshire
 - Highest Rank Habitat in Biological Region
 - Supporting Landscapes
 - Conservation or public land
- Biological region = TNC ecoregional subsection for terrestrial habitats or Aquatic Resource Management region for wetlands and floodplain forest.

New Hampshire Fish and Game used the Index of Ecological Integrity as part of the process of identifying and ranking important wildlife habitats for the state’s Wildlife Action Plan. Credit: New Hampshire Fish and Game

WHAT NEED DOES IT ADDRESS?

By focusing New Hampshire’s conservation lens, IEI will inform more effective decisions in the state, and beyond. Callahan explained that the results will directly inform her agency’s work on the ground in land acquisition and outreach to private landowners, but pointed out that it’s also a valuable tool to help land trusts and conservation commissions make local decisions that reflect state and regional priorities. Since the state began promoting the new maps last fall, a handful of organizations have contacted the agency to request access to the IEI datasets.

But one of the clearest indications that the data has helped fill a scientific gap comes from the field itself. “The ecologists who are out there in the field have been telling us that the places identified using the new habitat condition assessment, which includes IEI, are much more in line with what they see on the ground in terms of the natural communities that are in the best condition,” said Callahan.

LEARN MORE:

- **The Index of Ecological Integrity:** <http://nalcc.databasin.org/datasets/af3a93f96d3040ac8c57ce61f47fc864>
- **New Hampshire Fish and Game Department:** <http://www.wildlife.state.nh.us>