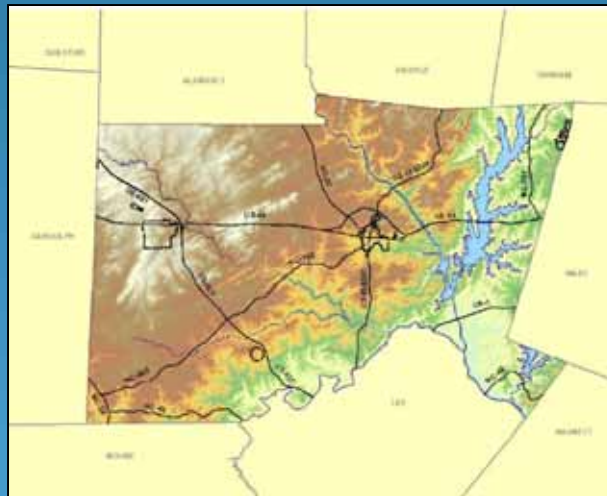


A Comprehensive Conservation Plan for Chatham County



Allison Weakley, Biologist/Ecologist
Robert J. Goldstein & Associates, Inc.
March 18, 2010

Goals of the Conservation Plan

- A community vision for natural resources
- A greater understanding and awareness of the importance and location of natural resources
- An understanding of the economic importance of forest resources for timber, recreation and water quality
- Increased knowledge of impacts and threats to important natural resources
- Preferred strategies to manage and protect natural resources



Project Overview



- **Conservation Plan**
 - Data and information synthesis
 - Methods and analysis results
 - Strategies for implementation and protection/management
- **Environmental Resource Database**
- **Conservation Analysis and Mapping**
 - Identify and prioritize important habitats, species, and forest resources, and resource connections
 - Model areas that meet the State's Wildlife Action Plan (SWAP) and stakeholder priorities
 - Create conservation layers and maps depicting high-priority resources and connections
- **Stakeholder Engagement**
- **On-line (non-technical) Tool**
 - Instructions for navigating Plan and information posted on County and CCP websites

Project Overview

Forest Resources



- **Forest Resource Analysis**
 - Analysis and mapping of forest types, prioritized forest resources, sensitive habitat locations, and economic value of forest resources (for timber, recreation, and water quality)
- **Forest Resource Summary Report**
 - List of key findings (community vision, existing forestry practices used for timber harvesting, ecological and economic importance, and impacts and threats to forest resources)
 - Strategies for management and protection of forest resources
 - Strategies and priority maps for protecting connected network of agricultural, forestry, recreational, and natural habitats
- **Draft Ordinance/Policy Recommendations**

CCP - Comprehensive Conservation Plan

Estimated Timeline

Robert J. Goldstein & Associates, Inc.

October 22, 2009

Tasks	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10
1. Data Compilation and Synthesis													
2. Environmental Database Development													
3. Identify/Prioritize High-quality Habitats, Species, and Forest Resources													
4. Stakeholder Meetings	CCP			CCP	Comm.	Comm.	CCP			CCP	BoC		CCP
5. GIS Modeling and Mapping													
6. Draft Plan/Recommendations													
7. Final Plan and Online Tool													

Chatham Conservation Plan

Focus Group

- The Focus Group assists in development of the Plan; identification of GIS data and other planning information needs and gaps; establishment of criteria to prioritize resources; review of GIS analysis and mapping
- Local, State and Federal agencies, conservation organizations, and citizens have been participating in monthly meetings, including representatives from:

NCNHP, NCWRC, NCDPR, NCDFR, USFWS, TLC, PCC,
Chatham County, Town of Pittsboro, Town of Cary, NC Cooperative Extension,
Chatham Soil and Water Conservation

<http://chathamconservation.wikispaces.com/>
(Conservation Plan Committee)



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☆ Conservation Plan Committee

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The CCP (through TLC and the RCD) has contracted with Robert J. Goldstein & Associates, Inc. (RJG&A) to develop a comprehensive conservation plan for Chatham County (Plan). The Plan will develop a process for assembling and synthesizing conservation information and plans for interpretation and public use in local, regional and statewide decision making. The Plan will also present a strategic approach to integrate conservation science, landscape ecology, environmental data, and plans into a decision support tool for community action.

Specifically, the Plan will

- develop a community vision for natural resources;
- describe and identify the importance of local resources;
- address impacts and threats to resources;
- outline preferred management strategies to protect these resources.

Consequently, this Plan will enhance the understanding of conservation issues and priorities, and help the county, along with local, state and federal stakeholders, take action to influence land use and policy decisions.

Plan Steering Committee Members: Leigh Ann Cienek, Julie Elmore, Tandy Jones, Sarah McRae, Cynthia Van Der Wiele John Ann Shearer, Brenda Williams, Jacquelyn Wallace

Contact: Leigh Ann Cienek, lcienek@tlc-nc.org

CCP PLAN FOCUS GROUP

Next Focus Group Meeting:

January 21, 2010, 1:30-3:30pm at CCCC Building 2, Multipurpose Room (764 West Street, Pittsboro)

Please join us if you are interested in being a part of the advisory group for the Plan.

The purpose of the CCP Plan Focus Group is to:

- Assist in identification of goals and measurable objectives
- Assist in identification of GIS data and other planning information needs and gaps
- Help establish criteria to prioritize resources and guide GIS analysis to meet those criteria
- Review analysis results (including maps depicting high-priority habitats, species, and forest resources, and connections between these resources)

- Review draft Plan as it develops
- Provide feedback throughout the planning process

Stakeholders with particular expertise, experience and interest are especially encouraged to participate in the CCP Plan Focus Group.

Contact: Allison Weakley, RJG&A, at aewweakley@rjgcarolina.com

CCP Plan Listserve

To receive updates on Focus Group meetings and activities, please consider joining the CCP Plan Focus Group listserv (ccp-plan@lists.ncsu.edu). If you would like to subscribe (or unsubscribe) to the listserv, please follow these instructions:

SUBSCRIBE

To subscribe to the Focus Group listserv, send this one-line message to mj2@lists.ncsu.edu : subscribe ccp-plan.

If the address you wish to subscribe to the list is different from the address from which you are sending the message, the command may be written instead as: subscribe ccp-plan <EmailAddress> - and replace "EmailAddress" with the address you want to subscribe to the list.

UNSUBSCRIBE

Follow same instructions as above, but substitute UNSUBSCRIBE for SUBSCRIBE.

Focus Group Meetings

FOCUS GROUP MEETING #1 - Oct 22, 1:30-4:30pm, CCCC Multipurpose Room
Below are minutes from our first Focus Group meeting, and updated draft data and information lists presented at that meeting.

RJG&A Focus Group Presentation [CCP Plan_Focus](#)

Group_RJGA_October2009.pdf
Minutes: [CCP Plan_FocusGroup_Mtg1_091022.doc](#)

Rare Species/Habitats (tracked as element occurrences by the NC Natural Heritage Program) - November 2009 draft [Rare species.in](#)

Chatham_November2009_draft.xls
State Wildlife Action Plan (SWAP) Priority Species, Habitats, and River Basins in Chatham - November 2009 draft [SWAP Priority Species and](#)

Habitats_November2009_draft.xls
Plans, Policies and Ordinances - November 2009 draft [CCP Plan_Plans](#)

[Policies Ordinances_RJG&A_Nov2009_draft.xls](#)

Building on State and Regional Conservation Planning

- NC Conservation Planning Tool
- NC State Wildlife Action Plan
- Southern Forest Land Assessment
- NC Forest Resource Assessment

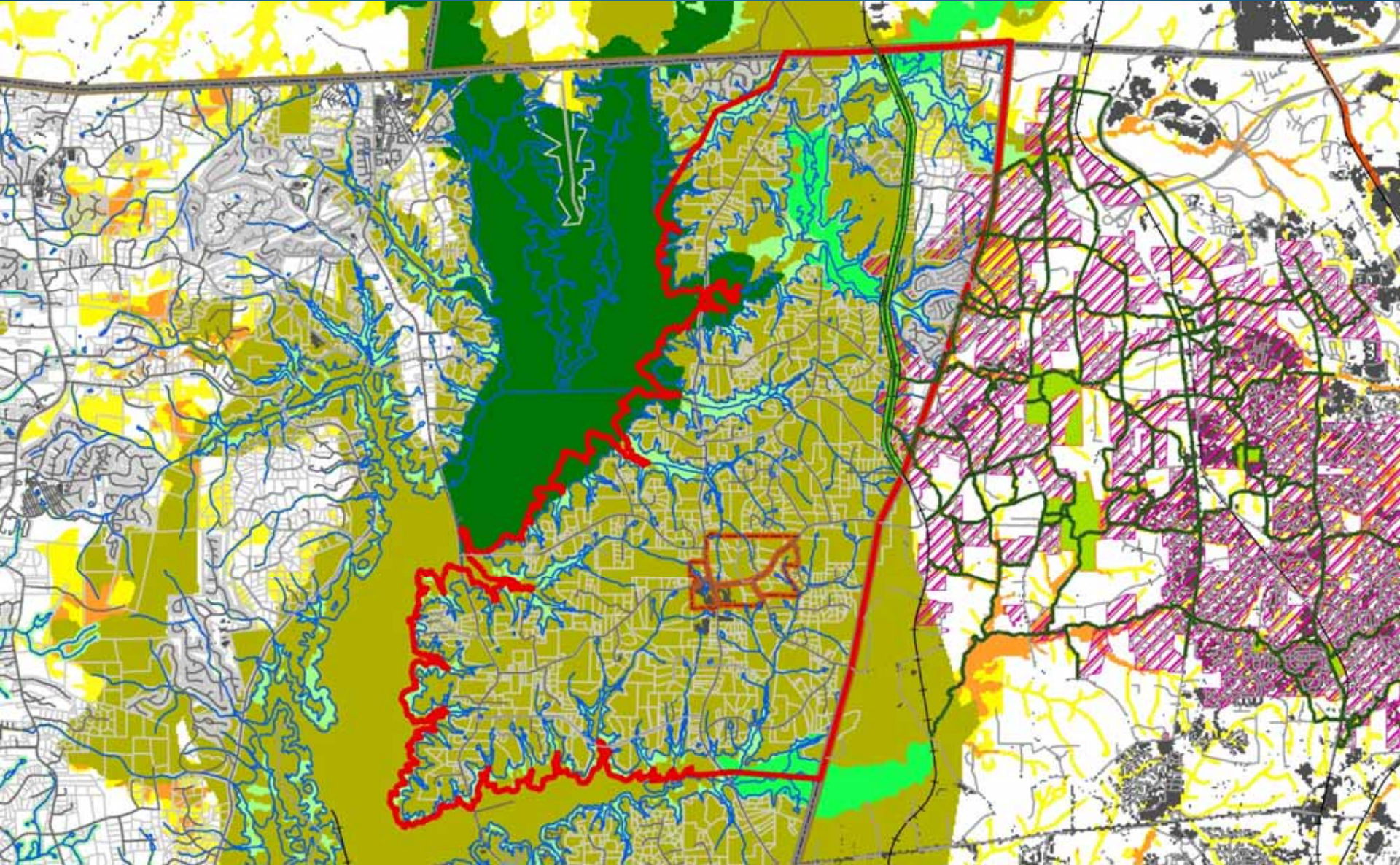


The Chatham Conservation Plan considers layers used in these State models, and provides updates and additions to provide Biodiversity/Wildlife Habitat and Forest Resource analyses to supplement these State models

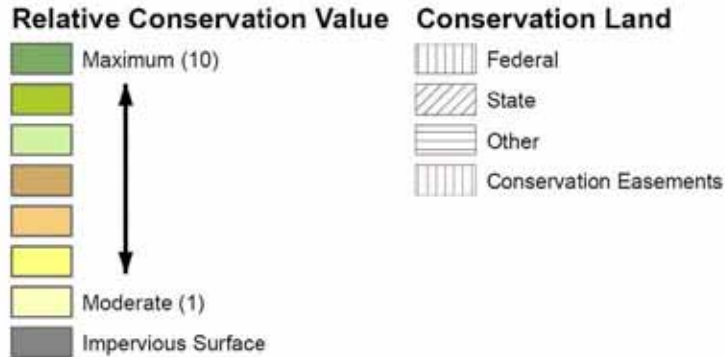
NC Conservation Planning Tool (CPT)

- **Biodiversity and Wildlife Habitat Assessment** – prioritizes aquatic and terrestrial habitat, landscape function and connectivity
- **Forestry Assessment** – prioritizes forestry lands that are important for sustaining the forest products sector of economy and providing ecosystem services
- **Open Space & Conservation Lands Assessment** – lands in permanent conservation and actively managed as open space
- **Water Services Assessment** – prioritizes lands most critical to protect water resources (quality, quantity)
- **Farmland Preservation Assessment** – prioritizes viable and threatened agriculture lands

CPT Biodiversity/Wildlife Habitat

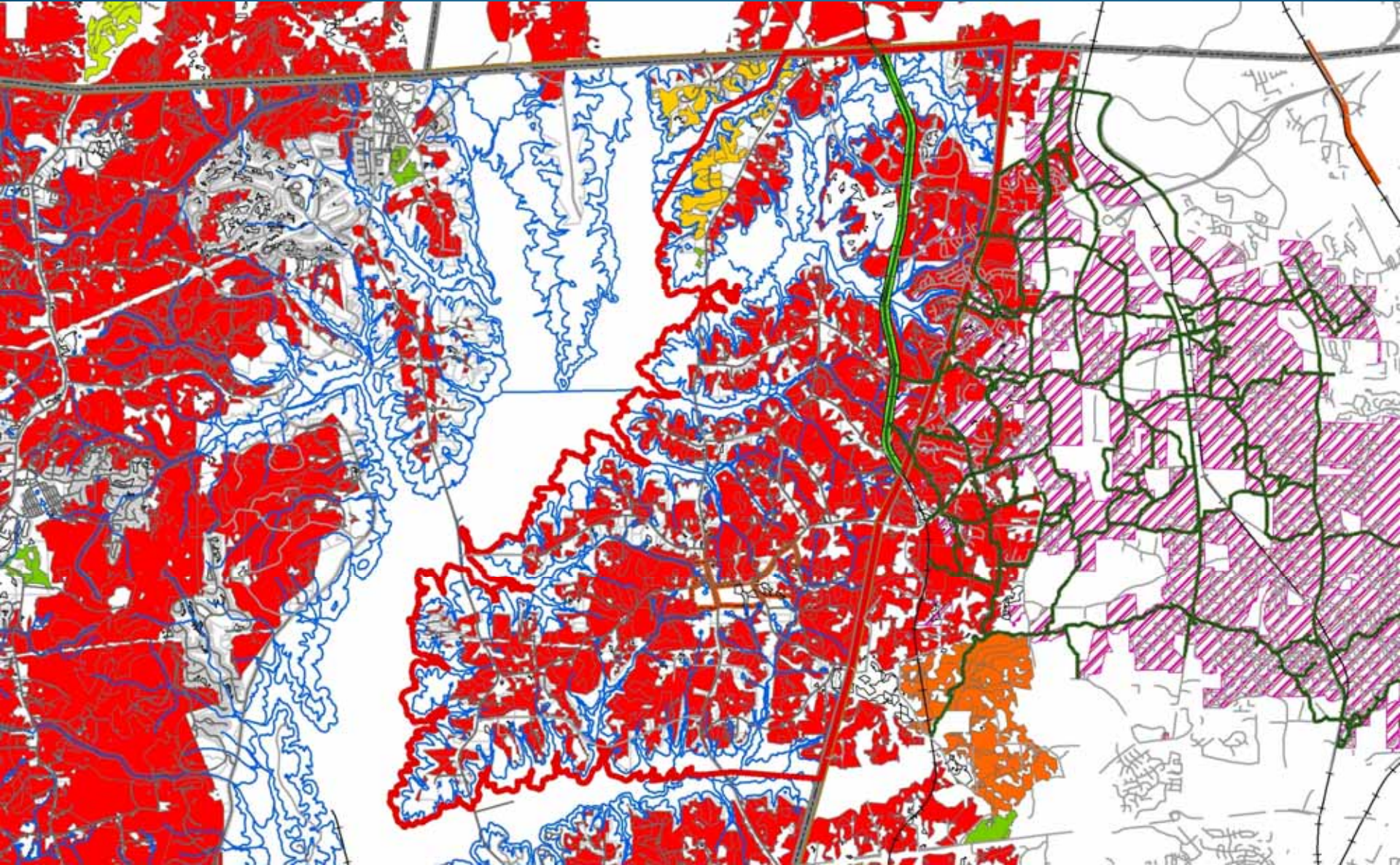


Biodiversity/Wildlife Habitat Assessment Legend

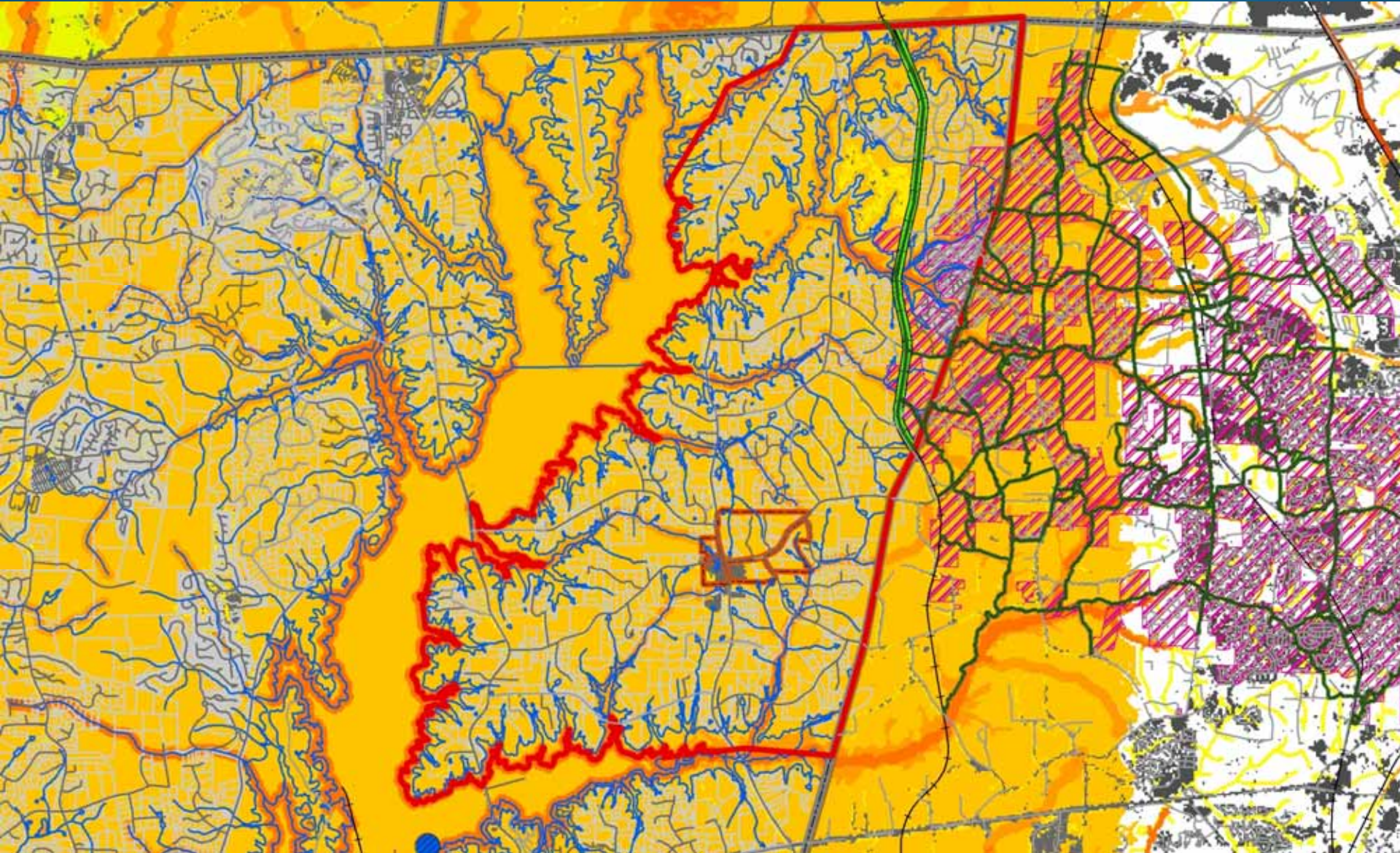


Key to Identify Tool results for the Biodiversity/Wildlife Habitat Assessment		
Category Name	Value	Individual Input Layers
NHP	10	Significant Natural Heritage Areas – National or State Significance <i>(N.C. Natural Heritage Program)</i>
NHP	8	Significant Natural Heritage Areas -Regional Significance
NHP	6	Significant Natural Heritage Areas - Local Significance
NHP	5	Element Occurrences – High ranking
NHP	4	Element Occurrences – High ranking - Other
Wetlands	7	Coastal Region Evaluation of Wetland Systems /CREWS – Exceptional ranking <i>(N.C. Division of Coastal Management)</i>
Wetlands	6	Coastal Region Evaluation of Wetland Systems /CREWS – Substantial ranking <i>(N.C. Division of Coastal Management)</i>
Wetlands	5	National Wetlands Inventory <i>(U.S. Fish & Wildlife Service)</i>
Wetlands	2	Coastal Region Evaluation of Wetland Systems /CREWS – Beneficial ranking <i>(N.C. Division of Coastal Management)</i>
Guilds	1-10	Landscape Habitat Indicator Guilds <i>(N.C. Natural Heritage Program)</i>
DWQ	10	Outstanding Resource Waters <i>(N.C. Division of Water Quality)</i>
DWQ	9	BioClass Excellent
DWQ	8	High Quality Waters
DWQ	7	BioClass Good
DWQ	1	All other streams
FishHabitat	9	Native Brook Trout <i>(N.C. Wildlife Resources Commission)</i>
FishHabitat	8	Anadromous Fish Spawning Areas <i>(N.C. Division of Marine Fisheries)</i>
FishNursery	8	Fish Nursery Areas <i>(N.C. Division of Marine Fisheries)</i>
Watersheds	7	Stream buffer tributaries to Threatened & Endangered Species <i>(N.C. Wildlife Resources Commission)</i>
Watersheds	3	Priority Watersheds <i>(N.C. Natural Heritage Program, Wildlife Resources Commission, The Nature Conservancy)</i>
Marine	8	Oyster Sanctuaries <i>(N.C. Division of Marine Fisheries)</i>
Marine	6	Submerged Aquatic Vegetation
Hardbottom	8	Open Shellfish /Hardbottom <i>(N.C. Division of Marine Fisheries)</i>
Hardbottom	7	Hard Bottom
Hardbottom	5	Closed Shellfish /Hardbottom
IBA	6	Important Bird Area <i>(Audubon)</i>
Impervious	99	Impervious Surface above 20% <i>(U.S. Environmental Protection Agency)</i>

CPT Forestry Assessment



CPT Water Services



NC State Wildlife Action Plan (SWAP)

- **Priority Species**

- “Species of greatest conservation concern” and “species with greatest conservation need”
- Eight taxonomic groups in North Carolina: amphibians, birds, crayfish, freshwater fish, freshwater snails, freshwater mussels, mammals, and reptiles

- **Priority Habitats**

- identified by their associations with priority species
- grouped by ecoregion



Table 5A.1. Habitats, by ecoregion, across North Carolina.

		Ecoregion		
		Mid-Atlantic Coastal Plain	Piedmont	Southern Blue Ridge
Terrestrial habitats	Beach/dune	X		
	Estuarine communities	X		
	Maritime forest/shrub	X		
	Tidal swamp forest and wetlands	X		
	Nonalluvial mineral wetlands		X	
	Small wetland communities	X	X	
	Wet pine savanna	X		
	Pocosin	X		
	Dry longleaf pine forest ⁴	X	*	
	Lakes and reservoirs	X	X	
	Riverine aquatic communities	X	X	X
	Floodplain forest	X	X	X
	Early successional	X	X	X
	Oak forest (fir mixed hardwoods/pine)	X	X	X
	Dry coniferous woodlands	X	X	X
	Mesic forest	X	X	
	Low elevation cliffs/rock outcrops ⁴		*	X
	High elevation rock outcrops			X
	Caves and mines			X
	Bogs and associated wetlands ⁴		*	X
Cove forest			X	
Northern hardwoods			X	
Spruce-fir forest			X	

Southern Forest Land Assessment (SFLA)

- Forest Resource Richness
 - Forestland
 - Forest Patches
 - Riparian Areas
 - Forested Wetlands
 - Priority Watersheds
 - Proximity to Public Lands
 - Public Drinking Water
 - Threatened and Endangered Species
 - Site Productivity
 - Slope
- Forest Resource Threat
 - Development Level
 - Wildlife Risk
 - Forest Health
- Forest Resource Priority
 - All 13 layers, excluding urban areas and open water (and public lands)



Chatham Conservation Plan

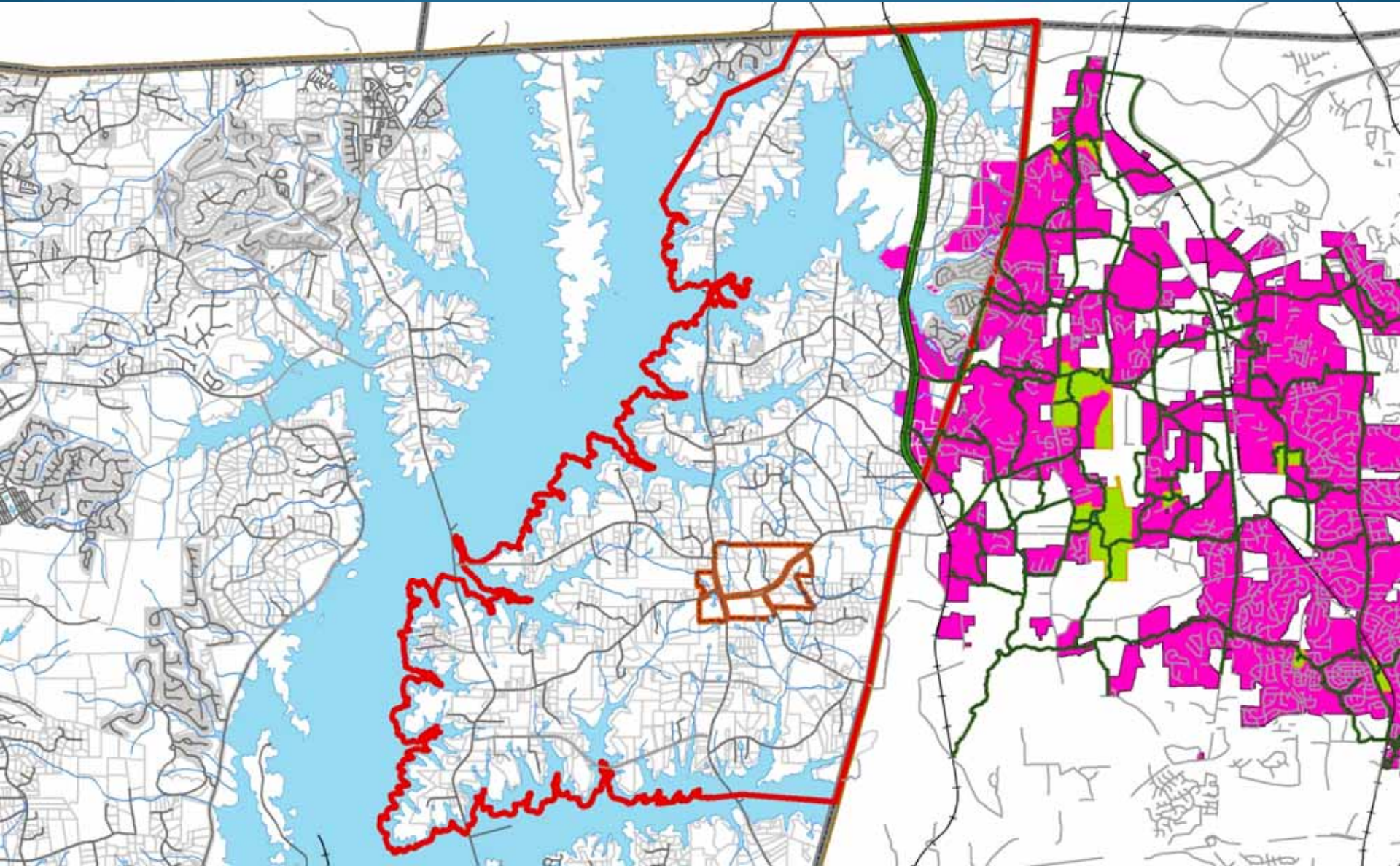
Important Conservation Layers

- Significant Natural Heritage Areas (SNHAs)
- Element occurrences (EOs)
- Landscape Habitat Indicator Guilds (LHIGs)
- Wetlands
- Streams
- Priority Watersheds
- Important Bird Areas (IBAs)
- SWAP Priority Habitats
- Forest resources (forest patch size, forest type, soil productivity)
- Protected land
- Slope
- Erodible soils
- Threats (impervious surface, current and projected development)

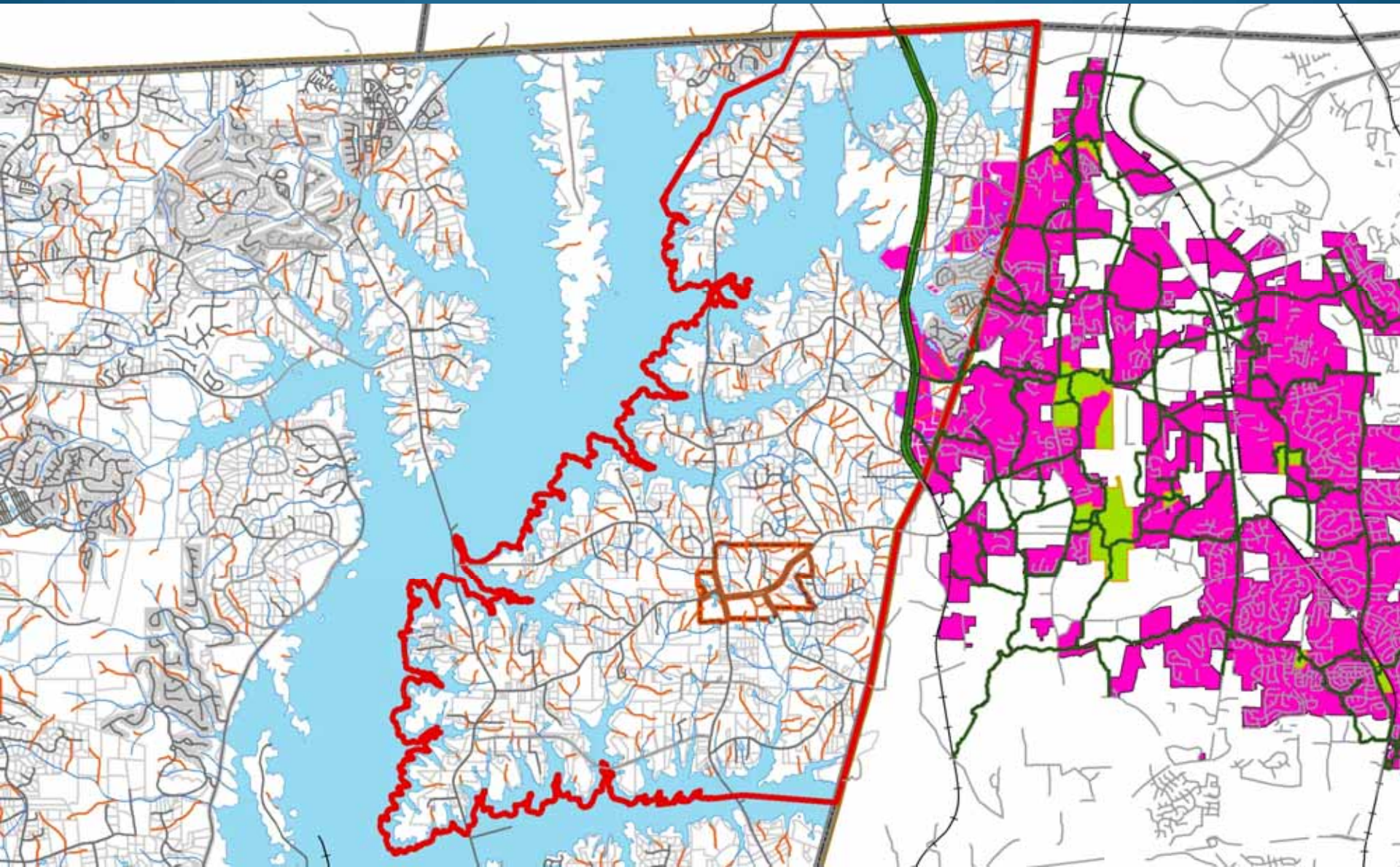
Data Updates

- Streams – “soil streams” digitized for County from NRCS 2005 soils data
- Wetlands – “wet spots” and hydric inclusions from NRCS soils data intersected with NWI, flood hazard areas, and forested areas
- Forest resources – forest blocks >75 acres determined using SEGAP data

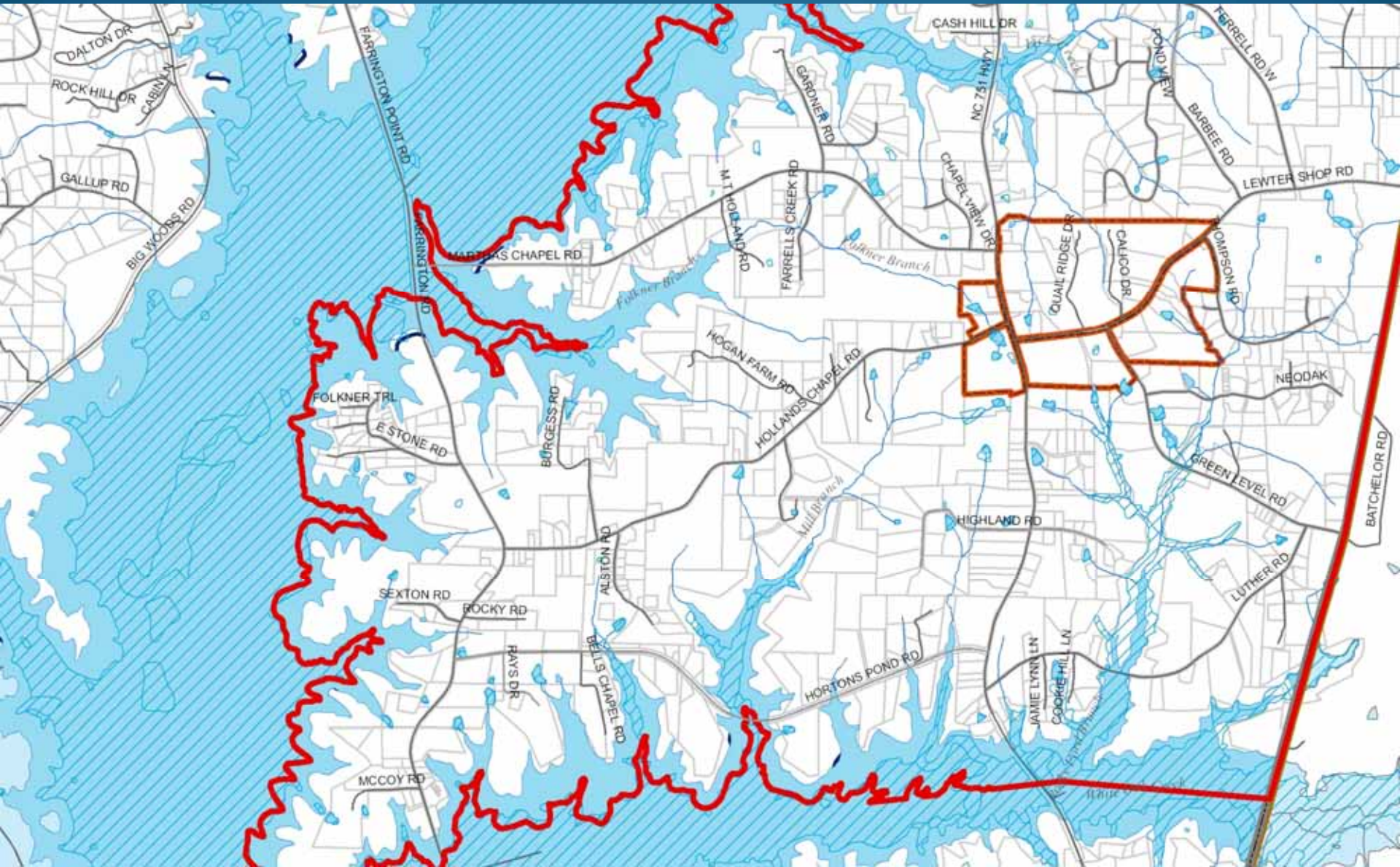
Streams - USGS



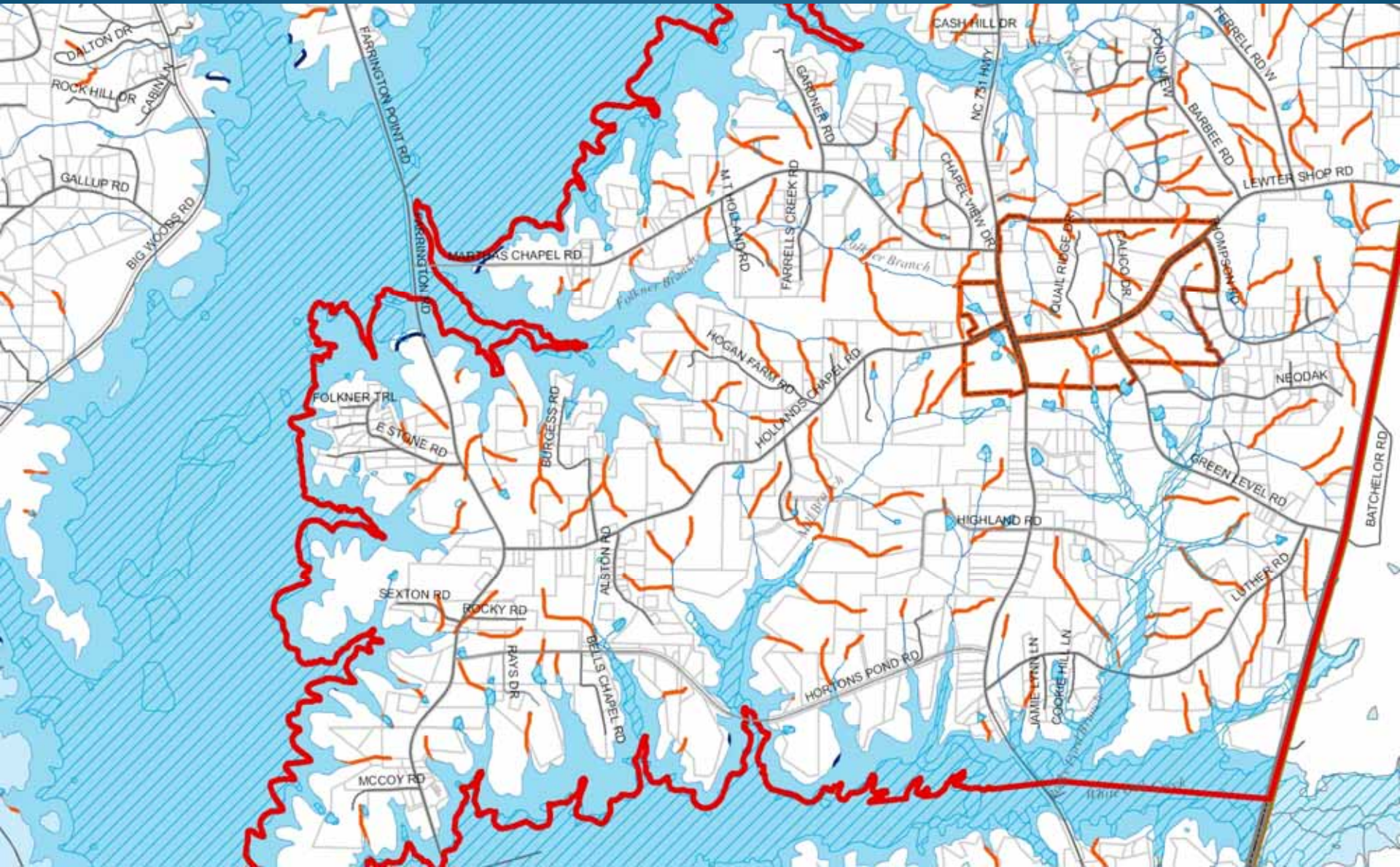
Streams – NRCS 2005 (soil survey)



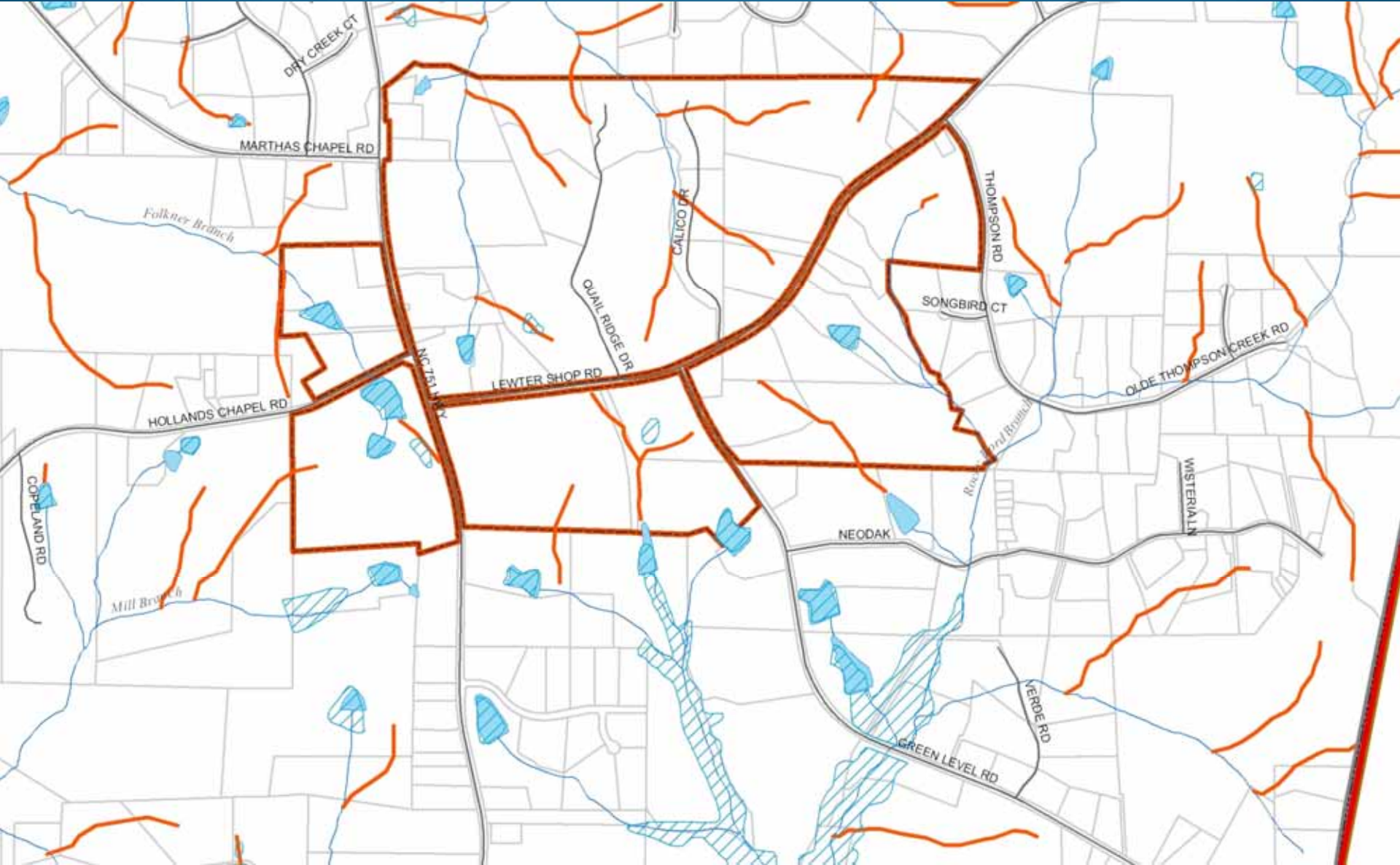
Streams – USGS (southern LUP area)



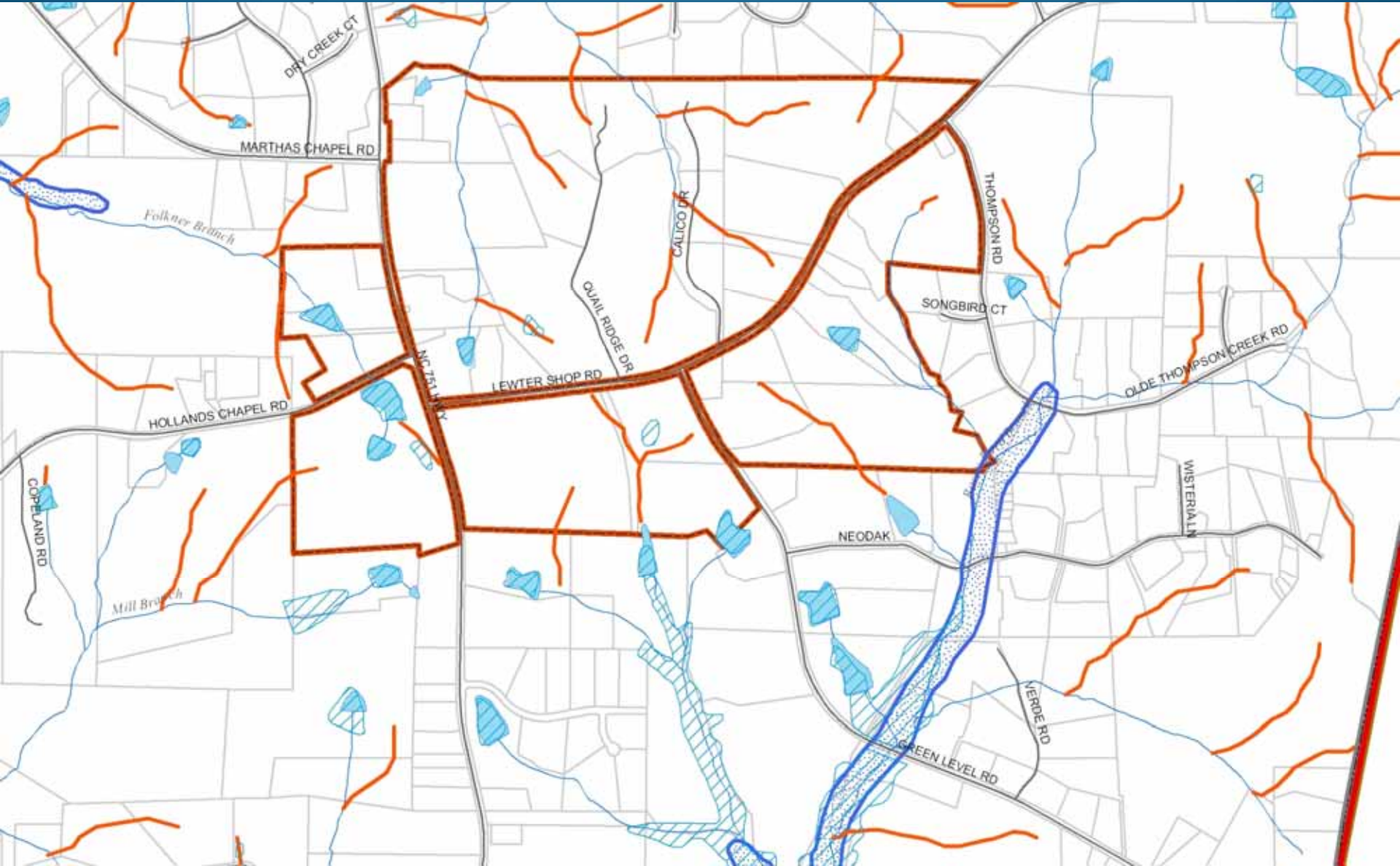
Streams – NRCS 2005 (southern LUP area)



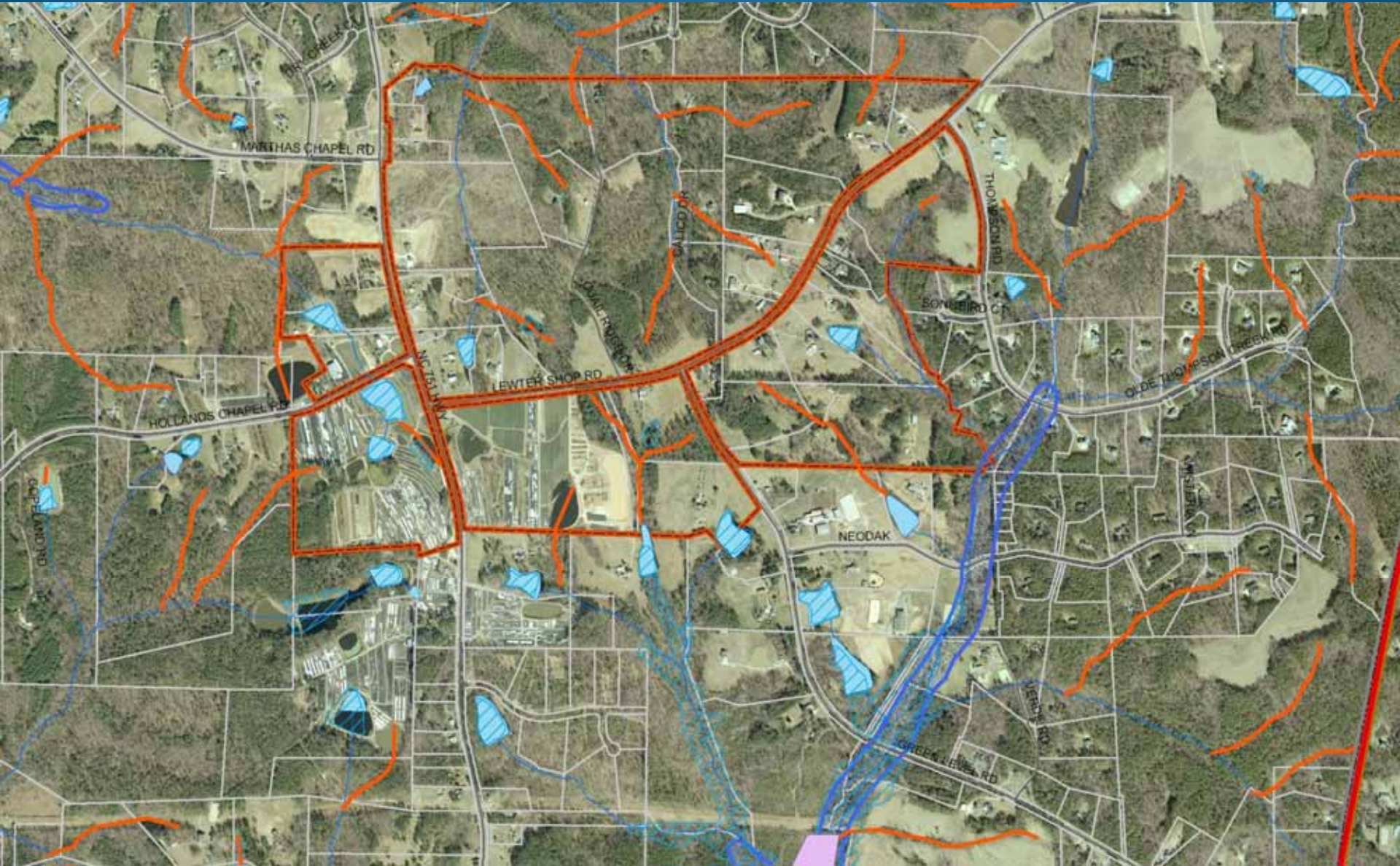
Streams – NRCS 2005 (proposed mixed use)



Streams, Wetlands, Hydric Soils



Streams, Wetlands, Soils, Aerial



Slopes with Streams, Wetlands, Soils

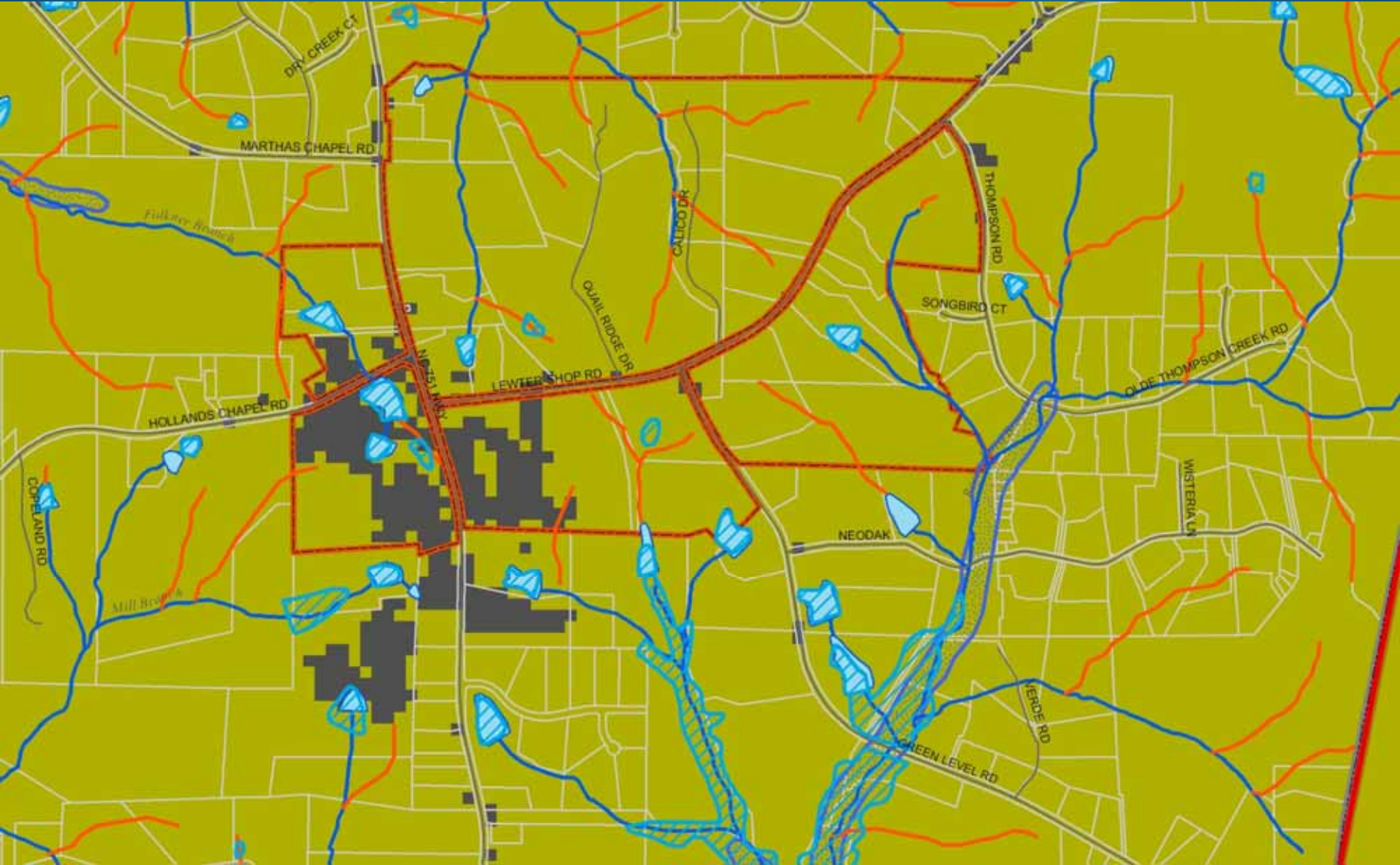


Streams, Wetlands, Soils, Slopes, and LiDAR DTM Breaklines



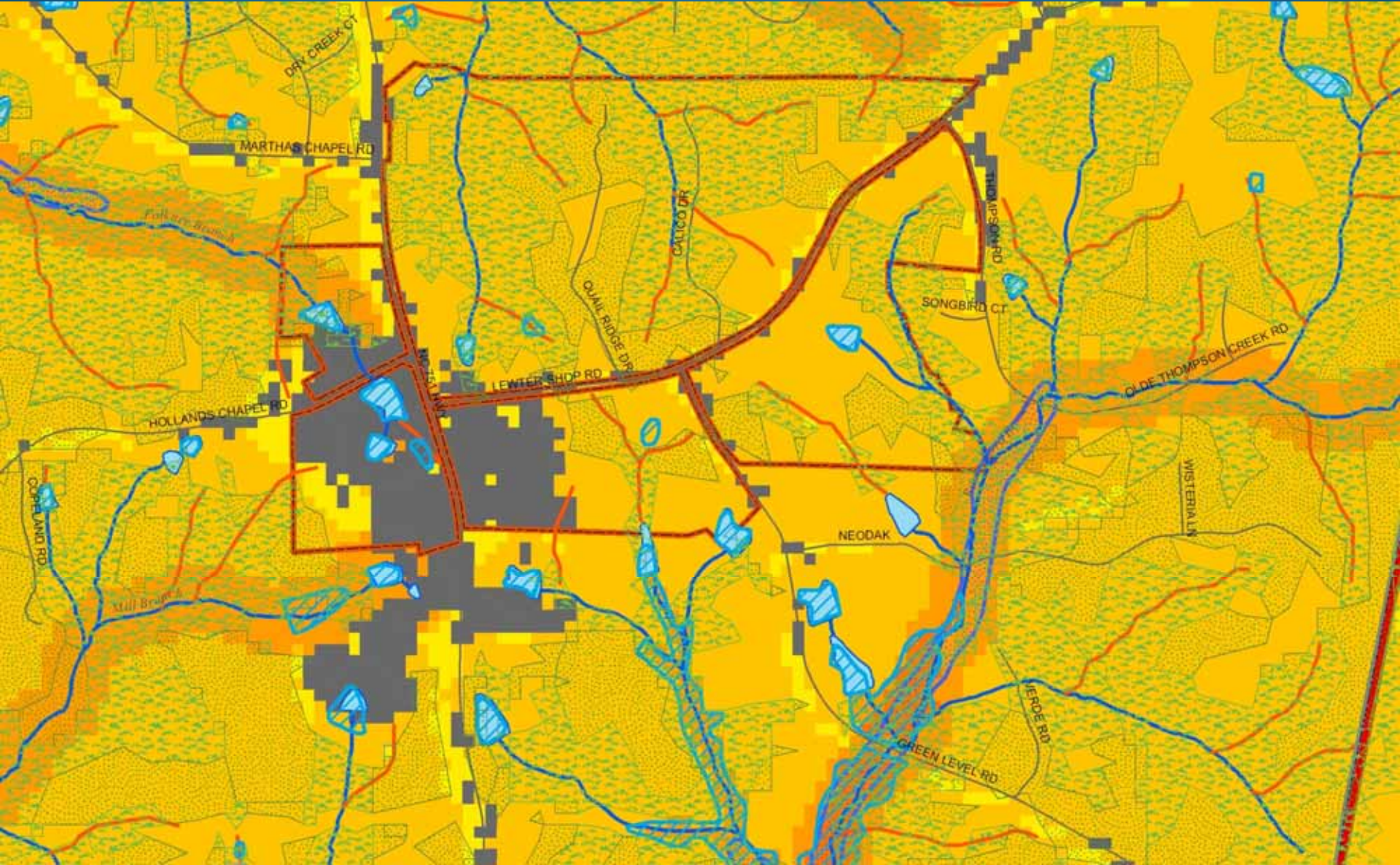
CPT Biodiversity/Wildlife Habitat

(proposed mixed use area)

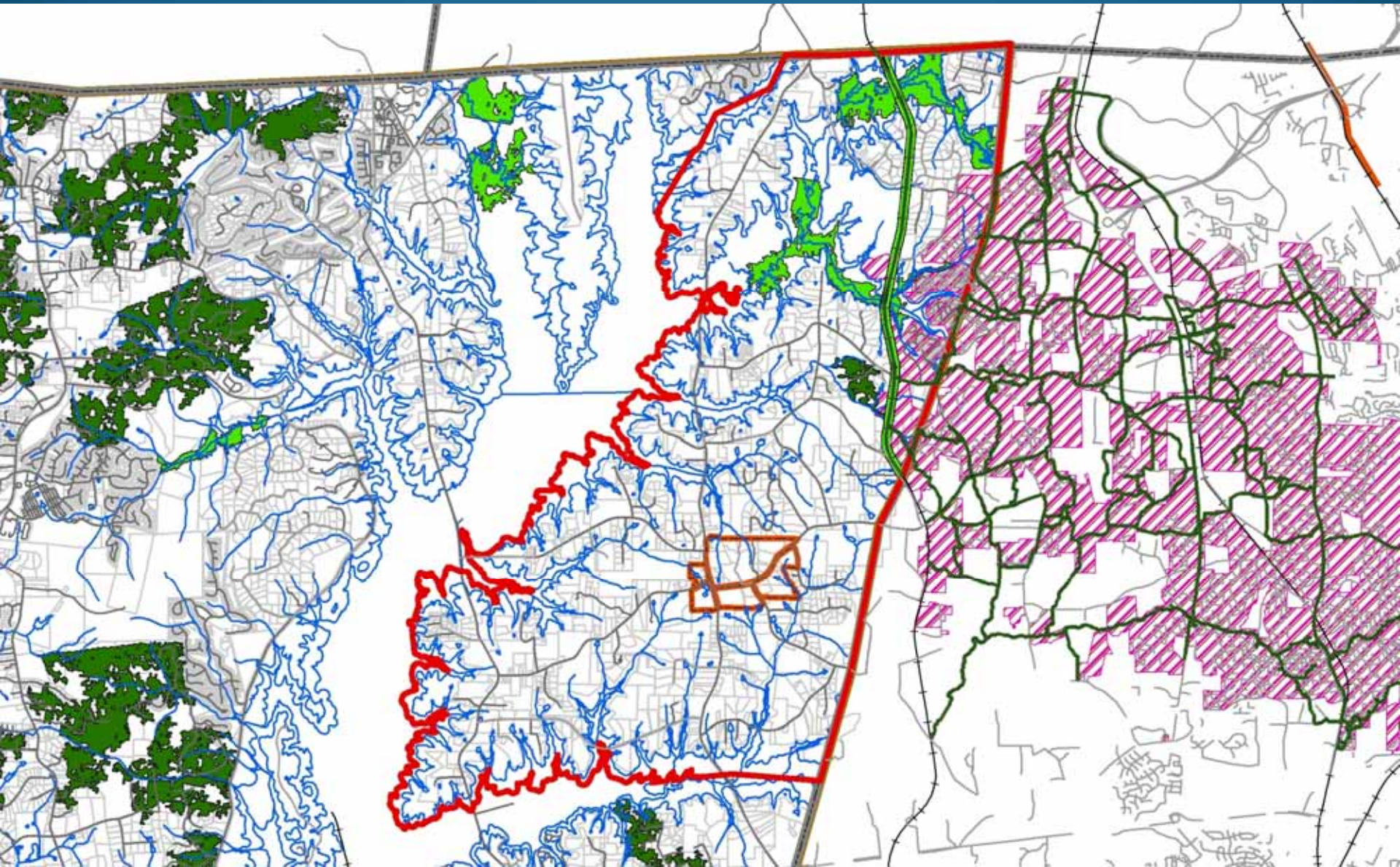


CPT Water Services (and Forestry)

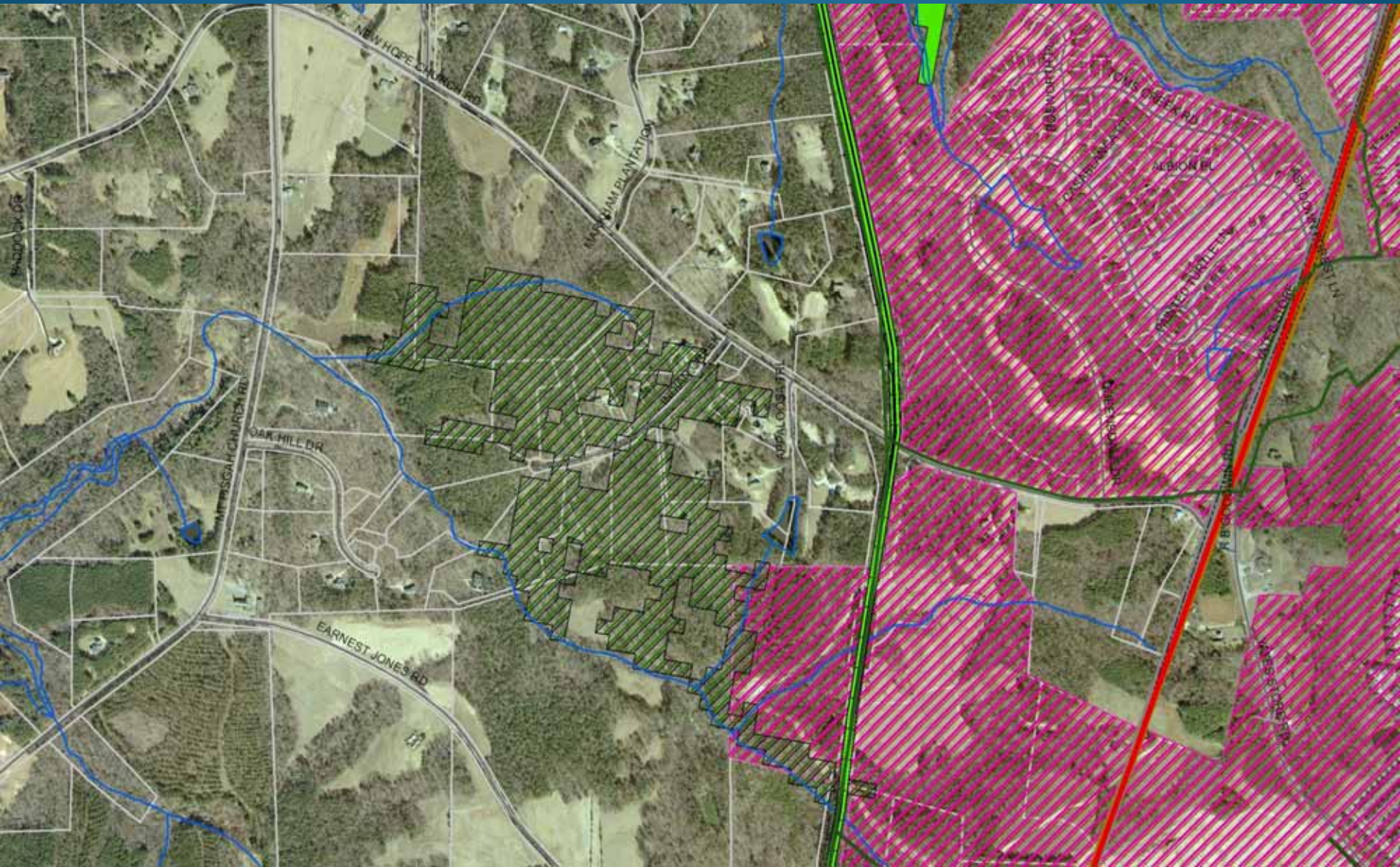
(proposed mixed use area)



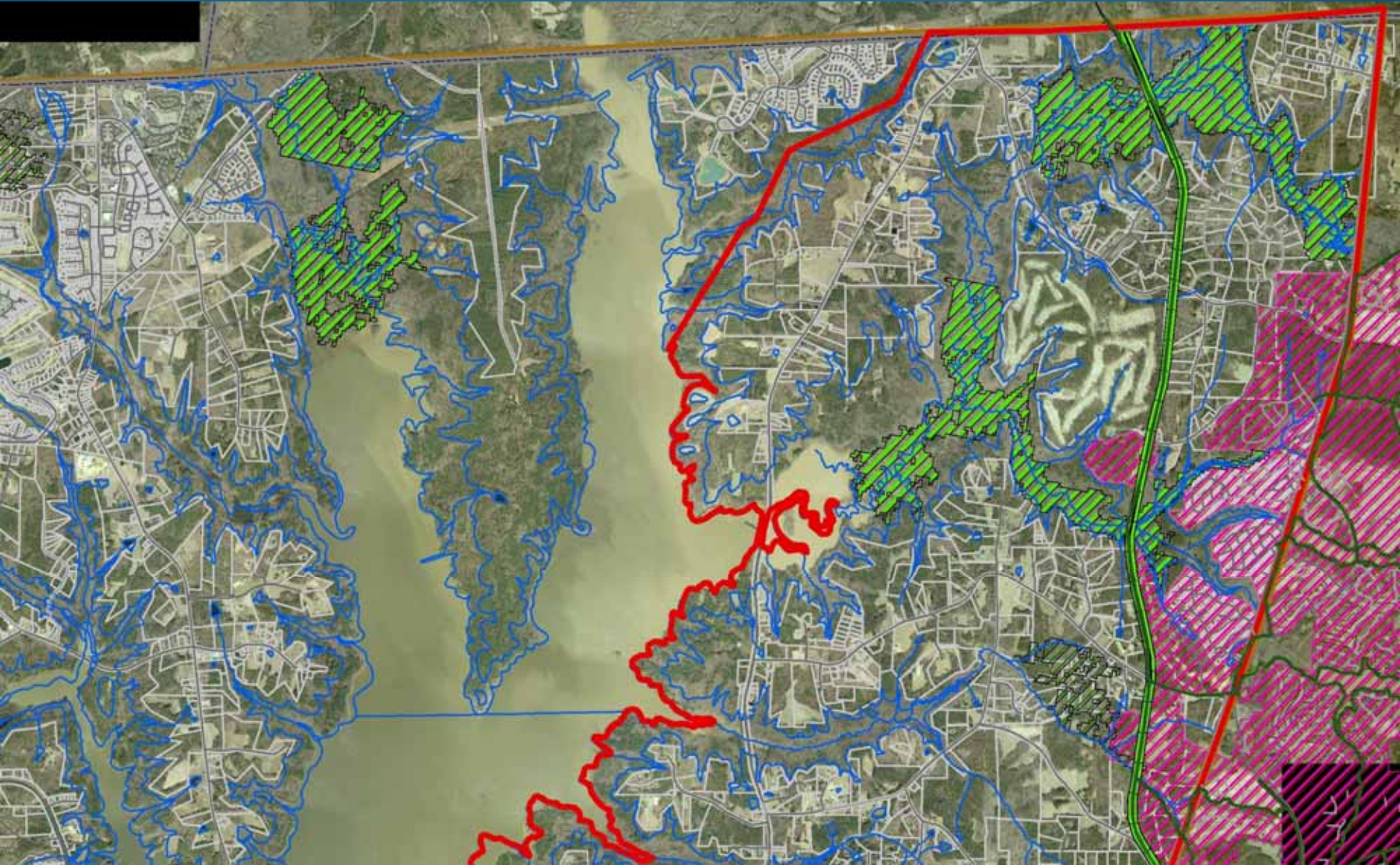
Forest Blocks 75 acres +



Forest Blocks - Uplands



Forest Blocks - Bottomlands



Contact Information

Robert J. Goldstein and Associates, Inc.

1221 Corporation Parkway, Suite 100

Raleigh, NC 27517

919.872.1174 (Raleigh office)

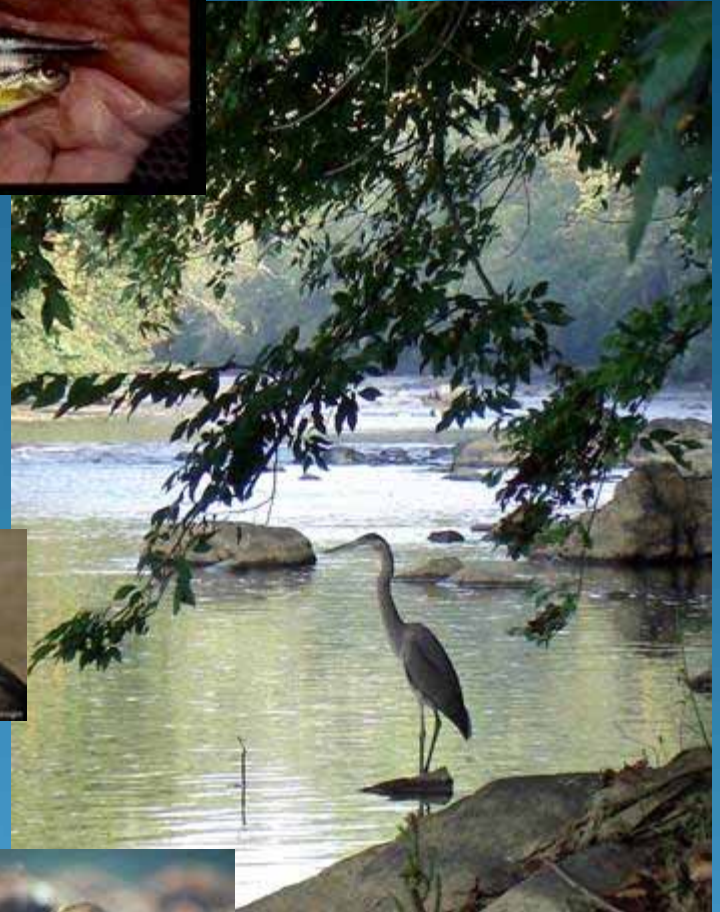
919.542.6609 (Chatham office)

aewweakley@rjgacarolina.com



Allison Weakley – Project Manager,
Chris Hopper, Sean Doig, Gerald Pottern

QUESTIONS?



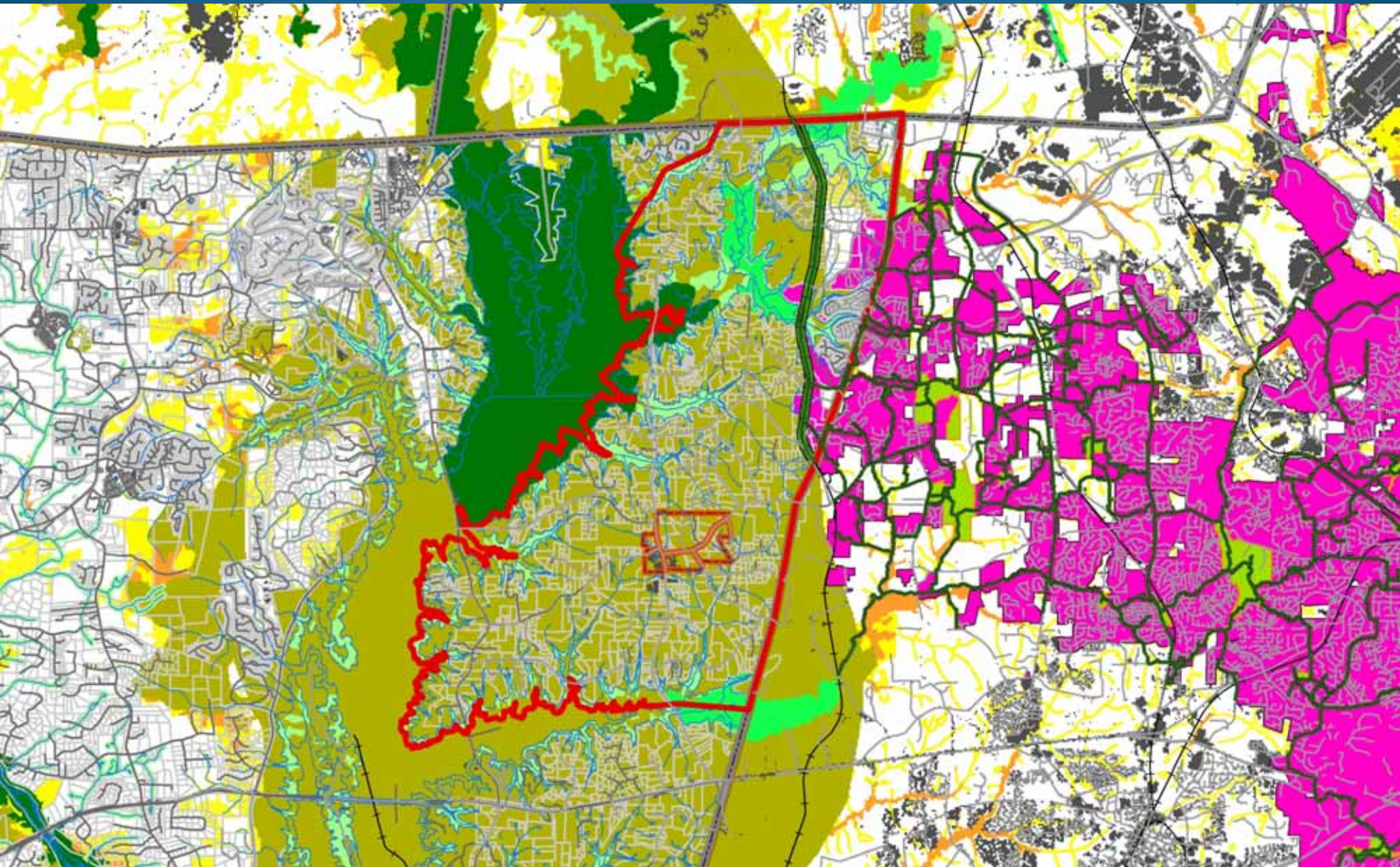
Data/Information on CCP Wiki

- **Priority habitats, species and forest resources**
 - Rare Species (and associated habitats)
 - SWAP Priority Species (and associated habitats)
 - SWAP Priority Habitats
- **GIS Data Catalogue**
- **Plans, Policies, and Ordinances**

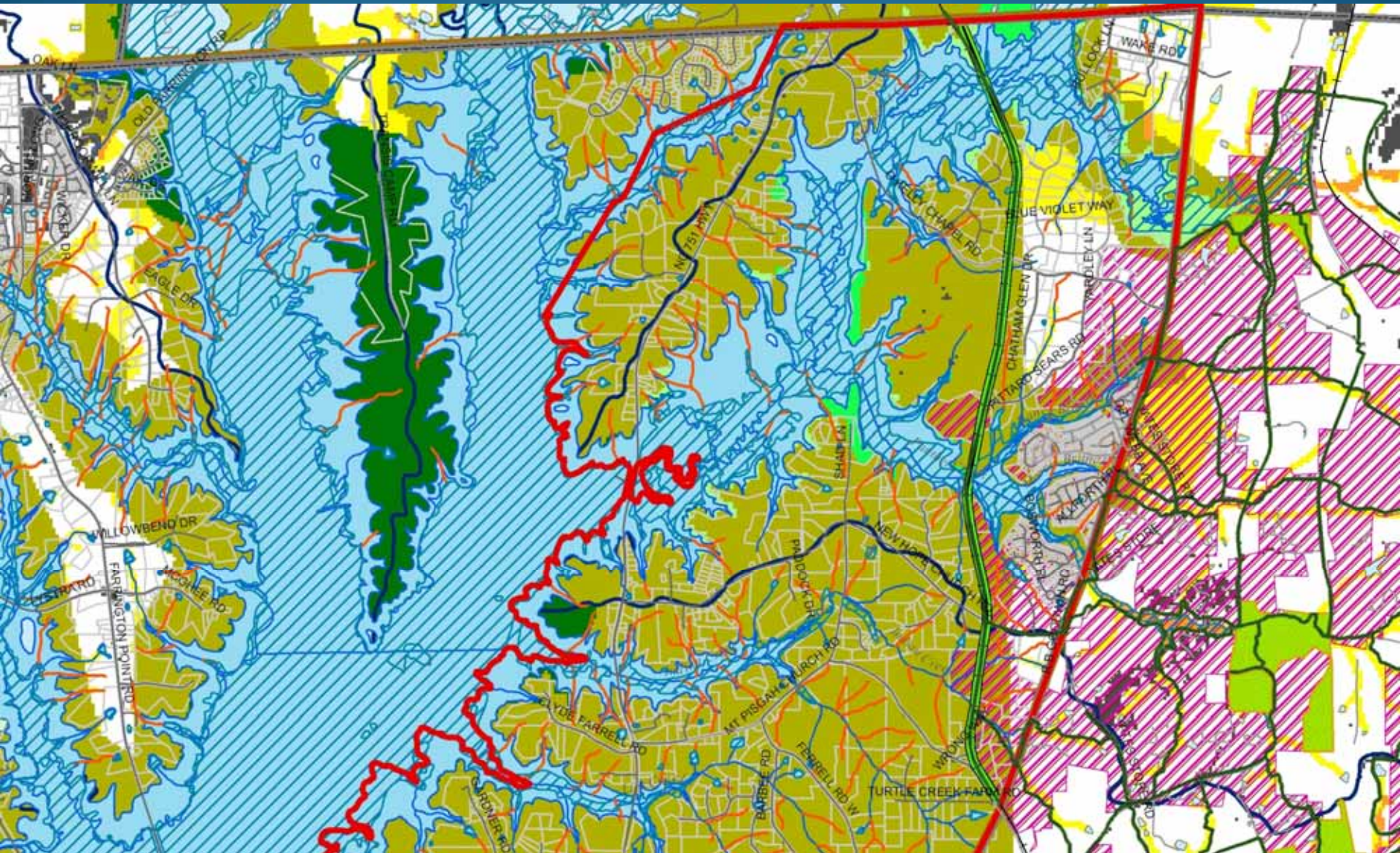
See <http://chathamconservation.wikispaces.com>

(Conservation Plan Committee)

Chatham/Cary Joint LUP Area: CPT Biodiversity/Wildlife Habitat



CPT Biodiversity/Wildlife Habitat (northern LUP area)



CPT Forest Resources

(northern LUP area)

