

Environmental Factors that Influence Crayfish Populations

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Introduction

- Eight native species in New York State (Crocker, 1957)
 - One invasive
- Crayfish burrowing
 - Why do they burrow?
- Eutrophic vs. Mesotrophic
- Leaf litter
 - What is it?
- Crayfish growth



Goals

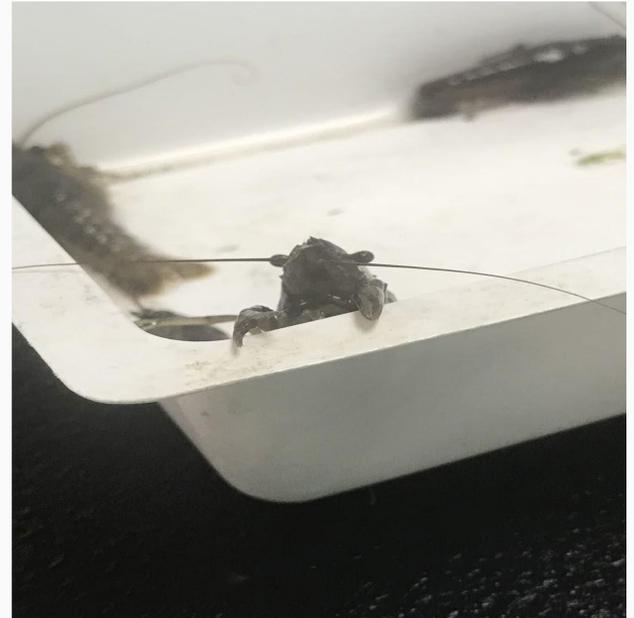
- Take population values of all captured crayfish in all three bodies of water, and see how these aquatic factors have a difference on the crayfish population.
- Develop a way that I can tell the age of the crayfish using the sizes that were measured.

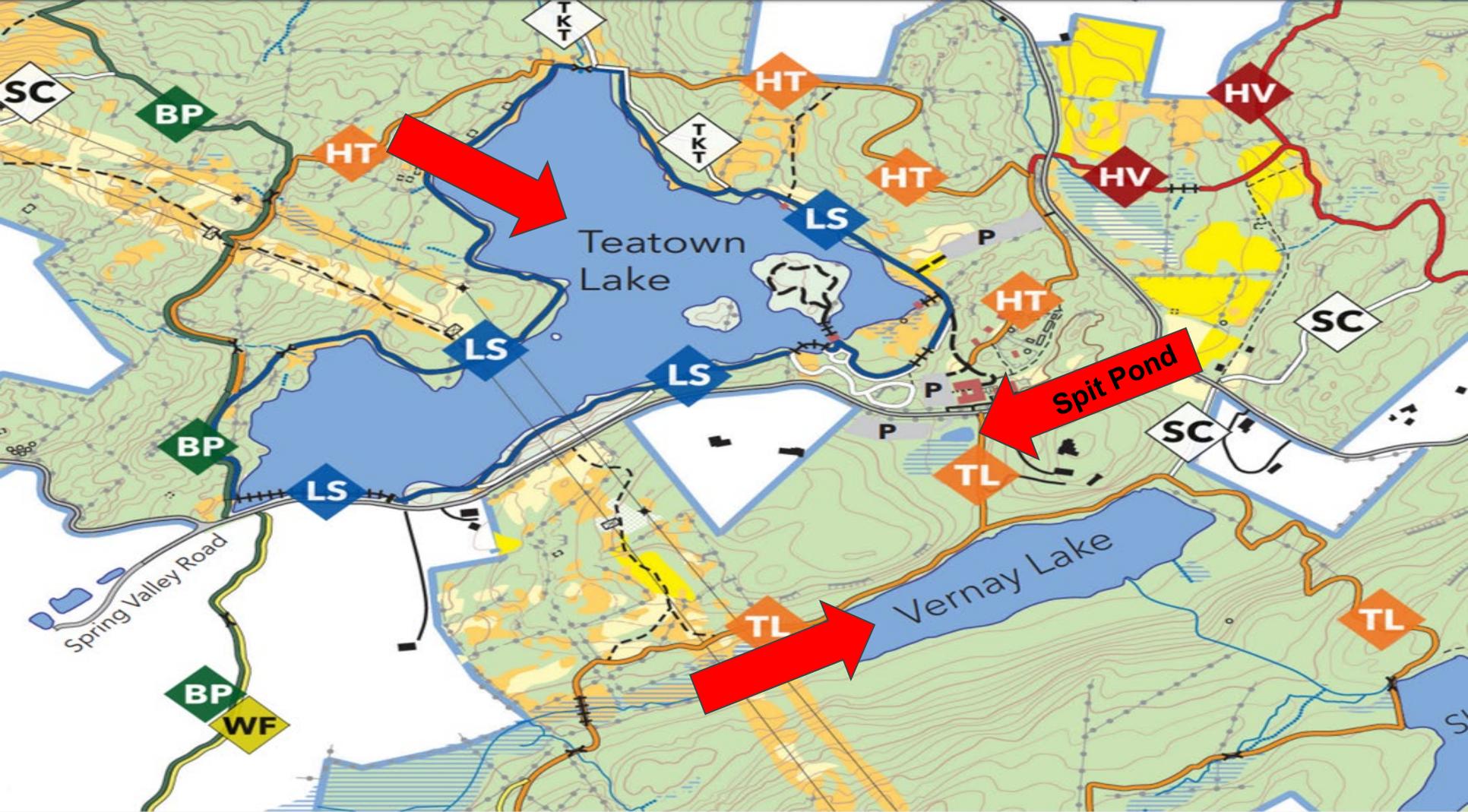
Hypothesis

- Crayfish will prefer the larger lake (Teatown Lake) because:
 - Shallower water near the shores
 - An abundance of food
 - Eutrophication
- The use of a “crayfish trap” will enhance the capture process.
- The age scale will involve three basic ages:
 - Juvenile, Adolescent, Adult

Methods

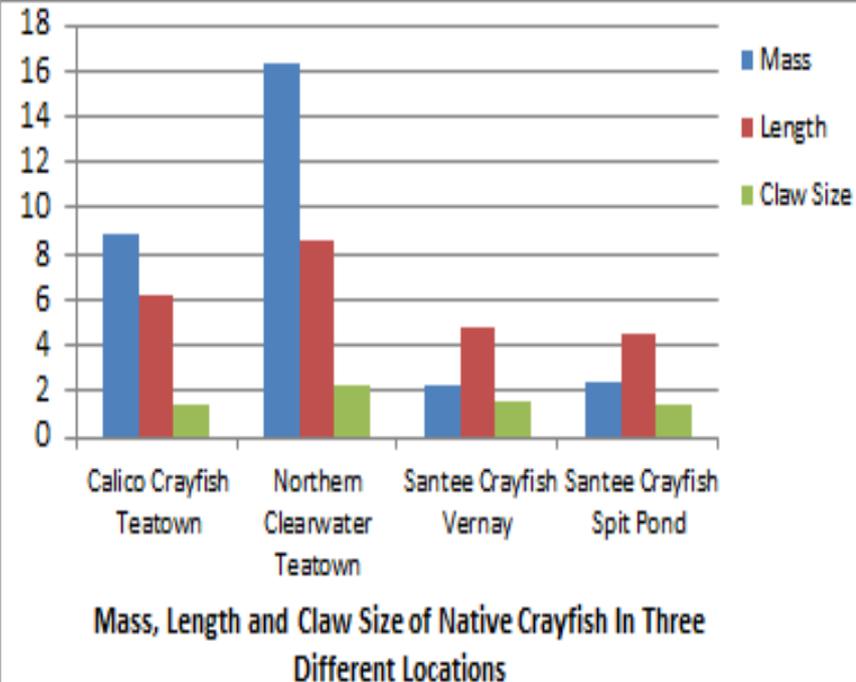
- Three locations at Teatown
 - Vernay, Teatown, Spit Pond
- Daily aquatic measurements
 - Dissolved oxygen, pH, algae, temperature
- Capture method variation
- Controlled environment measuring
 - Mass, length, and claw size were taken





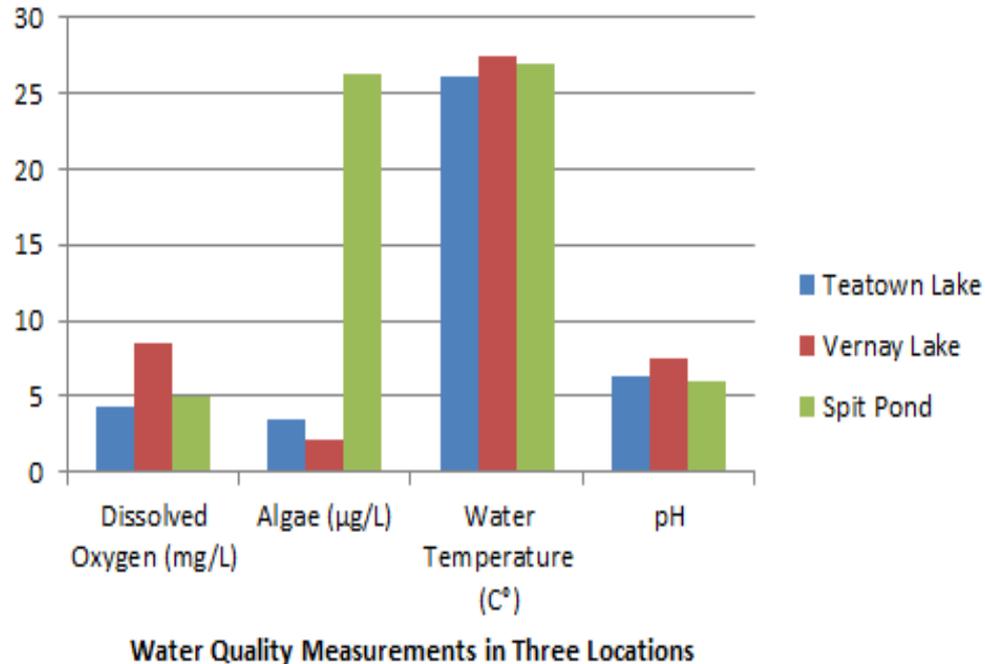
Results

- Vernay and Spit Pond similarities
 - P-value were accepted as equal data in all three categories.
- Larger species found in Teatown Lake
 - Calico and Northern Clearwater Crayfish
- Largest quantity of crayfish were found in Spit Pond.
 - No clear re-capturing of crayfish



Results

- Dissolved oxygen lower at Teatown
 - Eutrophication
- The temperature was really hot most of the time.
 - It rained occasionally as well.
- Preferable conditions are shown in Spit Pond.
 - Temperature and pH were very similar.



Results

- Crayfish cage dilemma
 - Difficulties with the traps
- Vernay Lake
 - Decreased crayfish population
- Weather
- Santee Crayfish abundance



Conclusion/Discussion

- Crayfish preferred Spit Pond and Vernay
 - Instead of Teatown Lake
- Preferable conditions for crayfish would emulate that of Spit Pond
 - Not of Teatown
- Santee Crayfish are smaller in size
 - In comparison to other species
- Could eutrophication have something to do with this data?
- Larger sample size

Acknowledgements

- The People of Teatown
 - Especially Dr. Amy Karpati and Charles Luisi,
- 6-Year Old Emerson
 - For helping me capture crayfish at Vernay, which virtually saved my experiment
- Mrs. Curran
 - For giving me the idea to come to Teatown in order to do my research

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