

Green Infrastructure Network (Combined Resource Hubs)

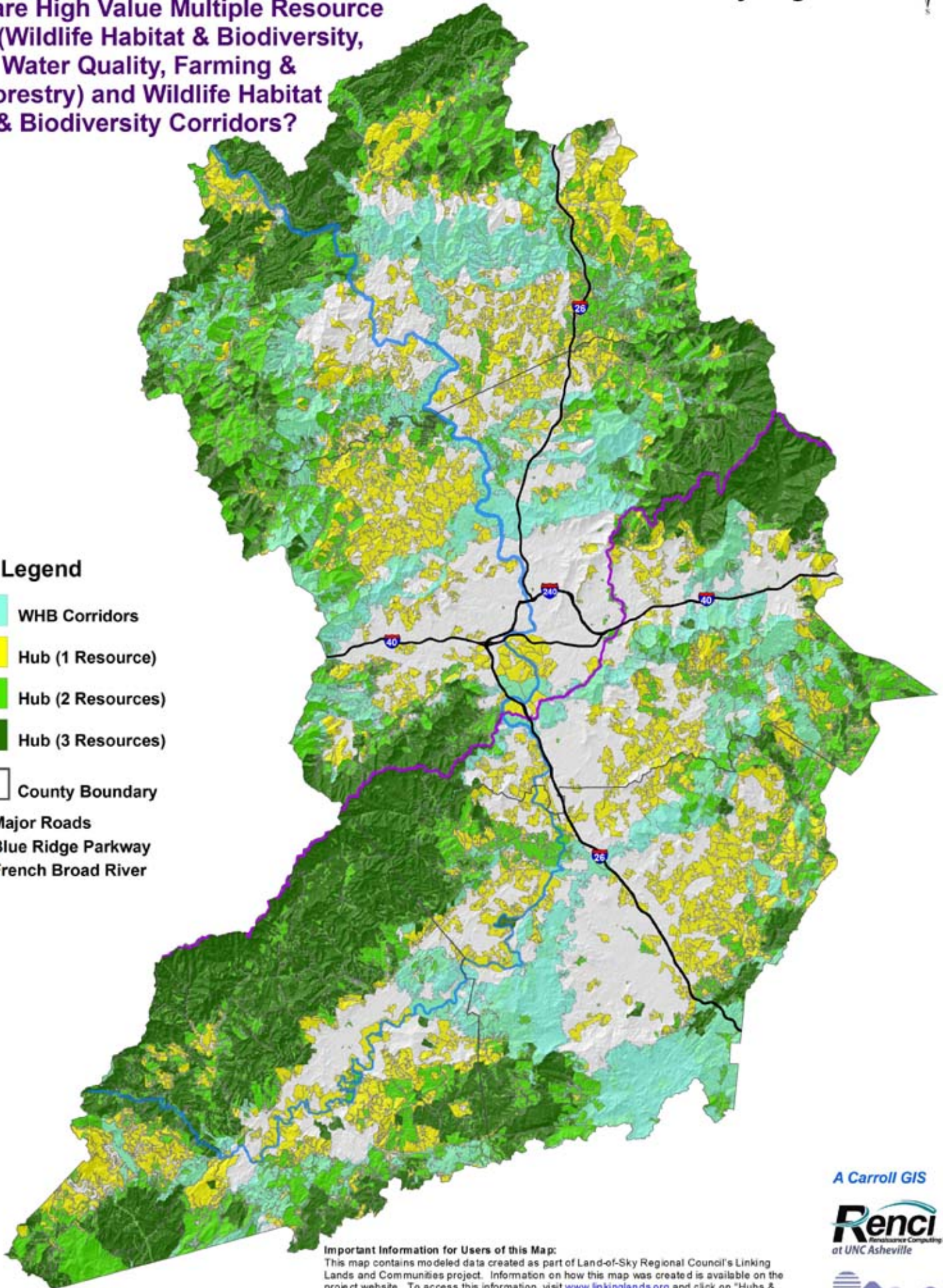
Linking Lands and Communities in the Land-of-Sky Region



Where are High Value Multiple Resource Hubs (Wildlife Habitat & Biodiversity, Water Quality, Farming & Forestry) and Wildlife Habitat & Biodiversity Corridors?

Map Legend

-  WHB Corridors
-  Hub (1 Resource)
-  Hub (2 Resources)
-  Hub (3 Resources)
-  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 "Hubs & Corridors" in the left-hand menu. The web page for each map explains how the hubs of the Green Infrastructure network were modeled, and how the links or corridors connecting the hubs were created. It includes links to technical documentation, [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.

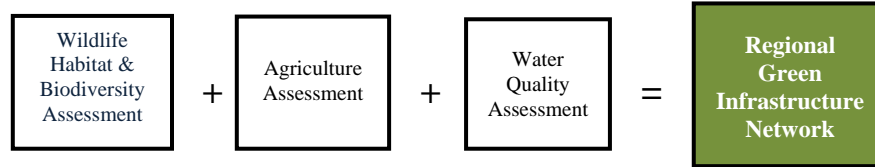
0 5 10 Miles

A Carroll GIS

Renci
Regional Environmental
Computing Institute
at UNC Asheville


Land-of-Sky Regional Council
Waynesville • Hendersonville • Madisonville • Thompsons Creek • NC

Map Date: June 17th, 2010



Land-of-Sky Regional Green Infrastructure Network

The Regional Green Infrastructure Network is an interconnected network of lands and waters valuable for their ecological systems and services and significant contribution to regional and local economies. The network is comprised of high priority lands that provide wildlife habitat and support biodiversity; contribute to clean water in our rivers and streams; and support local farm and forestry operations. The Regional Green Infrastructure Network was created through a collaborative process involving over 40 partners throughout the region.

What is Green Infrastructure?

Green Infrastructure is our community's life support system -- an interconnected network of forests, meadows, ridgetops, valleys, rivers, wetlands, and other natural features that is primarily comprised of hubs and corridors. Hubs are large blocks of unfragmented natural lands that anchor the network. They provide space for native plants and animal communities and an origin or destination for wildlife, people, water, nutrients, and energy moving through the system. Corridors connect these hubs and tie the system together, providing paths for plants, animals, water and nutrients to move between hubs. Corridors help to mitigate the effects of habitat fragmentation and enhance the overall resiliency of natural systems in the face of natural and human disturbances.

Resource Assessments

The first step in identifying our region's green infrastructure is to determine the location and condition of our region's land and water resources. To accomplish this, *resource assessments* were conducted during the project that identified highest priority lands based on their value for Water Quality, Wildlife Habitat and Biodiversity, and Agriculture (farming and forestry). The Wildlife Habitat and Biodiversity model assessed the ecological systems and function of those systems in the region, and served as the primary backbone for the green infrastructure network.

Identifying Regional Hubs

Network hubs were created by extracting the highest ranking lands (i.e., lands that ranked between 7 and 10 on a scale of 1-10) from each resource assessment. The threshold size for hubs was set at 100 acres – and hubs smaller than this were dropped from the model. Hubs larger than 100 acres from each resource assessment were combined with protected and publically managed lands in order to identify areas with *multiple resource values* (e.g., lands valuable for their contribution to clean water and their function as wildlife habitat).

Highest priority hubs are those which contain highly ranked lands (values 7-10) in all three assessments. It turns out that hubs containing highly ranked lands from two assessments are primarily forested landscapes that function to maintain water quality and serve as wildlife habitat. Likewise, about 90% of hubs from one resource assessment turn out to be priority agricultural lands.

Identifying Connecting Corridors

Corridors were identified using a least cost path analysis. This approach identifies the shortest distance path between the hubs that has the highest resource value. A corridor assessment approach was incorporated to broaden the corridor width from 30m (i.e., one pixel) to a range of widths (multiple pixels) depending on the resource values. In our analysis, the primary role of corridors is to provide lands for the movement of plants, animals, and ecological processes between hubs. Thus, corridors were derived solely from the Wildlife Habitat and Biodiversity resource assessment. A total of 12 connecting corridors were identified throughout the region.

For more information on the three Resource Assessments and the methodology used to develop the Regional Green Infrastructure Network, please visit the project website at www.linkinglands.org.