



The Hoosic River Voice

News from the Hoosic River Watershed Association Spring 2014
Clean Water Habitat Restoration River Access Watershed Recreation

Stream Health Improves after Dam Removal

HoorWA has been conducting biological surveys of benthic macroinvertebrates on Hoxie and Thunder Brooks in Adams, MA since 2008 and 2009, respectively. The surveys have provided baseline benthic macroinvertebrate community structure data and water quality information. The data has also been used to evaluate changes in the benthic macroinvertebrate community at selected survey locations pre- and post-removal of dams on these brooks.

Recent survey locations focused around the Hoxie and Thunder Brook dams and the Thunder Brook culvert located below the dam. Both dams were removed and the streams restored to a more natural state. A restoration goal was to re-establish connectivity between the upper and lower sections of the streams, providing a more natural stream corridor for passage of fish species, such as the native eastern brook trout. Prior to dam removal, there were the expected depositional macroinvertebrate taxa in the areas of the impoundments (located just above dam). Following dam removal, habitat was expected to improve, with the benthic community structure at the dam (station At) reverting to a riverine community. Survey results demonstrated that the community structure at each of the dam impoundments (At impoundment station) prior to dismantling of the dams was dissimilar to the benthic macroinvertebrate community structure located upstream of the impoundments (Above/reference station) and to stations lo-

cated below the dams (Below dam) [Figure 1]. After the dismantling the Thunder Brook dam and restoration the stream reach, data clearly indicates that the impoundment station benthic macroinvertebrate community structure reverted to a more riverine community similar to that located below the dam (Below dam station) [Figure 2]. Overall, the surveyed stations on Thunder Brook show a higher percent community similarity between each station and the Above/reference station after dam removal [Figures 1 and 2]. Similar results are seen for the Hoxie Brook dam. A complete report of the benthic macroinvertebrate community structure changes for both Thunder and Hoxie Brook will be published later this year on our website .

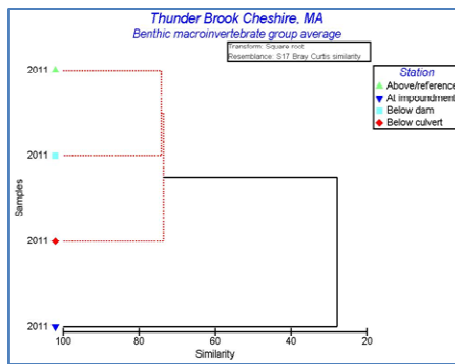


Figure 1 Pre-dam removal dendrogram of Bray-Curtis similarity analysis using cumulative species lists for each sampling station. The figure shows significant clusters of stations (dotted red lines) and the dissimilar station (solid black line) At impoundment indicates a significant deviation from the reference condition.

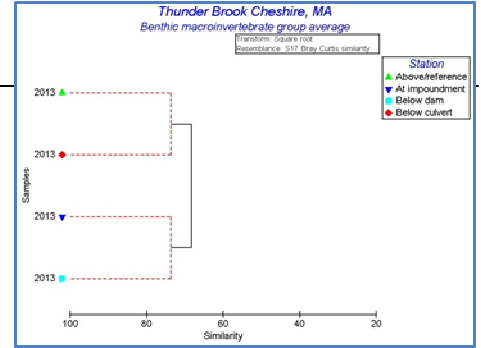


Figure 2 Post-dam removal dendrogram of Bray-Curtis similarity analysis using cumulative species lists for each sampling station. The figure shows significant clusters of stations (dotted red lines) and dissimilarity (solid black line). At impoundment station shows a significant shift in community structure to a more riverine community and is overall more similar to the Above/reference station compared to the pre dam removal data in Figure 1.

Submitted by J. Kelly Nolan,
Watershed Assessment Associates



nature's closet

Coming to Images Cinema in Williamstown!

Nature's Closet and Patagonia have partnered to sponsor a screening of *Damnation* (damnationfilm.com), to benefit the Hoosic River Watershed Association. This critically acclaimed documentary takes us through the benefits of removing obsolete dams in America. *Damnation* has not only educated people about dam removal, it has shown audiences across the country, award winning cinematography. Join us on June 30th at 6:00 for a pre-screening reception at Nature's Closet followed by the movie at Images Theater at 7:00. Tickets (\$10) may be purchased at Nature's Closet.



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HoorWA is dedicated to the restoration, conservation and enjoyment of the Hoosic River and its watershed, through education, research, and advocacy.

On April 12th, HoorWA launched (at Ashton Ave. in North Adams) a rafting trip and picnic for 21 of our members after a first-come, first-serve sign up process. Because we were so lucky to have a sunny 60 degree day, our rafters got to enjoy the river and to realize how very fortunate we are to be residents of the Hoosic River watershed.

HoorWA has been working over the last couple of decades to clean up and protect the river and its watershed so that we can all benefit from an ecosystem kept as a healthy environment for all forms of life including us humans.

Soon after paddling into Pownal, VT, we looked up and saw a bald eagle on a limb about 30 feet above us (see photo below). My feeling was that he must be very happy that the river and its watershed are providing him and his family (or her with her family) with a naturally productive and healthy environment.

President's Post *by Tom Hyde*

HoorWA's members should realize that they deserve some credit that the river is meeting the eagle's needs as a healthy environment for eagles and their prey.

I hope that anyone who has access to a kayak or canoe will join us on the river on Saturday, May 17th, for the Hoosic River Float and picnic. I am sure that other wildlife will be in, above, and around the river during that event as well, and hopefully will provide motivation for participating paddlers to support HoorWA. Also those who buy raffle tickets before or at the River Float have the possibility of winning a kayak, a mountain bike, a 15 foot tall shade tree, a \$150 gift certificate, or a hand-made fly-fishing rod, and purchasers can also take some credit for supporting the watershed's wildlife by supporting HoorWA.

Continue to love and support the Hoosic River watershed!



April Member Rafting Trip!





PCBs in the Hoosic: A Lingering Legacy

PCBs (polychlorinated biphenyls) were banned 35 years ago, but their effects are still being felt in the Hoosic River. These flat, oily molecules were once used in industrial production of capacitors for electronics. The Sprague Electric Company in North Adams was one of many factories that used large quantities of PCBs. After PCBs were determined to be possible human carcinogens, their use in electronics was banned in 1979. Unfortunately, simply banning their use didn't end the problem.

When the Sprague Electric Company plant closed in 1985, toxic waste stored in a cistern draining to the Hoosic was left behind. Subsequent testing identified very high levels of PCBs in the cistern's sludge and the Hoosic River's soil, forcing a cleanup of the area.

"The problem with PCBs is that they persist. They don't break down very easily in their environment," says Jay Thoman, a chemistry professor at Williams College who studies these toxins in the Hoosic. Unless actively removed, they will linger in the soil of contaminated areas.

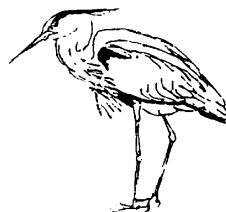
Twenty-five years after the initial cleanup, PCB levels at most sites in the Hoosic are just above the EPA's threshold for concern. Their persistent nature is worrisome to researchers because of the long-term threat to human health—people with frequent exposure to contaminated areas could develop associated medical problems in the future. For this reason, students of Thoman and

David Richardson, another Williams chemistry professor, have carried out testing of the soil and plants along the Hoosic for several years.

Most recently, Thoman, Richardson, and their students tested crayfish in the Hoosic River for PCBs. "The PCBs get concentrated in the fatty tissue of a crayfish, the part that you might boil up and eat," explains Thoman. Their results were somewhat heartening: "Only crayfish near [the Sprague site] have come over the level of EPA concern," says Thoman. Most animals worldwide carry trace amounts of PCBs because of the widespread environmental presence of these chemicals, so low levels in Hoosic River crayfish are not necessarily abnormal.

Tracking PCB levels in river wildlife is a step towards ensuring that fish caught in the Hoosic are safe to eat—fishing in the area is currently restricted to catch-and-release because of the high contamination levels. "Now that we've sampled crayfish, our hope is to look at brown trout in the future," says Thoman. With luck, time, and—if necessary—further cleanup efforts, PCB levels in the Hoosic may eventually decline to an acceptable level to fully enjoy the river.

Laurel Hamers is a senior at Williams College. Look for her feature article on this topic and others on the HoorWA website.



A view downstream!



**HoorWA's 10th Annual
Ride for the River
August 16th
Williamstown Youth Center
7, 30, 50, 75, and 100 mile rides
Register at BikeReg.com**



Thank you to our friends at Nature's Closet in Williamstown for securing a \$1,000 donation to HoorWA from Patagonia®!

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Also in this issue:

- River Paddle and Float on May 17th!
- President's Post
- PCB's in the Hoosic
- Damnation at Images Cinema on June 30!

Spring 2014



The Hoosic River Voice

Join us at the Hoosic River Paddle and Float!

Help HooRWA and the Williams College Outing Club set a record for the greatest number of boats on the Hoosic River in one day! **Saturday, May 17's** the day; assemble at Cole Field, Williams College, by 9 a.m. Bring your own kayak or canoe, drop it off, and then leave your vehicle at Mack Molding on Route 346 in Pownal. Return via our shuttle and float down the most scenic portion of the Hoosic to learn about your backyard river. Take out at Clayton Park, Pownal, Vermont, about midday.

Register by May 12 at 413 458-2742 and leave your name and number or register online at hoorwa.org using PayPal. Your \$10 fee provides you with shuttle service, picnic and a great experience. Wild Oats will provide sandwiches and fruit; Higher Ground will provide lemonade;

Williams College Dining Service will provide pastries. In thanking our business partners, we may ask you to carry on your boat a pennant with the logo of MountainOne, our lead sponsor, or one of our major sponsors including Southwest Vermont Medical Center, Nature's Closet, Elhannon Nurseries, or Alton and Westall Realty.

Bring your canoe or kayak and life jackets. If HooRWA determines that river conditions are not conducive to boating, and you choose not to join us for lunch, upon request we will return your registration fee. *Please be certain that we have your contact information.*

In conjunction with the Float, we are holding a raffle, drawing to take place at the picnic. (Winners need

not be present.) Prizes are a kayak from Berkshire Outfitters, a mountain bike from The Spoke, a 15-foot shade tree from Elhannon Wholesale Nursery, a hand-made fishing rod by craftsman Stuart Duffield and \$150 worth of clothing from Nature's Closet. Raffle tickets at \$5 are available at the Williamstown Savings Bank, from HooRWA board members, at Nature's Closet on Spring Street, or at the HooRWA office at the First Congregational Church,

**Thank you to our members,
for supporting our work!**