

The *Eightmile River Watershed* News

Fall 2011

RiverFest 2010 - Recaptured



ERWSCC's popular RiverFest was held in the fall of 2010 at Devil's Hopyard, the heart of the Eightmile River Watershed. This free family event featured music from the Eight Mile River Band, presentations by *Wind over Wings* and *Meig's Point Nature Center*, food from the *Moodus Sportsman's Club*, information booths from local organizations and activities for all ages. With over 500 attendees, it was an opportunity for folks to spend the afternoon with great music, great food and great company.

Thanks to all the volunteers, organizations and visitors who made RiverFest 2010 a huge success!

Chairman's Column

Back in the mid nineties, the three main watershed towns began the journey that eventually culminated in Wild & Scenic designation for the Eightmile River and its watershed in 2008. From the start no one had any idea where this initial study of the river would lead. It began when the UConn Cooperative Extensive Service, The U.S. Fish & Wildlife Service and The Nature Conservancy brought together a diverse group of citizens from Lyme, East Haddam and Salem. Our assignment was to assess the potential for a multi town approach to river conservation. After years of study the decision was made in 2001 to apply for federal recognition of the Eightmile as one of our nation's Wild & Scenic Rivers. In 2008 President George W. Bush signed the bill designating the river and its watershed as the nation's 12th Wild and Scenic Partnership River. During this long process there were, and continue to be, key contributions from a core group of volunteers.

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Small Lawns are RiverSmart!

Protecting water resources and habitat values in the Eightmile River Wild & Scenic River System are our priorities. These are best addressed when town governments and homeowners incorporate strategies that focus on river protection as part of everyday living. Neither group can effectively do it alone. This year's newsletter demonstrates how through research and education we can together bring about measures that lead to better watershed protection. For homeowners, there is one action that can, by itself, significantly improve watershed values. It's all about the American lawn.



Originally, this view would have shown a lawn going back as far as the tree line. The front half has been planted in shrubs and perennials with a series of mown paths. The back half was let go to meadow with a wide (unseen) circular path.

Two years ago ERWSCC introduced the RiverSmart program to assist homeowners in keeping their river and its watershed clean and green. The program focuses on eight tips that, if adopted by all of us, would greatly contribute to ensuring a healthy environment into the future. Six of the eight tips center around yard care, and they're so important that I want to expand upon them here. At the heart of the matter is minimizing lawn size and the use of lawn care products.

Having smaller lawns reduces fossil fuel use, cuts down on chemicals and pollutants in our environment and enhances our native landscape. Nature-scaping – using non-invasive, preferably native plants, in naturally growing settings such as fields, meadows, and informal gardens - not only shrinks lawn size, but complements remaining lawn areas. In other words, lawns are not the dominant feature, but are one component of the home landscape. Another way to look at it is to think of the yard as a series of vegetative “rooms”, the lawn being just one of them.

So what are the advantages of smaller lawns and nature-scaping?

Reducing fossil fuel use – lawn mowers, weed whackers and leaf blowers' all consume non-renewable fossil fuels and produce attendant air pollutants. Fossil fuels are also needed in the mining, refining and transporting of fertilizers. According to the California Air Resources Board, it is estimated that the pollutants emitted from running a lawn mower for one hour are equivalent to driving 350

miles in your car. The less lawn, the less mowing, the less pollutants.

Minimizing chemical applications – Lawn chemical pesticides and herbicides pose on and off-site contamination problems. Continuous pesticide and herbicide applications can increase pest resistance and kill other beneficial insects and soil organisms. Also, runoff during rain events transports excess amounts to groundwater and surface waters. Chemical fertilizer runoff to the Eightmile and its tributaries contributes to nutrient loading in receiving water bodies from small ponds to Long Island Sound. The fertilized water column experiences explosive plant growth during warm summer months. When it decomposes oxygen levels are depleted creating dead zones where fish and other aquatic creatures cannot survive.

Promoting habitat diversity – Animals require a diversity of habitat types. Lawns are basically monocultures that provide little food or shelter. With nature-scaping you can create a variety of habitat resources that complement the other resources required by wildlife. The greater the diversity of habitats, the greater the diversity and health of our wildlife, especially birds.

So here are some suggestions:

Reduce lawn size – Think of lawns as gardens and incorporate them into the landscape like rooms in a house. High-use areas near the home are logical lawn areas, but where the effect is mostly visual, consider replacing lawns with fields and wildflower meadows, especially adjacent to streams and waterbodies. When bordered with split rail fencing and interlaced with walking paths, these areas are neat in appearance, create different focal points, have a soothing pastoral look and are inviting to use. And an annual mowing in fall is all that's needed to keep them open.

Reduce or eliminate chemical applications – By allowing the lawn to reach its own equilibrium, native and other so-called weed species may become more invasive. But these would be those most adaptable to your local conditions, thus resisting drought and disease and needing little or no chemical additives. Although the lawn would no longer be a carpeted monoculture, it would be healthier, lower in maintenance, and have a pleasing look through its diversity. And between managing for a smaller and chemical-free, more natural lawn, you substantially decrease fossil fuel use.

You don't have to jump into this approach all at once. Start with small patches to see what look best suits your aesthetics. And take the pledge. Go to eightmileriver.org and click on RiverSmart. With nature-scaping, you can really make a difference for the Eightmile or wherever you live. - Anthony. Irving

Mailbox Missing Something?

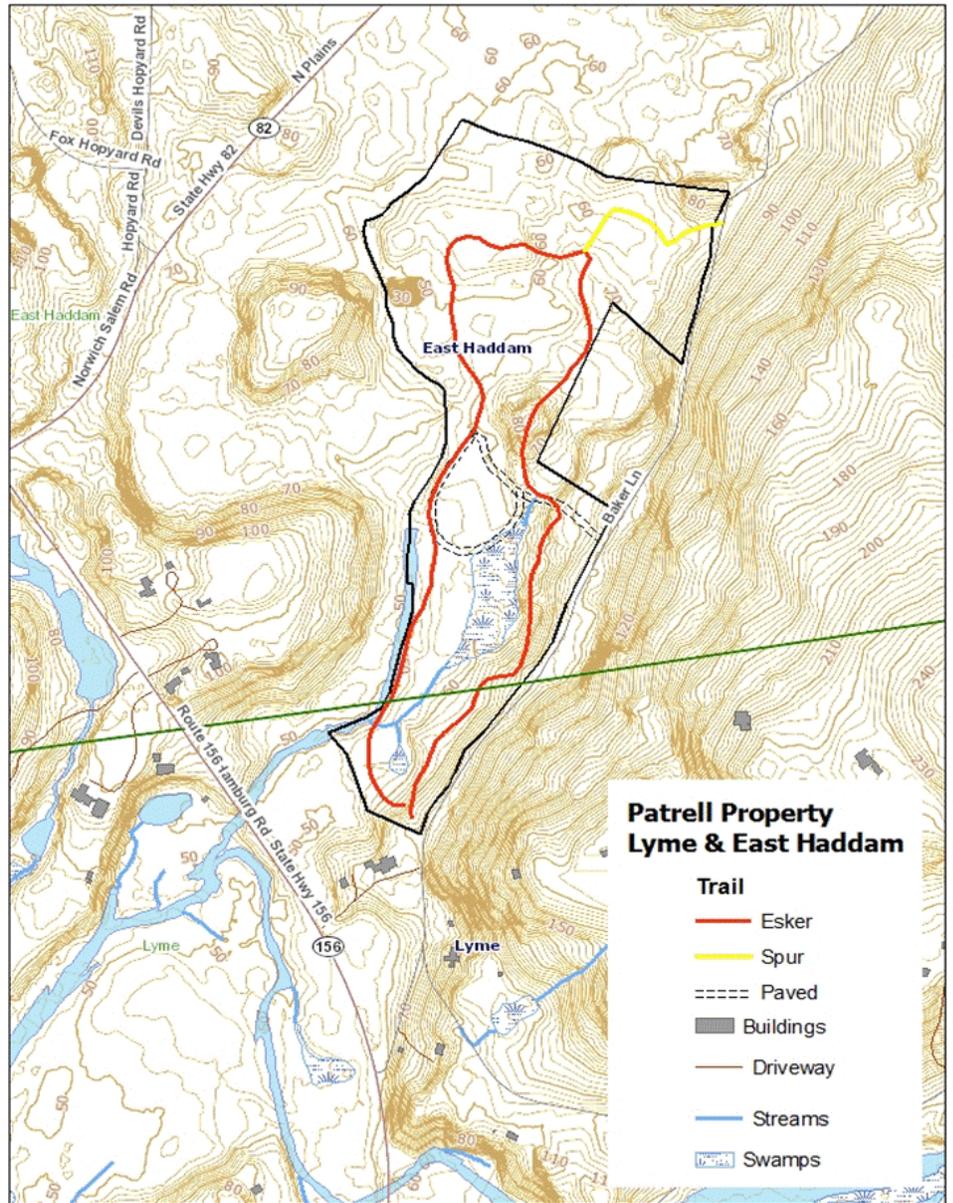


Get your RiverSmart Mailbox Decal today by taking the short RiverSmart Pledge at...
www.eightmileriver.org

Land Protection in the Eightmile River Watershed

Patrell Preserve

Several organizations recently completed an acquisition of the Patrell Property, an East Haddam and Lyme Preserve. This 42 acre parcel contains over 3000 feet of frontage on the Eightmile River. It links several adjacent properties to form an almost mile long protective vegetative buffer to the main stem (western branch) of the Eightmile River. Parking and access to the trails are located off Baker Lane. The East Haddam Land Trust will assist in the stewardship of the property, purchased cooperatively by the Towns of East Haddam and Lyme, the State of Connecticut, and East Haddam and Lyme Land Trusts.



Buffer Planting at Devil's Hopyard State Park



With funds previously donated from the Friends of Devil's Hopyard State Park, ERWSCC, in cooperation with state park personnel and Balleks Nursery, completed a riparian buffer enhancement project this past year. Species chosen, including Shadblow and Dogwoods, will provide protection from erosion along river banks and enhance wildlife habitat.



The Eightmile-An Outdoor Classroom

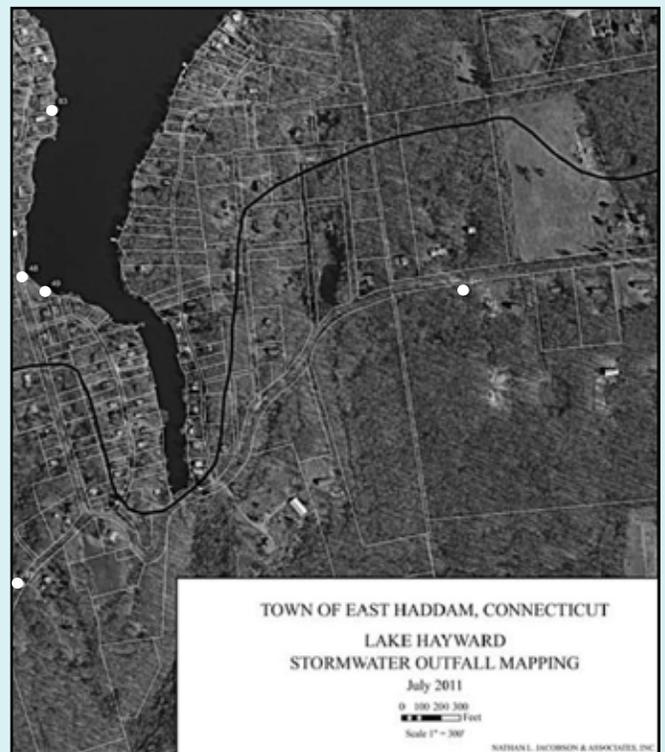


Summer 2011—Goodwin College Student Interns, Marco Burgio and Amy Cyr conducting water quality sampling in the Eightmile River.

ERWSCC Receives \$40K Grant to Assist Watershed Towns

In the spring of 2010, ERWSCC and its partners, the towns of Salem, East Haddam and Lyme and the Eastern Connecticut Resource Conservation and Development, Inc., submitted a grant application to fund a stormwater mapping project. Early in the fall of 2010, ERWSCC received word from the National Fish and Wildlife Foundation that it was one of the recipients of the 2010 Long Island Sound Futures Fund grants. The approximate 40K award is being used to conduct mapping and evaluate stormwater outfalls in the three main watershed towns. The local engineering firm of Nathan L. Jacobson and Associates was selected to conduct the mapping. Under a federal mandate, municipalities with certain population densities or those proximal are required to produce a map of their stormwater outfalls and a plan for managing stormwater generated from their roadways. Rural towns, such as those in the Eightmile River Watershed, were able to receive a waiver from these requirements in the past, but will likely be pulled in to the next round of directives. The information from this project will be critical in helping the towns meet those requirements as well as providing other environmental benefits.

-Stormwater Outfall Mapping Steering Committee



(Chairmans's Column continued)

Today's Eightmile River Wild & Scenic Coordinating Committee (ERWSCC) includes Sue Merrow of East Haddam and David Bingham of Salem who have been part of the project from the very beginning. And not far behind in years of service is Nathan Frohling of The Nature Conservancy. Eric Belt of Salem, and Jamie Fosburgh of the National Park Service are charter members of the study committee going back to its creation in 2001. Randy Dill of East Haddam joined in 2004 along with Roger Dill of Lyme taking over for long serving member David Tiffany. In 2006 with the study completed, ERWSCC was formed and some new names were added to the list: Sally Snyder of the DEP who was later replaced by Eric Thomas in 2008, Bernie Gillis and Rob Smith of East Haddam; Parker Lord, Linda Bireley, and Ralph Lewis of Lyme and Linda Schroeder of Salem. Also included is Gloria Fogerty of Salem whose husband John, former First Selectman of Salem, and Ralph Eno of Lyme along with then First Selectmen Sue Merrow of East Haddam signed the "Eightmile River Watershed Conservation Compact" on a December day at Devils Hopyard in 1997. I would also like to welcome new members Erik Block for Lyme and Rich Chyinski of Salem replacing Roger Dill and Linda Schroeder who are departing after many years of service

On this the 10th anniversary of seeking W&S designation, it is appropriate to recognize these current ERWSCC members who have served for so many years and up to 15 years in some cases. This says a lot about their love and commitment to this river system, and they should be applauded for their time, ideas and work to keep the Eightmile River watershed the unique and beautiful place it is.

-Anthony Irving

~ EVENTS PAGE ~

Experience the Eightmile! Three-Town Hike Series



The Lyme Land Conservation Trust, East Haddam Land Trust, Salem Land Trust and the Eightmile River Wild & Scenic Coordinating Committee invite you to attend one or all of the three planned hikes this October. This three-town coordinated hike series will feature the pristine resources of the Eightmile River, a nationally designated Wild & Scenic River. Each hike will be led by local experts sharing their insight on what makes the Eightmile so special and how its being protected. Join us and *Go Wild on the Eightmile!*

October 8, 2011—Lyme, CT--Pleasant Valley Preserve: Hike led by Ralph Lewis and Anthony Irving. In search of eskers and kettleholes! Explore the unique geology, ecology and dendrology of the preserve in an “off-trail hike”.

Family Friendly--No dogs please

Meet at entrance to Preserve, Hike is 10am-12pm, Heavy Rain Cancels (Questions-Contact Ralph Lewis (860)-526-8886)

Directions: From Route 82, take Route 156 south, take right onto MacIntosh Road. Parking area is on right at the first sharp bend in the road (just past bridge).

October 22, 2011—East Haddam, CT--Patrell Preserve/Eightmile River Preserve/Chapal Farm: Hike led by Rob Smith and Anthony Irving. Explore one of the newest land acquisitions which links several parcels to form a mile long protective buffer to the Eightmile River.

Family Friendly--No dogs please

Meet at parking area, Hike is 10am-12pm, Heavy Rain Cancels (Call Rob at (860) 873-2189 if question about weather)

Directions: From Route 82, take Route 156 south to Baker Lane on left, go 1/3 mile, sign and parking area on left.

October 29, 2011—Salem, CT--Zemko Pond Wildlife Management Area: Hike led by T.J. Butcher and Anthony Irving. Seeking migrating birds and fall foliage. Bring binoculars. Family Friendly--No dogs please

Meet at parking lot, Hike is 10am-12pm, Heavy Rain Cancels (Questions-Contact Linda Schroeder (860)-859-3520)

Directions: From Salem 4-Corners take Rt. 85 N. 1.34 mi., turn right onto Round Hill Rd., 1 mi. to Zemko Pond parking lot on Right.

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>



We are now on Facebook!

Check for Upcoming Events
and “LIKE” us at
“Eightmile River Watershed”

The Eightmile Watershed: A Cyclers' Paradise

Cycling in the Eightmile River watershed is one of the great pleasures of those of us enthusiasts fortunate enough to live near or within its boundaries. My personal “excellent cycling experience” checklist includes country roads, gentle hills, gorgeous scenery, and ice cream! A favorite excursion of about 12 miles takes me from my door near Lake Hayward, along the river through the Devil’s Hopyard, a slight jog on Rte. 82, a brief stretch on Rte. 156, then a delightful trip right along the east branch on Salem Road that ends with a stop at the Salem Farms ice cream stand. Then home by way of West Road. A more ambitious recent ride of 34 miles involved a little longer stretch on Rte. 156, then turning on the very scenic Beaverbrook Road all the way to East Lyme for lunch at the Flanders Fish market. (Yes, I know we left the watershed, but only briefly.) The homeward journey retraced the route but turned off Beaverbrook onto the Gungy Rd., which of course brings one very close to the requisite ice cream stand. What finer way to earn that double dip cone than a day of cycling in a very special place. Please tell us about your personal favorite cycling routes in the Eightmile.

-Sue Merrow

ERWSCC Member and

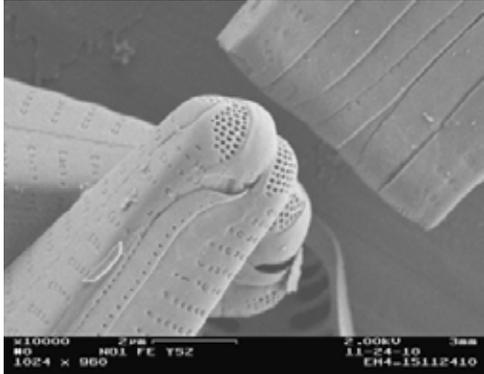
Back-Road Cycling Enthusiast



Research Project Supported by ERWSCC

DNA Barcoding of Diatoms in the Eightmile River: New Strategies to Assess Water Quality

Diatoms are microscopic meaning that they cannot be seen by the naked eye. Because diatoms are microscopic, many people do not know about their ecology or importance. Diatoms are primary producers—they convert light, water and carbon dioxide into carbohydrates during photosynthesis. They are the base of the food chain in many aquatic habitats and make up 40% of earth's primary productivity in regards to CO₂ fixation. They are of global ecological significance in the carbon and silicon cycles. They are essential for the cycling of nutrients in surface waters and other water bodies.



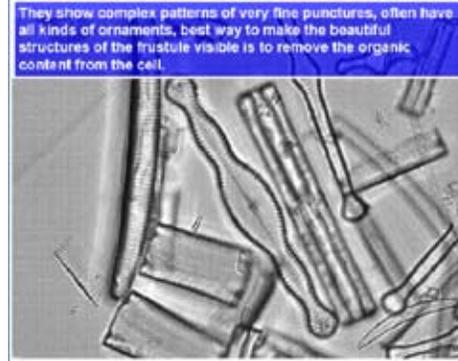
SEM Micrograph taken by Diba Khan-Bureau
10,000 × Magnification

Diatoms are universally distributed and are ubiquitous in all types of aquatic environments with varying habitats. They can be planktonic, move with the current and are found in the water column. They may be epiphytic, attaching to other submerged plants including macrophytes and larger diatoms, or epilithic, attaching to the aquatic substrate, such as pebbles, rocks, and other hard surfaces and as epibionts which are found in sediments.

Diatoms are accepted as biological indicators for assessing watercourses, since many diatom taxa have been shown to be linked to particular environmental and water chemistry conditions and have ranges and tolerances for environmental fluctuations. In order to address issues such as water quality using diatoms, accurate taxonomic identification of the diatoms in question is essential. Various approaches have been used to identify diatoms and more recently the use of molecular analysis has been employed. Using morphology alone to distinguish diatom species can be difficult because morphology of a species can be influenced by the life cycle stage and phenotypic plasticity (look different) in response to environmental conditions. Many researchers believe that DNA barcoding would be a valuable tool to provide a consistent identification of diatoms and make the data from different studies directly comparable. DNA

barcoding with electron microscopy (EM) will enhance our knowledge of the diatom.

In this study, we will assess barcoding methods in a broad taxonomic spectrum of diatoms from environmental samples from the Eightmile River in Connecticut.



Diatoms: Light Microscope micrograph taken by
Diba Khan-Bureau

Study area

This study will be conducted at the convergence of the Main and the East Branch of the Eightmile River. Sampling will take place in the Eightmile River, a tributary of the Connecticut River, located in Lyme, CT (Figure 1). The Connecticut River discharges into the Long Island Sound. The

Eightmile River is an ideal study site because of the 12 year history of assessment using benthic macroinvertebrates (insect larvae) as bioindicators in which data is readily available. The East Hartford USGS Connecticut office, has offered to provide the physical properties data for our study purposes. The Eightmile River flows into the Connecticut River which was designated a Ramsar site; Wetland of International Importance (1994) and one of the 40 "Last Great Places" designated by the Nature Conservancy for its biological significance.

-Diba Khan-Bureau is the Head of Environmental Studies Program at Three-Rivers Community College and a University of Connecticut PhD candidate

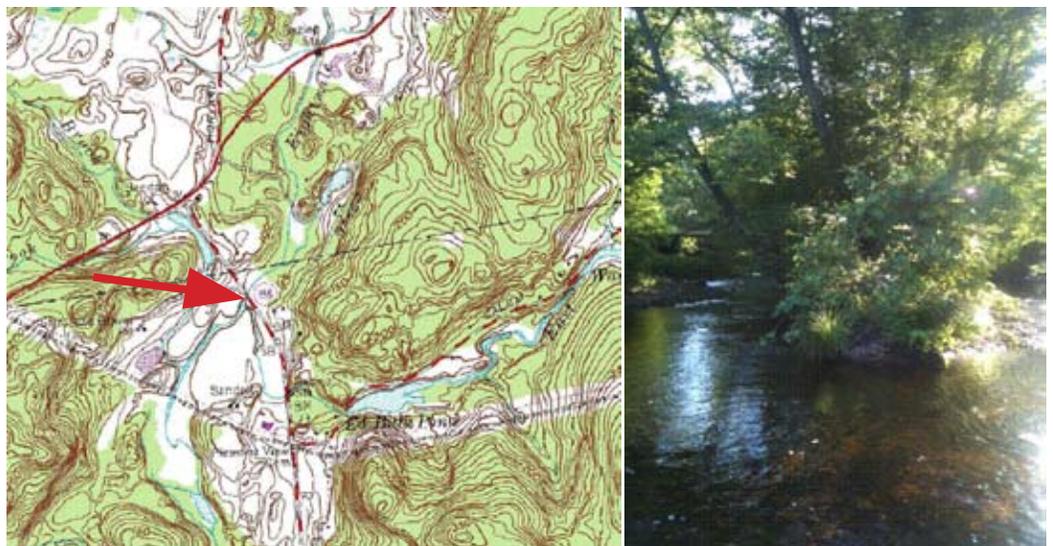


Figure 1 and 2: USGS TOPO map and photo of the Eightmile River and the East Branch of the Eightmile River convergence Lyme, Connecticut.

The Eightmile's "Most Unwanted" List

The Wild & Scenic partnership led last year to the establishment of the Eightmile River Invasive Species Management Area (ERISMA). The ERISMA group met a number of times this spring, to address invasive species issues on a regional, watershed basis. A resulting work plan includes prioritizing natural areas where invasives inventory and control are most needed, as well as identifying the top species of concern - those plants that are only now getting a foothold in the area.

An article here last year covered Japanese Stiltgrass, and keeping an eye out for this plant remains a top priority. Other species people should be aware of include Pale (and Black) Swallowwort, Japanese Knotweed and Mile a Minute Vine.

The two swallowwort species are perennial vines and very closely related. They can survive in shaded forest areas, but prefer sunny fields and roadsides. Swallowwort tends to grow in clumps with multiple stems and can form extensive patches. Seed pods mature in late summer, and release a downy seed that is readily dispersed by the wind. Swallowwort leaves are oval shaped with



Swallowwort

pointed tips, 3-4" long, occurring in pairs along the stem. Pale Swallowwort has small, star-shaped flowers, creamy pink to reddish brown in color. Black Swallowwort flowers have shorter petals and appear dark purple to black. Swallowworts are related to milkweed species, and will attract Monarch butterflies. However, Monarch larvae, which develop naturally on native milkweed, cannot survive when deposited on swallowwort, owing to the chemical composition of swallowwort leaves.

Small numbers of plants may be removed by digging, making sure to get out the full root system. If nothing else, remove seed pods before they mature! Mowing or cutting can prevent seed set, but needs to be done in July, before seed pods mature. Caution: hay fields with swallowwort, if harvested in late summer, may aid in the spread of this plant. This can occur through on-site wind dispersal of seed, or through sale of hay bales that hold swallowwort seed.

Japanese Knotweed, sometimes called bamboo, is an herbaceous perennial, growing as high as 10'. Once established, it will exclude all other vegetation from growing in an area, with roots that can get as deep as 8' into the ground. Thick stands can restrict river access for recreation, and can damage stone walls, driveways and even building foundations. In the Eightmile watershed, our primary concern is keeping knotweed out of river corridors.



Japanese Knotweed

Mile a Minute Vine is not yet a common plant in the towns of the Eightmile watershed, and let's keep it that way! See attached photo, which can help you identify this plant if you see it in the wild - any sightings should be reported to your local land trust or The Nature Conservancy.



Mile a Minute Vine

For more information about any of these plants or to report a location, please contact Dave Gumbart at dgumbart@tnc.org

Eightmile River Wild & Scenic Coordinating Committee Members

Anthony Irving, Chair
Town of Lyme
Bernie Gillis
Town of East Haddam
David B. Bingham
Salem Land Trust
Gloria Fogarty, Secretary
Town of Salem
Eric Belt
Town of Salem
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Looking for a Great Teaching Tool!
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Teaching Model to loan out to local
groups. Call 860-345-8700



Support for this project provided
by the Long Island Sound Study.



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

Check out our
Events Section!



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and Biking Ideas, Please Check
Out the Events Page!



We are Now on Facebook -
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