Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

Pawcatuck River Watershed Total Maximum Daily Load (TMDL)

What is a TMDL?

A TMDL can be thought of as a water pollution budget. Any waterbody that needs a TMDL is overspending its daily budget for a substance. These waterbodies are considered to be polluted or impaired by CT DEEP. The amount of the substance must be reduced to a lower level for the waterbody to be within its budget. The goal for all waterbodies is to have substance concentrations within their planned budgets.

Pollution Sources

All sources of pollution are reviewed while developing a TMDL. This includes sources that are caused by manmade structures such as a sewage treatment plant and sources that reach waterbodies as surface runoff during rain. The TMDL process also builds in a cushion to account for any unknown sources to a waterbody.

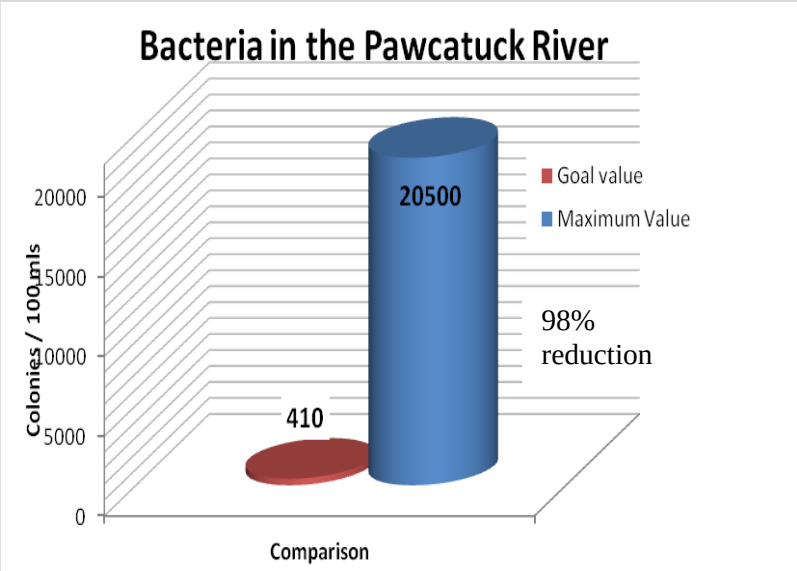

Figure 1 Sample Bacteria Comparison

Piece by Piece

To create a TMDL, the waterbody is cut into pieces known as segments. These segments are like pieces of a puzzle. Each piece is reviewed for available data and pollution levels. A budget is determined for each piece as are the reduced budget goals. Reaching these goals allows for a waterbody to meet the planned budget. This will reduce pollution and improve water quality.

Figure 2. Child recreating in beach water

Fix what is Broken

The TMDL provides goals for the waterbody and attempts to identify sources of water pollution. During the process there are suggestions made to fix known sources. These efforts will reduce the amount of the polluting substance that is reaching a waterbody. As suggested fixes are implemented, the results will be protection of natural resources and cleaner water. This provides better habitat for fish and safer recreation for people.

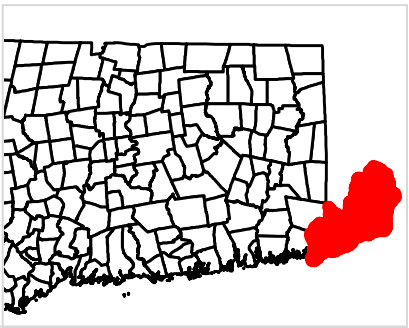

Figure 3. Pawcatuck Location in CT

The Pawcatuck River is located in southeastern Connecticut. The Pawcatuck TMDL includes pollution budget goals for 10 waterbody pieces in Connecticut. Six of these pieces are freshwater streams and four pieces are saltwater in Long Island Sound (LIS). The total length of freshwater streams is 7.8 miles and the saltwater pieces total 1.74 square miles of LIS. The polluting substance that causes the impairment for all pieces is bacteria that can impact human health. The waterbody pieces are impaired by CT DEEP for two reasons. All freshwater streams are impaired for recreation. All saltwater pieces are impaired for shellfishing with one, (Inner Pawcatuck River-01) also being impaired for recreation. The pieces for the Pawcatuck TMDL are displayed in maps on page 3 of this sheet.

Shellfish

The harvesting of shellfish is important to many people in Connecticut. Dealing with bacteria issues increases costs and potential risk from shellfishing. CT DEEP sets goals for shellfishing in each piece of Long Island Sound. There are two major goals, SA waters, which are suitable for direct consumption, and SB waters, which require treatment before consumption.

Figure 4. Shellfisherman in the water

Much of the area around the Pawcatuck River is forested land (73%). There are also large sections that are developed as urban land (17%). The land use surrounding a waterbody has a dramatic affect on the water quality. Polluting substances can wash off the surface into the water. Bacteria is a substance that often is included in these surface wash flows.

The Pawcatuck TMDL gives examples of potential sources of the bacteria. Things such as leaking sewer lines or improper sewer connections can be a source. There are also areas that may be affected by large water bird populations or pet wastes. Agriculture can also produce bacteria in surface wash flows.

Figure 5. Cattle in the Pawcatuck River

What you can do?

Local education efforts dealing with pet waste disposal can reduce bacteria levels in runoff. Citizens can keep their septic systems properly maintained and functioning. Programs can also teach about the true functions of storm drains. Municipalities inspecting sewers for leaks and making repairs will also have positive effects on water quality.

See the DEEP webpage for more details. **www.ct.gov/deep/tmdl**

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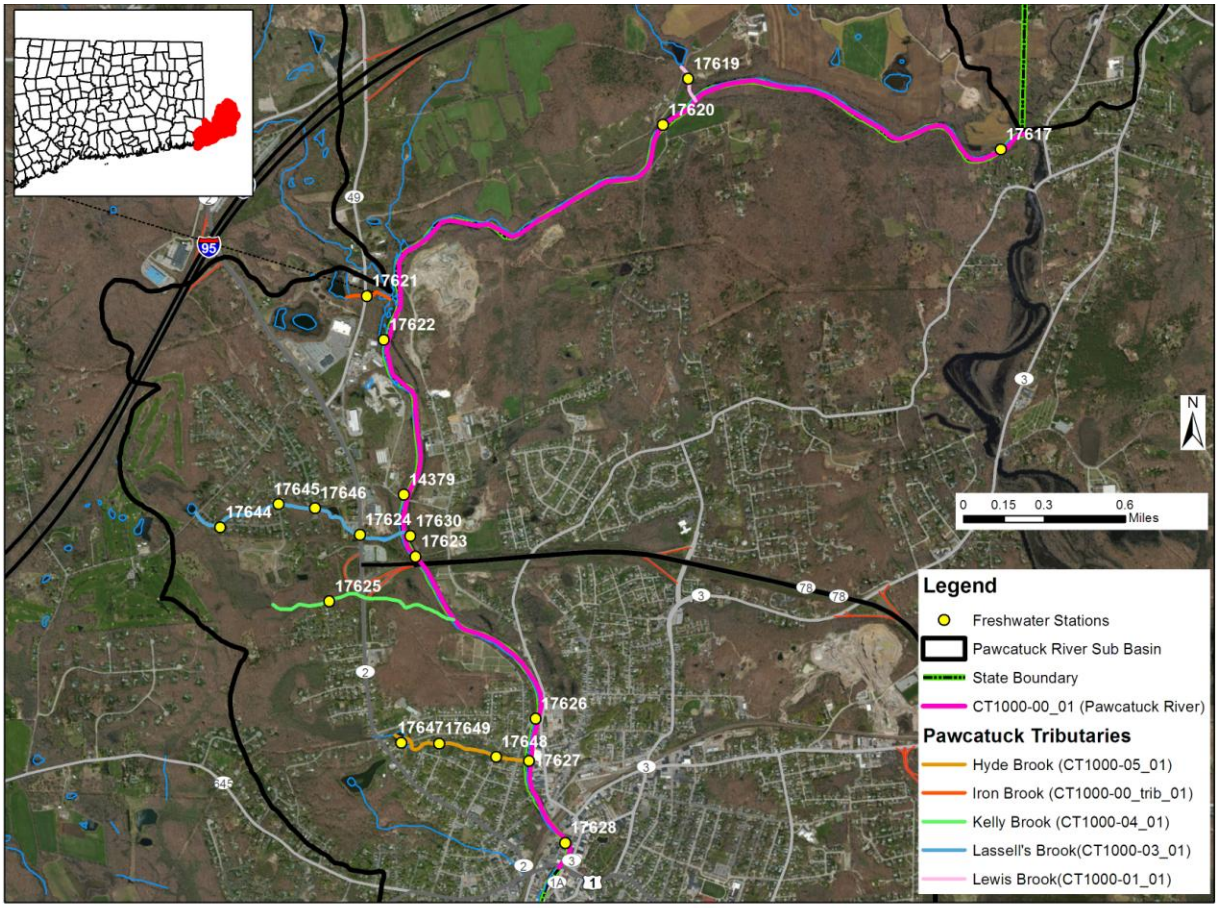
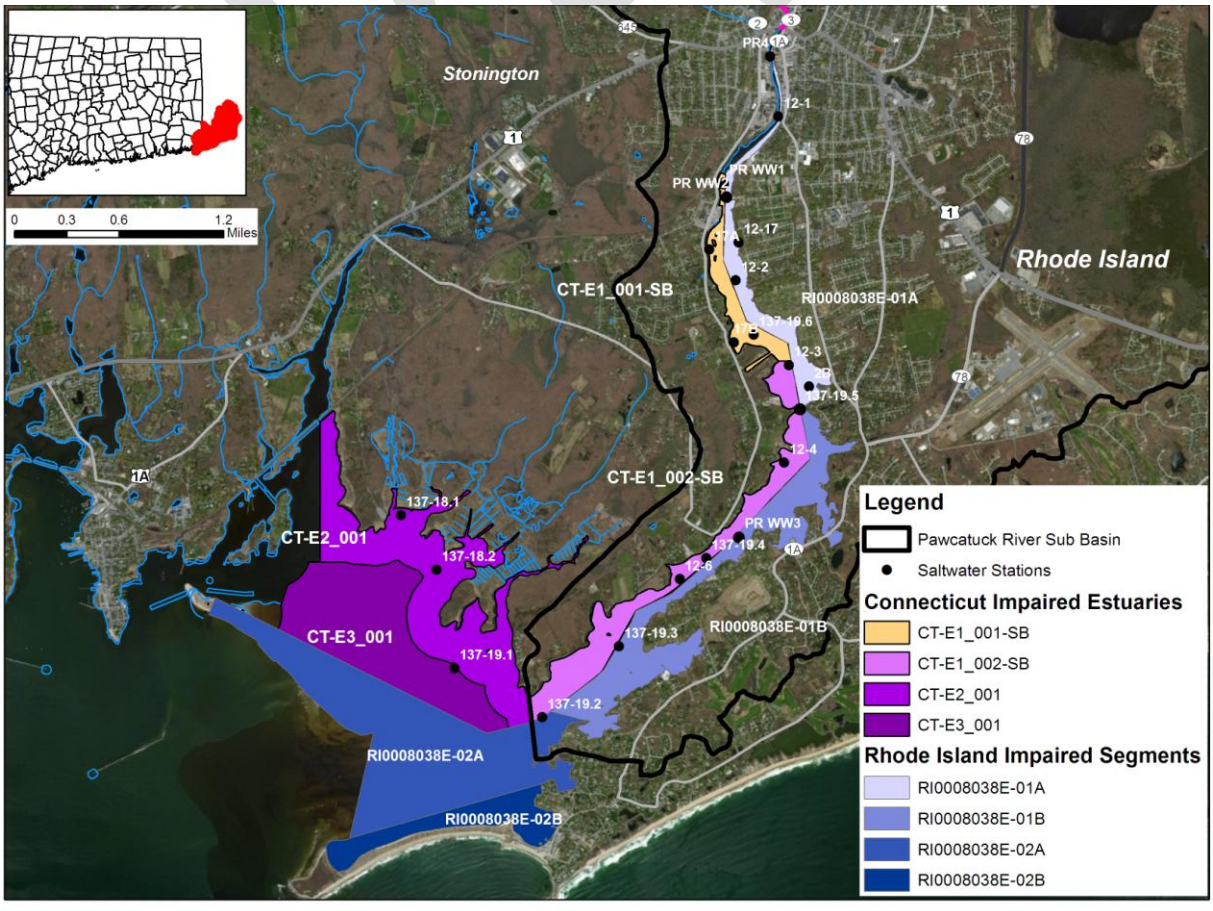


Freshwater Impairments Pawcatuck River Map Data: DEEP Map Created: October 2013



Pawcatuck Saltwater Impaired Segments Map Data: DEEP Map Created: July 2013

Waterbody ID	Waterbody Name	Location	Square Miles	Recreation	Direct Shellfish	Commercial Shellfish	Reduction Goal %
CT1000-00_01	Pawcatuck River-01	From head of tide, Rte 1 crossing in Pawcatuck, CT -Westerly, Upstream to RI border.	5.38 (linear miles)	NOT	///	///	98
CT1000-01_01	Lewis Brook	From the mouth of Lewis Brook into the Pawcatuck River to the outfall of Lewis Pond	0.14 (linear miles)	NOT	///	///	98
CT1000-05_01	Hyde Brook	From mouth of Hyde Brook into the Pawcatuck to the outfall of an unnamed pond	0.55 (linear miles)	NOT	///	///	95
CT1000-04_01	Kelly Brook	From mouth of Kelly into Pawcatuck River upstream to wetlands complex source	0.71 (linear miles)	NOT	///	///	91
CT1000-03_01	Lassell's Brook	From the mouth of Lassell's Brook into the Pawcatuck upstream to source at Elmridge Road	0.87 (linear miles)	NOT	///	///	96
CT1000-00_trib_01	Iron Brook	From mouth of Iron Brook into the Pawcatuck River to the outfall of an unnamed pond	0.17 (linear miles)	NOT	///	///	84
CT-E1_001-SB	LIS EB Inner - Pawcatuck River (01), Stonington	Eastern portion of LIS, Inner Estuary in Pawcatuck River from Stanton Weir Point US to Saltwater limit, parallel to RR and Mechanic Street, Clarks Village, (Stonington).	0.10	NOT	///	NOT	83 (REC) 90 (SHELL)
CT-E1_002-SB	LIS EB Inner - Pawcatuck River (02), Stonington	Eastern portion of LIS, Inner Estuary in Pawcatuck River from mouth at Pawcatuck Point, upstream to Stanton Weir Point.	0.31	U	///	NOT	90
CT-E2_001	LIS EB Shore Wequetequock Cove, Stonington	Eastern portion of LIS from RR crossing on east side of Wequetequock cove to mouth of Pawcatuck River, out approximately 1000 ft offshore (Little Narragansett Bay).	0.61	FULL	NOT	////	56
CT-E3_001	LIS EB Midshore - Stonington	Eastern portion of LIS from approximately 1000 ft offshore (Little Narragansett Bay), out to CT/NY State line.	0.58	U	NOT	////	90

FULL = Designated Use Fully Supported NOT = Designated Use Not Supported /// = Not Applicable
U = Unassessed