

TOWN OF CARRBORO, NC BOLIN CREEK GREENWAY

# FIELD INVENTORY

*What are we assessing?*

## **ECOSCIENCE:**

### **1. Green Infrastructure Assessment**

- Existing Vegetation/Wildlife
- Surrounding Topography
- Significant Natural Features/Viewsheds
- Adjacent or Intersecting Streams

## Overview

- Wetlands
- Streams
- Riparian Buffers
- Protected Species
- Flood Hazards
- Slopes



Jones Creek



Bolin Creek

# I. Existing Vegetation/Wildlife

The PSA supports both maintained/managed areas and natural communities.

- **Basic Mesic Forests (Piedmont Subtype)**
- **Mesic Mixed Hardwood Forests (Piedmont Subtype)**
- **Piedmont/Mountain Bottomland Forests**

Maintained/managed areas are dominated by open fields, maintained right of ways and landscaped areas. Vegetation within maintained/managed areas varies from common herbaceous species and horticultural varieties of shrubs and trees to invasive exotics.



## I. Existing Vegetation/Wildlife (continued)

Basic Mesic Forests (Piedmont Subtype) occur along lower slopes, ravines and well-drained stream bottoms with basic or circumneutral soils. They are distinguished from other adjacent communities by richer soils and greater vegetative species richness.



The canopy is dominated by mesophytic trees such as tulip poplar, American beech, Eastern red cedar, American holly, southern sugar maple buckeye, and northern red oak. The herb layer is generally dense and very diverse. Herb layer species observed include Christmas fern, crane fly orchid, and rattlesnake fern.

## I. Existing Vegetation/Wildlife (continued)

Mesic Mixed Hardwood Forests (Piedmont Subtype) occur on lower slopes, steep north-facing slopes, ravines, and acidic well-drained stream bottoms. The canopy is dominated by mesophytic trees such as American beech, white oak, sourwood, shortleaf pine, mockernut hickory, black cherry, and red maple. The herb layer is often moderately dense and diverse, though it may be sparse under heavy shade.



Mesic Mixed Hardwood Forests can be distinguished from Basic Mesic Forests by more acidic soils, absence of base-loving plants, sparser herb layer, and lower floristic diversity. Wildlife species likely include those found in Basic Mesic Forests.

## I. Existing Vegetation/Wildlife (continued)

Piedmont/Mountain Bottomland Forests occur on parts of floodplains, floodplain ridges, and terraces. Since they do not occur on active levees, greater vegetation diversity as well as a more developed herbaceous layer is typical.

Canopy species include tulip poplar, cherrybark oak, swamp chestnut oak, American elm, ironwood, green ash, loblolly pine, American sycamore. The herb and shrub layers are diverse, but can sometimes be overrun by invasive species. A few large areas of two invasive species (joint-head arthraxon and microstegium) were observed.



Substantial beaver activity was observed within the Bolin Creek section of the PSA.

## I. Existing Vegetation/Wildlife (continued)

- Federally Protected Species
  - A. **Red-cockaded woodpecker:** The PSA does not contain suitable stands of open mature pines for foraging or nesting/roosting.
  - B. **Dwarf wedgemussel:** The PSA is located within the Cape Fear River Basin, and the only known occurrences of this species are from the Neuse River Basin.
  - C. **Michaux's sumac:** The PSA contains many instances of suitable habitat for Michaux's sumac. Artificially maintained clearings and maintained sewer easements extend through the majority of the greenway corridor. Potential habitat areas will be evaluated more closely once a preliminary corridor design is available. Surveys for this species may occur during between May through October.
  - D. **Smooth coneflower:** The PSA contains substantial areas of Georgeville and Iredell soils, which are known to be pH-neutral at or near the soil surface. Suitable habitat is likely to occur where these soil areas intersect maintained roadway or utility easements. Potential habitat areas will be evaluated more closely once a preliminary corridor design is available. Surveys for this species may occur during between May through October.

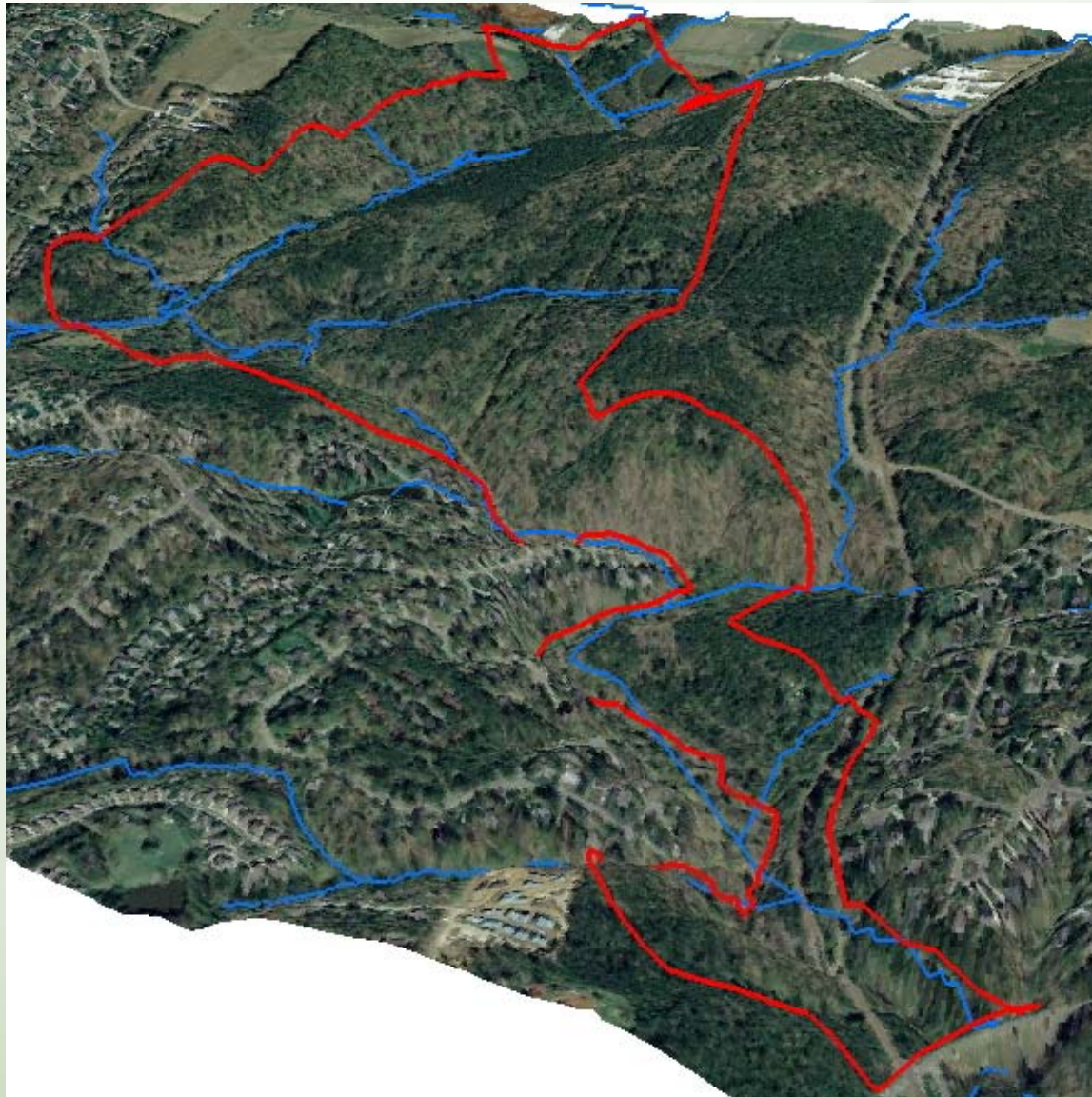
*There are historic records of the four-toed salamander from the southern portion of the Bolin Creek PSA. This salamander species is a state species of concern, but is not afforded federal protection.*

## II. Surrounding Topography

- A. The PSA is located within the Carolina Slate Belt ecoregion, which extends from southern Virginia, across the Carolinas, and into Georgia. This region contains some of the lowest water-yielding rock units in the Carolinas.
  
- B. The landscape elevation ranges from approximately 370 feet North American Vertical Datum (NAVD 1988) at the southern extent of the PSA to 590 feet NAVD along a ridge in the northwestern portion of the Jones Creek extent of the PSA (Chapel Hill, NC USGS quadrangle).
  
- C. Approximately 12 percent of the PSA is comprised of partially hydric soil map units. These maps units generally follow the stream channel in the Jones Creek section, and are mostly confined to interstream flat areas in the Bolin Creek section.



### III. Natural Features/Viewsheds



PSA generally coincides with 288-acre Bolin Creek Significant Natural Heritage Area

TJCOG 2002 Open Space Assessment Report Ranked the Bolin Ck SNHA with a Site Index of 16

NCNHP considers the Bolin Creek SNHA as an Area of County importance

## IV. Adjacent or Intersecting Streams

The Jones Creek extent of the PSA contains two named streams, Jones Creek and Buckhorn Branch. Jones Creek flows northwest to southeast through the entire Jones Creek section of the PSA. Buckhorn Branch enters the PSA from its source to the west and flows into Jones Creek. Wetlands within the Jones Creek PSA are small in size and infrequent. However, these areas will need to be considered during greenway alignment selection.

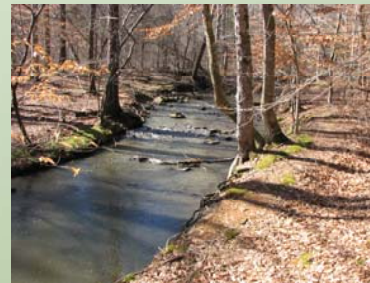
There are two named streams within the Bolin Creek section of the PSA. These streams are Bolin Creek and Jolly Branch. Jolly Branch enters the PSA from the east and connects to Bolin Creek, which flows northwest to southeast through the entire Bolin Creek section of the PSA. Wetlands are somewhat more extensive in the Bolin Creek PSA due to beaver activity. These areas will need to be considered during greenway alignment selection.



Jolly Branch



Buckhorn Branch



Bolin Creek



Jones Creek

## IV. Adjacent or Intersecting Streams (continued)

- A. The PSA is located within the Cape Fear River Basin (NCDWQ subbasin 03-06-06). Small streams within this subbasin typically stop flowing during low flow periods due to lack of groundwater recharge.



- B. There are no 303(d) listed streams or National Pollutant Discharge Elimination System (NPDES) permitted dischargers within the PSA (NCDWQ 2006).