

# Annual Report 2014



*RCCD conducting baseline water quality sampling for groundwater nitrogen reduction demonstration project*

**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.**

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**[www.rockinghamccd.org](http://www.rockinghamccd.org)**

## Rockingham County Conservation District

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Dedicated to the Wise Use of Our Natural Resources.

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## Board of Supervisors and Staff

### Supervisors

Cynthia Smith, Chair - Greenland  
Heidi Seaverns, Vice Chair - Nottingham  
Robert Goodrich, Treasurer - Stratham  
Joanna Pellerin, Secretary - Exeter  
Jeff Geary, Supervisor - Chester

### Associate Supervisors

Richard Lutz - Chester  
David Outhouse, Pending Associate Supervisor - Greenland

### 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 - Conservation Technician
- Michael O'Malley - Conservation Technician, NH Pesticide Applicator

### RCCD As-Needed Staff & Contractors

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

### 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	

## Financials

Over the past year RCCD has made a number of strides to reduce costs and increase revenues to help offset the 50% county funding cut of \$45,000 in 2011. To this end we have aggressively pursued grant and outside agency funded projects, raised our fee-for-service rates, reduced our office hours, and reduced one administrative staff position from full-time to part-time.

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



## Looking Ahead to 2015



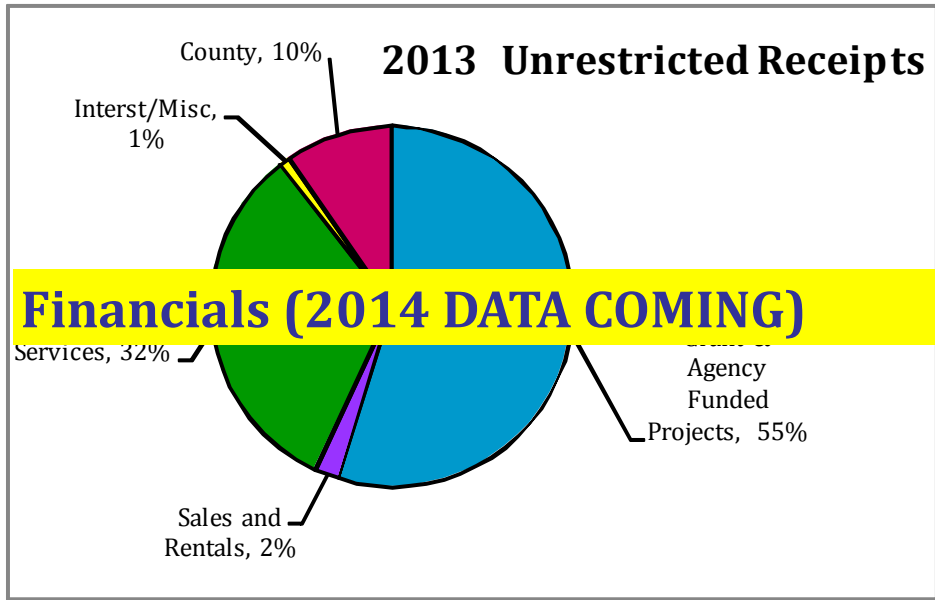
- ◆ RCCD will be focusing on **Soil Health and Nutrient Management Planning** in 2015. The RCCD is looking forward to connecting with farmers, creating nutrient management plans based on individual farm resources and needs, and assisting producers in implementation of those plans. **Specialized Farm Equipment Rentals** that assist with conservation farming practices will also be important RCCD programs in 2015. This will help reduce the nutrients in runoff to our surface waters, including those reaching Great Bay and the Merrimack River.
- ◆ **Controlling Invasive Pests and Reducing Pesticide Use** will continue to be an important part of

RCCD programming. With at least two new invasive insect pests threatening our crops, RCCD looks forward to working with our partners at NRCS and NH Cooperative Extension to assist farmers in controlling these pests while minimizing pesticide impacts.

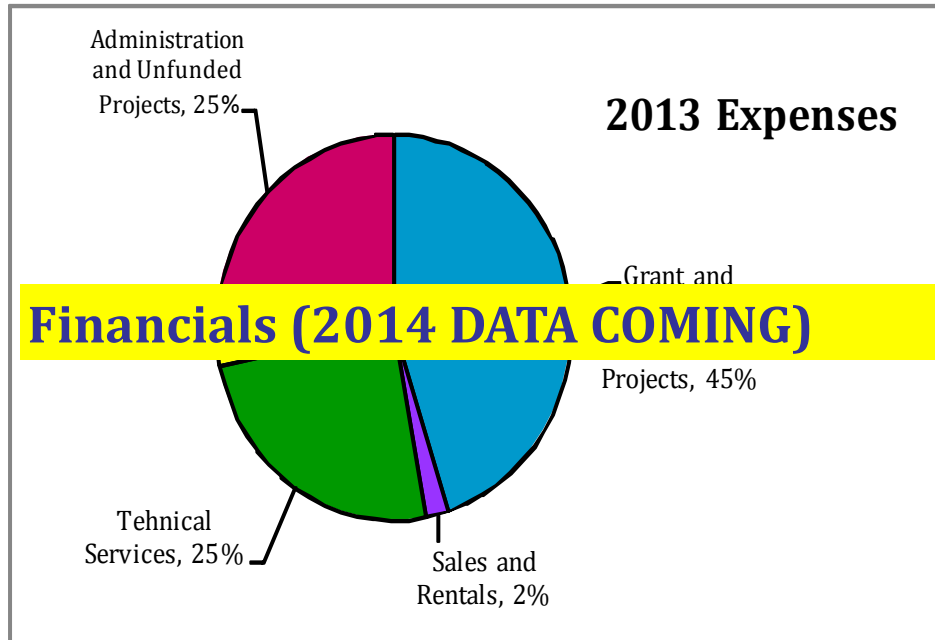
- ◆ RCCD will continue to participate in a statewide initiative with other conservation districts to **Promote Honeybee and Native Pollinator Health**. This includes setting up demonstration sites and educating landowners about the challenges and solutions to having healthy pollinators, including native bees.
- ◆ RCCD will also continue to help solve **Stormwater Quality & Quantity Issues** and work toward the **Restoration of Important Habitats**, including those needed by the endangered **New England Cottontail**.



**Financials (2014 DATA COMING)**



**Financials (2014 DATA COMING)**



**Financials (2014 DATA COMING)**

**WHY?**

The RCCD has a vision for Rockingham County: *voluntary, locally led, cost effective natural resource conservation*. Conservation that balances property rights with community rights and rights of the current generation with rights of future generations to steward the land. We are conservation from the bottom up, not from the top down. We are a partnership that extends from individual landowners to non-profit organizations and government agencies at all levels. This is the vision of all 3,000 conservation districts across the United States.

**The RCCD utilizes base funding provided by the County for grant writing and leveraging funds from other sources but these resources are becoming increasingly scarce.**

**For every dollar provided by the County in 2014, RCCD leveraged \$14.65 from other sources.**

**This is what drives us and you can bet we will get the job done!**

**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.



## Great Bay Nutrient Management Initiative

The RCCD had another successful year in 2014 partnering with the Strafford County Conservation District (SCCD) to assist farmers in VOLUNTARILY reducing nutrient inputs to Great Bay. In New Hampshire, the Great Bay watershed encompasses most of Rockingham and Strafford Counties. 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, and a no-till drill for farmers to rent at low cost. These three pieces of equipment have been used on over 675 acres in the Great Bay watershed to manage soil pH, compaction, and soil structure. The Districts also held soil health workshops and demonstrations of the equipment, including a demonstration at the Rockingham County Farm in September featuring Joel Myers, a lifetime farmer, no-till specialist and retired NRCS Agronomist.



### Great Bay Nutrient Management Initiative

## Reducing Nitrogen Runoff from Agriculture

**Nitrogen from agriculture makes up 20% of non-point source nitrogen carried in surface and groundwater to Great Bay (NHDES)**

Nutrient Management Planning is a technique used to balance the needs of crops, the need to recycle nutrients being produced by livestock, and the need to manage nutrients in a cost effective way that also reduces nutrients in groundwater and runoff into surrounding waterways. This is an important step for improving the surface

waters of Rockingham County including those in the Coastal and Merrimack River watersheds. RCCD employees are in the process of training and certification to develop these plans with technical support provided by the Natural Resources Conservation Service. Partial funding for this process is contributed by the New Hampshire Department of Environmental Services. RCCD is also partnering with The Nature Conservancy on farmer outreach to increase utilization of nutrient management plans.



## NRCS Accomplishments in 2013



### 2014 DATA COMING

Technical Assistance	Amount	Description
	\$282,060	Field Office Personnel
	\$70,587	Support Costs
<b>Total</b>	<b>\$504,355</b>	

### 2014 NRCS DATA COMING

The USDA Natural Resources Conservation Service provides technical and financial assistance to farmers,



### 2014 NRCS DATA COMING

ranchers, and forest landowners to voluntarily put conservation on the ground. This helps them to implement practices which improve



### NRCS Contracts and Agreements in Rockingham County

Financial Assistance	# of Contracts	Amount	Conservation Program
	26	\$154,650	Environmental Quality Incentive Program
	2	\$1,193,953	Farm and Ranchland Protection Program
	7	\$1,129,714	Wetland Reserve Program
<b>Total</b>	<b>3</b>	<b>\$2,502,017</b>	

### 2014 NRCS DATA COMING

Total Technical and Financial Assistance: \$3,006,317

## 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 2014 to provide assistance to landowners and producers to carry out environmentally sound practices that benefit all residents of the County under the new Farm Bill.

*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.*

## Locally Led Voluntary Conservation



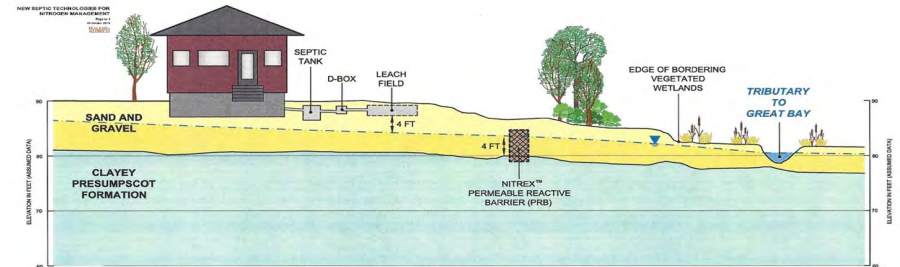
Conservation Districts are in a unique position to provide guidance on local conservation needs and priorities to our federal partners at the NRCS. This fall, RCCD convened related conservation agencies, forming a local work group to discuss and prioritize local natural resource needs and concerns. RCCD built upon the 2013 local work group by inviting additional partners, discussing the 2013 resource concerns and further developing conservation priorities for Rockingham County.

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

RCCD is proud to be the local voice for conservation priorities and looks forward to the 2015 local work group meeting. If you would like more information about the 2015 local work group meeting or would like to be on our survey mailing list, please contact the District.

## Great Bay Nutrient Management Initiative Innovative Septic Nitrogen Reduction

In 2014, RCCD was awarded Watershed Assistance Grant from the New Hampshire Department of Environmental Services with funds from the Environmental Protection Agency to set up demonstration sites for a new technology to help reduce the amount of nitrogen coming from septic systems. 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 from septic effluent. Active on-site septic system technologies to remove nitrogen from effluent are expensive and subject to mechanical failure. A new passive technology called a Permeable Reactive Barrier (PRB) can control nitrogen with a formula-



tion of wood chips, exchange media, and sand or gravel to transform inorganic nitrogen to nitrogen gas.

This patented technology (Nitrex System) can be used in conjunction with existing or new septic system to prevent nitrogen migration to sensitive watershed areas. This study will test the feasibility of the technology for widespread use. The first year this project included selecting sites, installing monitoring wells, site surveying and initial installation planning. RCCD is partnering with the Town of Durham and the Town of Brentwood for the installation.





## Great Bay Nutrient Management Initiative

# Conservation Farming Equipment

**Wood Ash Spreader:** As part of the Great Bay Nutrient Management Initiative, a Stoltzfus Wood Ash/Wet Lime Spreader was purchased with funding through the NH State Conservation Committee Grant Program. To combat the growing challenges created by New Hampshire's acidic soils, this piece of equipment is available for rent to spread wood ash or lime, which will help modify soil pH. Soils that are less acidic or soils with a pH closer to neutral are better environments for legumes and other nitrogen fixing plants, which allows for reduced fertilizer use. This piece of equipment has been used to spread over 500 tons of lime/wood ash in 2014.



**AerWay Soil Aerator:** Purchased with funding from the New Hampshire Association of Conservation Districts Innovative Demonstration Projects in partnership with the Natural Resource Conservation Service. Compacted soils affect soil health in a variety of ways including limiting normal water infiltration, and limiting plant root access to nutrients. The aerator will loosen compaction without damaging soil structure as often happens with traditional tillage practices. This piece of equipment was used on 40 acres in 2014.

**No-Till Drill** The great plains 606NT no-till seeder arrived in the summer of 2013 and is now available for farmers to rent. The no-till drill reduces soil disturbance and conserves organic matter, improving soil properties. The drill also aids in the seeding of cover crops which can loosen compaction, add organic matter and improve soil tilth. The drill was used to seed 88 acres in 2014.

**Coming Soon:** With funding from the State Conservation Committee and the sale of Conservation Moose Plates, SCCD and RCCD are building a Yeoman's Plow. This tool will be available to tackle deep subsoil compaction and can be used to create contours to manage runoff on farmed slopes.



## Other District Programs

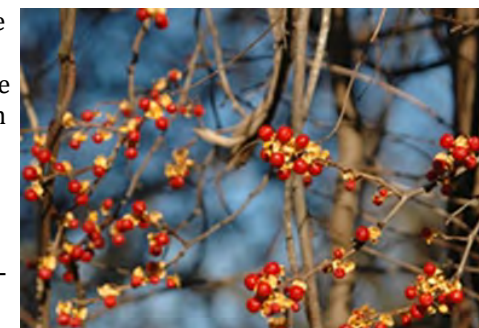
# Preserving Pollinator Health



In 2014 RCCD received joint funding through the NH Association of Conservation Districts and technical assistance through the Natural Resources Conservation Service to promote pollinator health. This is a cooperative project involving all 10 County Conservation Districts. RCCD has begun establishing pollinator habitat demonstration projects, with more projects planned in 2015. RCCD will also be hosting more pollinator workshops culminating in a statewide pollinator summit in 2015.

## Restoring Native Plant Communities

In 2014 RCCD helped to restore native plant communities and removed invasive species on 10 parcels totaling approximately 63 acres. These restorations were completed utilizing integrated vegetation management techniques, which combine both chemical and non-chemical approaches to remove invasive plant species and replace them with native ones. The RCCD is a member of the Coastal Watershed Invasive Plant Partnership and District Manager is a member of the NH State Invasive Species Committee.



## Wetland Restoration Partnering

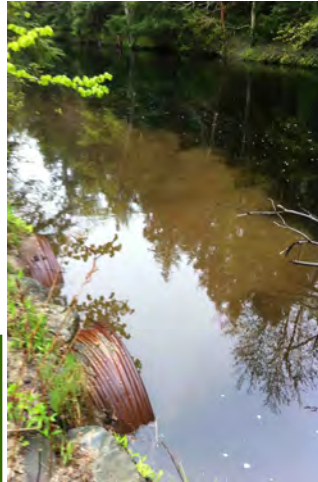


In 2014 RCCD continued to manage approximately 60 wetland restoration projects through a cooperative agreement with the Natural Resources Conservation Service. This program gives landowners the ability to improve wetland habitat for water quality, flood storage, and wildlife habitat. The projects involve site evaluations, selection of contractors, permit preparation, and implementation management.

Other District Programs

# 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 & sediment control reviews, test pit witnessing for subdivision and septic system designs, septic system design reviews, septic system installation reviews, wetland and other natural resource impact reviews, and monitoring of town held conservation easements.



**In 2014 RCCD staff spent 1,944 hours providing technical assistance to municipalities**

All programs are offered on a non-discriminatory basis without regard to race, color, national origin, religion, sex, age, marital status, disability or political beliefs.

Other District Programs

# Land for Water Quality Protection

In addition to protecting open space, conservation easements 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 340 hours managing easements in 2014



Grant and Agency Funded Projects

# Saving the New England Cottontail

Over the past 50 years, early successional habitat is being replaced by mature forest stands and development. More shrub and sapling dominated habitat is needed for species such as the New England Cottontail which depend on dense vegetation for food and cover. The New England cottontail is now listed as a candidate species for the federal endangered list. RCCD is partnering with the New Hampshire Association of



Conservation Districts and other Conservation Districts throughout the state to manage habitat for these species in the Merrimack River Corridor. Restoration efforts include selective cutting, brush mowing, invasive plant management, and brush pile development. Over 60 acres will be managed at the completion of this project.



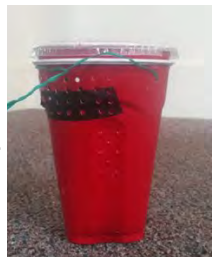
Grant and Agency Funded Projects

# Fighting a New Agricultural Pest



Spotted wing drosophila (SWD) was first detected in NH in 2011 and resulted in \$1.5 million in fruit losses in 2012. SWD are often found in higher numbers at woodland edges or in shrub canopies near crop fields, particularly in the presence of wild plant hosts, most of which are invasive species. The RCCD, in partnership with UNH Cooperative Extension, the Strafford CCD, and the Hillsborough CCD, worked on a project investigating the relationships between SWD and the presence of nearby wild plant hosts. The goal of this

project is to better understand how management of vegetation surrounding farm fields may impact SWD pest pressure. This project was funded through the New Hampshire Association Conservation Districts and the Integrated Pest Management (IPM) program through the New Hampshire Department of Markets and Foods, Pesticide Division.





Grant and Agency Funded Projects

## Rare Coastal Habitat Restoration

In 2014 RCCD completed its fifth year of habitat restoration at Odiorne Point State Park in Rye. This effort will not only have environmental benefits, but is expected to improve the quality of the park for recreation, aesthetics, education, and safety. Odiorne Point State Park includes some of New Hampshire's rarest native ecosystems such as coastal pitch pine forest, dunes, salt marshes and barrier marshes; however, these habitats have become degraded over time due to past disturbances and human impacts that have promoted infestation by invasive species. This year RCCD focused on native planting and re-vegetation, including two rare species. Native seeds and cuttings were collected and grown out at the UNH Jackson Estuarine Lab for use in re-vegetation of the managed areas. This re-vegetation phase was funded through the State Conservation Committee and the sale of Conservation Moose Plates.



Grant and Agency Funded Projects

## Important Farmland Restoration

RCCD and the Rye Conservation Commission began work restoring the Goss Farm 2011. A conservation easement for the 10 acre parcel was procured through a Farm and Ranch Lands Protection Program grant through the Natural Resources Conservation Service. Over the past three years, RCCD has worked with the Town of Rye with funding from NH Department of Agriculture, Markets and Food, Integrated Pest Management Grant, the Piscataqua Region Estuaries Partnership, and funds of the Conservation License Plate (Moose Plate) through the NH State Conservation Committee Grant Program to manage invasive species on the property and restore agricultural functions. Community and school gardens are in place on the farm and RCCD has held many successful educational workshops.



Other District Programs

## Soil & Manure Testing Facilitation

Soil health and soil chemistry can dramatically affect crop or turf health when properly managed. Soil testing is the best way to assure that nutrients and physical conditions are in the proper range for successful crop and lawn growth without negative side effects. Soil testing is also recommended before using the wood ash spreader or before using the no-till drill for reseeding. Soil compaction testing, which is part of the Cornell Soil Health test, also enables targeted use of the aerator, which can be used to increase water and nutrient infiltration to the root zone where it is needed. In 2015, the District will continue to provide training for landowners interested in taking their own soil health samples as part of soil health workshops. The District will help facilitate the delivery of a soil sample to UNH or Cornell. Samples can be dropped off at the District office, or for a fee, the District will collect soil samples at the site.



**When soil chemistry is out of range or nutrients are over-applied, the result can be nutrient runoff that eventually makes its way into Great Bay .**

Other District Programs

## Reducing Pesticide Use and 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 this rise in local agriculture has also come an increase in pesticide use. Integrated pest management (IPM) takes a common sense approach to pest control by considering pest life cycles, economic impact thresholds, pest monitoring, and both chemical and

mechanical approaches. RCCD is working with our partners to better understand ways to control pests while minimizing pesticide impacts.

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