

# North Carolina Coastal Wetland Conservation and Restoration Working Group Meeting

## June 7, 2021

This second full working group meeting will organize the proposed conservation projects by their readiness according to a set of variables. The projects selected for the first round will be addressed by ad hoc committees. At this meeting we will select projects for initial focus by the working group. The priority projects may be positioned for grant application in the next year depending on timing and status.

This work is a continuation of the work initiated by the stakeholders at the first working group meeting in Jan 2021, followed by the efforts of the Alligator River and Croatan/Cedar Island Working subgroup meetings in April.

The projects on the lists from both working groups were chosen for their potential large-scale impact in the region and the benefit that these projects may gain with the collective power and resources provided by the stakeholder working group. Given the time and scope associated with these projects, the overall list can be maintained and used in the future by working group participants as a whole or in subsets.

The efforts and collaboration of this group have resulted in:

- Fifteen proposed projects that may be supported by the subgroups.
- An [interactive map](#) that reflects the conservation value that the stakeholders put on the lands across the region of study. Stakeholders can study the project sites and conservation value including the individual overlays of interest.
- An initiative led by The Conservation Fund to engage Weyerhaeuser at a management level where regional intent and the status of specific parcels can be assessed. This is particularly important for many of the projects proposed by the Croatan/Cedar Island subgroup.
- An understanding of the overlapping needs and impacts for projects in both subgroup areas that may assist in grant applications for aggregating similar projects for the REPI Challenge and RCPP that may result in the applications being more competitive nationally.

With the goals of the meeting as well as the results so far from this working group in mind, please review the project summaries attached prior to the meeting on Monday afternoon. The meeting will begin with the large group discussion and will be followed by a breakout session into subgroups that will work on setting priorities and next steps. The full group will come together again at the close of the meeting. See attached agenda.

NC Coastal Federation Coastal Wetlands Restoration Working Group Virtual Meeting 2  
June 7, 2021  
1:00 p.m.--2:30 p.m. EST

As part of the Wetlands Restoration Working Group Meeting, participants will:

- Understand the projects up for consideration
- Learn about their opportunities and challenges
- Prioritize the projects into a timeline
- Plan for next steps (coordination, funding)

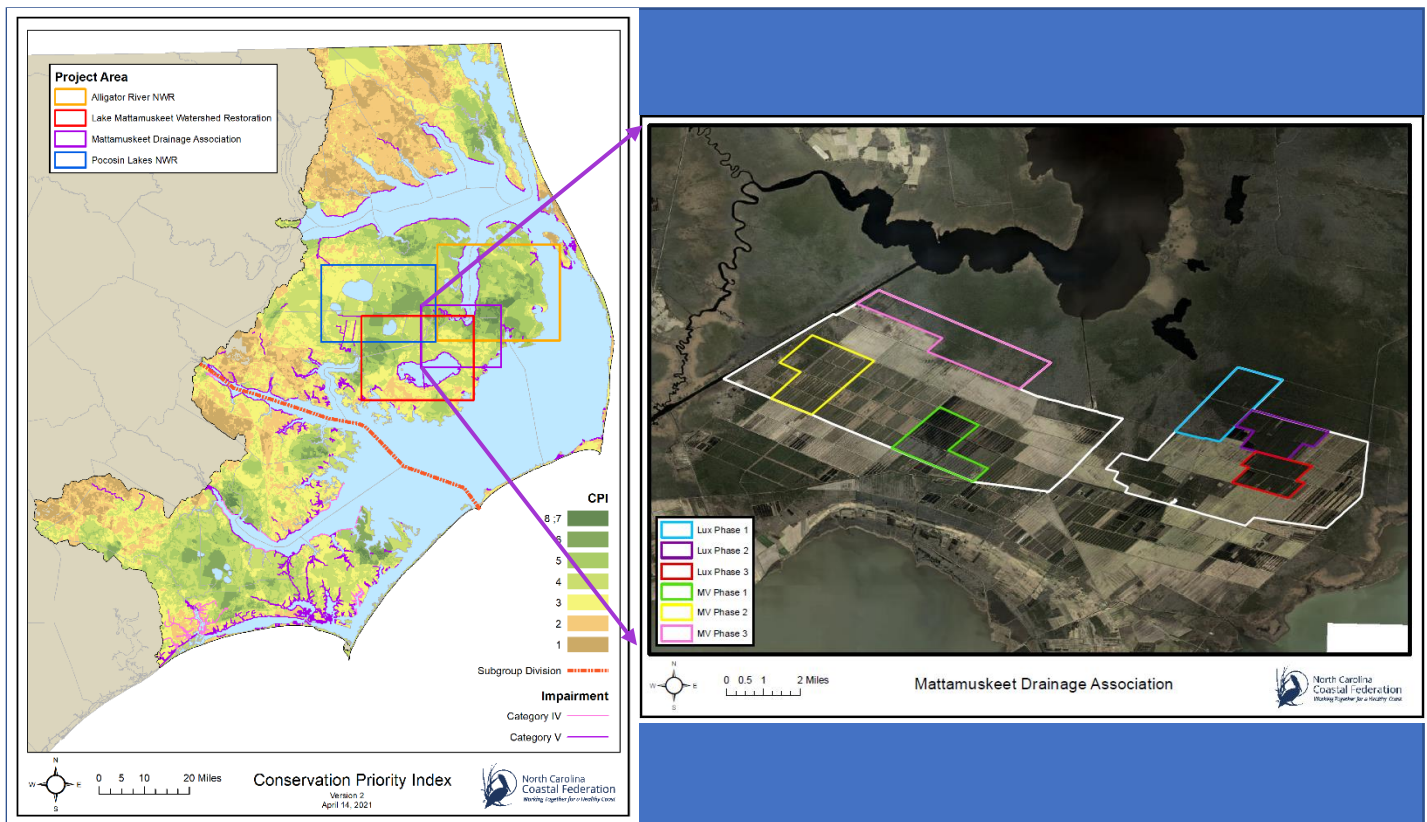
**Agenda**

- |           |                                                                                                                                                                                                                                                             |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1:00 p.m. | Welcome, Recap, Goals for Meeting, Christine Miller, N.C. Coastal Federation                                                                                                                                                                                |
| 1:10 p.m. | Process for the Meeting, Dave Pietruszynski, N.C. Coastal Fed consultant <ul style="list-style-type: none"><li>• Sub-group meetings</li><li>• Work done in the interim (map, consultations, meetings)</li><li>• Break out rooms process and tasks</li></ul> |
| 1:20 p.m. | Break-out Groups <ul style="list-style-type: none"><li>• Review summaries of projects</li><li>• Discuss opportunities and challenges via list</li><li>• Prioritize projects for next steps (coordination, funding)</li></ul>                                |
| 2:10 p.m. | Return to Full Group <ul style="list-style-type: none"><li>• Present project list</li><li>• Identify any outstanding questions</li><li>• Discuss next steps and timing</li></ul>                                                                            |
| 2:25 p.m. | Closing                                                                                                                                                                                                                                                     |

The table below will be used in the breakout groups as a guide for setting priorities and next steps

Project Name Here	Prompt Questions	Feedback from Subgroup
Project Status	Choose one - Idea stage, In planning, Application ready, or Ongoing project	
Fit	Does this project require matching funds from more than one or two partners? Collaboration benefits?	
Schedule	Will this project be application-ready for the 2021-2022 cycle of funding (by October 2021) - design, willing partners and landowners?	
Funding	Choose one - Is this project a candidate for REPI, RCPP, FEMA, or other funding?	
Partners	List stakeholders with interest in directly participating in this project	
Next Step	What is the next major step in this project?	

# Project Name: Lux Farms and Mattamuskeet Ventures



**Description:** For this Hyde County project that was enrolled in the NRCS WRP a team including NCCF planned a phased hydrologic restoration project on over 10,000 acres of prior converted farmland. The projects improve drainage, water quality and habitat by establishing natural draining patterns across the 42,500-acre Mattamuskeet Drainage Association. One component of this restoration is redirecting pumped farm drainage that normally flows directly into Pamlico Sound to absorbent restored wetlands and significantly improves water quality in oyster-growing waters. This monitored prototype project transforms difficult to farm low-lying areas into buffers that receive infiltrate drainage through pumps installed to lift drainage waters into shallow temporary storage impoundments where sloughs, fords, and culverts are used to move water into areas that are now favorable for coastal hardwood stands.

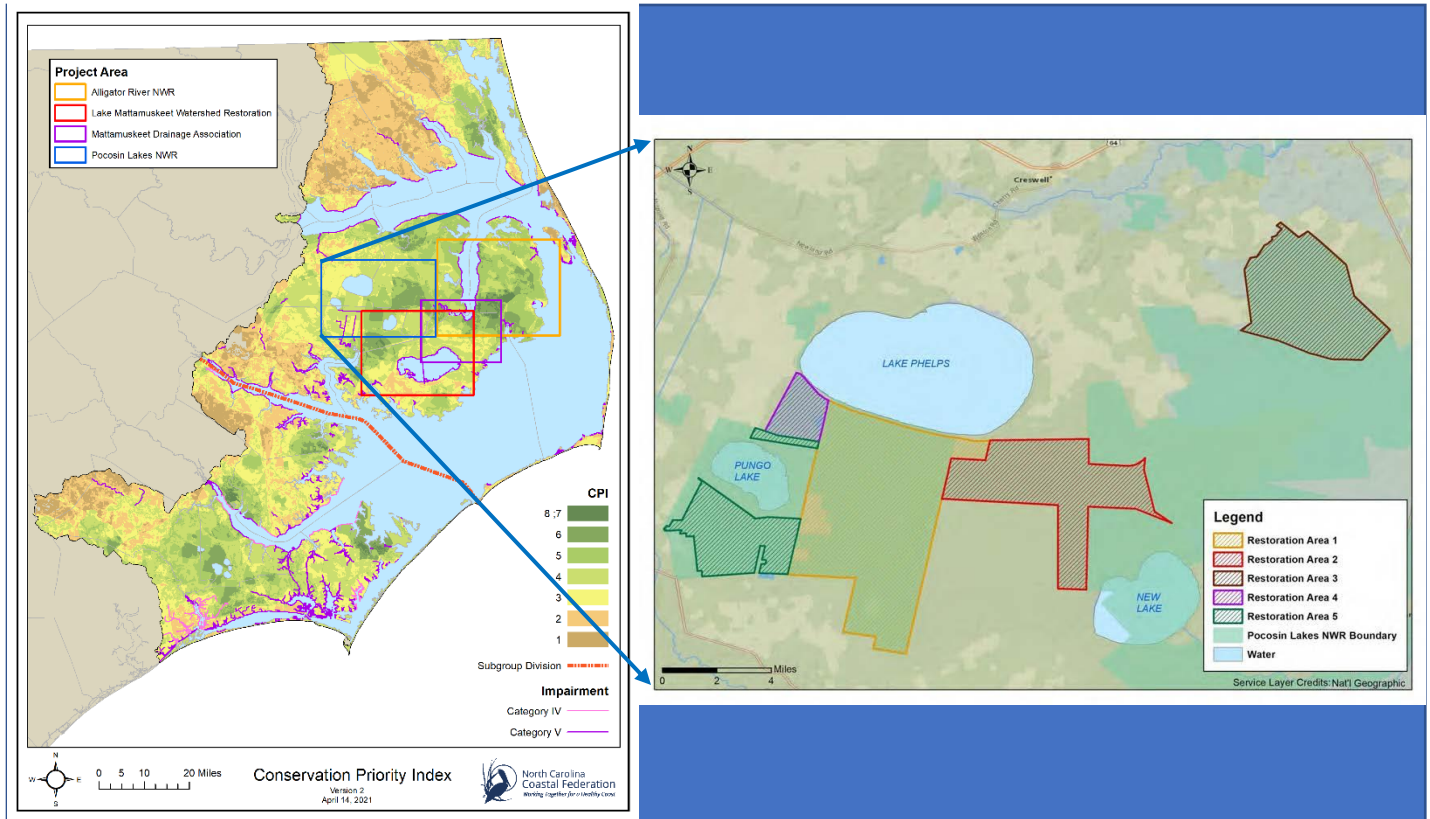
**Area:** Total area of parcels in all phases is more than 10,000 acres.

**Status:** Phase one requires pump installations, and initiate Phase 2 on Lux Farms.

**Opportunities/Challenges:** Landowner participation is key and this waxes at times through ownership change. Costs for monitoring and documenting water quality and habitat impact results in additional costs needed for adaptive management and maintenance. Consider NRCS Conservation Evaluation Assessment Program (CEAP) for monitoring.

**Funding:** Existing funding from NC Land and Water, US FWS, EED (NC AG), and DENR.EPA totals \$1.8 Million. Additional funding needed for next phase: \$250,000 for intensive project monitoring, \$125,000 for completion of Phase I project (pump installations) – EEG proposal by Coastal Fed in process. Phase II project estimate from 2011: \$400,000. Immediate need: \$775,000 long-term implementation and management ongoing costs to be determined.

# Project Name: Pocosin Lakes NWR (Hydrology Restoration)



**Description:** Continuing the effort within the Refuge to restore altered peatlands in areas heavily ditched and drained before establishing the refuge the project targets Restoration Areas 2, 3, and 5. The project aligns with the goals of the 2007 Comprehensive Conservation Plan for conserving wildlife, restoring and protecting habitat with a focus on waterfowl, and sustaining refuge resources by limiting human development. Restoration of natural hydrologic conditions is complex and includes preventing drainage problems on adjacent landowner properties. Work includes construction of risers to control water level, maintenance of levels, and removing ineffective plugs and culverts. In areas where sea level rise makes existing systems ineffective, adaptive management goals changed from rewetting peat to enhancing floodplain connectivity. Landowners adjacent to Restoration Area 5 are willing to explore increased capability and resilience to storms. There is potential for enhancement of wetland and climate resiliency via Atlantic White Cedar reforestation.

**Area:** The total area planned restoration is 4,800 acres.

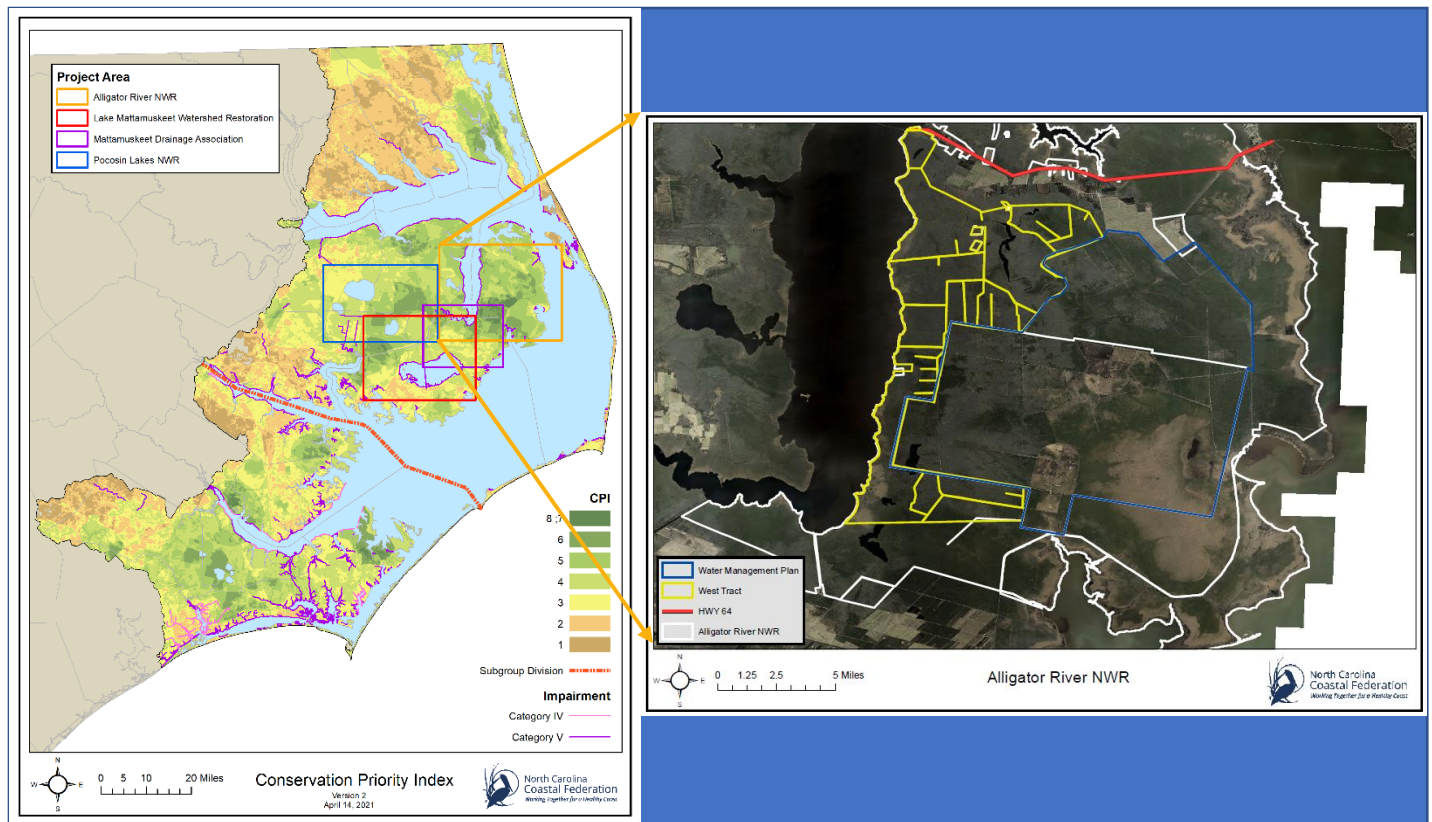
**Status:** 37,000 acres restored to date in the refuge. Additional planned restoration acreage: 4,800 ac. Secure funding, design, and permit the targeted restoration needs for RAs 2&3. RA 5 restoration requires funding for engineering studies, permitting, construction, implementation, and stakeholder engagement/coordination in all areas.

**Opportunities/Challenges:** Rising river levels complicate restoration plans particularly in RA 3. Opportunity is to add to the 86% complete restoration of the altered peatlands within the refuge. Coordination with landowners. APNEP partnered w/ Washington County, Tyrrell County, USFWS, State Parks, SWCD, and others developing water budget/hydrologic study of the region that includes stakeholder engagement – interest in folding this work in.

**Funding:** Significant funding has achieved the nearly 40,000 ac restoration to date (including state and federal contributions). Additional funding needed to complete all on-refuge restoration is TBD.



# Project Name: Capability Planning and Restoration Implementation at Alligator River NWR



**Description:** This project expands the management capability and restoration work completed on 65,536 acres with DOD around the USAF Dare County Bombing Range. Encompassing over 50,000 acres of drained wetlands along the Refuge's eastern and western portions, the new project targets similar goals of facilitating drainage and water retention, maximizing fire prevention, improving firefighting readings, and restoring historical water drainage regimes that benefit wildlife and habitat preservation. With a goal of draining water in a natural sheet flow to Pamlico sound resulting in less nutrients from agricultural operations reaching the Sound, the effort will include hydraulic and hydrology studies, surveying the existing drainage, developing a design, and installing water control structures. On the existing unaltered pocosin land in the eastern portion, protective strategies that slow alteration are needed.

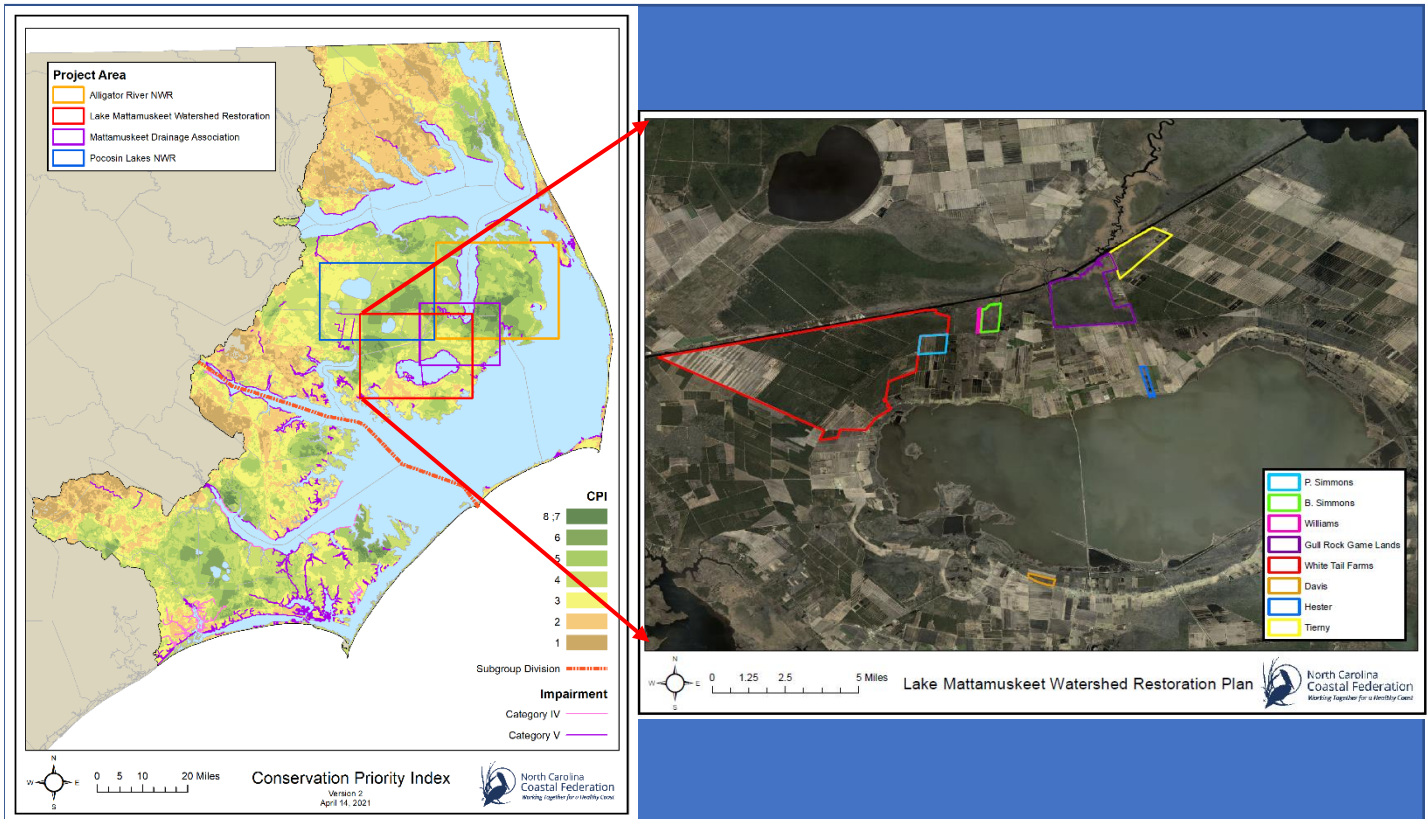
**Area:** The total area planned restoration is more than 50,000 acres.

**Status:** Based on the already completed restoration, apply the knowledge and lessons learned to restore an additional 50,000 acres.

**Opportunities/Challenges:** As an opportunity and a challenge, low elevation with changing river levels, hydroperiod alteration, and saltwater intrusion may make scenario-based modeling being developed by NCSU and Duke University (habitat changes) useful for targeting interventions.

**Funding:** Funds to date include DOD partnership for capability and restoration and Point Peter Road Adaptation and Restoration Implementation Project. Additional funding need TBD for remaining portion of refuge.

# Project Name: Lake Mattamuskeet Watershed Restoration



**Description:** Continuing with the implementation of the Lake Mattamuskeet Watershed Restoration Plan, the partners are improving the lake water quality and clarity by reducing the incoming volume of agricultural drainage. Phase one targets improved water-level management capability and watershed management including - infrastructure improvements, additional outlet evaluation and, and identification of sheet flow sites. Improving lake water quality in turn improves the water quality discharged downstream in Pamlico Sound shellfish habitat. The infrastructure is needed to divert agricultural drainage via sheet flow over existing, restored, or newly created wetlands that absorb nutrients.

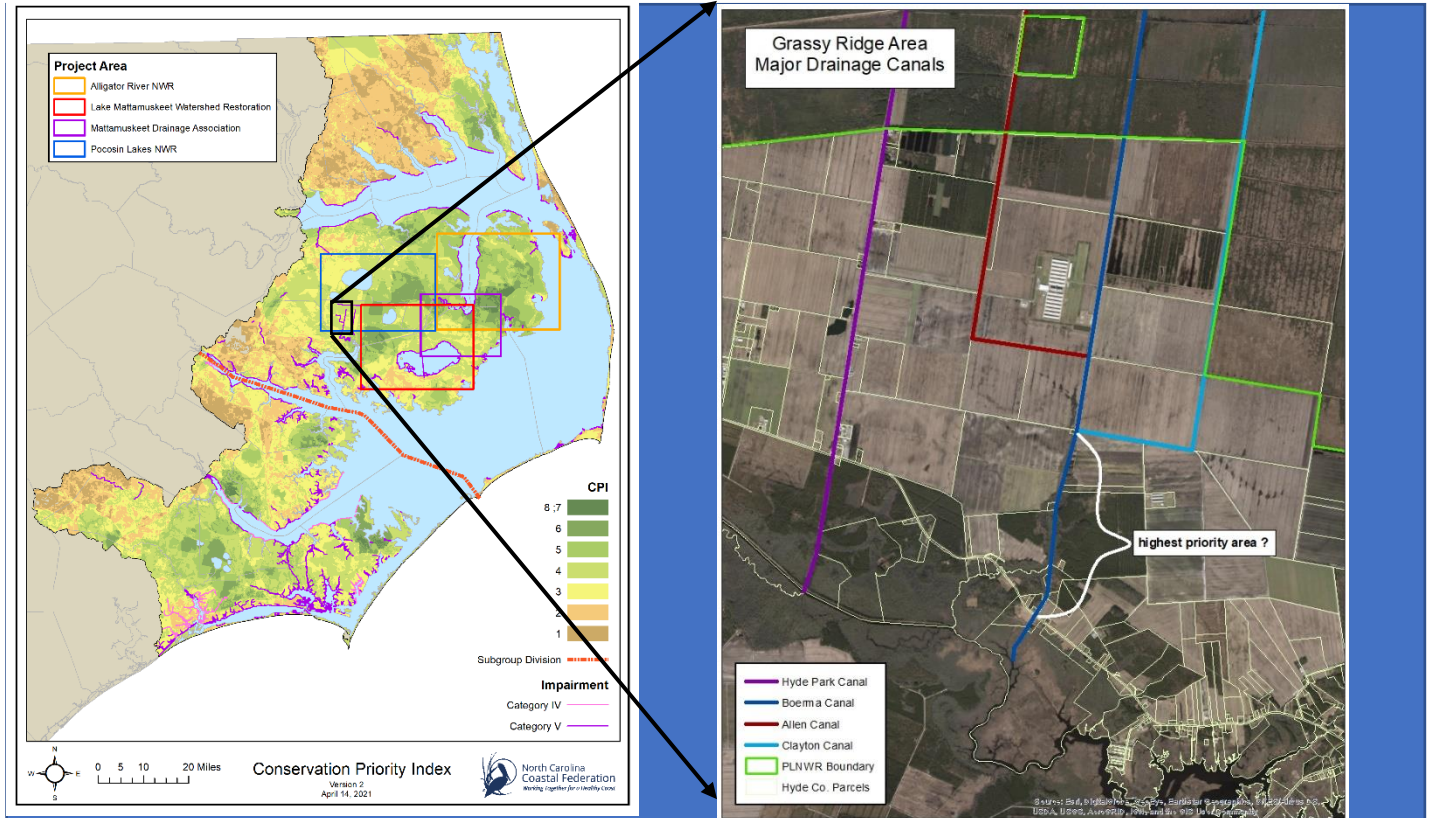
**Area:** The total area planned for the sheetflow sites is 14,518 acres, with an adjacent property that may add 2,422 acres.

**Status:** Engineering analysis and recommendations that can increase the volume of water that can be filtered. Solutions may include pumping water to the sheetflow sites, increasing acreage of sheetflow sites, improving canals in adjacent districts, and adding water control structures that connect districts to the lake's watershed. A 2019 North Carolina Land and Water Fund grant totaling \$159,000 was utilized for this project. The NC General Assembly allocated \$1.8M for adding a pumping station and restoration of which \$50,000 was spent so far on engineering design. Hyde County is requesting an extension to reserve the funds for construction pending final design and permitting.

**Opportunities/Challenges:** Willing landowners exist. Models show existing sheetflow sites have insufficient acreage for water volume. Engineering design required. Too few landowners are responsible for covering costs of watershed management – boundaries and assessment process ongoing. Cost of project will require multiple grant sources.

**Funding:** Funding needed for next phase: \$650,000 for final design and permitting. Additional \$5-\$15M expected for construction. Other potential sources: Office of Recovery and Resiliency, DU, and NSF for planning and monitoring.

# Project Name: Grassy Ridge – Soil Health, Working Peatland Retention via BMPs



**Description:** This demonstration project located north of Hwy 264 and Hwy 99 in Hyde county is adjacent to the Pocosin Lakes National Wildlife Refuge. The project anticipates incentives to enhance existing and install new integrated drainage water management systems and implementing BMPs via cost-share programs and grant programs – potentially a model A-P peninsula wide. The target is agricultural land with “shallower” peat deposits (typically not exceeding 2-4 ft) to reduce the impacts of current free drainage or with aging controlled drainage systems in place. In these areas soil conservation will provide resiliency and climate mitigation benefits. Working cooperatively this demonstration project is underway with a goal to assist the landowners in reducing flooding issues and improving drainage. Activities include-stakeholder engagement, hydrologic modeling to determine how to reduce peak flow rates and enhance resiliency, assessment of possible actions/practices (e.g., two stage canals, easement programs, improved water management practices), and analysis of the economic value to the landowner.

**Area:** The area of the parcels adjacent and indicated as high priority in the project diagram is approximately 8,000 acres.

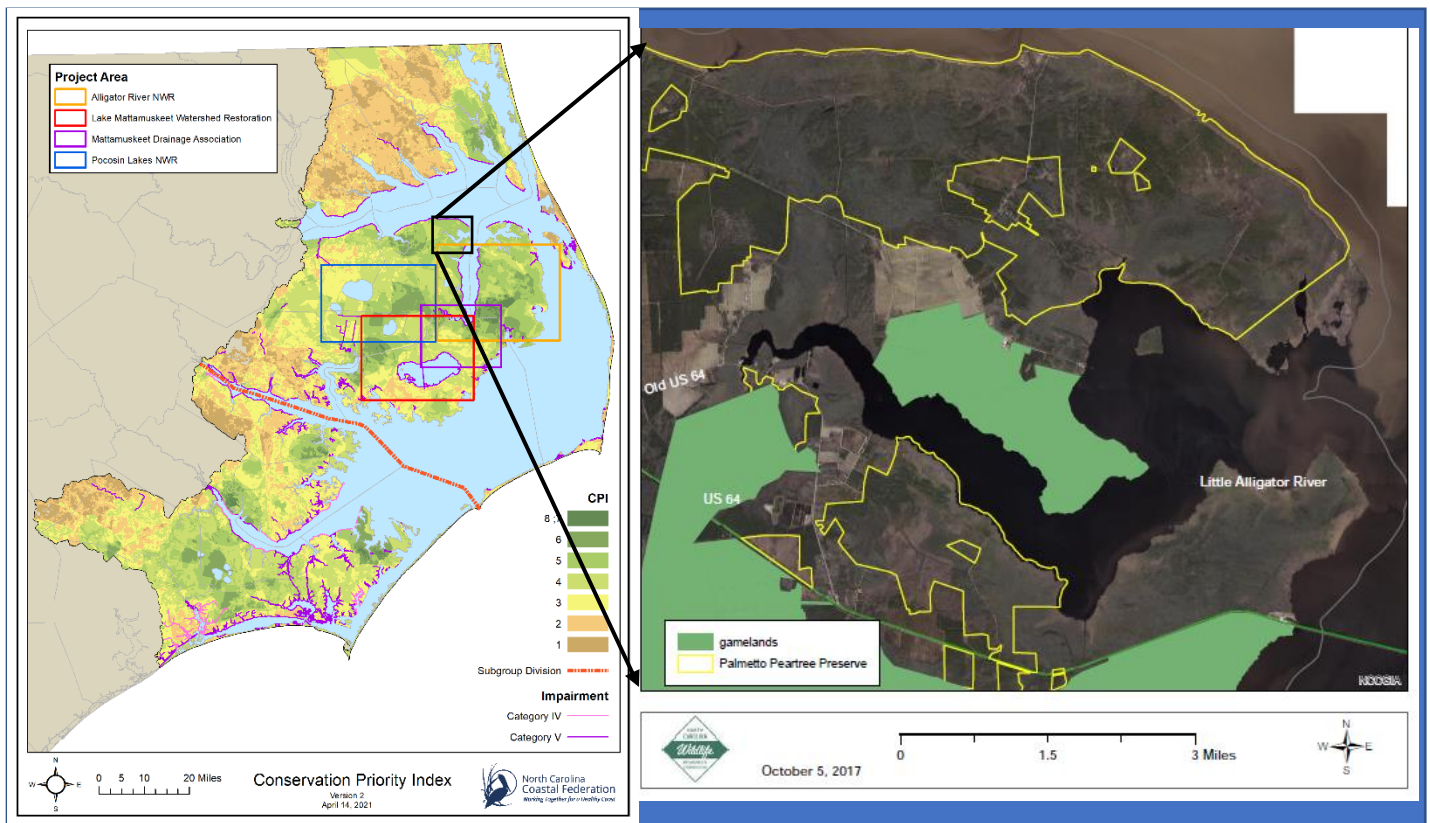
**Status:** FWS Coastal Program has funded a demonstration effort with a preliminary report in September focused on the Grassy Ridge drainage district (Hyde County). After assessing the results of the initial \$35,000 demonstration, a decision on scaling A-P Peninsula-wide will be made.

**Opportunities/Challenges:** Numerous stakeholders and complex drainage networks. Incorporating extreme weather and sea level rise affects. Historic relationships and need for prime farmland income replacement.

**Funding:** Pending results of demonstration project, a multi-million funding need for regional scaling is anticipated. Agricultural economist needed for cost-benefit analysis. RCPP, NEP Coastal Watersheds Grant candidate funding.



# Project Name: Palmetto-Peartree Preserve (P3 Tract)



**Description:** This Preserve in Tyrrell County is facing saltwater intrusion issues that will pose problems for the Red Cockaded Woodpecker (RCW) nesting colonies which require live pine trees for nesting sites. The pines are more susceptible to intrusion than the midstory hardwoods, and much of this area is only 1-2 feet above sea level. The goal of this project may be to slow the pace of intrusion that will allow RCW migration. Further, adjacent properties (Weyerhaeuser property just west) have some higher elevation areas that may be suitable RCW habitat.

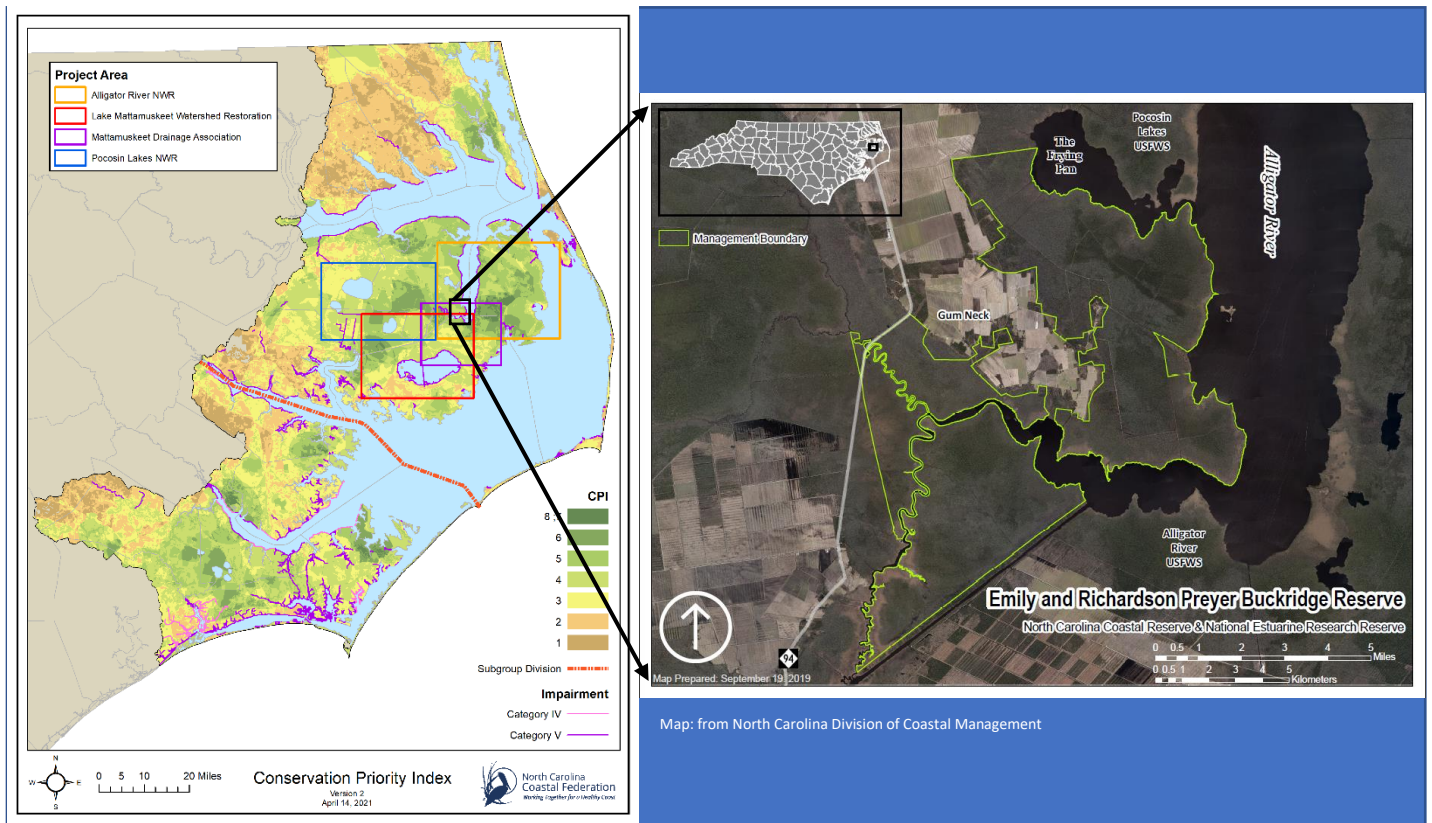
**Area:** The area of P3 tract exceeds 8,000 acres. The affected RCW habitat is a portion of this area. The Weyerhaeuser tract adjoining is 5,000 acres.

**Status:** Next step is likely funding a plan to study the hydrology and determine the best method to slow the pace of intrusion (plugging ditches for example). Also needed is a closer study of adjacent properties with a long-term goal of acquisition if the higher elevations will support pines for RCW habitat.

**Opportunities/Challenges:** The opportunity is for a short-term slowing of saltwater intrusion to protect RCW nesting sites and a long-term migration path opened to adjacent properties. A willing landowner is a challenge, as is a solid plan for slowing the pace of intrusion.

**Funding:** TBD for hydrology study. Tyrrell County tax appraisal shows land value for adjacent 5,000-acre property as \$6 Million.

# Project Name: Buckridge Preserve



**Description:** The Emily & Richardson Preyer Buckridge Coastal Reserve encompasses 29,335 acres in Tyrrell County and is managed by the North Carolina Coastal Reserve. This is deep peatland and WRC leases as game land. Hydrologic studies in the early 2000's found uncontrolled waterflow in the existing canal network built for logging truck access. Max elevation in the reserve is 2 feet and salinity measured in this area is due to the ICW. Surrounding farmland is protected by dikes. Based on hydrologic studies (2007-2012) water control structures that improved control were built – flashboard risers, culverts, and low flow flap gates. This area is susceptible to SLR and saltwater intrusion. Endangered and threatened species exist in this area and slowing the pace of intrusion may provide delay for migration of these species. The existing control system can be improved, and another hydrologic study completed to inform the best path.

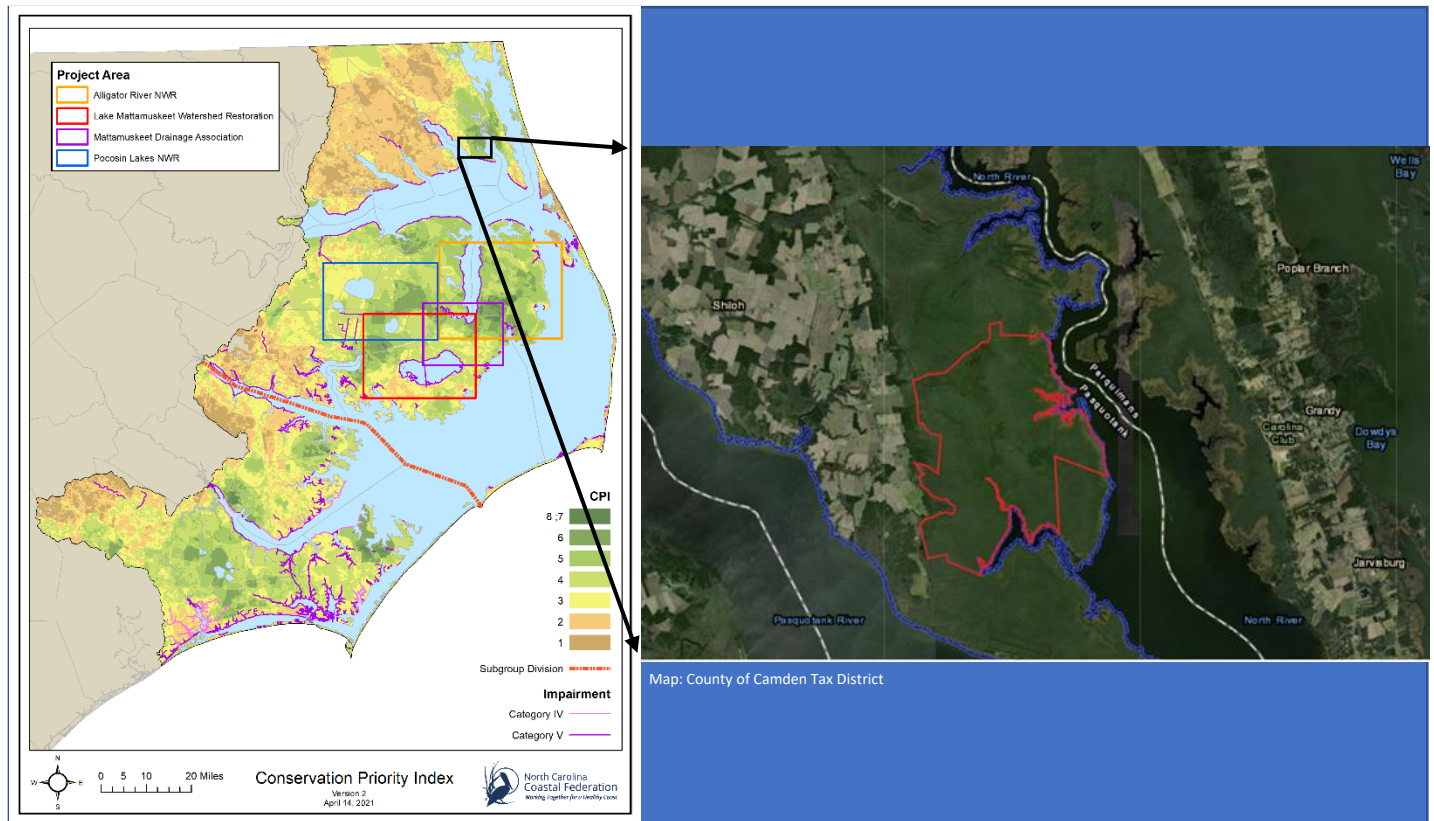
**Area:** The area that would be most affected by the improvements are the northern half of the tract or about 15,000 acres.

**Status:** Hydrology study possible, and modification of existing control structures, removal of alligator weed in targeted areas.

**Opportunities/Challenges:** The opportunity is slowing the pace of saltwater intrusion to protect wildlife and provide more time for migration of threatened or endangered species.

**Funding:** Original funding for control structures was \$300,000 from 2007-2012.

# Project Name: Hubbard-Pinkerton Tract



**Description:** This site was added in conservation in 2020 on the south side of North River Game land as a dedicated nature preserve. The NWI designates this parcel as freshwater forest/shrub wetlands. There are heavy development pressures in Currituck County that will expand into adjacent Camden County, so this area should also be considered during evaluation for wetland restoration sites. There are prior-converted (from wetlands) agricultural fields that could be restored to wetland conditions in the Pasquotank River and Albemarle Sound vicinity surrounding this tract.

**Area:** The parcel shown in red in the map is 6800 acres according to the Camden County appraisal district data.

**Status:** Wetland restoration possibilities.

**Opportunities/Challenges:** Opportunity to restore and slow development that would adversely affect the sound on the western shore of the North River.

**Funding:** TBD