

Eaton Water Quality Report



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RIVERS Field Sampling Parameters



Total Phosphorus (TP)

- Valuable nutrient, alongside Nitrogen, for plant development
- High levels indicate elevated decomposition (ie. sewage inputs)

Turbidity

- Clarity of the fluid
- Determined by the amount of suspended particulates

Temperature

- Influences...
 - biological activity
 - plant growth
 - rate of chemical reactions
 - DO levels

pH

- Pure water is 7 (neutral)
- Most water in NH is slightly acidic (~6.5)
- Optimal levels to support aquatic organisms: 6.5 - 8.2

Stream Characteristics

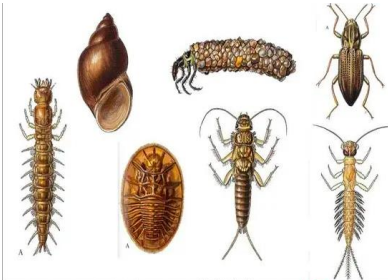
- site changes
- substrate
- general observations

Dissolved Oxygen (DO)

- Measure of how much oxygen is available for aquatic organisms
- Different species require different DO levels

Conductivity

- Ability of water to pass an electrical charge
- Based on the amount of positively (Mg⁺, Ca⁺) or negatively (Cl⁻, NO₃⁻) charged elements



Water Quality Standards & Allowable Limits

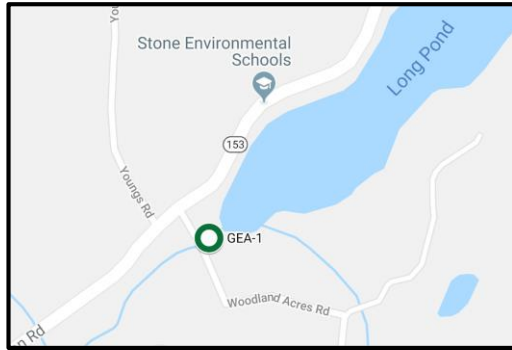
- Turbidity
 - < 10 NTU
- Temperature
 - No standard, but monitored for changes
- pH
 - 6 - 8
 - Preferably closer to 6.5
- Dissolved Oxygen (DO)
 - 6 - 11 mg/L
 - 75% - 120%
- Conductivity
 - < 100 $\mu\text{S}/\text{cm}$
- Total Phosphorus (TP)
 - < 30 $\mu\text{g}/\text{L}$
 - Anything above is considered “nuisance levels”

Based on NHDES and EPA Criteria

Each site monitored will vary slightly due to differences in geology, plant life, site characteristics, etc.

GEA-1 Long Pond Outlet: 2017 - Oct. 2022

- Monitored since 2013
- Parameters collected: pH, turbidity, TP, temperature, conductivity, DO

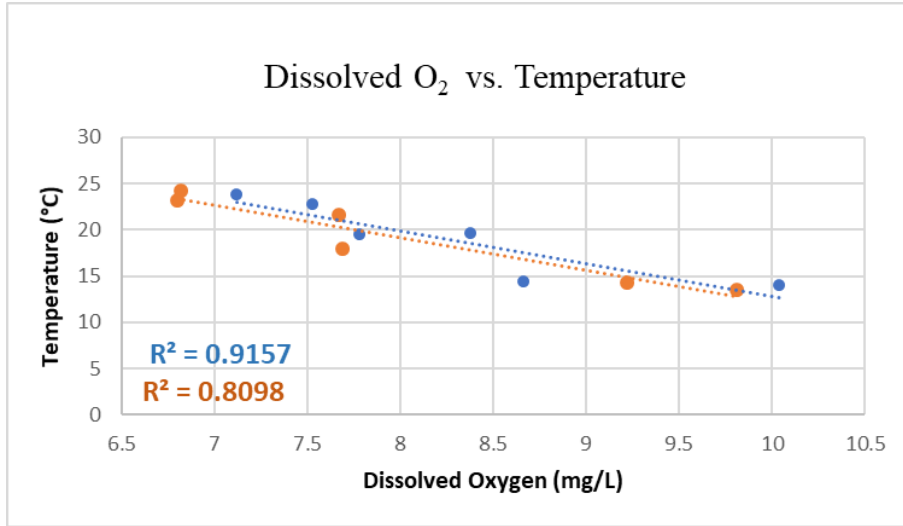


Parameter	Status
pH	Stable
Turbidity	Stable
Total P*	Low amounts = Good quality

** Data from 2017- Oct. 2021*

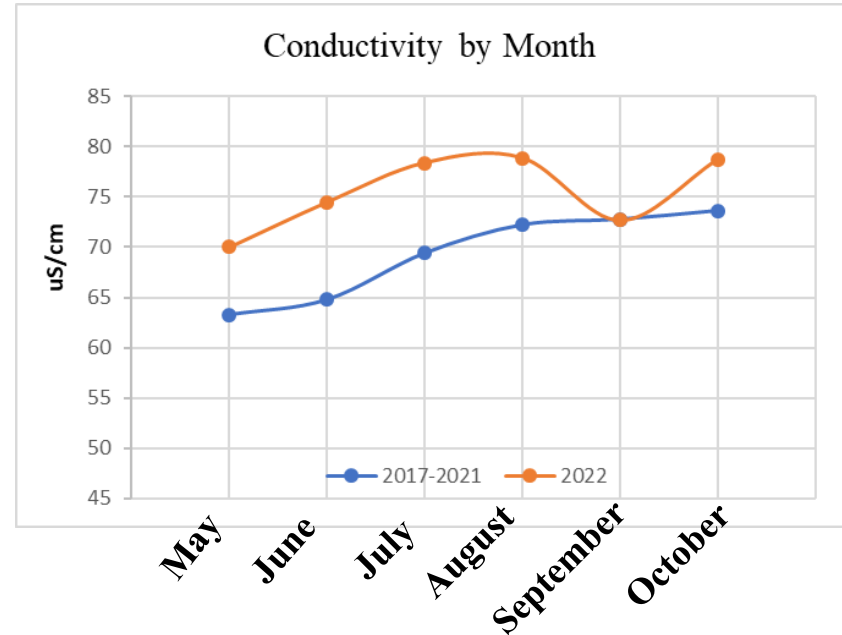
GEA-1 Long Pond Outlet: 2017 - 2022

Dissolved Oxygen (DO) has an inverse relationship with temperature: as temperature increases, DO decreases.

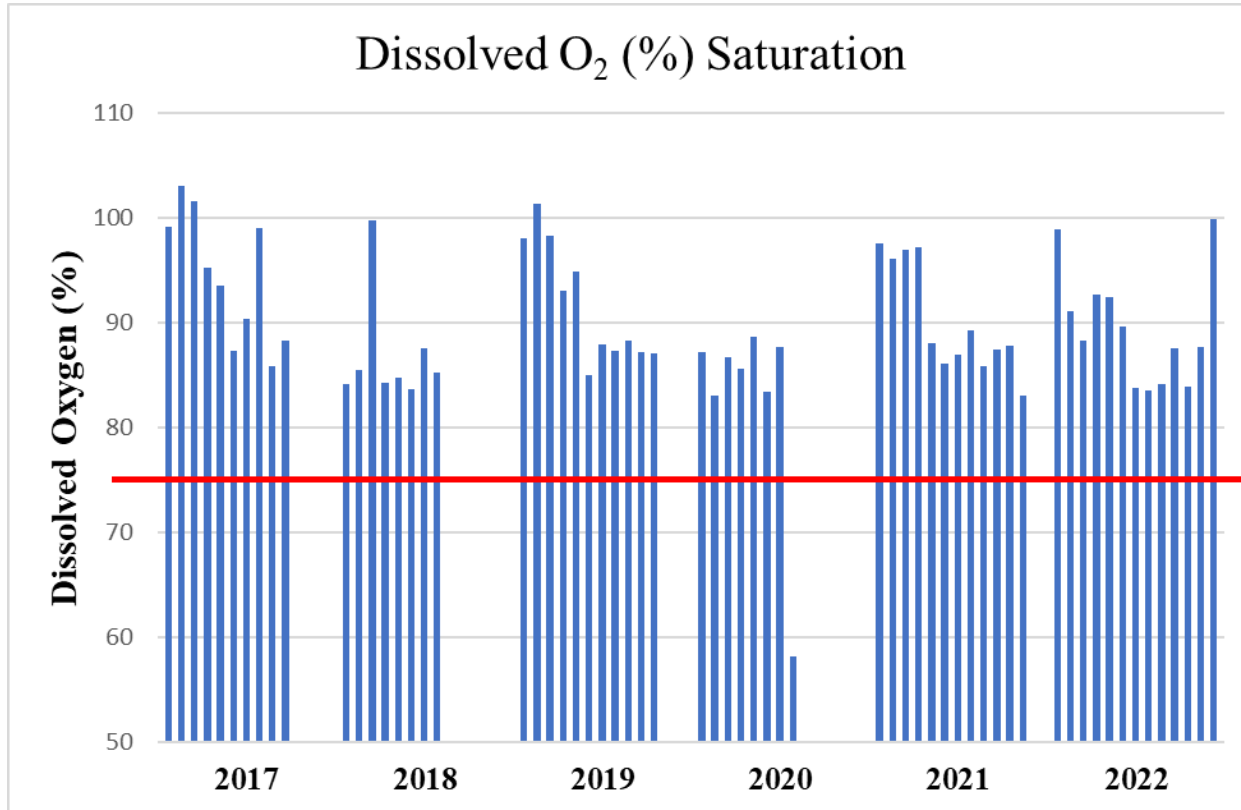


The R² values from 2022 (orange) show a similar trend compared to the compiled 2017-2021 values (blue). This indicates little change in DO levels. All values exceeded the 6.0 mg/L minimum.

Conductivity shows a trend of slightly higher values at GEA-1 in 2022 compared to 2017-2021. Values are below 100 uS/cm, indicating good water quality in respect to salt concentrations.



GEA-1 Long Pond Outlet: 2017 - 2022



New Hampshire State DO standard for Class A waters is above 75% during the months GMCG tests.

Eaton Water Quality Summary

- All tested parameters fell within the acceptable limits for surface waters set by the New Hampshire Department of Environmental Services (NHDES) and/or the Environmental Protection Agency.
 - Conductivity
 - Higher than the 2017-2021 survey period, but still under 100 uS/cm
 - DO
 - Stable, and in good condition
 - pH
 - Stable, but becoming more basic as of 2022
 - Turbidity
 - Stable
 - Total P
 - Stable, but starting to indicate a slow decline

What can Eaton do to protect its waters?

1. Encourage residents to get their septic system checked
2. Minimize salt application on roadways, especially around bodies of water and other sensitive habitats
 - a. Brine is a equally effective and more environmentally friendly alternative
3. Maintain riparian habitats (aka Streamside Management Zones) around bodies of water
4. Use Best Management Practices (BMPs)
 - a. Proper disposal of chemicals and other anthropogenic waste
 - b. Erosion control measures
5. Monitor the effectiveness of culverts in your town, and replace those posing as safety and environmental hazards

Thank You For Your Time



Report respectfully submitted by:
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