

## Threatened / Endangered / Protected Species Evaluation

For: ***Carolina Reserve Commons***  
Lancaster County, South Carolina

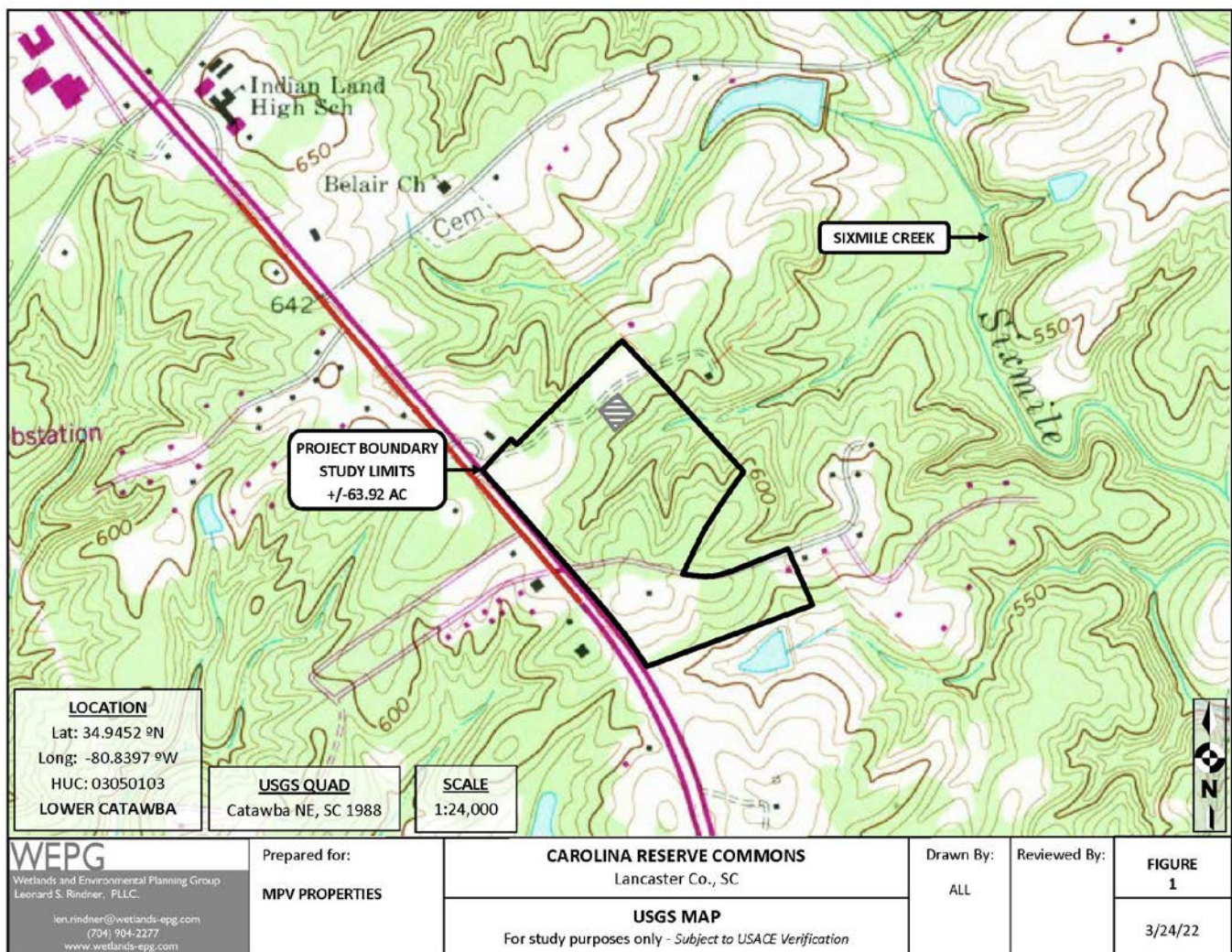
By: Lisa R. Gaffney  
Biologist

**Field evaluation conducted during the week of April 13, 2023**

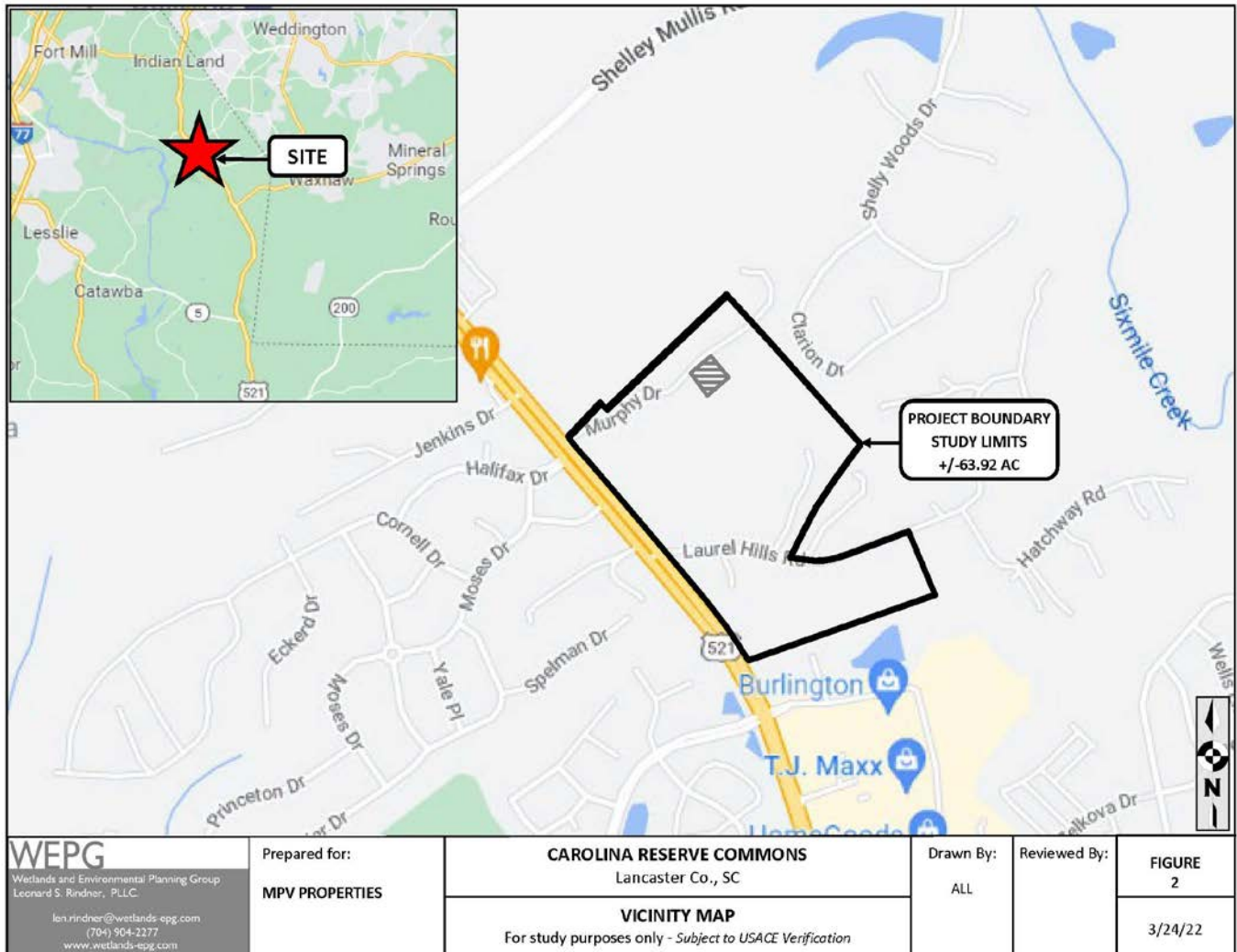
## GENERAL LANDSCAPE DESCRIPTION:

The Carolina Reserve Commons site (+/- 63.92 acres) is located just east of Hwy 521 at its intersection with Laurel Hills Road, and just south of Shelley Mullis Road in Lancaster County, South Carolina. It can be found on the Catawba NE, SC USGS Topographic Quadrangle Map; latitude is 34.9452 °N, longitude is 80.8397 °W. The topography is moderately sloped with the elevation ranging from 570 to 620 ft. (Figures 1-4).

**Figure 1: USGS MAP**



**Figure 2: VICINTIY MAP**

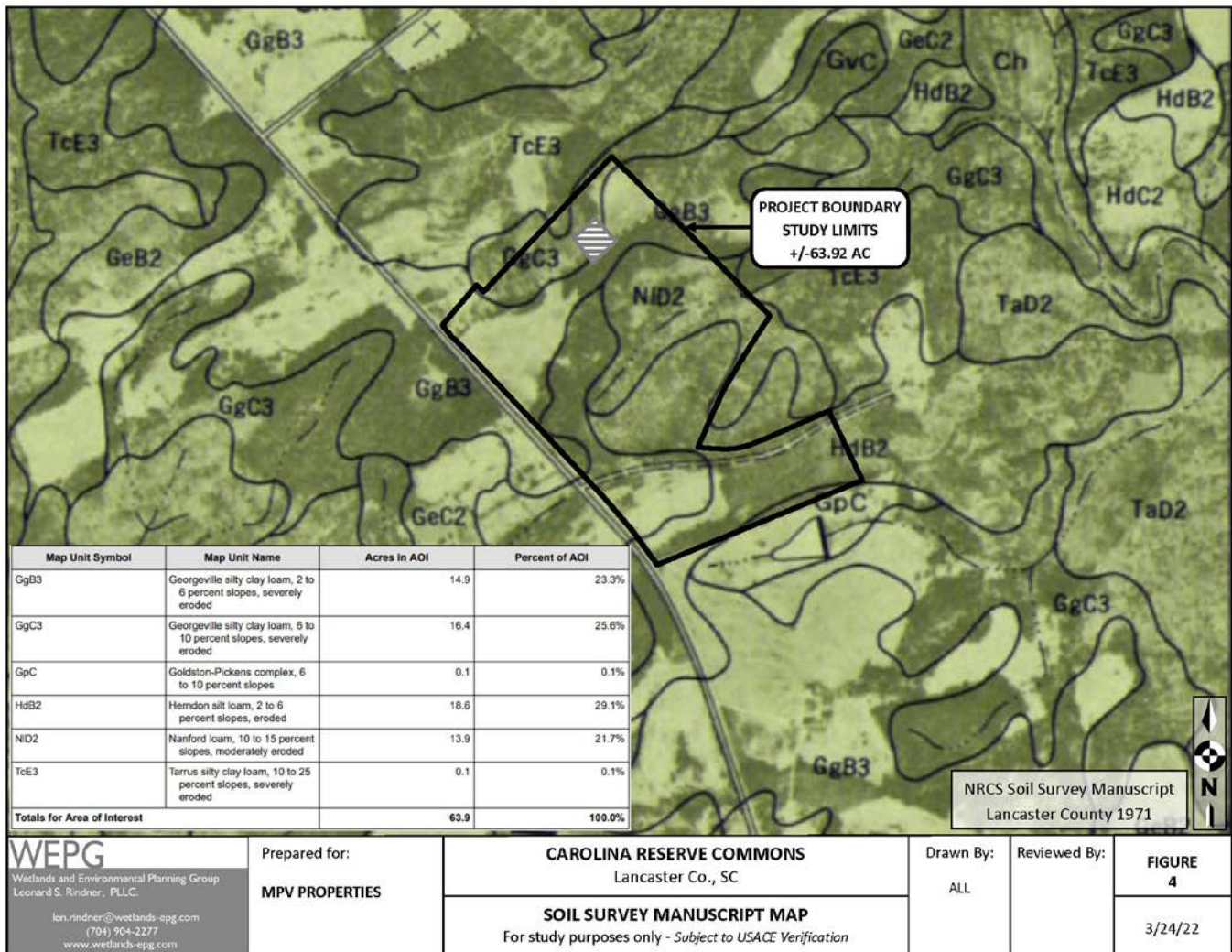




**Figure 3: AERIAL MAP**



**Figure 4: USDA SOIL MAP**



## METHODOLOGY:

The US Fish and Wildlife Service's IPaC website <https://ipac.ecosphere.fws.gov/location/JJV4IZDGNRDVTD36AIFBZ7XDX4/resources> was referenced to determine the occurrence of Threatened, Endangered and Protected species for the subject site, the results of which are listed below (Table 1). Maps and aerial photographs were assembled, and the site was investigated during the week beginning April 13, 2023.

**Table 1: Threatened / Endangered / Protected Species listed for the Carolina Reserve Commons site.**

\*Source: US Fish & Wildlife Service - IPaC

\*\*Data search on April 13, 2023

<u>Group</u>	<u>Name</u>	<u>Status</u>
Bird	<u>Bald Eagle (<i>Haliaeetus leucocephalus</i>)</u>	Protected
Clams	<u>Carolina Heelsplitter (<i>Lasmigona decorata</i>)</u>	Endangered
Ferns and Allies	<u>Black Spored Quillwort (<i>Isoetes melanospora</i>)</u>	Endangered
Flowering Plants	<u>Smooth Coneflower (<i>Echinacea laevigata</i>)</u>	Endangered
Flowering Plants	<u>Schweinitz's Sunflower (<i>Helianthus schweinitzii</i>)</u>	Endangered



## **SPECIES DESCRIPTIONS:**

Three plant species with federal protection are listed as potentially occurring on the Carolina Reserve Commons site:

- Schweinitz's Sunflower (*Helianthus schweinitzii*), listed as Federally Endangered, is typically found in open habitats which historically have been maintained by wildfires and grazing bison and elk herds. Now most occurrences are limited to roadsides, woodland and field edges, and utility rights-of-way (ROW).
- Smooth Coneflower (*Echinacea laevigata*), listed as Federally Endangered, is typically found in open woods, cedar barrens, roadsides, clear cuts, dry limestone bluffs and power line rights-of-way, requiring abundant sunlight and little competition from other plant species.
- Black Spored Quillwort (*Isoetes melanospora*), listed as Federally Endangered, is endemic to shallow, rock-rimmed, flat-bottomed vernal pools on granitic outcrop communities.

Two animal species with federal protection are listed as potentially occurring on the Carolina Reserve Commons site:

- Bald Eagle (*Haliaeetus leucocephalus*), protected by the Bald and Golden Eagle Protection Act, typically inhabits forested areas near large bodies of open water such as lakes, marshes, seacoasts and rivers, where there are suitable fish populations and tall trees for nesting and roosting.
- Carolina Heelsplitter (*Lasmigona decorata*), listed as Federally Endangered, is restricted to cool, clean, well-oxygenated water. Stable, silt-free stream beds where the stream banks are well-vegetated with trees and shrubs are required for this species.

## **RESULTS:**

The Carolina Reserve Commons site is covered with wooded slopes that drain to an unnamed tributary to Sixmile Creek which is just east of the site. Laurel Hill Road extends through the southern portion of the site. There are overhead power lines adjacent to the Hwy 521 road corridor and along Laurel Hills Road. There are two existing homesites within the property.

There is a hayfield on the upland near Hwy 521 dominated by Fescue (*Festuca* spp.). Mixed pines and hardwoods dominate the slopes and drainages. Canopy trees include White Oak (*Quercus alba*), Black Oak (*Q. velutina*), Northern Red Oak (*Q. rubra*), Willow Oak (*Q. phellos*), Shagbark Hickory (*Carya ovata*), Pignut

Hickory (*C. glabra*), Mockernut Hickory (*C. tomentosa*), Black Walnut (*Juglans nigra*), Sweetgum (*Liquidambar styraciflua*), Cottonwood (*Populus deltoides*), Tulip Poplar (*Liriodendron tulipifera*), River Birch (*Betula nigra*), and Sycamore (*Platanus occidentalis*). The subcanopy contains Red Maple (*Acer rubrum*), Sourwood (*Oxydendrum arboreum*), American Beech (*Fagus grandifolius*), Ironwood (*Carpinus caroliniana*), American Holly (*Ilex opaca*), Eastern Red Cedar (*Juniperus virginiana*), Flowering Dogwood (*Cornus florida*), Hackberry (*Celtis laevigata*), Redbud (*Cercis canadensis*), Red Mulberry (*Morus rubra*), Black Gum (*Nyssa sylvatica*), Winged Elm (*Ulmus alata*), and Black Cherry (*Prunus serotina*). The shrub layer includes Spicebush (*Lindera benzoin*), Blueberry (*Vaccinium* sp.), Autumn Olive (*Elaeagnus umbellata*), American Strawberry Bush (*Euonymus americana*), Paw Paw (*Asimina triloba*), and Chinese Privet (*Ligustrum sinense*). Vines present include Chinese Wisteria (*Wisteria sinensis*), Japanese Honeysuckle (*Lonicera japonica*), Trumpet Creeper (*Campsis radicans*), Catbrier (*Smilax* sp.), Virginia Creeper (*Parthenocissus quinquefolia*), Muscadine (*Vitis rotundifolia*), and Poison Ivy (*Toxicodendron radicans*). The herb layer includes Japanese Stiltgrass (*Microstegium vimineum*), Christmas Fern (*Polystichum acrostichoides*), Panic Grass (*Panicum* sp.), Ebony Spleenwort (*Asplenium platyneuron*), Spotted Wintergreen (*Chimaphila maculata*), River Oats (*Chasmanthium latifolium*), and Jewel Weed (*Impatiens capensis*).

The disturbed, open, roadsides and power lines are dominated by planted Fescue (*Festuca* sp.) with mixed shrubs, vines and herbs that typically occur in this habitat. The power line along Hwy 521 has been seasonally sprayed with herbicide. Woody species present are small tree saplings of Pines, Sweet-gum and Tulip Poplar, and shrubs of Blackberry (*Rubus* sp.), Russian Olive, Chinese Privet, Winged Sumac (*Rhus copallinum*), and Groundsel Tree (*Baccharis halimifolia*). Herbs present are Johnson Grass (*Sorghum halepense*), Plume Grass (*Erianthus contortus*), Fireweed (*Erechtites hieraciifolius*), Ragwort (*Packera* sp.), Bedstraw (*Galium* sp.), Sericea Lespedeza (*Lespedeza cuneata*), St. John's Wort (*Hypericum* sp.), Bull Thistle (*Sonchus* sp.), Pokeweed (*Phytolacca americana*), Common Milkweed (*Asclepias tuberosus*), Rabbit Tobacco (*Gnaphalium obtusifolium*), Tickseed (*Coreopsis major*), Ragweed (*Ambrosia artemisiifolia*), Goldenrod (*Solidago* sp.), Beggars Ticks (*Bidens* sp.), and Dogfennel (*Eupatorium capillifolium*).



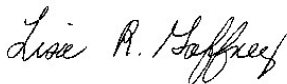
### **Threatened / Endangered / Protected Species Results**

- All potential habitats for Schweinitz's Sunflower along the roadsides, woods edges, and transitional areas were examined, and the species was not observed. A seasonal assessment may be required during the optimal survey window (late August – October) if regulatory agency concurrence is needed.
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- All potential habitats for Smooth Coneflower along the roadsides, woods edges, and transitional areas were examined, and the species was not observed.
- There is no granitic rock outcrop habitat on the site and Black Spored Quillwort the species was not observed.
- No suitable habitat exists on the site for Bald Eagles, and no nesting sites observed.
- This site drains to Sixmile Creek which is documented to support populations of Carolina Heelsplitter. Additional studies may be required to confirm presence / absence of Carolina Heelsplitter (*Lasmigona decorata*).

### **RECOMMENDATIONS:**

Based on the site investigation and the review of available data, WEPG did not identify any protected terrestrial species occurring on the subject property. No further investigation of the presence of protected terrestrial species on this site is recommended at this time.

Respectfully submitted,



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Lisa R. Gaffney  
Biologist  
April 4, 2023

**Curriculum Vitae for:  
Lisa R. Gaffney  
Biologist / Botanist**

B.S. Biology, University of North Carolina at Charlotte

Ms. Gaffney is a classically trained botanist and natural resource biologist and has conducted field work and investigative studies covering thousands of cumulative acres in both North and South Carolina since 1996, including:

- Cabarrus County NC Natural Heritage Inventory. Organized, directed, and conducted field survey of natural areas in Cabarrus County for the North Carolina Natural Heritage Program.
- Lincoln County NC Natural Heritage Inventory. Organized, directed, and conducted field survey of natural areas in Lincoln County for the North Carolina Natural Heritage Program.
- Threatened and Endangered Species Surveys and Natural Communities Evaluation for over 65,000 acres in North and South Carolina, 1996 - present.
- Located and identified numerous previously unreported populations of Federally Endangered Schweinitz's Sunflower (*Helianthus schweinitzii*).
- Located and identified numerous previously unreported populations of Threatened Dwarf Heartleaf (*Hexastylis naniflora*).
- Found Schweinitz's Sunflower at Redlair Farm in Gaston County, NC. This discovery led (in part) to the purchase of the site by the State of North Carolina Plant Conservation Program, now called Redlair Preserve. This population has become a Recovery Site for the species.
- Participated in numerous Piedmont Prairie restoration projects in Mecklenburg, Union, Cabarrus and Gaston Counties, North Carolina.