

# Priority Ecological Systems (Sub-model 3 of 3) Assessment Map

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



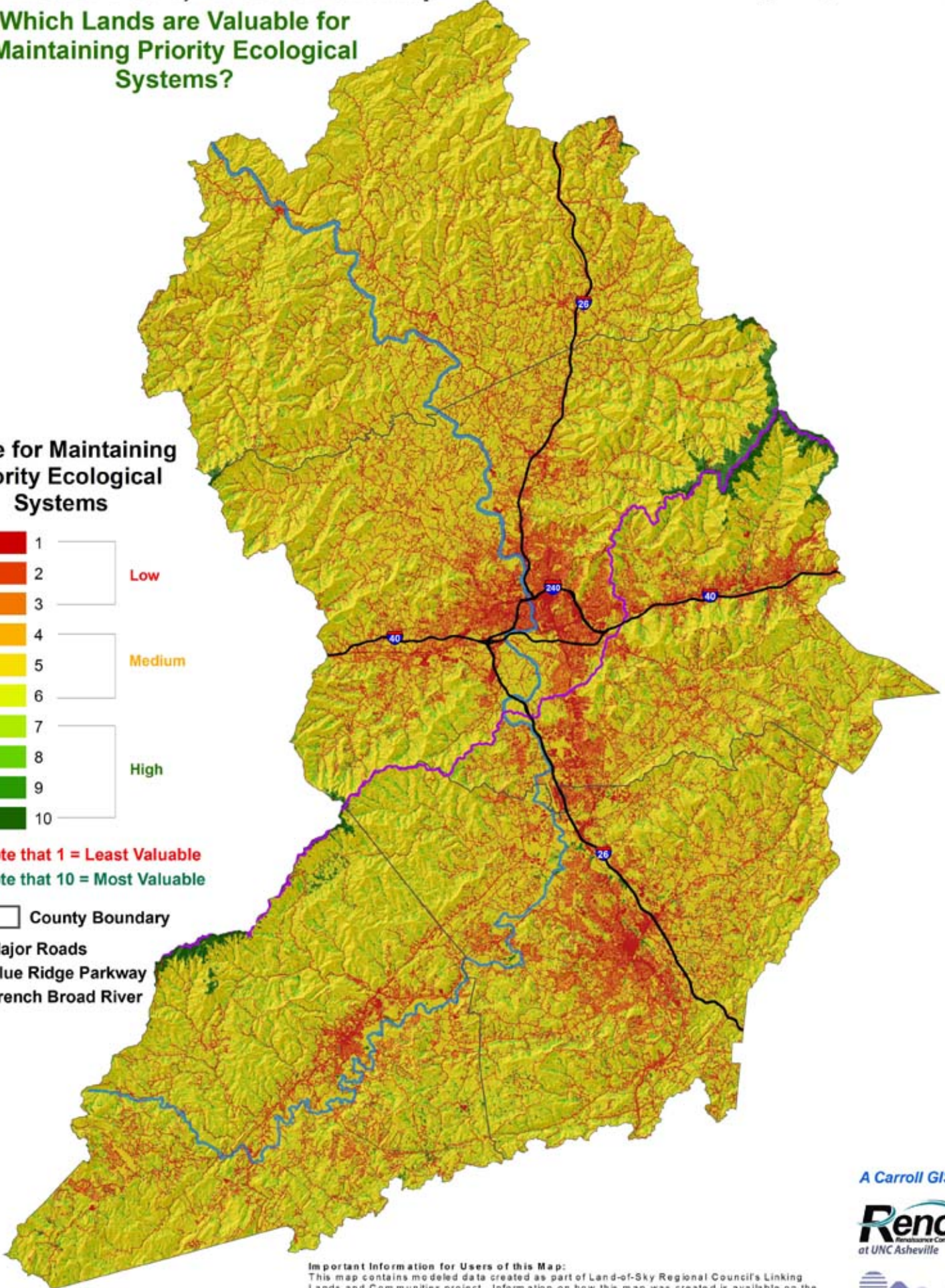
Which Lands are Valuable for  
Maintaining Priority Ecological  
Systems?

### Value for Maintaining Priority Ecological Systems



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

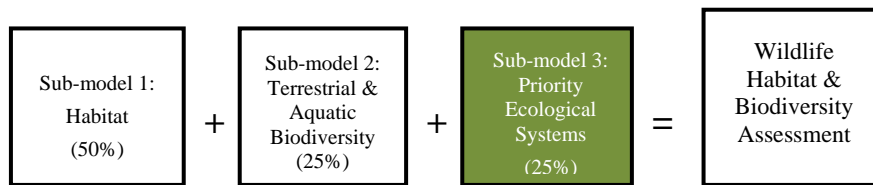
- County Boundary
- Major Roads
- Blue Ridge Parkway
- French Broad River



**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](http://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.

A Carroll GIS





### Wildlife Habitat and Biodiversity Assessment Sub-model 3: Priority Ecological Systems

The Wildlife Habitat and Biodiversity Assessment is one of three resource assessments conducted as a part of the Linking Lands and Communities project, and aims to capture the inherent ecological health and functioning of the region’s ecosystems. It was created by combining and assigning weights to three separate sub-models: habitat, biodiversity, and priority ecological systems.

#### Sub-model 3: Priority Ecological Systems

This model prioritizes specific habitat types that have been identified by the North Carolina Wildlife Resources Commission as priorities for the Southern Blue Ridge Ecoregion. These communities were identified in the North Carolina Wildlife Action Plan as priority ecosystems due to their:

- Ability to support priority species;
- Rareness and uniqueness; or
- Cumulative contributions to supporting other natural communities.

Twelve habitat types were identified for the Southern Blue Ridge Ecoregion, and 10 of those 12 were found in the Land-of-Sky Region. These habitats were correlated with ecological systems from the 2008 Southeast Gap Ecological Systems dataset derived from the 1998-2001 LANDSAT source imagery shot from satellite (see table on following page).

Due to the decline of higher elevation communities and degradation of lands adjacent to waterways, habitat types that occurred at elevations higher than 4,000 feet (i.e., Spruce-fir forest, Northern Forests, and high elevation rock outcrops) and floodplain forest and Riverine aquatic ecosystems were given the highest ranking in the model (10). Other priority systems identified in the NC Wildlife Action Plan were ranked an 8, and Oak-Hickory forests, cropland, and developed open spaces were given a neutral ranking of 5.

Oak Hickory forest is the most predominant habitat type in the region and one of the most important habitats to a significant variety of wildlife species. However, due to its abundance in the mountains, it was not identified as a conservation priority, though additional monitoring and sustainable management strategies are recommended.

<b>Priority Ecological Systems Legend</b>	
<b>Habitat Type</b>	<b>Ranking</b>
<b>Spruce-fir forest</b>	10
<b>Northern hardwoods</b>	10
<b>High elevation rock outcrops</b>	10
<b>Floodplain forest</b>	10
<b>Riverine aquatic communities</b>	10
<b>Cove Forest</b>	8
<b>Early Successional habitats</b>	8
<b>Dry coniferous woodlands</b>	8
<b>Low elevation rock outcrops</b>	8
<b>Oak-Hickory forest</b>	5
<b>Appalachian Hemlock Hardwood Forest</b>	5
<b>Cropland</b>	5
<b>Developed Open Space (20-80% impervious)</b>	5
<b>Impervious Surfaces (&gt;80% impervious)</b>	1

The Priority Ecological Systems sub-model comprised 25% of the total Wildlife Habitat and Biodiversity Assessment. For more information on the priority habitats and species identified in the NC Wildlife Action Plan that are found in the region, please go to [www.linkinglands.org](http://www.linkinglands.org).

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*The Priority Ecological Systems sub-model was created by A Carroll GIS, staff from Land-of-Sky Regional Council, and a working group of regional partners, including NCDENR Natural Heritage and One NC Naturally Programs, NC Wildlife Resources Commission, 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.*

The following terrestrial ecological systems were identified in the North Carolina Wildlife Action Plan and then extracted from the Southeast GAP 2008 ecological systems data layer. Each broad category of ecological systems was specifically listed in the North Carolina Wildlife Action Plan (NCWAP) Southern Blue Ridge Ecoregion section (pp. 95-148).

<b>NC Wildlife Action Plan Habitat Type</b>	<b>GAP Land Cover Ecological System</b>
<b>Spruce-fir forest</b>	Central and southern Appalachian Spruce-fir Forest
<b>Northern hardwoods</b>	Central and Southern Appalachian Northern Hardwood Forest
<b>Cove Forest</b>	Southern and Central Appalachian Cove Forest
<b>Early Successional habitats</b>	Southern Appalachian Grass and Shrub Bald – Shrub Modifier; Successional Shrub/Scrub; Southern Appalachian Grass and Shrub Bald – Herbaceous Modifier
<b>Dry coniferous woodlands</b>	Southern Appalachian Montane Pine Forest and Woodland
<b>High elevation rock outcrops</b>	Southern Appalachian Rocky Summit
<b>Low elevation rock outcrops</b>	Southern Appalachian Montane Cliff; Southern Piedmont Cliff
<b>Oak-Hickory Forest</b>	Central and Southern Appalachian Montane Oak Forest; Central and Southern Appalachian Oak Forest; Southern and Central Appalachian Oak Forest - Xeric
<b>Floodplain forest</b>	South-Central Interior Large Floodplain – Forest Modifier; Southern Piedmont Small Floodplain and Riparian Forest
<b>Riverine aquatic communities</b>	South-Central Interior Small Stream and Riparian