

Wildlife Habitat & Biodiversity Assessment Map

Linking Lands and Communities in the Land-of-Sky Region



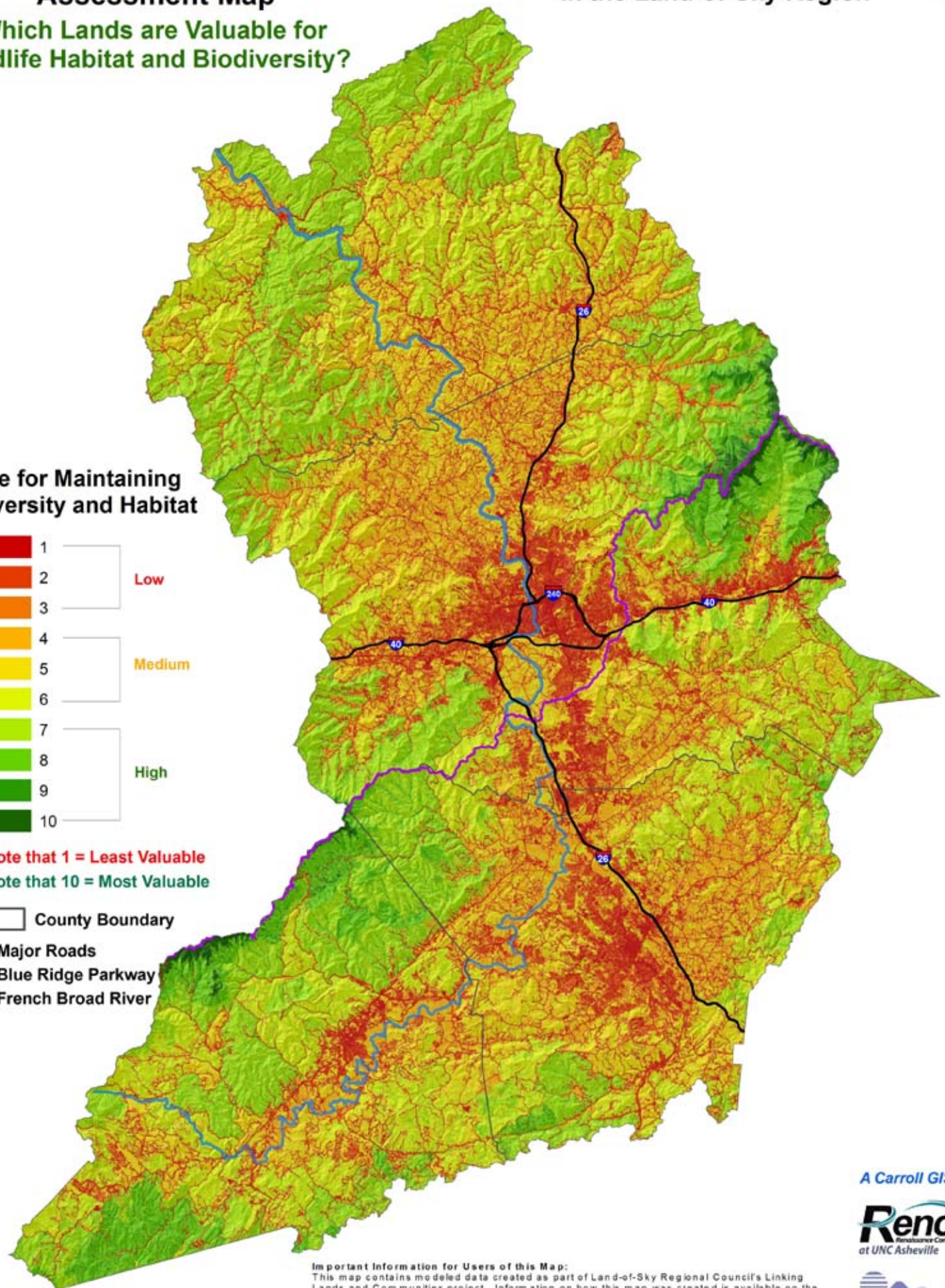
Which Lands are Valuable for Wildlife Habitat and Biodiversity?

Value for Maintaining Biodiversity and Habitat



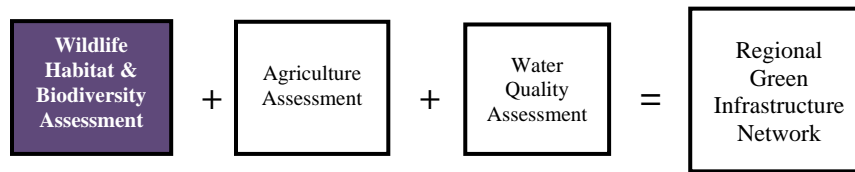
Note that 1 = Least Valuable
 Note that 10 = Most Valuable

- County Boundary
- Major Roads
- Blue Ridge Parkway
- French Broad River



Important Information for Users of this Map:
 This map contains modeled data created as part of Land-of-Sky Regional Council's Linking Lands and Communities project. Information on how this map was created is available on the project website. To access this information, visit www.linkinglands.org and click on "Resource Assessments" in the left-hand menu. The web page for each assessment explains how the assessment model was created, and includes links to a fact sheet, conceptual model, data sources & definitions, ranking scheme and input data layers. LOSRC, RENCi and A Carroll GIS consider all of this information to be an integral part of this map, and essential to understanding what this map represents and how to interpret it properly.





Wildlife Habitat and Biodiversity Assessment Summary

The Wildlife Habitat and Biodiversity Assessment is one of three resource assessments conducted as a part of the Linking Lands and Communities project. It is the only assessment that aims to capture the inherent ecological health and functioning of the region's ecosystems. The purpose of the Wildlife Habitat and Biodiversity Assessment is to identify lands in the Land-of-Sky Region that:

- Provide large blocks of natural habitat (identified in sub-model 1)
- Support high levels of biodiversity (identified in sub-model 2)
- Support priority ecological systems as identified in the NC Wildlife Action Plan developed by the NC Wildlife Resources Commission (identified in sub-model 3)
- Provide associated ecosystem services and functions to local communities. Examples include air and water filtration; creation of fertile soil; pollination of plants and seed distribution; erosion control; carbon storage; and flood control. Due to the complexity of ecological functions, wildlife habitat is used as an indicator for natural areas that provide site specific ecological functions.

Three sub-models were developed, weighted, and combined to create the Wildlife Habitat and Biodiversity Assessment (see the Conceptual Model on the following page):

Wildlife Habitat (50% of total assessment) - This model prioritizes large, intact, connected habitat patches higher than smaller, fragmented, isolated areas. Larger (and less fragmented) forest patches typically have a greater diversity of habitats and support larger populations that are less vulnerable to extinction. This model does not consider the type of habitat (e.g., spruce-fir forest, oak-hickory forest), but rather the patterns of habitats across the landscape.

Terrestrial and Aquatic Biodiversity (25% of total assessment) – This model uses the presence of species and the natural communities that support them to rank lands that sustain high levels of biodiversity. Only lands where data have been collected through direct surveys, sampling, and on the ground research are included in this assessment. Thus, many privately owned lands where species are likely to occur (but lack data to prove it) ranked lower than publically owned lands which are often surveyed more frequently. Though efforts were made to minimize this sampling bias, it should be considered when interpreting the results.

Priority Ecological Systems (25% of total assessment) – This model ranks types of habitats based on the presence or absence of greatest conservation need species (GCN), according to the North Carolina Wildlife Action Plan. Many have been identified as imperiled, rare or threatened natural communities with some degree of management concern. Given the unique habitats and challenges found in the mountains, habitats which received the highest ranking were those occurring above 4,000 feet in elevation, and floodplain and riverine aquatic communities.

The primary building blocks of a green infrastructure network are hubs (or core areas of habitat) and corridors (lands which link the core areas). The Wildlife Habitat and Biodiversity Assessment identifies our region's largest (and highest quality) hubs and serves as the primary backbone for the green infrastructure network. Lands which received a ranking of 7-10 in this assessment were used to develop the hubs and corridors for the region's green infrastructure network. For more detailed descriptions of the assessment methodology and data sources, see the project website at www.linkinglands.org.

The Wildlife Habitat and Biodiversity Assessment was created by A Carroll GIS, Land-of-Sky Regional Council, and a working group of regional partners, including NC Wildlife Resources Commission NCDENR Natural Heritage Program and One NC Naturally, WNC Alliance, Open Space Institute, Southern Appalachian Forest Coalition, Mars Hill College, Southern Appalachian Highlands Conservancy, NC Wildlife Federation, Blue Ridge Forever, Friends of DuPont State Forest, and USDA Forest Service.

Wildlife Habitat and Biodiversity Assessment Conceptual Model

