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Ten Mile River Study

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Ten Mile River Study
North Attleboro High School
North Attleboro, MA

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Shannon Raymond, Jackie Cieri,
Kaitlyn Menyo, Kyle Pfantz,
and Andrew Cerrone

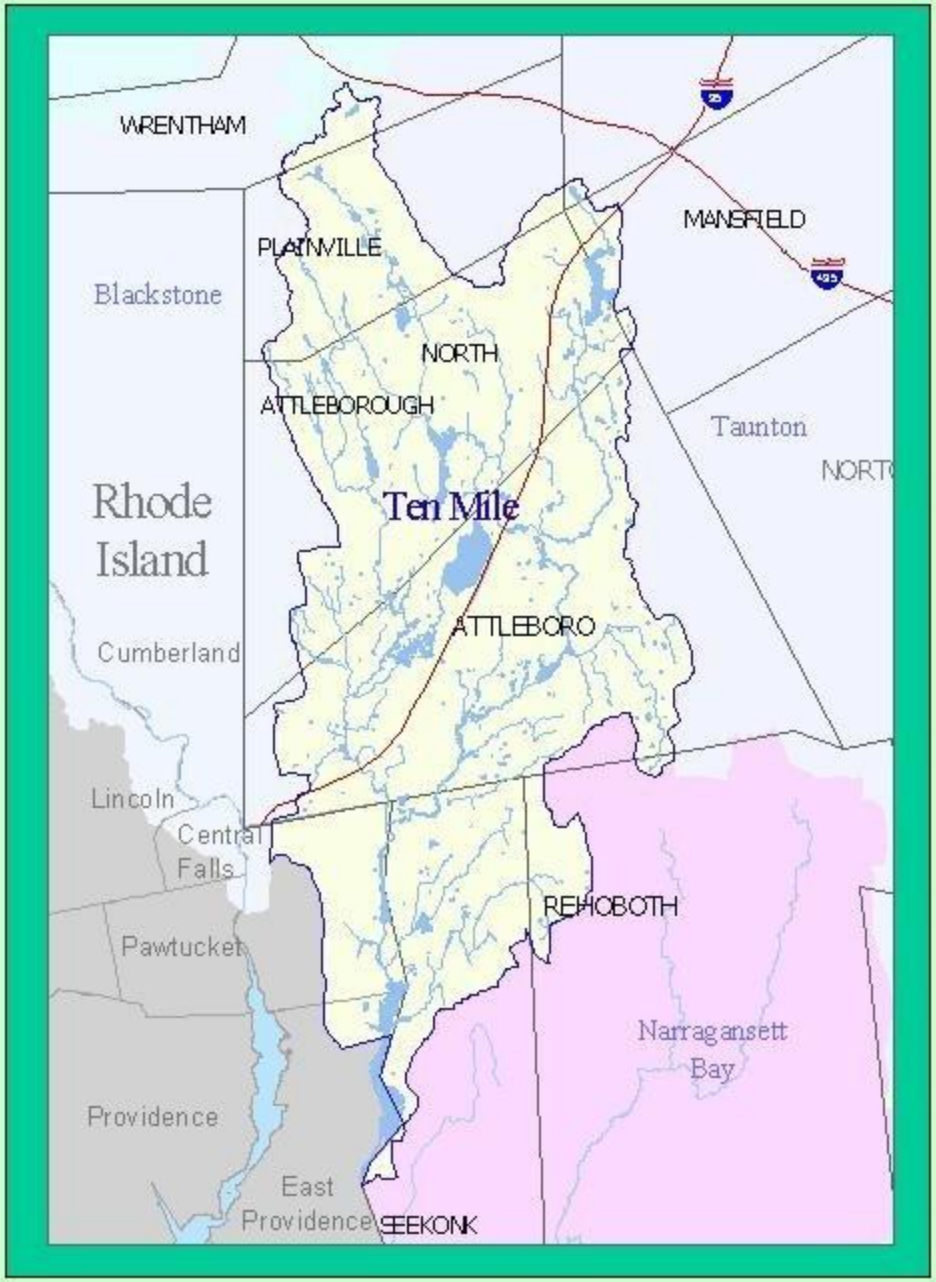
Purpose

- To start a baseline study for the Ten Mile River
- To test the chemical, biological, and physical components of the river
- To find out if the river is polluted

Ten Mile

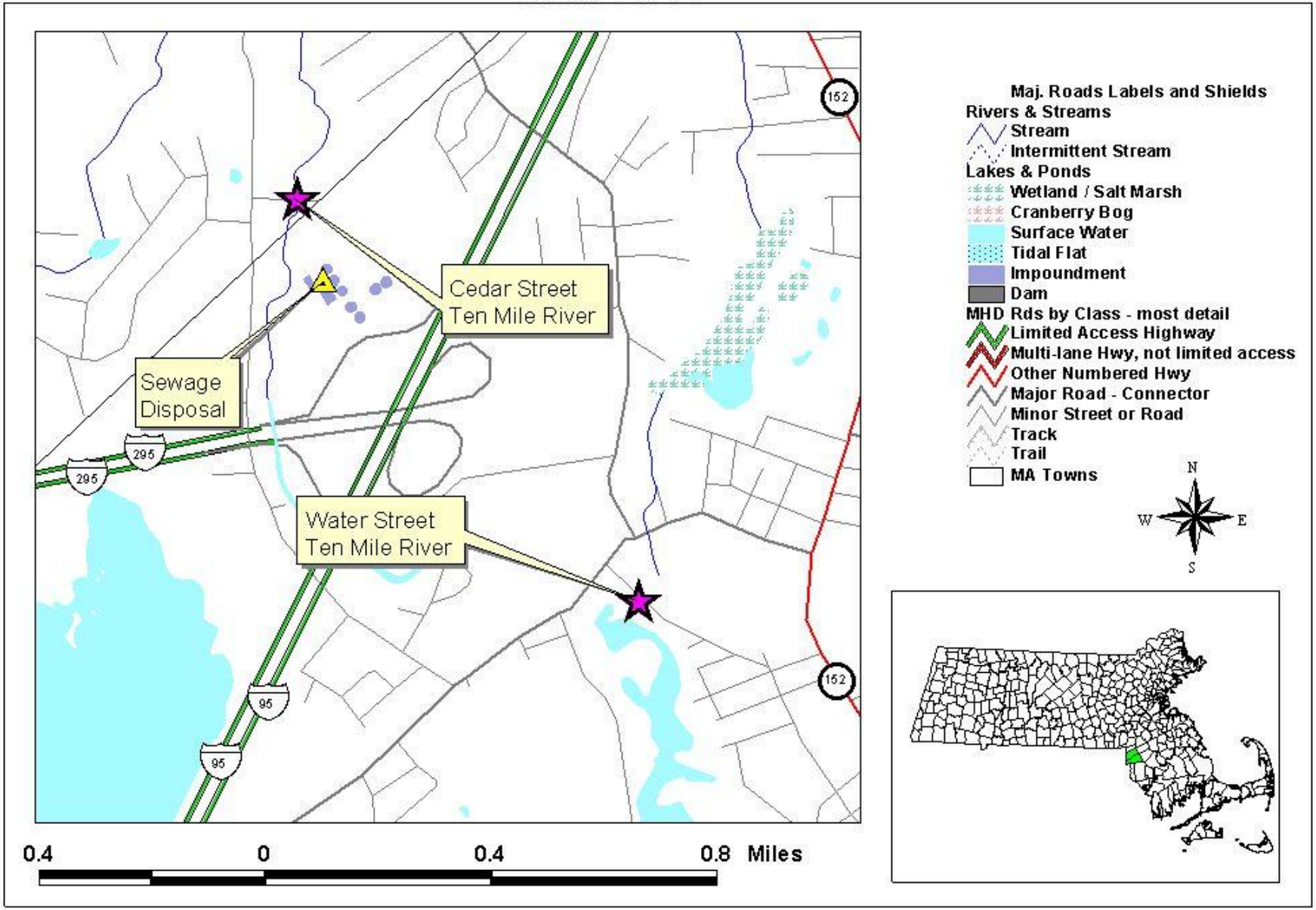
River

Watershed

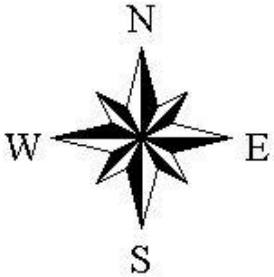


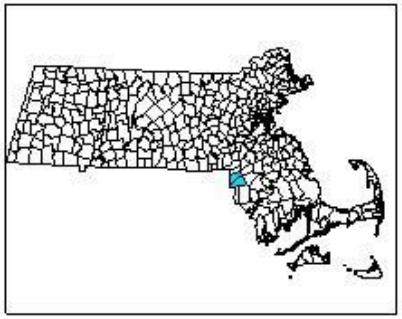
It begins in Plainville, MA and flows through N. Attleboro, Attleboro, Seekonk, and into Pawtucket and East Providence, RI

Ten Mile River Study
2003-2004

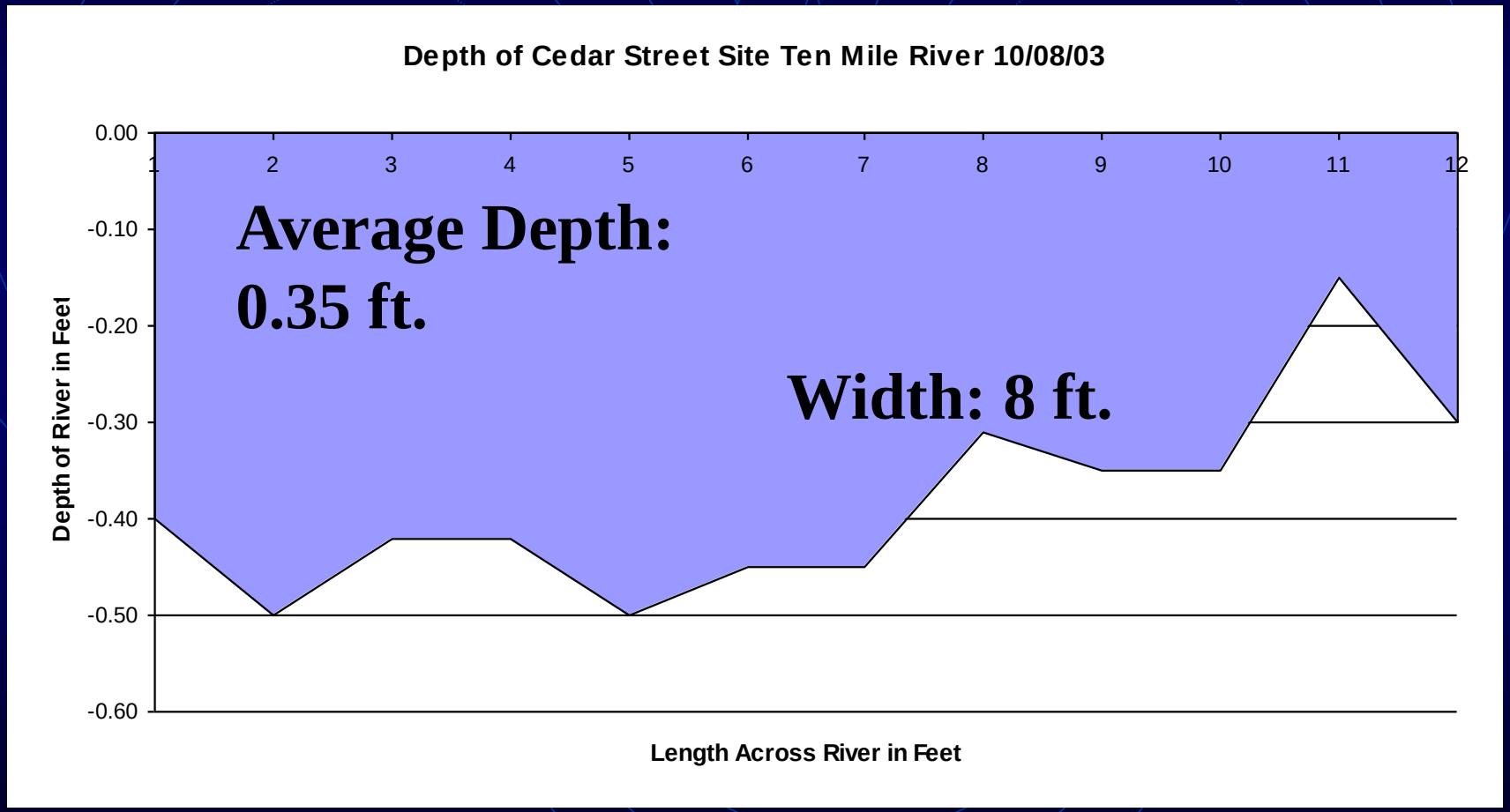


Ten Mile River Study
2003-2004

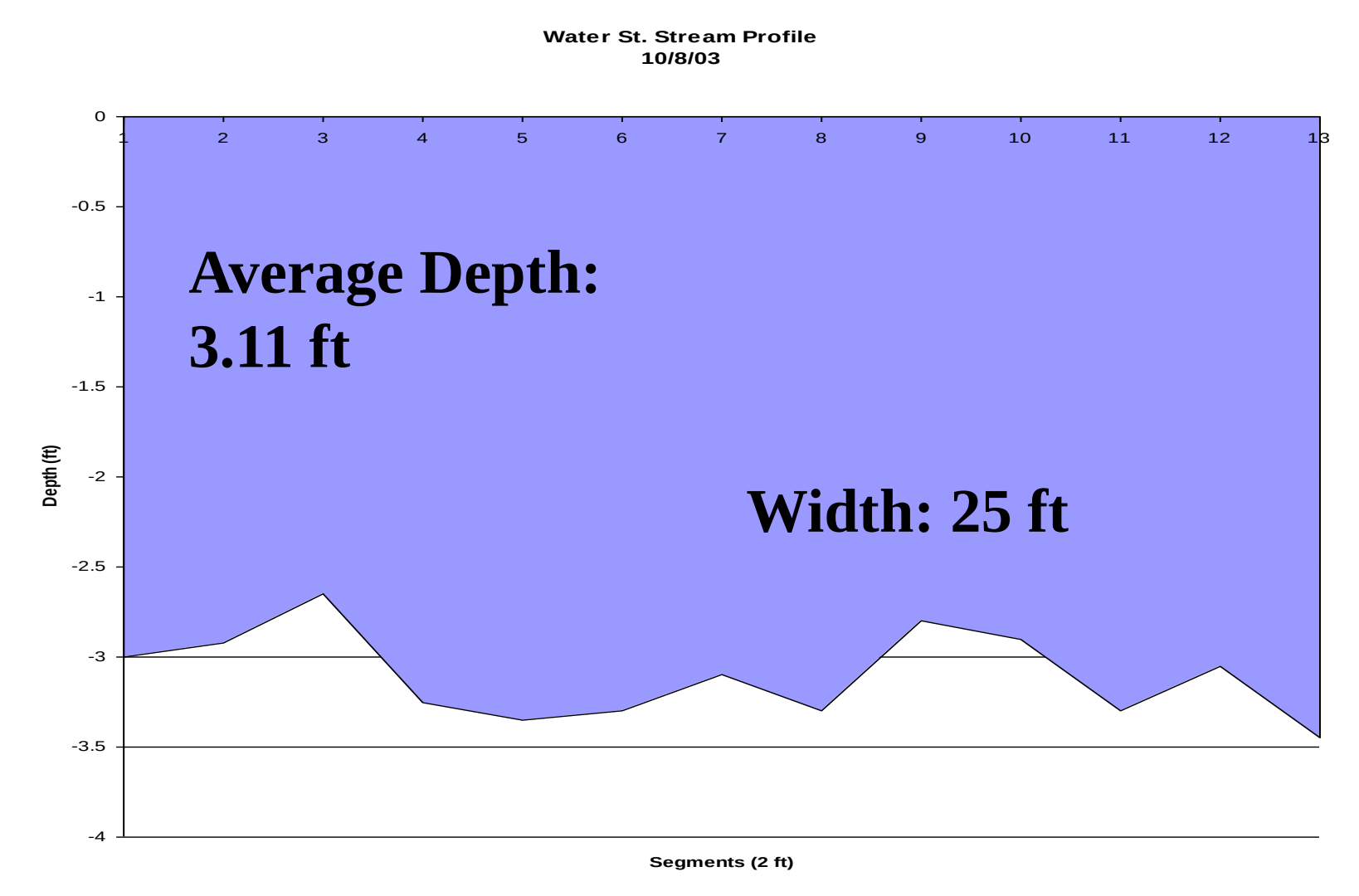




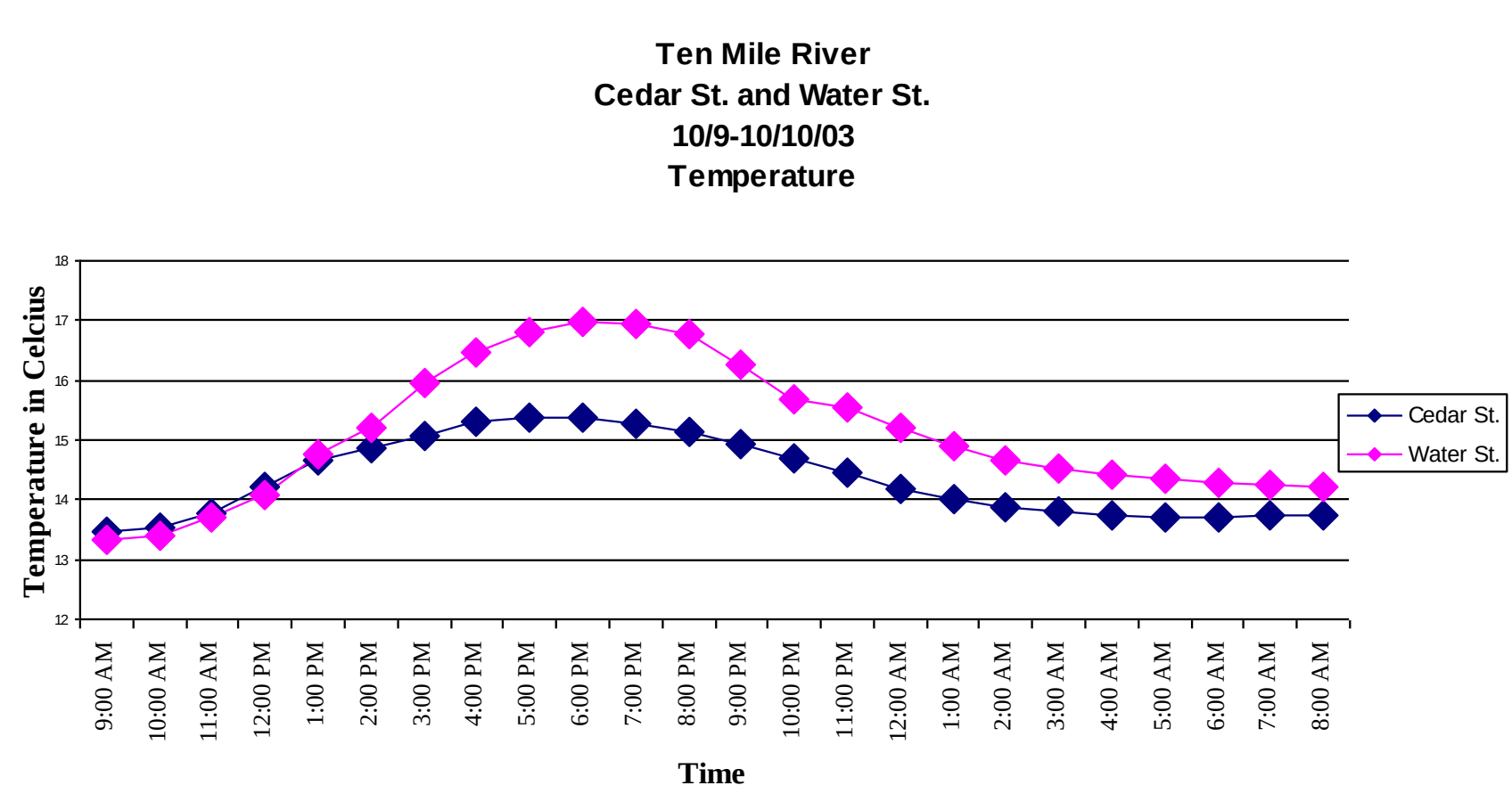
Cedar Street Stream Profile 10/08/03



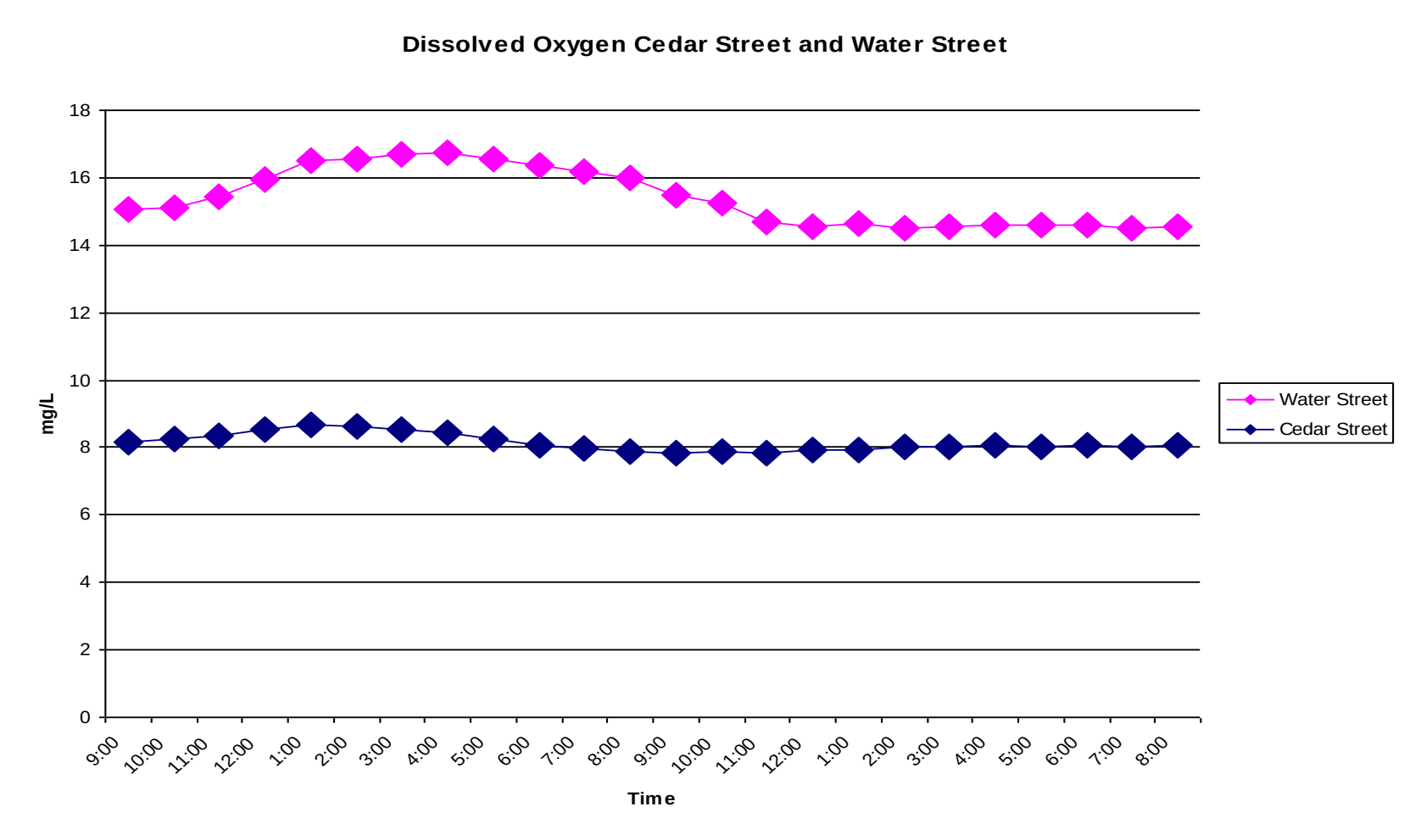
Water Street Stream Profile 10/08/03



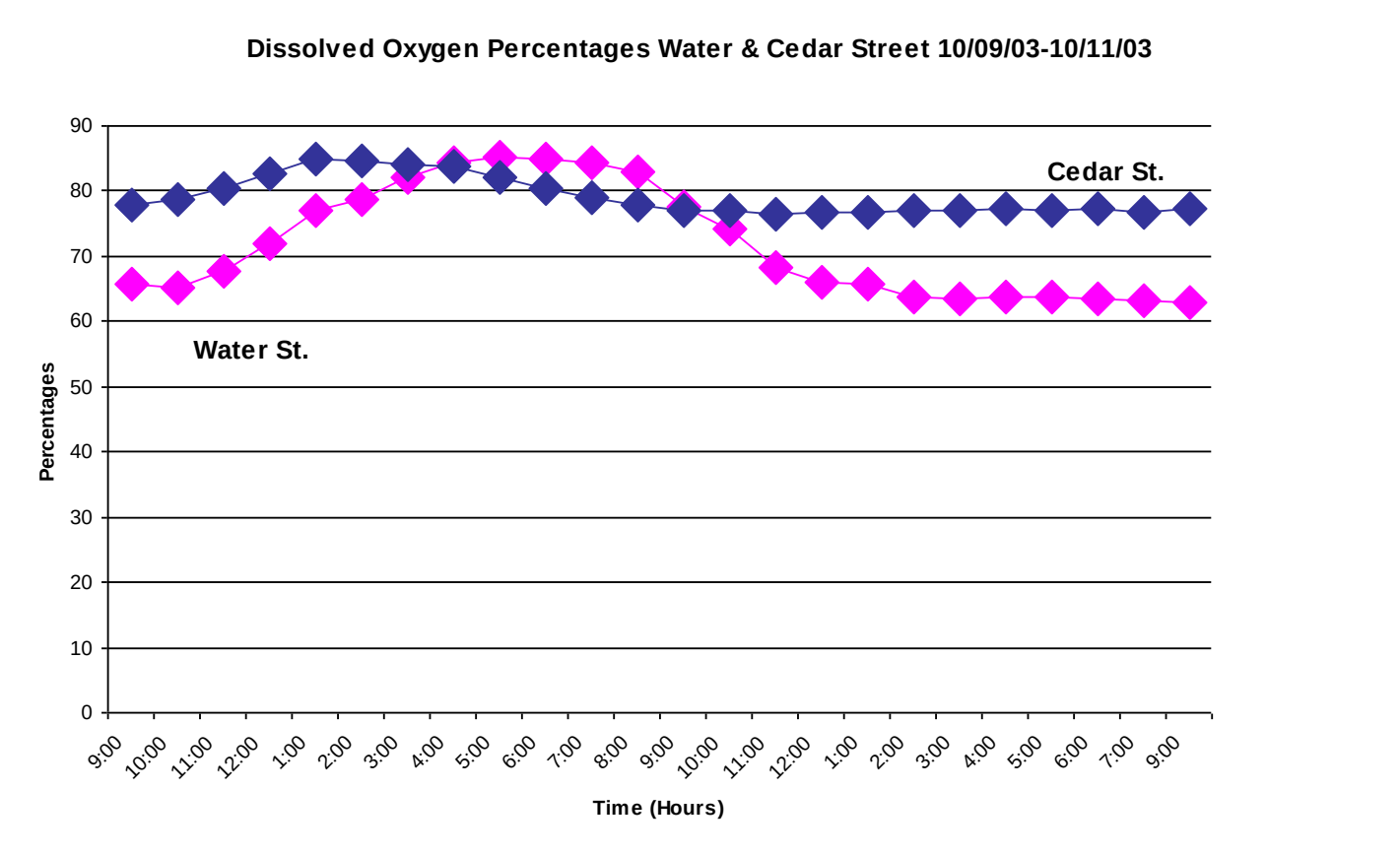
Temperature Comparison Cedar St. and Water St. 10/9-10/10/03



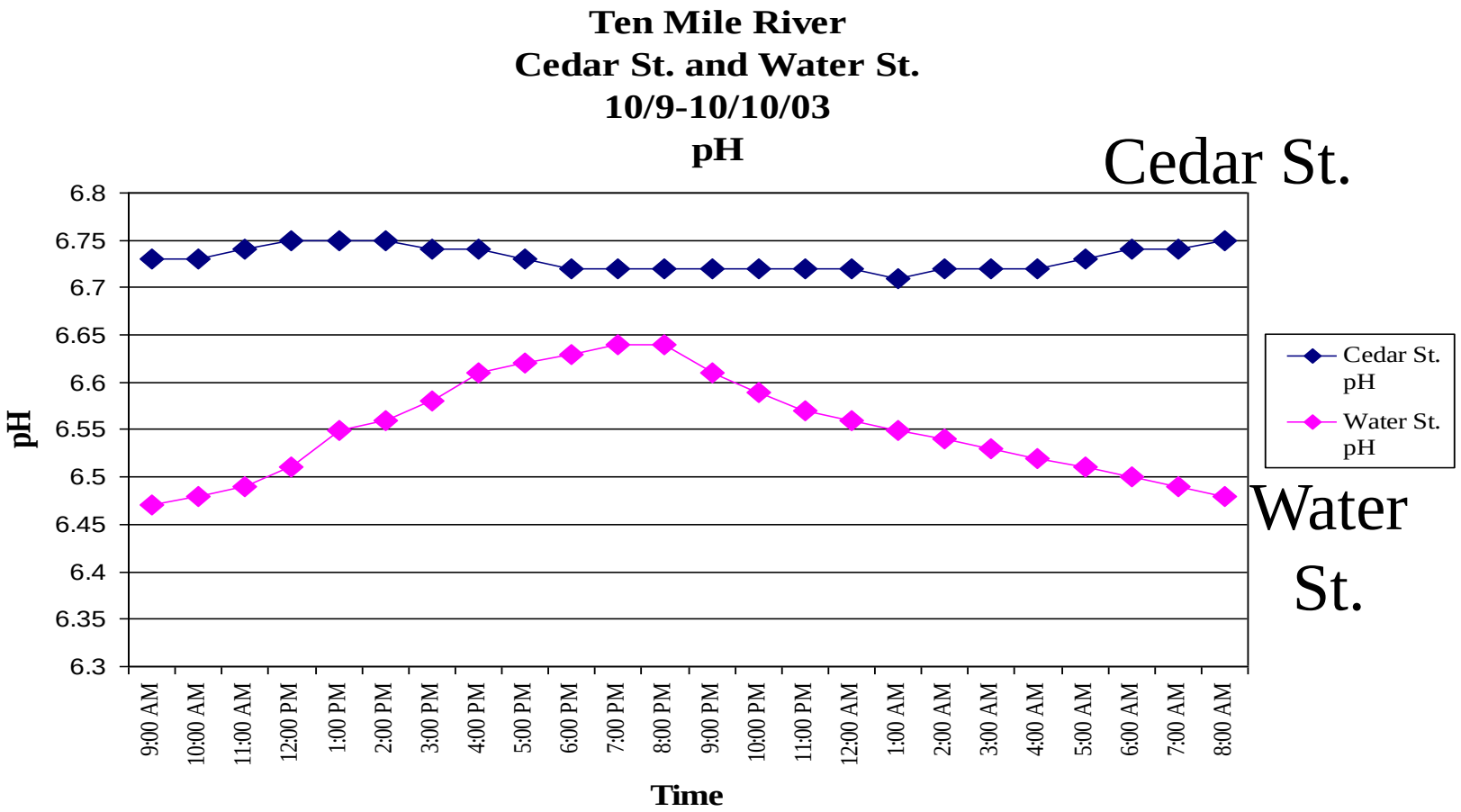
Dissolved Oxygen Comparison Cedar St. and Water St. 10/9-10/10/03



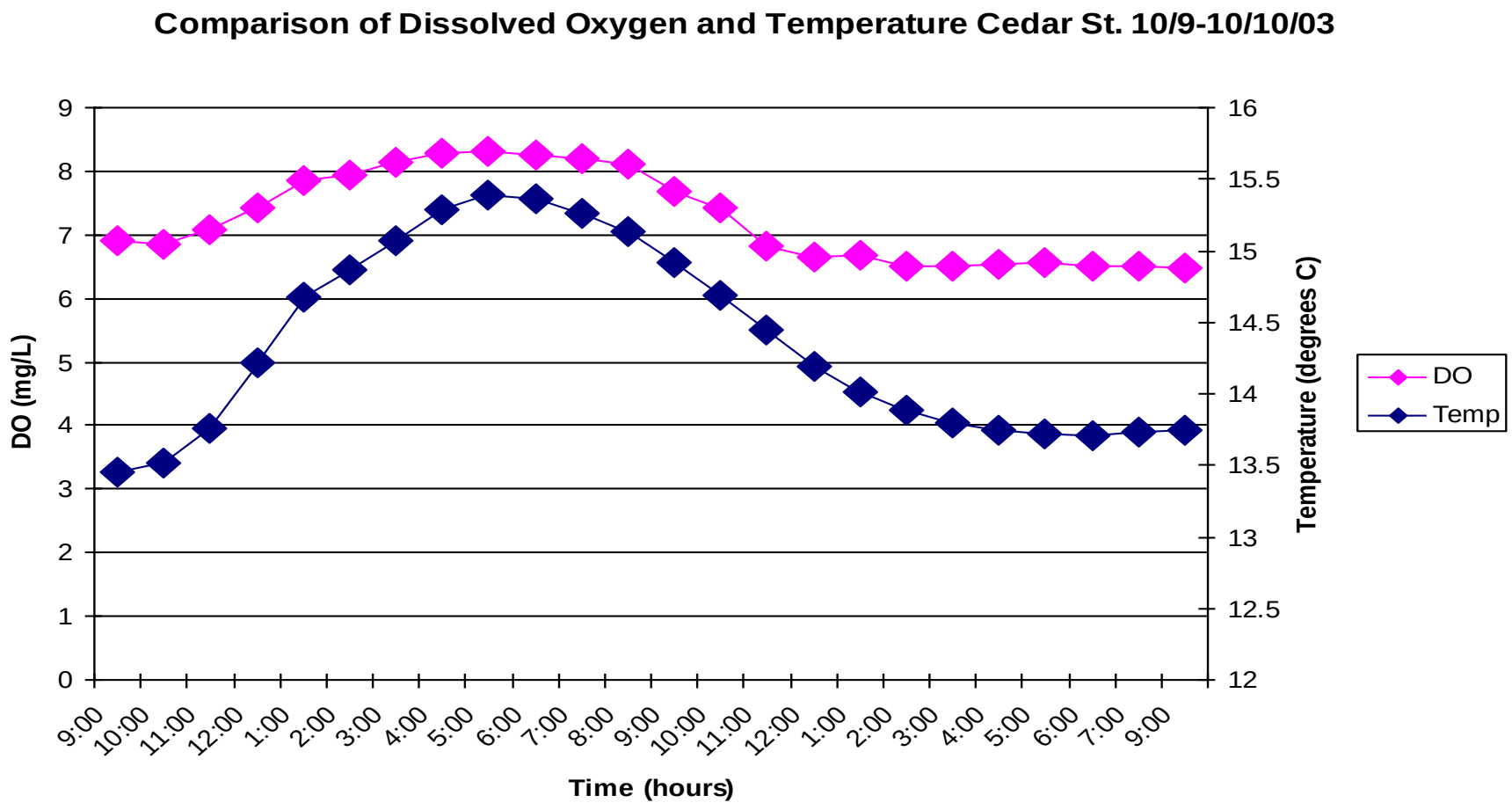
Percent DO Comparison Cedar St. and Water St. 10/9-10/10/03



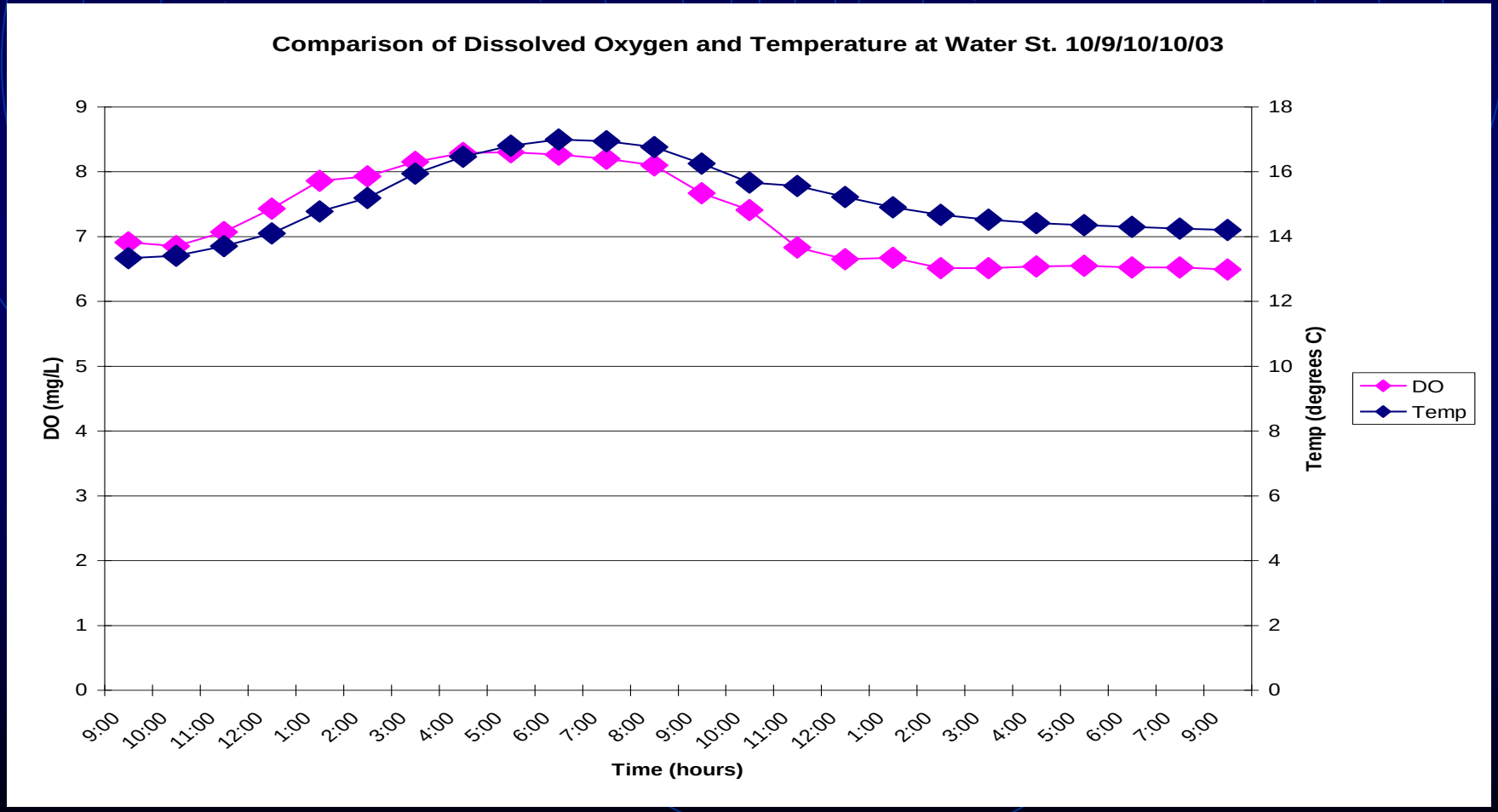
pH Comparison
Cedar St. and Water St.
10/9-10/10/03



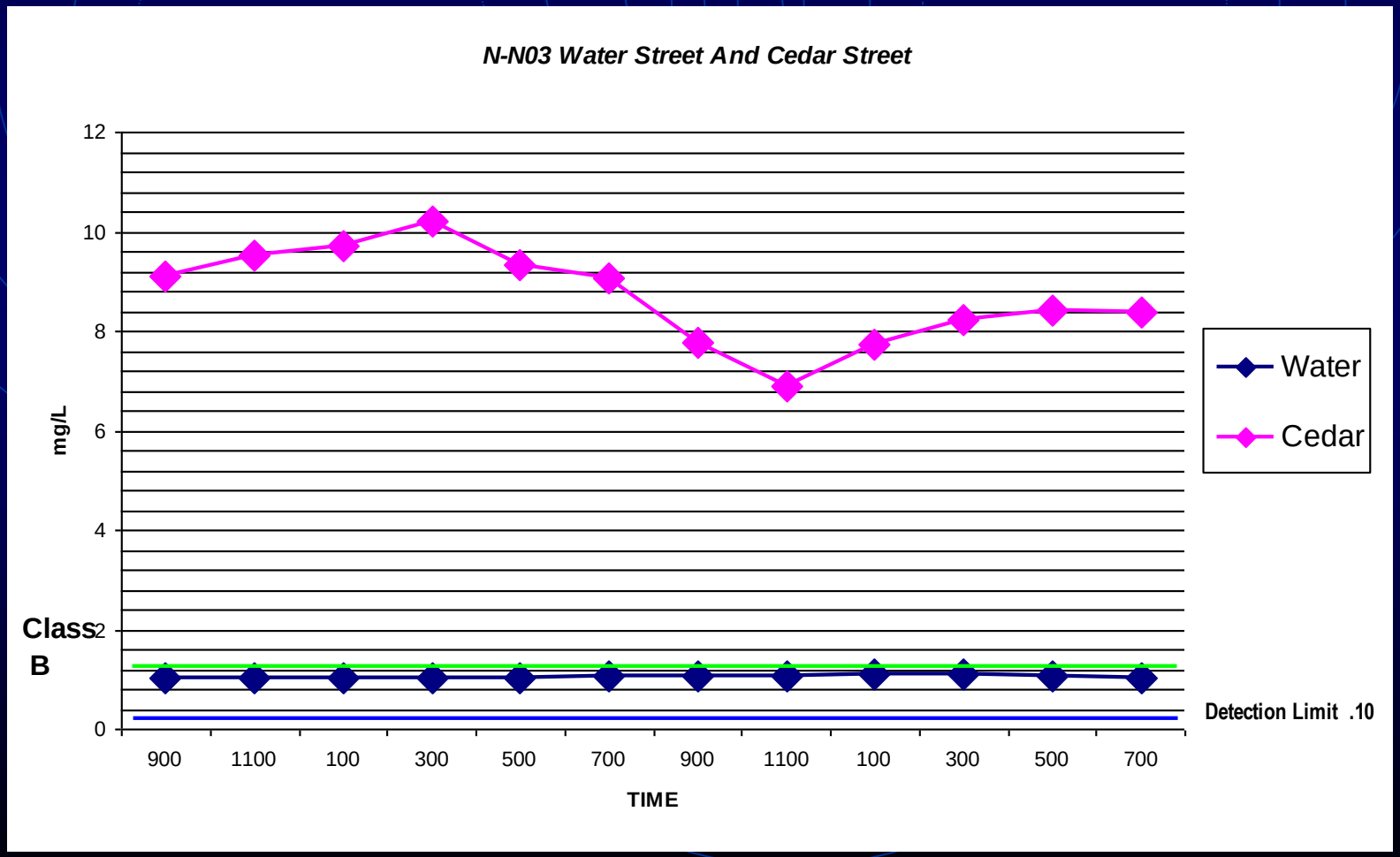
Comparison of Dissolved Oxygen and Temperature Cedar Street 10/9-10/10/03



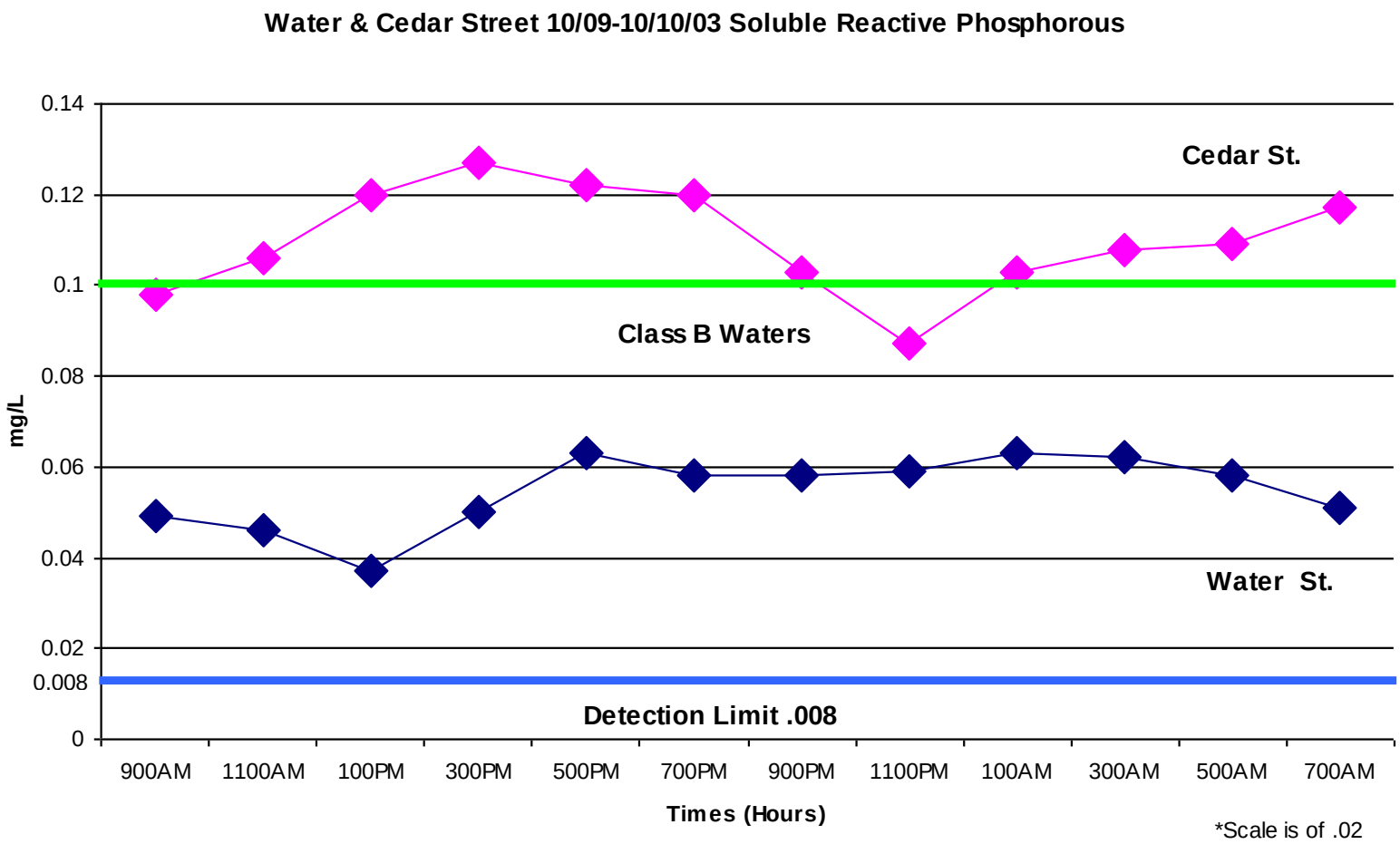
Comparison of Dissolved Oxygen and Temperature Water Street 10/9-10/10/03



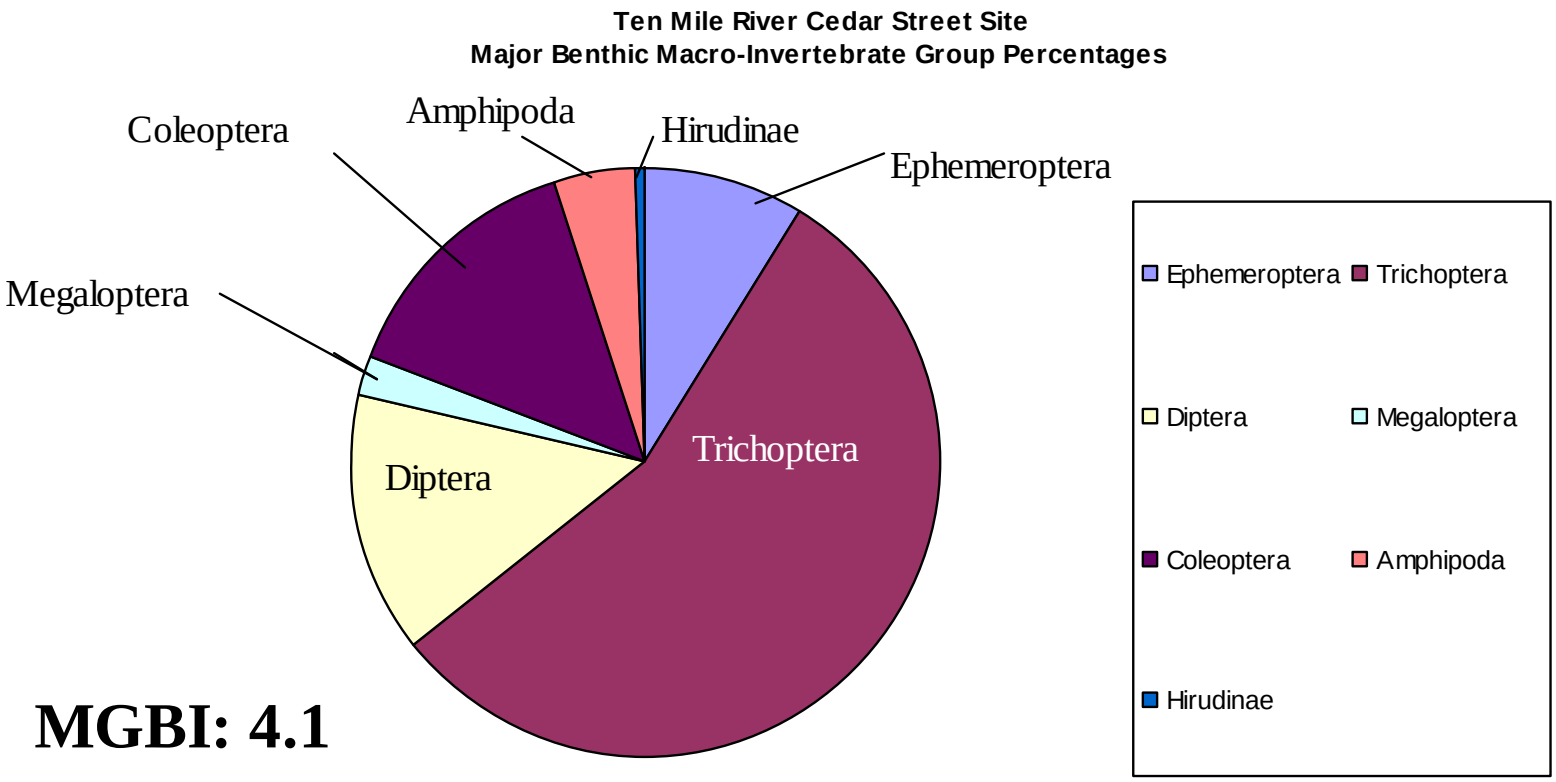
N-NO_3 Comparison Cedar St. and Water St. 10/9-10/10/03



Soluble Reactive Phosphorous Comparison Cedar St. and Water St. 10/9-10/10/03

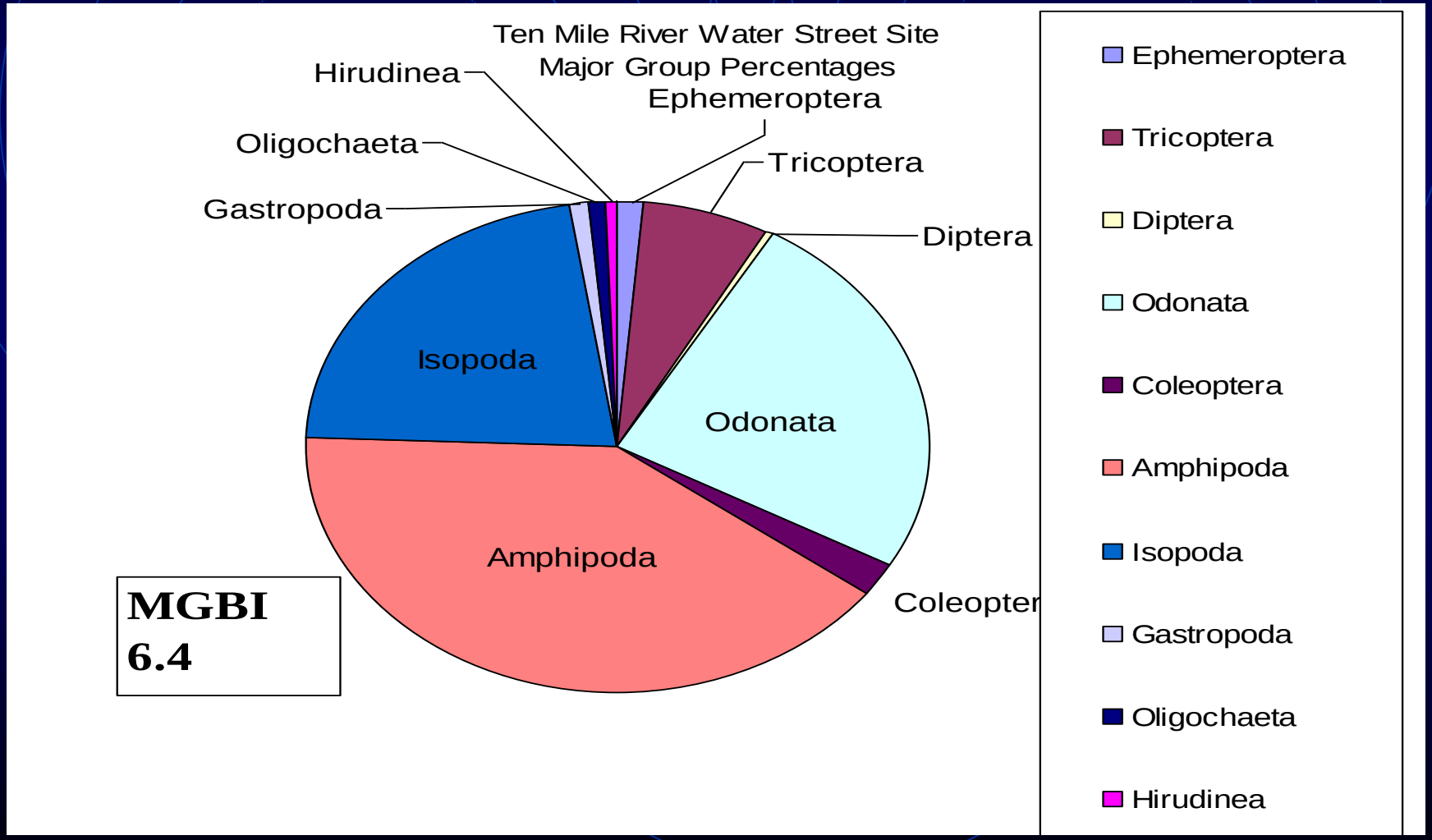


Benthic Macro-Invertebrates Cedar St. 10/08/03



MGBI: 4.1

Benthic Macro-Invertebrates Water St. 10/08/03



Fecal Coliform 10/10/03

- Cedar Street had a dry count of 60 colonies per 100 ml
- Water Street had a dry count of 200 colonies per 100 ml

Ten Mile River Data Summary 10/9-10/10/03

Ten Mile River	Temp ^0C		pH		Dissolved Oxygen		% Dissolved Oxygen		$N\text{-}NO_3$		SRP	
	Range	Avg	Range	Avg	Range	Avg	Range	Avg	Range	Avg	Range	Avg
Cedar St.	13.45- 15.39	14.36	6.71- 6.75	6.73	7.83- 8.66	8.49	76.5- 84.8	79.2	6.9- 10.2	9.4	.087- 1.27	0.110
Water St.	13.33- 16.99	15.11	6.47- 6.64	6.55	6.49-8.29	7.57	62.9- 85.1	69	1.087- 1.09	1.05	.037- .063	0.0541
Class B River Values	2.8-29.40 Degrees		6.5- 8.3 Healthy		5.0 Minimum		60% Minimum		1 PPM Healthy		Clean is under 1 PPM	

Possible Reasons for Results

- North Attleboro has many geese problems along with pig, horse, and cow farms which could cause non-point source pollution.
- Runoff from Rt. 1, I-95, I-295, and developed areas flow into the river.
- Rt. 1 is highly urbanized which increases the amount of runoff from impervious surfaces.
- There was evidence of duckweed at the Water Street site which uses nitrogen.
- Testing on Water St. was done at confluence of Bungay River and Ten Mile. This may affect N-NO_3 readings.