

Rockingham County Conservation District

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Dedicated to the Wise Use of Our Natural Resources.

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Rockingham County Conservation District Annual Report 2017



*YEOMANS SUBSOIL INFILTRATION PLOW
BEING USED IN EPPING*

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, Vice-Chair - 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 Nelson - 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 Truslow - Restoration Hydrologist
- David Detour - Surveyor and AutoCAD Draftsman

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 2018

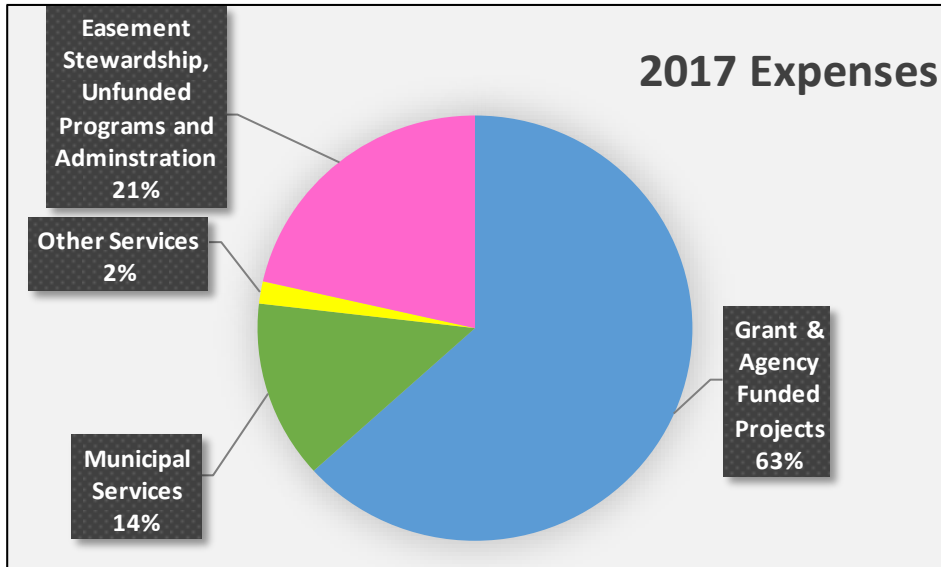
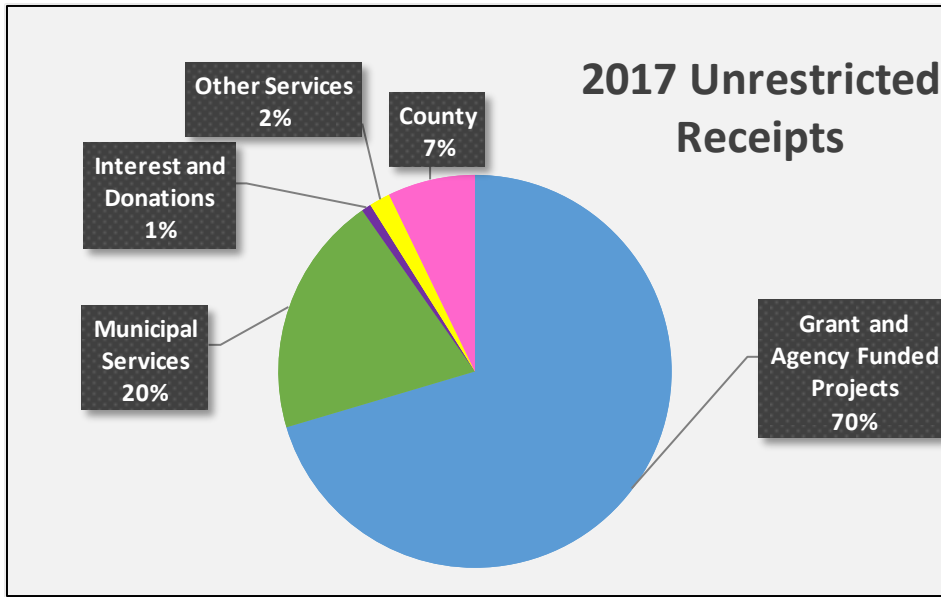
The RCCD uses County funding to leverage grants and for technical services not covered by other sources.

As we move into 2018, 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. The funding we get from the County appropriation is crucially important to help us obtain these grants and contracts by supporting grant writing and assisting with small levels of matching funds. The County funding also assists with providing limited services where there are needs not funded by the grants. It remains to be seen how environmental programs will be reduced over the next year, but without these federal sources our ability to provide services is drastically reduced. To meet that challenge, we are looking to increase our grant writing efforts and increase the number of fee-based services we offer to municipalities.

Obtaining federal grants to support local conservation is becoming 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 County funding cut in 2011. To this end we have aggressively pursued grant and agency funded and fee-for-service projects, raised our fee-for-service rates, and reduced our office hours.

Local Conservation/Local Economy

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



Local Conservation, Local Economy, Local Food Security, Local Voice.
Local Conservation, means that we work right here in Rockingham County on local projects that provide direct environmental benefits to our residents.
Local Economy, means that our projects have a direct local economic impact.

Economic benefits include voluntary and proactive programs to keep our environment healthy, thus reducing the need for costly and burdensome regulations.

This is achieved by assisting local landowners to manage their land in ways that are both cost effective and environmentally sound; by restoring habitats that not only protect plants and wildlife, but also improve recreational, educational, and tourism values; by hiring local contractors and suppliers to work on local projects; and by leveraging local funds to draw funding from outside grants and contracts into the County to achieve local conservation goals.

Local Food Security means that in a changing climate the country will be looking to northeast to grow more food. RCCD supports

For every dollar provided by the County in 2017, RCCD leveraged \$12.91 from other sources benefitting the LOCAL environment and economy



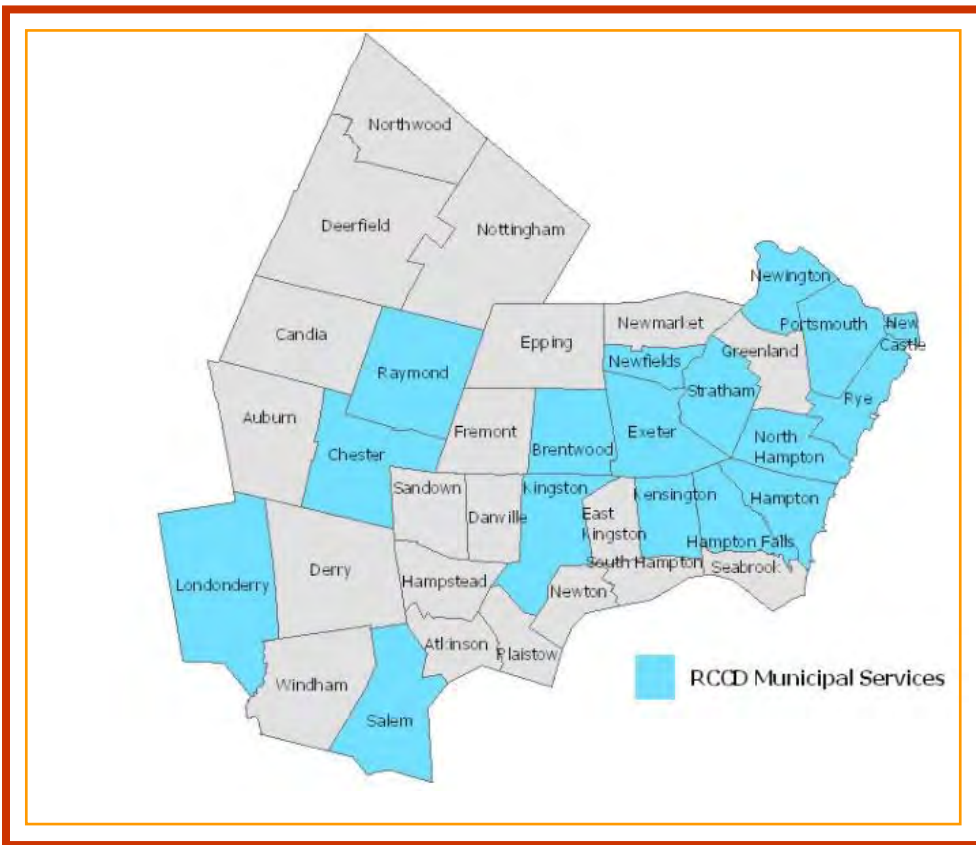
Odiorne Point State Park Restoration, Rye NH

farming practices and infrastructure that will accommodate an increasing need while also protecting our resources. Local Voice, means that we actively listen and survey local land managers and organizations to determine local conservation needs, both for prioritizing projects directly managed by the RCCD, and also to help guide funding priorities of our federal

partners at the Natural Resources Conservation Service.

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

Communities Utilizing RCCD Technical Services in 2017



- RCCD offers unbiased technical reviews, grant project management, habitat restoration, invasive species control, and other natural resource related services to municipalities within Rockingham County.
- RCCD DOES NOT work directly for developers. RCCD technical reviews assure compliance with local regulations and protect natural resources.
- Municipal technical services are independent of county funding, are fee-based, and in the case of permit reviews, costs are often able to be passed on to project applicants.
- In 2017 RCCD worked on 232 municipally funded projects in 17 communities.

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 2017 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.



NRCS Contracts and Agreements in Rockingham County in 2017

Type of Assistance	# of Contracts	Amount	Conservation Program
Financial	14	\$383,820	Environmental Quality Incentive Program & RCPP

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.

Locally Led Voluntary Conservation

Conservation Districts are in a unique position to provide guidance on local

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

conservation needs and priorities to our federal partners at NRCS. Every year RCCD convenes related conservation agencies, forming a Local Work Group. RCCD is a strong local voice for conservation priorities and looks forward to the 2018 meeting.

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

Program Directed Outreach

RCCD assisted with or presented at several workshops closely related to program objectives for 2017. Some of the workshops RCCD presented and participated in include:

- Erosion and Sediment Control Workshop
- Nitrogen, Septic Systems, Great Bay and Why it Matters
- NH Association of Natural Resource Scientists Annual Meeting
- NH Land Surveyors Annual Meeting
- New Hampshire Watershed Conference
- NH Cover Crop Forum
- Invasive Species Committee
- Mushroom Workshop
- NH Soils Judging Day
- Envirothon
- Soils Matter Conference



Wetland Restoration Partnering

In 2017 RCCD completed the management of over 40+/- wetland restoration projects valued at over one-half million dollars, through a cooperative agreement with the NRCS, Wetland Reserve Program (WRP). These restoration practices totaled over two and one-half million dollars during the past five years. 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 involved site evaluations, selection of



contractors, permit preparation, and implementation management. RCCD is expecting another smaller cooperative agreement to be started in early 2018 for the NRCS Wetland Reserve Easement (WRE) Program, for similar restoration projects approved under the 2014 Farm Bill.

RCCD Services

- Prime wetland reviews, and review of wetland delineation boundaries and required setbacks
- Expert testimony at municipal board meetings
- Ecological Restoration for wetland and shoreland resources
- Sustainable Agriculture assistance including the development of Nutrient Management Plans (NMP), by two certified NMP planners
- Conservation Easement Monitoring
- Invasive Plant Species Control on town owned parcels and development of Integrated Pest Management (IPM) plans
- Stormwater Design and installation reviews
- Test pit witnessing for septic and subdivision designs and review of plans
- Natural resource impact reviews
- Grant writing
- Agricultural wetland impact permits
- Soil health improvement equipment rental program including Yeomans Plow; Stoltzfus 4-ton Lime/woodash spreader; Soil Aerator; and No-Till Seeder
- Soil Potential Index for Current Use Tax Assessments
- Historic Aerial Photography back to 1943

In 2017 RCCD staff spent 2,530 hours providing technical assistance to municipalities

Managing Nutrients on Farms With Innovative Equipment

Since 2012, RCCD has been building partnerships to address non-point source nitrogen and other pollutants from entering Great Bay through the Great Bay Nutrient Management Initiative. Working cooperatively with the Strafford County Conservation District, specialty farming equipment was purchased and is available to farmers for a low rental cost. This offers farmers the ability to improve their soil health, and productivity while minimizing runoff and allowing soils to better utilize nutrients. These voluntary practices can help reduce nutrient inputs to our surface waters, which is becoming an ever increasing problem in the County.



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 purchased four pieces of equipment including:
Lime/woodash spreader (left side of picture) that can assist in changing the pH of soil to increase availability of nutrients
Yeoman's plow that can assist in deep subsoil compaction with minimal impacts on soil structure—and improve water infiltration
No-till Drill and Seeder—to seed without disturbing the soil.
Soil Aerator that can assist with soil de-compaction, and especially helpful to rejuvenate an old hay field.

Assisting Conservation Commissions, Zoning Boards, & Planning Boards

The RCCD has a 30+ year history of partnering with town conservation commissions, zoning boards, and planning



Vernal pool egg masses , Rye NH

boards to implement conservation projects and to review projects for

resource protection. RCCD provides wetland delineation reviews, soil mapping reviews, septic system reviews, conservation easement monitoring, invasive species management, habitat restoration, and other natural resource related services to municipalities where technical expertise is needed.

Conservation Easements



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 operating model, RCCD has greatly reduced the number of new easements it is now able to accept due to our limited staff.

Local Farms, Local Pollinators

In 2017, RCCD partnered with local farmers and communities on town properties to promote pollinator habitat, which often results in higher yield production. This year RCCD, NRCS, UNH Cooperative Extension, and Xerces Society reviewed previously planted pollinator plots in Rye and Stratham. Involvement



includes local bee keepers too! Proper plant species management can enhance productivity, provide beautiful fields and borders, and conserve native and managed pollinators! More demonstration projects will be planned in 2018. Contact RCCD if you are interested in participating.

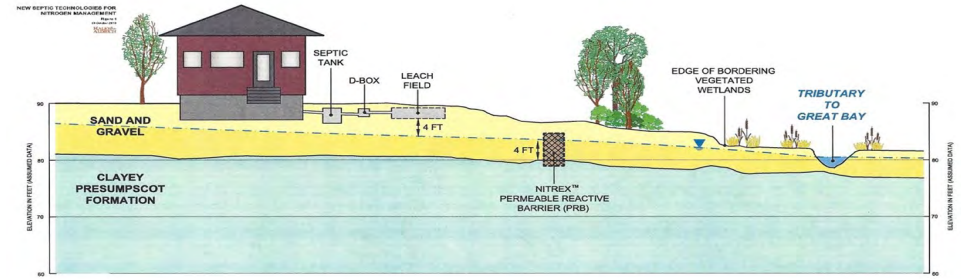
Lavenger Creek Salt Marsh Restoration

RCCD continued 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). This effort focused on ways to reduce Phragmites biomass over the long term on a pristine saltmarsh, at Lavenger Creek. The Town of New Castle, RCCD, the NRCS, and NH DAMF have assisted with several different habitat restoration projects in the saltmarsh. The final cutting of the 2/3 acres and treatment of phragmites biomass was completed in 2017. RCCD continues with outreach and restoration efforts with the Town of New Castle and neighbors to promote the protection and restoration of the Lavenger Creek saltmarsh.



Phragmites control, New Castle

Managing Nitrogen in Great Bay Innovative Septic Nitrogen Reduction Year 3—Permeable Reactive Barrier (PRB)



A Permeable Reactive Barrier (PRB) is an innovative 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. After installations at two test sites were finished, four post installation water quality sampling rounds were completed in 2017. A final presentation was completed in October 2017 noting that the pilot program was able to **demonstrate that a shallow trench PRB can be effective in reducing nitrate concentrations in groundwater downgradient of a community septic system.** It is expected that monitoring for two new sites will be planned for 2018, with expected funding from NH DES through another Watershed Assistance Grant, funded by the US Environmental Protection Agency (EPA). With continued testing and refinement, it is hoped that the PRB technology may be available for more widespread use. RCCD is hopeful that this technology can provide a **low cost alternative** to treating nitrogen from septic systems.



Odiorne Point State Park Continued Restoration Benefits 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. 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. RCCD has implemented restoration of these unique habitats since 2009 and has restored approximately 70 acres. During the past two years, RCCD with assistance from volunteers and partners planted 1900 native plants to assist in restoration of an additional 11 acres. RCCD working in close collaboration with the NH Department of Natural and Cultural Resources (DNCR) formerly NH DRED continues to move forward to secure grant funding and expand restoration opportunities throughout the park.



NEW HAMPSHIRE DIVISION
OF PARKS AND RECREATION



Simple Practices to Improve Farm Productivity



Cover Cropping can be a cost effective strategy for famers to increase the productivity in their soils, increase nutrient availability to cash crops, loosen compaction, and reduce soil erosion loss.

Cover Cropping

In 2016, Northeast SARE (Sustainable Agriculture Research and Education) assisted in the creation of the NH Cover Crop Team. An RCCD staffer is a member of this team. A locally driven forum was held in 2017 to share in new techniques to assist farmers in

optimizing soil health and overcoming challenges to cover cropping. With SARE



Cover crop trial site at Heron Pond Farm, with Greg Balog

funding, the NH Team is setting up on-the-ground demonstrations, success stories videos, and cover cropping workshops and forums.

No-Till Equipment Grants:

- Conservation Districts statewide are offering funding for farmers to retrofit existing corn or large vegetable planters into no-till planters. Farmers pay 25% of the retrofits with the remainder paid for by a Natural Resources Conservation Service Conservation Innovation Grant, a Moose Plate grant, and additional funding from the NH Charitable Foundation.
- The Department of Agriculture is funding several Conservation Districts, including RCCD, to make no-till equipment for vegetable farmers available to use, set up demonstration plots, and host workshops featuring no-till vegetable farming successes.

No-till or low-till farming reduces soil compaction, erosion, and nutrient runoff.

