

# Conservation Opportunity Areas and Wildlife Habitat Threat Risk Assessment Data Viewer & Analysis Tools Green Growth Toolbox

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# Goal of the Conservation Opportunity Area (COA) Decision Support Tool

- ◆ Link the 2015 NCWAP list of Species of Greatest Conservation Need (SGCN) with USGS SEGAP species range data to predict areas with the least amount of protection for wildlife habitat.
- ◆ Identify areas that have the least amount of protection (per acre) for each habitat guild.
- ◆ Top five results are highlighted as potential areas to implement conservation measures.

# What data goes into the COA tool?

## Data Layers

- ◆ Southeast GAP Species Range Data
- ◆ Southeast GAP Land Cover Dataset
- ◆ Protected Areas Database of the United States
- ◆ Audubon NC Bird Conservation Region Boundaries
- ◆ NC Ecoregion, River Basin, Subwatershed, and County Boundaries
- ◆ WRC Game Land and NC Managed Areas Boundaries

## Tool analytics

- ◆ Correlates SEGAP Land Cover with NCWAP habitats
- ◆ Ranks how unprotected the habitats associated with SGCN are
- ◆ Creates a results report listing Ecoregion, Habitat, HUC12 subwatershed, Associated SGCN, and the number of protected and unprotected acres per SGCN

# Goal of the Threat Risk Assessment (TRA) Decision Support Tool

- ◆ Support state-wide habitat acquisition and management decisions by projecting future probability of occurrence of specific threats, specifically climate change and urbanization, in North Carolina relative to terrestrial and aquatic habitats.
- ◆ Individually assess and/or model selected threats, proximity of threats, and severity relative to an area of interest (AOI) using five decadal time steps (2010, 2020, 2030, 2040, 2050).
- ◆ Analyze data sets compiled by USEPA for specific threats that are static (not projected over time), but are updated periodically.

# What data goes into the TRA tool?

## Modeled on Decadal Time Stamp (2010 – 2050)

- ◆ Habitat Loss – Forest, Wet Forest, Wet Herbaceous, Open, Scrub/Shrub
- ◆ Urban Growth – Predicted urban development
- ◆ Fire Suppression – Density of urban development
- ◆ Transportation - Divided center line highways
- ◆ Sea Level Rise – undeveloped upland change, terrestrial land cover change

## Modeled on Data Sets (periodic updates)

- ◆ Nutrient Loading (2006) – manure and synthetic nitrogen fertilizer application
- ◆ Atmospheric Deposition – Total nitrogen (2003) and sulfur deposition (2006)
- ◆ Energy Development (2012) – Triassic basin (fracking) and wind power potential
- ◆ Forest Health (2010) Forest insect and disease risk
- ◆ Hydrologic Alteration (2013) – Number of dams
- ◆ Impaired Waters (303(d)) (2012) – Biota and metal impairments



# What data goes into the TRA tool?

## Tool Analytics & Uses

- ◆ Projects probability of future occurrence for specific threats, specifically climate change and urbanization, relative to terrestrial and aquatic habitats.
- ◆ Reports analysis results for AOI, as well as within 5 km and 12 km buffers.
- ◆ Spatial unit for all analyses is based on USGS 12-digit Hydrologic Unit Code (HUC12) sub-watersheds (there are 1,720 in NC).
- ◆ Develop composite threat analyses to target specific habitats as well as develop specific scenarios of future trends.
- ◆ Set analysis extent based on existing polygon datasets (e.g. counties, ecoregions) or customized extent.
- ◆ Assesses risks in terms of number of threats, proximity of threats, and severity relative to an area of interest (AOI).

# Use and Integration

- ◆ Each tool should be used as steps in an evaluation process when considering where to implement conservation.
- ◆ Both tools will be reviewed annually and data sets updated as revised or new information becomes available.
- ◆ Free to use by the public, available online:
  - ◆ <https://www.ncwildlife.org/plan> - or - <http://tecumseh.zo.ncsu.edu/coa>

# North Carolina Wildlife Habitat Threat Data Viewer and Analysis Tool



More Info

Tool Help

Contact Us

COA Data Analyze AOI Print Setup

## Identify COAs

Select a community below to rank the unprotectedness of associated SGCN species predicted habitat by subwatershed or select a river basin to identify priority subwatersheds based on aquatic resources.

Submit COAs for threat analysis

### Coastal Plain

#### Community Name

SGCN Spp

#### Terrestrial

Caves & Mines	2
Mixed Hardwood Pine Forest, Managed Timberland	14
Dry Longleaf Pine Forests	27
Maritime Upland Forests	24
Maritime Grasslands	33
Sand, Shell, and Wrack Line Beach Zones	30
Successional Communities - Herb	29
Successional Communities - Shrub	25
Successional Communities - Woody	11
Sparsely Settled, Mixed Habitats	13
Low Elevation Flatrocks, Cliffs & Rock Outcrops	2
Mesic Forests	21

#### Wetland

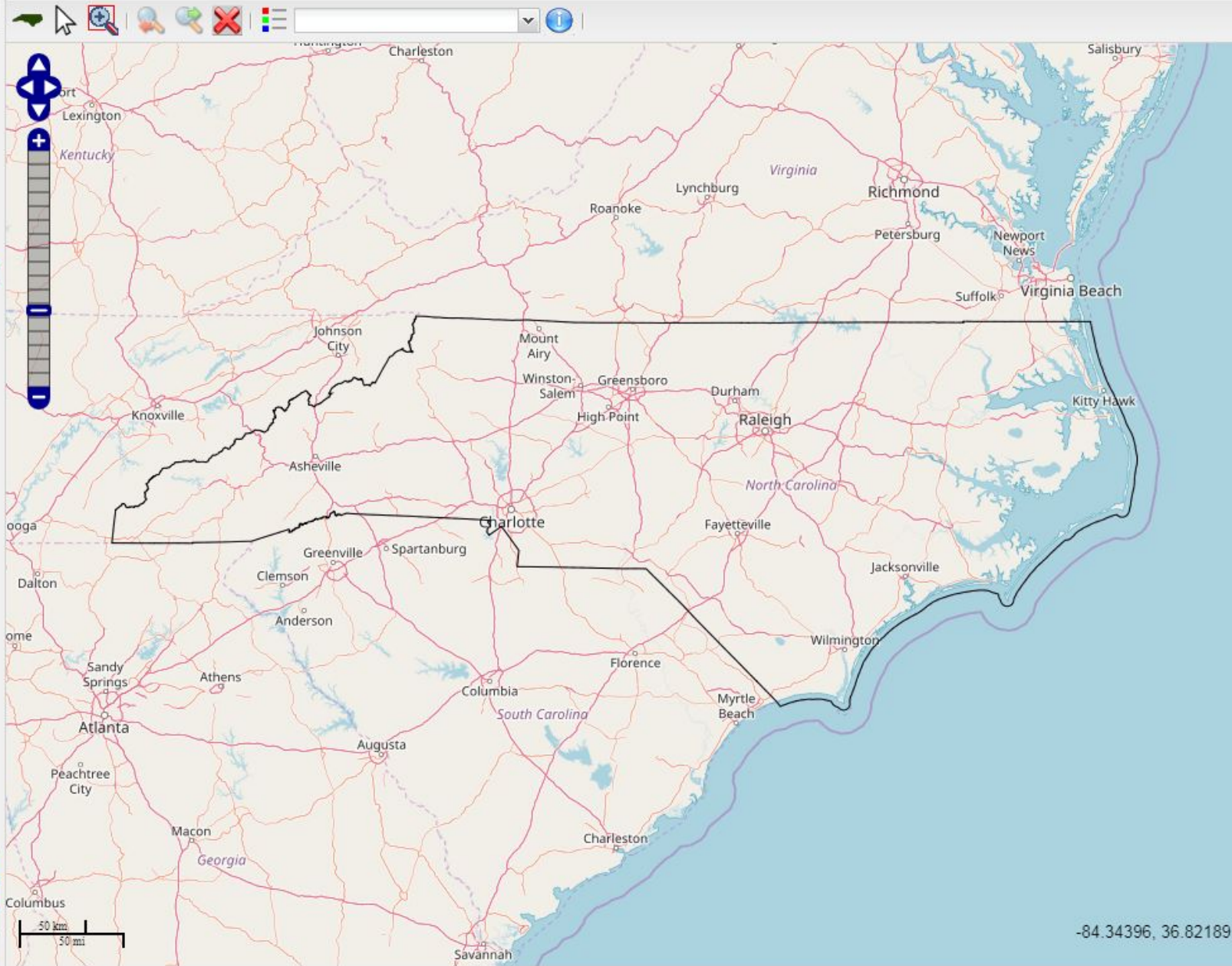
Upland Seepages & Sorav

Sandhills

Piedmont

Mountains

River Basin Priorities



-84.34396, 36.82189



# Goal of the Green Growth Toolbox (GGT)

[www.ncwildlife.org/Conserving/Programs/Green-Growth-Toolbox](http://www.ncwildlife.org/Conserving/Programs/Green-Growth-Toolbox)

- ◆ Technical assistance tool designed to help communities conserve high quality habitats as communities and developers continue to build new homes, workplaces, and shopping centers.
- ◆ Help municipalities plan for growth in a way that will conserve natural assets—fish, wildlife, plants, streams, forests, fields, and wetlands.
- ◆ Provide Statewide and Regional GIS datasets for integration into existing community planning tools.

# Use and Integration

- ◆ The Green Growth Toolbox consists of a handbook, packaged GIS dataset, training workshops, and technical assistance. Workshops cover:
  - ◆ Using Conservation Data
  - ◆ Using NCWRC Habitat Conservation Recommendations
  - ◆ Green Planning
  - ◆ Greening Incentives & Ordinances
  - ◆ Greening Development Site Location, Review & Design

# Use and Integration

- ◆ Technical assistance includes:
  - ◆ Integrating the Conservation Data for Green Growth into County or City online GIS maps.
  - ◆ Writing a local habitat conservation plan.
  - ◆ Review and recommendations for land use plans, incentives and ordinances, and developments and review standards.
  - ◆ Habitat management plans for parks and open space.
  - ◆ Attending Board and Committee meetings to provide information and answer questions.

All resources are available for  
download from  
[www.ncwildlife.org/Conserving/  
Programs/Green-Growth-Toolbox](http://www.ncwildlife.org/Conserving/Programs/Green-Growth-Toolbox)



## GREEN GROWTH TOOLBOX

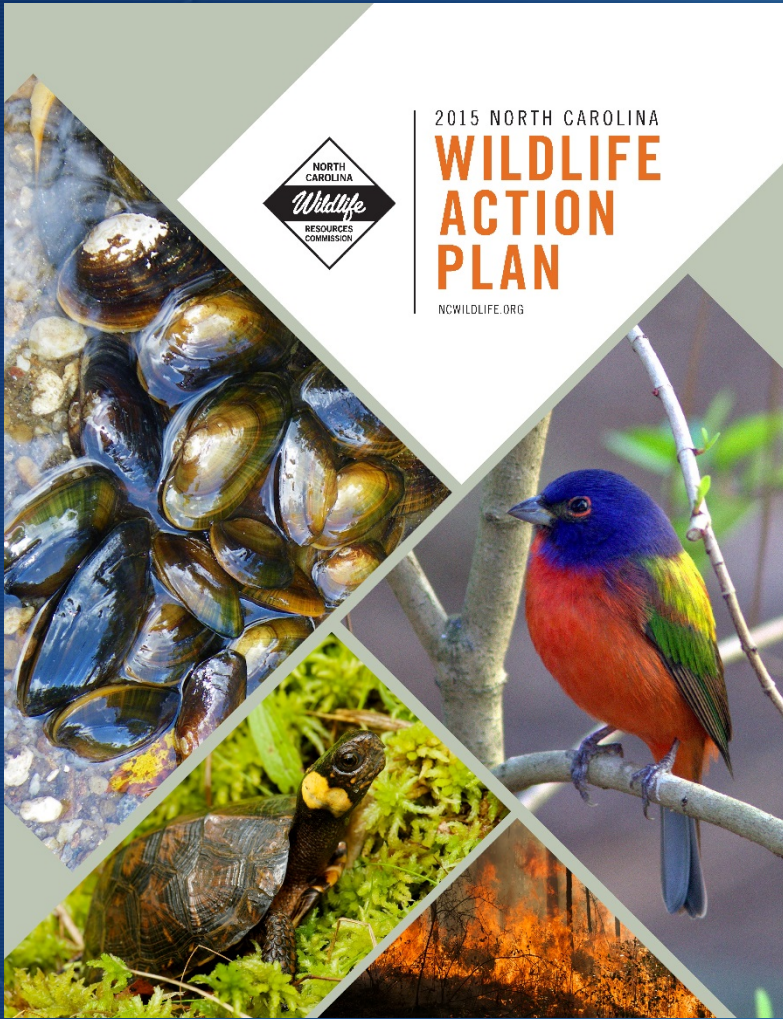
Wildlife and Natural Resource Stewardship in Planning



*A Guide for Planners, Communities and Developers*







# Questions?

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[www.ncwildlife.org/plan](http://www.ncwildlife.org/plan)

