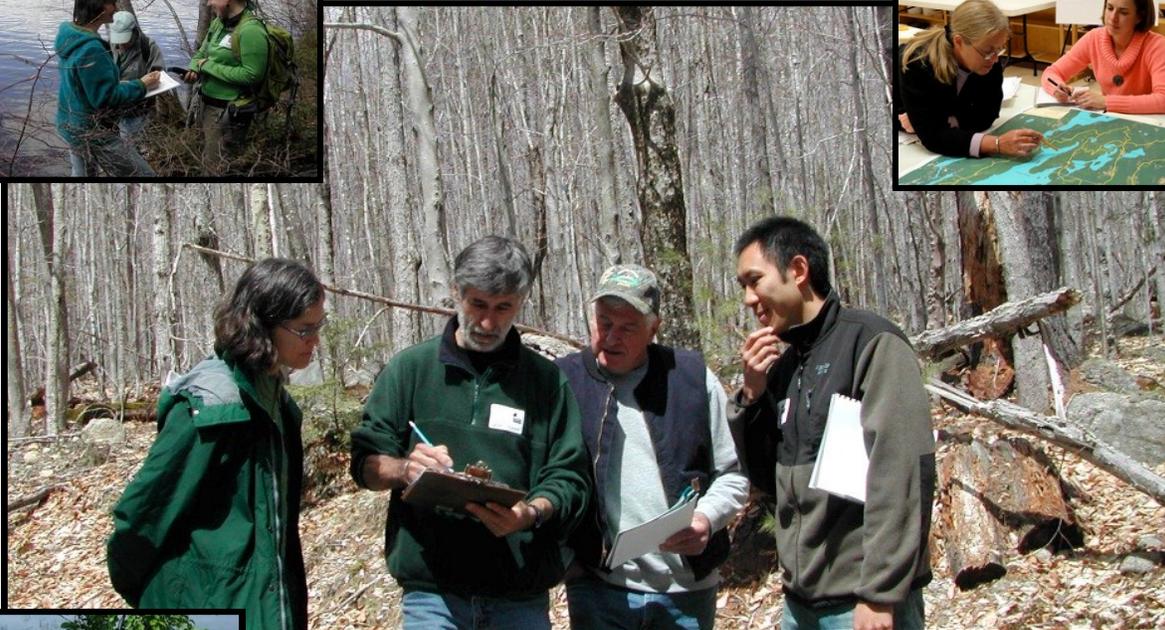


Parker, David, and Tilton Ponds Watershed Survey Report



30 Mile River Watershed Association

May 2012



www.30mileriver.org

Acknowledgments

The *Parker, David and Tilton Ponds Watershed Survey* was conducted by the 30 Mile River Watershed Association with support from the following:

Partners

Basin-David-Tilton Ponds Association
Kennebec County Soil and Water Conservation District
Maine Department of Environmental Protection
Parker Pond Association
Town of Chesterville
Town of Fayette
Town of Mount Vernon
Town of Vienna

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Maine Department of Environmental Protection
Kennebec County Soil Water Conservation District
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Town of Fayette
Town of Chesterville
Town of Vienna and the Parker Pond Association



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Introduction

Over the spring and summer of 2011, the 30 Mile River Watershed Association, with the support of its partners and additional volunteers, conducted a watershed survey of Parker, David and Tilton Ponds, one of the northern branches of the 30 Mile River Watershed in Central Maine. The survey was conducted to protect and improve water quality in these lakes, by identifying sources of erosion and runoff that are or could be damaging to water quality, and recommending solutions to fix the problems.

Trained volunteers and technical leaders surveyed the developed areas of these three ponds' watersheds and identified 83 erosion sites that are impacting or have the potential to impact water quality. This report provides the results and analysis of the survey, along with information about how landowners can find support in addressing erosion issues on their properties. It is designed specifically for citizens living in the Parker, David and Tilton Ponds Watersheds, and other residents of the towns of Chesterville, Fayette, Mount Vernon and Vienna.

WHAT IS A WATERSHED?

A watershed is all the land that surrounds a pond that drains or sheds its water into the pond through streams, ditches, directly over the ground surface or through ground water. It includes everything within its borders—the land, air, plants, animals, towns, farms and people. Activities in this entire area—not just the shoreline areas—eventually impact the lake's water quality, for better or worse.

Purposes of the Watershed Survey

The purpose of the watershed survey was to identify and prioritize for remediation existing sources of polluted runoff, particularly soil erosion sites, in these three watersheds. However, of equal importance was to:

- ◆ Raise public awareness of the connection between land use and water quality, and the impact of polluted runoff.
- ◆ Inspire people to become active stewards of the watershed.
- ◆ Use the information gathered as one component of a long-term pond protection strategy.
- ◆ Make general recommendations to landowners for fixing erosion problems on their properties.

The purpose of the survey was NOT to point fingers at landowners with problem spots, nor was it to seek enforcement action against landowners not in compliance with ordinances.

Local citizen participation was essential in completing the watershed survey and will be even more important in upcoming years. Through the leadership of the 30 Mile River Watershed Association, and with assistance from groups and agencies concerned with pond water quality, the opportunities for stewardship are limitless.

Threats to Water Quality

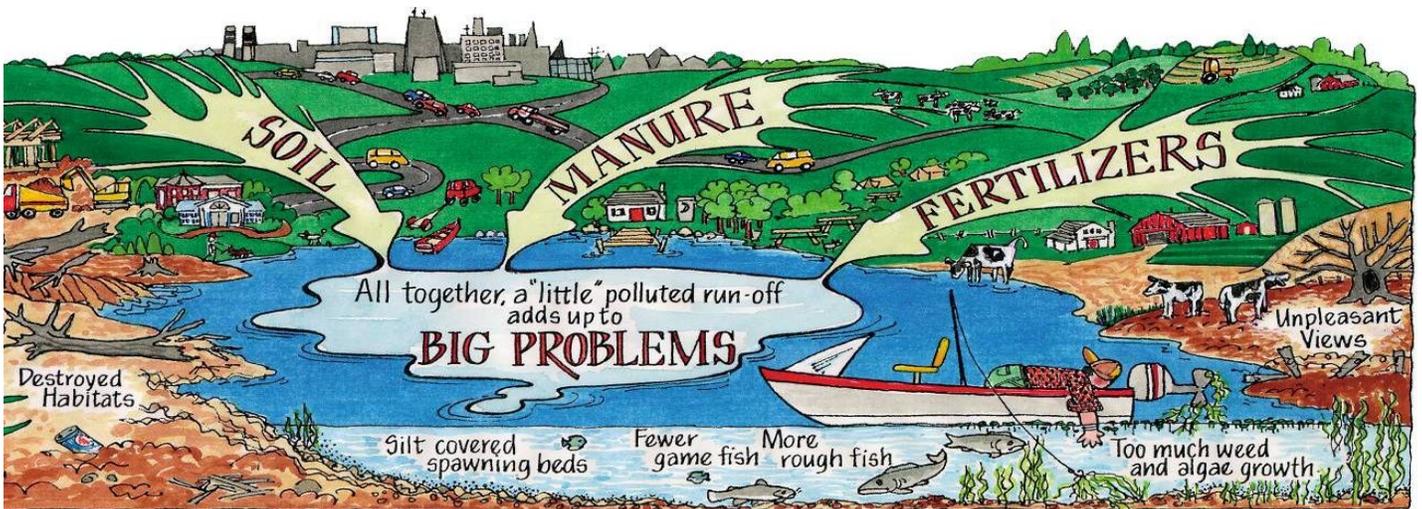
The biggest pollution threat to these and other Maine ponds is **polluted stormwater runoff** or nonpoint source (NPS) pollution. Storm water runoff from rain and snowmelt picks up soil, nutrients and other pollutants as it flows across the land, and washes into the pond.

In an undeveloped, forested watershed, storm water runoff is slowed and filtered by tree and shrub roots, grasses, leaves, and other natural debris on the forest floor. It then soaks into the uneven forest floor and filters through the soil.

In a developed watershed, however, stormwater does not always receive the filtering treatment the forest once provided. Rainwater picks up speed as it flows across impervious surfaces like rooftops, compacted soil, gravel camp roads and pavement, and it becomes a destructive erosive force. In this way, runoff from the developed areas in these watersheds often washes directly into the ponds or their feeder streams.

POLLUTED STORMWATER RUNOFF

Also called nonpoint source pollution or NPS, polluted stormwater runoff is made up of soil, fertilizers, septic waste, pet waste and other pollutants from diffuse sources across the landscape that are carried into the pond by rainfall.



Why is Runoff a Problem?

The problem is not necessarily the water itself; it is the sediment and nutrients in the runoff that can be bad news for Maine lakes. Studies have shown that runoff from developed areas has **5 to 10 times** the amount of **phosphorus** compared to runoff from forested areas.

The nutrient, phosphorus, is food for algae and other plants and is found in soils, septic waste, pet waste and fertilizers. In natural conditions, the scarcity of phosphorus in a lake limits algae growth. However, when a lake receives extra phosphorus, algae growth increases dramatically. Sometimes this growth causes choking blooms, but more often it results in small changes in water quality that, over time, damage the ecology, aesthetics and economy of lakes.

Soil is the biggest source of phosphorus to many Maine lakes. As every gardener knows, phosphorus and other nutrients are naturally present in the soil. So, we are essentially “fertilizing” our lakes with the soil that erodes from our driveways, roads, ditches, pathways and beaches.



Excess **phosphorus** can “fertilize” a lake and lead to nuisance **algal blooms**.

Why is it important to protect these lakes from polluted runoff?

- ◆ They provide recreational opportunities to watershed residents and to visitors.
- ◆ They are important contributors to the local economy.
- ◆ Lakes contain valuable habitat for fish, birds and other wildlife.
- ◆ A 1996 University of Maine study demonstrated that pond water quality affects property values. For every meter (3 ft.) decline in water clarity, shoreline property values can decline as much as 10 to 20 percent! Declining property values affect individual landowners as well as the economics of the entire community.
- ◆ **Once a lake’s water quality has declined, it can be difficult or impossible to restore.**

Parker, David and Tilton Ponds

Parker, David and Tilton Ponds are part of the 30 Mile River watershed, forming one of the northern branches of the “30 Mile River,” a connected chain of lakes in Central Maine, northwest of Augusta. Tilton is at the headwaters and flows into David, then Parker. From there the chain continues to Taylor Pond, Echo Lake, Lovejoy Pond, Pocasset Lake, and Androscoggin Lake, eventually reaching the Androscoggin River. These lakes are vital to the economy and quality of life in the surrounding towns. Property taxes from these lakefront properties are essential to the incomes of the surrounding towns.

Parker Pond is the largest of the three lakes, at 1524 acres, and spreads across the four towns of Chesterville, Fayette, Mount Vernon, and Vienna in Franklin and Kennebec Counties. Its shoreline has about 210 developed properties, with the majority clustered in a few subdivisions. Much of the shoreline is undeveloped. The Maine Department of Environmental Protection placed Parker on its list of *Nonpoint Source Priority Watersheds*. Volunteers have tested water quality in Parker Pond since 1976. According to these data, Parker Pond’s water quality is considered to be above average with low potential for algae blooms and moderate dissolved oxygen depletion in deep areas.

Parker Pond is a valuable resource for the general public, many of whom use it for fishing, swimming, primitive camping, canoeing, kayaking, cross-country skiing, snowmobiling, and ice fishing. Parker has public access at two locations: a boat launch owned by the Town of Vienna, and a hiking trail on a 142-acre conservation easement abutting the lake.

Flowing into Parker Pond is **David Pond**, a 302-acre lake located in the town of Fayette. **Tilton Pond**, a 116-acre lake in Fayette, flows into David Pond. Public access to Tilton is provided at a launch on Rt. 17. There are about 130 properties on David Pond’s lakeshore and another 30 on Tilton Pond. Volunteers have monitored the water quality of David Pond since 1981. Water quality is average with low to moderate potential for algae blooms and moderate dissolved oxygen depletion in deep areas. Volunteers monitored Tilton Pond’s water quality in 1997 and 2001. Water quality is average with moderate potential for algae blooms and high dissolved oxygen depletion in deep areas.

Watershed Facts:

Parker Pond

- Surface area: 1524 acres
- Size of watershed: 6.3 square miles
- Average depth: 31 feet
- Flushing rate: 0.3 times/year.

David Pond

- Surface area: 302 acres
- Size of watershed: 2.0 square miles
- Average depth: 15 feet
- Flushing rate: 1.86 times/year.

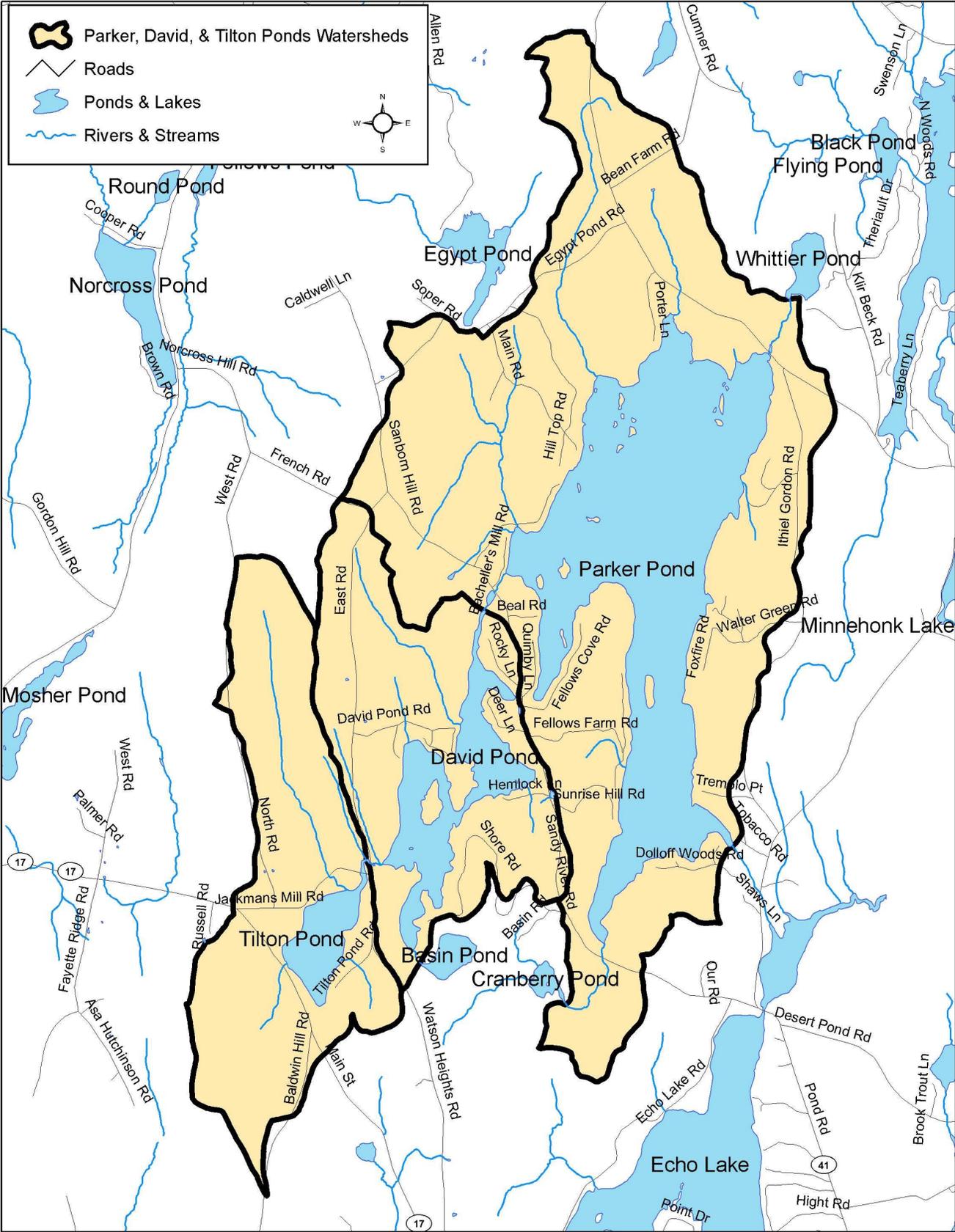
Tilton Pond

- Surface area: 116 acres
- Size of watershed: 2.3 square miles
- Average depth: 19 feet
- Flushing rate: 1.55 times/year.

30 Mile River Watershed

- Total size 200+ square miles
- Contains over 20 lakes and ponds

PARKER, DAVID, & TILTON PONDS WATERSHEDS



The Survey Method

Planning for the watershed survey began in early 2011, coordinated by the 30 Mile River Watershed Association with support from a steering committee composed of representatives from all partner groups. All landowners within the three watersheds were contacted to inform them of the survey and give them the opportunity to “opt-out” their property. Out of the 579 landowners contacted, 47 (8%) wished to have their property excluded from the survey.



On April 30th, 2011, 26 volunteers and 10 technical advisors gathered to participate in a morning training session on survey techniques. Following the classroom training, the volunteers and technical staff spent the remainder of the day traveling on foot and by car, documenting potential erosion problems in their assigned sectors. All developed areas of the entire watersheds were surveyed. Teams collected data using standardized forms, cameras and GPS units. Some teams went out on additional days to complete their surveys. All data were collected within two weeks. Technical staff conducted follow-up examinations of sites over the summer to verify data accuracy.

Data collected included information on the type of land use, a description of the problem, and the level of impact on water quality. (See Appendix A on page 23 for the original data.) Teams also recommended solutions to fix each erosion source, along with estimates of the cost and technical level required to do so. The collected data were entered into a database and the documented erosion sites were plotted on a map.



Watershed Survey Findings

Within these three watersheds, volunteers and technical staff identified 83 sites that are impacting or have the potential to impact water quality. The results and data analysis are discussed here. A complete listing of all sites can be found on page 23.

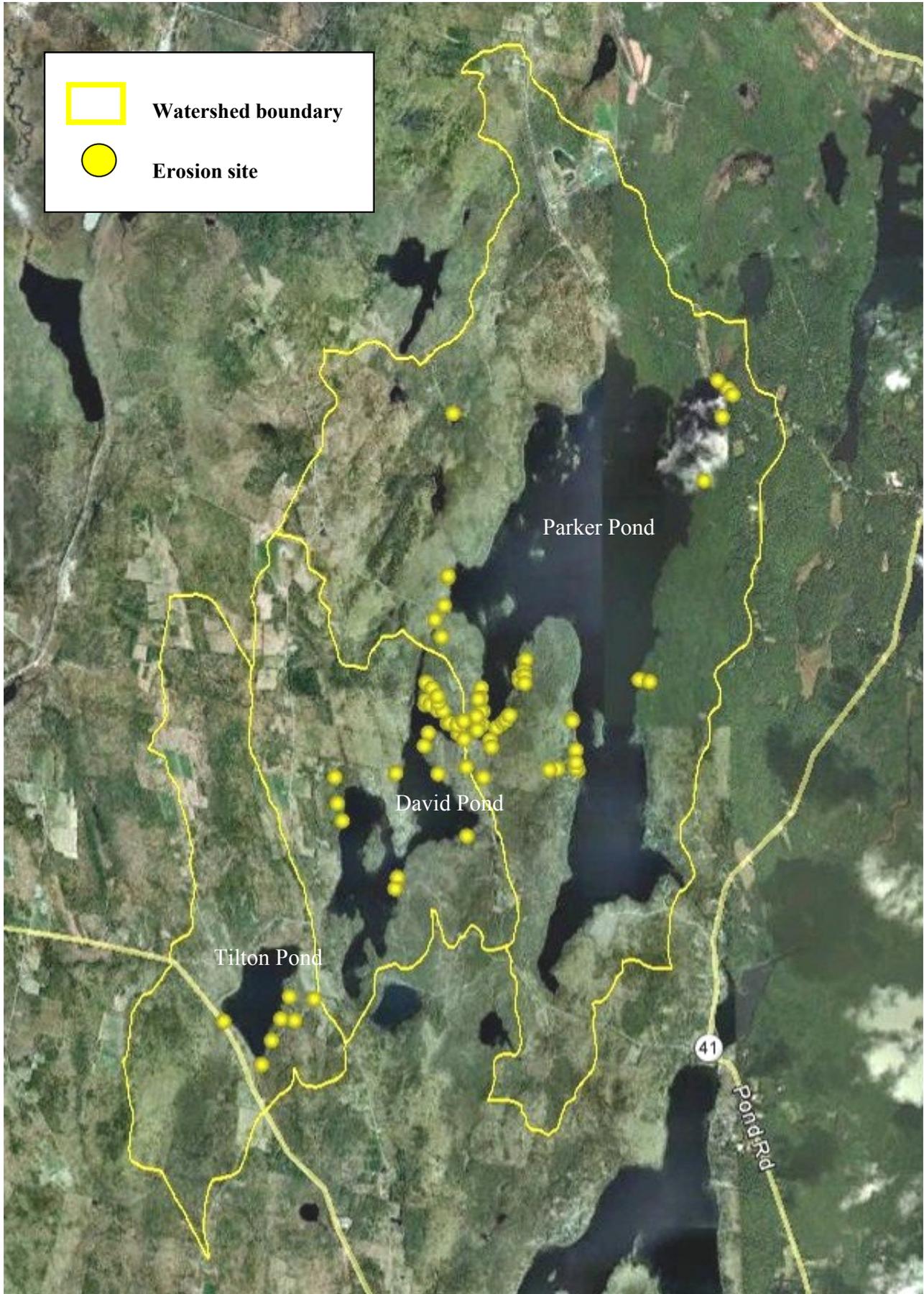
Key Findings:

- ◆ 45 of the identified sites (55%) were found in residential areas (32 residential, 13 driveway). The majority of these sites (30) had less severe erosion and can be fixed easily at low cost. Individual landowners can play a big role in helping address these problems.
- ◆ 23 of the identified sites (28%) were associated with private roads (6 low impact, 13 medium impact and 4 high impact). These sites tend to be larger erosion problems with greater impacts on water quality. In most cases, comprehensive planning by a road association is critical to ongoing road maintenance.
- ◆ Relative to its lake size, David Pond had a high proportion of sites in its watershed compared to the other two: Parker Pond had 46 sites for a 1524-acre lake, David Pond had 30 sites for a 302-acre lake, and Tilton Pond had 7 sites for a 116-acre lake.
- ◆ More than half of the sites (54%) can be fixed at low cost (under \$500), and an additional 29% can be fixed at medium cost (under \$2,500).
- ◆ The highest concentration of sites was in adjoining areas of Parker and David Ponds, in the most developed parts of both lakes. This land was all part of the same subdivision, and most lots were sold and developed during the 1960s. At that time, there was no shoreland zoning; therefore, development on these lots is much closer to the water, often with no vegetated buffer.
- ◆ 68 sites were in Fayette, 6 in Chesterville, 5 in Mount Vernon and 4 in Vienna.
- ◆ Nearly half of the sites (46%) were identified as being low impact; however, the cumulative effect of all of the low impact sites is significant.

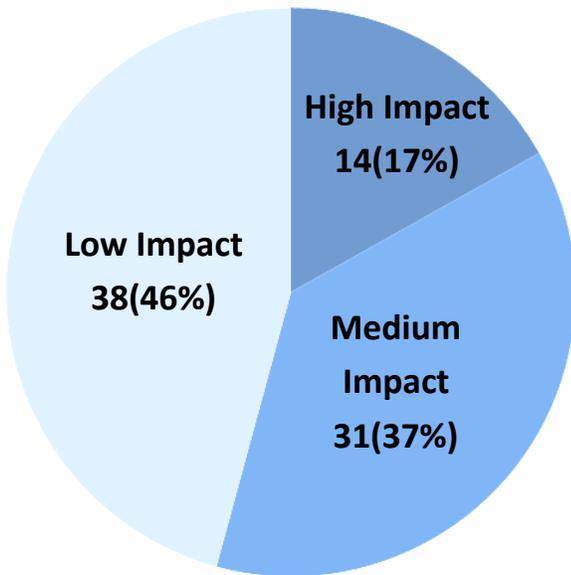


When combined with many other similar sites throughout a watershed, even erosion from small sources such as this can have a significant impact on water quality.

Watershed Survey Sites



Erosion Sites by Impact

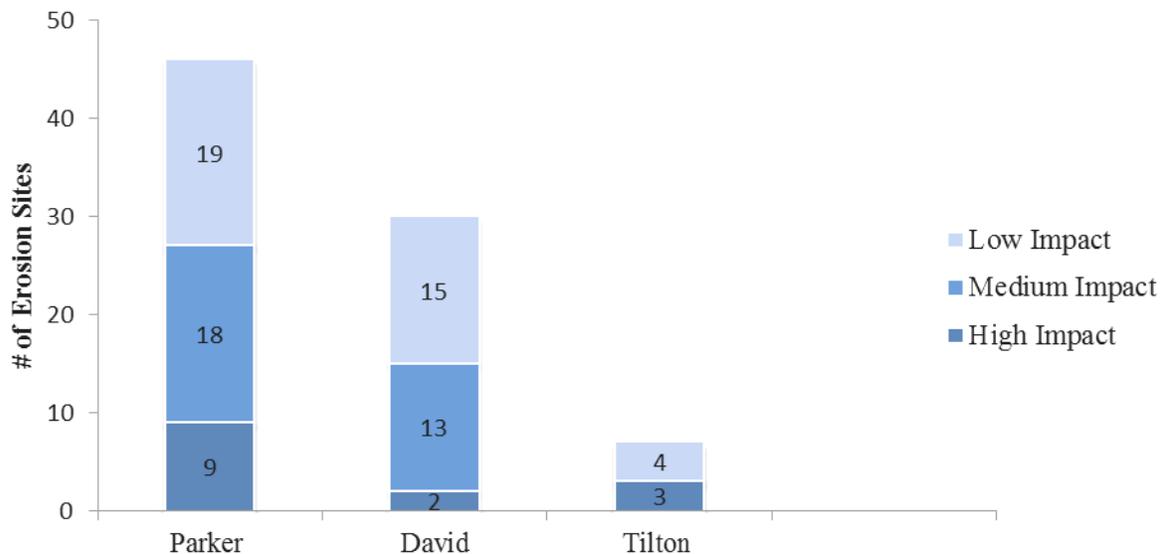


Each site was rated for its potential impact to the pond. Impact was based on the size of the site, slope, amount of soil eroded, and proximity to water.

- ◆ **Low impact** sites are those with limited soil transport off-site; a small site with no evidence of rills or gullies.
- ◆ **Medium impact** sites are those where sediment is transported off-site, but not a high magnitude.
- ◆ **High impact** sites are large sites with significant erosion that flows directly into a stream or the pond.

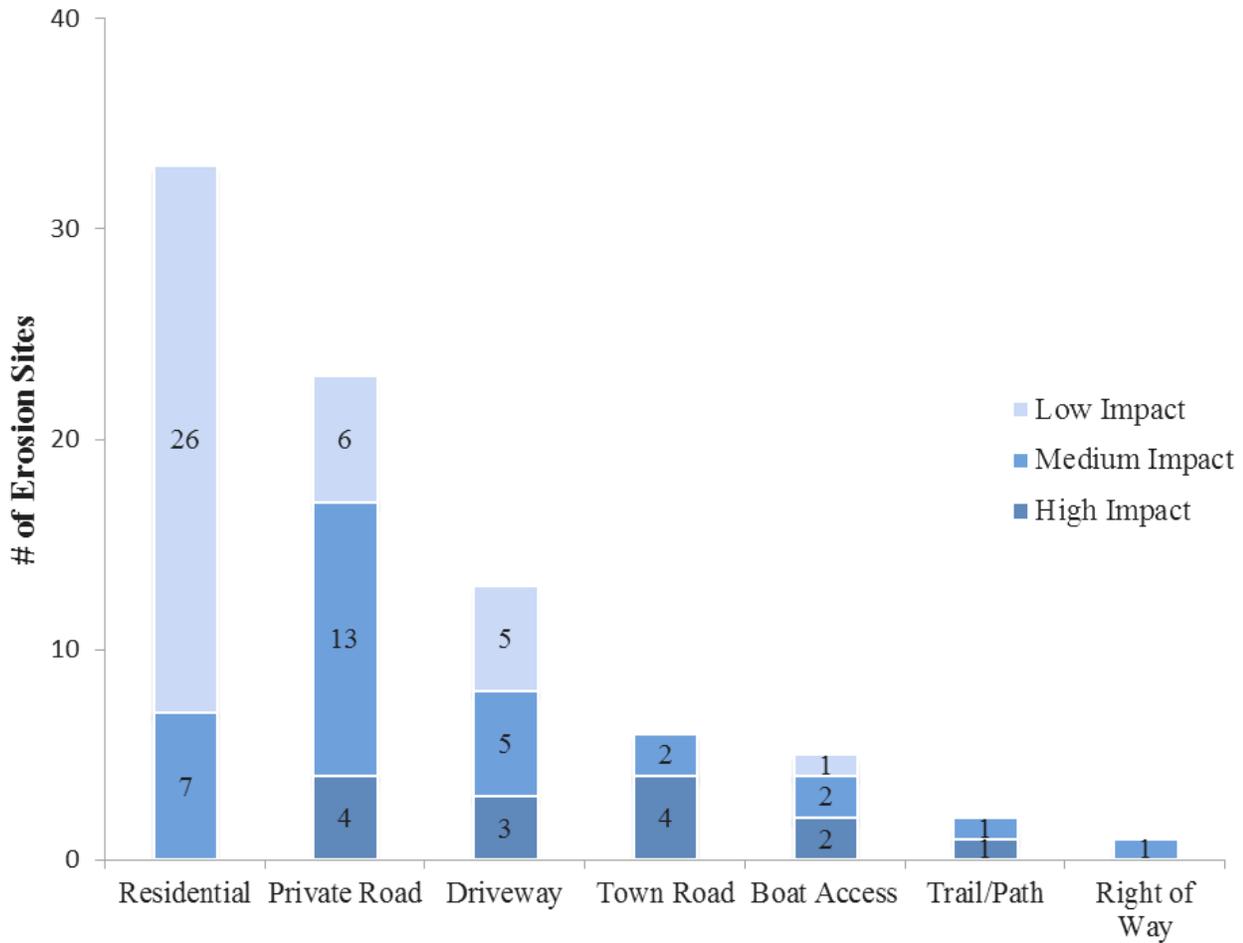
Nearly half of the sites (46%) were identified as being low impact; however, the cumulative effect of all of the low impact sites is significant.

Erosion Sites by Lake



Relative to its lake size, David Pond had a high proportion of sites in its watershed compared to the other two: Parker Pond had 46 sites for a 1524-acre lake, David Pond had 30 sites for a 302-acre lake, and Tilton Pond had 7 sites for a 116-acre lake.

Erosion Sites by Land Use



More than half of sites (55%) were found in residential areas (32 residential, 13 driveway). The majority of these sites (30) had less severe erosion and can be fixed easily at low cost. Individual landowners can play a big role in helping address these problems.

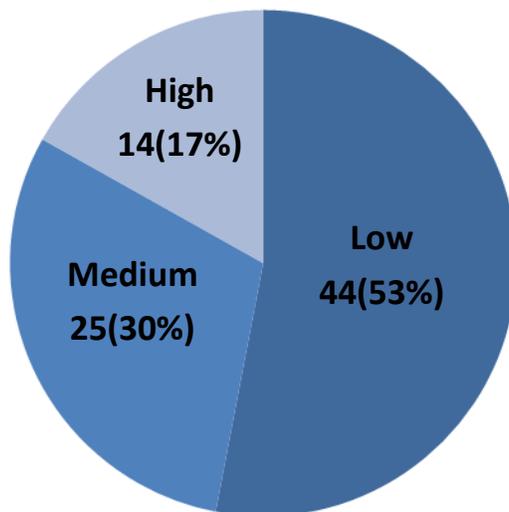
Twenty-three of the identified sites (28%) were associated with private roads (6 low impact, 13 medium impact and 4 high impact). These sites tend to be larger erosion problems with greater impacts on water quality. In most cases, comprehensive planning by a road association is critical to ongoing road maintenance.

Erosion Sites by Town

Town	High Impact	Medium Impact	Low Impact	Total
Chesterville	2	2	2	6
Fayette	9	25	34	68
Mount Vernon	1	3	1	5
Vienna	2	1	1	4
Total	14 (17%)	31 (37%)	38 (46%)	83

Nearly all of David and Tilton Ponds, along with the most developed areas of Parker Pond, are in the Town of Fayette; correspondingly, the majority of the sites (82%) were located there.

Cost to Fix Sites



Cost is an important factor in planning for restoration. The cost of labor and materials to fix each site were estimated and rated as follows:

- Low: Less than \$500
- Medium: \$500-\$2,500
- High: Greater than \$2,500

Over half of the sites (53%) can be fixed at low cost (under \$500). Only 17% were identified as being high cost fixes.

Residential

Of the 33 sites associated with residential areas, 26 were low impact and 7 were medium impact. Most sites (28) can be fixed at a low cost; the others are medium cost.

Common Problems Identified:

- ◆ Slight to moderate surface erosion.
- ◆ Inadequate shoreline vegetation.
- ◆ Roof runoff causing erosion.
- ◆ Shoreline erosion.
- ◆ Bare soil.

Recommended Solutions:

- ◆ Define and stabilize foot paths, add infiltration steps if steep.
- ◆ Install runoff diverters.
- ◆ Establish or enhance vegetation buffer.
- ◆ Install dripline trench, drywell, or rain garden to catch roof runoff.
- ◆ Stabilize bare soil with vegetation or mulch.
- ◆ Stop raking.



Problems:

Moderate surface erosion; bare soil.

Solutions:

Reseed bare soil and thinning grass; remove or cover sand piles.

Residential areas (not including driveways) were associated with 39% of the identified sources of polluted runoff. While none of the problems were severe, when added together, these problems pose a threat to pond water quality.

Fortunately, most of these sites can be corrected with easy, low cost fixes.

It is the cumulative impact of all the sites that causes water quality to decline.

Private Roads

Of the 23 private road sites, 6 were low impact, 13 were medium impact, and 4 were high impact. 14 were estimated at a medium cost to fix, while 4 were high and 5 were low cost.

Common Problems Identified:

- ◆ Moderate to severe road surface erosion.
- ◆ Unstable culvert inlet and outlet.
- ◆ Moderate shoulder erosion.
- ◆ Clogged or crushed culvert.
- ◆ Grader berm.

Recommended Solutions:

- ◆ Install runoff diverters, such as rubber razors or open top culverts. Crown and reshape road to get water off road. Build up road with cohesive surface material.
- ◆ Armor culvert inlet and outlet with rip-rap.
- ◆ Rip-rap or vegetate road shoulders
- ◆ Replace crushed culverts. Clean out clogged culverts.
- ◆ Remove grader berm.



Problems:

Moderate to severe surface erosion; culvert too high; slight road shoulder erosion.

Solutions:

Culvert: armor inlet/outlet, replace, reset, and lengthen; reshape (crown) road.

Unpaved roads are one of the biggest sources of pollution to Maine ponds.

While a one-time fix may cost more up front, it will reduce pond pollution and reduce maintenance costs on your road, ditches and vehicle.

Driveways

Of the 13 driveway sites identified, 3 were high impact, 5 were medium impact, and 5 were low impact. 3 were estimated at a high cost to fix, 5 at medium cost, and 5 at low cost.

Common Problems Identified:

- ◆ Moderate to severe surface erosion.
- ◆ Undersized culvert or ditch.
- ◆ Bare soil.

Recommended Solutions:

- ◆ Add new surface material (gravel, recycled asphalt).
- ◆ Reshape and crown.
- ◆ Install runoff diverters such as open top culvert, rubber razor, or waterbars.



Problems:

Severe surface erosion.

Solutions:

Add recycled asphalt surface material and install runoff diverters on side slope.

Town Roads

Six town road sites were identified: 4 high impact and 2 medium impact. All but one were high cost.

Common Problems Identified:

- ◆ Moderate to severe ditch erosion.
- ◆ Road shoulder erosion.
- ◆ Undersized ditch.

Recommended Solutions:

- ◆ Reshape or armor ditches with stone.
- ◆ Remove debris and sediment from ditches.
- ◆ Replace or remove clog from culvert.



Problems:

Undersized ditch; moderate road shoulder erosion; roadside plow/grader berm.

Solutions:

Reshape and armor ditch with stone; remove debris and sediment from ditch.

Boat Access

Five boat access sites were identified: 2 high impact, 2 medium impact and 1 low impact. Two were estimated at high cost to fix, two medium, and one low.

Common Problems Identified:

- ◆ Severe surface or road shoulder erosion.
- ◆ Clogged culvert.

Recommended Solutions:

- ◆ Reshape or crown road.
- ◆ Install turnouts or remove debris and sediment from ditches.
- ◆ Remove clog from culvert.
- ◆ Divert runoff.



Problems:

Severe surface erosion; severe road shoulder erosion.

Solutions:

Install turnouts for ditch; remove debris/sediment from ditch; divert run-off from paved road; re-design & re-build boat launch; break up flow along shoulder (lakeside); stabilize with crushed stone & larger; install runoff diverters for road.



Trail or Path

Two trail or path sites were identified. One was high impact, the other medium, but both could be fixed at low cost.

Problems:

- ◆ Slight to moderate surface erosion.
- ◆ Bare soil.
- ◆ Lack of shoreline vegetation.

Recommended Solutions:

- ◆ Define and stabilize footpath.
- ◆ Install runoff diverter or infiltration steps.
- ◆ Add mulch or erosion control mix.

Right-of-Way

One right of way site was identified. This medium impact site could be fixed with low cost.

Problems:

- ◆ Moderate surface erosion.

Recommended Solutions:

- ◆ Define and stabilize footpath.

Next Steps ~ Where Do We Go From Here?

Fixing the erosion sites identified in this survey will require efforts by individuals, road associations, municipal officials, lake associations and the 30 Mile River Watershed Association (30MRWA). **Paying attention to run-off problems and identifying sites in need of work should be continual activities of everyone interested in protecting these lakes.** This survey provided a snapshot of the situation of the surveyed areas on a particular day; new erosion sites develop, particularly after heavy rain or snowmelt.

Individual Citizens

- ◆ Be careful not to unnecessarily disturb the ground that drains into the lake and avoid exposing bare soil. Seed and mulch exposed soil right away.
- ◆ Stop mowing and raking, and let lawn and raked areas revert back to natural plants.
- ◆ Minimize the amount of cleared land and road surfaces on your property.
- ◆ Encourage shrubs and trees, as their deep roots help hold the shoreline.
- ◆ Detain runoff in depressions or divert flow to vegetated areas. (Contact 30MRWA or DEP for assistance. Please see page 22 for contact information.)
- ◆ Check with your town's Code Enforcement Officer or Planning Board before cutting vegetation within 250 feet of the shoreline, as cutting may violate shoreland zoning regulations.
- ◆ Maintain septic systems properly. Pump septic tanks every 2 to 3 years for year-round residences or every 4 to 5 years if seasonal, and upgrade marginal systems.
- ◆ Join your local lake association to support their water quality and conservation activities.

Road Associations (or private road owners without associations)

- ◆ Minimize road runoff by doing regular, comprehensive maintenance.
- ◆ Form a road association if one does not already exist. If you need assistance with planning, please contact 30MRWA. (Please see page 22 for contact information.)
- ◆ Get a copy of *Gravel Road Maintenance Manual – A Guide for Landowners*, a must for anyone managing a camp or other gravel road. www.maine.gov/dep/land/watershed/camp/road/gravel_road_manual.pdf

Municipalities

- ◆ Enforce shoreland zoning ordinance to assure full protection of these lakes.
- ◆ Conduct regular maintenance on town roads in the watershed and fix town road problems identified here.
- ◆ Participate in and support long-term watershed management projects.
- ◆ Promote training for road crews, planning boards, conservation commissions and other decision-makers.
- ◆ Continue collaboration with 30MRWA and the lake associations on remediation projects and ongoing monitoring of these watersheds.

Remember, the long-term health of the watershed depends on you!

Lake Associations

- ◆ Help disseminate the summary report.
- ◆ Share information on “Best Management Practices” and how we can work together to help protect and improve water quality.
- ◆ Continue collaboration with 30MRWA and the towns on remediation projects and ongoing monitoring of these watersheds.

30 Mile River Watershed Association

- ◆ Distribute copies of the survey report or summary survey report to property owners, road associations, and towns with identified erosion problems and encourage them to make improvements. (Note: All landowners with identified erosion sites were contacted in the spring of 2012 via a confidential letter describing the nature of the problem with recommendations for mitigation.)
- ◆ Provide the services of the Youth Conservation Corps to fix identified erosion problems.
- ◆ Provide free site evaluations and recommendations for landowners.
- ◆ Provide free camp road maintenance workshops and planning assistance for road associations.
- ◆ Provide educational resources and guidance to lake associations, towns and members of the communities.
- ◆ Maintain a database of erosion problems in the watershed and track them over time.
- ◆ Apply for DEP and other grants to help fix erosion problems identified in the survey.
- ◆ Continue to partner with the towns, lake associations, Kennebec County SWCD, Maine DEP and others to seek funding and implement projects to protect lake water quality.



Conservation Practices for Homeowners

After reading this report, you probably have a general idea about how to make your property more pond-friendly. However, making the leap from concept to construction may be a challenge.

The Maine DEP and Portland Water District produced a series of 24 fact sheets that answer many common how-to questions. The fact sheets profile common conservation practices that homeowners can use to protect water quality and include detailed instructions, diagrams and color photos about installation and maintenance. The series includes the following:

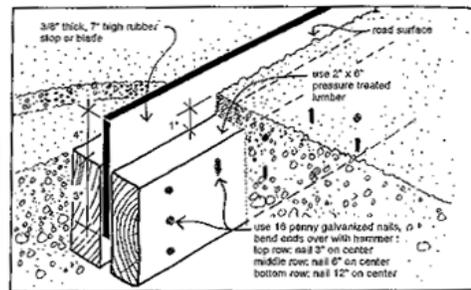
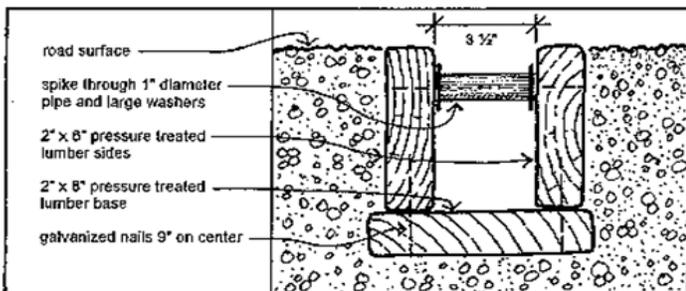
Construction Practices	Live Plant Staking	Rain Barrels
Dripline Trench	Native Plant Lists	Rain Gardens
Drywells	Open-Top Culverts	Rip Rap
Erosion Control Mix	Paths and Walkways	Rubber Razors
Infiltration Steps	Permitting	Turnouts
Infiltration Trench	Planting Vegetation	Waterbars

The series also includes six native plant lists. Each one is tailored to different site conditions (e.g., full sun and dry soils). The lists include plant descriptions and small color photos of each plant to make plant selection easier.

Fact sheets are available to help you install conservation practices on your property.

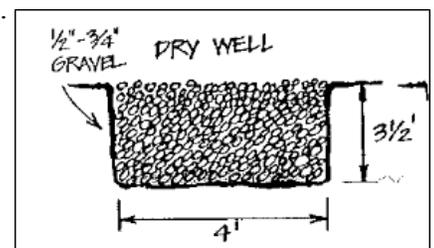
Download at <http://www.maine.gov/dep/land/watershed/materials.html>

Rubber Razor Blade: Use this structure in a gravel driveway or camp road. It can be plowed over only if the plow operator is aware of its presence and lifts the plow blade slightly. Place it at a 30 degree angle to the road edge and direct the outlet toward a stable vegetated area.



Open Top Culvert: Use this structure in a gravel driveway or camp road that does not get plowed in the winter. Place it at a 30 degree angle to the road edge and point the outlet into stable vegetation. Remove leaves and debris as needed.

Dry Well: Use a dry well to collect runoff from roof gutter downspouts. Drywells can be covered with sod, or left exposed for easy access and cleanout. Dry wells and infiltration trenches work best in sandy or gravelly soils.



Permitting ABC's

Protection of Maine's watersheds is ensured through the goodwill of pond residents and through laws and ordinances created and enforced by the State of Maine and local municipalities. The following laws and ordinances require permits for activities adjacent to wetlands and waterbodies:

Shoreland Zoning Law—Construction, clearing of vegetation and soil movement within 250 feet of lakes, ponds, and many wetlands, and within 75 feet of most streams, falls under the Shoreland Zoning Act, which is administered by the town through the Code Enforcement Officer and the Planning Board.

Natural Resources Protection Act (NRPA) - Soil disturbance & other activities within 75 feet of the lakeshore or stream also falls under the NRPA, which is administered by the DEP.

Contact the DEP and Town Code Enforcement Officer if you have any plans to construct, expand or relocate a structure, clear vegetation, create a new path or driveway, stabilize a shoreline or otherwise disturb the soil on your property. Even if projects are planned with the intent of enhancing the environment, contact the DEP and town to be sure.

How to apply for a Permit by Rule with DEP:

To ensure that permits for small projects are processed swiftly, the DEP has established a streamlined permit process called **Permit by Rule**. These one page forms (shown here) are simple to fill out and allow the DEP to quickly review the project.

- Fill out a notification form before starting any work. Forms are available from your town code enforcement officer, Maine DEP offices, or online at www.maine.gov/dep/land/nrpa/pbrform.pdf.
- The permit will be reviewed by DEP within 14 days. If you do not hear from DEP in 14 days, you can assume your permit is approved and you can proceed with work on the project.
- Follow all standards required for the specific permitted activities to keep soil erosion to a minimum. It is important that you obtain a copy of the standards so you will be familiar with the law's requirements.

6/2005 DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT BY RULE NOTIFICATION FORM
 (For use with DEP Regulation, Chapter 305)

PLEASE TYPE OR PRINT IN BLACK INK ONLY

Name of Applicant (owner):	Sandy Waters		Applicant Mailing Address:	123 Blueberry Lane	
Town/City:	Brunswick		State:	Maine	
Zip Code:	04011	Daytime Telephone No. (include area code)	(207) 555-1234	Project Location: (town)	New Gloucester
County:	Cumberland	Map #:	20	Lot #:	50
Name of Agent:			Name of Wetland or Waterbody:	Sabbathdaylake	
Detailed Directions to Site:			121 Outlet Road, Rte 26 North, turn right onto Outlet Road. 121 Outlet Road is on the left 4 to 5 houses before Barefoot Beach.		
Description of Project:			Installation of a drywell to allow infiltration of roof runoff		
Part of a larger project?			Yes	X	No

(CHECK ONE) This project: does does not involve work below mean low water.

I am filing notice of my intent to carry out work which meets the requirements for Permit by Rule (PBR) under DEP Rules, Chapter 305. I and my agents, if any, **have read** and will comply with all of the standards in the Sections checked below.

Sec. (2) Act. Adjacent to Protected Natural Res. Sec. (8) Shoreline Stabilization Sec. (14) REPEALED

Sec. (3) Intake Pipes Sec. (9) Utility Crossing Sec. (15) Public Boat Ramps

Sec. (4) Replacement of Structures Sec. (10) Stream Crossing Sec. (16) Coastal Sand Dune Projects

Sec. (5) REPEALED Sec. (11) State Transportation Facilities Sec. (17) Transfers/Permit Extension

Sec. (6) Movement of Rocks or Vegetation Sec. (12) Restoration of Natural Areas Sec. (18) Maintenance Dredging

Sec. (7) Outfall Pipes Sec. (13) F&W Creation/Enhance/Water Quality Improvement

I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules. I also understand that **this permit is not valid until approved by the Department or 14 days after receipt by the Department, whichever is less.**

I have attached the following required submittals. NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS:

Attach a check for \$55 (non-refundable) made payable to: "Treasurer, State of Maine".

Attach a U.S.G.S. topo map or Maine Atlas & Gazetteer map with the project site clearly marked.

Attach all other required submissions as outlined in the PBR Sections checked above.

By signing this Notification Form, I represent that the project meets all applicability requirements and standards in the rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.

Signature of Agent or Applicant: Sandy Waters Date: 3/4/06

Keep a copy as a record of permit. Send the form with attachments via certified mail to the Maine Dept. of Environmental Protection at the appropriate regional office listed below. The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. Permits are valid for two years. Work carried out in violation of any standard is subject to enforcement action.

OFFICE USE ONLY	Ck.#	Date	Staff	Staff
PBR #	FP		Acc. Date	Def. Date
AUGUSTA DEP STATE HOUSE STATION 17 AUGUSTA, ME 04333-0017 (207)287-2111		PORTLAND DEP 312 CANGO ROAD PORTLAND, ME 04103 (207)822-6300		BANGOR DEP 106 HOGAN ROAD BANGOR, ME 04401 (207)941-4570
		PRESQUE ISLE DEP 1225 CENTRAL DRIVE PRESQUE ISLE, ME 04769 (207)764-0477		
After Photos				

DEPLW0309-12005

Where Do I Get More Information?

Contacts

30 Mile River Watershed Association

PO Box 132, Mount Vernon, ME 04352

(207) 670-7298; info@30mileriver.org; www.30mileriver.org

Provides free services including site evaluations and recommendations for landowners; camp road maintenance workshops and planning assistance for road associations; and the Youth Conservation Corps to fix identified erosion problems.

Kennebec County Soil and Water Conservation District

21 Enterprise Drive, Suite #1, Augusta, ME 04330

(207) 622-7847 ext.3; Dale@kcsxcd.org; www.kcsxcd.org

Provides technical assistance to landowners, road associations, lake associations, municipalities, and other conservation groups.

Maine Department of Environmental Protection

17 State House Station, Augusta, ME 04333

(800) 452-1942 or (207)287-3901; www.maine.gov/dep

Provides permit applications and assistance, numerous reference materials, technical assistance, environmental education, project funding opportunities, and stewardship activities for lakes.

Publications

Gravel Road Maintenance Manual: A Guide for Landowners. Kennebec County Soil and Water Conservation District and Maine Department of Environmental Protection. 2010. www.maine.gov/dep/land/watershed/camp/road/gravel_road_manual.pdf

A Guide to Forming Road Associations. Maine Department of Environmental Protection. 2009. www.maine.gov/dep/land/watershed/road_association_guide.pdf

Conservation Practices for Homeowners. Maine Department of Environmental Protection and Portland Water District. 2006. 24 fact sheets.

<http://www.maine.gov/dep/land/watershed/materials.html>

Online information for shorefront property owners on creating and maintaining a healthy shorefront property. Maine Department of Environmental Protection.

www.maine.gov/dep/land/watershed/camp/index.html

Appendix A: Survey Data

Lake	Town	Land Use	Type of Problem	Direct flow	Slope	Area size	Recommendations	Impact	Cost	Technical level	YCC?
David	Fayette	Boat Access	Moderate surface erosion	lake	moderate	12'x50'	Add recycled asphalt to roads/driveways and reshape(crown)	Medium	Medium	Medium	N
David	Fayette	Driveway	severe surface erosion	lake	moderate	10'x70'	Roads/Driveways: add recycled asphalt surface material, reshape(crown), install broad-based dip or waterbar runoff diverter	High	High	Medium	N
David	Fayette	Driveway	Moderate surface erosion	vegetation	moderate	6'x30'	Roads/Driveways: add new gravel surface material, install runoff diverters	Medium	Low	Low	N
David	Fayette	Driveway	Slight surface erosion	lake	moderate	110'x10'	Install open top culvert runoff diverter; recommend crushed rock to fill roof line trenches. Not an erosion problem currently, water moves to buffer in between houses, but may eventually run-off onto driveway	Low	Low	Low	Y
David	Fayette	Private Road	moderate road shoulder erosion	lake	moderate	1000' to 1500'	reshape ditch; reshape(crown) roads/driveways	Medium	Medium	Medium	N
David	Fayette	Private Road	undersized culvert; moderate ditch erosion; moderate road shoulder erosion	vegetation	moderate	15'x300'	enlarge/replace culvert; reshape ditch; reshape(crown) road/driveways	Medium	High	Medium	N
David	Fayette	Private Road	Severe surface erosion; moderate road shoulder erosion	vegetation	moderate		reshape ditch; reshape(crown) roads/driveways	Medium	Medium	Medium	N
David	Fayette	Private Road	moderate ditch erosion	vegetation	moderate	300'	vegetate or armor ditch with stone	Medium	Medium	Medium	N
David	Fayette	Private Road	severe surface erosion; unstable inlet/outlet of culvert	vegetation	moderate	6'x12' at multiple locations on road	Reshape (crown) Roads/Driveways	Medium	High	Medium	N
David	Fayette	Private Road	severe surface erosion; no ditches; no road shoulder, bare soil	lake	steep	800'x12'	install waterbar runoff diverter for Road/Driveway; install runoff diverter(waterbar) for paths and trails	High	Low	Low	Y
David	Fayette	Private Road	Clogged, crushed/broken culvert in need of repair	lake	lake			Low	Low	Low	N
David	Fayette	Residential	slight surface erosion; paved drive direct drain into lake - 15' mowed lawn	lake	moderate	10'x150' paved	establish vegetation buffer	Medium	Low	Low	Y
David	Fayette	Residential	slight surface erosion; paved drive direct drain into lake - 15' mowed lawn	lake	moderate	10'x150' paved	establish vegetation buffer	Medium	Low	Low	Y
David	Fayette	Residential	Moderate surface erosion	ditch	moderate	150'x150'	reseed bare soil & thinning grass; remove or cover sand piles	Medium	Low	Low	Y
David	Fayette	Residential	moderate surface erosion; bare soil; 2 paths	lake	lake	10'x100'	Install plunge pool for culvert; reshape ditch; Paths & Trails: define foot path, install runoff diverter (waterbar) make narrower - curve; plant shrubs along drip edge - like his neighbors place	Medium	Medium	Medium	Y
David	Fayette	Residential	Slight surface erosion	ditch	moderate	10'x60'	Roads/Driveways: add recycled asphalt surface material, reshape(crown)	Low	Medium	Low	N
David	Fayette	Residential	Slight surface erosion	lake	moderate	15'x30'	seed/hay for construction site; reseed bare soil & thinning grass	Low	Medium	Medium	Y
David	Fayette	Residential	severe surface erosion; inadequate shoreline vegetation	lake	moderate	10'x50'	establish vegetation buffer; reseed bare & thinning grass	Low	Low	Low	Y
David	Fayette	Residential	Slight surface erosion	lake	moderate	15'x20'	install runoff diverter (waterbar) for paths & trails	Low	Low	Low	Y
David	Fayette	Residential	moderate surface erosion; uncovered soil pile	lake	moderate	20'x30'	mulch/erosion control mix	Low	Low	Low	Y
David	Fayette	Residential	Slight surface erosion	lake	moderate	10'x50'	mulch/erosion control mix	Low	Low	Low	Y
David	Fayette	Residential	Slight surface erosion	lake	steep	15'x250'	install runoff diverter for roads/driveway	Low	Low	Low	Y
David	Fayette	Residential	Slight surface erosion	lake	moderate	10'x60'	install runoff diverter for roads/driveway	Low	Low	Low	Y
David	Fayette	Residential	Slight surface erosion; bare soil; Shoreline: erosion; unstable access; Other: boat access	lake	moderate	25'x15'	Roads/Driveways: Add new crushed rock surface material, reshape(crown)/mulch/erosion control mix at top of drive/launch; divert to buffer	Low	Low	Low	Y

Lake	Town	Land Use	Type of Problem	Direct flow	Slope	Area size	Recommendations	Impact	Cost	Technical level	YCC?
David	Fayette	Residential	moderate surface erosion; roof runoff erosion; Shoreline: inadequate shoreline vegetation, unstable access	lake	moderate	50'x10'	Paths & Trails: define foot path, stabilize foot path, install runoff diverter (waterbar) at top near house; Roof Runoff: improve infiltration trench @ roof drip-line; Mulch/Erosion Control Mix; Vegetation: Add to Buffer	Low	Low	Low	Y
David	Fayette	Residential	moderate surface erosion; bare soil; unstable shoreline access; path	lake	moderate	4'x25'	Paths & Trails: stabilize foot path, infiltration steps, install runoff diverter (waterbar)	Low	Low	Low	Y
David	Fayette	Residential	slight surface erosion; shoreline erosion	lake	moderate	4'x30'	Infiltration steps for paths & trails; install infiltration trench @ roof drip-line to control roof runoff	Low	Low	Low	Y
David	Fayette	Town Road	Moderate erosion of ditch; slight road shoulder erosion	stream	moderate	800+ feet	armor ditch with stone	Medium	High	Medium	N
David	Fayette	Town Road	Moderate erosion of ditch; slight road shoulder erosion	vegetation	moderate	1200'	Ditch: vegetate, armor with stone	Medium	High	Medium	Y
David	Fayette	Residential	bare soil; lack of shoreline vegetation	lake	moderate	40' of slope x 15' wide	reseed bare soil & thinning grass; perhaps add 1" topsoil and seed it	Low	Low	Low	Y
Parker	Fayette	Boat Access	Severe surface erosion; severe road shoulder erosion	lake	steep	300'x30'	Roads/Driveways: Build up, add recycled asphalt surface material, reshape(Crown),install runoff diverters; Mulch/Erosion control mix; (burn/berm) (?)	High	High	Medium	N
Parker	Fayette	Boat Access	Severe surface erosion along sides of road	lake	moderate	75'x4'	Reshape (crown) Roads/Driveways	High	Medium	Medium	N
Parker	Vienna	Boat Access	Severe surface erosion; severe road shoulder erosion	lake	moderate	12'x6'	install turnouts for ditch/remove debris/sediment from ditch,divert run-off from paved road,re-design & re-build boat launch; break up flow along shoulder(lake side);stabilize with crushed stone & larger; install runoff diverters for road	Medium	High	High	Y
Parker	Fayette	Driveway	severe surface erosion	lake	steep	150'	Road/Driveways: Add recycled asphalt surface material and install runoff diverters on side slope	High	High	Medium	N
Parker	Mt. Vernon	driveway	moderate surface erosion	lake	moderate	9' x332'	Roads/driveways: add new surface material, reshape; paths and trails: install runoff diverter	Medium	Medium	Medium	N
Parker	Fayette	Driveway	moderate surface erosion;bare soil;shoreline lacks vegetation	lake	steep	75'x12'	install EC berms at base of hill;install runoff diverter (waterbar) for paths & trails; establish buffer for vegetation	Medium	Medium	Medium	Y
Parker	Fayette	Driveway	slight surface erosion; slight road shoulder erosion	lake	steep		Road: add gravel surface material and reshape (Crown), install broad-based dip runoff diverters, maintain open top culvert	Medium	Medium	Medium	N
Parker	Fayette	Driveway	severe surface erosion	N/A	steep	20'x60'	Roads/Driveways: Build up, add new gravel surface material, reshape (Crown), install runoff diverters (?)	Medium	Medium	Medium	N
Parker	Mt. Vernon	Driveway	Slight surface erosion	lake	steep	100 meters	Roads/Driveways: Install runoff diverter: establish vegetation buffer, add to vegetation buffer	Low	Low	Low	N
Parker	Fayette	Driveway	slight to moderate surface erosion; bare soil; lack of shoreline vegetation	lake	moderate	150'x10'	install EC berm; install runoff diverter (waterbar) to under camp;establish buffer for vegetation	Low	Low	Low	Y
Parker	Fayette	Driveway	Slight surface erosion	lake	steep	75' x 10'	Rubber Razor and Waterbar for roads/driveways	Low	Low	Low	Y
Parker	Fayette	Driveway	slight surface erosion; first part of driveway is paved -- sheet flow to lake	lake	steep	100'x10'	establish vegetation buffer for lawn area on lake edge; plant bushes or buffer along shore	low	Medium	Medium	Y
Parker	Fayette	Private Road	slight to moderate surface erosion;moderate to severe ditch erosion;slight to moderate road shoulder erosion;Soil: delta in stream	stream	steep	24'x600'	Install 3 cross culverts from ditch into woods, armor inlet/outlet of culvert; install check dams in ditch,reshape(crown) road	High	High	Medium	N
Parker	Mt. Vernon	Private Road	Moderate surface erosion; unstable inlet/outlet culvert; moderate road shoulder erosion	stream	moderate	5m x 5m	Armor inlet/outlet culvert; stabilize shoulder; Road/Driveways: add new gravel surface material; reshape(crown)	Medium	Medium	Medium	N
Parker	Fayette	Private Road	moderate surface erosion; unstable culvert outlet;moderate road shoulder erosion	stream	flat	24'x75'	armor culvert outlet;Road/Driveways:build up, reshape(crown),rip rap shoulder	Medium	Medium	Medium	N
Parker	Fayette	Private Road	moderate to severe surface erosion; culvert too high; slight road shoulder erosion	stream	moderate	24'x250'	Culvert:armor inlet/outlet, replace, reset,lengthen; reshape(crown)road	Medium	Medium	Medium	N

Lake	Town	Land Use	Type of Problem	Direct flow	Slope	Area size	Recommendations	Impact	Cost	Technical level	YCC?
Parker	Fayette	Private Road	unstable inlet/outlet for culvert; moderate road shoulder erosion	stream	flat	8'x20'	Culvert: Armor Inlet/Outlet, lengthen; road surface and culvert needs improvement	Medium	Medium	Medium	Y
Parker	Fayette	Private Road	moderate surface erosion; slight road shoulder erosion	stream	moderate	300 yds of road	remove grader/plow berms and reshape (crown) the road	Medium	Medium	Medium	N
Parker	Fayette	Private Road	Crushed/Broken Culvert; culvert too shallow for ditch	stream	moderate	6'x30'	place the culvert deeper	Medium	Medium	Medium	N
Parker	Fayette	Private Road	clogged pvc pipe and debris in culvert; undersized ditch; moderate road shoulder erosion	ditch	flat	75 yards	Armor inlet culvert; reshape ditch	Medium	Medium	Medium	N
Parker	Chesterville	Private Road	Slight surface erosion; undersized ditch; inadequate road bed; no defined rd ditch	N/A	N/A	450'	install ditch; install cross culverts; Roads/Driveways: build up, add new gravel, surface material, reshape(crown)	Medium	High	High	N
Parker	Fayette	Private Road	moderate surface erosion; no ditch	ditch	flat		install ditch; new parking area needs to be stabilized	Low	Low	Low	Y
Parker	Fayette	Private Road	Moderate surface erosion	ditch	moderate	30'x15'	maintenance for rubber razor runoff diverter	Low	Low	Low	Y
Parker	Fayette	Private Road	N/A	N/A	flat	150'x25'	reshape ditch; reshape(Crown) for roads; driveway	Low	Medium	Medium	N
Parker	Chesterville	Private Road	Moderate surface erosion; water runs across road, eroding surface, impacting site 5-05	N/A	moderate	12'x30'	defined path (culvert?) to divert water across road	Low	Low	N/A	N
Parker	Fayette	Residential	Slight surface erosion; Roof runoff erosion	N/A	N/A		mulch/erosion control mix; rain garden under deck and area	Medium	Medium	Low	Y
Parker	Chesterville	Residential	bare soil	lake	moderate	20'x30'	reseed bare soil & thinning grass	Medium	Low	Low	Y
Parker	Fayette	Residential	bare soil; inadequate shoreline vegetation	lake	moderate	10'x20'	Vegetation: establish buffer, no raking, reseed bare soil & thinning grass	Medium	Low	Low	Y
Parker	Vienna	Residential	Slight surface erosion; bare soil; roof runoff erosion; diverters on path don't divert; mulch too light, rock edging directs water to lake	lake	moderate		install runoff diverter on path & trail; divert roof runoff; establish vegetation buffer; add to existing vegetation buffer; no raking of vegetation	Low	Low	Low	N
Parker	Fayette	Residential	slight surface erosion; unstable path to lake; roof runoff	lake	moderate	40'x4'	Path & Trail: define foot path, stabilize foot path, infiltration steps; mulch/erosion control mix	Low	Low	Low	Y
Parker	Fayette	Residential	slight to moderate surface erosion; roof runoff erosion	lake	moderate	100'x3'	install crushed rock in driveway/parking area; install runoff diverters or turnout; infiltration trench @ roof dripline; install runoff diverter (waterbar) in deck area	Low	Low	Low	Y
Parker	Fayette	Residential	Slight surface erosion; bare soil; lack of shoreline vegetation	lake	steep	3.5'x3'	Install check dams at base of roof drip line; Roof runoff: drywell @ gutter downspout, install gutter; establish buffer for vegetation	Low	Low	Low	Y
Parker	Fayette	Residential	slight to moderate surface erosion; bare soil; roof runoff erosion;	vegetation	moderate	2.5'x4'	install dry well at end of perimeter train; Roof runoff: infiltration trench @ roof dripline; Vegetation: establish buffer, reseed bare soil & thinning grass	Low	Low	Low	Y
Parker	Fayette	Residential	Moderate surface erosion	lake	moderate		water from road washing across property - need to divert water to sides; install infiltration trench @ roof dripline; plant load of erosion control mix to act as berm near shore front	Low	Low	Low	Y
Parker	Chesterville	Residential	Slight surface erosion; Roof runoff erosion; Inadequate shoreline vegetation; minimally used boat launch	lake	moderate	12'x30'	Infiltration trench @ roof dripline; Rain garden; Vegetation: establish buffer	Low	Low	Low	Y
Parker	Fayette	Residential	bare soil	lake	flat	30'x15'	vegetate bank and armor with stone; bank & rock wall around well need stabilizing	Low	Medium	Medium	Y
Parker	Fayette	Residential	Moderate surface erosion; bare soil	Road - goes thru culvert to vegetated area 150' from lake	steep	30'x50'	Vegetation: no raking, reseed bare soil & thinning grass	Low	Low	Low	Y

Lake	Town	Land Use	Type of Problem	Direct flow	Slope	Area size	Recommendations	Impact	Cost	Technical level	YCC?
Parker	Fayette	Residential	Lack of shoreline vegetation	lake	moderate	50'x20'	Vegetation: establish buffer, no raking	Low	Low	Low	Y
Parker	Fayette	Residential	Lack of shoreline vegetation	lake	moderate	75' w shoreline	Vegetation: establish buffer, no raking	Low	Low	Low	Y
Parker	Fayette	Right of Way	Moderate surface erosion	lake	moderate	8'x100'	stabilize foot path or non-motorized boat(?)	Medium	Low	Low	Y
Parker	Vienna	Town Road	unstable inlet/outlet for culvert; clogged culvert; crushed/broken culvert; undernized culvert; severe road shoulder erosion; winter sand in soil	ditch	moderate	6'x6'	Culvert: Armor Inlet/Outlet, remove clog, replace, enlarge, install plunge pool; Ditch: Install ditch, install turnouts on Tower Rd, remove debris/sediment from ditch on Inlet Gordon Rd, remove grader/plow berms on road/driveways	High	High	High	N
Parker	Vienna	Town Road	undernized ditch; moderate road shoulder erosion; roadside plow/grader berm	vegetation	moderate	120'	Ditch: armor with stone, reshape ditch, remove debris/sediment	High	High	High	N
Parker	Chesterville	Town Road	severe road shoulder erosion; roadside plow/grader berm	stream	steep	250'	rake out plow berm every spring	High	Low	Medium	N
Parker	Chesterville	Town Road	severe erosion of ditch	lake	steep	1000'	Ditch: armor with stone, reshape, install turnouts if feasible	High	High	Medium	N
Parker	Mt. Vernon	Trail or Path	slight surface erosion; soil is bare in places; Shoreline: lack of shoreline vegetation, inadequate shoreline vegetation	lake	moderate	100'x40'	Paths & Trails: define foot path, infiltration steps, install runoff diverter(waterbar)/mulch/erosion control mix; no raking of vegetation	High	Low	Low	Y
Parker	Mt. Vernon	Trail or Path	moderate surface erosion; bare soil; Shoreline: lack of shoreline vegetation, inadequate shoreline vegetation, erosion	lake	moderate	120'x3-5'	Paths & Trails: infiltration steps, install runoff diverter(waterbar); mulch/erosion control mix; no raking of vegetation	Medium	Low	Low	Y
Tilton	Fayette	Boat Access	Clogged culvert; severe road shoulder erosion (smk hole, shoulder on RT 17);	lake	flat		Remove clog in culvert	Low	Low	Medium	N
Tilton	Fayette	Driveway	severe surface erosion; undersized culvert (or nonexistent); severe road shoulder erosion	lake	moderate	75'x20'	Replace culvert if one exists at all and install plunge pool; Roads/Driveways: Build up, add new gravel surface material; reshape(crown), install runoff diverters; establish vegetation buffer	High	High	High	N
Tilton	Fayette	Private Road	severe surface erosion	vegetation	steep	500'-x.20'	Re-Shape (crown) Roads/Driveways, install a waterbar for a runoff diverter	High	Medium	Medium	N
Tilton	Fayette	Private Road	severe surface erosion; Severe erosion of ditch; Severe Road shoulder erosion	vegetation	steep	300'x15'	Install turnouts for ditch; Reshape (crown) Roads/Driveways; install waterbar for runoff diverter	High	Medium	Medium	N
Tilton	Fayette	Private Road	severe surface erosion; Severe erosion of ditch; Severe Road shoulder erosion	vegetation	steep	100'x12'		Low	Low	Medium	
Tilton	Fayette	Residential	Inadequate shoreline vegetation	lake	moderate		recommend drip edge around house to control roof runoff, no raking of vegetation	Low	Low	Low	N
Tilton	Fayette	Residential	Active outhouse by stream?	stream			Install runoff diverter (waterbar) for paths & trails; no raking of vegetation	Low	Low	Low	N