

An aerial photograph of a vast, lush green forest landscape. A winding river flows through the center of the forest, surrounded by dense trees. In the background, a range of mountains is visible under a clear blue sky. The overall scene is a beautiful representation of a natural ecosystem.

ECOLOGICAL COMPOSITION AND CONDITION OF THE BOREAS TRACT



WCSAdirondacks

A Wildlife Conservation Society Program

OVERVIEW

New York State is poised to augment its Forest Preserve holdings with the transition of the Boreas Ponds tract to state ownership. The Boreas tract is a 20,578 acre parcel recently purchased in the town of North Hudson on the edge of the High Peaks wilderness. It is the last of a multi-year process of transition to New York State ownership of 69,000 acres of the former Finch Pruyn lands. The Wildlife Conservation Society (WCS) Adirondack Program conducted a scientific analysis of the ecological characteristics of the Boreas Pond tract to inform the upcoming state land classification decision to be undertaken by the Adirondack Park Agency and NYS Department of Environmental Conservation upon its transfer to the state. We offer this report to highlight a number of publicly available regional datasets, which provide unprecedented opportunities for amassing ecological information to provide objective, science-based information, demonstrate patterns, and guide important decisions in the region. The report demonstrates how this process could be applied to other land use decisions in the Adirondacks and across the North Atlantic region.

We examined the extent and condition of the natural resources on the Boreas tract, the tract in the context of the adjacent High Peaks Management Unit, and its relative ecological value in comparison to existing state land units in the Adirondack Park. Our analysis made no consideration of intangible characteristics (social or psychological) that may influence the character of the land and the potential recreational opportunities that may be desired upon it. We considered only the ecological characteristics of the tract and their relative quality, as measured via the use of emerging datasets of terrestrial and aquatic ecosystems in the Northeast.

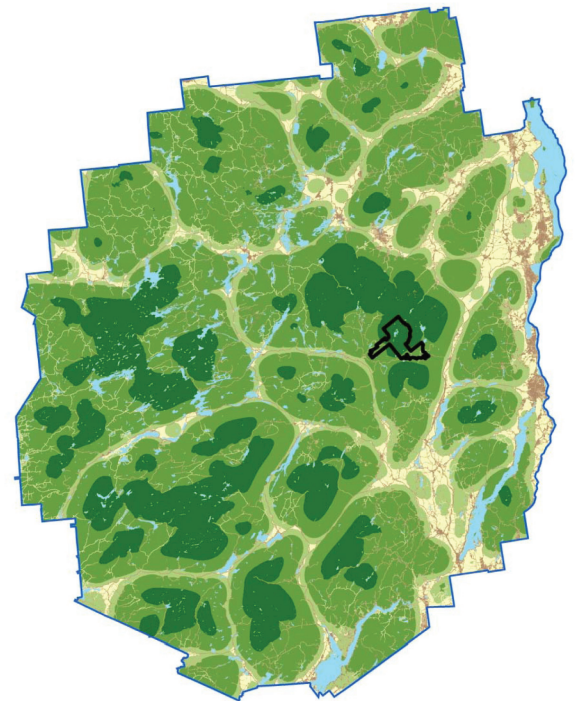
ECOLOGICAL CHARACTERISTICS

Among the ecological characteristics of the site that may be considered as a component of a classification decision, we highlight the following:

Composition: The Boreas tract contains a number of significant habitats including Boreal Upland Forest, Northern Swamp, and Wet Meadow/Shrub Marsh; these are among a set of habitats that make up <15% of the Adirondack landscape but may provide suitable habitat for more than 50% of our terrestrial vertebrates and a significant number of our rare species (Glennon and Curran 2013). Boreal habitats in the Adirondacks in particular, are important to several northern bird species on the southern extent of their range and found nowhere else in the state.

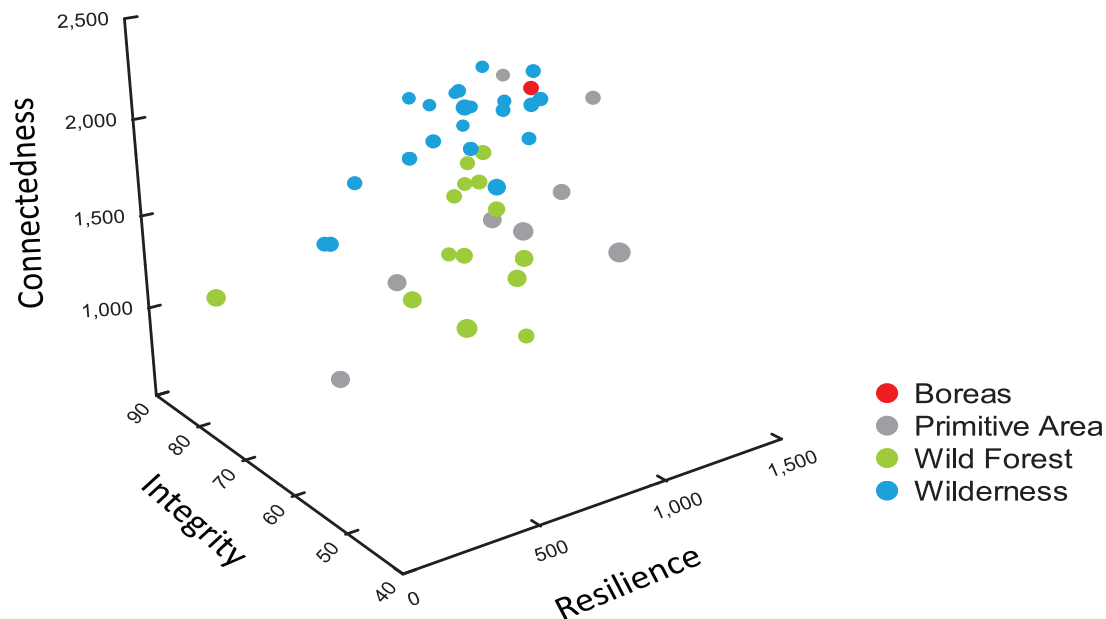
Overall condition: The Boreas tract has high levels of: resilience, or the ability to adapt to climate change while still maintaining biodiversity; ecological integrity, the ability to sustain important ecological functions over the long term; and ecological connectivity, meaning a general absence of features (e.g., roads, development, noise) that impair ecological flows such as dispersal, recruitment, and rearrangement of plants and animals on large and small scales. If added to the High Peaks Unit, the Boreas tract would enhance these characteristics within that unit by appreciable amounts.

Future threats: Climate change is probably the most significant future threat and will impact boreal habitats and their associated species on the tract more than wetland and northern hardwood forest habitats. Potential examples of species that live in the boreal that could be affected include gray jay, olive-sided flycatcher, Bicknell's thrush, blackpoll warbler, moose, and mink frog.



Local connectedness across the Adirondack landscape;
Boreas tract outlined in black.

lowest connectivity highest connectivity



Resilience, integrity, and connectivity values for existing state land units and the boreas tract

COMPARISON TO EXISTING WILDERNESS, WILD FOREST, AND PRIMITIVE AREAS

With respect to small, patch forming habitats (e.g., rocky outcrops, wetlands), this tract does not differ significantly from most wilderness, wild forest, and primitive tracts. However, the profile of terrestrial habitats on this tract for the major forest types is most similar to existing wilderness tracts. Three habitats - Northern Hardwood and Conifer, Northern Peatland, and Northern Swamp - have larger patch sizes on the Boreas tract than those on existing state land units.

In terms of characteristics that are most closely aligned with the ability of the tract to maintain ecological processes and biodiversity over time, the Boreas tract is most similar to existing areas of wilderness. These characteristics include resilience, ecological integrity, and local and regional connectivity, all of which are above average on the Boreas tract. With respect to resilience and local connectivity, in particular, the tract is exceptional – among the top 15% and 10%, respectively, when compared against existing state land units for these measures.

This analysis examined fine-scale ecological resources within the boundaries of the Boreas tract, and considered the parcel in the larger context of existing Forest Preserve lands in the Adirondacks. Our findings, based on the best available regional science, indicate that the Boreas tract contains significant and important ecological characteristics worthy of consideration in future decisions on its classification and management. Among them, the report illustrates that this tract scores high in terms of its resilience to climate change impacts, and its importance to local and regional scale ecological connectivity. We hope that this analysis can serve as a demonstration of the ways in which newly available, high quality, regional-scale public datasets can inform important management decisions in the Adirondacks and beyond.





CONTACT

WCS Adirondack Program

accp@wcs.org

518-891-8872

cover photo: Carl Heilman