2008 Best Management Practice Site Visit Summary Report

Improving and protecting water quality in New Hampshire's watersheds

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Funding for this project was provided by the US Environmental Protection Agency under Section 319 of the Clean Water Act

Introduction

Each year the Environmental Protection Agency provides states with grant funding to address nonpoint source pollution issues through Section 319 of the Clean Water Act. Since 1993, the New Hampshire Department of Environmental Services has provided financial and technical support to local organizations that wish to implement nonpoint source related Best Management Practices (BMP's). The BMP's are designed to improve and/or maintain the water quality of a water body and ultimately the entire watershed that the water body lies within. BMP's may be behaviors or on the ground structures designed to reduce the amount of nonpoint source pollution entering a water body. The functions of BMP's include but are not limited to; reducing the amount of sediment, nutrients, bacteria or pollutants entering a water body, erosion control or reducing the volume of runoff entering a water body.

Rip rap swale along road to dissipate stormwater volume, reduce erosion and stop harmful pollutants and nutrients from entering the surface water.

2008 was the first year the NH DES Watershed Assistance Section began conducting BMP site visits as part of the implemented Section 319 projects. Methodologies were developed this year for cataloging, inspecting, tracking and entering data related to BMP's. These methods shall be revised and refined as needed during succeeding monitoring years with plans to write a standard operating procedure (SOP). The purpose of a site visit is to monitor the long term success of structural BMP's and track any required maintenance and repairs. In addition, site visit results will aid in future BMP selection decisions.

2008 Site Visit Results

During the 2008 field season, 54 BMP project sites were visited (see fig 1). There are 22 projects that should be visited in the near future; five that are priorities for a first visit; five that are priority re-visits; and several that require post visit follow up contacts with the project grantees. The following were the most frequent/severe issues found during the spring and summer 2008 inspections.

Catch basins: the field technician found many catch basins that appear to be generally neglected and not maintained. Several catch basins were full to the invert of the outlet pipe, and some contained larger rocks and debris in addition to sediment accumulation. Many others were

nearly full, had covers that were paved shut, broken, or missing, or had other indications that that they were not routinely maintained.

Silt fences: Silt fences and other erosion control practices seem to be frequently implemented incorrectly, and in several cases, silt fencing was still in place several years after construction was completed.

Information kiosks: Many of the information kiosks visited lacked any educational materials and listings of project funding sources.

Storm drain stenciling: Painted stencils appear to last about 2 years at the most. Some of the stencils use small text that becomes illegible very quickly. Longevity of storm drain tags are more variable. Generally they seem to be in poor condition, or missing entirely within a few years post-project.

Loose pervious surfaces: crushed stone and larger stepping stones have proven troublesome in some high traffic areas and areas prone to vandalism. Alternatives might be smaller gravel particles or mulch that would be less likely to be picked up and thrown, or more secured types of impervious surfaces such as grass, pervious cement, or pervious asphalt which would remain in place in high traffic areas.

Farm BMP's: These generally appear to be very well maintained, most likely due to the continued on-site presence of the grantee.

Generally speaking the slope stabilization projects and other projects that require little or no maintenance are doing well while projects that require regular maintenance are functioning fair or poor. This highlights the need for careful consideration of maintenance requirements when developing operation and maintenance plans. DES and the grantees should attempt to improve ongoing communication between project stakeholders and those responsible for the maintenance of these BMP's. Setting maintenance schedules and plans with 319 grantees would greatly improve the function of select BMP's. Continued inspections of BMP's and maintaining working relationships with towns and organizations will ensure that implemented BMP's continue to function properly. Other reasons BMP's were functioning ineffectively were due to material choice or implementation processes.

Follow up measures for BMP inspections this year included DES staff adding information to a kiosk and contacting grantees to have a catch basins emptied and a pervious parking lot swept.

BMP Examples

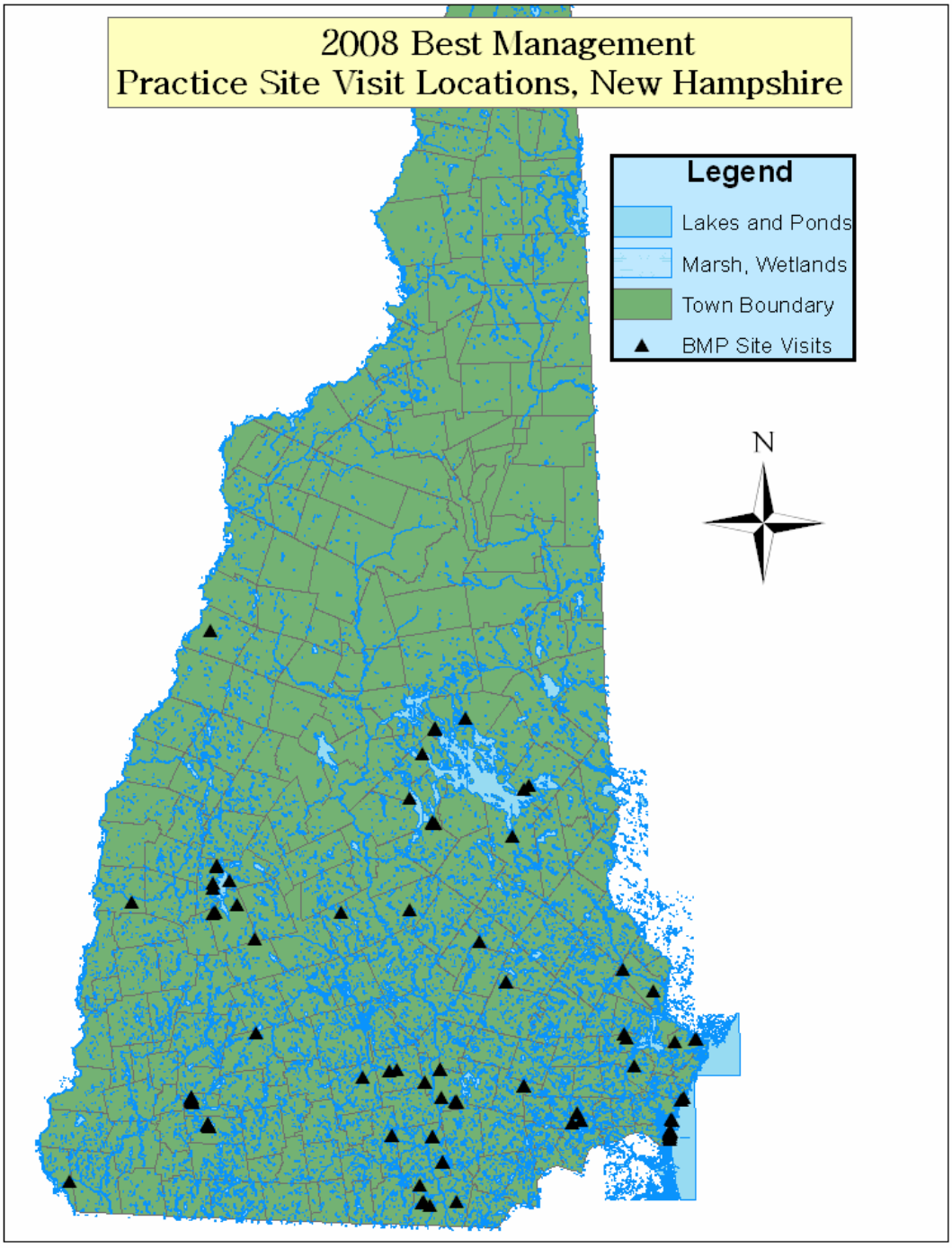
Rain garden

Stone lined apron and rock rip rap

Vegetated Swale

Pervious paver boat ramp

Figure 1.


2008 Best Management
Practice Site Visit Locations, New Hampshire
Legend
Lakes and Ponds
Marsh, Wetlands
Town Boundary
BMP Site Visits
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2008 Project Site Visits

Coastal Watershed

Project Number	Project Name	BMP Type	Town
B-98-C-05	Dover Water Quality Protection and Enhancement Project	Grade Stabilization Structure	Dover
R-99-C-01	Highland Avenue Stormwater BMP Project	Oil and Grit Separator	Hampton
R-99-C-02	Heron Point and Sliding Rock Restoration Project	Recreation Area Improvement, Grassed swale, Vegetative Barrier	Newmarket
R-99-C-03	Treatment of Stormwater Runoff from the Route 1A North Beach Area	Urban Filtration Basin	Seabrook
R-99-C-04	Little River Salt Marsh Restoration Project	Wetland Enhancement	North Hampton
R-00-C-02	Stratham Circle Mill Pond Restoration Project	Dredging	Stratham
R-01-C-09	Strafford County Canoe Launch	Recreation Area Improvement	Dover
R-02-C-03	Pierce Island Shoreline Stabilization Phase II	Streambank and Shoreline Protection, Recreation Trail and Walkway	Portsmouth
R-03-C-02	Storm Drain Stenciling in NH's Hampton/Seabrook Harbor Watersheds	Outreach and Education	Hampton
R-03-C-03	Beach Street Catch Basin Replacement Program	Urban Catch Basin	Seabrook
R-03-C-06	Implementation of the Watershed Restoration Plan for Hodgson Brook	Outreach and Education	Portsmouth
R-03-C-08	Beach Area Catch Basin Replacement – Phase 2	Urban Catch Basin	Seabrook
B-06-C-05	Wason Pond Remediation, Town of Chester	Recreation Area Improvement, Critical Area Planting, Restoration and Management of Declining Habitats	Chester

Connecticut Watershed

Project Number	Project Name	BMP Type	Town
B-99-CT-02	Winnipesaukee River Clean Up	Critical Area Planting	Laconia
B-99-CT-09	Beck Brook Runoff Response Program	Grade Stabilization Structure	Newbury
R-99-CT-01A	MacGlauflin Farm Restoration Project	Barnyard Runoff Management	Claremont
R-00-CT-09	McGoldrick Dam Removal Project	Stream Channel Restoration (Dam Removal)	Hinsdale
B-03-CT-01	Sunapee Roadways NPS Reduction, Phase II	Stream Channel Restoration, Urban Catch Basin, Ditch Stabilization, Urban Infiltration Basin	Newbury and Sunapee
B-05-CT-04	Silver Lake Stormwater Management	Ditch Stabilization	Harrisville

Merrimack Watershed

Project Number	Project Name	BMP Type	Town
B-97-M-01	Dorrs Pond Water Quality Improvements	Urban Filtration Basin	Manchester
B-98-M-01	Sunapee Watershed NPS Reduction Program	Ditch Stabilization, Vegetated Swales, Wetland Enhancement, Vegetative Barrier, Stream Channel Stabilization	Newbury
R-99-M-02	Veasey Park Commission Town Beach Erosion Control Plan	Recreation Land – grading and shaping	Deerfield
R-99-M-03	NPS Pollution Reduction for Center Harbor Bay, Lake Winnipesaukee	Grassed Waterway, Urban Catch Basin, Porous Pavement	Center Harbor
R-99-M-04	Depot Street Stormwater Runoff Project	Critical Area Planting, Urban Grassed Swale	Merrimack
R-99-M-05	Mast Landing	Vortech Units	Wolfeboro
B-99-S-18	Town of Goffstown East Union Street Drain	Vortech Units	Goffstown

B-00-M-02	Great Pond Watershed Protection	Ditch Stabilization, Kiosk	Kingston
B-00-M-03	Mill Pond Restoration Project	Storm Drain Stenciling	Nashua
B-00-M-06	Great Ash Farm Project	Heavy Use Protection Area	Webster
R-00-M-01	The Waterfront at Glen Lake	Grade Stabilization Structure	Goffstown
R-00-M-03	NPS Pollution Demonstration at the Marstons Dairy Farm, Pittsfield, NH	Heavy Use Protection Area	Pittsfield
R-00-M-04	Mine Falls Park Bank Erosion	Grade Stabilization Structure	Nashua
R-00-M-05	Mill Street: Install Stormwater Treatment & Replace Stormwater Drains	Urban Filtration Basin	Wolfeboro
R-00-M-06	Watershed Sensitive Parking Area and Educational Kiosk	Urban Porous Pavement, Kiosk	Manchester
R-00-M-07	Union Cemetery	Stream Channel Stabilization	Laconia
R-00-M-08	Stormwater Infiltration Trench, Meredith	Urban Infiltration Trench	Meredith
R-00-M-10	Baboosic Lake Community Septic System – Phase II – Installation	Alternative Septic System	Amherst
B-01-M-05	Boire Field Brook Subwatershed Project	Storm Drain Stenciling	Nashua
B-01-M-09	Piscataquog River Riparian Restoration	Stream Channel Stabilization	New Boston
B-01-M-13	Chalk Pond Sediment and Erosion Control Plan and Outreach Program	Kiosk, Ditch Stabilization	Newbury
R-01-M-06	Dorrs Pond Tributary Improvement Project	Urban Filtration Basin, Wetland Detention	Manchester
R-01-M-07	Keewaydin Dredging Project	Dredging	Londonderry
R-01-M-08	Batchelder Hill Road Drainage Improvements	Ditch Stabilization	Meredith
R-01-M-09	Baboosic Lake Community On-Site Wastewater System 2005	Alternative Septic System	Amherst

R-01-M-10	Darrah Pond Erosion and Sediment Control Project	Kiosk, Grassed Waterway, Urban Catch Basin	Litchfield
B-02-M-05	Dublin Lake Shoreline Erosion Control Project	Critical Area Planting, Recreation Trail and Walkway, Grade Stabilization Structure	Dublin
R-02-M-04	Crystal Lake Water Quality Improvement Projects	Urban Catch Basin, Urban Grassed Swale, Urban Filtration Basin	Manchester
R-02-M-08	Middle Brook Canal Dredging – Moultonborough	Dredging	Moultonborough
R-02-M-11	Breezy Point Shoreline Stabilization	Grade Stabilization Structure	Antrim
B-03-M-03	New Bathhouse and Drainage Management at Veasey Park, Deerfield	Alternative Septic System	Deerfield
B-03-M-11	Gillingham Drive Stormwater Improvements, Phase II	Road Ditch Creation/ Improvements	Newbury
B-04-M-03	Nashua Wetlands Buffer Outreach Project	Outreach and Education	Nashua
R-05-M-01	Nutts Pond Watershed Improvement Project	Sediment Forebay, Water and Sediment Control basin, Urban Stormwater Wetland, Water and Sediment Control Basin	Manchester