



August 2020



A Landscape Analysis for Habitat Connectivity in the Upper Neuse Watershed of Durham County

Durham County's Open Space Program has been awarded \$16,000 from The Burt's Bees Foundation to support a *Landscape Analysis for Habitat Biodiversity in the Upper Neuse Watershed of Durham County*. This 12 month project includes a wildlife corridor connectivity analysis similar to the recently completed analysis for the Eno and New Hope watersheds (<https://ncbg.unc.edu/eno-new-hope-plan/>) but expands the analysis across additional portions of the Upper Neuse Watershed in Durham County and connecting areas in adjacent counties.

The Study

This work will bring together experts and stakeholders and provide opportunities to share results with neighboring communities, local advisory boards, and community groups and will:

- Improve knowledge of Durham County's wildlife habitats and their connective corridors
- Assist with planning and prioritizing land, water quality, and habitat protection efforts
- Increase awareness of the importance of habitat biodiversity and connectivity in Durham County
- Connect people through collaboration of conservation stakeholders, local advisory group members, and community groups

Durham County has contracted with Julie Tuttle, Consulting Ecologist, who led the recently completed Eno-New Hope Study that will be used as a guide. The work will include coordinating Advisory Committee participation, assembling data sets, conducting the analysis, and assisting with sharing the results. Advisory Committee members will participate in several meetings to discuss approaches, methodologies, results, and the project report. The work will be conducted using computer modelling and GIS analysis, and will include the most current knowledge of important habitats known within the study area and surrounding area.

What is Habitat Connectivity?

Habitat connectivity is well-established as an ecological element necessary to protect and ensure long term biodiversity and species survival. Species need both undeveloped larger, core habitat areas to live and breed, as well as undeveloped areas that connect them. Wildlife corridors are stretches of natural or semi-natural vegetation that link two or more natural habitat areas and provide pathways for animals to move or migrate.

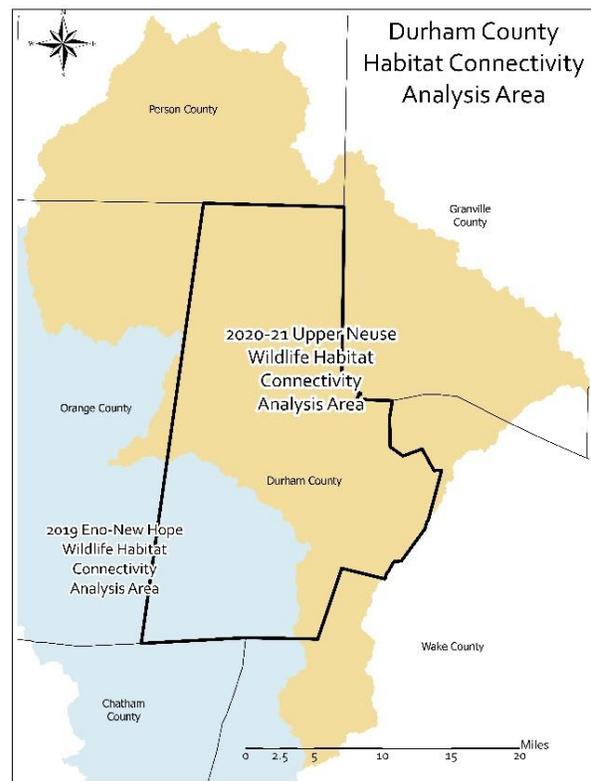




Photo- courtesy of NC Wildlife Resources Commission

The Eastern Box Turtle is an example of local wildlife that requires connected habitats

In Durham County wildlife corridors connect forests, wetlands, and other habitats that support a rich diversity of plant and animal species. The loss of biological diversity – across all plant and animal groups – is primarily caused by habitat loss and fragmentation. As human density increases, existing undeveloped lands are disconnected from other natural habitats by roads, development, and other causes of habitat fragmentation. Connecting wildlife habitat also secures benefits for water quality, native plants, the local economy (including working farms and forests), and public health.

Why is this issue important?

In Durham and our surrounding communities, the city and county, state agencies and local land trusts

have invested countless hours and financial commitment to protect significant parks, open spaces, and other undeveloped areas that serve as wildlife habitat, recreation, and green refuges in a developing community. These natural habitats are valued and beloved by much of the community, but their long-term resilience and sustainability depends on their connectedness with other significant habitats. As Durham continues to grow and develop these connections will not be maintained without active efforts to identify them and work to ensure their protection.

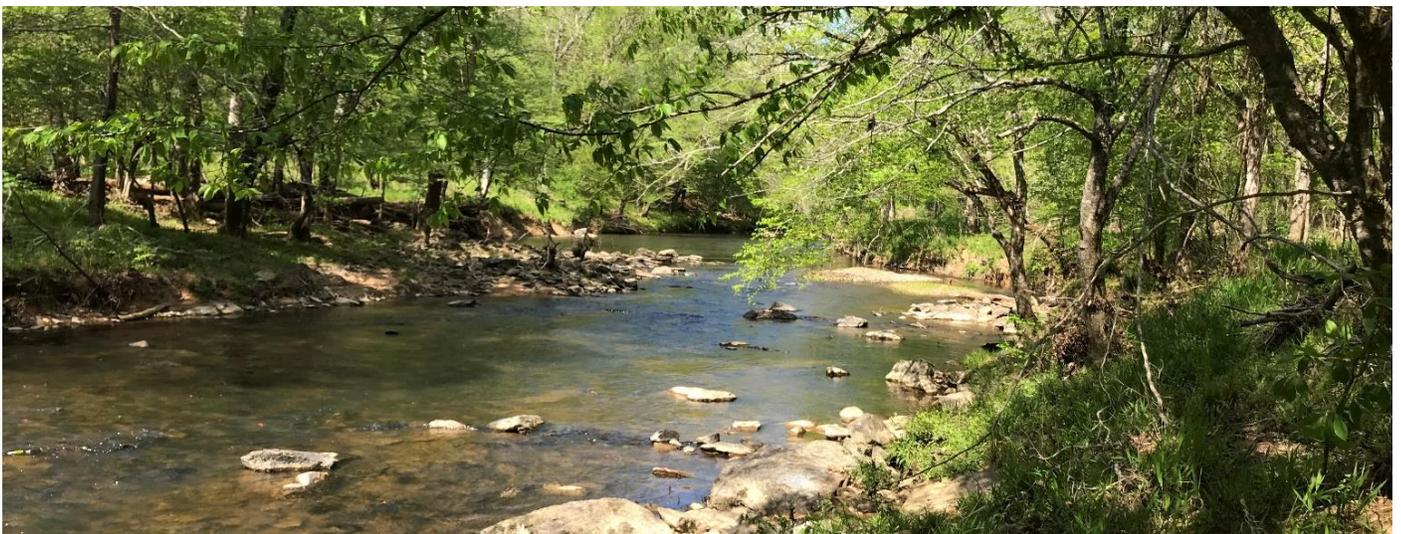
How will this study be used?

Most connectivity studies have been conducted on statewide or regional scales, but this modeling analysis, combined with the Eno-New Hope project, applies these scientific connectivity principles at a local level. The findings of this study will be specific to Durham County and provide current analyses that will help prioritize open space and water quality protections and can assist with land use planning and environmental policy development.

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Durham's rivers and streams make excellent habitat connectors while providing key water quality benefits