



United States Department of Agriculture  
Natural Resources Conservation Service



Rhode Island Conservation Districts

NRCS State Office  
60 Quaker Lane, Suite 40  
Warwick, Rhode Island 02886  
401-828-1300, fax 401-828-0433  
[www.ri.nrcs.usda.gov](http://www.ri.nrcs.usda.gov)

## Executive Summary

Originally established by Congress in 1935 as the Soil Conservation Service (SCS), the Natural Resources Conservation Service (NRCS) has expanded to become a conservation leader for all natural resources, ensuring private lands are conserved, restored, and more resilient to environmental challenges such as climate change.

Seventy percent of the land in the United States is privately owned, making stewardship by private landowners absolutely critical to the health of our Nation's environment.

NRCS works with landowners through conservation planning and assistance designed to benefit the soil, water, air, plants, and animals that result in productive lands and healthy ecosystems.

The following information provides highlights regarding Rhode Island NRCS conservation projects where success is attained through cooperative partnerships with a multitude of organizations who share a common vision regarding the importance of conservation to benefit the environment.

### **NRCS Partnerships:**

The Rhode Island NRCS partners with a multitude of Federal, State, municipal, and local agencies along with several private and nonprofit organizations. Such partnerships are paramount to the success of the organization protecting natural resources throughout Rhode Island and improving the quality of life for all Rhode Islanders. We are constantly striving to develop new partnerships that will help us realize our vision of a Rhode Island where people and the environment are in harmony.

The following list provides examples of the primary partners NRCS collaborates with on conservation projects throughout Rhode Island:

RI Conservation Districts (RICD) including Eastern, Northern, and Southern Districts; RI Resource Conservation and Development Council (RIRC&D); RI Department of Environmental Management (RIDEM); and The Nature Conservancy (TNC).

## Rhode Island NRCS FY 2011 Farm Bill Funding:

NRCS Program	Number of Contracts	Financial Assistance to Producers
Agricultural Management Assistance (AMA)	4	\$54,000
Conservation Stewardship Program (CSP)	3	\$2,000
Environmental Quality Incentives Program (EQIP)	165	\$3,232,000
Farm and Ranch Lands Protection Program (FRPP)	6	\$4,128,000
Wetlands Reserve Program (WRP)	1	\$121,000
Wildlife Habitat Incentives Program (WHIP)	29	\$393,000

*\*Financial Assistance (FA) is provided directly to producers. Conservation Technical Assistance (CTA) funding is used for professional planning and expertise to help carry out conservation activities. Data source: Foundation Financial Information System Status of Funds Report October 2011, revised.*

## Soils:

Rhode Island NRCS completes the first fresh-water subaqueous soil survey!

Rhode Island NRCS is at the forefront of providing soil mapping, interpretive data, bathymetry, and a wide-array of geophysical data for our submerged lands. Our 2010 soil survey data feature the first ever SSURGO certified Coastal Zone Soil Survey that include the subaqueous soil mapping of our coastal lagoons in Washington County. In 2011, as the result of a thesis study by the URI Department of Natural Resources Science, a subaqueous soil survey of six fresh water bodies in RI was initiated. The new 2012 soil data includes the subaqueous soil mapping of Watchaug Pond, Worden Pond, Tuckertown Pond, Bellville Pond, Bowdish Reservoir, and Smith and Sayles Ponds. To complete the mapping, six new soil series were established and over 110 soil pedons were collected and analyzed in the laboratory.



Each pond was mapped by collecting detailed bathymetry and a geo-physical map of the subsurface using ground-penetrating radar and acoustic methods. Work is ongoing to provide soil interpretations for the soil map units for a variety of uses such as invasive species, carbon storage, phosphorus, and the traditional chemical and physical properties of the soil. The plan is to expand the fresh water mapping in future version of the spatial and tabular data. The freshwater soil survey was

unveiled at our work planning conference held in June at which over 75 people attended the conference which shows the level of interest in our soils data. More information is at:

[http://www.ri.nrcs.usda.gov/technical/RI\\_Soil\\_Survey\\_2012.html](http://www.ri.nrcs.usda.gov/technical/RI_Soil_Survey_2012.html)

## **Forestry Success Stories:**

At 1.4 million acres, the Southern New England Heritage Forest (SNCF) covers the region of western Rhode Island, eastern Connecticut, and south-central Massachusetts. It is the largest undeveloped and intact forest along the coast between Washington, DC and Boston. It contains nearly the entire watershed for the City of Providence drinking water supply. It contains three of the most productive and scenic river systems in New England, over 100 lakes and ponds, 15 State forests and parks, 20 State wildlife management areas, over 600 agricultural businesses, and wildlife species that have only recently reappeared from being locally extirpated for generations.

NRCS is working with State and local partners including the RICD to promote NRCS forest stewardship opportunities for private forest landowners in this region. The following are some successes of this initiative:

### **Forest Health and Regeneration:**



The Greene Company owns and manages 2,140 acres of which 1,718 acres are forestland. On April 30, 1942 a forest fire burned 24,510 acres of Rhode Island forestland. The impact of that fire remains apparent today as much of the forest consists of sprout-origin oak in the smaller diameter classes. A few clusters of larger trees can be found. The intensity of the fire also eliminated a large component of eastern white pine. The Greene property is an excellent example of implementation of NRCS practices to improve: forest health and regeneration, upland wildlife habitat, and control invasive species. The picture shows an individual tree and group selection of poor quality oak and red maple to

promote better quality hardwoods and eastern white pine on 45 acres. The landowner also improved conservation performance by installing and adopting additional activities, and improving, maintaining, and managing existing activities on an additional 429 acres of forest land under the NRCS Conservation Stewardship Program (CSP).

### **Mobilizing Private Landowners to Create Early Successional Scrub/Shrub Habitat for Wildlife Habitat - The Rhode Island Coverts Program:**

NRCS, in close cooperation with its partners including RICD, is working to improve the delivery of Farm Bill Programs to private landowners to promote development of early successional habitat necessary for species of greatest conservation need.



Wildlife populations of woodcock, ruffed grouse, wood turtle, pollinators, many species of migratory songbirds, and New England Cottontail are declining because their preferred habitat, early successional habitat or thickets, has been reduced by maturing forests, introduction of invasive plant species, and development.

In 2008, NRCS partnered with RIRC&D to develop and implement the RI Coverts Program with the goal to teach woodland owners how sound forest management practices can increase the diversity and abundance of wildlife by improving wildlife habitat.



#### Highlights:

- NRCS obligated more than \$800,000 in contracts either to individuals who participated in the RI Coverts training or to organizations associated with attendees to benefit wildlife and improvement forest management;
- Through NRCS programs, RI Coverts Cooperators implemented practices on 368 acres to benefit wildlife with an additional 639 acres planned through 2012;
- Financial support from NRCS was an important factor that motivated landowners to manage their forests for wildlife;
- Half of the participants would not have implemented their past forest management activities without financial support from NRCS;
- Almost all planned to request financial support for future activities;

#### **Collaborative Forest Management for Water Quality Protection, Forest Health, Regeneration and Improvement of Upland Wildlife Habitat:**

Stewardship across adjacent properties and landowners can create a variety of forest habitats in a broader scale. Four landowners in northern Rhode Island are working together with NRCS to protect water quality, improve forest health, and improve upland wildlife habitat. Combined, the landowners manage 183 acres which are adjacent to one another.



The properties are located within the Scituate Reservoir watershed which provides clean drinking water to over 60 percent of the total residents in the Providence metropolitan area. All four landowners attended the RI Coverts Training. Upon completion of the training, the landowners embarked on a plan to manage their forests as a group to create a variety of forest habitats that will benefit clean water, forest health, and wildlife. They are implementing their goals and objectives with the help of NRCS and RIRC&D through a variety of conservation practices. To date the landowners have improved 4,134 feet of forest trails, created 13 acres of early successional habitat, and promoted better quality oaks and eastern

white pine through individual tree selection harvesting on 31 acres. Continuing work under the NE/NY Forestry Initiative includes the improvement of over 2,600 feet of forest trails, forest stand improvement on eight acres, and the creation of one additional acre of wildlife habitat.

## **Farm Success Stories:**

### **NRCS practices and EQIP program benefit Breene Hollow Farm**

NRCS and the RICD partnered together to implement conservation practices under NRCS' Environmental Quality Incentives Program (EQIP) at Breene Hollow Farm. Breene Hollow Farm is a 380 acre family run dairy farm which includes 120 cows, corn, hay land, and pasture. Several conservation practices were implemented over the years including a comprehensive nutrient management plan. NRCS funding was used to create a waste storage facility where manure is stored in a new covered storage facility to improve nutrient management and protect drinking water quality. In addition, underground drainage, roof gutters, and downspouts were installed to protect clean water. Benefits include improved water quality, reduced flooding and erosion, increased filtration, and improved soil drainage. Areas near farm buildings are healthier with less mud, mosquitoes, and flies. Water can be collected for irrigation, animal watering or merely diverted to low impact areas. NRCS and RICD also assisted in creating a covered heavy use area with non-eroding floors which reduces erosion, pollution, and ground water contamination and improves water quality. In addition, animals are protected from harsh weather conditions, injuries, and health risks associated with deep mud. NRCS provided financial assistance for the creation of animal trails and walkways made of concrete which improves grazing efficiency, improves animal health, reduces erosion, and protects environmentally sensitive areas.

### **Blackbird Farm: Setting a Higher Standard With Quality, Black Angus Beef Leads to a Thriving Business; NRCS and RICD Assistance Contributes to the Farm's Success**

Blackbird Farm is a livestock operation owned by Kevin and Ann Marie Bouthillette with 80 head of 100 percent registered Black Angus cattle on a 106 acres property in Smithfield, Rhode Island. The farm is a family run business. Blackbird Farm was one of the first livestock farms to sell its meat to the Farm Fresh Market Mobile where chefs were looking for local beef, pork, and chicken. In addition, consumers can still purchase the meat at its own farm stand.



**A Black Angus heifer grazes in the pasture at Blackbird Farm.**

Much of the farm's success is the result of the Bouthillettes' dedication to the proper care of the animals and a successful quest for top Black Angus cows which yield superior quality meat. NRCS also assisted in the farm's success by providing both technical and financial assistance to implement numerous conservation practices under the Environmental Quality Incentives Program (EQIP) to address several natural resource concerns including water quality, animal health, pasture condition, and erosion.

NRCS staff devised a conservation plan which includes rotational grazing of the cattle on various parcels of the farm. This plan provides many benefits where it improves the quality and quantity of feed for the animals, reduces soil

erosion, and reduces soil compaction. As part of the plan, NRCS provided financial assistance for fencing and the design of a water pipeline and watering facilities, (i.e., automatic water feeders), to various pasture site locations.

NRCS also designed and provided financial assistance for a roofed heavy use area and manure storage facility which both include gutters and downspouts. The roofed heavy use area also improves animal health by protecting the cattle from harsh weather conditions such as extreme heat, cold, and wet conditions. The manure storage facility is vital to protect the soil and water from excessive nutrients leaching out of the manure as it accumulates in the heavy use area.

As part of the farm's nutrient management plan, NRCS provided advice on proper fertilization rates and seeding varieties and rates. Other conservation practices implemented include financial assistance and the design of an access road and animal trails and walkways which reduce soil erosion and enhance overall animal health. Currently NRCS continues to work with the Bouthillettes to develop a grazing management plan on 60 acres of newly acquired land.

Blackbird Farm exemplifies another successful partnership with NRCS where conservation of our natural resources such as soil and water combine with a passion for production of high quality meat products which can be enjoyed by local consumers at home and at restaurants throughout Southern New England.

### **Historic Wright's Dairy Farm Benefits From Technical and Financial Assistance Provided by NRCS**

Wright's Dairy Farm is a fifth generation family farm where 10 family members actively run the operation which includes approximately 70 full- and part-time workers. The operation includes a milking parlor, dairy processing plant, bakery, and retail store where over 900 customers visit each day. The farm consists of the main property on 100 acres with 160 Holstein cows which were specifically selected for the quality and quantity of milk they produce. In addition, the family rents 160 acres of additional land to grow corn silage and hay to feed the cows.

NRCS and RICD have a long history working with the Wrights to implement several conservation practices on the farm. Such technical and financial assistance was funded under EQIP. For over 20 years, NRCS and RICD staffs have worked closely with the Wrights to address several natural resource concerns including soil erosion, water quality, plant health, and water quantity.

Among the numerous conservation practices implemented, NRCS provided financial assistance to design and install a waste storage facility which is beneficial when it is difficult to access the fields during wet or cold weather. In addition, NRCS designed and installed a composting facility where the composted manure is used on the farm and also make available to residential homeowners. Other conservation practices implemented include a Highly Erodible Land Conservation Plan for fields that they own and operate and a filter strip and catch basin that address drainage and water quality issues on the property. A comprehensive nutrient management plan was completed for Wright's Dairy Farm in 2004 and is currently being updated to reflect changes made to the operation. Additional NRCS practices planned for the future include addressing waste utilization to increase the amount of compost produced, installing roof runoff structures that divert water from the barns, and building a temporary manure storage area to help with the management of waste from the milking parlor and heifer barn.

Wright's Dairy is a prime example of how a successful partnership with NRCS and RICD promotes conservation of natural resources while creating local, high quality dairy and bakery products which can be enjoyed by local consumers.

## **Protecting Farms Through Conservation Easements**

High land values pressure farmers to sell farm properties for residential, commercial, and industrial development in Rhode Island. From 1980 to 2004, Rhode Island lost 30,000 acres of prime farmland due to development where high land values played an integral role in the conversion to residential and industrial uses. Since 1996, NRCS RI provided approximately \$17 million combined with \$24 million from private entities for a total of \$41 million to work with conservation partners to preserve 40 parcels of almost 2,300 acres of rich farmland. In 2011, NRCS RI funded over \$4.1 million to help purchase development rights on six parcels (290 acres) to keep productive farms in agricultural use to provide food, clean air, clean water, healthy soils, and wildlife habitat.

## **Through Partnerships, NRCS Makes Positive Impact to Improve Water Quality**

### **Aquaculture:**

Through the Farm Bill's EQIP funding, Rhode Island partnered with aquaculture farmers to improve water quality and wildlife habitat in Narragansett Bay and Rhode Island coastal salt ponds. In one project, NRCS collaborated with 13 aquaculture farmers to rear oysters on artificial reefs in the bay and Rhode Island coastal salt ponds. We used the natural filtering qualities of the oysters to filter out harmful nutrients from the water. Each oyster can filter up to 50 gallons of water a day and 30 million oysters were transplanted into protected sites controlled by the producers in just two years.

NRCS Rhode Island also works with aquaculture producers to implement gear cycling. This practice gives aquaculture operators a method to clean their gear on shore rather than directly into the bay or coastal ponds. This practice results in improved water quality. Sixty percent of all aquaculture producers in Rhode Island have worked with NRCS to curb potential oil spills from their operations.

### **Wetland Restoration:**

Restoring wetlands – nature's sponges – is a large part of filtration and improving water quality. NRCS Rhode Island is working with landowners in wetlands like Gooseneck Cove, Aguntaug Swamp, and Jacobs Point Marsh to design and install new channels and water control structures to restore tidal flow into the salt marshes. Restoration of tidal flow reduces the presence of invasive plant species. In addition, the improved hydrology improves water quality, restores critical salt marsh plant communities, protects endangered plant species such as the Atlantic White cedar, and provides wildlife benefits.

### **Fish Passage:**

Among other efforts, NRCS and RICD completed dam removals and installed fish ladders which also help landowners improve wildlife habitat and enhance water quality in the watersheds throughout the State and Narragansett Bay. Since 2006, we obligated more than \$4.5 million in financial assistance to support fish passage in Rhode Island. Such projects support Rhode Island's \$200 million recreational fishing industry by helping to ensure bluefish and striped bass are around for the long term.

### **Riparian Buffers and Comprehensive Nutrient Management Plans:**

In another effort to improve water quality, NRCS and RICD work with more than 60 producers to install riparian buffers on their lands. These buffers improve water quality by filtering out sediments and nutrient run-off before they enter waterways.

Through Comprehensive Nutrient Management Plans, we're curbing run-off from fertilizer and manure applications by providing a plan to assist the producer with the proper application rates of nutrients and animal waste which reduce the inputs of nitrogen and phosphorous into the waterways.

### **Forestry Efforts:**

Lastly, forests protect watersheds and groundwater supplies that provide the bulk of our clean drinking water. More than 55 percent of Rhode Island is forested and 75 percent of Rhode Islanders get their drinking water from reservoirs protected by forests. NRCS works with private landowners to develop forest management plans on 9,000 acres in the state and implement forest stand improvement practices that help improve water quality.

All of the aforementioned efforts exemplify the fact that conservation partnerships are in fact working in concert with agriculture to help clean-up our watersheds and waterways. Producers realize the challenges we face and the importance of coming to a working solution. They are voluntarily stepping up to the plate to be a part of the solution. In the process they're finding that these practices are not only good for the environment but also helping to increase their agricultural yields and profits.