

Rockingham County Conservation District

110 North Road
Brentwood, NH 03833

Phone: 603.679.2790

Fax: 603.679.2860

E-mail: rccd@rockinghamccd.org

Website: www.rockinghamccd.org

Dedicated to the Wise Use of Our Natural Resources.

This document is printed on 100% recycled paper



ROCKINGHAM
COUNTY
CONSERVATION
DISTRICT



Annual Report 2016



Pastureland in Brentwood, NH

The mission of the Rockingham County Conservation District is to conserve and sustain the natural environment for present and future generations by working to make wise land-use decisions.

110 North Road - Brentwood, NH 03833 - 603.679.2790

2017 Board of Supervisors and Staff

Supervisors

- Cynthia Smith, Chair - Greenland
- Robert Goodrich, Supervisor - Stratham
- Joanna Pellerin, Secretary - Exeter
- Richard Lutz, Treasurer- Chester
- Lisa Grashow, Supervisor - Hampton

Associate Supervisors

- Heidi Seaverns, Associate Supervisor - Nottingham

RCCD Regular Staff

- Leonard A. Lord, PhD - District Manager/Ecologist, NH Soil Scientist, NH Wetland Scientist, NH Septic System Designer (Reviewer), NH Pesticide Applicator
- Tracy Degnan - Conservation Specialist
- Diane Knapp - Office Manager
- Vicky Stafford - Assistant District Manager
- Arianna Spear - Conservation Technician

RCCD As-Needed Staff & Contractors

- Michael Cuomo - NH Soil Scientist, NH Wetland Scientist, NH Septic System Designer (Reviewer)
- Gerald Lang, PE - Hydraulic Engineer
- Danna Trustlow - Restoration Hydrologist
- David Detour - Surveyor and AutoCAD Draftsman
- Marc Jacobs - NH Soil Scientist, NH Wetland Scientist, Certified Professional in Erosion and Sediment Control

RCCD SERVICES

- | | | |
|--------------------------------------|-----------------------------------|--|
| • Non-Point Source Pollution Control | • Invasive Species Control | • IPM for Reduced Pesticide Impacts |
| • Ecological Restoration | • Stormwater Management Reviews | • Agricultural Wetland Impact Permits |
| • Sustainable Agriculture | • Septic System Design Reviews | • Soil Potential Index for Current Use Tax |
| • Conservation Easements | • Natural Resource Impact Reviews | • Historic Aerial Photography back to 1943 |
| | • Grant Writing | |

NEW HAMPSHIRE STATUE

TITLE XL

SOIL CONSERVATION AND FARMLAND PRESERVATION Conservation Districts

432:8 Declaration of Policy. – It is hereby declared to be the policy of the state to provide for the establishment of conservation districts under the supervision of a state conservation committee, said districts are to be composed of landowners and land occupiers within the district, who may join together in the interest of the conservation and development of the soil, water, and related natural resources and preventing soil erosion, floodwater and sediment damages. It is the intent of this subdivision to facilitate the joint effort of landowners, land occupiers, and units of government in carrying out measures for the conservation and development of lands within the district, voluntarily and with such assistance as may be available for this purpose from local, state, or federal governmental agencies.

432:11 Duties. – The state conservation committee shall:

IV. Seek the cooperation and assistance of the United States, of this state, and of town and county governments, in the work of such districts, and receive funds from such agencies or from any other source and use such funds to carry out the purposes of the state conservation committee and the conservation districts.

Looking Ahead to 2017

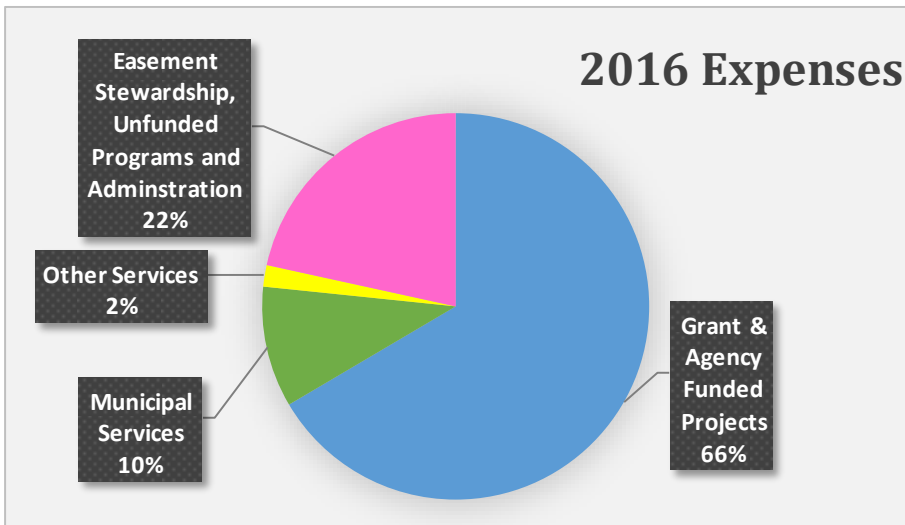
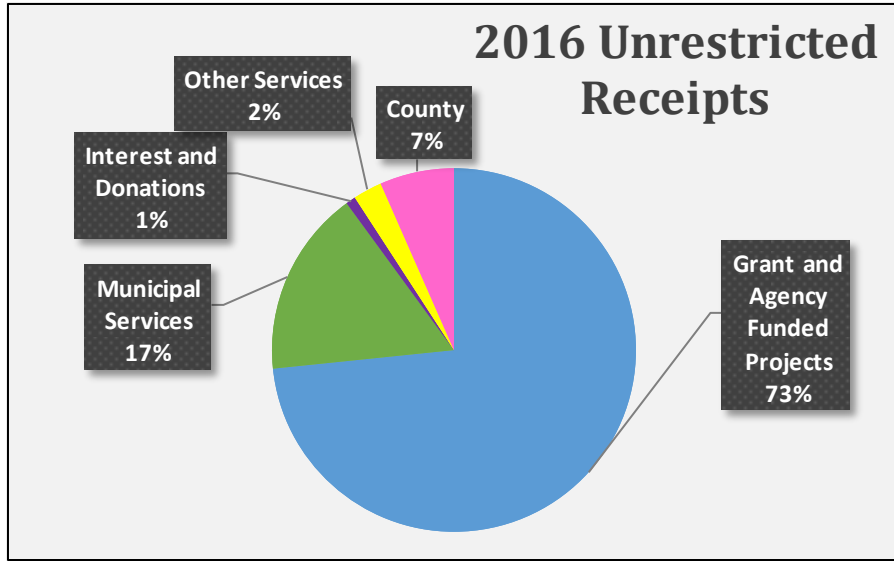
The RCCD uses County funding to leverage grants and to fill gaps not covered by other sources.

As we move into 2017, the RCCD is scheduled to begin work on a number of federal contracts and grants that allow us to provide services and programs that we otherwise could not. This includes a new five year contract with the USDA Natural Resources Conservation Service. The funding we get from the County appropriation is critically important to helping us obtain these grants and contracts by supporting grant writing and assisting with small levels of matching funds. The County funding also assists with helping provide limited services where there are needs not funded by the grants. The new administration has signaled that funding for environmental programs will be reduced significantly or eliminated entirely. Without these federal sources, our ability to provide programs and services would be drastically reduced. To meet that challenge, we are looking to increase our grant writing efforts focused on non-federal grants, as well as increasing the fee-based services we offer to municipalities.

Obtaining federal grants to support local conservation is likely to become more difficult.

All programs are offered on a non-discriminatory basis without regard to race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity.

Financials



Over the past few years RCCD has made a number of strides to reduce costs and increase revenues to help offset the 50% county funding cut in 2011. To this end we have aggressively pursued grant and outside agency funded projects, as well as fee-for-service projects, raised our fee-for-service rates, and reduced our office hours.

A Look Back and A Look Forward

Landowners work with conservation districts on a voluntary basis REDUCING THE NEED FOR REGULATIONS to address environmental problems.

The Rockingham County Conservation District (RCCD) was established in 1946 as one of approximately 3,000 conservation districts created nationwide in the mid-1940's. These organizations were established to help combat the

devastating soil erosion and sedimentation occurring around the country at the time. Some of what we do today is similar to what was done in the early days of the RCCD. In the original 1946 work plan, one of the top priorities of the District was making equipment available to farmers. In those days, however, it was heavy equipment for clearing pastures and draining wetlands. Things have changed. We are no longer in the business of draining wetlands! Today, making equipment available to farmers is still a priority; however, the specialized agricultural implements that we are renting allow farmers to work on improving soil health and to steward the land in environmentally sustainable ways.

In 2016, the RCCD updated its long range plan. Instead of clearing pastures and draining wetlands, our priorities now include reducing non-point pollution in surface waters, promoting soil health, restoring wetlands and other important habitats, and mitigating impacts of climate change. Since we are primarily grant funded, one of our greatest challenges is balancing environmental priorities with funding opportunities. The RCCD will continue to explore new ways to work with farmers, timber owners, conservation groups, municipalities, and others to help foster stewardship of our soil, water, and natural resources.

For every dollar provided by the County in 2016, RCCD leveraged \$14.17 from other sources.



The RCCD Board of Supervisors appreciates the past support of our programs by the Rockingham County Commissioners and the County Delegation.



Conservation Farming Equipment



Do you need equipment to help improve your soil health, but find that equipment is too expensive to buy for your farm? The Conservation Districts can help! With funding from the New Hampshire State Conservation Committee Moose Plate Program and the NRCS funded New Hampshire Association of Conservation District's Demonstration Projects, the Strafford and Rockingham County Conservation Districts have purchased four pieces of equipment. Need to change the pH of your soil to increase legume growth and availability of nutrients to plants? Rent the District's lime/woodash spreader for a nominal maintenance fee. Do your soils have too much compaction? Use the Soil Aerator we have available. Want to try seeding with no-till or rejuvenating a hay field? Try the new No-till Drill. Do your fields have deep hardpans from decades of plowing? Rent the Yeoman's plow to improve water infiltration and reduce runoff.

Learning more about the Farms in Rockingham County

In 2016, RCCD began developing a comprehensive database of agricultural land use in the county. A documented account of agricultural land use is needed for the RCCD to gain a better understanding of who the producers are, what produce is being grown, and what kinds of practices are dominating the landscape in Rockingham County. Through grant funding, the RCCD has recorded over 200 agricultural properties using Geographic Information Systems analysis and publically available land data. Although many potential farms have been documented, data collection is still in the preliminary stages. The RCCD is currently seeking additional grant funding to complete the database. RCCD plans to follow-up with field surveys, mailings, and other outreach activities to ensure the most accurate data. The goal of the database is for RCCD to be able to provide targeted outreach, demonstration projects, and programs that will help producers with conservation options and agricultural production.



Natural Resources Conservation Service Partnering



RCCD continues to partner with NRCS to identify and address natural resource concerns in local communities and to coordinate public and private resources to meet local needs on a grassroots level. The District worked with NRCS during 2016 to provide assistance to landowners and producers to carry out environmentally sound practices that benefit all residents of the County under the 2014 Farm Bill.

The USDA Natural Resources Conservation Service provides technical and financial assistance to farmers, ranchers, and forest landowners to voluntarily put



conservation on the ground. This helps them to implement practices which improve environmental and agricultural quality.

NRCS/ESA Staff: Epping, NH Field Office

NRCS Contracts and Agreements in Rockingham County in 2016

Type of Assistance	# of Contracts	Amount	Conservation Program
Financial	16	\$222,005	Environmental Quality Incentive Program

Locally Led Voluntary Conservation

Conservation Districts are in a unique position to provide guidance on local conservation needs and priorities to our federal partners at the NRCS. Every year RCCD convenes related conservation agencies, forming a Local Work Group. RCCD is proud to be the local voice for conservation priorities and looks forward to the 2017 local work group meeting.

District led Local Work Groups establish spending priorities for NRCS that are based on local concerns.

The Natural Resources Conservation Service is a core partner of the Rockingham County Conservation District. The partnership between the NRCS and Conservation Districts is one that was carefully designed to foster a unique and productive relationship to get conservation implemented on a VOLUNTARY BASIS and to provide federal resources at a local level.

Other District Programs

Land for Water Quality and Farmland and Open Space Protection

Conservation easements permanently preserve open space, protect communities from higher taxes, help keep government and government services small, protect town character and aesthetics, and protect natural resources for future generations. RCCD is legally responsible for monitoring 103 conservation easements on approximately 4,600 acres of land throughout the county. As part of our new business model, RCCD has greatly reduced the number of new easements it is now able to accept due to our limited staff. RCCD staff spent 546 hours managing easements in 2016.



Wetland Restoration Partnering

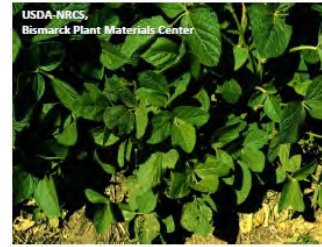
In 2016 RCCD continued to manage over 40 wetland restoration projects valued at almost one-half million dollars, through a cooperative agreement with the Natural Resources Conservation Services Wetland Reserve Program (WRP). This program gives landowners the ability to permanently protect land while improving wetland habitat for wildlife, water quality, flood storage, groundwater recharge, open space, aesthetic values and environmental education. The restoration projects involve site evaluations, selection of contractors, permit



preparation, and implementation management. A significant portion of the projects under this agreement have been completed in 2015 and 2016. Several stream restoration and forest regeneration enhancement projects have taken place on WRP easements in 2016 and RCCD will continue to work on these projects into 2017. A new agreement with NRCS will likely be forthcoming for new NRCS Wetland Reserve Easement (WRE) projects approved under the 2014 Farm Bill.



We've Got Soil Covered!



In 2016, Northeast SARE (Sustainable Agriculture Research and Education organization) asked all of the northeast states to create a team of farmers and representatives from the NRCS, Conservation Districts and the UNH cooperative extension to learn more about cover crops and to better assist farmers in integrating cover crops into their farm plan. One member of the RCCD staff is a part the

New Hampshire team and attended the regional cover crop training in Baltimore, MD in March 2016.

With SARE funding, the NH team is setting up on-the-ground demonstrations, success story videos, and cover cropping forums. Contact the District to learn more about these resources and forums. We can help you discover which cover crops are right for your farm and how to best implement these practices.

Cover Cropping can be an effective strategy for famers to increase the organic matter in their soil, increase nutrient availability to cash crops, loosen compaction, and reduce soil erosion loss.

Reducing Pesticide Use and Impacts

IPM plans consider human health risks, soil-pesticide interactions, impacts to sensitive areas, and alternative ways to mitigate pesticide impacts.

Rockingham County has seen a tremendous increase in local farming over the last decade. This has provided local jobs, high quality local farm products, increased local food security, and is an income producing alternative to development that helps preserve the rural character of our county. With the rise in local agriculture, pesticide use has also increased.

Integrated pest management (IPM) takes a common sense approach to pest control by considering pest life cycles, economic impact thresholds, pest monitoring, and targeted chemical and mechanical approaches that are appropriate for the discovered threat. The RCCD provides Integrated Pest Management Plans for farmers to utilize on their farms.



Nutrient Management on Farms

Since 2012, RCCD has been building partnerships with the goal of addressing non-point source nitrogen and other pollutants from entering Great Bay. This journey began by making specialty farm equipment available to farmers with the Strafford County Conservation District as a part of the Great Bay Nutrient Management Initiative. This gave famers the ability to improve their soil health, and therefore better utilize nutrients and minimize runoff without purchasing expensive equipment on their own. This initiative grew by partnering with the



A local dairy farm participating in nutrient management planning

Natural Resources Conservation Service (NRCS) to train District Staff in Nutrient Management Planning (NMP). These plans are custom made for each participating farm, helping them better utilize their nutrients with the goal to improve productivity and avoid excess nutrient runoff. This opportunity was funded through the New Hampshire Department of Environmental Services (DES). The lack of an NMP can be a barrier for farmer access to financial

assistance cost sharing from the NRCS for nutrient management practices. Three District staff in the Great Bay Watershed are now certified Nutrient Management Planners. Meanwhile, the districts also expanding this initiative with The Nature Conservancy (TNC), funded through the NRCS Regional Conservation Partnership Program (RCPP). This project is a three part program aimed to improve water quality in the Great Bay. This includes oyster restoration, funding for NRCS conservation practices specific to the Great Bay, and a conservation easement on a high priority farm in the Great Bay Watershed. Through this program, the Districts have



District held nutrient management workshop in December 2016

assisted five farms with NRCS funding and created written nutrient management plans. This project also included a District held workshop discussing silvopasture, grazing, nutrient management, and the opportunity for farmers to develop nutrient management plans. This workshop was well attended and RCCD is excited to continue working with farmers on this topic.



Rye Permanently Protects Critical Natural Resources

RCCD assisted the Town of Rye's Conservation Commission (RCC) in permanently conserving open space and protecting watersheds and wetlands. In 2014, RCCD assisted the Commission with public relations in putting forth a warrant article to support critical land protection, and as a result the town passed a \$3,000,000 open space bond. The request to further protect important lands in Rye resulted in the purchase and easement placed on 73 acres of land that is now permanently protected. The land, known as the Rand Lumber parcel, was permanently protected with the assistance of the NRCS through the Wetlands Reserve Easement (WRE) program and through the NH Department of Environmental Service, Aquatic Resource Mitigation (NH DES, ARM) program. As the easement holder on the parcel, the NRCS will assist with management recommendations and restoration efforts that will result in best management practices to protect habitat and water resources for important wetlands, terrestrial species, and the critical flora and fauna found within the Berry's Brook Watershed. This protection effort results in over 150+/- acres of conserved lands, considerably enhancing an existing green corridor in the Berry's Brook Watershed, extending from Rye into Portsmouth. RCCD will continue to assist the town to leverage additional funds for other lands and resources worthy of permanent protection to supplement the town's investment.

Assisting Towns to Protect Resources

RCCD continues to be relied upon as an objective provider of technical expertise to municipalities and landowners. RCCD provides technical assistance to municipalities for services such as stormwater management and related site engineering design reviews, erosion and sediment control reviews, test pit witnessing for subdivision and septic system designs, septic design reviews, septic system installation reviews, wetland reviews, other natural resource impact reviews, and monitoring of town held conservation easements.



In 2016 RCCD staff spent 2,381 hours providing technical assistance to municipalities

Restoration of Lavenger Creek Saltmarsh in New Castle

During the past two years, RCCD continued to work with the Town of New Castle on invasive plant control funded by a NH Department of Agriculture, Markets and Foods, Integrated Pest Management Program (NH DAMF, IPM grant). This effort focused on ways to reduce Phragmites biomass over the long term on a pristine saltmarsh known as the

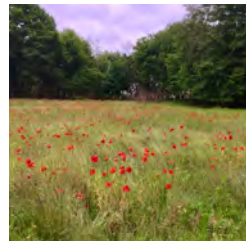


The goals of the project were to study the effects of solarization on three plots of previously cut phragmites, and to cut and remove approximately 2/3 acre of phragmites biomass located on the eastern edge of the Lavenger Creek. The Lavenger Creek saltmarsh is home to several rare plants, and is frequented by many important coastal birds. The Town of New Castle, RCCD, the NRCS, and NH DAMF have assisted with several different habitat restoration projects in the saltmarsh. Due to unforeseen challenges with weather, equipment, and tides, the final cutting of the 2/3 acres of phragmites biomass will take place in early 2017. RCCD held outreach workshops in 2015 and 2016 with Dr. David Burdick, Research Associate Professor of Coastal Ecology and Restoration, UNH, and Dr. Frank Richardson formerly of NH DES. Town board members and residents toured the Laveneger Creek saltmarsh, learned about the rare and critical plants and animals that live in that ecosystem, and what actions the town and its residents can take to help protect them. RCCD will continue with restoration efforts with the Town of New Castle and neighbors particularly in and around the Lavenger Creek saltmarsh in the years to come.

Conservation Commission Partnering



The RCCD has a long history of partnering with town Conservation Commissions to accomplish restoration, projects and provide technical assistance in resource management. In 2017 the RCCD is hoping to grow partnerships with new Conservation Commissions in the County.



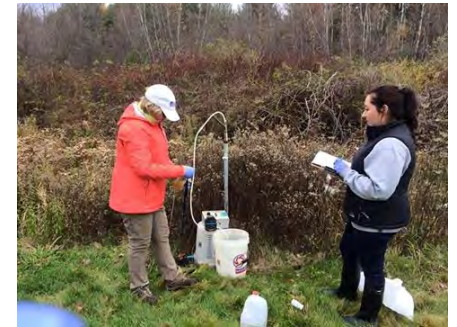
Managing Nitrogen in Great Bay

Innovative Septic Nitrogen Reduction



In 2016, the second demonstration Permeable Reactive Barriers (PRB) was installed around a single family home septic system. A PRB is a new passive technology used to control nitrogen with a formulation of wood chips, exchange media, and/or gravel that transforms inorganic nitrogen to nitrogen gas. This technology can be used in conjunction with an existing or new septic system to prevent nitrogen migration to sensitive watershed areas. Installations at two test sites have been successfully completed and post installation water quality monitoring is on-going. Many areas in New Hampshire experienced moderate to extreme drought in 2016 causing ground water levels to recede below well depths. This made water quality monitoring a challenge in 2016, and less data was collected than planned.

Four water quality sampling rounds are planned for 2017. This project is funded with a Watershed Assistance Grant from the NH DES with funds from the Environmental Protection Agency. The Great Bay has been identified in New Hampshire as an impaired water body for excess total nitrogen levels. Many non-point sources have been identified, including nitrogen coming from septic systems. Conventional septic systems do not do an adequate job of removing nitrogen. Active on-site septic system



technologies to remove nitrogen from septic systems are expensive and are subject to mechanical failure. This study is testing the feasibility of the PRB technology for widespread use. The RCCD is hopeful that this technology can provide a low cost alternative to treating nitrogen from system systems.

Nitrogen from septic systems makes up approximately 50% of non-point source non-atmospheric nitrogen reaching Great Bay (NHDES).



Odiorne Point State Park Restoring Rare Habitats & Tourism



Odiorne Point State Park encompasses 330 acres of undeveloped shoreline in New Hampshire's coastal watershed, and is home to some of the state's most imperiled ecosystems including a globally rare Coastal Salt Pond Marsh, state imperiled Coastal Rocky Headland communities, state imperiled Maritime Shrub Thickets, High Salt Marshes, and Moist Coastal Forests. These unique habitat features draw a large diversity of plant species, including endangered species. The park also includes the highest number of bird species cited in the state, and is critically

This restoration will have both environmental and economic benefits, improving the quality of the park for tourism, recreation, aesthetics, education, and safety.

important to bird migration along the coastline. However, past disturbance and human impacts, have left the area susceptible to infestation by invasive plant species, which have overrun the park. Non-native invasive plant species can reduce biodiversity, alter ecosystem processes, and impact wildlife through the loss of available food and alteration of habitat structure and function.

The park also has numerous historic sites, including the first European settlement in NH, the Odiorne farm, remnants of historic summer homes, and is the site of Fort Dearborn. Many historic sites have become overgrown by the dense vines and thickets of invasive plants. In addition, the park is a hub for education, recreation, and birdwatching, with over 150,000 visitors per year. The RCCD continues to build on its existing partnerships with NH DRED and others and secure grant funding to strengthen this restoration effort.



NEW HAMPSHIRE DIVISION
OF PARKS AND RECREATION



Great Bay Nutrient Management Initiative



The Great Bay Nutrient Management Initiative is a collaborative effort of the Rockingham and Strafford County Conservation Districts to reduce non-point source nitrogen and other pollutants from entering Great Bay. This is accomplished primarily by assisting farmers in **voluntarily** reducing nutrient inputs. Through conversations with local farmers, the Districts learned that the best equipment available for efficient farming and nutrient management is typically too expensive for individual farmers to own. The Districts obtained grant funding to purchase a wood ash/lime spreader, a soil aerator, a no-till seeder, and a new Yeoman's Plow for farmers to rent at low cost. These four pieces of equipment have been used on over 2,020 acres to manage soil pH, compaction, and soil structure over the past five years.

Reducing Red Tape for Farmers: Agricultural Wetland Impact Permits

During the course of agricultural operations, farmers may need to create minor wetland impacts for things such as installation of culverts under farm roads. Under NH DES Wetland Rules [Env-Wt 303.04(u)], agricultural wetland impact permit applications must be certified by the local conservation district. This certification ensures that the impacts meet the NH Department of Environmental Services (DES) Best Management Wetland Practices for BMP agriculture standards, and that the impacts are associated with ongoing bonafide agricultural operations. This reduces the amount of review needed by DES. While working with farmers on these

certifications, the District may be able to provide technical advice to help minimize impacts and facilitate state approval. In addition, the District may be called upon by the DES to monitor the installation. This is a unique role that can only be provided by the Conservation District under DES rules, saving farmers time, money, and regulatory red tape.

