

Educational and Stewardship Initiatives Engage Citizens with Casco Bay



*Casco Bay Estuary
PARTNERSHIP*

Thousands of students within the Casco Bay watershed participate in marine and environmental education programs run by schools, nonprofits and agencies that seek to increase environmental literacy and promote sound stewardship.



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A Spectrum of Bay-Related Educational Programs

Throughout the watershed, school-based, nonprofit and government-sponsored programs work to help residents understand Casco Bay, its significance to communities, and how human activities affect its health. These programs seek to increase environmental literacy; provide training in science, engineering, technology and math (STEM); connect learning across multiple disciplines; and enable students to engage in self-directed inquiry. Education programs can prompt behavioral changes and encourage volunteer stewardship efforts that have a positive impact on the Bay.

A sampling of current efforts suggests the breadth and variety of environmental education programs occurring in the Casco Bay region:

- Students from eleven area schools participate in Vital Signs, a Gulf of Maine Research Institute program that educates students and teachers on field research and data collection—helping them learn to document the presence of invasive species such as non-native plants or marine organisms. Student sightings are reviewed by volunteer taxonomic experts to confirm species identification.
- Portland Water District's Hydrologics programs offers school visits and special programs such as TroutKids Program, in which students raise native brook trout in the classroom. PWD programs reach more than 2,500 students annually, many of whom visit the Sebago Lake Ecology Center.
- Cumberland County Soil and Water District offers a varied menu of classroom programs, funded by the District, CBEP and the Interlocal Stormwater Working Group. In the 2014–15 school year, its CONNECT program worked with 48 teachers to deliver lessons to 96 different classes, reaching 1,900 students in grades 3–12.
- Working with many partners, the City of South Portland has integrated

educational programs into efforts to restore Trout Brook. High-school students, participating in a Youth Conservation Corps program, implemented a riparian planting project to improve water quality through two successive summers. Students at South Portland schools raise trout in the classroom and release them into the Brook.

- Coastal Studies for Girls provides a semester-long immersion program for sophomore girls from around the country focused on environmental research and leadership education.
- Harpswell Heritage Land Trust runs family outings, a weekly “rain or shine” hiking group for families, after-school programs, summer camps and community seminars.
- Maine Audubon runs preschool programs, summer camps, and vacation day camps at Gilsland Farm in Falmouth.
- Rippleffect provides a wide range of experiential education programs at Cow Island in Casco Bay and on the mainland.
- Friends of Casco Bay has created a curriculum, *Casco Bay through Time*, to help students from middle school through high school and beyond understand local impacts of climate change—such as warming ocean temperatures, sea-level rise and ocean acidification.
- In 2014–2015, CBEP sponsored an Island Institute AmeriCorps Fellow to promote environmental education in Casco Bay island schools. In addition, CBEP hired an intern through the Island Institute Island Scholars Program to lead a summer nature camp in which children on Long Island explored different habitats and learned about ecological principles.

No such listing of programs can ever be complete as new programs and projects continually evolve. The Casco Bay region is home to many educational institutions that support active, engaged learning—whether expeditionary learning (e.g., Casco Bay High School and King Middle School), experiential learning (e.g., Coastal Studies for Girls), or service learning (e.g., the seventeen Maine college campuses working together as the Maine Campus Compact).

Stewardship

It is even more difficult to track Bay-related volunteer and stewardship opportunities although these abound and appear more common than in the past. Numerous land trusts, conservation commissions and nonprofit organizations now encourage their members to give back to their communities and to the Bay through events such as beach cleanups and work days, or through long-term monitoring commitments.

Volunteer monitors not only collect data to help examine long-term changes (see the Bay Water Quality indicator), they get to know local waters, see changes first-hand, and advocate on behalf of the Bay. Friends of Casco Bay has run an exceptional volunteer water-quality monitoring program for more than 20 years, collecting data from 35 sites or more each year. Presumpscot River Watch has successfully coordinated volunteer water-quality monitoring for more than a decade.

Recognizing that stewardship often stems from recreational enjoyment, CBEP recently helped the Presumpscot River Watershed Coalition compile and publish a fold-up waterproof *Presumpscot River Paddling Map & Guide* that celebrates the river’s ongoing recovery and showcases its cultural and natural assets. This collaborative project involved the City of Westbrook, Town of Falmouth, SAPPI, Friends of the Presumpscot River, Presumpscot Regional Land Trust, Portland Trails, Presumpscot River Watch and others, with grant support from the Maine Outdoor Heritage Fund.

CBEP is working with area residents and the Wells National Estuarine Research Reserve to expand volunteer-based monitoring of invasive marine organisms through the Marine Invader Monitoring and Information Collaborative (MIMIC), which has recently begun monitoring efforts on Peaks, Long and Chebeague Islands. It also helped establish the Casco Bay Invasive Species Network (CBISN), a regional network of conservationists, land managers, and others dedicated to awareness and management of non-native invasive species in and around Casco Bay. CBISN hosted a Field Academy in the summers of 2014 and 2015 to expand the number of environmental managers knowledgeable about invasive species.

For additional references and information, please view the Bibliography of the full *State of the Bay 2015* report at www.cascobayestuary.org/state-of-the-bay-2015.