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

Stream Characteristics

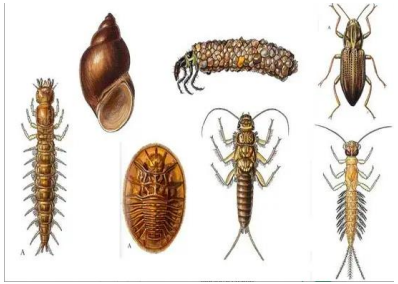
-site changes
-substrate
-general observations

Conductivity

- Ability of water to pass an electrical charge
- Based on the amount of positively (Mg+, Ca+) or negatively (Cl-, NO_3-) charged elements

Temperature

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



Dissolved Oxygen (DO)

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

Water Quality Standards & Allowable Limits

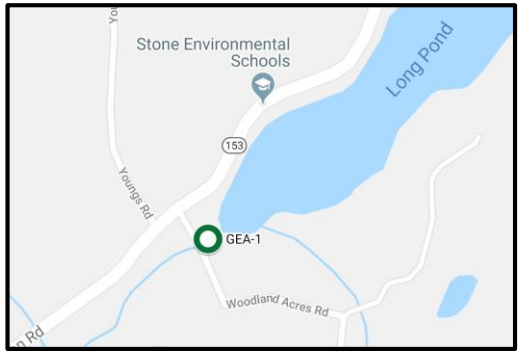
- Turbidity
  - < 10 NTU
- Temperature
  - No standard, but monitored for changes
- pH
  - 6 - 8
  - Preferably closer to 6.5
- Dissolved Oxygen (DO)
  - 6 - 11 mg/L
  - 75% - 120%
- Conductivity
  - < 100 µS/cm
- Total Phosphorus (TP)
  - < 30 µg/L
  - Anything above is considered “nuisance levels”

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: May 2018 - Oct. 2023

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

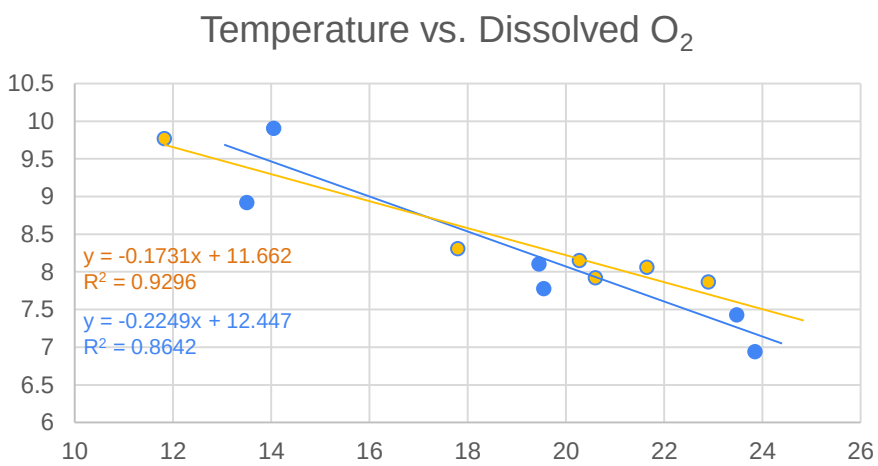


Parameter	Status
Turbidity	Stable - low variation year to year
pH	Stable - low variation year to year
TP	Stable - low variation year to year

** Data from 2018- Oct. 2023*

GEA-1 Long Pond Outlet: 2018 - 2023

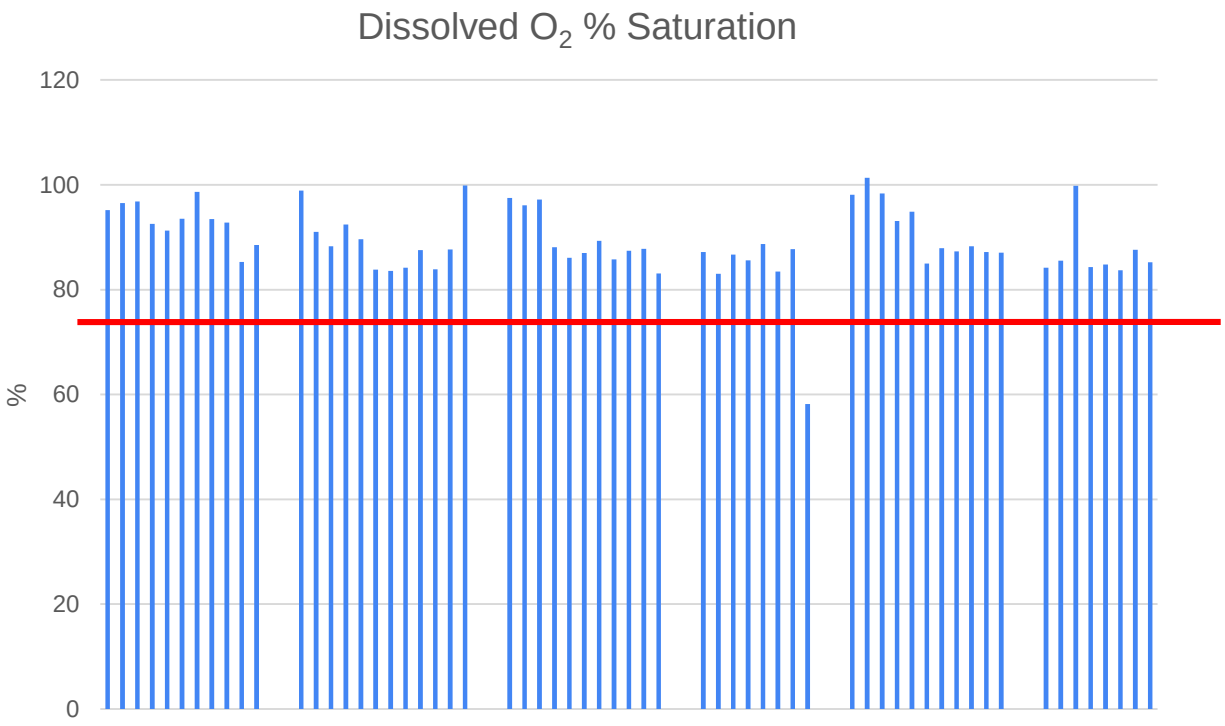
Dissolved Oxygen (DO) has an inverse relationship with temperature: as temperature increases, DO decreases.



Conductivity shows a series of slightly lower values at GEA-1 in 2023 compared to 2018-2022. Values are below 100 uS/cm, indicating good (normal) water quality in respect to salt concentrations.

The R^2 values from 2023 (orange) show a similar set of values compared to the compiled 2018-2022 (blue). This indicates little change in DO levels. All values exceed the 6.0 mg/L minimum.

GEA-1 Long Pond Outlet: 2018 - 2023



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
    - Lower than the 2018-2022 survey period, but overall still under 100 uS/cm
  - DO
    - Stable, and in good condition
  - pH
    - Stable
  - Turbidity
    - Stable
  - Total P
    - Stable

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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