

# **Delmarva Whole System Conservation Partnership**

## *From Field to Stream*

**Semi-annual Report Submitted to NRCS**

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**The Nature Conservancy**

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**In Collaboration with our Partners:**

- Delaware Soybean Board (DSB)
- Delmarva Poultry Industry (DPI)
- Maryland Grain Producers (MGPA)
- The Fertilizer Institute (TFI)
- Agrium U.S. Inc.
- Growmark FS
- Willard Agri-Service
- Chesapeake Conservancy (CC)
- Ducks Unlimited (DU)
- Eastern Shore Land Conservancy (ESLC)
- Lower Shore Land Trust (LSLT)
- Midshore Riverkeeper Conservancy (MRC)
- National Fish and Wildlife Foundation (NFWF)
- The Conservation Fund (TCF)
- Maryland Association of Soil Conservation Districts (including individual SCDs)
- University of Maryland Center for Environmental Science (UMCES)
- University of Maryland Eastern Shore
- University of Delaware Extension (UDE)
- National Oceanic and Atmospheric Administration (NOAA)
- U.S. Department of Agriculture, Agricultural Resource Service (ARS)
- U.S. Environmental Protection Agency (EPA)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Geological Survey (USGS)
- Delaware Department of Agriculture/ Nutrient Management Commission (DDA)
- Maryland Department of Agriculture (MDA)
- Maryland Department of Natural Resources (DNR)
- Worcester County (MD) Department of Environmental Programs

## Project Summary

The *Delmarva Conservation Partnership* (DCP) is a unique collaboration that brings together conservation organizations, agribusiness, government agencies, and the scientific community to focus on achieving specific outcomes that address significant resource concerns affecting the Chesapeake Bay and agricultural productivity. Led by The Nature Conservancy and the Delaware Maryland Agribusiness Association, this public-private partnership of more than 30 groups is using a science-based approach to:

- target conservation practices where they will achieve the greatest reductions of nutrients and sediment reaching waterways
- increase implementation of conservation practices using innovative delivery mechanisms
- monitor and evaluate outcomes to continually improve effectiveness and efficiency

The partnership is focused on the Delmarva Peninsula, which includes portions of Maryland, Delaware, and Virginia (Figure 1), and is an ecologically and economically significant landscape. Its numerous tributaries and sub-estuaries constitute some of the most important for Chesapeake fisheries, and are a focus for federal and state agency habitat restoration investments, including the largest oyster reef restoration in the world.

Delmarva communities struggle with significant water quality degradation and inadequate fish and wildlife habitat, negative effects that translate downstream to the Chesapeake Bay. The reduction of agricultural pollution from Delmarva figures prominently in the three states' plans for watershed management, because it is a source of high nutrient loading and its location immediately adjacent to the Bay means conservation practices will have a more direct benefit to Bay health. At the same time, the agricultural community is also concerned about nutrients related to crop productivity, the cost of farming, and changing regulations. This partnership brings these groups together to identify which practices, located in the right places, can be incorporated into local farming operations to meet the needs of producers and make critical progress toward water quality and habitat goals in the Chesapeake.

This new partnership will holistically address the resource concerns of degraded water quality and habitat of the Chesapeake Bay watershed by avoiding pollution at the source with in-field practices and trapping pollution downstream before it enters major tributaries. The expected deliverables for the partnership over the next five years are to:

- 700 acres of WRE easements
- 800 acres of wetlands protected or restored through partner efforts
- 30,225 acres of nutrient management and water quality practices through EQIP
- 7,650 acres of nutrient management enhancements through CSP

We estimate that these practices will reduce more than 300,000 pounds of total nitrogen, 10,000 pounds of total phosphorus, and 20,000 pounds of sediment currently delivered to local waterways each year.



**Figure 1 Focus watersheds outlined in blue for the Delmarva Conservation Partnership.**

## Project Accomplishments

As we are entering the final phases of this collaborative project, we have advanced our goals through outreach, enrollment of infield advanced nutrient management practices under NRCS's Environmental Quality Incentive Program (EQIP) and Conservation Stewardship Program (CSP), and enrollment of downstream wetland restoration projects under NRCS's Wetland Reserve Easement Program (WRE). We organized meetings with the Delaware Maryland 4R Alliance in October and a farmer-oriented grower meeting in February attended by 45 farmers and agriculture professionals in Georgetown, DE. We enrolled two farmers in CSP for a five-year commitment to perform enhancements on 1,550 acres in the Nanticoke Watershed, 3 farmers encompassing over 800 acres in EQIP, and 4 landowners for approximately 200 acres in WRE. Once we finalize all enrollments and funding allocations, our next steps are to talk with farmers about their experience implementing these practices, learn about the importance of these programs, and estimate the cumulative water quality benefits of the DCP Partnership.

### Outreach and Education to Producers

Over forty-five participants including farmers, agribusinesses, conservation professionals, and government and university employees attended the **4R Grower Day organized by the Delaware-Maryland 4R Alliance** on Wednesday, February 21, 2018 in collaboration with the Sussex County Soil Conservation District's Soil Health meeting. Participants heard from a variety of expertise including Jen Nelson of ResourceSmart LLC, Dr. Gurpal Toor of the University of Maryland and Dr. Amy Shober of the University of Delaware describing the complexities of using the 4R principles with poultry litter as a nutrient source. Additionally, three farmers, Alan Davis, Bobby Hutchison, and RC Willen described their decades-long management of poultry litter as an important nutrient source on their farms, and the difficulties and benefits of using this alternative nutrient source for soil health and crop cultivation.

The Winter 4R Grower Day was preceded by an important gathering of DE-MD 4R Alliance members in October that sparked a lot of enthusiasm in the group. A charter has been completed that will guide the organization moving forward. Importantly, the Steering Committee is primarily represented by agribusinesses and agriculture organizations with the intention that this will be an ag industry led effort, ensuring long-term success of our collective 4R message and wider adoption of priority practices that the group has identified as having the best opportunity to effect farm profitability and environmental outcomes. We are encouraged by the interest



Figure 2 - February 4R Alliance Grower Day hosts 45 farmers and industry reps for scientific talks and an informative question and answer session with 3 Delmarva farmers

of agri-businesses to participate in the DE-MD 4R Alliance to benefit their business, their farmers, and the environment.

The DM4R also participated in a variety of outreach events that are summarized in the table below. Highlighting just a few, we had outreach booths at the MD Farm Bureau conference in December and the Delaware Ag Week in January where more and 2,000 farmers from Maryland and Delaware participated.

**Table 1. Outreach Activity Summary for the Delmarva Conservation Partnership and Delaware-Maryland 4R Alliance.**

<b>Metric</b>	<b>Progress Apr 2017 - Sept 2017</b>	<b>Total for Project</b>	<b>Comments</b>
Fairs/ shows		12	Delaware Ag Week, local grower meetings
Workshops	1	4	DCP Winter Meeting
Presentations		11	Soil Health Meeting and Agribusiness Grower Meetings
One-to-one Meetings with Agribusinesses and Agribusiness Groups	5	37	Verdesian, Growmark, Depont
<b>Outreach Materials</b>			
Flyers	1	5	Revised existing RCPP Flyer
Website (through DMAA)	1	2	Through DMAA, 4rmidatlantic.com
<b>Media Outlets</b>			
Social media (facebook)	8 new page likes	71 page likes	
People Reached	100	4,995	Includes all events
New Clients not worked with NRCS		5	

#### **Farmer Insights on RCPP Practices**

Building from our productive meeting with RCPP participants prior to the August 2017 field day, we are continuing to conduct follow-up meetings with farmers to gauge the effectiveness of the RCPP program to expand advanced nutrient management practices on the ground. Understanding farmers' willingness to invest in upgrading and making changes in their farm management that positively effective nutrient use efficiency will guide our work moving forward. We have a plan in place to speak to all the remaining RCPP farmers over the summer of 2018. These are the questions that we are focusing on:

1. What practices did you seek to implement?
2. How well aligned has the program been with your goals?
3. What worked with the practice? What didn't work?
4. Were you able to find the technical support that you needed to implement the practice?
5. Will you continue the practice? Will you try something new?
6. Are there any practices that NRCS should consider adding?

#### **Implementation of Practices**

Information on applications, fund obligations, and associated practices were provided by NRCS state offices.

**Environmental Quality Incentive Program** – In FY2018 we enrolled 3 contracts covering 803 acres. To date, we have enrolled over 12,000 acres in EQIP (Table 2). We are currently evaluating the remaining funds for the project to see if we will have any future sign-ups.

**Table 2. EQIP contracts under the DCP RCPP**

Program	County	Watershed	Practice	Obligation	Acres	Implemented
EQIP – 2015	Dorchester	Choptank	590 - Advanced Nutrient Management	\$12,717.00	158.7	Yes
EQIP – 2015	Dorchester	Nanticoke	590 - Advanced Nutrient Management	\$72,390.00	905.4	Yes
EQIP - 2015	Dorchester	Nanticoke	590 - Advanced Nutrient Management	\$23,196.00	241.3	Yes
EQIP - 2016	Talbot	Choptank	333 – Amending Soil Properties with Gypsum	\$6,775.00	246.5	Obligated
EQIP - 2016	Dorchester		590 - Advanced Nutrient Management	\$11,823.00	154.9	Obligated
EQIP - 2016	Dorchester		590 - Advanced Nutrient Management	\$59,118.00	774.4	Obligated
EQIP - 2016	Dorchester		590 - Advanced Nutrient Management	\$42,273.00	553.7	Obligated
EQIP - 2016	Dorchester		590 - Advanced Nutrient Management	\$35,457.00	464.4	Obligated
EQIP - 2016	Dorchester		590 - Advanced Nutrient Management	\$40,251.00	527.3	Obligated
EQIP - 2016	Queen Anne	Choptank	333 – Amending Soil Properties with Gypsum	\$1,989.00	70	Obligated
EQIP - 2016	Dorchester		590 - Advanced Nutrient Management	\$46,824.00	613.5	Obligated
EQIP - 2016	Dorchester		590 - Advanced Nutrient Management	\$45,579.00	600.9	Obligated
EQIP - 2016	Somerset	Pocomoke	590 - Advanced Nutrient Management	\$55,461.00	740	Obligated
EQIP - 2016	Dorchester		590 - Advanced Nutrient Management	\$59,028.00	774.4	Obligated
EQIP - 2016	Kent, DE		590 - Advanced Nutrient Management	\$26,605	327	Obligated
EQIP - 2016	Dorchester		590 - Advanced Nutrient Management	\$42,970.59	567	Obligated
EQIP - 2016	Somerset	Pocomoke	333 – Amending Soil Properties with Gypsum	\$3,168.29	53.1	Obligated
EQIP - 2017	Dorchester		590 - Advanced Nutrient Management	\$12,513.00	247	Obligated

EQIP - 2017	Dorchester		590 - Advanced Nutrient Management	\$20,709.00	360.7	Obligated
EQIP - 2017	Dorchester		590 - Advanced Nutrient Management	\$3,558.00	58.5	Obligated
EQIP - 2017	Wicomico		590 - Advanced Nutrient Management	\$4,056.00	80	Obligated
EQIP - 2017	Dorchester		590 - Advanced Nutrient Management	\$41,406.00	816.7	Obligated
EQIP - 2017	Dorchester		590 - Advanced Nutrient Management	\$46,752.00	772.3	Obligated
EQIP - 2017	Dorchester		590 - Advanced Nutrient Management	\$37,971.00	750.8	Obligated
EQIP - 2017	Wicomico		590 - Advanced Nutrient Management	\$16,590.00	327	Obligated
EQIP - 2017	Somerset		340 - Cover Crop	\$11,500.00	184	Obligated
EQIP - 2018	Dorchester		590 - Advanced Nutrient Management			Obligated
EQIP - 2018	Wicomico		590 - Advanced Nutrient Management			Obligated
EQIP - 2018	Wicomico		590 - Advanced Nutrient Management			Obligated

**Wetland Reserve Easement Program (WRE)** – We facilitated the final applications for WRE/ RCPP in the winter of 2017/2018 for restoration and permanent easements of over 200 acres under the WRE program (Table 3). We also secured an additional 133 acres of restoration through private agreements adjacent to WRE sites. Several of these projects are contributing to a priority project in the Pocomoke River to reconnect floodplains along 14-miles of the channelized river that had been dredged and channelized in the mid-20th century. The project was completed with the collaboration of numerous partners, including the U.S. Department of Agriculture’s (USDA) Natural Resources Conservation Service (NRCS), The Nature Conservancy, Maryland Department of Natural Resources, U.S. Fish and Wildlife Service (USFWS), the U.S. Geological Survey (USGS), the France-Merrick Foundation, and the National Fish and Wildlife Foundation (NFWF), and with the cooperation of local landowners.

**Table 3. WRE offers under the DCP RCPP**

Program	County	Watershed	Practice	Obligation	Acres	Implemented
WRE - 2015	Wicomico	Pocomoke	Permanent Easement	\$166,320	84	No
WRE – 2017	Wicomico	Pocomoke	Permanent Easement	\$48,456	25.2	No
WRE – 2017	Wicomico	Pocomoke	Permanent Easement	\$26,041	13.5	No
WRE-2018	Worcester	Pocomoke	Permanent Easement	TBD	42	No
WRE-2018	Wicomico	Pocomoke	Permanent Easement	TBD	139	No
WRE – 2017	Wicomico	Pocomoke	Permanent Easement	Pending	13	No
WRE-2018	Wicomico	Pocomoke	Permanent Easement	TBD	30	No
WRE-2018	Wicomico	Pocomoke	Permanent Easement	TBD	49	No
WRE-2018	Wicomico	Pocomoke	Permanent Easement	TBD	56	No
WRE-2018	Sussex	Nanticoke	Permanent Easement	TBD	45	No
WRE-2018	Sussex	Nanticoke	Permanent Easement	TBD	44	No
Total					451.7	

**Conservation Stewardship Program (CSP)** – In FY18, we worked with the Dorchester NRCS Office to support the enrollment of 2 projects in the Maryland portion of the Nanticoke watershed totaling approx. 1,550 acres for five years (Table 4).

**Table 4. CSP Contracts under DCP RCPP**

Program	Year	State	Acres	Yearly Allocation	Total Allocation
CSP	2017	DE	216.6	\$6,318	\$31,590
CSP	2017	DE	421.1	\$12,233	\$61,165
CSP	2018	MD	1,100	tbd	
CSP	2018	MD	450	tbd	

**Partner Conservation Efforts** – The Nature Conservancy and our conservation partners have restored and/or protected 101ac. during this project period and 4,252ac. total of wetlands, upland buffers, and other lands in our focus area that have contributed to our goals of clean water and enhanced habitat (Table 5). These accomplishments are due to the dedicated and experienced efforts of Ducks Unlimited, Maryland Department of Agriculture (Conservation Reserve Enhancement Program), Eastern Shore Land Conservancy (in partnership with Maryland Department of Natural Resources Program Open Space), Chesapeake Conservancy, U.S. Fish and Wildlife Service (North American Wetland Conservation Act), and the Maryland Department of Natural Resources (Program Open Space). These organizations successfully work with landowners to educate them on the value of protection and restoration efforts and engage them in programs that benefit everyone in our focus area and beyond.

**Table 5. Acres of wetlands, upland buffers, and other lands protected and restored in the Delmarva Conservation Partnership Focus area through the efforts of DCP partners Ducks Unlimited, Eastern Shore Land Conservancy, Chesapeake Conservancy, U.S. Fish and Wildlife Service, Maryland Department of Natural Resources, Maryland Department of Agriculture, and The Nature Conservancy.**

	Wetlands Restored (ac.)	Wetlands Protected (ac.)	Buffers Restored (ac.)	Buffer Protected (ac.)	Other Protected (ac.)
Oct17 – Mar18	101	0	0	0	0
Total for Project	2,124	562	355	744	467

**Technical Assistance (TA) to Partners for Implementation** - The Nature Conservancy performed multiple farm visits with RCPP participants to discuss the implementation of Advanced Nutrient Management and 4R nutrient stewardship practices.

### Significant Partner Contributions

During this reporting period, DCP partners contributed \$56,620 in significant partner contributions by implementing projects, performing outreach, and advancing monitoring efforts to support the goals of the RCPP project. Our total significant contributions to date is \$9,772,580 (Table 6)



