



Town of Brunswick Mare Brook Watershed Assessment and Community Engagement Project

“Conservation decisions are typically based on emotion. The citizens of Brunswick can read the project report and feel optimistic that Mare Brook could have a healthy future if they want it to. I hope our community has the desire to improve Mare Brook.”

Jared Woolston, Brunswick Town Planner



PARTNERS

Maine Coast Heritage Trust, Brunswick-Topsham Land Trust, Friends of Casco Bay, Casco Bay Estuary Partnership, Bowdoin College (landowner), Midcoast Regional Redevelopment Authority (principal landowner) and US Navy (landowner)

ISSUE AREA

Specific locations include:

- Headwaters near Matthew Drive
- Flows towards Brunswick Landing (former Brunswick Naval Air Station [BNAS]) & confluence with Merriconeag Stream
- Head of tide near Liberty Crossing (road) to Harpswell Cove

PROJECT DESCRIPTION (completed December 2016)

Mare Brook (also known as Mere Brook) is considered an urban impaired stream for non-attainment, or failure to meet the State of Maine’s water quality standards. The headwaters of Mare Brook are located in freshwater wetlands on the west side of Mathew Drive in Brunswick. Mare Brook meanders through town in an easterly direction to Brunswick Landing (the former Brunswick Naval Air Station), and out to sea in Harpswell Cove, one of the most important shellfish growing areas in the region. Mare Brook receives water from several sources including discharged groundwater, precipitation (rain and snow) and associated runoff from developed and undeveloped land, and many tributary streams and freshwater wetlands. On a regional scale, much of the Town of Brunswick, including Mare Brook and Harpswell Cove are part of the Casco Bay watershed. This project aims to improve understanding of the challenges facing Mare Brook and develop recommendations for mitigating those challenges to improve water quality and protect the economic value of a shellfish growing area that produces 2,500 bushels of softshell clams annually.

THE CHALLENGE & APPROACH TAKEN

- Mare Brook is considered a Class B stream in freshwaters but fails to attain state water quality standards;
- The tidal portion of Mare Brook is Class SB and is closed to shellfish harvesting due to pollution;
- The assessment is primarily focused on filling data gaps in the freshwater portion of Mare Brook with recommendations for future assessment of tidal areas.

THE RESULTS

- Most of the riparian corridor of Mare Brook contains intact floodplains and buffers;
- Potential vernal pool habitats were identified;
- A variety of fish live in Mare Brook and Merriconeag Stream including: Brook Trout, 9 Spine Stickleback, American Eel, and Lake Chub;
- Poor aquatic insect populations in areas of the stream is suspected to be a result of an influx of sand (source unknown) and mass movement of sandy substrate;
- Fish passage is limited by existing culverts and dams;
- Legacy pollution remains in areas around the former Brunswick Naval Air Station (BNAS).

NEXT STEPS AND OPPORTUNITIES

- The project report provides recommendations for Best Management Practices (BMPs), continued monitoring, and funding sources;
- Tidal areas of Mare Brook are under review by the Department of the Navy for groundwater pollution and the DEP has plans to monitor bioaccumulation of pollutants in shellfish;
- Prioritizing the recommendations of the final report is the next step towards improving Mare Brook.

NEEDS

- Support of many stakeholders including: citizen volunteers, landowners, scientists and state and regional experts;
- Financial and technical assistance for town infrastructure improvements and maintenance may be required to achieve water quality improvements;
- Continued assessment of the sources of water and pollution to Mare Brook including: groundwater, precipitation and runoff, and legacy pollutants;
- The development of an action strategy with methods for measuring watershed improvement is vital to public confidence in the project.

LESSONS LEARNED

- Mare Brook is part of a watershed system and the causes of its impairment may be the result of a variety of stressors that are present in certain areas but not in others;
- Engage the community in an assessment of the Mare Brook watershed;
- Reveal the stressors that contribute to Mare Brook's urban impaired stream status for non-attainment of state water quality standards and Recommend Best Management Practices (BMPs).

COASTAL COMMUNITY GRANTS: Water Quality & Land Use

APPLICABILITY FOR OTHER MUNICIPALITIES

- Mare Brook is one of many urban impaired streams in Maine;
- Most of the watershed contains areas that anticipate future concentrated development;
- Watershed assessment improves public stewardship, awareness of staff, and provides targets for planning decisions

RECOMMENDATIONS

- Technical support for designing stream crossings that serve migratory fish;
- Best Management Practice (BMP) development for erosion control methods that enhance coastal wildlife habitat (salt marsh creation, manmade reefs, oyster bags, etc.)

FOR MORE INFORMATION

A complete set of work products are available at:

<http://www.brunswickme.org/departments/planning-development/mbwsa/>

CONTACT

Jared Woolston, Town Planner

jwoolston@brunswickme.org

207-725-6660, ext. 4022

FY16 CCG - 46
2.1.17.

Financial assistance provided by the National Oceanic and Atmospheric Administration, U.S. Department of Commerce Grant CZM NA14NOS4190066 and NA15NOS4190208 to the Maine Coastal Program. Coastal Community Grants are awarded and administered by the Maine Department of Agriculture, Conservation and Forestry Municipal Planning Assistance Program.

