

THE POMPERAUG RIVER WATERSHED COALITION

Streamwalk

Field Data Survey Forms



Adapted from the Massachusetts Riverways Programs, Adopt-A-Stream Program,
Shoreline Surveys Leaders' Manual, Publication No. 1779-94-500-2.08 CIR
Department of Fisheries, Wildlife, and Environmental Law Enforcement; and the Natural Resources
Conservation Service Stream Survey Sheet

Pomperaug River Watershed Coalition
Southbury, CT

(203) 267-1700 www.pomperaug.org

Training Materials and Survey Forms and can be found online at: www.pomperaug.org

Pomperaug Watershed Stream Segment Survey Sheet

Name of Stream: _____ Drainage Basin Code: _____
Date(s) of Survey: _____ Segment Code (mark on map): _____
Surveyor's Name: _____ Phone: _____
_____ Phone: _____

NOTE: Items marked with asterisk (*) may indicate impairment

WEATHER THE WEEK BEFORE SURVEY: Dry Some rain Heavy rain

>>(see www.weather.com for weather history)<<

DID YOU SURVEY THE WHOLE SEGMENT? Yes No (Indicate what part of this segment was not surveyed and why?)

DESCRIBE LOCATION AND EXTENT OF SEGMENT - Use landmarks and road names from topographic or road map (Be specific, this information will be needed to help locate impairments):

STREAM TOPOGRAPHY: ___ Steep (slope >3%) ___ Moderate (1% ≤ slope ≤ 3%) ___ Flat (slope < 1%)

Make all observations facing *DOWNSTREAM*.

INSTREAM CONDITIONS

Stream bottom

1. What is stream bottom made of (i.e. what is substrate material)? (should total 100%)

___ % Silt or Clay (smooth)* ___ % Sand (gritty) ___ % Gravel (1/4 - 2")
___ % Cobbles (2-10") ___ % Boulders (>10") ___ % Bedrock
___ % Organic (plant debris, muck and shells)

2. What color is the stream bottom? (circle one)

Black Brown Orange/Red Yellow
Sandy Gray Other _____

Water

1. What color is the water? (Check all that apply. Describe and locate on map any impairments):

___ Clear ___ **Green*** ___ **Yellow-Brown***
___ **Turbid*** ___ **Milky*** ___ **Rusty-Red***

2. What is the water odor? (circle)

None Rotten eggs Musky Fishy
Oily Ammonia Other _____

3. Problem areas (checkmark, describe location and cause, if apparent; **Locate on map**)

___ Oily sheen or smell _____
___ Sewage: smell, milky color, toilet paper _____
___ Foam or scum (describe. Does a stick break it up?) _____
___ Fishy odor or fish kill _____
___ Floating garbage _____

4. How deep is the water? How wide is the stream?
Average Water Depth _____ft Average Water Width _____ft
5. Indicate the level of water in the channel. (*circle*)
Full $\frac{3}{4}$ $\frac{1}{2}$ $\frac{1}{4}$ Empty
6. Is the water flowing ... (*circle*) Quickly Slightly Almost still
7. How does the water flow? (*indicate how many of each*)
_____ Cascade _____ Step-Pool _____ Pool-Riffle _____ Run / Glide
8. Is stream flow blocked by ... (*circle and *locate on map**)
Trees Trash Large objects

Vegetation

1. Are there areas of extremely dense or clogging aquatic vegetation in any section? (*circle*)
Yes No
If yes, ***locate on map***, include on impairment chart, and describe cause, if obvious

Species of **large vascular aquatic plants**, if known
_____ Floating (water lilies) _____ Submerged (eel grass) _____ Emergent (cattails, rushes)
2. Are there areas covered with algae?
_____ Absent _____ In Spots (on streambed, around pipes, etc.)
_____ **Everywhere*** (*if everywhere, locate and describe on impairment chart*)

If algae is present, what does it look like?
_____ Matted on Substrate _____ Floating _____ Hairy _____ Green _____ Brown _____ Scum
3. Are there wetlands? (*circle; *locate on map**) Yes No
If yes, what type of wetlands? (*circle*)
swamp marsh floodplain bottomland other: _____

If yes, are they degraded by ... (*circle*)
Phragmites Purple Loosestrife Fill Blockages Ditches
Sediment Disturbed banks Pipes Trash Other _____
4. Is a Reservoir or Lake (>5 acres) present?: Yes No
(*If yes, use a separate survey sheet for this water body*)
5. Are there any impoundments? Yes No
If yes, indicate how many
_____ Small Ponds* _____ Dams*
(*Describe and locate each dam and pond on impairment chart. Specify whether beaver or man-made; height of dam; flow over dam; size of impoundment behind dam; pond size and outlet*)

STREAM CORRIDOR CONDITIONS

Stream Bank and Land Use

1. What are the streambank conditions? (*circle; Put a star * next to the most common*)
- | | | | |
|---------|--------------------|-----------------|----------------|
| Eroding | Buildings/pavement | Dense forest | Wetlands/marsh |
| Beaches | Riprap/channelized | Shrubs/brambles | Lawns |

CHANNEL ALTERATIONS*: Piped _____ft Channeled _____ft Lined (stone, concrete) _____ft
(Record length of alteration. If over 50 feet in length, describe, include on impairment chart, and locate on map)

2. Do trees and shrubs overhang the stream and provide shade? (*circle*) Yes No
 If yes, estimate what percentage of the bank is shaded. _____

3. What type of Streambank Vegetation / Cover is present?

Rank: Many=3 Some=2 Few=1 None=0

- _____ Conifers (>20ft high)
 _____ Deciduous trees (oaks, maples >20ft high)
 _____ Small trees / shrubs (<20ft high)
 _____ High Grasses/ Emergent (cattails, rushes)
 _____ Natural Rock/Ledge
 _____ **Lawns***
 _____ **Artificial*** (concrete, riprap, walls, buildings - *describe extent, location on impairment chart*)
 _____ **Invasive species*** (multiflora rose, barberry - *describe extent, location on impairment chart*)

Facing downstream, estimate the average uninterrupted width of riparian vegetation buffer
(if less than 25 feet, describe the type of vegetation / land use present):

Right side: _____100' _____25 –100' _____<25'* (*if less than 25' describe on impairment chart*)
 Left side: _____100' _____25 –100' _____<25'* (*if less than 25' describe on impairment chart*)

4. Are there places that have fill or clear-cutting? (*circle*) Yes No
 If yes, mark locations on map as fill **F1, F2, F3, etc.** or clear-cutting **C1, C2, C3, etc.**

5. What land uses are immediately adjacent to the river?

Rank: Most=3 Some=2 Few=1 None=0

- | | | | |
|-----------------------------------|------------------------------------|------------------------|-----------------------------|
| _____ Rural Residential | _____ Forest | _____ Schools | _____ Non Residential Roads |
| _____ Urban Residential | _____ Recreational | _____ Commercial | _____ Park/Ball fields |
| _____ Suburban | _____ Agricultural | _____ Industrial | _____ Parking lots |
| _____ Roads | _____ Landfills | _____ Railroads | _____ Junkyards |
| _____ Golf courses | _____ Protected/Conservation land | | |
| _____ Wastewater treatment Plants | _____ Undeveloped/Unprotected land | _____ Other (describe) | |

6. Do you see runoff from any of the following? (*circle; if runoff is significant, locate on map*)

Manure	Pet/goose droppings	Lawns	Sewage	Roads
Bridges	Construction	Plowed fields	Parking lots	Other _____

Number of Discharge Pipes* _____ (*Please fill out separate pipe survey, and locate on map using P1, P2, P3, etc. Describe discharge*)

Trash: *Describe any potential cleanup areas, and locate on map.*

WILDLIFE

Aquatic Species

1. Fish or evidence of fish? (*describe*) _____
Estimate number _____. *If possible, describe species & size* _____
2. Other forms of aquatic life? (*circle, identify species if known*)
Aquatic insects Turtles Salamanders Snails
Mussels Clams Other _____

Land Species

1. Animals or evidence of animals? (*circle*) Beaver Muskrat Otter Other _____
2. Birds? (*circle*) Herons Mallard ducks Wood ducks Canada geese
Other _____
3. Do you know if there are rare & endangered species of plants or animals in your segment?
If so, identify.

RECREATION

1. Is there designated public access to the stream? Is it appropriate for ... (*circle and locate on map*)
Canoeing Fishing Swimming Walking Bicycling Other _____
2. For what activities do people use the stream and its banks?
Fishing Rowing Sailing Swimming Walking
Motorboating Bicycling Rollerblading Canoeing Other _____

POSSIBLE IMPAIRMENTS:

- Are discharge pipes or overland runoff associated with changes in water conditions?
No **Yes*** (*If yes, locate and describe on impairment chart*)
- Are discharge pipes or overland runoff associated with algae blooms?
No **Yes*** (*If yes, locate and describe on impairment chart*)
- Do you see excessive fine sediment deposits on the streambanks, or sediment deltas originating from storm pipe outlets, tributaries, or overland runoff?
No **Yes*** (*If yes, locate and describe on impairment chart*)
- Are streambank soils mostly exposed?
No **Yes*** (*If yes, locate and describe on impairment chart*)
- Is the streambank eroded for more than 50 feet?
No **Yes*** (*If yes, describe location, length of eroded bank, and height of bank on impairment chart*)
- Is there substantial trash or man-made debris in or near stream? No **Yes**
Does debris affect stream flow or water quality? No **Yes*** (*If yes, locate and describe on impairment chart*)
- Are there barriers to fish passage: No **Yes*** (*If yes, locate and describe on impairment chart*)

IMPAIRED SITES

Site #	TYPE OF IMPAIRMENT	LOCATION	DESCRIPTION OF SITE

Adopt –A-Stream Pipe Survey of _____ River/Brook







Segment # _____

Date: _____

Names of observers: _____

Weather Today: _____

Weather over past 48 -72 hours: _____

Pipe #	Time	Pipe material and condition	Pipe size & Amount of flow	Color of Flow	Odor of Flow	Algae below pipe	Sediment below pipe	Comments? If pipe should be rechecked – describe location	GPS Latitude GPS Longitude (Optional)
Sample #1	9:33 AM	Concrete good shape	 Constant moderate flow 1' diameter	Red - brown	Fetid	Green growth coating rocks below pipe	Sand accumulation at outfall	Should be rechecked. Downstream of Jones Street Bridge	
									
									
									
									
									

Pomperaug Watershed Stream Segment Summary Sheet

Name of Stream: _____ Drainage Basin Code: _____

Date(s) of Survey: _____ Segment Code (mark on map): _____

Surveyor's Name: _____

This sheet is designed to give the "big picture" of your segment. It provides the basis for the narrative description of segments in the Final Streamwalk Survey Report.

NARRATIVE DESCRIPTION

Sample 1: The river flows slowly through this segment. The banks on one side are eroded, with parkland behind it. On the other side of the river, the banks have cement walls, industrial buildings and parking lots. There was a marsh at the lower end. A small stream came into the river, and the water quality seemed worse after it entered. Bits of oil floated on the water and the stream smelled like asphalt. There were a few gulls in the industrial section, and there were turtles, a muskrat hole and a great blue heron in the wetland/marsh.

Sample 2: Segment 2 flows quickly through conservation land, with several small riffles. We saw several anglers a long the banks. There were many downed trees in the stream, which provide good habitat for fish. Vegetation along the stream is thick, second-growth forest with an old dirt road providing good access for walking or mountain biking. There are several old appliances in the river near the Rt. 20 bridge.

Describe your segment in a paragraph:

ADDITIONAL COMMENTS, CONCERNS OR OBSERVATIONS (attach extra sheet if needed):

Your photos are welcome and encouraged!