

**THE RBV METHOD:** This method was developed specifically to facilitate the generation of volunteer water quality monitoring data by:

- 1.) Being an easy to use, non-technical method
- 2.) Eliminating the need for expensive equipment, resources & lengthy time commitment
- 3.) Providing usable water quality information for both the data collector and the CT DEP Monitoring program

Participants collect macroinvertebrate community data once a year in the fall from a site(s) of their local interest. Data are submitted to CT DEEP for use in water quality

**RBV ORGANISMS:** Each of the RBV organisms were selected due to their statewide distribution, having a unique structure or behavior, and are key ecological indicators. The RBV data sheet below organizes the organisms into 1 of 3 categories based on how sensitive the organism is to environmental disturbance.

Most = very sensitive (blue)  
 Moderate = somewhat sensitive (yellow)  
 Least = not sensitive (red)

WATERBODY NAME		COLLECTION DATE		COLLECTION TIME			
LOCATION DESCRIPTION		COLLECTOR NAMES					
FORM		INTELCOMMENTS					
MOST	1 Stone flylarva Trichoptera	2 Minnow mayfly Ephemeroptera	3 Stone flylarva Trichoptera	4 Dragonfly nymph Zygoptera	5A Caddisfly pupa Trichoptera	5B Dart mayfly Ephemeroptera	5C Rise mayfly Ephemeroptera
	6 Black flylarva Simuliidae	7 Caddisfly pupa Trichoptera	8 Caddisfly pupa Trichoptera	9 Caddisfly pupa Trichoptera	10 Caddisfly pupa Trichoptera	11 Caddisfly pupa Trichoptera	12 Caddisfly pupa Trichoptera
	13 Caddisfly pupa Trichoptera	14 Caddisfly pupa Trichoptera	15 Caddisfly pupa Trichoptera	16 Caddisfly pupa Trichoptera	17 Caddisfly pupa Trichoptera	18 Caddisfly pupa Trichoptera	19 Caddisfly pupa Trichoptera
	20 Caddisfly pupa Trichoptera	21 Caddisfly pupa Trichoptera	22 Caddisfly pupa Trichoptera	23 Caddisfly pupa Trichoptera	24 Caddisfly pupa Trichoptera	25 Caddisfly pupa Trichoptera	26 Caddisfly pupa Trichoptera
MODERATE	27 Caddisfly pupa Trichoptera	28 Caddisfly pupa Trichoptera	29 Caddisfly pupa Trichoptera	30 Caddisfly pupa Trichoptera	31 Caddisfly pupa Trichoptera	32 Caddisfly pupa Trichoptera	33 Caddisfly pupa Trichoptera
	34 Caddisfly pupa Trichoptera	35 Caddisfly pupa Trichoptera	36 Caddisfly pupa Trichoptera	37 Caddisfly pupa Trichoptera	38 Caddisfly pupa Trichoptera	39 Caddisfly pupa Trichoptera	40 Caddisfly pupa Trichoptera
	41 Caddisfly pupa Trichoptera	42 Caddisfly pupa Trichoptera	43 Caddisfly pupa Trichoptera	44 Caddisfly pupa Trichoptera	45 Caddisfly pupa Trichoptera	46 Caddisfly pupa Trichoptera	47 Caddisfly pupa Trichoptera
	48 Caddisfly pupa Trichoptera	49 Caddisfly pupa Trichoptera	50 Caddisfly pupa Trichoptera	51 Caddisfly pupa Trichoptera	52 Caddisfly pupa Trichoptera	53 Caddisfly pupa Trichoptera	54 Caddisfly pupa Trichoptera
LEAST	55 Caddisfly pupa Trichoptera	56 Caddisfly pupa Trichoptera	57 Caddisfly pupa Trichoptera	58 Caddisfly pupa Trichoptera	59 Caddisfly pupa Trichoptera	60 Caddisfly pupa Trichoptera	61 Caddisfly pupa Trichoptera
	62 Caddisfly pupa Trichoptera	63 Caddisfly pupa Trichoptera	64 Caddisfly pupa Trichoptera	65 Caddisfly pupa Trichoptera	66 Caddisfly pupa Trichoptera	67 Caddisfly pupa Trichoptera	68 Caddisfly pupa Trichoptera
	69 Caddisfly pupa Trichoptera	70 Caddisfly pupa Trichoptera	71 Caddisfly pupa Trichoptera	72 Caddisfly pupa Trichoptera	73 Caddisfly pupa Trichoptera	74 Caddisfly pupa Trichoptera	75 Caddisfly pupa Trichoptera
	76 Caddisfly pupa Trichoptera	77 Caddisfly pupa Trichoptera	78 Caddisfly pupa Trichoptera	79 Caddisfly pupa Trichoptera	80 Caddisfly pupa Trichoptera	81 Caddisfly pupa Trichoptera	82 Caddisfly pupa Trichoptera

**WATER QUALITY MONITORING MATERIALS**

**CT DEEP MONITORING PROGRAM**

The Consolidated Assessment and Listing Methodology (CALM) is a document describing the methodology used for generating water quality assessments in preparation for the Water Resources Report to Congress [305(b) Report].

[www.ct.gov/dep/cwp/view.asp?a=2719&q=325612&deNav\\_GID=1654](http://www.ct.gov/dep/cwp/view.asp?a=2719&q=325612&deNav_GID=1654)

The Integrated Water Quality Report to Congress, AKA The 305(b) Report, contains the water quality assessments for the previous 2-year period. This also includes the "Impaired Waters List". This section of the report contains information related to all waterbody segments that were determined not to meet water quality standards for a designated use.

[www.ct.gov/dep/cwp/view.asp?a=2719&q=325610&deNav\\_GID=1654](http://www.ct.gov/dep/cwp/view.asp?a=2719&q=325610&deNav_GID=1654)

Water Quality Standards document contains the appropriate criteria for which monitoring data are compared.

[www.ct.gov/dep/cwp/view.asp?a=2719&q=325618](http://www.ct.gov/dep/cwp/view.asp?a=2719&q=325618)

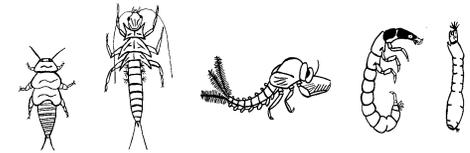
**RBV PROGRAM MATERIALS**

[www.ct.gov/deep/rbv](http://www.ct.gov/deep/rbv)

- The above web page contains links for:
- Annual data summary reports
  - Background Material
  - Method Instructions
  - RBV datasheet
  - RBV sorting guide
  - RBV field identification cards
  - EPA approved Quality Assurance/Quality Control Project Plan

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**RAPID BIOASSESSMENT IN WADEABLE STREAMS & RIVERS BY VOLUNTEER MONITORS (RBV)**



The Ambient Monitoring Program within the CT DEEP Bureau of Water Protection & Land Reuse is actively recruiting citizens that are interested in collecting water quality data from streams and rivers in their community. This brochure provides information about the program, Internet access to program materials, and contact information if you would like to become involved.

State of Connecticut  
 Department of Energy & Environmental Protection  
 Bureau of Water Protection & Land Reuse  
 Planning & Standards Division  
 Ambient Monitoring Program  
[Meghan.ruta@ct.gov](mailto:Meghan.ruta@ct.gov)

## **WATER QUALITY MONITORING OF WADEABLE STREAMS AND RIVERS:**

Connecticut's approximately 5,800 miles of rivers and streams are monitored and assessed by staff assigned to the Bureau of Water Protection & Land Reuse, Planning and Standards Division. The monitoring and reporting of water quality assessments completed by these staff are required under state and federal regulations. These summary reports as well as the assessment methodology used to generate the reports are on the CT DEEP web page (links are provided on the rear panel of this brochure).

A major component of water quality assessment is a determination of the ecological condition of a particular waterbody. These assessments are primarily based on biological community data that reflect the degree to which the waterbody supports a wide variety of indigenous organisms sensitive to environmental disturbance. Invertebrate community structure is used as the primary indicator of water quality impairment. Sites are compared to an ideal reference community. The level of impairment is based on increasing degree of deviation from the reference condition.

The primary tool for these types of assessments is the riffle-dwelling benthic macro-invertebrate community. These organisms have several advantages for use including: ease of capture, they inhabit a wide range of water quality conditions, and assessment methodology is well established.

**RBV RATIONALE:** The RBV program capitalizes on these advantages. Specifically the RBV program requires participants to collect and document specific organisms. These organisms are divided into 3 categories (Most, Moderate, and Least) depending upon the sensitivity to environmental degradation. The most useful RBV data are those sites that have at least 5 representatives in the "Most Wanted" category.

**RBV TRAINING:** A daylong training/data collection workshop can be held for your organization free of charge\*. The workshop is structured around instructional power-point presentations in the morning and data collection in the afternoon.

The data collection process is completed on site at a riffle (fast flowing rocky bottom). Participants wade into the water, dislodge the organisms into a net by scrubbing the rocks, sort and identify the different organisms present, and preserve a representative set of organisms for verification. At the completion of the session the data is submitted to the CT DEEP for incorporation into water quality assessments.

RBV workshops are scheduled on a first come first serve basis with priority for first time programs. Since the data collection occurs in the fall and there are a fixed number of weekend days, it is better to schedule well in advance. Every attempt will be made to accommodate each workshop request. The CT DEP will provide all of the necessary equipment except for waders, hip boots or other waterproof foot ware.

### **TO BECOME INVOLVED\*:**

The prerequisites to sponsor a workshop are to:

- 1.) Assemble a group of a least 6 adults
- 2.) Reserve a meeting room centrally located to the potential monitoring stations. The room must have electricity and be capable of holding all of the participants.
- 3.) Contact Meghan Ruta to schedule a workshop date by phone (860) 424-3061 or email at [meghan.ruta@ct.gov](mailto:meghan.ruta@ct.gov)

\*Individuals not associated with a monitoring program can be linked with a program in their local area.

**RBV WEB PAGE:**  
[www.ct.gov/deep/rbv](http://www.ct.gov/deep/rbv)