

# The *Eightmile River Watershed* News

Fall 2014

## Filming Fish at the Fishway

By Pat Young



While it is unlikely that we will be winning any cinematic awards, the new video camera system installed at the Moulson Pond Fishway is providing critical information on the movement of fish in the Eightmile River. The Moulson Pond Fishway is situated downstream of Rathburn Dam in the town of Lyme. The dam is the first and most significant barrier to migrating fish in the Eightmile River Watershed. The pristine waters of the Eightmile River and its tributaries combined with the proximity of its mouth, eight miles upstream of Long Island Sound on the Connecticut River, make it a very important spawning and nursery habitat for a variety of anadromous fish species.

The fishway has been passing thousands of fish since it was first opened in 1998. Visual observations by volunteers for the Lyme Land Conservation Trust, who operates and maintains the fishway, have been recorded since then. These observations however could not provide a confirmed accounting of both specie types and numbers passing through the fishway. Targeted species by the Inland Fisheries Division of the Department of Energy and Environmental Protection include Atlantic salmon, American shad, alewife, blueback herring, sea lamprey, sea-run brown trout. Other species of interest are white suckers, resident trout and the American eel.

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## Chairman's Column

### *A Forested Landscape*

By Anthony Irving

Do you know that only about 6% of the Eightmile River Watershed is developed and that 80% or 32,000 acres is forested? In fact 26% is composed of forested blocks between 500 and 1000 acres, 15% greater than 1,000 acres and 5% greater than 2,500 acres; almost unheard of for a near-coastal landscape along the densely populated East Coast. This is one of the defining features of the Eightmile River Watershed and one reason it was designated as a National Wild and Scenic River System.

Large forested blocks are integral to watershed health because they are more than just a single expanse of trees. They contain a variety of habitat types from watercourses and wetlands, beaver meadows and moist lowlands to dry ridge top uplands that are all important to the life cycle needs of most of our flora and fauna. From river to ridgeline it is this complexity of habitat types that is at the heart of a healthy ecosystem.

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- **Watershed Elevation Map**
- **Monitoring Streams**
- **Picture Update of Lake Hayward Biofilter**
- **Winning the War on Japanese Stiltgrass**

## EnviroScape goes to Salem

By Barbara James

Long term protection of the Eightmile River Watershed depends on the next generation playing an important role in how local resources are managed. ERWSCC is always looking to partner with local communities to develop educational opportunities that highlight the importance of conserving watershed resources. One of our most recent programs involved working with the Children's Museum of Southeastern Connecticut to provide a program for students to learn about water quality issues and their own connection to a watershed using an EnviroScape model. This is a 3-D interactive model that allows students to try a variety of activities to demonstrate how non-point source pollution is created or minimized.



Recently, Robert Swan's sixth grade science class at Salem Elementary School was able to use the EnviroScape to explore how water pollution can come from many sources and the effects accumulated pollution has on larger bodies of water. The model provided hands on exploration activities

showing the pathways of run-off from residential areas, farms, factories, recreational activities, storm drains and forests. Using cocoa and colored drink mixes to represent soil and pollution sources such as fertilizer, oils and trash, the students traced the flow of water as it traveled through the watershed to a body of water which represents a lake, river, bay or ocean. The contamination was evident as it was carried through the watershed. Students quickly realized that many small sources can have a major impact on the quality of our water resources.

Another activity allowed students to become environmental engineers and work together to clean up "polluted" water. Using screens, cotton balls, coffee filters and other materials, students designed a mini storm water treatment plant and tested its effectiveness. While some models were quite impressive, students learned that all pollution cannot be easily removed and the goal wherever possible is to eliminate pollution at the source. In a group discussion they learned that everyone can take steps to help prevent contamination in our waters.

The goal of these programs is to encourage everyone to protect the high quality of the Eightmile River. Hopefully these programs are just the beginning for these students in developing a personal understanding and connection to our watershed area.

For more Events .....

including presentations, hikes, paddles, and other family fun, visit the following websites:

Lyme Land Conservation Trust  
<http://lymelandtrust.org>

East Haddam Land Trust  
<http://ehlt.org>

Salem Land Trust  
<http://salemlandtrust.org>

**CONGRATULATIONS**  
**Our High School Student Award Winners**  
**Regan Ewald from Salem**  
**Tyler MacNeil from East Haddam and**  
**Isabel Ritrovato from Lyme**

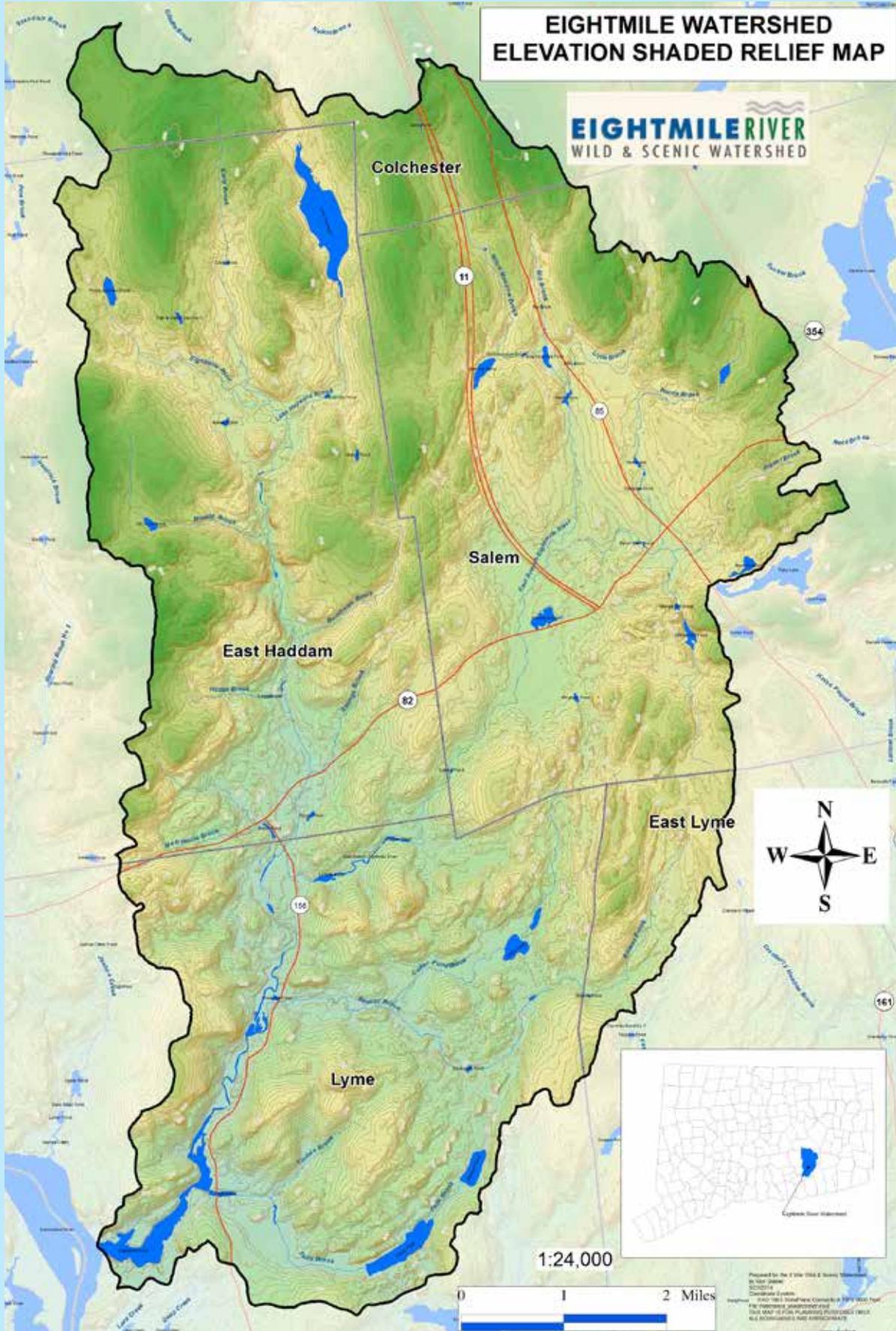
**Best of luck as you head to college!**



**Looking for a Great Teaching Tool!** ERWSCC now has a 3-D EnviroScape® Teaching Model to loan out to local groups. **Call 860-345-8700**



**Support for EnviroScape provided by the Long Island Sound Study.**



## Student Interns Monitor Eightmile River Watershed Streams

By *Fernanda Mastroluca*

This summer I had a great opportunity to work for the Eightmile River Watershed Wild & Scenic Coordinating Committee. For a period of ten weeks, another student, Mike Dolde from Eastern Connecticut State University, and I collected stream data from various locations throughout the Eightmile River Watershed. Using hand-held instruments we measured dissolved oxygen, pH, conductivity, total dissolved solids, salinity and temperature. It is important to know about each one of these factors in order to maintain a healthy ecosystem for the fish and other animals. This was the first year stream monitoring was done in the Eightmile River Watershed and this data will be used to establish baseline water quality conditions. As more data is collected every year, ERWSSC will be able to compare results to previous years to determine whether any changes represent possible detrimental impacts and then take action accordingly.

Before being part of this project I never gave much thought to all the factors that can be harmful to river wildlife. Now I am more aware of some of the issues that can be a problem to fish, macroinvertebrates, and other animals that use local streams. I am glad I was part of this project; the feeling that I am helping protect our environment and that I am making a difference in our world is fulfilling and never ending.



*Mike Dolde from ECSU and  
Fernanda Mastroluca from TRCC*

## *Lake Hayward Biofilter-One Year Later*



*Spring 2013—beginning planning for the biofilter*



*Summer of 2014—Gorgeous!*

It has now been a little over a year since the biofilter at Lake Hayward was constructed and planted. Since then the Lake Association has been busy adding stone mulch, slate stepping stones, plant ID markers, planting some native milkweeds to improve habitat for the monarchs, and of course doing a bit of weeding. The biofilter was the product of a team effort with the Lake Association, landscape designer Kathy Connolly of Speaking of Landscapes, the Connecticut River Coastal Conservation District and ERWSSC. The biofilter is designed to filter storm water run-off, deter geese, stabilize the shoreline and provide native resources for pollinators.

*For more info. about the biofilter garden and native landscaping please visit .....*

[www.speakingoflandscapes.com](http://www.speakingoflandscapes.com)

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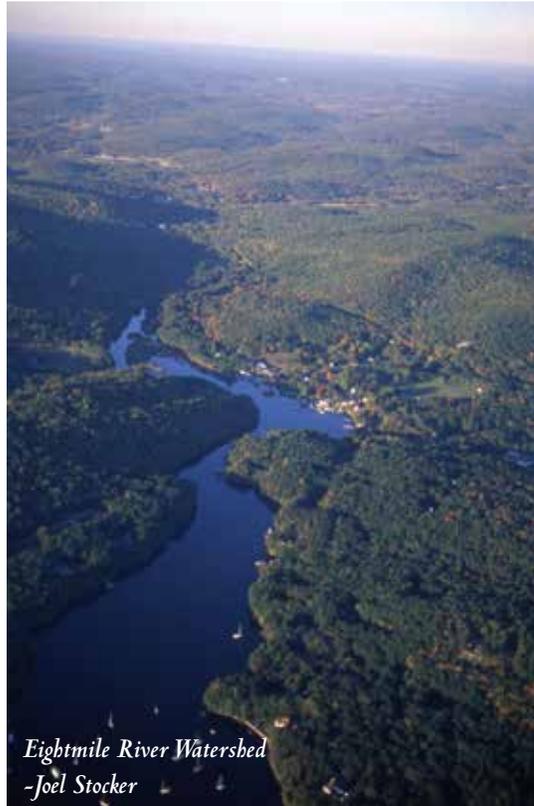
And because different species utilize a variety of resources for food, nesting, shelter and space, habitat size is important. Small and fragmented forested blocks interrupt this resource interaction, jeopardizing the existence of those species that require large blocks for survival.

As we lose habitat, we lose species. And the loss of one species invariably impacts others. Take the example of the pileated woodpecker. This red-headed giant is a forest interior bird that creates new nesting cavities each year. In subsequent years these cavities, along with the oval shaped holes it makes when foraging for insects, are utilized for nesting by a number of bird species including owls, woodpeckers and numerous songbirds. In fact wood ducks require these large cavities for nesting success as do some of our mammals like flying squirrels and fisher. Imagine the impact if we lost our pileated woodpeckers.

### Protecting Our Forests

This scenario of interdependence among species is repeated throughout, and whereas large forested blocks in the Eightmile River Watershed are currently the norm, they are quickly disappearing elsewhere. What does this mean for the Watershed's future? Population within the three main watershed towns has more than doubled since 1970 putting pressure on the integrity of our large forested blocks. People have to live here and their numbers will continue to grow which means that some of our large blocks will likely become increasingly subdivided and fragmented.

So how do we protect against this, not only to preserve the large forested blocks, but to maintain the connections between them. One way is through open space protection. Of the 40,000 acres comprising the Eightmile River Watershed one third or 14,000 acres is permanently protected. Although this number is impressive we can never protect it all. Some of our towns are promoting conservation subdivisions that cluster housing on smaller lots while retaining a greater proportion of the subdivision in open space. Lyme, East Haddam and Salem all have zoning and inland wetland and watercourse regulations that carefully control development within proximity of wetlands, streams and other bodies of water. Such strategies, although important, cannot by themselves halt the parcelization and fragmentation of our forest block habitat.



### Only You Can Prevent Fragmentation Be a Friend to the Forest

For protection efforts to be truly successful it comes down to us as individual homeowners and landowners. Development will continue both in and around these forested blocks, but by managing our land as a part of the larger watershed we do our part to minimize our impacts and perhaps even reconnect broken corridors. We may not be able to copy nature in our landscaping efforts around our homes, but there are a number of ways in which we can mimic the natural landscape. Here are a few tips:

- Lessen the footprint - By minimizing the area we landscape, less of the native environment is disturbed.
- If openings are desirable, create meadows and grasslands rather than just lawn. This promotes resource diversity and supplies many more wildlife needs than lawns do.
- Plant using native species of shrubs and remove non-native invasives. Invasive species such as barberry and burning bush escape into woodlands and take over and out compete natives.
- Minimize use of fertilizers and lawn chemicals. These can often run into our wetlands and waterways resulting in algae blooms and die offs in our downstream waters.

In general, native landscaping minimizes overall fragmentation of our forests, provides native resources that contribute to biological diversity and establishes valuable connections with surrounding woodlands. By going natural and native where we live we manage for all species keeping the Eightmile River Watershed and its large forested blocks both Wild and Scenic.



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[www.eightmileriver.org](http://www.eightmileriver.org)

# Tackling Invasive Plants in the Eightmile River Watershed

By Dave Gumbart and Liz Robinson

In the world of conservation, one of the common issues facing landowners is the threat of non-native invasive species. Such invasives may be insects, including the emerald ash borer, a fungus (American chestnut blight), or, more commonly recognized species, such as plants. Barberry, bittersweet, phragmites...the presence of such plants is nothing new in the northeastern United States. So, what about something new, then? Say, for example, a success story where the control of a plant ensures healthy native communities remain vibrant and diverse.



*Invasive plant Japanese stiltgrass surrounding rock and spreading prior to eradication efforts*

To be truthful, the idea of success is not necessarily related to winning or losing a battle, or completing a short-term task. Making progress and working towards a realistic goal can be a success, and so it is with local efforts on minimizing the

spread of Japanese stiltgrass. Since 2010, The Nature Conservancy, local land trusts, DEEP and the ERWSCC have all pitched in to provide on the ground inventory and control, facilitate access to lands and provide public education.

Significant stretches of the Eightmile River, its smaller tributaries and local road sides are seeing a reduction in the presence and density of stiltgrass. Persistence is the key; because stiltgrass is an annual, it must set seed to proliferate. Stop the seed from forming, and that's a one year success. Stop seeds from forming four years in a row? See for yourself. (above and right)

If you have questions on Japanese stiltgrass, or any other invasive plant, The Nature Conservancy is willing to provide information on successful management techniques. You may contact the Conservancy's Eightmile River Watershed Land Steward, Liz Robinson, at [erobinson@tnc.org](mailto:erobinson@tnc.org) or by calling (203) 568-6409.



*Interrupting seed production prevents this annual from spreading . . . same rock with noticeably less Japanese stiltgrass.*



*Volunteer Appreciation Dinner*

**Thanks to all our Volunteers who give so much of their time assisting with the fishways, stream monitoring, macroinvertebrate identification and so much more. Your efforts are very much appreciated!**



*Stream Macroinvertebrate sampling with Three Rivers Community College*

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Two years ago, ERWSCC, partnering with the Lyme Land Conservation Trust and DEEP Inland Fisheries Division applied for and received a grant from Trout Unlimited and NOAA Restoration Center, to design and build a camera housing unit and purchase an underwater video camera recording system. The system has not been without its challenges. We have experienced issues with filming underwater, ant infestations of landward equipment and some high spring flow conditions. It's a constant reminder that we are working with Mother Nature. However as evidenced by the cover photo, the video recording system has yielded some pretty impressive footage.

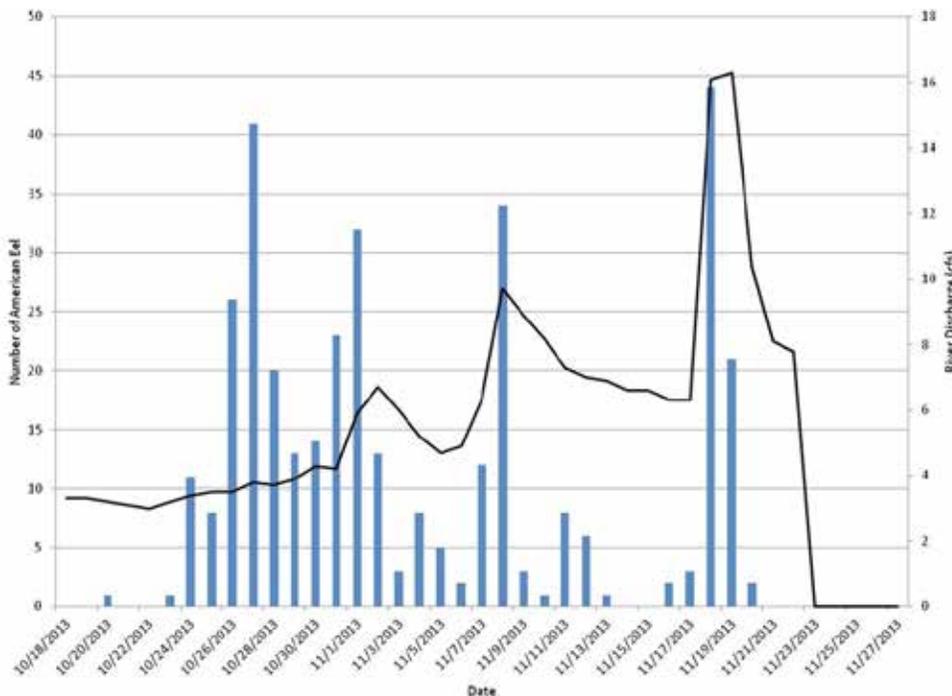


Volunteers at spring 2014 field training session

While results for the fall 2013 and spring 2014 runs are still being analyzed by DEEP staff, they report a total of 358 American Eel (out-migrating silver phase) were counted passing downstream through the counting gallery and into the fishway (see graph). And of particular interest, an adult sea-run Atlantic Salmon was also counted passing upstream through the counting gallery on the evening of 11/1/13. Although returning adult Atlantic Salmon have been caught by anglers (and Diadromous Fisheries Staff) downstream of the fishway, eventually passing through the fishway, this was the first actual documented event.

Constant monitoring of the fishway, downloading and uploading of data and review of 24 hour playbacks has only been possible with a group of very dedicated volunteers and supportive property owners.

And while we won't be heading to Hollywood any time soon, these folks are truly the "stars" of the Moulson Pond Fishway Underwater Video Recording Project!



Counts of American eel and river discharge at the Moulson Pond Fishway, 2013

**Eightmile River Wild & Scenic Coordinating Committee Members**

- Anthony Irving, Chair  
*Town of Lyme*
- Bernie Gillis  
*Town of East Haddam*
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*Salem Land Trust*
- Gloria Fogarty, Secretary  
*Town of Salem*
- Eric Belt  
*Town of Salem*
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*National Park Service*
- Linda Bireley  
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- Barbara James  
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- Staff*
- Patricia Young  
*Program Director*



We are now on Facebook!

Check for Upcoming Events and "LIKE" us at "Eightmile River Watershed"

For more information about the Eightmile River Watershed, please visit our website at [www.eightmileriver.org](http://www.eightmileriver.org) or call us at (860) 345-8700



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# RiverFest 2014

October 18, 2014, 1-4 pm  
Devil's Hopyard State Park  
Picnic Pavilion

**FREE**

