

Blackstone River Watershed Association



Shoreline Survey Report and Action Plan Mumford River - May 2006 Blackstone River Watershed Association



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This project and report was made possible by a grant funded by UNIBANK.

A special thanks and appreciation to stream team survey volunteers, adjacent landowners and businesses, Department of Conservation and Recreation – Blackstone Heritage and Canal State Park, Sutton Conservation Commission, Douglas Conservation Commission, Northbridge Conservation Commission, Uxbridge Conservation Commission and Northbridge Town Hall.

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Mumford River Stream Team Report

- I. Introduction Mumford River Stream Team
- II. Descriptions of the Stream Team Sections
- III. Summary of Findings / Action Plan

Shoreline Survey Crew

Dawn and Erin Andersen, Sam and Douglas Bowen, Nancy DeMers, Bob and Joanne St. Germain, Olivia - Glenn and Evan Herbert, Jackie and Tyler Hirsch, Cal Kooistra, Barbara and Jennifer Lonergan, Dan - Shelley - Mitchel and Robbie McGonagle, Beth and Paul Milke, Maggie and Jim Plasse, Michael Pouliot, Howard and Nancy Perkson, Jean and Valerie Sahakian, Alex Thompson, Valerie and Guylan Qudsieh.

Advisor

Massachusetts Riverways Department of Fisheries, Wildlife and Environmental Law Enforcement, Amy Singler – Adopt-A-Stream Program Coordinator

Coordinator

Blackstone River and Watershed Association, 271 Oak Street, Uxbridge, MA 01569.
Nicole Wenger – Project Coordinator

Introduction Mumford Stream Team

The Mumford River Stream Team is one of the teams being formed by the Blackstone River Watershed Association (BRWA) in the Blackstone River Valley. The team, comprised of local community members, is energetic and dedicated in protecting and preserving rivers, streams, lakes and lands along the waterway. The overall goal is to bring awareness and activation to local citizens and organizations impacting the health of the water. This project also provides opportunities for citizens to take action and inform others of how they can improve land use, water quality, wildlife and recreational opportunities. This project was possible through the generous funding provided by UNIBANK.



The Mumford River is located in south central Massachusetts originating in Douglas and Sutton, Massachusetts and flows easterly emptying into the Blackstone River at Uxbridge, Massachusetts. To date, the Mumford Stream Team has surveyed the entire 13.5-mile stretch of shoreline along the Mumford River beginning at the dam at Kings Campground in Sutton, Massachusetts to the dam at Capron Park in Uxbridge, Massachusetts (Figure 1). Several areas along the river have been identified as clean-up locations, future canoe access sites and other problem areas that need action. As a group, team members prioritize the importance of these projects and many volunteers become active in addressing areas of need with local town officials. Other surveyors choose to participate in water quality monitoring projects, invasive species removal, or in future stream team surveys. All of these projects work to enhance the quality of health and life throughout the Blackstone River Valley.

The Massachusetts Riverways Adopt-A-Stream Program Coordinator, Amy Singler and the Blackstone River and Watershed Associations Project Coordinator, Nicole Wenger served as advisers for the Mumford River Stream Team members. Interest in this project was widespread and included volunteers from several towns. To coordinate the project effectively, two introductory planning meetings were held at two different locations, one shoreline survey training, two educational programs on macroinvertebrates and birds, one action planning meeting and one action plan follow-up meeting were held for all surveyors. Due to the flexibility of this project, stream team surveyors chose to survey their section of the river between May 6, 2006 and June 5, 2006.

2006 Stream Team Activities

Planning Meeting

Tuesday, March 28th at 6:30PM - River Bend Farm Visitor Center, Uxbridge, MA

Wednesday, April 5th at 6:30PM – Northbridge Town Hall, Northbridge, MA

Free Educational Programs

Saturday April 15th at 10:30AM - Macroinvertebrates

Monday April 17th at 9:00AM - Birding Along the Mumford River

Survey Training Meeting with Massachusetts Riverways

Wednesday, May 3rd at 6:30PM – River Bend Farm Visitor Center, Uxbridge, MA

Stream Team Survey

Saturday, May 6th – 9:00AM – 11:00AM (rain date May 7th)

Mumford River Stream Team Survey Descriptions

Section 1. Manchaug Dam / Kings Campground – Stevens Pond - Sutton, MA
Surveyor: Barbara and Jennifer Lonergan

Having camped in this area over the past 30 years, I have seen this area change from a very pristine area to a congested, overpopulated and over used area. The water used to be crystal clear with lots of fish. Now, it has more campsites on its banks and at least four times as many motor boats. The swimming areas are congested with boat ramps and you can see the gasoline swirling in the water. As the water leaves the dam towards Stevens Pond, it is primarily wooded wetlands with steep banks. It looked like it has a sand bar that stretched 100 feet or more with 6 inches of water. There were tires and other trash in the water and it smelled of dead fish. There was no evidence of fish, insects or birds near the waters edge (Figure 2).

- Trash removal at the mouth of the Mumford River, foaming strong smell, brown with lots of weeds
- Gasoline in the water from recreational boating. Discuss with campground owners. Provide literature to campground.
- Stevens Pond – trash removal and strong smell of dead fish, low water levels

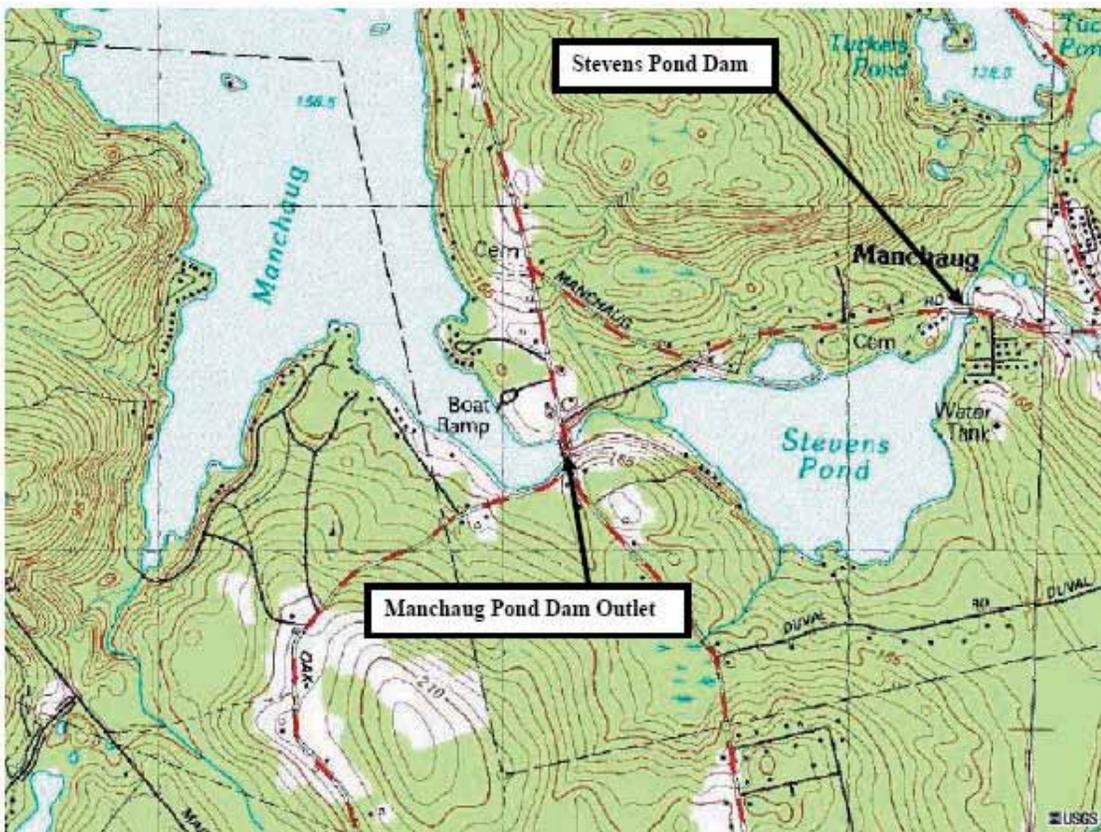


Figure 2. Section 1 - Manchaug Pond Dam Outlet - Stevens Pond Dam
Surveyor: Barbara and Jennifer Lonergan

Section 2. Unnamed Dam - Douglas, MA

Surveyor: Dan, Shelley, Mitchel and Robbie McGonagle

The river was flowing rapidly due to the recent rainfall. This probably accounted for the rapid rising water levels and rapid flow. Lots of organic debris on the bottom of the river. Looking at the bank there were several trees, shrubs and exposed roots. Not a lot of evidence of wildlife except for a dead bird. Evidence of construction in residential area (Figure 3).

- Clean up construction bails
- Alert neighbors of run off from private property into river
- River debris clean up

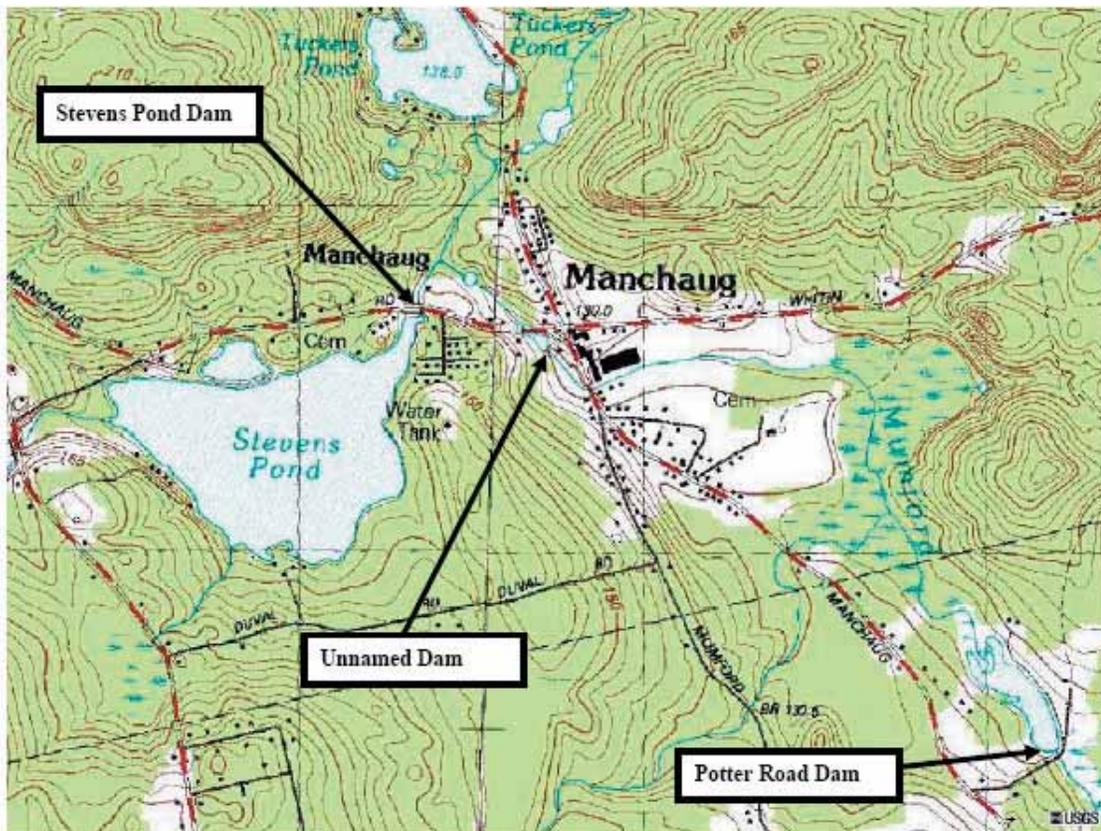


Figure 3. Section 2 - Stevens Pond Dam End - Unnamed Dam in Douglas
Surveyor: Dan, Shelley, Mitchel and Robbie McGonagle

Section 3. Soldiers Field in Douglas, MA - Gilboa Dam - Douglas, MA
Surveyor: Sam and Douglas Bowen

Water flow was very good the entire route, especially at the dams and wide river areas. Some areas were very marshy and some areas had several downed trees and vegetation impeding the flow. Lots of wildlife; birds, frogs, and small fish (only exception was near the downtown area at the Old Mill Dam). No offensive odors except one.

Behind the Douglas treatment plant, a machine dug channel from the plant down to the river. Sewage was ripe and gathered in a large area on top of the water. Several natural tree obstructions, however, the water was able to continue its flow. Smell was repulsive at the sewage dumping area. There appeared to be a thick coating on the water. The river is quite marshy at the DEP site, however it widens dramatically as it flows to the pond in front of Gilboa Street Dam. Old rusty pipes coming over the banks of the river from the apartment side. Construction looks completed but large beams have not been removed (Figure 4 and 5).

- Clean up sewage behind Douglas treatment plant- smells very bad and discoloration of water/thick coating atop of water**
- Cook Street Bridge – oil clean up**
- Old Mill Dam – Old rusty pipes coming into the river from apartment buildings with hay barrier left behind from construction**

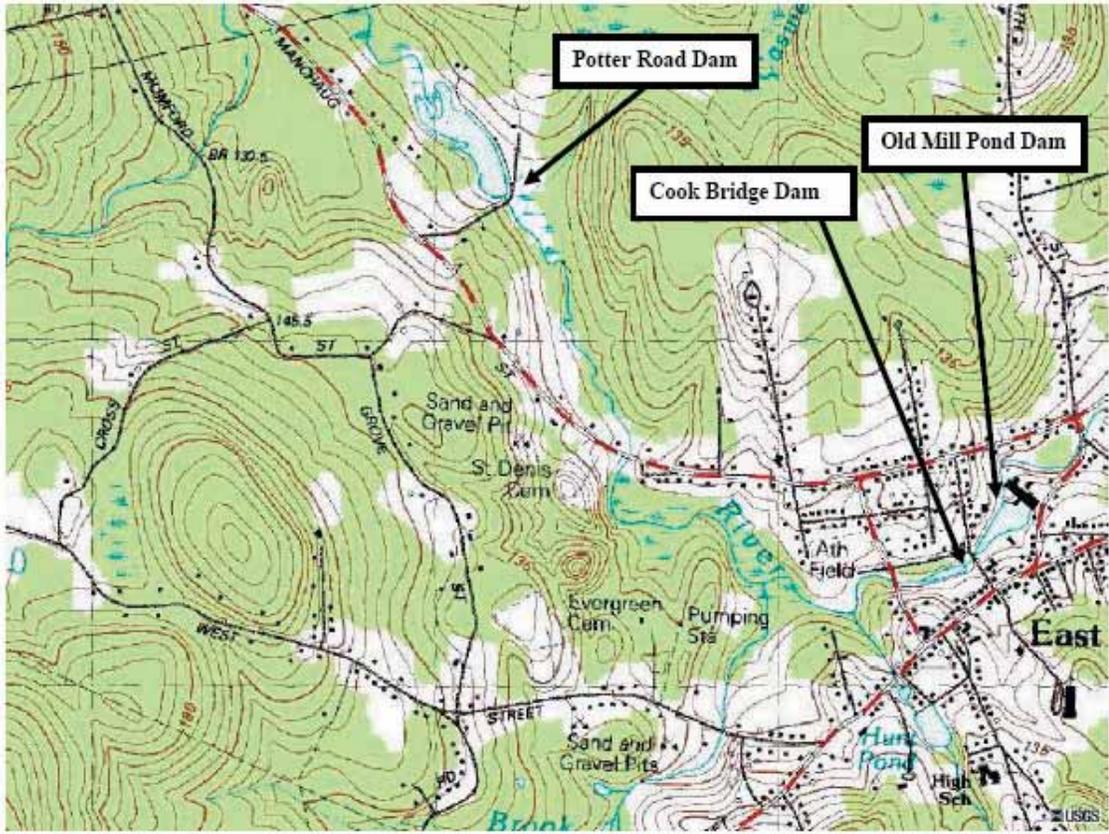


Figure 4. Section 3 - Soldiers Field Douglas - Gilboa Street Dam
 Surveyor: Sam and Douglas Bowen

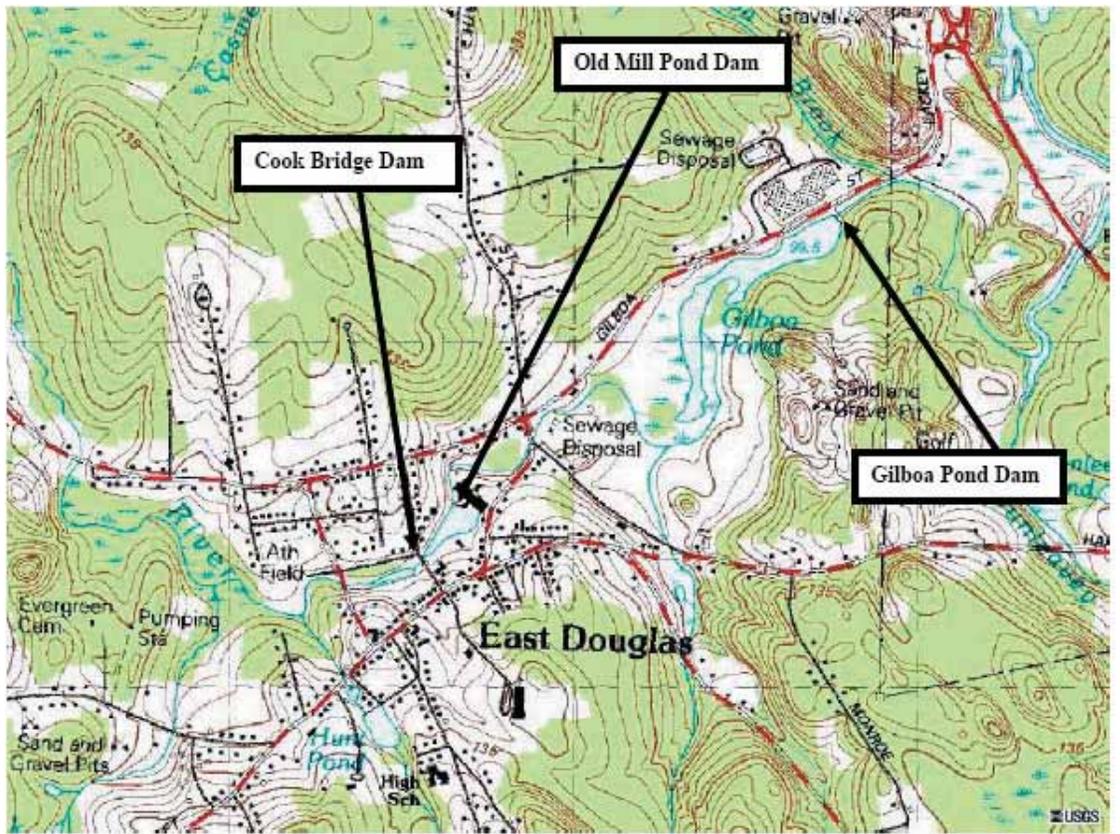


Figure 5. Section 3 - Soldiers Field Douglas - Gilboa Street Dam
 Surveyor: Sam and Douglas Bowen

Section 4. Gilboa Dam - Douglas, MA – Lackey Pond Dam - Sutton MA
Surveyor: Cal Kooistra

Segment begins at Gilboa Dam in Douglas, MA. Evidence of silt, sand and gravel. Water odor was musky and tea colored. Water level seemed low for this time of year and there were lots of Pickerelweed, Milfoil, White Water Lily and Hydrilla. The area down river contained many trees, shrubs and marshy wetlands. Several drainage pipes along this segment all appeared to have no flow. Along the river there was a gravel pit and a house that had lots of trash (bulldozer) / junkyard on the bank of the river (Figure 6).

- Trash removal from route 146 by Gilboa Dam
- Removal of large floating items (tires, propane tanks) in cove

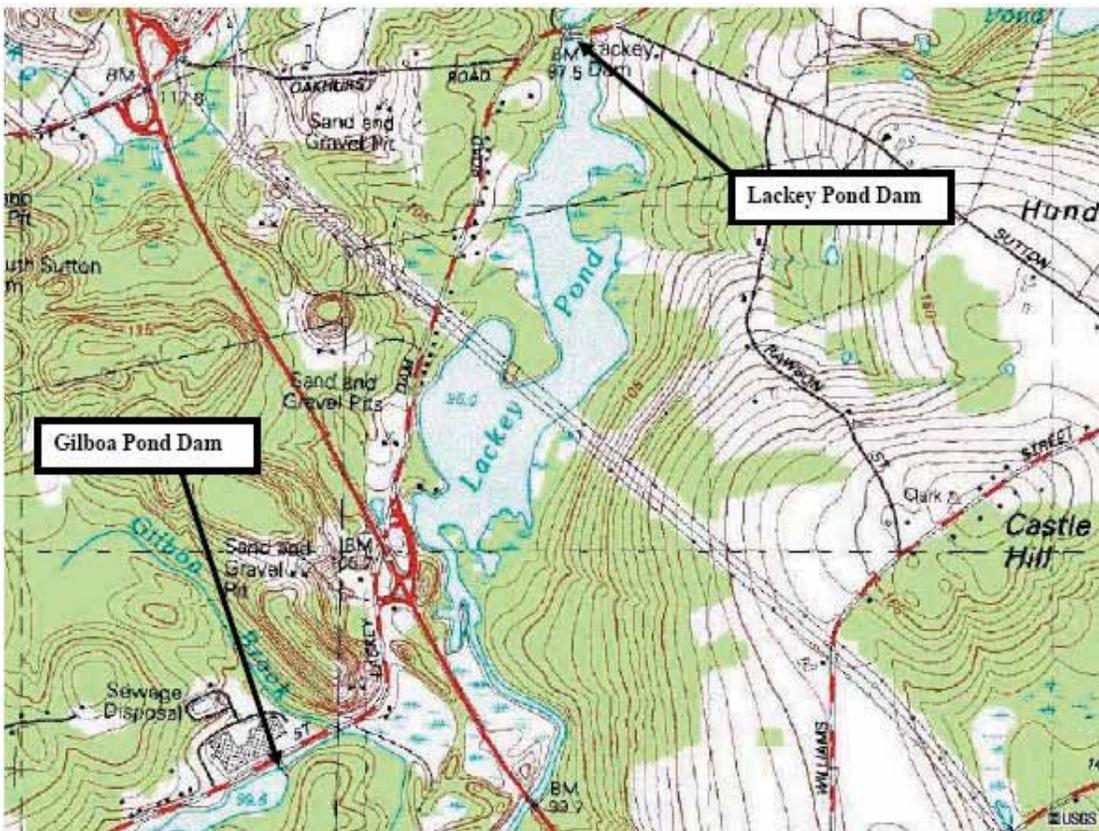


Figure 6. Section 4 - Gilboa Street Dam - Lackey Dam
Surveyors: Cal Kooistra

Section 5. Lackey Dam - Sutton, MA - Gilboa Dam - Douglas, MA (opposite side of river than Section 4)

Surveyor: Valerie and Guylan Qudsieh and Tyler and Jackie Hirsch

The river section was very different from one end to the other. The northern end near the dam was wide with a large wooded area on the right bank and a parking lot on the left. We walked along the left bank and noticed that any area with easy access had more trash. There was a marshy grassy area in the center where the ducks and geese swam and ate. Walking south, the stream became narrow and shallow and rocks bordered homes and woods. Near the other end of the water segment we crossed the bank to find lots of trash and fish swimming upstream. The mid-section of the stream was rusty in color and oily film appeared wherever water pooled.

(Same segment by canoe – Hirsch) The cove was fairly free of garbage. Residential houses have access to water. Water running but not very swiftly. Clean smell with no apparent odor. Water in midsection was deeper than canoe paddle. Cove filled with vegetation but shallow along shoreline. Downed natural debris and lots of fish and other wildlife. Considerable amounts of trash crossing the highway at 146 (Figure 6).

- **Trash pick up near 146**
- **Check water levels in the future near shallow marshy areas**

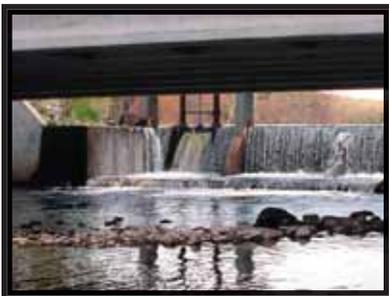
Section 6. 560 Douglas Road - Meadow Pond

Surveyor: Bob and Joanne St. Germain

River flows slowly from Lackey Dam. There are houses with 4 docks, water is about 2-1/2 feet deep. There are several species of fish, frogs and birds. Several natural fallen debris along the banks. Entering a channel there is lots of trash. As the river opens up there is more evidence of fish and birds. There is a visible gravel pit along the bank, which does not meet a 200ft buffer zone requirement. Along the edge of the bank near a trash collection site there is water discoloration and trash. The boat access point has quite a bit of trash. There is a pipe with no water discharge coming from an old factory (Whitin Machine Works) – water has a foul odor.

Along the waters edge at a residential site there are several piles of grass clippings to keep vegetation from regrowth. Water is full of what appears to be algae (Figure 7 and Figure 8).

- **Neighbor is dumping grass clippings into the water and needs to be informed about dumping**
- **Trash removal along river**
- **Lily pads and other plants are taking over waterway**



Section 6. Surveyors Bob and Joanne Germain assess dam structure, drain pipes, erosion and trash along the Mumford River

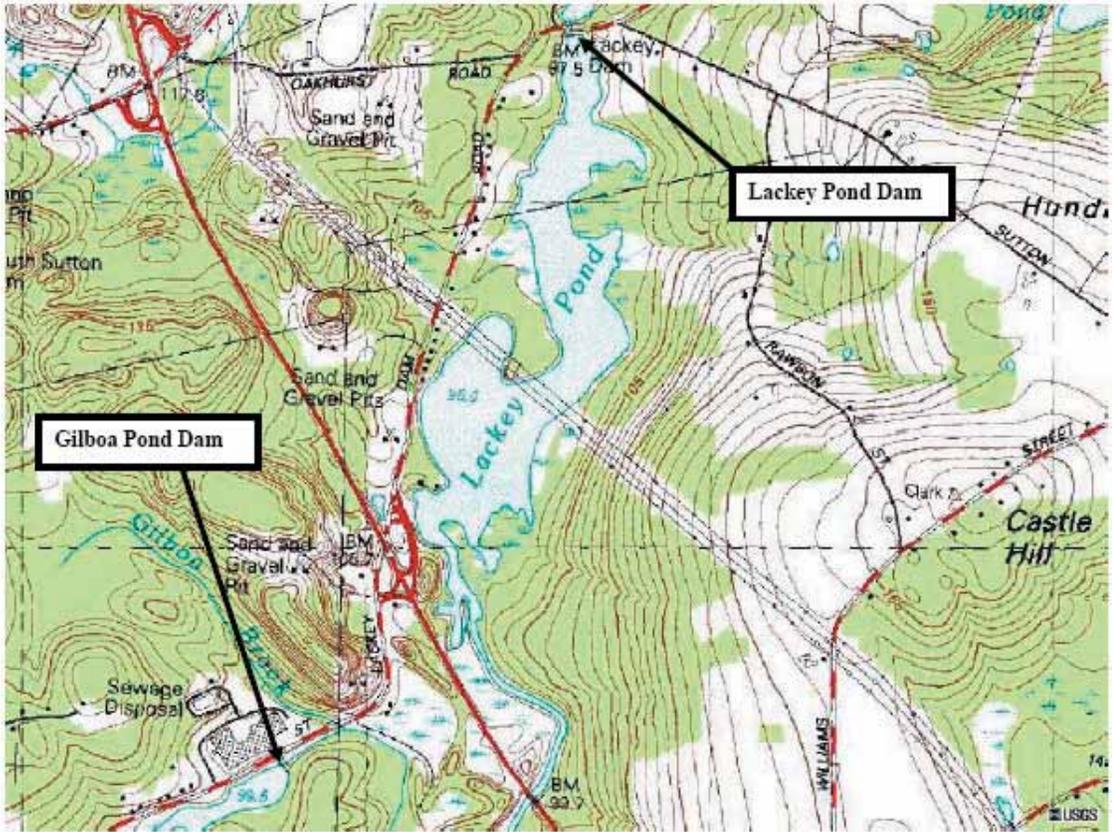


Figure 7. Section 6 - 560 Douglas Road to Unnamed Dam Bridge
 Surveyor: Bob and Joanne St. Germain



Figure 8. Section 6 - 560 Douglas Road to Unnamed Dam Bridge
 Surveyor: Bob and Joanne St. Germain

Section 7. Center Whitinsville to Linwood Pond and Dam - Northbridge, MA

Surveyor: Erin Andersen, Nancy DeMers, Olivia - Glenn and Evan Herbert, Beth and Paul Milke, Harold and Nancy Perkson and Alex Thompson

The River flows over a dam at the Alternatives mill complex in downtown Whitinsville at a busy intersection, where it flows under a bridge at Douglas Road. Clear water flowed moderately over the dam. There is a large rock midstream, and some vegetation is growing in surrounding silt.

There appeared to be a significant runoff problem from the roads above the river, and many rocks and sandbags had been placed along the side of the building, down the embankment, and in the river. This is a site of ongoing construction (as of September 2006) and will need to be rechecked in the future.

The bridge at Douglas Road is another site that will need rechecking for runoff. There are 12” conduits visible on both sides of the bridge at water level. Continuing past the bridge, where the banks are lined with stone blocks, there is additional vegetation in the water, including a few modest-size trees. The flow of the river did not appear to be restricted at this time. The Northbridge Public Works parking lot is in this area, with jersey barriers placed along the edge that fronts the river.

The Mumford then flows past Whitinsville Golf Course. Team members received permission to survey the area near the pump house. The Golf Course is permitted to withdraw a certain amount of water from the river. At this time of year, the stream, which is deeper in this area, had noticeable movement.

The survey team did not check the marshy area that abuts the Golf Course at this time. This should be done to determine if there are problems with fertilizer runoff.

Country Club Drive is a short road that ends in a cul de sac that slants toward the river. There is a backyard conduit at #153, which has some leaves and twigs around it. This conduit might be rechecked during a period of continued or heavy rain to determine how much runoff is entering the river.

Linwood Pond (Figure 9) was surveyed by two teams. The left bank (heading downstream) runs along Linwood Avenue. It contains the Mumford River Walk, a wooded path. The River along this area has received the attention of a group of Northbridge High School Students concerned about the environment.

Section 7. Center Whitinsville to Linwood Pond and Dam (Northbridge)/ Right Bank

Another survey team accessed the right bank (heading downstream) from a short paved road off Rivulet Street. Ownership of specific areas is uncertain. It is wooded--a number of songbirds were seen during the survey--and contains sand and gravel pits. There were large pieces of scrap metal in one section.

The Pond in this area showed little movement. There are a few large areas of arrowhead and several smaller ones; team members are uncertain whether this amount of vegetation is harmful in some way. There were a few waterfowl here: geese, ducks, great blue herons.

Linwood Mill owns some property on the right bank. There were several still areas of rusty orange water on the mill property; we could not determine at this time whether these pools flow into the main course of the river. If so, it should be determined whether the discoloration is natural (decaying leaves and pine needles, for example) or pollution of some sort.

LINWOOD POND DAM (owned by Linwood Mill)

This is an area of significant concern, mainly because of eroded spaces on the earthen dam itself. One of the most heavily eroded spots is at the spillway, which is fenced off and is posted “No Trespassing.” Jeff Hickson, who operates Wildbird Gardens in the Linwood Mill, has expressed his concern about the erosion to several survey team members. He described the problems he has had with people who fish from the dam and ignore the signs.

If a solution to this erosion problem is a public canoe launch/fishing platform, a discussion might begin on the most suitable location for one, possibly another spot that might handle more foot traffic than the dam.

The water at Linwood Pond Dam was clear and flowed moderately onto the stone-lined bed. There are a few small trees growing in the stream, and some litter gathers here. Additionally, several lengths of rusty pipe are in the water; small bits of trash were found on the banks.

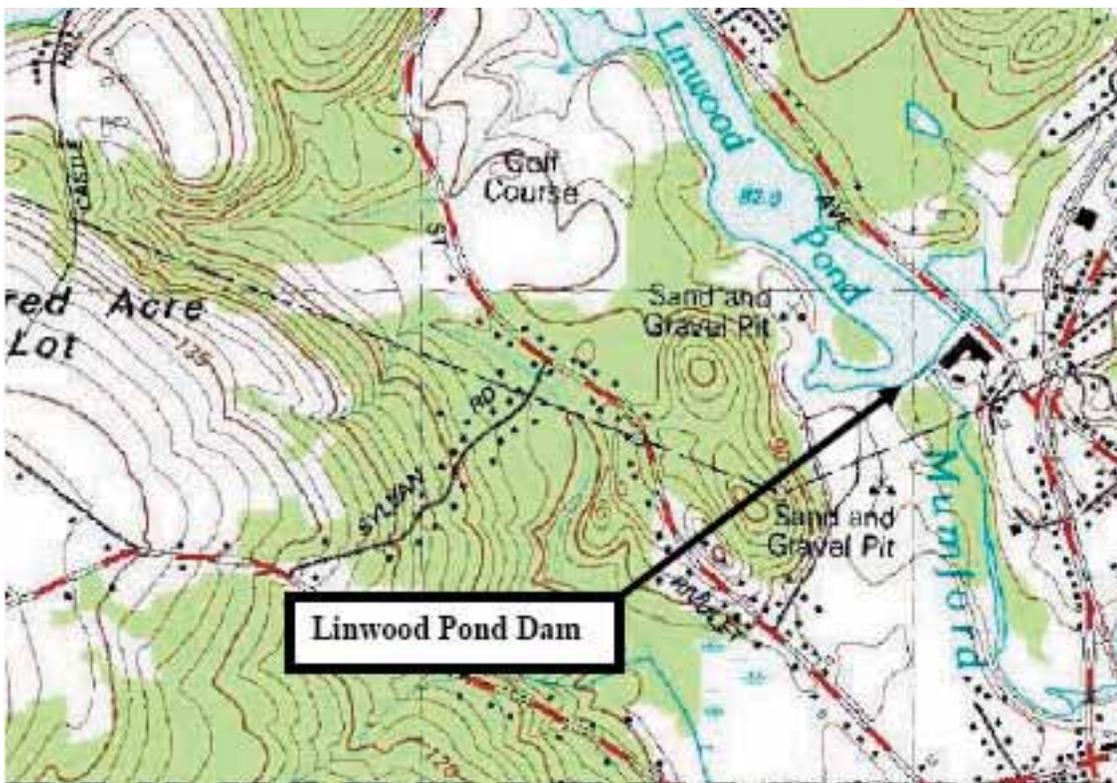


Figure 9. Section 7 - Wild Bird Gardens - Both sides of the River
Surveyor: Erin Andersen, Nancy DeMers, Olivia - Glenn and Evan Herbert,
Beth and Paul Milke, Harold and Nancy Perkson and Alex Thompson



Surveyors assess pump house at Whitinsville Golf Course, Linwood, MA.



Erosion on river bank behind the Gold Course in Linwood, MA.



Sand bags at construction at the mill in downtown Whitinsville, MA.



Linwood Dam baniking, Linwood, MA



Geese on the Mumord River, Linwood, MA

Section 8. Linwood Dam - Progressive Club
Surveyor: Michael Pouliot

From the upper dam the river runs for a couple hundred yards where it is joined by a canal from the old mill. The canal is full of debris and it is orange colored. The river runs several hundred more yards to the pond area. West bank of pond is a large wetland. The East bank rises. The river runs under Route 122 and Railroad Bridge and emerges into lower Whitin Pond. Much of the shoreline on Whitin Pond is surrounded by granite blocks. Some of the East bank has eroded and much of the shoreline is covered in trash. At the upstream end of Whitin Pond is a pair of nesting swans. The upstream west of the pond has wetlands. At the bottom end of the pond is a very lovely little public area that bordered the dam on the East bank.

- **Removal of trash/debris**
- **Erosion in the West Bank on Hartford Avenue side**
- **Water needs to be assessed because of the orange coloration (possible leach field)**

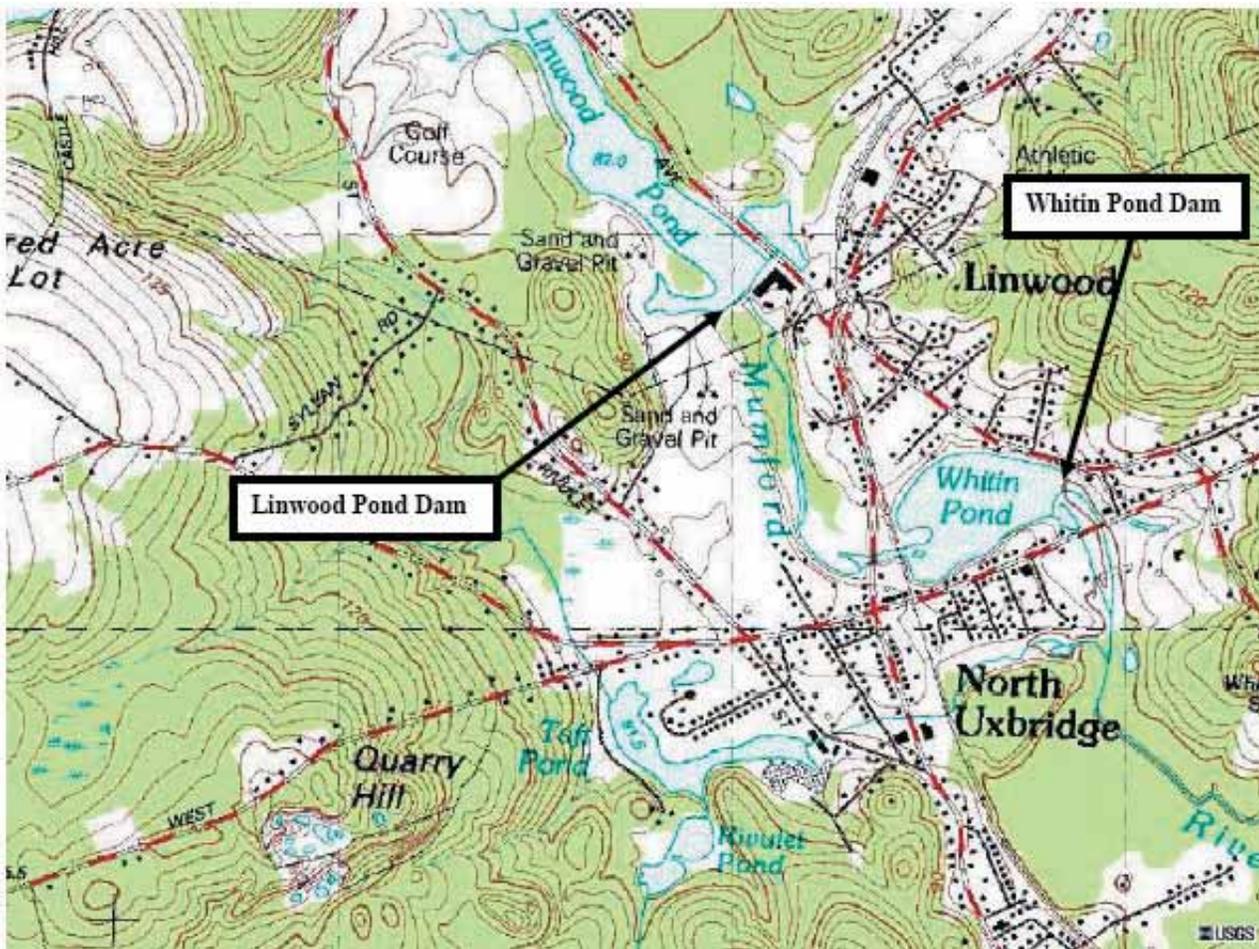


Figure 11. Section 8 - Linwood Dam - Progressive Club - Linwood, MA
Surveyor: Michael Pouliot



Section 8. images indicate coloration of the river bottom and structure of dam
Surveyor: Michael Pouliot

Section 9. Hartford Street/Route 16 - Capron Park Mill Dam - Uxbridge, MA
Surveyor: Maggie and Jim Plasse

Started survey at Capon Park Mill pond and dam at strip mall on Route 16 in Uxbridge (N 42.07722, W 71.62867). Informal canoe launch on walking path behind parking area (N 42.07742, W 71.62888). Walked path on west bank of river. Wooded and wetlands between railroad bed provide protection to the river in this section. East bank of river appeared to be protected by natural vegetation also. Some trash found along pathway. Appears to be teen party destination. River vegetation includes arrowheads and feathered plants. Abandoned oil tank found. No oil in it. Been there a while. Dry well from storm drain. No pipe visible. Open area with kid's toy car. Trail turns to marshy wetlands. Had to continue walk on rail bed (N 42.08196 W 71.60100). Followed Homewood Street back to river from rail bed. River protected by wetlands and wooded areas up to mill on Hartford Street. Not passable on foot up stream between Homewood street. At Hartford St. a resident said that river is navigable between Hartford St. and Route 16. Would have been better to survey this section by boat. (N 42.08500, W 71.60176).

- Phragmites removal
- Senior housing to the park – organize clean-up
- Canoe launch / public access: Contact Department of Conservation and Recreation and Lynch's Liquor Store

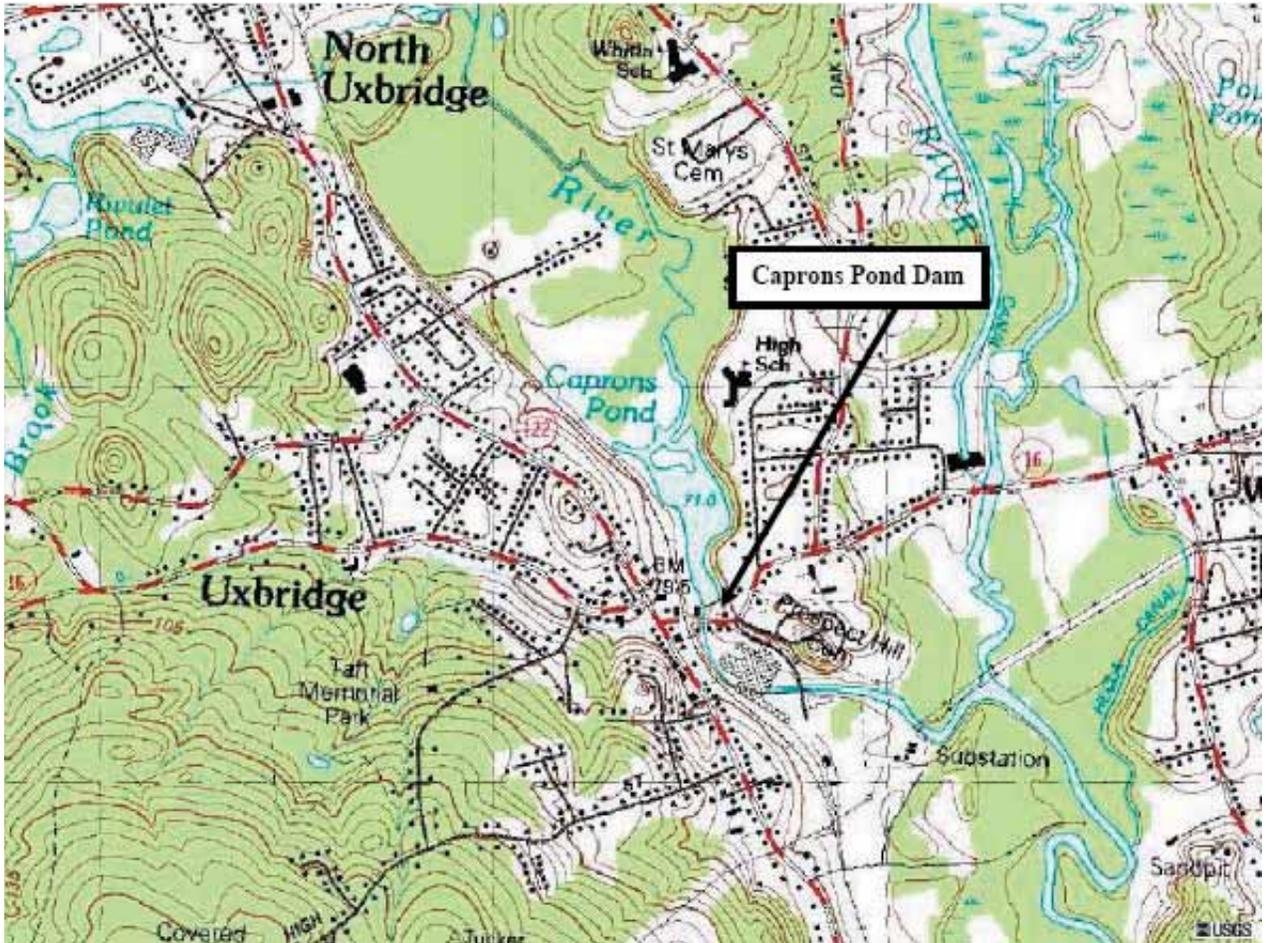


Figure 12. Section 9 - Hartford Street/Route 16 - Capron Park Mill Dam
Surveyor: Maggie and Jim Plasse



Section 9 - Images along Hartford Street/Route 16 - Capron Park Mill Dam
Surveyor: Maggie and Jim Plasse

Mumford River Stream Team

ACTION PLAN - BASED ON MAY 2006 SURVEY

I. WATER QUALITY

Reporting/Immediate Action. Share information about problems with city officials and support actions to solve these problems.

1. **Sutton Building Inspector-** Find out if it is okay for residents to have run off pipes directed into the river (Section 2)
2. **Douglas Conservation Commission**
 - a. WWTP discharge in (section 3)
 - b. Oil runoff from the Cook Street Bridge (section 3)
 - c. Left over silt fences and hay bales should be removed (Section 3)
 - d. Old Mill Pond Dam- Rusty pipes coming into the river from apartment buildings with hay barrier left behind from construction (Section 3)
 - e. Trees blocking river (Section 4)
3. **Northbridge Conservation Commission**
 - a. Silt fence left up from new construction should be removed (Section 7)
 - b. Determine whether rusty orange water on the Linwood Mill property (right bank) flows into the river and what is the source of the discoloration(section 7)
 - c. Recheck erosion at shop near dam (section 7)

Short Term Action: Recheck the following issues and determine appropriate follow-up

- 1.. **Sutton-** At Stevens Pond recheck water levels. They had been extremely low, but it is thought that the levels were deliberately low due to construction (Section 1 & 2)
- 2.. **Douglas-** recheck trees in the river. If a navigational hazard consider limited cutting for canoe passage (Section 4)
 - a. Determine if lot with old bulldozer and trash is a potential source of pollution and what could be done to clean the lot (section 4).
 - b. Bank eroding at site with new large house due to land filling at rivers edge (section 4)
3. **Northbridge** - rechecking the status of the construction at the Alternatives Complex on DouglasRoad to see that runoff has minimized and that construction material is removed when work is completed (Section 7).

Long Term Action:

WQ testing- Compare present water quality test data to observed river conditions to determine if additional water quality test sites are required and to determine if other water quality tests, such as bacteria testing, heavy metal testing or volatile organic compound testing should be conducted at selected locations on the river.

II. COMMUNITY OUTREACH & EDUCATION

Short Term Action:

1. Meet with town Conservation Commissions and Selectboards, Blackstone Valley Heritage Corridor to give them the results of the survey and discuss potential for partnering on efforts to improve the Mumford River
2. Put out a press release or news article about the results of the survey. Encourage community members to help with projects
3. Campground- talk to owners about boat use and gasoline, shoreline degradation issue. Put together information for pond landowners about best management practices and how to good for them and good for the lake (Section 1)
4. Education- post river and lake stewardship info at town hall and at the campground (Section 1)
5. Grass clipping dumping- send information to homeowners about the impacts of grass clippings and lawn maintenance on rivers and lakes (Section 6)

Long Term Action:

1. See about adding Mumford recreational opportunities to BVHC “talk boxes”
2. Support Northbridge High School Environmental Club and look for ways to partner on Mumford River protection
3. Continue to put out press releases and have articles in local papers about the river
4. Help to have film about the survey and the health of the river on public access cable
5. School Education- work with teachers at the middle and high school levels to involve in river work

III. RECREATION AND ACCESS

Long Term Action:

1. Discuss possible recreational opportunities with partners and Stream Team to determine what types of recreation are appropriate, taking water quality into consideration
2. Talk with the Massachusetts Office of Fishing and Boating Access about possible fishing and boating access sites. Bring ideas to the town, as their permission would be required for sites on town land. Site ideas include:
 - a. Lackey Dam- an official site could replace the unofficial access at Berkowicz (Section 4)
 - b. Linwood Dam - canoe launch on town property (Section 7)
 - c. Wildbird Gardens - canoe launch on private property (Section 7)
 - d. Lynch’s (Section 9)
 - e. Town land in conjunction with Blackstone Heritage and Canal State Park (DCR) (Section 9)
3. Promote Carry In/Carry Out principles at access sites

IV. STREAM RESTORATION AND HABITAT

Short Term Action

1. Whitinsville Golf Course - Recheck golf course buffer zone. Possibly work with the owners to enlarge buffer with native species, which will reduce runoff (Section 7)
2. Check water withdrawal limit to be sure the golf course withdrawal is not impacting the river (Section 7)

Long Term Action

1.

V. CLEANUPS

Short Term Action : Hold cleanup to focus on hot spots

- a. Stevens Pond (Section 1)
- b. Gillboa Pond tires and propane tanks (Section 4 & 5)
- c. Lots of house hold trash (Section 6)
- d. Lackey Dam- fisherman leaving trash behind (Section 6)
- e. Middle School Parking lot (Section 7)
- f. Trash in cove and Northbridge town property (old rusty pipes) (Section 7)
- g. Right bank of Linwood Pond - determine ownership of property containing large scrap metal
- h. Linwood Mill - rusty pipes and littler in the water

Long Term Action:

1. Promote Carry In/Carry Out principles to reduce future trash problems