

# North Carolina Dedicated Nature Preserve/Registered Heritage Area Monitoring Report

NAME OF NATURE PRESERVE/NATURAL HERITAGE AREA: Otter Creek Registered Heritage Area/**East Carolina University Otter Creek Natural Area**

Acreage: **46 acres in RHA (68 acres total in ECU Otter Creek Natural Area property)**

Date: **2024-09-26**

Weather Conditions: **Cloudy, warm – Hurricane Helene on the way**

LANDOWNER/CONTACT INFORMATION (If applicable, who granted permission to be on this property)

Who Contacted: **Chad Carwein, University Sustainability Manager**

How was contact made: **telephone/email by Katherine Culatta**

CURRENT OWNER/MANAGER: **ECU – Chad Carwein**

ADDRESS AND PHONE/E-MAIL: [carweinc15@ecu.edu](mailto:carweinc15@ecu.edu); **203 HSC Utility Plant, East Carolina University, Greenville, NC 27834**

MONITOR'S NAME and TITLE (such as volunteer, intern, staff position with NCNHP, etc.):

**Judith Ratcliffe, Zoologist**

ADDRESS AND PHONE/E-MAIL: **121 W. Jones Street Raleigh NC 27603; [judith.ratcliffe@dncr.nc.gov](mailto:judith.ratcliffe@dncr.nc.gov)**

LIST ALL PERSONS ATTENDING INSPECTION:

**Chad Carwein, ECU Sustainability Manager; Katherine Culatta, Eastern Region Ecologist; and Laurie Hamon, Invertebrate Zoologist/Pollinator Biologist; Scott Cory, ECU Professor Botanical Studies; Brynn Miller, student intern Environmental Studies; Dr. David Knowles, frmr ECU Professor Ecology**

WALK THROUGH NATURAL AREA AND OBSERVE THE CONDITION OF THE NATURAL HERITAGE VALUES CONSERVED THROUGH REGISTRY OR DEDICATION (07NCAC 13H.0202). NOTE ANY CHANGES OR CONCERNS IN REGARDS TO ARTICLES OF DEDICATION OR REGISTRY AGREEMENT. (A SEPARATE SITE SURVEY REPORT MAY BE APPROPRIATE; PLEASE NOTE IF THAT REPORT WILL BE FILLED OUT, AND KEEP THE MONITORING REPORT BRIEF. PLEASE DESCRIBE APPROXIMATELY WHERE YOU VISITED, OR ATTACH A MAP).

**No significant changes to the terrestrial natural communities were observed. Planted pines in excluded area closest to the roadway, once a cornfield, were thinned in early 2000s(?) and remaining standing timber continues to mature and will eventually be harvested. There are well maintained trails throughout the tract within the RHA, most with trail width enclosed by fallen branches indicating the route but no map of the trails is currently available and there are no tree blazes to mark trails. Some portions are marked by pin flags but Carwein indicated that he planned to remove those. There is also some signage scattered along the trails (similar to political election signs) providing information about the history of the site.**

ESTIMATED PORTION (PERCENTAGE) OF THE REGISTERED/DEDICATED AREA OBSERVED:

**Estimate 70% observed: 40% by following trails that meander through tract with other attendees, additional 30% off-trail by K. Culatta and L. Hamon. Wetland areas were observed from streambank but not traversed.**

WAS THE MONITORING VISIT A STAND-ALONE ACTIVITY, OR IN ADDITION TO A SITE VISIT FOR ANOTHER REASON? **Site visit for RHA monitoring; K. Culatta opportunistically refined natural community boundaries**

LIST ANY HUMAN-CAUSED ALTERATIONS (for example: construction, dredging or filling, new trails, timber harvest, trash dumping, vandalism, evidence of disturbance of natural vegetation- since last inspection. Describe the activity or alteration \* note location and extent. Also, if needed, document with maps, photos, and/or illustrations).

**There were no new HC alterations to report – there is an historical soil horizon excavation along the trail and an area where there are two pits dug out on either side of the trail as it descends to the floodplain. I believe these are borrow pits used to create a bridge like soil mound between the pits to facilitate access. These alterations have been there a long time. Photos in file.**

**A shed and signage are preexisting in parking area within excluded area – Chad Carwein interested in whether the shed has historical value – sending him NCSHPO contact information – ECU may alter shed or demolish and replace shed in the future to provide better contemporary utility.**

LIST NATURAL ALTERATION (for example- flooding, fire, insect infestation). Note location and nature of changes. Attach maps, photos, and/or illustrations as necessary.

**Knowles reported that the well decayed downed trees throughout the tract were from blow down by Hurricanes Bertha and Fran. This created canopy openings. Also reported that Hurricane Floyd had “rerouted” portions of Otter Creek, creating additional oxbow habitats.**

LIST ANY MANAGEMENT CHANGES:  
**none**

TO THE BEST OF YOUR KNOWLEDGE AND OBSERVATION, IS THE NATURAL AREA BEING MANAGED TO MEET GOALS OF ARTICLES OF DEDICATION OR REGISTRY AGREEMENT?  
**yes**

NOTE ANY ELEMENT OCCURRENCES OBSERVED, AND PLEASE PROVIDE ADDITIONAL DETAIL AS APPROPRIATE (e.g. approximate number of individuals, habitat condition or extent, etc)

**Dry Oak-Hickory Forest (Coastal Plain Subtype) EO Num 05**The canopy is dominated by *Quercus falcata* with some *Quercus alba*, *Quercus montana*, and *Liriodendron tulipifera*. The understory includes *Fagus grandifolia*, *Oxydendrum arboreum* and *Liquidambar styraciflua*, and the shrub layer includes *Symplocos tinctoria*, *Persea palustris*, and *Ilex opaca*. The herb layer is sparse and includes *Polystichum acrostichoides* and *Chasmanthium laxum*. The mapped community was revised from 34 acres extending to the base of the slope to 18 acres on the upper slope and ridgetop.

**Dry-Mesic Oak-Hickory Forest (Coastal Plain Subtype) EO Num 11**

The canopy is dominated by *Quercus alba* and *Carya spp*, with some *Quercus michauxii*. The understory and shrub layer is composed of *Fagus grandifolia*, *Oxydendrum arboreum*, *Benthamidia florida*, *Symplocos tinctoria*, *Ilex opaca*, and *Vaccinium elliotii*. The steepest portion of the north-facing slope is dominated by a patchy stand of *Kalmia latifolia* occupying approximately 3/4 acre. One patch of *Galax urceolata* was observed beneath the *Kalmia* stand. The herb layer is sparse and includes *Mitchella repens*, *Chasmanthium laxum*, and *Polystichum acrostichoides*. This community occupies the upper slope between Mesic Mixed Hardwood Forest and Dry Oak-Hickory Forest. The mapped community was revised from 13 acres overlapping adjacent communities to 7 acres.

**Mesic Mixed Hardwood Forest (Coastal Plain Subtype) EO Num 10**

The canopy is dominated by *Fagus grandifolia*, *Liriodendron tulipifera*, and *Quercus alba*. The understory is composed of *Ilex opaca* and *Oxydendrum arboreum*. The shrub layer is dominated by *Symplocos tinctoria*, and also includes *Hamamelis virginiana*, *Vaccinium elliottii* and limited invasive *Ligustrum sinense*. Herbs noted include *Hexastylis arifolia*, *Bignonia capreolata*, *Chasmanthium laxum*, and *Persicaria* spp. This community grades into Dry-Mesic Oak-Hickory Forest on the upper slope. The mapped community was revised from 25 acres, broadly overlapping adjacent Coastal Plain Small Stream Swamp and Dry-Mesic Oak-Hickory Forest, to 12 acres on mesic flats and lower slopes above Otter Creek.

**Coastal Plain Small Stream Swamp EO Num 10**

Only the upslope edge of community was directly observed. The canopy includes *Taxodium distichum*, *Nyssa biflora*, *Liquidambar styraciflua*, *Quercus nigra*, *Platanus occidentalis*, and *Betula nigra*. Shrubs include *Ilex glabra*, *Itea virginica*, *Symplocos tinctoria*, and herb layer includes *Arundinaria gigantea*, *Lorinseria areolata*, *Osmunda spectabilis*, *Osmundastrum cinnamomeum*, and *Saururus cernuus*. This community was previously estimated as 3 acres in a narrow band along Otter Creek. Based on field observations, this EO was expanded to include 11 acres of floodplain dominated by *Taxodium distichum*.

DID YOU OBSERVE ANY INVASIVE OR EXOTIC SPECIES ON THE PROPERTY? IF SO PROVIDE THE NAME AND LOCATION OF EACH SPECIES. PLEASE NOTE ABSENCE AS WELL AS PRESENCE OF SPECIES LIKELY TO INVADE THE SITE.

**Invasive *Ligustrum sinense* is present but not dominant in the floodplain. Invasive *Microstegium vimineum* was notably absent.**

EXPLAIN OR LIST OTHER COMMENTS/OBSERVATIONS?

**none**

NOTE ANY OBSERVED CHANGES IN ADJACENT PROPERTY OWNERSHIP OR CONDITION.

**The Otter Creek Natural Area currently extends northwest beyond the ECU property – there has been clearing of some timber within the NA boundary to the northwest – these areas will need to be excised from the boundary. To the southeast there are farm fields adjacent to the excluded planted pine and the area from there back to Otter Creek is forested and may have high quality natural communities. There is also an extensive conservation easement across Otter Creek held by NC Coastal Land Trust. The riparian areas are conserved in the easement and with survey could potentially expand the boundary of the natural area.**

IS FURTHER SURVEY RECOMMENDED PRIOR TO THE NEXT DNP/RHA MONITORING (e.g. Was a distinctive portion not visited, or were the conditions not suitable for a particular element?)

**Additional survey of the RHA tract is not necessary however the NA boundary could be expanded with survey of adjacent tracts.**

SUGGEST ANY ACTIONS THAT SHOULD BE TAKEN AS A RESULT OF THIS MONITORING VISIT.

NHP Staff: Check/Mark the following that need to be done as a result of this visit.

Update element occurrence(s) **X**

Update natural area **X**

Follow Up w/Landowners/Managers **X emails sent with NCNHP Otter Creek digital file materials and NCHPO contacts sent 2024-09-27; Carwein sent ECU digital materials for Otter Creek to NCNHP on 2024-09-26**

- Update managed area **X MA file updated with site visit date and contact information updates, adjusted Monitoring priority from High to Low.**
- Updated directions, or other notes on access

DESCRIPTION OF ENCLOSURES AND ATTACHMENTS:

**Photos saved in RHA file with this report.**

If attachments are separated from this report, note where they can be found:

\*This report is a record of one person's observations during one visit. It is not intended to be a statement of landowner compliance with Articles of Dedication or Registry Agreement