



Cumberland County Soil and Water Conservation District

2008 ANNUAL REPORT

DISTRICT SUPERVISORS

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PRESUMPSCOT RIVER WATERSHED EDUCATION AT FALMOUTH MIDDLE SCHOOL

This fall, the District worked with Christine Olsen's two sixth grade science classes at Falmouth Middle School. The work was part of the "Maps for Schools" program, an educational initiative through the Presumpscot Watershed Initiative Grant (PWI).

Both classes participated in hands-on classroom lessons, a stream walk on the school grounds, a watershed field trip, and research projects that culminated in public presentations in December. The goal of the activities was for students to learn about their local watershed and water bodies and to connect with them through exposure, knowledge, and interactive lessons. The overall hope is that these students will become stewards of our water resources, learning ways to improve environmental quality.



Falmouth Middle School sixth graders work together during a visit to a local stream this fall.

In the classroom, students first explored how water moves and infiltrates the ground, and how systems are connected to form watersheds. Other lessons involved using custom-made maps to relate development to runoff and watersheds, and an interactive activity about stormwater runoff and cumulative impact. Students explored stream characteristics and completed a runoff activity as part of a stream walk on the school grounds. The place-based approach to this program incorporated maps, books, history, and trips all related to the Presumpscot River and its watershed.

On the field trip, students were given a tour of the Eel Weir Dam, the head dam on the Presumpscot by SAPPI Fine Paper Co. employees. Other stops included Shaw Park in Gorham, Riverbank Park in Westbrook, and Presumpscot Falls Park in Falmouth. Students investigated riverine characteristics, history, sources of pollution, and human impacts at each stop.

The program ended with month long research projects where students worked in pairs to investigate stakeholders and nonpoint source pollutants in the Presumpscot River Watershed. A major focus was on how to improve the health of their local watershed. Public presentations occurred in mid-December and were well attended by parents, members of the Falmouth Conservation Commission, and PWI partners. (Story continued on p. 3)



INTERLOCAL GROUP

Regional Cooperation—Interlocal Stormwater Work Group

The District continues to coordinate the successful Interlocal Stormwater Work Group (ISWG), which was formed in 2002 to address stormwater management issues and, ultimately, the National Pollutant Discharge Elimination System (NPDES) Phase II regulations. The ISWG includes fourteen communities in Southern Maine.

During 2007-2008, the ISWG focused on working cooperatively with the Maine Department of Environmental Protection (MDEP) and the other regulated communities to negotiate the new NPDES permit, which outlines Phase II municipal permit requirements from July 1, 2008 to June 30, 2013.

In addition, the group continued their successful lawn care education program, YardScaping, coordinated by the CCSWCD as follows:

- Refined or developed educational and promotional materials including fact sheets, brochures, posters, door hangers, bookmarks, and presentation resources. Many are available at www.cumberlandswcd.org/yardscape.
- Trainings were provided to 348 homeowners, 34 municipal facilities managers, and 130 landscapers.
- Nine interactive booths were set up at wellness fairs, flower shows, and summer festivals; contact was made with about 2,600 people.
- The lawn care consumer education program, "Point of Sale," was expanded from four stores in one community to sixteen stores in ten communities. Staff were trained to use fact sheets and prompts to help customers decide which products to purchase.
- Articles about the successful program were included in the MDEP's Winter 2007/2008 Nonpoint Source Times and July 2008 Environmental Protection Agency News Notes.



District's YardScaping Program Seeing Results

Three years ago, the District began work on a program called YardScaping with the goal of inspiring Southern Maine people to maintain their lawns for the safety of kids, pets, and the environment by reducing the use of fertilizers, insecticides, and herbicides. Through the program, homeowners, municipal officials, and lawn care professionals are encouraged to adopt healthy lawn care practices.

Since 2007, the District offered 11 YardScaping classes through local adult education programs. A total of 135 people have attended the classes. During the classes, participants were asked to complete evaluations of lawn care practices they currently do, plan to do, and don't plan to do. Results include the following:

- 95% of participants who used "weed and feed" said they would no longer use it
- 92% of participants who hired a lawn care professional indicated that they would now request healthy lawn care practices

Phone calls were made after the next growing season to determine if participants followed through with their plans. Results indicated the following:

- 90-100% of participants who said that they would set their mower height at 3" did in fact "mow high"
- 77-85% of participants who said they would overseed to renew their lawn implemented this practice

These results are encouraging and show that our community outreach efforts are working. Additional YardScaping classes have been scheduled for the spring. Please visit our website at www.cumberlandswcd.org/yardscape for the schedule of upcoming YardScaping classes and events.





Falmouth Middle School sixth graders examine a map to learn about their watershed, top. Students examine the Presumpscot River on a field trip, right.



Presumpscot River Watershed Education

(Continued from p. 1)

Students' creativity shone as their presentations took the shape of skits, homemade movies, computer-generated presentations, and experiments. Of note was a homemade movie about dog waste, which will be available on our website soon.

It was evident the students learned a great deal about the Presumpscot River, its watershed, and its importance as a resource in Southern Maine. Students had practical approaches for minimizing pollution and its impact. Said Gabrielle Cyr in her presentation about fertilizer and soil, "If you love your family and the earth more than you love your lawn, you might not even use fertilizers!"

The PWI grant ended in January 2009. The District plans to continue working with these students during the remainder of the school year through an education program funded by the Interlocal Stormwater Work Group. The place-based, intensive approach used this fall was extremely effective at inspiring stewardship of our water resources, and the District hopes to offer similar programs in the future.

Maine Harvest Lunch Program Update

The District continues to partner with the People's Regional Opportunity Program's Communities Promoting Health Coalition (CPHC) and the Gorham School Department to expand and improve the Maine Harvest Lunch program. Last year, the CPHC joined with additional partners, Healthy Casco Bay, Healthy Portland, and Let's Go, to offer mini-grants to schools throughout Cumberland County. The \$500 Maine Harvest Lunch Public School Nutrition Grants supported the purchase of local foods for the Maine Harvest Lunch in September 2008. The delivery of local food education was a grant requirement.

Last spring, a cooking class for food service staff featuring local foods was held in Westbrook, followed by a networking dinner where the food was served. The event brought together farmers, people from the fisheries industry, food services staff, representatives from the Departments of Education and Agriculture, the District, and the above mentioned partners in an effort to share resources and foster new relationships. A local food directory and a local foods cookbook were products of the event. Additionally, a teacher workshop on the *Maine Foods for Maine Kids Curriculum* was provided to K-8 teachers last spring by Heather Whitaker, a Gorham teacher, Amanda Beal of CPHC, and Sarah Plummer, Education Coordinator at the District.



Food service staff prepares a locally grown meal at a Food Service Staff Local Foods Cooking Class.

In 2009, CPHC will offer more grant funds to meet the same goals of incorporating local foods and related education into schools across the County. A food service and food producer networking dinner is planned again, as are two local foods cooking classes and two curriculum trainings.

The District and CPHC are working closely to find funding to expand the Maine Harvest Lunch Program. To learn more about this year's activities and the grants, visit our website at www.cumberlandswcd.org/harvest_lunch.

Conservation Projects

The goal of these projects is to reduce erosion and other nonpoint source (NPS) pollution through conservation practices and public awareness, which foster long-term stewardship. Below are the Conservation Projects currently underway at the District.



Forest Lake Conservation Project—Phase II

- 23 technical assistance visits completed
- 3 road improvement projects completed
- 5 sites addressed by the Casco Bay Regional Youth Conservation Corps
- 10 matching grants implemented
- “Buffers Benefit” pilot program continued; an additional 10 residents pledged to plant
- Presentation made at Forest Lake Association annual meeting
- Presentation made to Forest Lake Association board
- 1 steering committee meeting held
- 3 articles written for Forest Lake Association newsletter
- Project ends in the fall

Hancock & Sand Ponds Conservation Project

- 16 technical assistance visits completed
- 9 road improvement projects completed
- Presentation made at Hancock and Sand Pond Association annual meeting
- 250 watershed residents received postcard advertising matching grants
- Project continues into 2009

Presumpscot Watershed Initiative Grant

- 10 stream crossings stabilized in Windham, Standish, and Gray
- 3 farms participated in the Agricultural Improvements Program
- 1 open bottom culvert installed for enhanced fish passage
- 2,394 feet of fencing installed
- 3 livestock watering systems installed
- 20 sites addressed by the Presumpscot River Youth Conservation Corps
- Project completed in January 2009

Highland Lake (Bridgton) Watershed Improvement Project

- 60 technical assistance visits completed
- 16 road improvement projects completed
- 30 residential improvement projects completed
- Improvements prevented an estimated 49 tons of sediment from entering Highland Lake annually
- Project completed in August 2008
- Match exceeded expectations by over \$17,000



Before



After

WATERSHED PROJECTS

Thomas Pond Conservation Project

- 10 road improvement projects completed
- 25 matching grants implemented
- 275 watershed residents received postcard advertising matching grants
- Last construction season completed in 2008; project ends in April

Highland Lake (Windham & Falmouth)

Conservation Project—Phase III

- 6 technical assistance visits completed
- 1 road improvement project completed
- Conducted best management practices inspections throughout watershed
- 2 presentations made to the Windham & Falmouth town councils
- 8 member steering committee formed
- 1 steering committee meeting held
- 1 road association meeting attended
- Highland Lake Association annual meeting attended
- 2 articles written for the Highland Lake Association newsletter
- Phase III continues into 2010

Long Lake Watershed Improvement Project

- 27 technical assistance visits completed
- 11 road and residential improvement projects completed
- 20 sites addressed by Long Lake Youth Conservation Corps
- Phase I completed in July 2008; Phase II continues into 2009

Little Sebago Lake Conservation Project

- 20 technical assistance visits completed
- 7 road and residential improvement projects completed
- 17 sites addressed by the Little Sebago Lake Youth Conservation Corps
- Presentation made at Little Sebago Lake Association annual meeting
- 1 steering committee meeting held
- 2 articles written for Little Sebago Lake Association newsletter
- Phase I completed in January 2008; Phase II ends in March



Watershed Based Plan Projects

The goal of these projects is to develop a locally supported watershed based management plan that will outline a strategy to help restore water quality. Below is the Watershed Based Management Plan currently implemented by the District and many partners.

Long Creek Watershed Based Plan Project

- Steering committee formed; 5 meetings held
- Technical consultants completed structural retrofit and stream floodplain, riparian, and in-stream recovery needs and analysis
- 65 people attended stakeholder meeting
- 28 people attended Long Creek Watershed Tour
- Technical Advisory Committee met 3 times and reached consensus on structural, in-stream, riparian, and floodplain priorities
- Models & Outreach Committee met 13 times to develop and refine an administrative and funding model for plan implementation
- Draft of the plan completed in November and circulated for comments
- In January 2009, the steering committee authorized the preliminary draft of the plan to be submitted to the Environmental Protection Agency and Maine Department of Environmental Protection

Watershed Surveys

The goal of these projects is to identify and prioritize erosion sites throughout the watershed that have an impact on water quality, and to recommend conservation practices to reduce erosion. Below are the watershed surveys completed by the District in 2008.

Sabbathday Lake Watershed Survey

- Steering committee formed; 3 meetings held
- Volunteer survey conducted on May 3, 2008
- 55 sites identified and entered into database by volunteers
- Pollution load estimates completed for high & medium impact sites

Pleasant River Watershed Survey

- Steering committee formed; 2 meetings held
- Volunteer survey conducted on June 7, 2008
- 98 sites identified and entered into database by volunteers
- Pollution load estimated completed for high & medium impact sites



Sabbathday Lake Watershed Survey volunteers.

Watershed Project Highlight: Open Bottom Culvert Installed on Thayer Brook

The District recently installed a new open bottom culvert for the Town of Gray at the Totten Road crossing of Thayer Brook. The aluminum box culvert was installed to replace two undersized, deteriorating metal culverts that had been causing erosion at the stream crossing and limiting fish passage within the Brook.

This project was completed through the Presumpscot Watershed Initiative Grant in partnership with the Casco Bay Estuary Partnership and the Town of Gray. Contech Construction Products, Inc. supplied the culvert, Gunderboom, Inc. designed and installed an engineered aquatic barrier system to control sediment migration during construction, and R.H. Perry Excavating acted as lead contractor.

The aluminum arch plates and headwalls for the 32 foot long culvert, which spans nearly 15 feet and rises just over four feet, were delivered to the site on four pallets. Assembly took place onsite over three days utilizing approximately 1,000 bolts. Once assembled, the culvert was installed on precast concrete footings laid within the dewatered site. The culvert and footings were then grouted together and the footings backfilled and protected from scour with riprap armor. Following the installation of the headwalls, the culvert was backfilled and brought up to grade with the existing road.



An open bottom culvert is installed in Gray where Totten Road crosses Thayer Brook.

Assembling the culvert on-site and using pre-cast footings greatly reduced the amount of time required for road closure. Only four working days were required from the time of road closure (excavation of the existing culverts) through the final backfill operation, removal of the temporary coffer dams, and the reopening of the road.

With the stream flowing again, final restoration of the stream channel was accomplished. The natural meanders of the stream were mimicked at and through the culvert by placement of boulders that directed flows in a manner similar to upstream and downstream conditions. Stream bed restoration is expected to occur naturally and will be inspected in the spring of 2009. The benefits of this retrofit on the local aquatic ecosystem were observed within a few days when fish were observed exiting the upstream end of the new culvert.



Before



After

An open bottom culvert, bottom, replaced corrugated metal pipes, top, at Totten Road this past fall.

Urban Review Program—Bridging the Stormwater Gap

On the previous page, a project involving the construction of an open bottom culvert used to replace a pair of deteriorating corrugated metal pipes (CMPs) was discussed. The failing culverts at this road crossing were disrupting stream flow to the point of blocking fish passage and the natural transport of stream bed material.

Although the crossing appeared functional as a flood deterrent, the culverts were causing channel and bank erosion impacting the stream ecosystem and undermining the stability of the road. The open bottom culvert installed corrects these faults by simulating a natural channel bed through which both fish and water can pass.

While open bottom culverts cannot be expected to mimic exact conditions within the stream bed, they offer a better representation of natural conditions than traditional CMPs. This project will enhance the ecological productivity of the stream while also upgrading the infrastructure at the road crossing—two very positive changes.

The District offers third party services for developers of commercial and residential projects, and encourages the use of open bottom culverts in development projects, where applicable. Contact Chris Baldwin, District Engineer, for more information.

Funding Declines for 2009 YCC Programs

Youth Conservation Corps (YCC) are groups of high school students, led by a technical director and crew leader, that work to install conservation practices to improve water quality.

Since 2000, a YCC has worked in one or more watersheds in Cumberland County. In the past, start-up funding for YCC programs has come through Federal watershed protection grants. Many of these grant projects are ending, and, unfortunately, so is the funding for related YCC programs.

The District coordinated four YCC crews in 2008. Over 200 square miles were covered, with project work occurring at over 90 sites. Crews worked in the Long Lake, Little Sebago Lake, Forest Lake, Highland Lake, Sebago Lake, Presumpscot River, and Royal River Watersheds.

In 2009, funding for YCC programs will most likely support only one YCC crew. The hope is that this crew will complete work in a number of watersheds throughout the County.

The Casco Bay YCC Coalition, formed in 2007, includes partners from conservation organizations, government agencies, lake associations, and land trusts. The Coalition will continue to collaborate about this and future YCC seasons. In order for the YCC to be a sustainable program, the Coalition will develop strategies to meet new needs and challenges.

Towns throughout Cumberland County have been integral in funding YCC programs in the past. Please voice your support to your town, and let them know YCC services will be available on a scaled-back basis this summer. Additionally, if you would like to contribute, send donations to our office, attention: YCC program. For more information or if you would like YCC work completed this year, contact Betty Williams.



The Long Lake YCC installs a buffer for shoreline stabilization.

ANNUAL MEETING

Outstanding Conservation Partners Recognized at District's Annual Meeting

The District hosted its fourth Annual Meeting on the evening of March 20, 2008. The event was held at the District office in Windham with a light fare from Raymond's Good Life Market. Attendees included State Representative Mark Bryant, representatives from the Maine Department of Environmental Protection, United States Department of Agriculture and Natural Resources Conservation Service, local lake association members, District board and staff, and 2008 award recipients.

The 2008 awards and winners are as follows:

Cooperator of the Year:	Sebago Lake Ranch/Hartwell Farm, Gorham
Outstanding Steward:	Lew Wetzel, Pleasant Lake/Parker Pond Volunteer
Contractor of the Year:	Glidden Excavating & Paving
Outstanding Partner:	Portland Water District
Outstanding Stewardship Group:	Lakes Environmental Association
Teacher of the Year:	Heather (Russell) Whitaker, Gorham Middle School
Outstanding Public Works:	Town of Cumberland
Conservation Leadership:	Town of Windham
Journalist of the Year:	Bob Lowell, American Journal



Lew Wetzel receives the "Outstanding Steward" award for his volunteer work on Pleasant Lake/Parker Pond.

District Chair Charles Norman of Brunswick was also recognized for his years of dedication and service to the District. Acceptance speeches from award recipients were both humorous and heartfelt and gave District staff a great sense of pride in the work we have accomplished. The District thanks all who attended and helped make our year successful. The 2009 Annual Meeting will be held on March 18th, 2009. Please call, visit our website, or see back page for details. We look forward to seeing you there!

NATURAL RESOURCES CONSERVATION SERVICE UPDATE

A Year in Review

The natural resources of Cumberland County have been conserved by another exceptional year at the Natural Resources Conservation Service (NRCS). Many conservation practices were implemented, such as compost facilities, grassed waterways, fish passages, wetland restoration, and wildlife habitat improvements.

Noteworthy achievements include the following:

- Streambank protected at a Cumberland property through the Emergency Watershed Program.
- Partnered with the Maine Department of Inland Fisheries and Wildlife (MDIFW) to develop Wildlife Habitat Incentives Program invasive treatment plans for the Maine Audubon Society's Gilsland Farm in Falmouth and for the Scarborough Marsh Wildlife Management Area.
- Eight Comprehensive Nutrient Management Plans were written for 1,200 acres; five were implemented.
- Partnered with the Agricultural Council of Maine to lead a legislator agricultural tour to promote Southern Maine's diverse agriculture.
- Worked with the Maine Forest Service and private foresters to organize a Forest Stewardship Workshop.
- *A Landowner's Guide to New England Cottontail Habitat Management* published by the Environmental Defense Fund in collaboration with the New England Cottontail Team, US Fish and Wildlife Service, MDIFW, and NRCS.



A new Farm Bill, *The Food, Conservation and Energy Act of 2008*, offers new conservation opportunities. For more information on this bill, visit www.nrcs.usda.gov/programs/farmbill/2008/ataglance.html.

Operating Revenues

Grants	\$536,001
County & State Funding	29,108
Urban Review Fees	43,195
Seminars & Tours	20,748
Water Festival	11,850
Other Revenue	<u>168,591</u>
Total Operating Revenues	\$809,493

Operating Expenses

Salaries & Wages	\$271,399
Payroll Taxes	22,541
Employee Benefits	32,184
Program Expenses	181,635
Project Costs	201,677
Dues & Subscriptions	2,666
Insurance	1,779
Printing & Postage	19,636
Rent	26,000
Meetings	2,231
Publications	15
Other Expenses	22,964
Maintenance & Repairs	2,918
Sponsorships	17,150
Supplies	19,451
Telephone	2,293
Travel Expense	<u>19,518</u>
Total Operating Expenses	\$846,057

Net Operating Income (Loss) (\$36,564)

Non-Operating Revenues (Expenses)

Interest & Dividends	\$3,835
Interest Expense	<u>(80)</u>
Total Non-Operating Revenues (Expenses)	\$3,755

Change in Net Assets (\$32,809)

Balance at Beginning of Year \$226,354

Balance at End of Year \$193,545



Native Plant Spotlight

Balsam Fir

(*Abies Balsamea*)

- Evergreen tree that can grow up to 50 feet high and 20 feet wide
- Prefers partial shade and moist soil
- Short, dark green needles
- Small, light brown cones
- Fragrant and appealing smell
- Not very tolerant of heat or drought
- Makes an excellent Christmas tree



Balsam Fir Needles



AROUND THE OFFICE

McInnes Marks a Quarter Century at the District

Betty McInnes celebrated her 25th anniversary at the District this past October! Betty started working at the District as a volunteer in 1982, and was hired as the District Clerk the following year.

Betty has witnessed many changes at the District. Perhaps the greatest change occurred when the District's projects shifted from agricultural to suburban/watershed management in response to land use changes in the 1980s. As the District Manager, Betty tracks trends and assists in program development and finding resources to match needs. She believes the District's successes are a result of our many partnerships.

Betty feels the District will continue to conserve Cumberland County's soil and water resources in the future, although it will be a challenge to secure funding to do so. Although land use growth is increasing, funding for water and soil resources has been decreasing.

Living in Windham with her shih tsu, Daisy, a regular in our office, Betty has two grown children, Gwen and Jeremy, who grew up as regular District volunteers. Betty has been employed at the District longer than any other employee, and her tenure is one of the longest at any Maine Conservation District. Thanks, Betty, for all your work on conservation efforts!



Betty McInnes and her faithful sidekick, Daisy.



Cumberland County Soil & Water
Conservation District

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You are cordially invited to attend
***Cumberland County Soil & Water Conservation District's
2009 Annual Meeting***

Wednesday, March 18th
Robie School, 668 Gray Road (Route 202), Gorham
6:00-8:00 p.m.

The evening will include a social hour and buffet dinner.
Presentation of awards will follow the meal.
A donation of \$10 is requested to cover the cost of the meal.

RSVP: By March 11th to Betty McInnes
betty-mcinnis@cumberlandsxcd.org • 892-4700



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All programs and services of the Soil and Water Conservation Districts are offered on a non-discriminatory basis without regard to race, color, national origin, gender, sexual orientation, religion, age, disability, political beliefs, marital, or familial status.

To receive this newsletter electronically, please email sarah-plummer@cumberlandsxcd.org