

This Spring, students:



Expanded understanding of estuarine and freshwater systems

Experienced field work and use of monitoring equipment

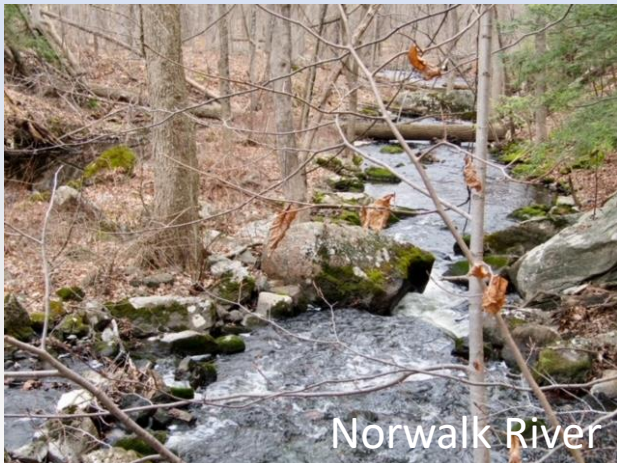
Learned to identify, test for, and interpret water quality indicators

The VRRP is a free online education program with optional in-person activities.

Field Day is a chance for students to analyze water quality in their own neighborhood.

Students measured 7 water quality parameters on Field Day 2023:

1. pH
2. Hardness
3. Alkalinity
4. Ammonia
5. Total Chlorine
6. Free Chlorine
7. Indicator Bacteria

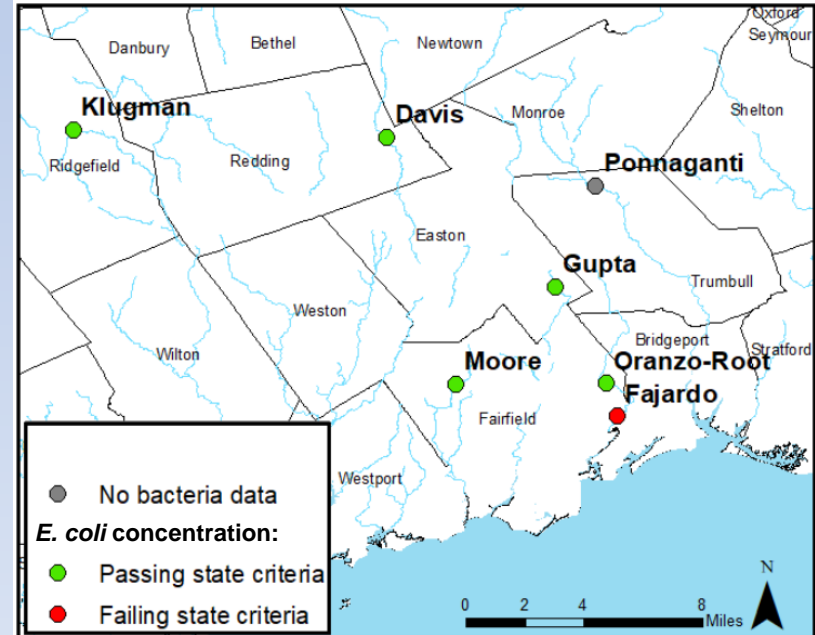


Thank you to our funders for making this program possible:

The Elizabeth Raymond Ambler Trust
And
The Long Island Sound Futures Fund

Students collected bacteria samples at sites in Fairfield County and processed them using the enzyme substrate method

All 7 sites were in freshwater and fall under the state “Recreation – All other uses” category. The CT DEEP single sample maximum is 576 MPN/100mL



Name	HW Equivalent Site	Location	Bacteria MPN/100mL
Davis	Aspetuck 11	Redding	3
Fajardo	Rooster 2.5	Fairfield	3466
Gupta	Downstream of Mill 12	Easton	0
Klugman	Norwalk 19	Ridgefield	7
Moore	Sasco 13	Fairfield	0
Oranzo-root	Rooster 4.7	Fairfield	198
Ponnaganti	Pequonnock 5	Trumbull	N/A

5 out of the 6 sites met the state maximum criteria of 576 MPN/100mL

Harbor Watch has active track-down projects in the river of the failing site

Davis

Harbor Watch Site: Aspetuck 11

Total Hardness (CaCO ₃ ppm)	120
Total alkalinity (ppm)	0
pH	6.8
Ammonia (NH ₃ ppm)	0



Indicator bacteria: *E. coli*
3.1 MPN/100mL
PASS

Field notes: white foam observed in water

Fajardo

Harbor Watch Site: Rooster 2.5

Total Hardness (CaCO ₃ ppm)	120
Total alkalinity (ppm)	40
pH	6.8
Ammonia (NH ₃ ppm)	0.5



Field notes: Lots of leaves in water

Indicator bacteria: *E. coli*
3,465.5 MPN/100mL
FAIL

Gupta

Harbor Watch Site: Downstream of Mill 12



Indicator bacteria: *E. coli*
0 MPN/100mL
PASS

Total Hardness (CaCO3 ppm)	50
Total alkalinity (ppm)	0
pH	6.8
Ammonia (NH3 ppm)	0

Field notes: collected from a relatively still area in the river

Klugman

Harbor Watch Site: Norwalk 19

Field notes: river was shallow, looked dark in color, and had small organisms in the water



Total Hardness (CaCO3 ppm)	250
Total alkalinity (ppm)	120
pH	7.8
Ammonia (NH3 ppm)	3



This ammonia value was concerning, so Harbor Watch staff followed up: No ammonia was detected at this site at later dates. This test strip may have been faulty, or maybe a short term ammonia increase in the area.

We will continue to monitor this site to see if we can replicate these results.

Indicator bacteria: *E. coli*
7.4 MPN/100mL
PASS

Moore Harbor Watch Site: Sasco 13



Total Hardness (CaCO ₃ ppm)	50
Total alkalinity (ppm)	0
pH	6.8
Ammonia (NH ₃ ppm)	0

Indicator bacteria: *E. coli*
0 MPN/100mL
PASS

Field notes: sampled in a residential area, there is water flowing through storm drains

Oranzo-Root Harbor Watch Site: Rooster 4.7



Total Hardness (CaCO ₃ ppm)	120
Total alkalinity (ppm)	0
pH	6.8
Ammonia (NH ₃ ppm)	0



Indicator bacteria: *E. coli*
197.6 MPN/100mL
PASS

Ponnaganti Harbor Watch Site: Pequonnock 5



Total Hardness (CaCO ₃ ppm)	120
Total alkalinity (ppm)	0
pH	6.8
Ammonia (NH ₃ ppm)	0

Field notes: water is dark and murky

Indicator bacteria: *E. coli*
sample unavailable



Conclusions

Most students had low bacteria concentrations in their samples

↳ This is typical in colder months

Chlorine was not detected at any site

All other parameters fell within expected ranges, and are not concerning at this time

Harbor Watch continues to monitor and track down potential pollution sources in the Rooster River

The Rooster River, Norwalk River, Pequonnock River, and Sasco Brook will all be monitored during the 2023 field season

