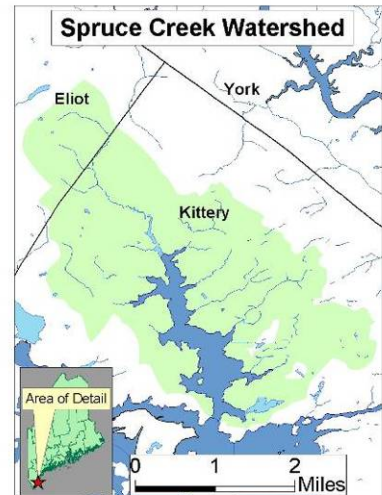


Spruce Creek Watershed Improvement Project – Phase I

#2008RR01

Waterbody Name: Spruce Creek
Location: Kittery and Eliot – York County
Waterbody Status: NPS Priority Watershed, Impaired
Project Grantee: Town of Kittery
Project Duration: April 2008 – March 2010
319 Grant Amount: \$69,670
Local Match: \$113,865



PROBLEM:

The Spruce Creek watershed covers 9.6 square miles in Kittery and Eliot in southernmost Maine. The creek flows into the Piscataqua River about 1.5 miles from where the river meets the Gulf of Maine. The creek is primarily fed by six freshwater streams and includes approximately 3 square miles of tidal area (including high salt marsh, ledge and mud flats). Watershed land use includes sparse residential development and some active farmland and woodlots in the upper reaches in Eliot. Along the Route 1 and Route 95 corridor, there are extensive impervious areas in commercial strip malls, roads and interchanges. The tidal portion is residential with larger homes along the immediate shoreline.

The Maine DEP lists Spruce Creek as impaired due to bacterial contamination, low dissolved oxygen, toxic contamination and a compromised ability to support aquatic life. Although a portion of Spruce Creek was open to shellfish harvesting in the past, the flats have been closed since 2005 due to poor water quality and high fecal coliform concentrations. The Spruce Creek Association (SCA) formed in 2002 to promote watershed stewardship and now has over 180 members. A survey completed in 2007 (#2005R-01) identified 197 NPS sites and provided preliminary recommendations for those sites.

PROJECT DESCRIPTION:

The goal of this project was to reduce bacteria loading and the export of sediment and nutrients into Spruce Creek to improve water quality and help re-open shellfish harvest areas. The SCA and Town of Kittery worked to achieve these goals by installing conservation practices at three residential properties and stormwater retrofits at two commercial sites and the Kittery Town Hall. The project aimed to replace two failing culverts, but this was postponed until Phase II.

Local residents hosted three septic socials (45 participants) and six residential socials (110 participants). The project also launched a website, established a discount rain barrel program, and conducted an intercept survey at the beginning and end of the project. 34 residents pledged to complete 444 watershed-friendly practices and received a yard sign to show their participation. Local newspapers covered several events during the project.



110 people attended six 'residential socials'

PROJECT OUTCOMES:

- The project installed 22 BMPs to control polluted runoff at three residential properties, two commercial sites and the Kittery Town Hall.
- The project's Septic System Maintenance and Repair Team held three septic socials with a total of 45 participants. Using town tax records, the team also identified 44 properties with high potential of malfunctioning septic systems. As a result of this work, the Town helped property owners replace two failing septic systems during the project.
- A discount rain barrel program was established, and over 100 barrels were sold to local residents. The rain barrels were distributed in a highly publicized and well attended event using a historic gundalow ship.
- Annual pollutant loading to Spruce Creek was reduced by an estimated 1.4 tons of sediment, one pound phosphorus, and 28 pounds of nitrogen (Region 5 Method).
- A 'Protect Kittery Waters' website (www.protectkitterywaters.org) was created to provide a central location for the dissemination of information for residents about current actions and events as well as steps home and business owners can take to improve water quality.



100 local residents purchased rain barrels



Volunteers help install a rain garden

PROJECT PARTNERS:

Eliot Conservation Commission
Great Works Regional Land Trust
Kittery Conservation Commissions
Kittery Department of Public Works
Kittery Land Trust
Kittery Shellfish Commission
Maine Department of Marine Resources
Maine State Planning Office

Nonpoint Education for Municipal Officials
Southern Maine Regional Planning Commission
Spruce Creek Association
Spruce Creek Watershed Council
Town of Kittery
Town of Eliot
York County SWCD

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