



## *Connecticut River Watch Program*

# EIGHTMILE RIVER RAPID BIOASSESSMENT SUMMARY REPORT



Funded in part by the CT DEP through a US EPA Clean Water Act §319 nonpoint source grant



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Eightmile River Rapid Biological Assessment Summary Report  
Jane Brawerman, Connecticut River Watch Program Director

Middlesex County Soil and Water Conservation District  
deKoven House – 27 Washington Street  
Middletown, Connecticut 06457  
860/346-3282

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With funding from the Connecticut Department of Environmental Protection through a US Environmental Protection Agency Clean Water Act §319 non-point source grant, in cooperation with the Eightmile River Watershed Committee

## INTRODUCTION

During the fall of 2001 the Connecticut River Watch Program (CRWP), in cooperation with the Eightmile River Watershed Committee and the Connecticut Department of Environmental Protection (DEP), conducted a rapid bioassessment of the Eightmile and East Branch Eightmile Rivers. Teams of volunteers, including riparian landowners, town land use commissioners, students from Three Rivers Community College and members of the community assisted with the bioassessment, a survey of the benthic macroinvertebrate community following the DEP protocol: *Rapid Bioassessment in Wadeable Streams and Rivers by Volunteer Monitors*.

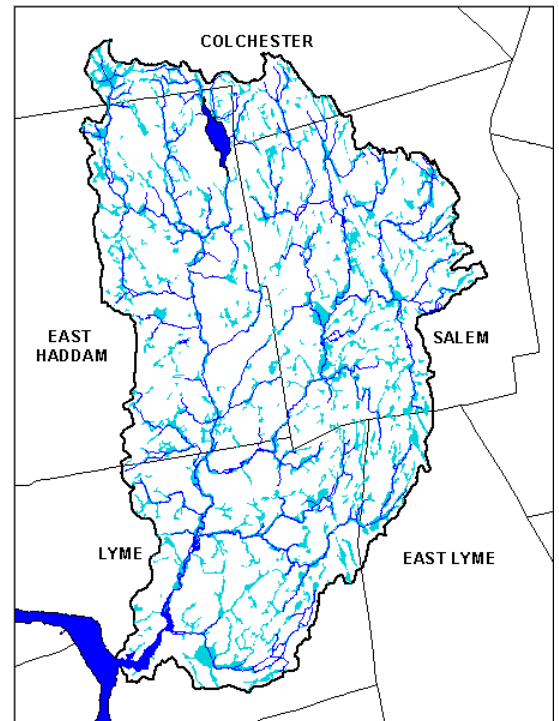
The monitoring project was the third component of an effort to assess the health of the Eightmile River begun in 1999. The study began with a physical survey of the main branch of the Eightmile River, and continued in 2000 with a physical survey of the East Branch Eightmile River. It is our hope that the effort will evolve into a long-term community-based monitoring and assessment program, designed to help insure the protection of this valuable resource.

Goals of the monitoring program include: to collect baseline information about the condition of the Eightmile River and its tributaries; to identify areas of the river in need of protection or restoration; and to raise community awareness of the River and the need to protect it. Information collected will be used to identify, plan and prioritize conservation and improvement efforts. The CRWP monitoring program is intended to complement and enhance education and conservation efforts first initiated as part of the Eightmile River Watershed Project. Begun in 1995, the watershed project has assisted the Eightmile watershed communities in protecting their natural resources as they develop their towns.

## BACKGROUND

### The Eightmile River Watershed

The Eightmile River is a major tributary of the Connecticut River located in the Tidelands Region of the lower Connecticut. The Eightmile flows approximately 15 miles from its headwaters in East Haddam to its confluence with the Connecticut River in Lyme. Its watershed comprises a 62 square mile area draining large portions of East Haddam, Lyme and Salem, and smaller portions of Colchester and East Lyme. Before it meets the Connecticut River, the Eightmile opens up into Hamburg Cove. This largely undeveloped watershed is home to a number of rare and endangered plants and animals. A recent water quality assessment of the Eightmile River and its main tributary, the East Branch, undertaken by the Department of Environmental Protection (DEP), has documented good water quality and a healthy benthic macroinvertebrate community. The Eightmile River watershed is included in Connecticut's Unified Watershed Assessment as a category 2 (protection) watershed, and was recommended for monitoring/assessment by the DEP ambient monitoring group.



### The Eightmile River Watershed Project

The Eightmile River Watershed Project was initiated in 1995 as a joint effort of the University of Connecticut Cooperative Extension Program and The Nature Conservancy. The purpose of the project is to assist the Eightmile watershed communities in protecting their natural resources as they develop their towns. The project has focused on educating municipal officials and landowners in the watershed about its natural and cultural resources through use of geographic information

system (GIS) technology, and promoting use of this information to guide land use decision-makers and watershed property owners. An advisory committee, made up of representatives of the three major watershed towns (East Haddam, Lyme and Salem) and other interests (e.g. the local land trusts), provides local input. Financial and other support for the project has come from the Environmental Protection Agency, and the U.S. Fish and Wildlife Service Silvio Conte Fish and Wildlife Refuge.<sup>1</sup>

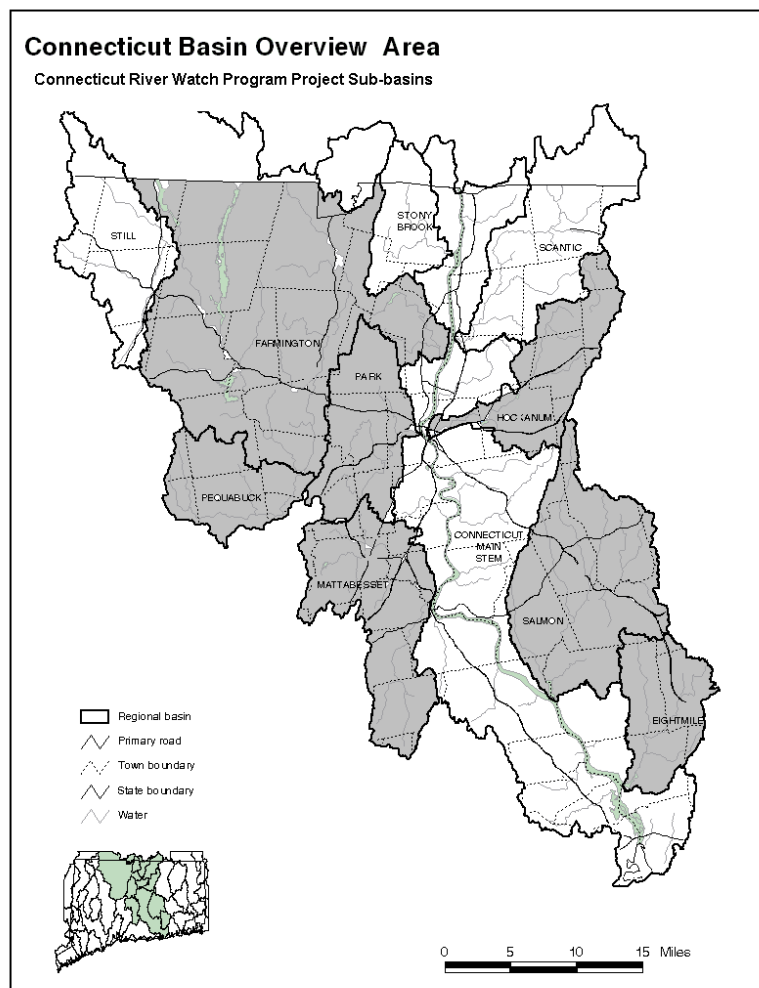
## The Connecticut River Watch Program

The Connecticut River Watch Program (CRWP) is a volunteer water quality monitoring, protection and improvement program for the Connecticut River and its tributaries. CRWP is sponsored by the Middlesex County Soil and Water Conservation District and was initiated in 1992 in cooperation with River Watch Network, a national organization based in Vermont.

Over its first eight years CRWP focused its monitoring activities on the lower Connecticut River main stem and two tributary watersheds, the Mattabesset and the Coginchaug. The program has generated an extensive water quality database for these rivers, and raised local awareness of river resources and water quality issues through public involvement and outreach activities. Information collected through CRWP has been used by towns to investigate potential sources of pollution, and by the state for planning purposes. It has become a model program, with wide support from the local communities and state and federal environmental officials. Funding for CRWP has come primarily from the DEP through grants from the US EPA under Section 319 of the Clean Water Act.

In 1999, CRWP expanded into new watersheds within the Connecticut River basin. Now a regional support service, the program's focus is to initiate, support and coordinate community-based river monitoring, assessment and improvement programs in regional watersheds throughout the basin. Through the new program, CRWP continues to put water quality and physical survey information into the hands of local communities, and support efforts to use that information to direct river and other watershed protection and improvement efforts.

Current project areas include the Mattabesset/Coginchaug, Eightmile, Salmon, and Hockanum River watersheds. Projects are also planned in the Farmington and Park River watersheds.



<sup>1</sup> Eightmile River Watershed Project website – <http://nemo.uconn.edu/action/watersheds/eightmile.htm>

## PROJECT SUMMARY

### Goals

The Eightmile River Rapid Bioassessment was undertaken as part of an ongoing community-based effort to document the health of the Eightmile River watershed. Based on input from the Eightmile River Watershed Committee, it was decided that a rapid bioassessment of both the Eightmile and East Branch Eightmile Rivers would be the focus of this third year's effort. The overall goals include:

- ◆ Collect baseline information about the condition of the Eightmile River and its tributaries
- ◆ Raise public interest in and knowledge of the Eightmile River and its watershed, both about the resources it has to offer to the community and the need to protect it
- ◆ Develop public awareness of water quality issues and human impacts on our rivers
- ◆ Build awareness among riparian landowners of the importance of maintaining streamside buffer areas
- ◆ Identify areas of concern and potential pollution problems that can be used to plan conservation and improvement efforts
- ◆ Form the basis for ongoing water quality monitoring activities that can be pursued in the future according to needs, level of interest, ability to commit time, and the availability of other resources

### Study Design and Methodology

The DEP's Rapid Bioassessment in Wadeable Streams and Rivers by Volunteer Monitors (RBV) is a benthic macroinvertebrate assessment protocol designed specifically for volunteer programs. Benthic macroinvertebrates are bottom dwelling aquatic organisms that can be seen with the unaided eye, such as stonefly, mayfly and caddisfly nymphs. They are good indicators of water quality for several reasons: many are sensitive to pollution, the composition of the community is a good reflection of long-term water quality (since they live there year-round), they cannot easily escape pollution, and they are relatively easy to collect. In addition, there are many established methods for using macroinvertebrate data to assess water quality and stream health. Benthic macroinvertebrates are collected from shallow riffle areas by disturbing the stream bottom and catching the dislodged organisms in a net. The DEP uses the riffle-dwelling benthic macroinvertebrate community as the primary indicator of biological integrity of freshwater streams.

The RBV protocol is designed to help identify streams with pollution sensitive benthic macroinvertebrate communities. It is not a definitive assessment procedure; data are used primarily for screening purposes, to identify streams with either very high or very poor water quality. There are twenty-six organisms included in the RBV protocol (see list, Attachment A). They are easily identified due to their distinct shape, structure, color, or behavior. Each also provides key ecological information about the stream environment. RBV organisms are categorized in one of three groups:

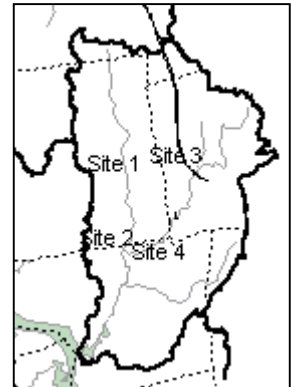
- ◆ *Most Wanted* – The most sensitive to pollution, requiring a narrow range of environmental conditions. When abundant they are a sign of a non-impaired stream;
- ◆ *Moderately Wanted* – Less sensitive to pollution and found in a variety of water quality conditions. When abundant, more information is needed about upstream conditions to infer water quality;
- ◆ *Least Wanted* – Least sensitive to pollution and tolerant of the widest range of conditions. When they make up the majority of a sample, they indicate some level of water quality impairment.

RBVs are generally scheduled to take place in the fall, during October and November, to document the condition of the macroinvertebrate community following the summer, a “high stress” time for streams due to low flows and higher water temperatures.

Volunteers receive training in the RBV protocol in an indoor training session prior to conducting the assessment. Sampling and analysis equipment and supplies, as well as reference materials to aid in identification of organisms, are provided by the DEP. Benthic macroinvertebrates are collected using a large flat-bottom net 12” high X 18” wide with a mesh size no larger than a #30 sieve (0.59 mm). Volunteers collect three replicate samples, each consisting of two one square meter collections or “kicks”, sort and identify the organisms in the field, and document relative abundance of key organisms on official field data sheets for the RBV protocol (see Attachment B). Volunteers also keep a representative voucher collection consisting of at least one of each type of organism found, preserved in 91% isopropyl alcohol. The voucher collection is returned to the DEP along with the data sheets.<sup>2</sup>

Four sites were included in the study (see more detailed site map, Attachment C). Sites were selected to provide an upstream-downstream assessment of each river. The two downstream sites (#s 2 and 4) are also DEP monitoring sites, last sampled as part of the 1998-1999 Connecticut River basin survey:

- 1) Eightmile River at the Deep Hole Picnic Area, Devil’s Hopyard State Park, Route 82, East Haddam;
- 2) Eightmile River downstream of the Route 156 crossing, Lyme;
- 3) East Branch Eightmile River off of Walden Road at The Nature Conservancy preserve, Salem;
- 4) East Branch Eightmile River west of Route 156, at the wooden bridge just upstream of the confluence with the Eightmile River, Lyme.



<sup>2</sup> DEP website: <http://dep.state.ct.us/wtr/volunmon/volopp.htm>

## Volunteer Recruitment, Training and Participation

A recruitment flyer was sent to all Eightmile and East Branch Eightmile River stream walk volunteers and Eightmile River Watershed Committee members. Notices were also sent to the local newspapers. Thirteen people attended the training session, held on October 20, 2001 at the Lyme Town Hall. The agenda included: an introduction to the Connecticut River Watch Program and Eightmile River Study, presented by the Connecticut River Watch Program Director; an introduction to the Eightmile River Watershed Project, presented by an Eightmile River Watershed Committee Co-Chair; and a training program on the DEP RBV protocol, presented by the Connecticut Department of Environmental Protection Volunteer Monitoring Coordinator.

Following the indoor training session, volunteers were grouped into four teams and assigned a specific river site. Each team was provided with sampling and analysis equipment and supplies: a kicknet, gloves, white plastic trays, forceps, hand lenses, ice cube trays (for sorting), field identification cards, a data sheet, and a vial filled with 91% isopropyl alcohol for the voucher collection. Maps were also provided showing the location of each sample site. Volunteers were also requested to complete a site sheet to document stream habitat characteristics, including river bottom composition, water depth and width, current velocity, and stream shading (not part of the RBV protocol).

Teams proceeded to their sites to complete their fieldwork. They first identified three different locations in the riffle where samples would be collected, then collected, sorted and identified organisms from each of the three samples. Relative abundance of each RBV organism was recorded on the RBV data sheet, and at least one of each type of organism found was placed in the vial filled with alcohol for the voucher collection. The DEP Volunteer Monitoring Coordinator and CRWP Director circulated between the sites to assist the volunteer teams.

After completing their fieldwork, volunteers reconvened for a wrap-up at the town hall, led by the DEP Volunteer Monitoring Coordinator. Volunteers turned in their data sheets, voucher collections, and equipment and supplies.



Volunteers collect a sample from the riffle



DEP Volunteer Monitoring Coordinator Mike Beauchene (r) examines the net with a volunteer



Volunteers pick and sort organisms from a sample

## SURVEY RESULTS

RBV data sheets were reviewed and voucher collections examined by the DEP Volunteer Monitoring Coordinator. A list of all organisms included in the voucher collection was generated for each sample site, and an overall assessment of the health of the river made based on the data collected. Rapid bioassessment results are summarized in a table format (Attachment D). The table includes information about RBV organisms, as well as additional organisms that were included in the voucher collections.

The RBV data show good representation among the most wanted and moderately wanted RBV organisms, and very limited representation among the least wanted organisms. In fact, the least wanted organisms were found at only the downstream Eightmile River site in Lyme, though noted as few in numbers. The most commonly collected organisms (found in at least three of the four sites) were:

- ◆ *Isonychia* (Panel 2 – Minnow Mayfly – Most);
- ◆ Perlidae (Panel 5 – Common Stonefly – Most);
- ◆ Hydropsychidae (Panel 9 – Common Netspinner Caddisfly - Moderate);
- ◆ *Chimarra* (Panel 10 – Fingernet Caddisfly – Moderate);
- ◆ *Stenonema* (Panel 11 – Flat-headed Mayfly – Moderate);
- ◆ *Psephenus* (Panel 12 – Water Penny Beetle Larva – Moderate); and
- ◆ Odonata (Panel 14 – Dragonfly and Damselfly Nymphs – Moderate).

Based on the RBV organisms found, especially the abundance of most wanted organisms, one can infer that the sites assessed have good water quality, and that the Eightmile and East Branch Eightmile Rivers are un-impaired streams.

A review of the non-RBV organism data provides further evidence of the good health of the Eightmile and East Branch Eightmile Rivers. The six additional organisms collected by volunteers had tolerance values between 0 and 4 (in RBV terms, they would be considered most wanted and moderately wanted).

Differences between the results at the four sites are not enough to change the overall assessment of stream quality, though some are worth noting. For example, diversity (the number of different types of organisms found) is highest at the downstream Eightmile River site (19), and lowest at the upstream Eightmile River site (8). This difference is most likely due to differences in sampling and observation techniques; future rapid bioassessments will help determine whether these differences reflect actual differences in the benthic macroinvertebrate communities. Diversity numbers for the East Branch Eightmile River sites are similar (12 upstream and 14 downstream). Of note also is the lack of least wanted organisms in all but one site.

The community structure found at the Eightmile and East Branch Eightmile River sites compares favorably with the criterion in Connecticut's Water Quality Standards for benthic macroinvertebrates. All four samples would be in full support of the standards for aquatic life.<sup>3</sup>

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<sup>3</sup> Personal communication with Mike Beauchene, CT DEP, October 24, 2001.



## RECOMMENDATIONS

The information collected from the Rapid Biological Assessment provides a baseline against which we can measure future changes. While the Eightmile and East Branch Eightmile Rivers are still in a relatively pristine condition, potential concerns and threats to the health of the river and aquatic life have been identified in the stream walk surveys conducted in 1999 and 2000. They include inadequate stream buffers, adjacent agricultural uses, lawns mowed to the edge of the river, non-native invasive plant species, storm drain runoff, and dams. If these concerns and threats are not addressed in a timely way, water quality may be affected. Ongoing monitoring will help to assess changes in water quality over time.

As a follow-up to this year's monitoring effort in the Eightmile and East Branch Eightmile Rivers, general recommendations include:

- ◆ Conduct a Rapid Biological Assessment on an annual basis;
- ◆ Continue the collection of baseline information by conducting physical surveys of additional streams in the watershed;
- ◆ Follow up on stream walk survey data collected, as recommended in the 1999 and 2000 stream walk summary reports;
- ◆ Conduct additional river monitoring activities to assess in-stream health, including additional benthic macroinvertebrate surveys, and analysis of water samples for chemical, physical and biological indicators of water quality;
- ◆ Monitor river segments periodically to assess conditions. This could be accomplished through a stream segment adoption program whereby volunteers make visual observations on an annual basis and file a written status report.

*For assistance and further information, please contact:*

*Middlesex County  
Soil and Water Conservation District  
deKoven House – 27 Washington Street  
Middletown, CT 06457  
860/346-3282*

*Eightmile River Watershed Committee  
David Bingham, Co-Chair, 860/859-1247  
Nathan Frohling, Co-Chair, 860/767-7706  
Anthony Irving, Co-Chair, 860/434-2390  
Jim Ventres, Co-Chair, 860/873-5031*

## ACKNOWLEDGEMENTS

The Eightmile River Rapid Bioassessment would not have been possible without the assistance of numerous volunteers and cooperating agencies. Our sincere thanks to all of the following who have contributed to the bioassessment project. *Special thanks to Middlesex County Soil & Water Conservation District intern Damien Drobinski, whose assistance with various aspects of the bioassessment was key to its success.*

### Volunteers

Mary Augustiny  
David Bingham  
Ed and Linda Bireley  
Len Guitar  
Anthony Irving  
Ed Sopneski  
Betsy Woodward

**Three Rivers Community College Students**  
Jamie Dombrowski  
Deb Hatch (and daughter Madison Hatch)  
Adam Mitchell  
Anthony Nipper

### Cooperating Organizations, Businesses and Municipalities

Eightmile River Watershed Committee: Special thanks in particular to members *Anthony Irving* and *David Bingham*, who assisted in planning the biological assessment, recruiting volunteers, coordinating with the town of Lyme to host the training session, and performing the assessment.

Municipality of Lyme: Special thanks to the *Town of Lyme*, which hosted the volunteer training session at its town hall.

Connecticut Department of Environmental Protection: Special thanks to *Mike Beauchene*, who trained volunteers, brought field equipment, assisted volunteers with the assessment work in the field, and reviewed results and performed the quality assurance checks on voucher collections.

### Funders

This project was funded in part by the Connecticut Department of Environmental Protection through a US Environmental Protection Agency Clean Water Act §319 non-point source grant.

## **Attachments**

**A – RBV Organism List**

**B – RBV Field Data Sheet**

**C – Site Map**

**D – Data Summary**

## Attachment A – RBV Organism List

### Rapid Bioassessment for Volunteers – Organism List

RBV Panel #	Genus	Family	Order	Common Name	RBV Category	Tolerance Value
1	<i>Drunella</i>	Ephemereillidae	Ephemeroptera	Body-Builder Mayfly	MOST	0
2	<i>Isonychia</i>	Isonychidae	Ephemeroptera	Minnow Mayfly		2
3	<i>Epeorus</i>	Heptageniidae	Ephemeroptera	Flat-headed Mayfly		0
4		Peltoperlidae	Plecoptera	Roach-like Stonefly		0
5		Perlidae	Plecoptera	Common Stonefly		1
5		Miscellaneous	Plecoptera	Stonefly		1
6	<i>Apatania</i>	Limnephilidae	Trichoptera	Cornucopia Case Maker		0
6	<i>Glossosoma</i>	Glossomatidae	Trichoptera	Mini-stone Case Maker		0
6	<i>Rhyacophila</i>	Rhyacophilidae	Trichoptera	Michelin-Man Caddisfly		0
8	<i>Brachycentrus</i>	Brachycentridae	Trichoptera	Mid-size Plant Case Builder		1
8	<i>Lepidostoma</i>	Lepidostomatidae	Trichoptera	Mid-size Plant Case Builder		1
9		Hydropsychidae	Trichoptera	Common Netspinner	MODERATE	4
10	<i>Chimarra</i>	Philopotamidae	Trichoptera	Fingernet Caddisfly		3
11	<i>Stenonema</i>	Heptageniidae	Ephemeroptera	Flat-headed Mayfly		4
12	<i>Psephenus</i>	Psephenidae	Coleoptera	Water Penny Beetle Larva		4
13	<i>Corydalus</i>	Corydalidae	Megaloptera	Dobsonfly Larva		6
13	<i>Nigronia</i>	Corydalidae	Megaloptera	Fishfly Larva		4
14		Aeshnidae Gomphidae Coenagrionidae	Odonata	Dragonfly, Damselfly Nymphs		3
15		Amphipod	Amphipoda	Scud	LEAST	8
15			Oligochaeta	Aquatic Earth Worm		9
15		Isopod	Isopoda	Sowbug		8
15		Simuliidae	Diptera	Black Fly Larva		6
15			Hirudinea	Leech		8
15		Chironomidae	Diptera	Midge Fly Larva		6
15			Gastropoda	Snail		7


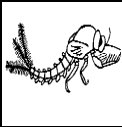




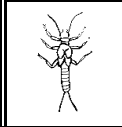




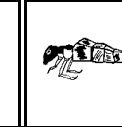
## Attachment B – RBV Field Data Sheet





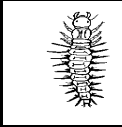
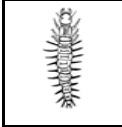
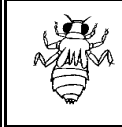
**Stream Name:** \_\_\_\_\_ **Site number:** \_\_\_\_\_ **Collection Date:** \_\_\_\_\_ **Collection Time:** \_\_\_\_\_


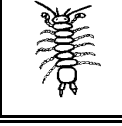

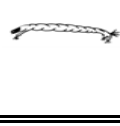
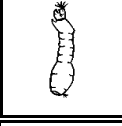

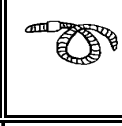
**Collection Location (up or downstream of a permanent landmark):** \_\_\_\_\_ **Town:** \_\_\_\_\_

**Approximate stream width:** \_\_\_\_\_ **Approximate stream depth:** \_\_\_\_\_ **Collectors** \_\_\_\_\_

**Comment or observation about the general condition of the stream:** \_\_\_\_\_

Panel number	1	2	3	4	5	5	5	6	6	7	8	8
Name	<b>Drunella</b>	<b>Isonychia</b>	<b>Epeorus</b>	<b>Peltoperlidae</b>	<b>Perlidae</b>	<b>Pteronarcys</b>	<b>Stonefly</b>	<b>Glossosoma</b>	<b>Apatania</b>	<b>Rhyacophila</b>	<b>Brachycentrus</b>	<b>Lepidostoma</b>
												
Kicks 1-2												
Kicks 3-4												
Kicks 5-6												
<b>Total for Site</b>												

Panel number	9	10	11	12	13	13	14
Name	<b>Hydropsychidae</b>	<b>Chimarra</b>	<b>Stenonema</b>	<b>Psephenus</b>	<b>Corydalus</b>	<b>Nigronia</b>	<b>Odonata</b>
							
Kicks 1-2							
Kicks 3-4							
Kicks 5-6							
<b>Total for Site</b>							

Panel number	15	15	15	15	15	15	15
Name	<b>Amphipod</b>	<b>Isopod</b>	<b>Leech</b>	<b>Midge</b>	<b>Simuliidae</b>	<b>Snail</b>	<b>Worm</b>
							
Kicks 1-2							
Kicks 3-4							
Kicks 5-6							
<b>Total for Site</b>							

**Instructions:**

- Record few, some, or many for each of the types of organisms you collected during kicks 1&2, 3&4, 5&6, and total for the site. **FEW, SOME, & MANY are based upon the abundances of each type of organism in this sample only.**
- Place 1 of each type of organism you identified into a vial containing isopropyl alcohol.
- Place a pencil written label into the vial. Include, stream name, date of collection, collectors, and location of collection.
- Submit the vial and datasheet to:

Mike Beauchene  
 (860) 424-4185  
 mike.beauchene@po.state.ct.us



Most Wanted

Moderately Wanted

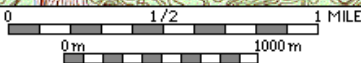
Least Wanted

# Attachment C - Site Map

## Eightmile/East Branch Eightmile River Rapid Bioassessment



MN  
15°  
TN



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## Attachment D – Data Summary

### Eightmile River Rapid Bioassessment – Summary of Organism Data from 10/20/01

RBV Panel #	Genus	Family	Order	Common Name	RBV Category	Tolerance Value	Relative Abundance			
							Eightmile River		East Branch Eightmile River	
							Downstream of Rte156 Bridge – Lyme	Deep Pool Picnic Area off Rte 82 – East Haddam	Near Eightmile R. confluence – Lyme	Off Walden Rd at TNC preserve – Salem
1	<i>Drunella</i>	Ephemerelellidae	Ephemeroptera	Body Builder Mayfly	MOST	1	some		some	
2	<i>Isonychia</i>	Isonychidae	Ephemeroptera	Minnow Mayfly		2	many	some	many	many
5		Perlidae	Plecoptera	Common Stonefly		1	many	many	many	many
6	<i>Glossosoma</i>	Glossomatidae	Trichoptera	Mini-stone Casemakers		0	some		some	
8	<i>Brachycentrus</i>	Brachycentridae	Trichoptera	Mid-size Plant Case Builders		1	few			
8	<i>Lepidostoma</i>	Lepidostomatidae	Trichoptera	Mid-size Plant Case Builders		1		some	few	
9		Hydropsychidae	Trichoptera	Common Netspinner	MODERATE	4	few		few	few
10	<i>Chimarra</i>	Philopotamidae	Trichoptera	Fingernet Caddisfly		3	many	many	many	many
11	<i>Stenonema</i>	Heptageniidae	Ephemeroptera	Flat-headed Mayfly		4	some		some	some
12	<i>Psephenus</i>	Psephenidae	Coleoptera	Water Penny Beetle Larva		4	few		few	few
13	<i>Corydalus</i>	Corydalidae	Megaloptera	Dobsonfly Larva		6			many	
13	<i>Nigronia</i>	Corydalidae	Megaloptera	Fishfly Larva		4	some			some
14		Aeshnidae Gomphidae Coenagrionidae	Odonata	Dragonfly, Damselfly Nymphs		3 <sup>4</sup>	many (Aeshnidae, Gomphidae)	few (Aeshnidae, Gomphidae, Coenagrionidae)		many (Aeshnidae, Gomphidae)
15		Amphipod	Amphipoda	Scud	LEAST	8	few			
15		<i>Chironomidae</i>	Diptera	Midge Fly Larva		6	few			
15			Oligochaeta	Aquatic Earth Worm		9	few			

#### Additional Organisms In Voucher Collection (not on RBV list)

-	<i>Psilotreta</i>	Odontoceridae	Trichoptera	Strong Casemakers	NA	0			some	
-		Leptophlebiidae	Ephemeroptera	Pronggills		2	many		many	
-		Ptilodactylidae	Coleoptera			2				some
-		Tipulidae	Diptera	Crane Fly Larva		3	many	some	many	many
-	<i>Sialis</i>	Sialidae	Megaloptera	Alderfly Larva		4	few			
-		Elmidae	Coleoptera	Riffle Beetle Larva		4	few		few	some

<sup>4</sup> The RBV protocol assigns these organisms an overall tolerance value of 3. The families found have the following tolerance values: Aeshnidae, 3; Gomphidae, 1; Coenagrionidae, 9.