

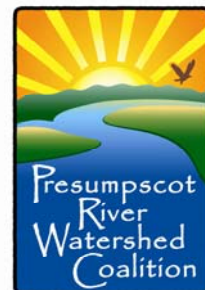
# 2008 Summary Report

# Presumpscot River

## Youth Conservation Corps



A COOPERATIVE PROJECT OF





Thanks to everyone who helped to make  
the  
Presumpscot River YCC a huge success!

## Program Funding & Support

U.S. Environmental Protection Agency  
Casco Bay Estuary Partnership  
Presumpscot River Watershed Coalition  
Cumberland County Soil & Water Conservation District  
Friends of the Presumpscot River  
Presumpscot River Watch  
Portland Trails  
Maine DEP  
Maine DOT  
City of Portland  
Portland Parks and Rec.  
Town of Windham  
Windham Public Works  
City of Westbrook  
Westbrook Public Works  
Town of Gorham  
Gorham Recreation Department  
Shaw Bros.  
Falmouth Land Trust



## YCC Staff

Christopher Dunn, Technical Director  
Betty Williams, Technical Support  
Becky McKinnon, Crew Leader  
Chad Brown, Alternate Crew Leader  
Ben Goodness (Windham)  
Joe Ferrian (Windham)  
Julien Morton (Windham)  
Myles Crawford (Cumberland)  
Joe Kirkbride (Windham)

## YCC Steering Committee

Diane Gould, Environmental Protection Agency  
Betty Williams, Cumberland County SWCD  
Matt Craig, Casco Bay Estuary Partnership  
Christopher Dunn, Technical Director



# Background Information

The Presumpscot River Youth Conservation Corps (YCC) completed its third season in August, 2008. This report showcases the variety of conservation projects that the crew completed throughout the 7 week season. This program was highly successful, and project staff are working on securing funding for an additional season in 2009.

## *What is a Youth Conservation Corps?*

The YCC model has been successfully adopted to protect and improve water quality in several watersheds in Maine and across the country. YCC staff provide free technical assistance, labor and education to help address a wide range of pollution sources throughout the watershed.

A Technical Director oversees all aspects of the program including publicity, hiring and working with landowners to plan projects. Crew leaders supervise 4-5 person teams and make sure that projects are installed properly and safely. Local high school students are hired as crew members and work through the summer to plant vegetation, stabilize eroding soil and install a variety of conservation practices.

## *Why do we need a Presumpscot River YCC?*

- \* Despite recent improvements, water quality in the river remains degraded. As the river is cleaned up, development along the shoreline is resulting in significant soil erosion and a loss of vegetated buffers alongside rivers and streams. Increased runoff and erosion has also altered stream channels and continues to degrade the river's once thriving fishery. The Presumpscot River Youth Conservation Corps (PRYCC) is working to reverse these impacts on both private and public lands through the implementation of recognized BMPs (Best Management Practices).
- \* An active coalition of partners is in place to guide the PRYCC and other watershed improvement projects. The Presumpscot River Watershed Coalition (PRWC) is made up of more than a dozen government and private organizations concerned with improving fisheries, mitigating impacts from watershed development, and preserving natural areas along the river. Several studies have identified specific problem areas for improvement. Referring to the *Presumpscot River Management Plan*, the PRWC will guide the PRYCC toward high priority improvement efforts.
- \* YCC's promote stewardship among community members and projects yield tangible water quality benefits. Organizers also rave that YCC's are an excellent (and cost-effective) way to raise awareness, energize communities and inspire local youth to become environmental leaders.



# Accomplishments

In just eight weeks, a team of four high school students (with one alternate), led by a crew leader and program director, successfully completed 20 erosion control projects in the Presumpscot River Watershed. By the end of the summer they had:

- \* Planted 350 trees, shrubs, groundcovers, and perennials.
- \* Spread 20 cubic yards of erosion control mulch.
- \* Hand-placed 30 cubic yards of stone.
- \* Removed over 400 pounds of invasive Purple Loosestrife.
- \* Built and repaired 40 infiltration steps and landings.
- \* Stenciled 150 storm drains.

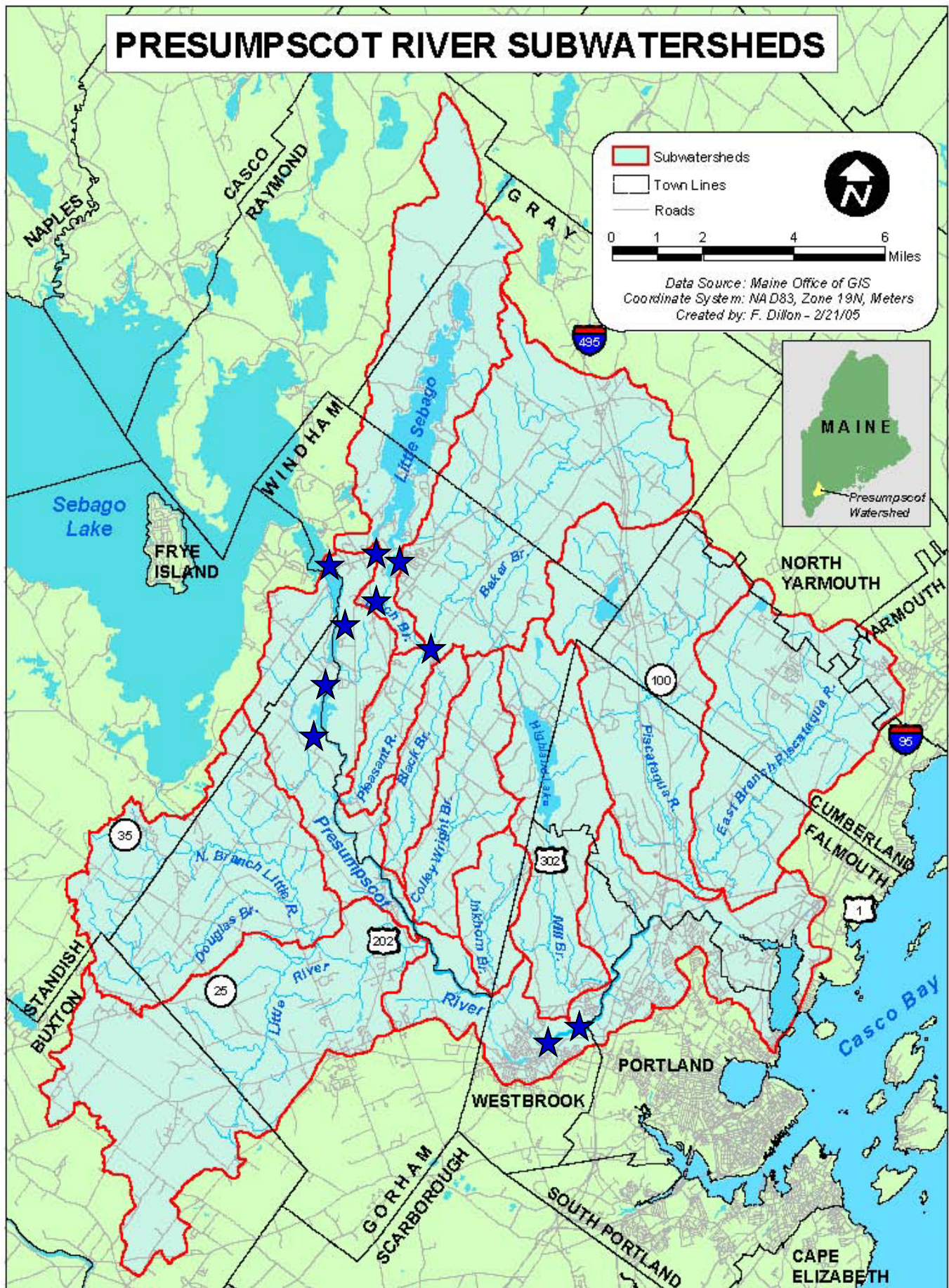


## Summary of Conservation Practices Installed

<u>Type of Conservation Practice</u>	<u>Number Completed</u>
Shoreline Vegetation	11
Infiltration Landings	8
Grass Cultivation	5
Erosion Control Mulch	6
Culvert Stabilization	15
Trail Stabilization	5
Runoff Diverters	1
Roof Dripline Trench	1
Storm Drain Stenciling	150
Slope Stabilization	8
Infiltration Steps	40
<b>TOTAL</b>	<b>250</b>



# Presumpscot River YCC 2008 Project Sites





# Infiltration Steps

Infiltration steps and landings use crushed stone to slow down and infiltrate runoff before it reaches the water. We used pressure treated timbers and rebar to secure the rock in place and provide a contained area for the water to collect. Infiltration steps are ideal for shorefront property where access is necessary and foot traffic can often be high.

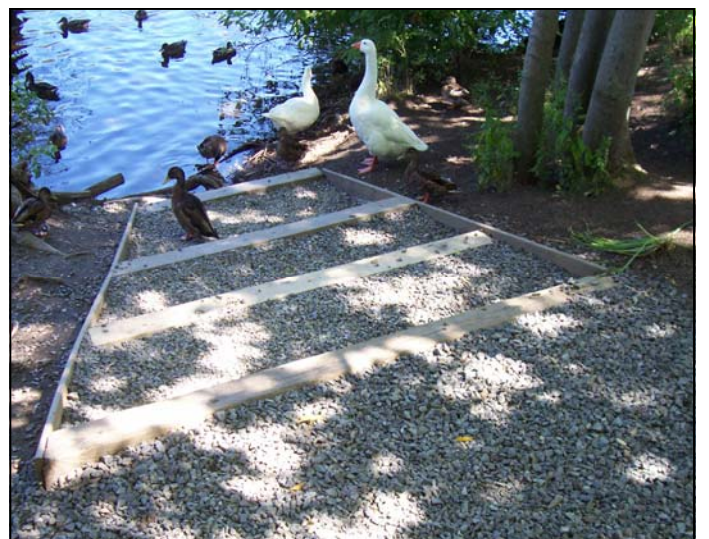
In public areas with high foot traffic retrofitting is often needed as stones will have either washed out or been thrown into the water as recreation.

## Chisholm Property, Windham



The retaining wall had collapsed most likely due to runoff from the brick path and rotting the wood. Five infiltration steps were installed to both slow down the runoff and prevent the exposed soil from washing into the water.

## Riverbank Park, Westbrook



The infiltration steps installed at Riverbank Park by the 2007 PRYCC crew had been almost completely emptied of crushed rock. The crew re-filled the three sets of steps and added a new step to this set to reduce the steepness and allow more water to infiltrate. Westbrook Public Works was very cooperative and provided the necessary materials.



# Trail Building and Shoreline Stabilization

The 2008 season marks the second year the YCC has worked with Portland Trails to improve trail quality and install BMPs. One of the goals of the YCC is education, outreach and promoting environmental stewardship, and the services Portland Trails provide fit in very well with that goal.

Severe shoreline undercutting (when the movement and fluctuation of the water body itself erodes the underside of the banking) can cause a great deal of damage, kill shoreline vegetation and lead to additional erosion and nutrient loading.

## East Bridge St. Trail, Westbrook



The crew worked on a 2-mile stretch of trail clearing invasive knotweed, placing rip-rap, building steps and bridges and repairing rills that were developing in some areas.

## Forest Lake Dam, Gray



To prevent the undercutting from getting worse, "coconut roll" was installed in the eroded area. It is a mesh tube secured in place using wooden stakes. The tube will expand to fill the eroded area and keep the water from causing more damage.



# Slope and Path Stabilization

It is important to provide stable walking areas to maintain access to the lake while reducing soil erosion. Steep slopes can be stabilized with infiltration steps, landscaping timbers and mulch, or vegetation. For flatter areas, paths should be covered with mulch or crushed stone to protect the soil below.

Sloped areas where there is limited to no foot traffic should also be properly stabilized. These areas can be closed off with vegetation or stone to prohibit traffic and to hold soil in place.

## Route 302 Pleasant River Crossing, Windham



This area around two large culverts is commonly used as a fishing spot, but the culvert and surrounding soil was completely exposed (directly above this spot is a very busy section of Route 302). A 200' path leading to the spot was completely mulched and the exposed culvert and soil was armored with 6-8" rip-rap provided by Windham Public Works.

## Gromble Way, Windham



This site involved a paved turnout causing a gully to develop over a 50' slope, ending in a drop-off into a larger gully. The crew began with 20' of erosion control matting and then covered the remaining 30' with 8" rip-rap, interspersed with small check dams. At the drop-off a dam was created and a small settling basin was dug into the bottom of the larger gully.



# Buffer Planting

One of the most effective ways to protect water quality and prevent erosion is to use native plants as buffers. Areas near the water are planted and then left undisturbed and allowed to naturalize over a period of years.

An adequate buffer will have an extensive root system which will hold the soil in place while the plants themselves will take up any nutrients that may be transported by stormwater, effectively filtering runoff before it reaches the water body and causes problems like algae blooms.

## Shaw Park, Gorham



A vegetated berm was built at Shaw Park during the 2007 season, however the plants did not all survive and were replaced with hardier varieties. The new plants are also attractive to butterflies so the area will hopefully work as a butterfly garden next year.

## Martin Property, Gorham



This residential site suffered heavy damage during the Patriot's Day storm of 2007 and the homeowner spent a great deal of money fixing their driveway and filling in the slope with good topsoil. They wanted to "make sure it didn't wash into the river". In order to keep that from happening the crew planted about 70 plants including several large shrubs with extensive roots systems.



# Storm Drain Stenciling

Storm drains collect stormwater runoff that contains soil, fertilizers, pesticides, manure, and other toxic substances and debris. The water flows untreated into our rivers, streams, and eventually the ocean. Stenciling storm drains with a clean-water message is an effective way to discourage dumping, increase community awareness, and educate the public about the direct connection between polluted runoff, storm drains, and water quality.

## Route 202 & Route 115, Windham

The YCC crew spent 2 days in Windham, Westbrook and Gorham stenciling 150 storm drains. Special water-based latex spray paint was used to stencil the message "DON'T DUMP" in bright orange letters next to storm drains.

To help increase community awareness, the crew also passed out information about the holistic, pesticide-free lawn care program, Yardscaping, while they were stenciling.



**For more information, contact:**

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