

**Lamprey Rivers Advisory Committee
Meeting Minutes 10-25-2012
Raymond Safety Building**

APPROVED 11-29-2012

members present: Emily Schmalzer (Brentwood), Dick Snow (in at 7:45) (Candia), Dick Lord (Durham), Joe Foley, Jenn Rowden (Epping), Todd Piskovitz (Exeter), Fred Lindahl (Fremont), Sharon Meeker, Kitty Miller (Lee), Michelle Daley (Newmarket), Mike Russo (Nottingham), Ted Janusz (Raymond)

associate members/affiliates present: Jim MacCartney, Suzanne Petersen

guests: Matt Carpenter, Bambi Miller

members absent: Harriet Cady (excused), Bill Hall, Anne Lightbody, Rachel Stevens, Jere Beckman, Preston Samuel, Alison Watts, Peter Wellenberger (excused), Bonnie Winona-Mackinnon (excused), Kathleen Hoelzel

quorum? At least 7 towns? Yes. At least ½ of 22 members = 11 Yes.

Meeting began at 7:00.

town reports:

Sharon Meeker reported that Lee had held a public hearing regarding artificial recharge of the Spruce Hole Aquifer in Durham using Lamprey River water. If two pipes are used, recharge could occur anytime. If only one pipe is used, recharge can occur only seasonally during normal high flow. The fill area, a kettle bog, is segregated from the rest of the aquifer by a clay barrier layer. No overfill is planned. Concern was raised over whether the Inn at Spruce Wood senior center was on town sewer or septic system; the presence of pharmaceuticals in waste water was questioned. We will check to ascertain how Spruce Wood's septic is handled.

Michelle Daley noted that Newmarket had proposed in the past to augment a well using Lamprey River water, but that funding is not available to pursue the project at this time.

fish study summary by Matt Carpenter, NH Fish and Game:

Matt received funding from the Wild and Scenic sub-committee to study tributary fish during the summers of 2010 and 2011. NH Fish and Game is prepared to donate \$15,000 to the committee toward a project for land protection or wildlife. The gift does not have a time limit attached.

The project focused on four main goals:

- 1) Collect information on the status of eastern brook trout in the Lamprey River watershed and as part of an ongoing project using survey protocols developed for the Eastern Brook Trout Joint Venture.
- 2) Collect information on the distribution and status of fish species of concern, listed in New Hampshire's Wildlife Action Plan, and recommend strategies to promote healthy populations and prevent declines of these species.
- 3) Collect baseline fish community data that will help monitor water and habitat quality throughout the Lamprey River watershed. Identify species that may be used as indicators of healthy water quality and good habitat.
- 4) Recommend potential conservation strategies that will protect aquatic habitats and promote water quality throughout the Lamprey River watershed.

The river's nine tributaries were divided into 105 catchment areas. At each sampling site, length, weights, and counts were obtained for each fish species. After length and weight were recorded for the first 25 individuals, the remaining individuals were counted and batch weighed. Water temperature, sampling effort (in seconds), stream width, and a qualitative habitat condition survey were recorded at each site. All survey records were entered into a fish survey database maintained by the New Hampshire Fish and Game Department's (NHFGD) Inland Fisheries Division.

The study noted the following key findings:

- The total number of fish species recorded was 25, not including hatchery stocked fish. The Lamprey River watershed provides important habitat for fish species of concern, including the state threatened bridge shiner, banded sunfish, redbfin pickerel, and swamp darter. Of all coastal rivers in New Hampshire, the Lamprey River has arguably the greatest potential for alewife and American eel restoration.
- Fallfish were the most common species (present at 41% of 105 sites), as well as the most abundant, accounting for 30.2% of the 4,226 fish counted.
- White sucker and common shiners were both widespread (captured at 37% and 29% sites respectively) and abundant, accounting for 30.7% of all fish counted.
- Brown bullhead, creek chubsucker, American eel, pumpkinseed, largemouth bass, chain pickerel, and golden shiner were relatively common (captured at 21% to 32% of 105 sites), but accounted for a small percent of the total number of fish captured (less than 3.5% of 4,226).
- Longnose dace and brook trout were not widely distributed (15% and 10% of 105 sites respectively), but made up a large proportion of the total fish captured where they were found.
- Habitat condition:
 - Overall the Lamprey River watershed is in good condition, but it is beginning to show signs of impacts from the expanding population

in southeastern New Hampshire. Headwater stream habitat is largely intact in the upper subwatersheds.

- In the middle Lamprey River, subwatershed impacts to aquatic habitat become more widespread. Smaller streams become noticeably degraded as the density of development increases around the main population center in the town of Raymond. The main stem of the Lamprey River shows increasing signs of erosion and sediment deposition from recent floods as one moves downstream. The frequency of development within the riparian zone also increases in the middle Lamprey subwatershed. Bridle shiners appear to have been extirpated from a section of suitable habitat in the Lamprey River in the town of Raymond.
- In the lower Lamprey River and Piscassic River subwatersheds, habitat along the banks of the main stem rivers remains mostly undeveloped until one reaches the town of Newmarket. However, the smaller streams within these subwatersheds have become increasingly fragmented.
- Key issues:
 - The most commonly observed impact to headwater stream habitat was undersized stream crossings which act as barriers to fish migration. Undersized culverts cause stream bed scouring, which lowers the stream elevation at the downstream end of the culvert and eventually leads to what is referred to as a “perched”. In addition to fragmentation, stream crossings degrade stream habitat by increasing erosion and sediment deposition rates.
 - The second most commonly observed impact to aquatic habitats during this survey was stormwater runoff from impervious surfaces such as roads or parking lots. Stormwater pollution is a major cause of habitat degradation in the Lamprey River watershed. The effects are most evident near population centers in the middle and lower Lamprey River subwatersheds in the towns of Raymond, Epping, and Newmarket.
 - Although the riparian zone is generally intact along the Lamprey River and its tributaries, there are some areas where trees and other vegetation have been cut right to the river or stream bank. This practice increases bank erosion and provides poor buffering against pollutants. Streamside vegetation also provides shading, which reduces daily extremes in temperature fluctuations.
 - Access to habitat for diadromous fish (alewife and American eel) has increased significantly since 2011 with fish passage built at the Wiswall Dam and the removal of the Bunker Pond Dam. However, dams (or dam ruins) still limit fish access to large amounts of habitat in the Piscassic River, Little River, and the upper Lamprey River.

- Recommendations:
 - Protect headwater streams through better planning, stormwater management, and land protection. Towns will need to work toward improvement, rather than just stemming the decline. New construction should use Low Impact Development (LID) techniques which are based on the principal that stormwater should be filtered through the natural ground before it enters any surface waters. The towns of Raymond and Newmarket would be good locations for LID demonstration projects.
 - Map stormwater outfalls to prioritize stormwater retrofit projects to ensure that the worst offending systems are dealt with first. A good place to begin mapping outfalls would be in the town of Raymond, which has seen a significant increase in impervious surfaces.
 - Design stream crossings to appropriately match the size, dimension, and water velocity of the stream channel on site to improve aquatic organism passage and greatly reduce damage during high flows. Natural substrate within the crossing is preferred.
 - Survey stream crossings to prioritize stream crossing replacement projects.
 - Enact zoning ordinances that protect riparian zones and aquatic habitat. A minimum buffer width of 15 m from the stream bank on both sides of the stream or river should be protected. Education and outreach materials should provide examples of the economic benefits of protecting water quality compared to the high cost of water treatment facilities.
 - Prioritize land protection efforts to watersheds and shoreline habitat where bridle shiners and brook trout have been documented. Secondary consideration should be given to habitat that supports banded sunfish, redbfin pickerel, and swamp darter. Larger watersheds that contain relatively unfragmented forests, especially in areas adjacent too or connecting existing parcels of conserved land, should also be given priority.

Committee questions and concerns

Q: Is the Lamprey River fish trending towards species that tolerate warmer water?

A: Slow, marshy sections of the Lamprey have long been dominated by warm water species. The species to watch carefully are the fluvial specialists, for example long nose dace, that require regular flow.

Q: What is the state doing to help towns such as Raymond, where 5 state highways go through, to address roadway run-off?

A: Unknown.

Q: What are fall fish?

A: A fall fish is a large minnow, up to 16". They are abundant throughout the Lamprey River watershed. They build stone nests that are used year after year.

Q: What percentage of brook trout are native?

A: Unknown. Only natural, self-supporting reproduction was studied. No recently stocked fish were studied. Some of the naturally reproducing fish might have come from old stock.

Q: How might the pre-dam era fish population compare with current the current fish population?

A: Unknown. It could be studied at some point.

Q: When should a repeat fish survey be under taken?

A: Probably 5-10 years from now. Changes to the American eel and alewife populations should be especially interesting.

Q: Will lamprey eels return now that Wiswall has a fish ladder?

A: Perhaps in the spring when the water is cold. Swimmers should not worry about them during the warmer summer months. As juveniles, lampreys are filter feeders and could potentially improve water quality.

Q: What effects does artificial turf present to fish?

A: Never considered it. Will check.

Q: Once a culvert is perched, is there anything we can do to mitigate the problem without the expense of replacing the culvert?

A: One possibility is to create a grade controller by adding fill downstream. This will allow water to enter the culvert from the downstream end. Each fix should be specific to the site and the target fish species.

Full copies of the draft report on CD were provided to members who were present. The final report should be completed by spring of 2013.

management plan proposed time schedule:

Oct. 25- LRAC meeting, focus on wildlife

Nov. 29- Complete wildlife objectives and do a discussion of objectives as proposed in water resources, recreation, wildlife, history. Get a writing group to do the rough draft of the plan so far.

Dec.-no meeting, work on draft

Jan. 24- LRAC meeting, focus on discussion of the draft

Feb. 28- LRAC meeting, revised draft discussion

March 28- LRAC meeting, consensus on the draft, send to town governments for comments

April 25- LRAC meeting, present revised plan to LRAC and hold 3-4 focus groups in the watershed

May 23- LRAC meeting, send out plan for review with pertinent focus groups and town government input.

Reviewers:

towns: selectmen or council, conservation commissions, planning boards

Lamprey River Watershed Association

Piscataqua Region Estuaries Partnership

NH DES

others??

wildlife objectives:

- recognize that wildlife is important but water quality/quantity should be main focus
- pick a few indicator species to watch over time
- address road salt and get towns to reduce it
- study effects of extra road sand (from less salting) on wildlife
- combine wildlife with education and outreach
 - continue to grow vernal pool program
- promote wide riparian buffers as important to wildlife and water quality
- increase the degree of connectedness within the watershed
- increase awareness of wildlife in their habitats
- protect headwater streams and beaver dams
- encourage ecological integrity in the watershed
- use original management plan and 2007 management plan revision as guides for next revision
- tie wildlife to recreation, education, water quality and quantity, and land protection
- review NH wildlife management plan for ideas and guidance
- find funding for projects
- prioritize projects
- tap into local knowledge- landowners, recreationists,...
- help people to understand their connection to wildlife and how to safeguard soil, water quality, and wildlife
- promote the river otter as the LRAC mascot

Homework assignment for November's meeting: Review the wildlife section of the 2007 management plan revision and the NH Wildlife Action Plan.

Change to bylaws:

At September's meeting, the committee approved an initial motion to amend the definition of a quorum in the bylaws. The current definition is that at least 7 towns and at least ½ the current membership defines a quorum. The motion to be voted on and finalized will change the definition to **at least one member of at least 7 different towns.**

**A motion was made to amend the bylaws to reflect the new definition.
Motion passed with 11 yes votes and 1 abstention.**

minutes from Sept. 27, 2012:

Dick Snow made a motion to approve the minutes as presented. Joe Foley seconded. Minutes were approved with 9 yes votes and 3 abstentions.

officer vacancies:

Mike Russo asked for volunteers to serve as chair and treasurer. No volunteers stepped forward. Mike suggested members seek new members when they give their progress reports to their respective town governing bodies.

artificial turf playing fields:

Concern was raised about artificial turf fields near the river and the possible impacts to the river and wildlife. Fremont has one already and Lee is proposing to install one. A draft letter to the Town of Lee was shared. Discussion ensued regarding whether a letter should be submitted. Among the key points was Fred Lindahl's statement that the committee is obligated to not only protect the rivers and the watershed through our comments on specific projects, but also when issues surface. He wrote to DES regarding the artificial turf field 100 feet from the river in Epping. Despite evidence that shredded tire rubber can release toxic levels of zinc into leachate and that UNH recently found lead in some artificial turf dust, DES reported that the rubber particles are basically inert. Other concerns were raised, however, such as whether fish, birds and invertebrates might ingest the particles. As the chemicals used in the production of tires and artificial turf soil are released, is it possible that other harmful leachate might enter water bodies such as rivers? Are there similar problems with natural turf? More research is needed on the issues surrounding artificial and natural turf fields when they are located near water bodies. The consensus was to defer further discussion to the project review sub-committee. A generic letter probably should go out, but wording should be crafted carefully.

project review:

Todd Piskovitz reported that a project at 13 Water Street in Newmarket proposes to restore a historic house (formerly Joyce's Kitchen) and to construct several condominiums adjacent to the house. This will be reviewed Nov. 6 by the sub-committee. Dick Snow reported that Candia's zoning board of appeals was asked to review a sand and gravel proposal, but the board refused to consider it.

announcements:

NH DES will present a round table discussion of Lamprey River management and the Lamprey River Pilot Instream Flow Plan on Oct. 30 at Nottingham Town Hall from 4-5:30 and 6:30 on.

adjournment:

Sharon Meeker moved to adjourn the meeting. Michelle Daley seconded.
Meeting was adjourned at 9:13.