



Protecting Farmland and Wetlands in West Virginia



NRCS 2007 Conservation Activities

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Helping People Help the Land

These wetlands provide a habitat for several rare species, including the spotted turtle, marsh skullcap, Baltic rush and great bulrush. The wetland is also the water source for Evitts Run and the Altona-Piedmont marsh downstream. West Virginia has limited prime farmland, and the loss of each acre has a profound impact upon the rural economy, rural lifestyle, and farm families. Because of the prime agricultural value of the land, NRCS provided matching funds for the easement to ensure the land will remain in agriculture. The land, used historically as a dairy farm, is now leased to an adjacent landowner for hay production.

The Farm and Ranch Lands Protection Program (FRPP) played a part in permanently protecting farmland and wetlands from development in West Virginia's Chesapeake Bay Watershed. Walter Washington, a direct descendant of George Washington's brother, owns the historic Harewood mansion near Charles Town, WV. The mansion was built in 1770. When development threatened to take over the historic site, Washington signed a conservation easement on 219 acres, including 50 acres of wetlands.



Rain Gardens Improve Water Quality at D.C. Schools

NRCS in Maryland and its District of Columbia (DC) partners are creating rain gardens to improve water quality around schoolyards throughout the city. Rain gardens trap sediment and nutrients and reduce runoff from school parking lots, sidewalks and other paved areas. Rain gardens help prevent these pollutants from reaching water sources that eventually drain into the Chesapeake Bay.

NRCS and the District of Columbia Soil and Water Conservation District employees assist the city with installing and applying other urban conservation practices to reduce pollution such as butterfly gardens, constructed wetlands, tree planning and native plant gardens. NRCS funds some of these practices through its Wildlife Habitat Incentives Program.

Students plant grasses and shrubs at D.C. schools

Improving Water Quality, Wetlands and Wildlife in Pennsylvania

Robert and Kelly Baronner, vegetable growers in Blair County, PA, were looking for an economical and ecological solution to reduce flooding and erosion on their crop fields. Flooding of fields every other year made harvesting vegetables nearly impossible. The fields adjoin the Frankstown Branch of the Juniata River, a warm water fishery in the Chesapeake Bay Watershed.

The Conservation Reserve Enhancement Program (CREP) helped the Baronners meet their objectives, which included creating wildlife habitat for birds and mammals. CREP provides incentive payments to help agricultural producers protect land, decrease erosion, restore wildlife habitat, and safeguard ground and surface water.

NRCS staff worked with the Baronners to develop a conservation plan and to design a wetland restoration project on approximately 24 acres. This project filters nutrients from the

cropfield, prevents sediment from entering into the Chesapeake Bay and provides a place for wildlife. The completed CREP project abounds with wood ducks, geese, red-tailed hawks, osprey, deer, and many other wildlife species.



Before: flooded field After: wetland filters potential runoff

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NRCS provided more than \$76 million in technical and financial assistance to landowners within the Chesapeake Bay Watershed in 2007 to protect water quality, recycle nutrients, preserve open space and improve wildlife habitat.

Conserving Natural Resources in the Chesapeake Bay

NRCS 2007 Conservation Activities

Making A Difference

The Chesapeake Bay Watershed covers nearly 45 million acres in six states and the District of Columbia. With an estimated 170,000 people moving to the area each year, the watershed is growing rapidly. This is straining the Bay's natural resources.

While farmers comprise less than two percent of the population, they control more than half of the land. The Natural Resources Conservation Service (NRCS) helps farmers and other landowners address natural resource concerns on private lands.

Farmers have a vested interest in conserving, enhancing, and protecting the natural resources that are the source of their livelihood. Conservation farmers don't just raise crops and livestock—they also



Todd Henley from King & Queen County, VA, uses no-till and other conservation practices to protect his land along the Chesapeake Bay.

produce clean water, clean air, and habitat for wildlife.

Farmers need expert advice on a wide variety of resource concerns. They also need financial help to make changes in management techniques and to install practices that benefit society as a whole. NRCS works with landowners to

develop conservation plans and to apply conservation practices. This service begins with the Conservation Technical Assistance Program (CTA).

In 2007, technical services for all programs administered by NRCS in the Bay watershed were valued at nearly \$25 million.

FISCAL YEAR 2007 CHESAPEAKE BAY FUNDING—NRCS TECHNICAL ASSISTANCE								
State	Environmental Quality Incentives Program (EQIP)	Wildlife Habitat Incentives Program (WHIP)	Agricultural Management Assistance (AMA)	Conservation Security Program (CSP)	Farm and Ranch Lands Protection Program (FRPP)	Wetlands Reserve Program (WRP)	Conservation Reserve Program (CRP)	Conservation Technical Assistance (CTA)
Delaware	\$ 518,068	\$ 9,398	\$ 11,599	\$ 84,380	\$ 31,416	\$ 45,871	\$ 51,207	\$ 579,250
Maryland*	\$ 1,549,100	\$ 63,689	\$ 357,239	\$ 572,960	\$ 93,918	\$ 31,053	\$ 1,087,740	\$ 3,876,873
New York	\$ 571,602	\$ 31,761	\$ 77,679	\$ 0	\$ 6,966	\$ 82,188	\$ 80,515	\$ 1,037,111
Pennsylvania	\$ 1,896,571	\$ 21,610	\$ 255,149	\$ 89,744	\$ 49,976	\$ 52,125	\$ 1,432,768	\$ 4,659,501
Virginia	\$ 1,627,003	\$ 37,933	\$ 0	\$ 102,433	\$ 21,042	\$ 28,437	\$ 843,500	\$ 4,616,962
West Virginia	\$ 493,869	\$ 75,119	\$ 78,219	\$ 0	\$ 51,310	\$ 0	\$ 49,475	\$ 1,770,339
Totals	\$ 6,656,213	\$ 239,510	\$ 779,885	\$ 849,517	\$ 254,628	\$ 239,674	\$ 3,545,205	\$ 16,540,036

*Note: Maryland numbers include figures for Washington, D.C.



NRCS employee Lacey Gaw (left) reviews conservation plan with landowner Beverly Fowlkes (right).

Improving Water Quality

NRCS provides funding to plan and install conservation practices through a variety of Farm Bill programs. In 2007, Farm Bill funds within the Chesapeake Bay Watershed totaled over \$47.5 million. This figure includes more than \$2 million in Conservation Innovation Grants for public private partnerships to stimulate cutting edge technologies.



FISCAL YEAR 2007 CHESAPEAKE BAY FUNDING—NRCS FINANCIAL ASSISTANCE						
State	EQIP	CIG	WHIP	CSP	FRPP	WRP
Delaware	\$ 1,947,625		\$ 40,861	\$ 981,158	\$ 872,653	\$ 458,710
Maryland*	\$ 5,823,683		\$ 276,909	\$ 6,662,328	\$ 2,608,831	\$ 310,528
New York	\$ 2,148,880		\$ 138,093	\$ 0	\$ 193,501	\$ 821,884
Pennsylvania	\$ 7,129,967		\$ 93,957	\$ 1,043,531	\$ 1,388,231	\$ 521,248
Virginia	\$ 6,116,553		\$ 164,924	\$ 1,191,084	\$ 584,491	\$ 284,372
West Virginia	\$ 1,856,649		\$ 326,605	\$ 0	\$ 1,425,288	\$ 0
Totals	\$ 25,023,357	\$2,100,000	\$ 1,041,349	\$ 9,878,101	\$ 7,072,995	\$ 2,396,742

*Note: Maryland numbers include figures for Washington, D.C.

HIGHLIGHTED CONSERVATION PRACTICES APPLIED IN 2007 IN THE CHESAPEAKE BAY WATERSHED			
Riparian buffers	8,863 acres	Upland wildlife habitat	76,202 acres
Prescribed grazing systems	33,734 acres	No-till cropping systems	114,864 acres
Irrigation water management	6,501 acres	Field borders	323,752 feet
Nutrient management systems	172,512 acres	Contour farming	8,606 acres
Waste storage/manure composting facilities	260	Cover crop	77,907 acres
Streambank, shoreline stabilization	211,295 feet	Waste utilization	17,932 acres
Wetlands created, restored or enhanced	2,046 acres	Pest management	133,021 acres

Farmers in the Chesapeake Bay watershed are showing their commitment to good stewardship by voluntarily participating in conservation programs. These programs improve soil, air, and water quality.

Farmers are doing their part, but it will take everyone's help to achieve a cleaner Bay.

“The landscape of any farm is the owner's portrait of himself.”
-Aldo Leopold

Virginia Farmer Practices High Level of Conservation

Jonathan May has been farming all his life in Virginia's beautiful Shenandoah Valley. He has a diverse operation with purebred Angus cattle and crops raised for livestock feed. He also sells breeding bulls, replacement heifers, and turkeys.

May has worked with the local NRCS office for more than 20 years. It's a two-way relationship where he may call to ask a question, or the NRCS folks might call him about a new

program. May is always looking for new and better ways to manage his resources. He was one of the first producers in his county to build a dry litter storage unit. The dry litter storage containers protect manure from the elements, conserve nutrients and allow him to apply litter at the most appropriate time.

May has fenced his cattle out of the stream and

installed riparian buffers. He says the cows used to like to wallow in the water during the hot summer months. Now he has 5 miles of waterlines and 10 miles of fence protecting the streams. He has also developed a comprehensive nutrient management plan that will help him keep fertilizer and nutrient costs down while protecting the environment.

Mr. May believes in conservation. He says that



Jonathan May on his Virginia farm

“farmers, for the most part, feel that the environment is their livelihood...” and they need to improve and protect it.

Carlton Jones is Delaware's Conservation Star



Mr. & Mrs. Jones on their farm in Seaford, DE

Carlton and Jody Jones have enjoyed working on their 445-acre farm in Sussex County,

Delaware for more than 40 years. During this time, they have grown beans and corn and raised grain-fed poultry. Today, they raise nearly 60 grass-fed Black Angus cattle on their operation which is located in the Chesapeake Bay watershed.

The Joneses maintain an environmentally-friendly operation. They planted their pasture land with organic seed and installed fencing to exclude livestock from waterways. They use the manure produced on the farm to supply necessary nutrients.

NRCS and the Sussex Conservation District helped them develop a conservation plan to address water, soil and air quality, and nutrient management concerns. The plan includes prescribed grazing, forage harvest management, pasture and hay land planting, cover crops and windbreaks.

Pastures are irrigated for maximum forage yields and nutrient uptake. Cool and warm season forages are grazed spring through fall. The cattle are fed excess spring growth during the



Grass-fed beef on the Jones farm

winter months. The Joneses worked with NRCS to install fencing, a watering system, manure storage structures and a dead bird composter.

“Farming is a big enough gamble, and without the NRCS I wouldn't be where I am today,” said Carlton.

Helping Maryland Farmers Reduce Nitrogen in Animal Waste



NRCS, the University of Maryland (UMD) Cooperative Extension and the UMD Center for Environmental Science are

promoting improved precision feed management as a way to reduce costs, protect reproductive health and milk production, and reduce the nutrient content of manure for field application.

According to UMD, only about 25% of the nitrogen and 30% of the phosphorus found in feed is used by the cow to produce milk and meat. The remainder is

excreted in urine and manure. UMD estimates that feeding excess nitrogen has cost the Chesapeake Bay dairy industry about \$18 million a year.

Studies show that farmers working with a nutritionist had a 20% increase in milk production and a 10% decrease in manure nutrient content compared to farmers who balanced their own rations.

NRCS in Maryland offered precision feeding through EQIP and is the first state in the watershed to implement cost-sharing for this program.

By providing more uniform and balanced rations, milk production and economic returns will be improved. At the same time, reducing the potential over-application of manure will help decrease nutrients entering the Chesapeake Bay.

Solar Powered Watering System Saves New York Streams

The Finger Lakes Resource Conservation & Development (RC&D) Council is using a Conservation Innovation Grant from NRCS in New York to demonstrate the use of solar powered livestock watering systems.

Prescribed grazing has proven to be an environmentally sound and economically efficient management system which has helped livestock producers utilize land that is not suitable for intensive

cultivation. Dependable watering facilities are a key component of grazing systems, but in many instances, remote pastures do not have natural water sources. Pumping systems are needed to transport the water to these pastures.

Traditional pumping systems that require the installation of electric transmission lines to run the pumps are often cost prohibitive. This project will

Demonstrate the advantages of using renewable energy to produce electricity for livestock watering systems. The project, in conjunction with the expansion and establishment of prescribed grazing systems, will also reduce livestock farms dependency on petroleum based energy products.

By strategically locating these solar powered watering systems, livestock can be distributed more evenly over

available pasture land. Keeping cattle out of streams will help improve water quality in the Chesapeake Bay watershed.



Solar panel for watering system