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## Presumpscot Watershed Initiative: Project Factsheet

Casco Bay Estuary Partnership

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# Presumpscot Watershed Initiative



## PROJECT FACTSHEET

### Historical Background

The Presumpscot River flows 27 miles from Sebago Lake into Casco Bay and the Gulf of Maine. The river's watershed encompasses 205 square miles of primarily forested and agricultural land. The river itself has a history of extensive industrial use since the early 1700s. By the 1950s, the river had nine dams and was so polluted that fumes from the river peeled paint off nearby homes. Prior to industrialization, there were abundant salmon, alewife, shad, smelt, and eel fisheries, which have since been greatly diminished.

In recent years the water and habitat quality of the river have improved with the cessation of pulp mill discharges in the 1990s and the removal of Smelt Hill Dam in 2002. Anadromous fish are returning to the river's main stem and tributaries.

### Environmental Challenges

While the river has recovered from some past problems, increased watershed and shoreline development are leading to environmental impacts:

- Toxic chemicals and excess nutrients enter the river system via stormwater flowing from impervious surfaces.
- Excess sedimentation from roadways and livestock activities deteriorate fish spawning areas.
- The loss of riparian vegetation causes thermal impacts, which impair water quality for cold water fisheries.

### Targeted Watershed Grant

To build on recent improvements in the river, the Presumpscot River Watershed Coalition and the Casco Bay Estuary Partnership (CBEP) applied to the highly competitive US Environmental Protection Agency's *Targeted Watershed Grant Program*. In 2006, they were awarded nearly \$740,000 to implement the *Presumpscot Watershed Initiative* (PWI): a successful three year collaborative project focused on enhancing riparian habitat, reducing contaminant loading, and fostering increased stewardship among watershed inhabitants through a series of innovative partnerships.

### Interactive Online Maps and Final Report

To highlight work accomplished during the Presumpscot Watershed Initiative and share project outcomes, Presumpscot River Watch joined with Orbis Mapping to create a series of interactive watershed maps with links to site-specific project summaries, graphs, and photos. The interactive maps and final report can be accessed from the PWI project web site at <http://www.presumpscotcoalition.org/geo.html>.

The success of the Presumpscot Watershed Initiative was the result of many partners working together throughout the watershed to improve habitat and water quality and to foster stewardship. In addition to the Casco Bay Estuary Partnership, partners included:

- Cumberland County Soil and Water Conservation District
- Friends of Casco Bay
- Presumpscot River Watch
- Presumpscot River Watershed Coalition
- Maine Department of Environmental Protection
- Municipal road crews, state agencies, golf courses, citizen volunteers, landowners, schools, and many others!



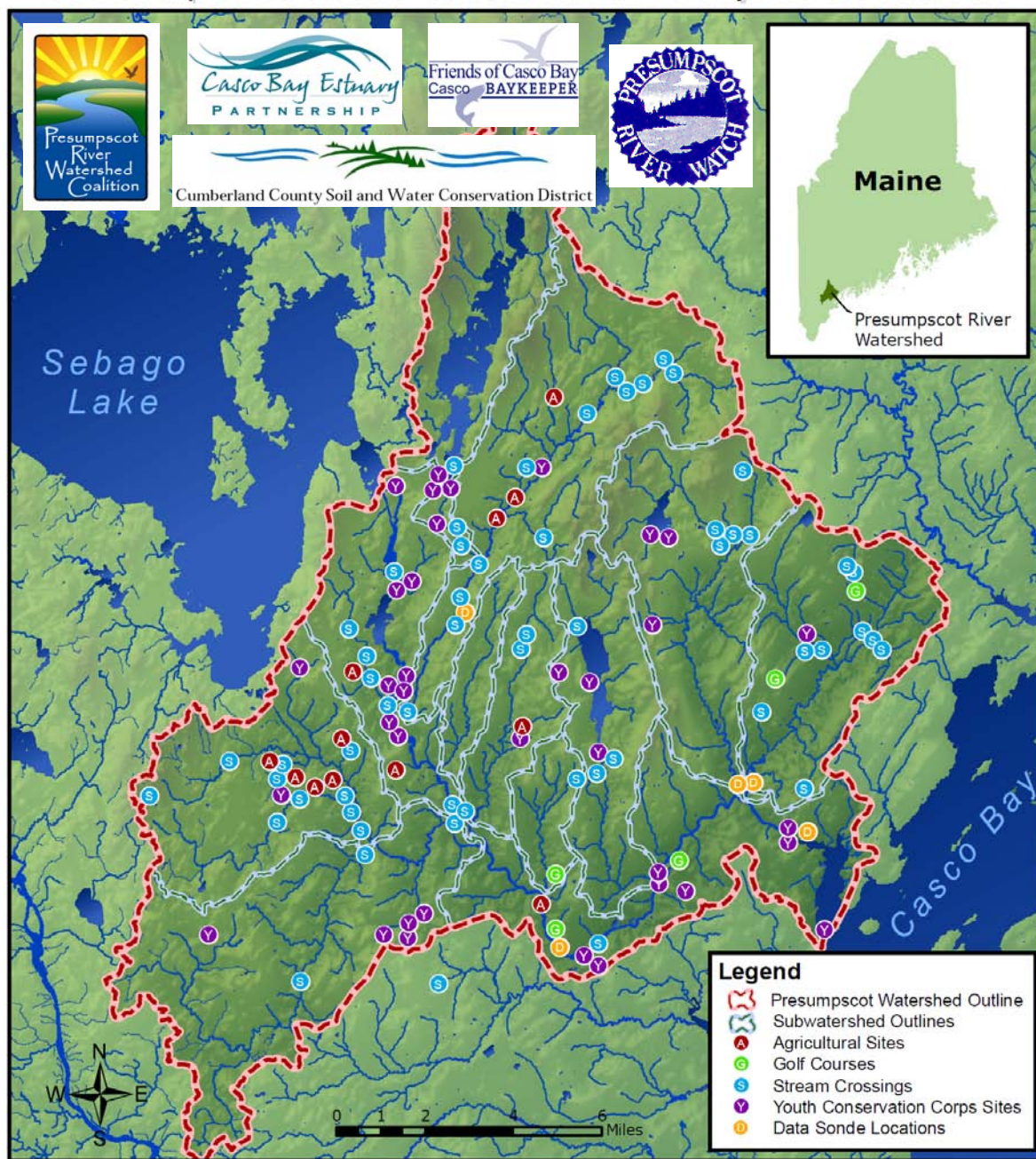
*Presumpscot River Youth Conservation Corps members rebuild the canoe launch at Gorham's Shaw Park to prevent further erosion.*



*Walnut Crest Farm owner Dale Rines machine plants white and red pines on four acres of pasture along river. Livestock were fenced from the area to promote revegetation.*



## Presumpscot River Watershed - Project Locations



## Completed Tasks

### "Yardscaping" to Reduce Nonpoint Source Pollution

The Yardscaping task, led by Cumberland County Soil and Water Conservation District (CCSWCD) and Friends of Casco Bay, provided education on the impact of lawn chemicals on the environment, children, and pets. It also promoted healthy lawn care practices, including the best ways to mow, seed, aerate, and use compost. Community education classes and workshops reached 135 homeowners, 17 municipal maintenance workers from five watershed communities, and more than 130 landscapers. Outreach efforts included point-of-sale promotions in 16 stores, and nurseries in 10 communities. Follow-up studies and surveys among participants suggest that this ongoing program has a real impact on homeowner lawn care choices. Details of safe Yardscaping practices are provided at [www.cumberlandswcd.org/yardscape.htm](http://www.cumberlandswcd.org/yardscape.htm).







*The new watering system for livestock on Walnut Crest Farm.*



*Totten Road crossing of Thayer Brook in Gray. Installation of a bottomless culvert pre- (above), and post- (below) installation.*



*PRYCC crew members install infiltration steps on an eroding swimming hole access trail adjacent to a local road.*

### ***Agricultural Management***

CCSWCD staff provided technical assistance and cost-share funds for landowners at five farms to address stream pollution and bank erosion. Landowners prevented 417 livestock from accessing and polluting streams, and planted 1,625 linear feet of riparian buffer with trees and shrubs.

***Highlight:*** Walnut Crest Farm in Gorham lies on the Presumpscot River. As part of the PWI project, the landowner installed 630 feet of fencing to exclude cattle from the river and a perennial stream. A new watering system was installed several hundred feet from the river. In 2006, the landowner planted 4,000 pine, hardwood and shrub seedlings in a four acre field that included 300 feet of frontage along the riverbank and 1,200 feet of frontage along the sides of the perennial stream. The successful project was highlighted in a front page article in the *American Journal* in October 2007.

### ***Stream Crossing Erosion Control and Culvert Replacement***

CCSWCD staff provided municipal road crews with technical assistance and PWI-funded cost-sharing to address erosion and runoff problems at 46 stream-crossing sites, and one private road, in seven watershed communities. Thirteen culverts were installed to replace existing failed or undersized culverts and approximately 670 tons of potential sediment pollutant were controlled. The participation of the road crews, Maine Department of Transportation, and volunteers from road associations contributed to the success of the effort.

***Highlight:*** The installation of a fish-friendly bottomless culvert in Gray resulted from a remarkable opportunity to partner with the town, the CBEP Habitat Restoration Committee, and the Maine Department of Inland Fish and Wildlife. The project replaced existing inadequate twin culverts with a 14-foot span open bottom culvert that provided full fish passage, addressed stream-bank erosion, and prevented flooding of nearby fields. The installation serves as a demonstration site for local contractors and public works departments.

### ***Presumpscot River Youth Conservation Corps***

The pilot PRYCC, made up of trained high school students, focused on riparian buffer enhancement, prevention of soil erosion, and improved water quality. The PRYCC also provided youth with hands-on opportunities to be stewards of the river. The PRYCC was managed by CCSWCD and guided by the Casco Bay YCC Collaborative. During the summers of 2006 through 2008, crews planted six riparian areas with a total of 1,381 trees and shrubs. Riparian planting occurred at the former Smelt Hill Dam in Falmouth, Bicentennial Park in Westbrook, Riverton Trolley Park in Portland, Route 35/Presumpscot River crossing in Standish and Windham, and Shaw Park and Vienna Farm in Gorham. Best Management Practices were installed at 50 sites, including stabilization of six miles of trail. The crews also removed 400 pounds of invasive plants. To educate the general public about water quality impacts, the crews stenciled 442 storm drains with a "Don't Dump" message.

### ***Golf Course Environmental Certification and Equipment Wash Pads***

Working with Audubon International guidelines, Presumpscot River Watch and five shorefront golf courses improved water quality management and reduced

(over)

chemical use. A total of 70,000 square feet of riparian area were designated as no-mow zones, and 4,500 square feet of eroding streambank, culvert inlets/outlets, and equipment fueling and wash areas were stabilized.

**Highlight:** Falmouth Country Club began brewing compost tea, which adds beneficial microorganisms to the soil, for greens application. Fungicide applications were reduced by nearly 50%, more than paying for the program. The course also constructed an equipment wash area to filter grey water through a silt pond rather than directing it to the Piscataqua River.

### Maps for Schools Program

CCSWCD staff taught watershed and mapping concepts to 1,085 middle-school students from seven local communities to foster their sense of place and stewardship. Activities included field water quality sampling and building model landscapes. Participating schools were given a CD resource guide for teachers, incorporating interactive GIS maps with a series of corresponding lesson plans. Workshops trained 28 educators on using the maps, ensuring that the program will continue to reach new students.

**Highlight:** Falmouth Middle School sixth graders presented research on watershed stakeholders and nonpoint source pollutants to peers, parents, and local conservation commissioners.

### Water Quality Monitoring

Presumpscot River Watch and Friends of Casco Bay deployed unattended data sondes at five locations in the watershed to record water quality data between 2006-2008, creating an extensive baseline data set on temperature, dissolved oxygen, pH, conductivity, and turbidity levels in the river and its tributaries.

## The Future

The partnerships developed and strengthened through the PWI are having a lasting impact on water quality, habitat protection, and educational activities. For example, CBEP and partners are assessing road/stream crossings for barriers to fish passage; working to ensure that anadromous fish can pass Cumberland Mills Dam; and addressing sedimentation in the Pleasant River. Monitoring equipment is available on-loan from CBEP. Overall, the PWI has built local capacity to address environmental impacts; raised the public visibility of watershed issues; and helped to ensure that the Presumpscot River will continue to recover.



*The new compost tea brewer at Falmouth Country Club.*



*Students work with laminated maps as part of the Maps for Schools Program.*



*Presumpscot River Watch staff prepare to deploy a data sonde to monitor water quality in the Pleasant River.*

*Protecting & restoring the ecological integrity of the Casco Bay watershed*



The Casco Bay Estuary Partnership works to preserve the ecological integrity of Casco Bay and to ensure compatible human uses of the Bay's resources, through public stewardship and effective management.