

Goal Implementation



Award Program

Final Report

Project Period March 1, 2018 to June 30, 2020

www.chesapeakebaytrust.org / 410-974-2941

Targeted Outreach to Increase Implementation of Wetland Restoration and Protection on Delmarva

Awardee Information

Organization Name: The Nature Conservancy

Project Leader: Amy Jacobs

Project Title: Agriculture Program Director

Recommendations to Chesapeake Bay Wetland Workgroup and Black Duck Action Team

Our project evaluated the theory that increasing outreach to priority private landowners will increase the acreage of wetlands being enrolled in programs to restore and protect wetlands in targeted locations. A multi-stakeholder advisory team guided the project and provided diverse expertise that resulted in restoration sites that provide multiple benefits for black duck, water quality, and marsh migration. The outcome of targeted outreach during this project was 4 projects enrolled in programs encompassing 194 acres to be restored in priority locations. An additional 6 landowners are interested in restoring 172 acres but did not meet program requirements or were not ready to commit to a program. Targeting outreach improved our success by focusing on areas that were predicted to be marginal cropland and those that would provide the greatest benefit toward our outcomes. Based on this work, we offer the following recommendations to the WWG and Black Duck Action Team:

- Outreach and technical assistance capacity should be increased across the Bay watershed to meet Black Duck and Wetland Restoration goals. Targeted landowner outreach to engage landowners in wetland restoration programs will accelerate progress toward goals.
- Additional resources should be focused on developing new options for landowners interested in restoring wetlands on their property but not willing or able to enroll in existing programs.
- Regional advisory teams should be used to guide targeted outreach and maximize project benefits to achieve multiple objectives.

Background

The Chesapeake Bay Program (CBP) Wetland Workgroup and Black Duck Action Team have both identified the need for increased wetland restoration, enhancement, and protection to meet goals. One of the barriers to increase implementation is effective outreach to private landowners. A landowner survey “Landowner Attitudes toward Wetland Restoration” by Opinion Works surveyed landowners in southern Pennsylvania and Delmarva in 2015 and found 31% of landowners who are currently not participating in a conservation program would be interested in restoring wetlands on their property. However, most governmental agencies have very limited capacity to perform outreach and even less time to learn about all the available programs within and outside of their agency. This capacity limitation results in landowners not understanding the full suite of options that are available, and fewer wetlands being restored and protected.

The new Working Lands for Wildlife/ Black Duck Initiative through NRCS presented an opportunity to evaluate the benefit of targeted outreach to increase wetland restoration that supports American Black Duck as a focal species in the Mid-Atlantic for the Working Lands for Wildlife Program (WLfW) and water quality improvement to restore a healthy Chesapeake Bay.

Project Approach and Methods

The project goal was to increase private landowner enrollment in programs that restore, enhance, and protect wetlands to meet water quality and black duck outcomes. We assembled an advisory group to provide a diversity of expertise to guide the project and achieve this goal (Table 1).

Table 1. Advisory team members for the black duck/ wetland outreach project.

Name	Organization	Role
Mike Dryden	TNC	Landowner outreach
Amy Jacobs	TNC	Project Coordination
Michelle Canick	TNC	Restoration targeting/ GIS
Kathy Boomer	TNC	Restoration targeting/ science
Jake McPherson	DU	Technical support and guidance
Chase Colmorgan	DU	Landowner outreach supporting NRCS Working Lands for Wildlife Black Duck Initiative
Sally Kepfer	NRCS – DE	Training on programs, dedicated funding to black duck projects
Steve Strano	NRCS – MD	Training on programs, dedicated funding to black duck projects
Mitch Hartley	USFWS - ACJV	Link to funding, project management
Aimee Weldon	USFWS - ACJV	Coordination with ACJV
Rich Mason	USFWS - CBFO	Technical support and assisting with conservation designs
Christina Ryder	USFWS - CBFO	Link to funding and other restoration and protection efforts
Brian Jennings	USFWS - CBFO	Technical support and assisting with conservation designs
Erin McLaughlin	MD DNR	Technical support and guidance
Sarah Hildebrand	MD DNR	Technical support and guidance
Justyn Foth	DE DNREC	Technical support and guidance
Donald Webster	MD DNR	Technical support and guidance
Josh Homyack	MD DNR	Technical support and guidance
Jay Davis	DE DNREC	Technical support and guidance

The advisory team identified restoration practice options that are feasible to implement on Delmarva and then evaluated the benefit of each of these practices to meeting the primary outcomes of water quality improvement and increased habitat for non-breeding black ducks. Two additional co-objectives were added, black rail and salt marsh sparrow, species of concern on Delmarva (Table 2). From this evaluation, the team narrowed the project focus to two restoration techniques, emergent wetland restoration in croplands and marsh migration corridors. These two practices support the project outcomes and had significant opportunity to engage landowners that may be willing to participate due to the impacts of sea-level rise and coastal storm events degrading cropland areas.

We prioritized potential restoration sites in our focus area (Figure 1) where there was opportunity to restore wetlands in cropland that is or is likely in the near future to be affected by saltwater. We selected areas that were within 2 – 4ft mean sea-level and in cropland or pasture/hay landcover (Figure 2). We then merged all contiguous areas and selected the patches ≥ 40 acres in size (Figure 3). Finally, we identified the tax parcels from MdProperty View that intersected the 40+ acre patches to develop a priority landowner list.

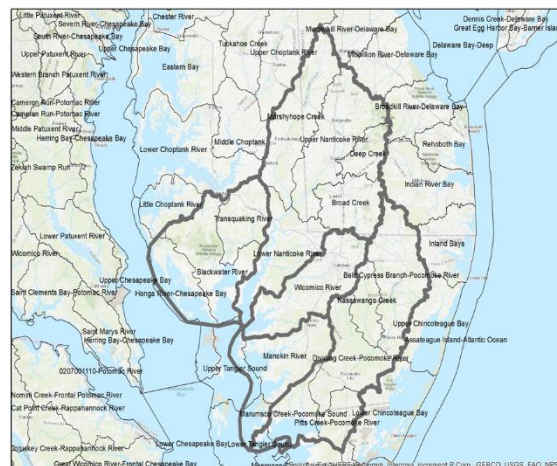


Figure 1. Project focus area on the Delmarva Peninsula

Table 2. Effectiveness of different wetland restoration types to meet project objectives (water quality, black duck, black rail, and salt marsh sparrow). Green = highly effective, yellow=moderately effective, white=no change, blue=unknown

	Water Quality	Non-breeding Black Duck	Black Rail	Salt Marsh Sparrow	Comments
Cropland Emergent Wetland Restoration	H- landscape position, size, retention time with vegetation	M – water depth, 2ft. Or less, management important to keep annual vegetation, hummocks; vary depths throughout	UK, size, shallow emergent veg, precision depth, high invertebrate populations;	None unless in migration corridor	
Tidal Marsh – ditch plugs					Not clear techniques/ benefits to marsh
Tidal Marsh- phrag control	NC -	M – due to longevity of phragmites removal	H/UK - if wide and large enough; landscape position;	H/UK, landscape position, veg type, removal of trees more important	Need continuous funding stream; long-term commitment
Tidal Marsh Migration corridor – protection/ retirement/	H -	M/H – size/ scale important	M/H – long-term benefit	M/H - long-term	Need more discussion of design; benefits for quail
Forested floodplain reconnection	M – landscape position important, addressing upland contributions	H – landscape position important	UK	None	
Headwater forested Wet	M/H – landscape position important	H – standing water in winter, oak/ mixed oak overstory	UK	None	Linking with tidal migration corridors

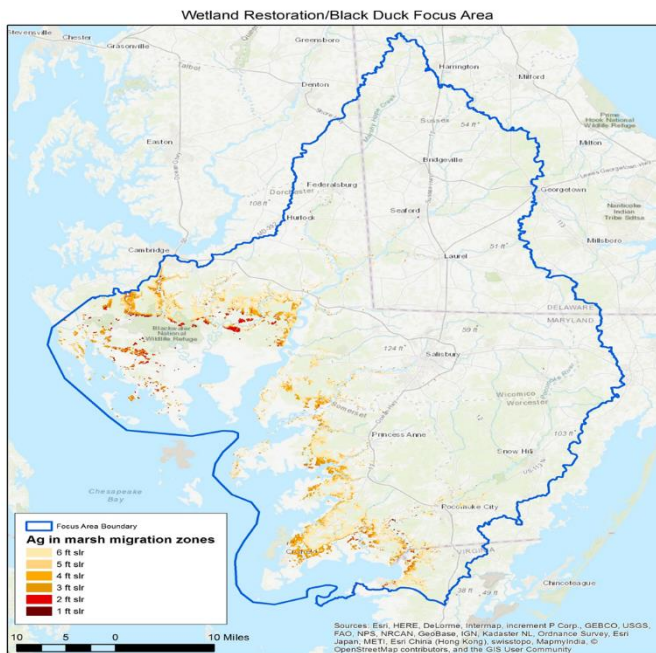


Figure 2. Agriculture lands within 2-6 feet sea level rise projections.



Figure 3. Example illustrating the identification of Priority areas >40 acres intersected with tax parcels.

We conducted outreach to 55 landowners in the Pocomoke Sound, Big and Little Annemessex, Coulbrine Creek, Manokin River, Nanticoke, and Wicomico River watersheds. We mailed a letter with program information to each landowner (Appendix A) and then followed-up with phone calls if information was available. We worked closely with county Soil Conservation District and NRCS staff to locate a contact for each of the priority landowners.

Project Results

Targeted outreach to 55 priority landowners in our focus area resulted in conversations with 19 landowners. Most of the receptive landowners were interested in the opportunity to create waterfowl habitat on their lands as conveyed with our letter and conversations around the Working Lands for Wildlife/ Black Duck opportunity. Many of the landowners were not aware of government program options to restore wetlands on their property.

Of the 19 landowners that we had conversations, 10 had interest in restoring wetlands on their property. Four of these landowners successfully enrolled in the US Department of Agriculture (USDA), Natural Resource Conservation Service, Wetland Reserve Easement Program encompassing 165 acres and one landowner enrolled in the USDA Conservation Reserve Enhancement Program (CREP) encompassing 29 acres. The increased interest in enrolling cropland into WRE as compared to most

applications in this region that have been mostly forested areas was attributed to our targeted outreach to landowners predicted to have marginal cropland.

The additional 6 landowners, were interested in restoring wetlands encompassing 172 acres but did not enroll because of the following reasons:

- Lands not priority for WRE program (*sites not priority for program due to invasive species on or near site*) (3)
- Landowner did not meet income requirement of federal programs (1)
- Landowner did not want to enroll in government program (1)
- Landowner not ready to make commitment in program (1)

Nine landowners that we engaged were not interested in enrolling into a wetland restoration program. The primary reasons for not having interest were that majority of their fields were still in crop production and that taking out a portion of the field was not currently an option, or the landowner didn't see the value of restoring wetlands. Figure 4 depicts the results of our outreach efforts in our two focus areas. Outreach in area 2 was put on hold due to COVID-19.

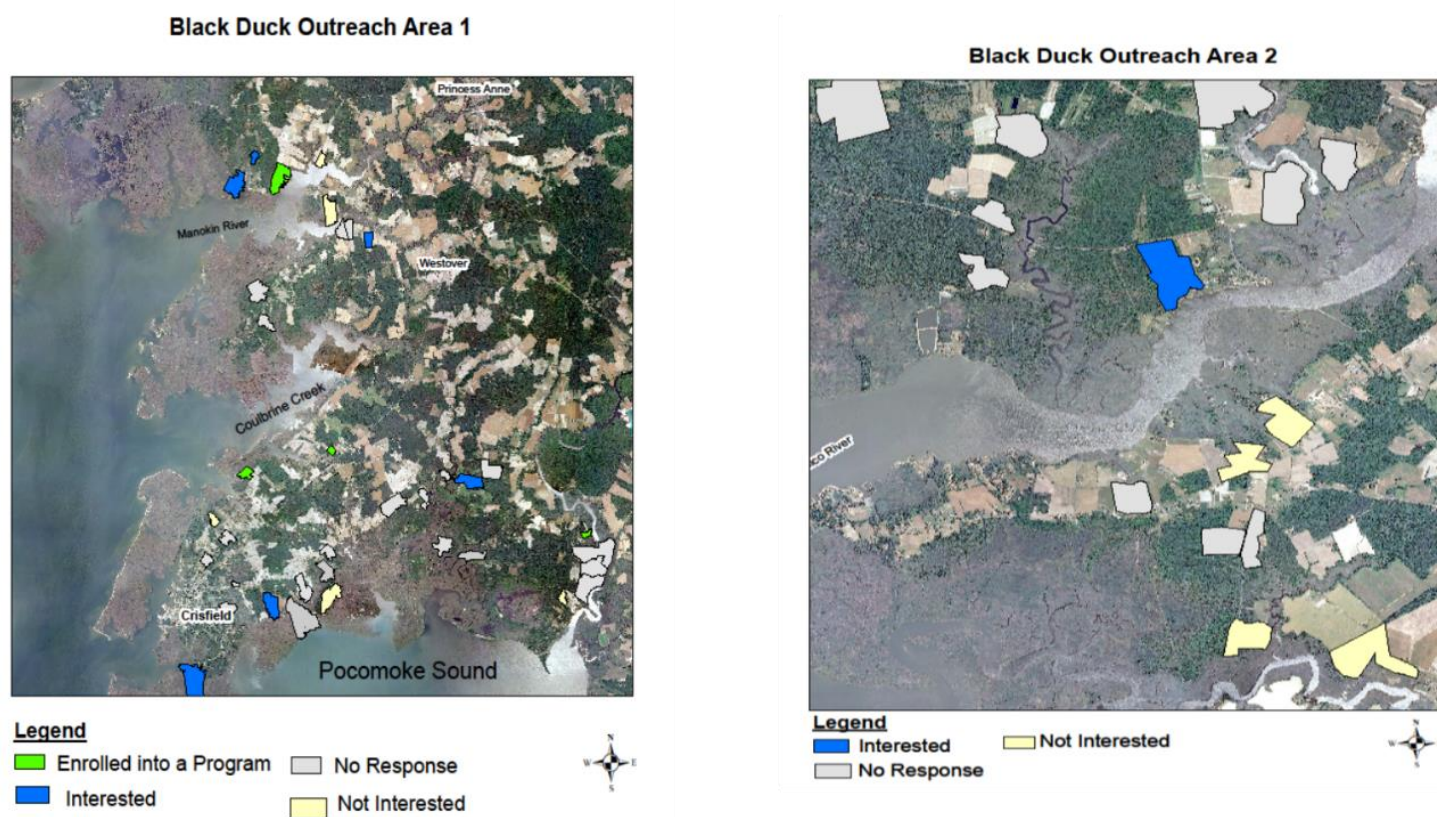


Figure 4. Outreach results to engage landowners in restoring wetlands and waterfowl habitat on Delmarva. Outreach in priority area 2 was put on hold due to COVID-19.

Site Designs for Water Quality, Black Duck Habitat, and Marsh Migration

The advisory team engaged in multiple in-depth discussions about wetland restoration design criteria to enhance water quality improvement, black duck habitat, and future marsh migration. The primary area of concern was around the construction of berms in areas close to the coast that could potentially inhibit future marsh migration. The team reached an agreement that limited the height of the berms and the percent of the project where berms could be constructed within the near marsh zone (an elevation within 4ft of mean sea level) to ensure that a significant part of the project area will serve as a marsh migration corridor. The following criteria were developed by the advisory team and incorporated into the 2019 Maryland NRCS Wetland Design Guide that guides all wetland projects with federal assistance, both financial and technical, which includes projects designed by NRCS, MDA, and the Conservation Districts:

- Limit embankment heights to 1.5 feet. Very small segments may exceed 1.5 feet in draws or where crossing ditches;
- When embankments need to be taller than 1.5 feet, exclude at least 30 percent of the project area within the near marsh zone from the impoundment area. This area shall be contiguous from the lowest elevation within the project area;
- When excavating to provide deeper water, limit the area of excavation to 30 percent of the pool area;
- Use side slopes of 10:1 on both sides of all embankments within the near marsh zone. This will also deter muskrat tunneling.

Once reviewing the proposed restoration plans, each landowner was excited to continue the process and looked forward to seeing the end results. Preliminary designs for enrolled sites are provided in Appendix B.

Time allocation

During our outreach we traveled across Delmarva's lower shore, meeting with 19 landowners. We tracked the time we invested to identify priority areas, perform outreach, meet with landowners, and assist with program applications for each landowner in an Excel spreadsheet (Table 2). Time spent meeting with landowners and performing outreach was the most intensive and included identifying priority landowners, mailing letters, phone conversations, email correspondence, mapping focus areas, describing program options, identifying restoration goals, and discussing restoration practice options. Each landowner is different, and some need more time and conversation than others to decide if they wanted to move forward. Travel and sites visits accounted for 33% of the time and included travel to sites that ranged from 30 minutes to over an hour, walking the property, and discussion about potential project locations. Assistance to enroll in programs accounted for 11% of our effort (Figure 5).

Not every landowner was interested or able to participate in a government program, however, they often supported the project by connecting us with other potential landowner or locations. For example, we visited with one landowner several times and then determined that they were not eligible to enroll into a federal program but were interested in hearing more about practices that they could perform on their own. Additionally, the landowner connected us with another landowner that did enroll into a program. Another landowner who was not interested in enrolling in a government program, but was interested in how to enhance waterfowl habitat on their property, gave us a tour of properties being affected by sea level rise which increased our understanding about the changes occurring on the land and local landowner perspectives which improved our ability to connect and talk to other landowners about these issues. Ultimately, the time spent with willing landowners and non-willing landowners in many cases is comparable.

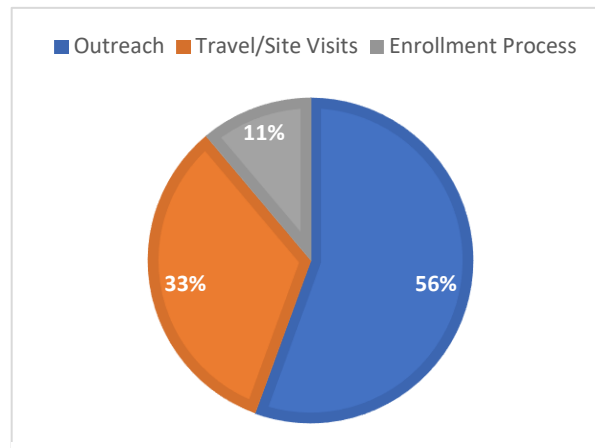


Figure 5. Proportion of restoration specialists time during project.

Table 2. Exert from site track database to document time and results of outreach efforts.

Landowner	# of Contacts Phone/email	# of Site Visits	# of Meetings	Acres	Program	Total Time Investment w/landowners	Program Status	Notes
Landowner 7	7	2	1	36	WRE	15hr	Withdraw	Issues w/ phrag
Landowner 5	4	2	2	76	WRE	30hrs	Withdraw	All owners not in agreement
Site 1	6	2	4	53	WRE	60hrs	Enrolled	
Landowner 6	4	1	2	55	WRE	12hrs	Withdraw	Did not meet AGI requirement
Site 2	12	5	5	30	WRE	55hrs	Enrolled	
Site 4	13	4	3	29	CREP	22hrs	Enrolled	
Site 3	6	2	1	93	WRE	18hrs	Enrolled	

Lessons Learned

The ability to communicate and understand the needs of each landowner is essential when discussing their property. It can be overwhelming to a landowner when describing program options, timelines and construction. Making sure landowner understand all aspects of a program is key to successful enrollment in a restoration program, in particular those with permanent easement and long commitments.

When talking to landowners about programs, some of their reasoning for not wanting to participate varied from not wanting to tie land up permanently through an easement or not wanting to participate in government programs. In the farming community the deciding factor is the lifetime of family farming. Having farmed areas that once were productive and now have slowly declined is a reality that's hard to face. With the landscape being lost to rising sea level, each landowner has the hard decision to look for alternative options.

Having dedicated capacity to perform outreach to landowners is critical to increasing conservation practices on the ground. With many landowners not aware of programs, having someone working in the community to share the benefits of wetlands is the starting point to getting more practices on the ground and meeting restoration goals. An important part of the process is the ability to dedicate time to each landowner. We served as an advocate and resource for the landowners to navigate the process of selecting and enrolling in restoration programs which was particularly important when committing land to an easement or stopping farming in certain agricultural landscapes. Depending on the program, a 2-year commitment with a landowner is needed to instill support and answer concerns. Staying engaged with everyone we meet helps to spread the message of the conservation work we are doing in each area. This community engagement is an effective outreach tool and helps connect us with other landowners.

Additional trained staff in the field focusing on outreach and implementation will lead to more successful programs. This in turn will build the confidence of landowners to participate, while educating the community about habitat and water quality.

Appendix A

Outreach Landowner



The Nature Conservancy of
Maryland/DC
Eastern Shore Office
7324 Cherry Walk Rd.
Hebron, MD. 21830

Mike Dryden
Telephone: (410) 251-5620
www.nature.org

Date

Re: Black Duck Habitat/Salt Intruded Ag. Lands

Dear Landowner,

The Nature Conservancy is currently working with Ducks Unlimited, The US Fish & Wildlife Service, and the USDA to help identify lands that are suffering from saltwater intrusion. We are reaching out to landowners to see if they have any interest in enrolling these lands into a program that will offer a financial incentive per acre and at the same time, help create Black Duck habitat.

Current Wetland Reserve Easement (WRE) incentive amounts/acre:

Cropland - \$5,800/ac.

Woodland - \$1,800/ac.

If you have any questions or are interested in learning about more programs. Please feel free to contact me by phone at 410.251.5620 or by email at mdryden@tnc.org. I look forward to hearing from you.

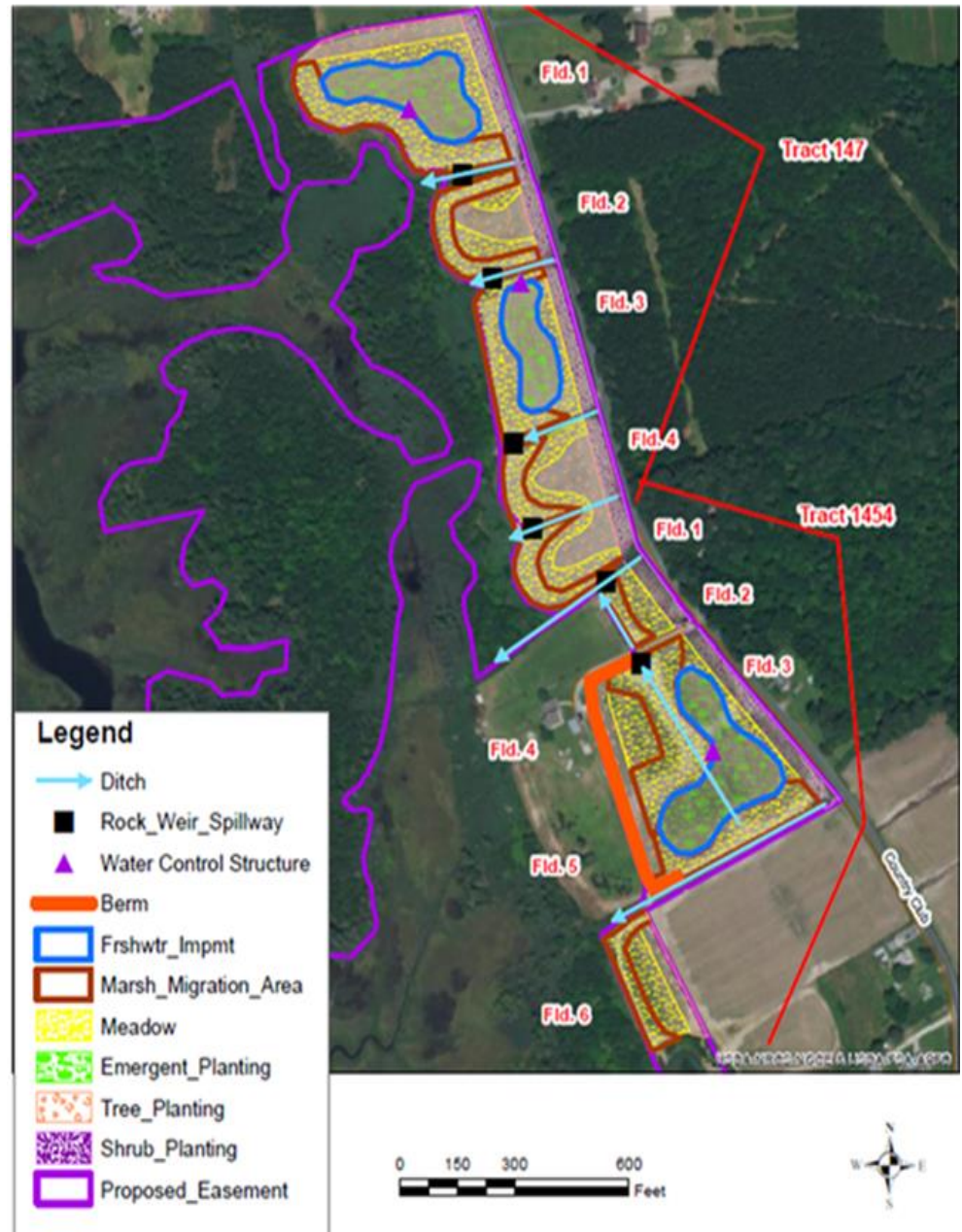
Thanks,
Mike Dryden
Restoration Specialist

Appendix B

Enrolled Sites Preliminary Designs

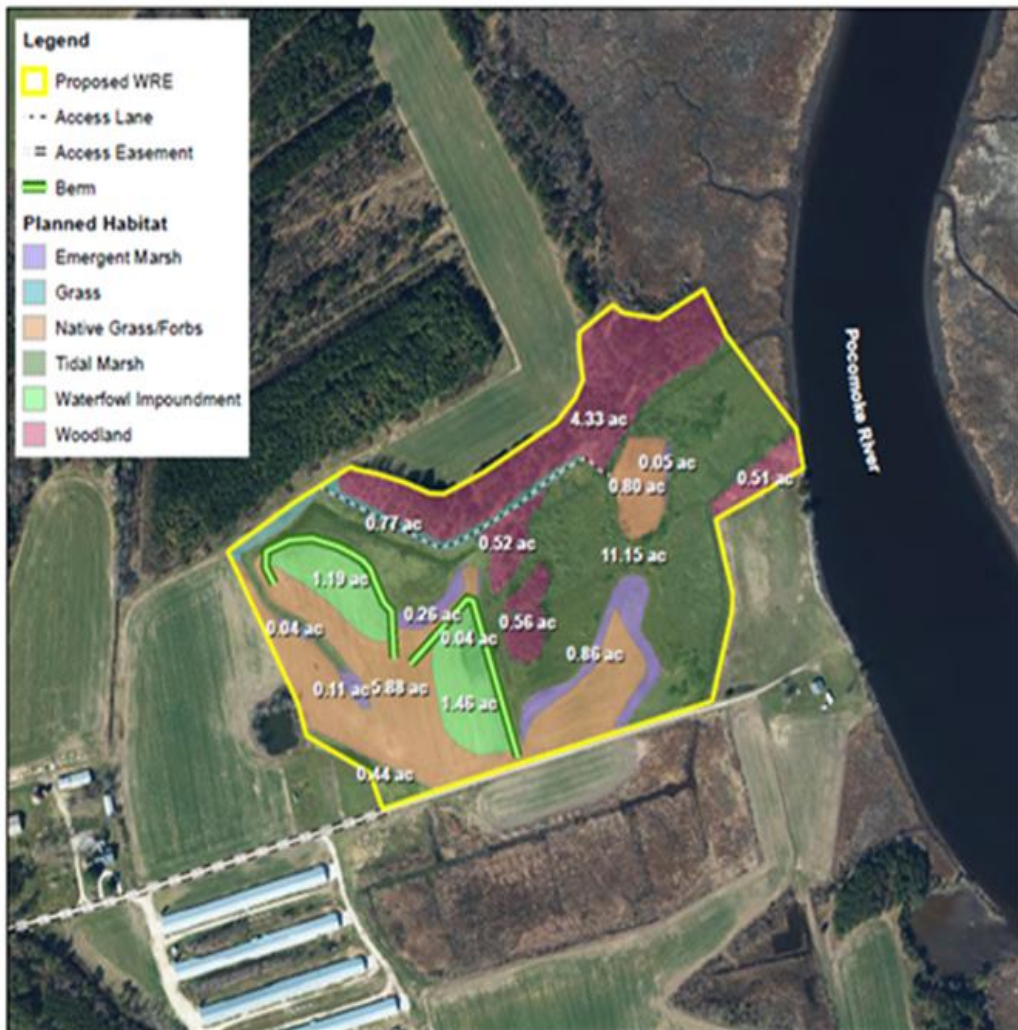
Site 1: Pocomoke Sound, 53 acres

During our first conversation with the landowner, he mentioned how saltwater was causing major damage to the crop fields that are leased to a local farmer. Tidal ditches were inundating the ag fields with saltwater and making the crop fields no longer economical or productive to farm. The landowner was interested in creating shallow water for waterfowl. The project was designed to test several techniques for creating shallow water wetlands and allowing for marsh migration including shallow excavation, low berms, and a control structure.



Site 2: Pocomoke River Watershed, 30 acres

The landowner was concerned about issues that he was having on the property with saltwater. He told us that at one point the entire proposed easement area was once farmed, but due to the tidal ditches, it was no longer possible. His goal was to increase freshwater areas for wildlife. The restoration plan will help to increase shallow water wetlands and allow for marsh migration by constructing a low berm and establishing native grasses for wildlife habitat.



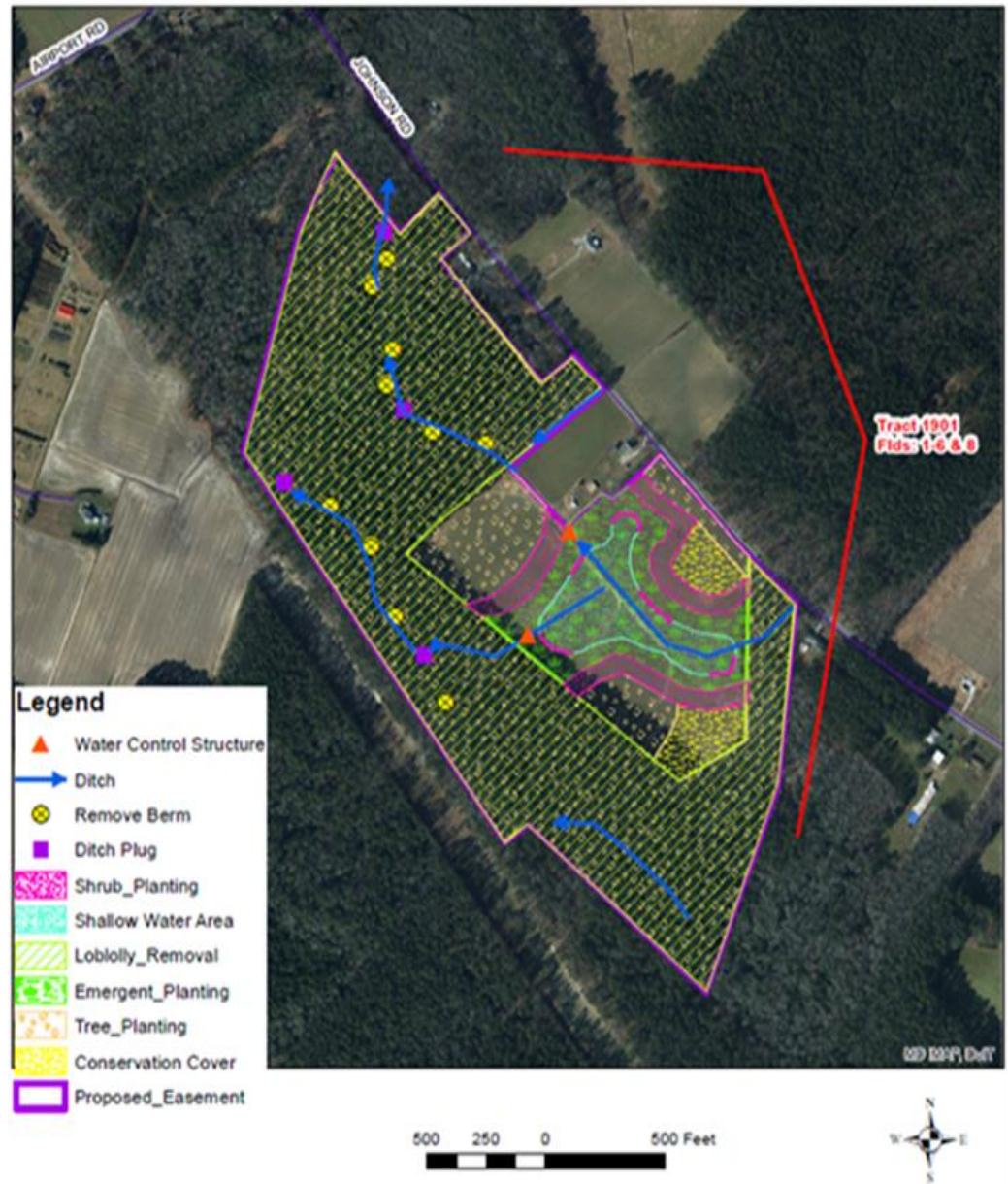
Prepared with assistance from USDA-Natural Resources Conservation Service

Note: Areas shown as "Native Grass/Forbs" are all within 4 feet of sea level, and are planned to naturally convert to tidal marsh over the next 30 to 40 years as sea level rises.



Site 3: Pocomoke River Watershed, 93 acres

The landowner was interested in creating shallow wetlands for waterfowl habitat. The property has a few small patches of phragmites that also need to be controlled. The proposed design includes shallow water wetlands, ditch plugs, and tree/shrub establishment.





Site 4: Coulbrine Creek Watershed, 29 acres

Landowners shared that the property has been in their family for 4 generations and the landscape has changed drastically over the time including the loss of large areas of land to the rising water levels. They were interested in creating shallow freshwater wetlands for wildlife and herbaceous cover for small game. This landowner also identified additional conservation practices on their entire operation that will improve water quality including cover crops and nutrient management.