
Case Study: Maine CWSRF awards ARRA funds to implement a collaborative watershed restoration plan to improve Casco Bay

Casco Bay was designated an “estuary of national significance” by the U.S. EPA in 1990 due to its pristine nature and the increasing stress on its water quality and habitats from human activities. The Casco Bay watershed encompasses all or part of 42 cities and towns and nearly 20 percent of the population of Maine including Long Creek. The estuary contributes to the local economy and quality of life in surrounding communities by offering recreational opportunities, scenic beauty, waterfront jobs, tourism, and commercial fishing, among other benefits. The Long Creek Restoration Project, which received \$2.1 million in American Recovery and Reinvestment Act (ARRA) loan funding from Maine’s Clean Water State Revolving Fund (CWSRF), will help implement the recommendations of the Long Creek Watershed Management Plan (WMP). The project includes the installation of a variety of green stormwater components such as vegetative bioswales and soil media filters to reduce pollutant loadings in Casco Bay. The CWSRF is jointly administered by the Maine Department of Environmental Protection and the Maine Municipal Bond Bank. This loan includes almost \$600,000 in principal forgiveness, substantially reducing the cost to the communities involved.

The National Estuary Program (NEP) was established by Section 320 of the Clean Water Act Amendments of 1987; the program is intended to protect estuaries of national significance that are threatened by pollution, development, and/or overuse. Many of the 28 estuaries that were designated as NEPs in the Clean Water Act Amendments, including Casco Bay, have similar water quality issues, including excess nutrients, toxic chemicals, habitat loss and degradation, pathogens, declines in fish and wildlife populations, and alteration of natural flows. The Clean Water Act Amendments required each of the NEPs to develop and implement a Comprehensive Conservation and Management Plan (CCMP), which is a long-term plan that includes targeted actions to address water quality and other natural resource challenges in the estuarine watershed.

The Clean Water State Revolving Fund, which was also authorized by the 1987 Clean Water Act Amendments, establishes the development and implementation of a CCMP as an eligible use of funding. As such, projects or activities that are listed in an approved CCMP and are part of an NEP study area are eligible for CWSRF funding, regardless of whether they are implemented on public or private land. Utilizing Section



320 authority provides CWSRF programs with the opportunity to fund privately-owned projects that require NPDES permits, if they are located in NEP study areas. Because this project is located within the watershed of an NEP and implements a priority activity described in Casco Bay’s CCMP, Maine was able

to utilize CWSRF funding to implement regulated stormwater management activities on both privately- and publicly-owned land.

The Casco Bay Plan (Available at: <http://www.cascobay.usm.maine.edu/pdfs/CB%20PlanUpdate06.pdf>), adopted in 1996, outlines five main goals, including minimizing pollutant loadings in the watershed from stormwater and combined sewer overflows. In 2006, the Plan was updated by adding a stormwater action plan to promote subwatershed management, planning, implementation, and evaluation. As part of this effort, the city of South Portland, located in Cumberland County, obtained a grant from the Maine Department of Environmental Protection (DEP) in 2007 to complete a Watershed Management Plan for Long Creek. The WMP was completed in July 2009 after a complex process that required collaboration among numerous stakeholders from the public, private, and nonprofit sectors. The Long Creek WMP (Available at: <http://www.restorelongcreek.org/plan/index.htm>) identified water quality problems in the watershed as primarily resulting from impervious cover that contributes to nonpoint source pollution and rapid increases in peak stream flows from stormwater runoff. The WMP also identified specific recommendations to reduce and mitigate stormwater impacts, such as stormwater management retrofits, non-structural stormwater best management practices, and riparian re-vegetation.

Long Creek is a stream that drains to a watershed area just under 3.5 square miles, and eventually flows into Casco Bay. It was once a pristine creek filled with native brook trout that was popular with fishers and swimmers. Today, Long Creek is badly contaminated and does not meet state water quality standards. Water quality problems stem largely from significant urbanization and commercial development in recent years. Rapid development converted areas that were once forested into impervious surfaces, with 60 percent impervious cover in some areas. These areas transport high volumes of polluted stormwater with oil, grease, and silt into streams.

The Long Creek Restoration Project, which is being implemented by the Cumberland County Soil and Water Conservation District, seeks to implement the recommendations of the Long Creek WMP through a collaborative process. (For more information about the Long Creek Restoration Plan, see: <http://www.restorelongcreek.org/projects/index.htm>) The \$2.1 million ARRA CWSRF loan implements a range of stormwater management components, including vegetative bioswales, tree boxes, soil media filters, and discrete underground water quality treatment units to reduce pollutant loadings in Casco Bay (see photograph on right). The project treats approximately 16.6 acres of impervious cover in an area surrounding Long Creek. Many of the stormwater system improvements will be located on private property adjacent to Long Creek, near the Maine Mall in South Portland. The project will reduce pollutant loadings in the watershed by managing stormwater runoff, while establishing wildlife habitat and food for aquatic animals and providing shade and temperature control for the stream. These improvements will ultimately benefit the health of Casco Bay.

To further advance the objectives of the WMP, the Maine Department of Transportation (DOT) also provided ARRA funding for a porous paving system near the Maine Mall that will be the first application of a porous paving system on a high volume public road in the Northeast. Working with leaders and participants in the Long Creek Restoration Project, Maine DOT identified the porous paving system as one way to contribute to the Restoration Project's goal of restoring Long Creek and the Casco Bay watershed.

This project is a testament to significant cooperative efforts. Under the Long Creek WMP, private landowners, municipalities, and state agencies may either pay for individual pollution permits or pay a

fee to participate in the proposed Restoration Program. The permit fees are determined based on the area of impervious cover on the property. Although the Restoration Program had not begun collecting participation fees at the time of receiving funding for the Long Creek Restoration Project, the Cumberland County Soil and Water Conservation District was able to accept the ARRA CWSRF funds after four town councils (South Portland, Westbrook, Scarborough, and Portland) voted to create this program and authorized loans under municipal authority. This fee will serve as the repayment source for the ARRA CWSRF loan. The Maine DEP structured SRF payments as 100 percent principal forgiveness, which the majority to be converted back to a conventional loan once the funding mechanism is in place.

To date, municipal and landowner participation in the Long Creek Restoration Project has been high. This funding mechanism for the Restoration Program has proven to be a remarkable success because the cost of participating in the program is lower than it would be for landowners to purchase individual pollution permits. This innovative and cooperative funding arrangement enables communities to fund important projects quickly and provides a valuable model for other rapidly developing urban communities throughout New England and the rest of the nation. According to Tamara Lee Pinard, Executive Director of the Long Creek Watershed Management District, the timing of ARRA and the funding mechanisms that were offered by Maine's CWSRF program served as a crucial impetus in pulling together the participation efforts among district members, which has allowed the project to be realized successfully.

For more information please contact the Maine Clean Water State Revolving Fund
<http://www.maine.gov/dep/water/grants/srfparag.html>