

## How are CBEP and our partners promoting stewardship and community engagement in the Casco Bay watershed?

CBEP Goal: All members of the Casco Bay community act as responsible stewards to protect Casco Bay and its watershed.

### Why Is It Important to Promote Stewardship of the Casco Bay Watershed?

The US EPA defines environmental stewardship as a responsibility shared by all those whose actions affect the environment. Thus all 240,000 residents of the Casco Bay watershed have an obligation to help protect their environment, regardless of the nature or frequency of their use of the Bay and the rivers and streams that feed it. On any given day, each citizen of the watershed makes decisions that cumulatively affect its health over time. CBEP believes that by helping those citizens understand the effects of those decisions, and engaging them in collective action, it is protecting and maintaining the health of the estuary for future generations.

### What Are Some of the Stewardship Activities Taking Place in the Casco Bay Watershed?

Numerous stewardship activities take place around the watershed every day, ranging from volunteers collecting water quality samples to land trusts stewarding individual properties, to watershed groups like the New Meadows Watershed Partnership promoting the health of a water body. Space limitations prevent a comprehensive compilation of all these activities. Below is a sampling of recent stewardship-related programs undertaken by CBEP and its partners.

#### YardScape!

The Cumberland County Soil and Water Conservation District (CCSWCD), working directly with the Interlocal Stormwater Working Group municipalities, horticulturists, lawn care professionals and nurseries, has been successfully promoting the YardScape! program for low-impact yard care to residential homeowners. YardScape! aims to reduce the use of pesticides and fertilizers that can enter stormwater and degrade water quality.

This door hanger is part of the YardScape! outreach campaign.



CCSWD began the program by surveying homeowners in the watershed to determine residential needs and interests in lawn care. Using those results, CCSWD developed a series of fact sheets – “Mow Better,” “Aerate,” “Water Wisely,” and “Grubs,” among others. They provide yard care recommendations that save money, result in lovely outdoor areas, and reduce health risks associated with pesticide use.

#### Casco Bay Youth Conservation Corps Collaborative

For several years, the watershed has benefited from the stewardship and leadership of local youth conservation corps (YCCs): teams of five high school students, a crew leader, and a technical director. YCCs work with private landowners, lake associations, municipalities, state and federal agencies, and others to implement water quality improvement projects in the watershed. The participants excel at projects such as constructing low-impact development structures, planting riparian buffers and rain gardens, and stenciling storm drains. As just one



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Volunteers plant trees and shrubs on an eroded riverbank.

example: over three summers, the Presumpscot River YCC completed 50 projects, installing 82 infiltration steps, painting 442 storm drains, and building 12 water diverters.

YCCs’ greatest benefits may be in cultivating environmental stewardship among youth, who develop leadership skills while working in their local communities to protect water quality. In Maine and elsewhere, the YCC model has proven to be an effective tool for raising awareness, energizing communities, and inspiring local youth to become environmental leaders. The Casco Bay YCC Collaborative, which brings together multiple crews for large projects, further expands the YCCs’ contributions to their communities and their watershed. When participants become the Bay’s environmental stewards in the future, they will be aware of the importance of collaborative action.

## In-School Education Programs

The Cumberland County Soil and Water Conservation District, Portland Water District, and other organizations are bringing watershed-based education programs directly into area schools through hands on lessons and field-based experiential learning activities.

### Maps For Schools

Maps For Schools is a collaborative effort of CCSWCD, CBEP, the University of Southern Maine (USM), and Orbis LLC. With funding from the Presumpscot Watershed Initiative, the program was launched in 2006 to help youth reconnect with their “sense of place” in the Presumpscot watershed. The multidisciplinary program incorporates environmental science, social studies, history, and geography while addressing Maine Learning Results standards. Using maps and data, students investigate historical and present day human relationships with waterways by learning about how villages, canals, sewers, mills, and archaeological sites relate spatially to the Presumpscot River and its tributaries. CCSWCD and USM environmental studies faculty developed a series of lessons and activities that incorporates digital maps, and provided a compact disc/CD (available upon request from CCSWCD) to distribute curriculum and mapping materials.

So far, more than 1,000 first- through eighth- graders have participated in Maps for Schools in the watershed communities of Falmouth, Gorham, Portland, Westbrook, Windham, and Yarmouth, for a collective total of 3,135 contact hours of education.

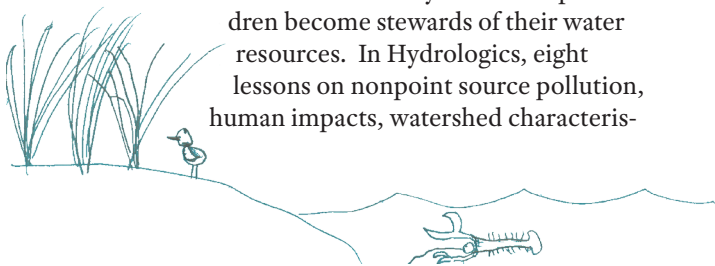
### ISWG Stormwater Education Activities

The Interlocal Stormwater Working Group provides funding to CCSWCD to offer stormwater education to schools. Between 2004 and 2009, 3,850 students in the watershed received 10,539 contact hours of lessons thorough the program. Those children represented 11 municipalities, and 27 elementary, middle, and high schools in the watershed.

### Portland Water District Education Programs

The Portland Water District runs multiple education programs that are active in many areas of the Casco Bay watershed. Programs include Hydrologics, TroutKids, and Drop in the Bucket. Taking advantage of students’ innate curiosity by basing lessons on the water cycle, watershed, groundwater, wastewater treatment, lakes, and salmon,

PWD’s educators actively seek to help children become stewards of their water resources. In Hydrologics, eight lessons on nonpoint source pollution, human impacts, watershed characteris-



Fifth-graders from the Reiche School in Portland at the 2010 Southern Maine Children’s Water Festival.

tics, stormwater, low impact development, and behavior change are given once a month. Students design and then implement environmental projects in their communities. In TroutKids, students visit hatcheries and deliver eggs, maintain tanks, record data, and learn about fish anatomy and habitat. Drop in the Bucket programs are shorter or one-time presentations, workshops, and events at schools. Over the span of the 2009-2010 school year, PWD educators reached more than 4,500 students through more than 22,319 contact hours.

Youth also have opportunities to learn about Casco Bay and the Casco Bay watershed at local libraries. PWD educators participate in summer reading and activity programs to help students learn what they can do to protect the watershed, while Friends of Casco Bay introduces the watershed and its history to young audiences.

### Southern Maine Children’s Water Festival

CBEP and several of its partners contribute financially, programmatically, and administratively to the Southern Maine Children’s Water Festival, held each spring on USM’s Portland campus. The festival is a collaboration of several state and local agencies and is dedicated to providing nearly 700 fifth-graders a full day of hands-on, interactive, and fun educational experiences. From games like Dripial Pursuit and Eel of Fortune, to hands-on activities such as touch tanks, bug identification, and fly-tying, the festival staff and volunteers work diligently to incorporate an awareness of the watershed’s importance to its marine and human occupants. Teachers receive supplementary materials to help them incorporate the lessons of the day into their long-term curricula.

The festival has grown significantly in recent years: in 2010, the committee received twice as many applications as it could accept. Judging from the enthusiastic reviews of teachers and students, the Southern Maine Children’s Water Festival is laying excellent groundwork for the future of the watershed.

### Reference

Casco Bay Estuary Partnership. 2010. *Presumpscot Watershed Initiative - Final Report*.



## PRESUMPCOT WATERSHED INITIATIVE

In February 2006, CBEP, in partnership with the Presumpscot River Watershed Coalition (PRWC), Cumberland County Soil and Water Conservation District, Friends of Casco Bay, and Presumpscot River Watch, was awarded a \$740,000 EPA Targeted Watershed Grant to implement a number of environmental improvement projects. That collaboration, the Presumpscot Watershed Initiative (PWI) took the lead on installing 116 projects throughout the watershed, while engaging area farms, golf courses, schools, and homeowners to foster improved stewardship of water resources and adjacent lands (CBEP 2010). Representative highlights from the three-year effort follow.



At Walnut Crest Farm in Gorham, owner Dale Rines fenced off four acres of pasture along the Presumpscot River, some of which was severely eroded from heavy livestock use, and provided cattle with an alternate source of drinking water. Over the course of multiple planting events, Mr. Rines and a dozen volunteers then planted more than 4,000 trees and shrubs to stabilize loose soils and restore the riparian buffer.



Municipal public works crews, in collaboration with CCSWCD staff, addressed faulty culverts, eroding road banks, and other problems identified at 47 stream-road crossing sites throughout the watershed. In addition to preventing an estimated 455 tons of sediments from eroding into adjacent water bodies, 13 new culverts were installed. A bottomless arch culvert was installed at the crossing of Totten Road

over Thayer Brook in Gray, where two small culverts caused periodic flooding, and presented a moderate barrier to fish and other aquatic organisms. Among the first such stream/road crossing in the Casco Bay region, the bottomless arch culvert eliminates erosion issues associated with the previous structure, and provides unhindered passage to fish and other aquatic life while demonstrating recommended practices for installing new and replacement culverts.

In response to local demand for low-impact golf courses, several Presumpscot-area golf courses initiated the process of becoming certified as Audubon International Cooperative Sanctuaries. To qualify, they must follow program recommendations for improving habitat, reducing pollution, and protecting water quality.



All recommendations are designed to allow courses to maintain high-quality fairways and greens. In response, course superintendents are expanding vegetated buffers, establishing no-mow zones, and timing watering to minimize runoff, among other strategies. Falmouth Country Club, for example, is now brewing compost tea (pictured above) to reduce the amount of fungicides it uses.

In 2008, hundreds of people joined PRWC and other organizations in the first Presumpscot River Fest, a celebration held at Riverbank Park in Westbrook. Visitors learned about ongoing efforts by PRWC and its partners to preserve open space, mitigate cumulative impacts, and restore native fisheries. Local musicians performed, children participated in environmental education activities, and all participants learned about ways they might become involved in activities to protect and maintain the Presumpscot River.



To learn more, or to get involved in these and other stewardship activities, visit the Casco Bay Estuary Partnership web site at [www.cascobayestuary.org](http://www.cascobayestuary.org).