Wetland Indicator Plants and Water Quality in The Lake and Azalea Pond Suggest Difference in Wetland Status

DSRP Dalton Science Research Program

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NYC URBAN BARCODE PROJECT

What We Asked

Are The Lake and Azalea Pond wetlands?

The Lake

Azalea Pond

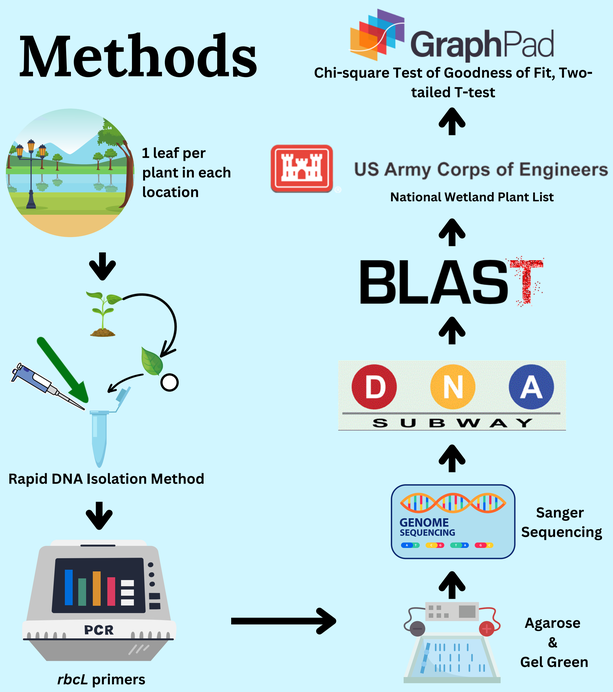
Why We Asked

- Wetlands are **key** to preserve **biodiversity**
- These bodies of water are **understudied**
- **Heavy tourism** may affect wetland status

What We Thought

- Both The Lake and Azalea Pond are probably wetlands **due to their proximity**
- Fewer people visit Azalea Pond per year, perhaps suggesting **more plant diversity**

Methods



Results

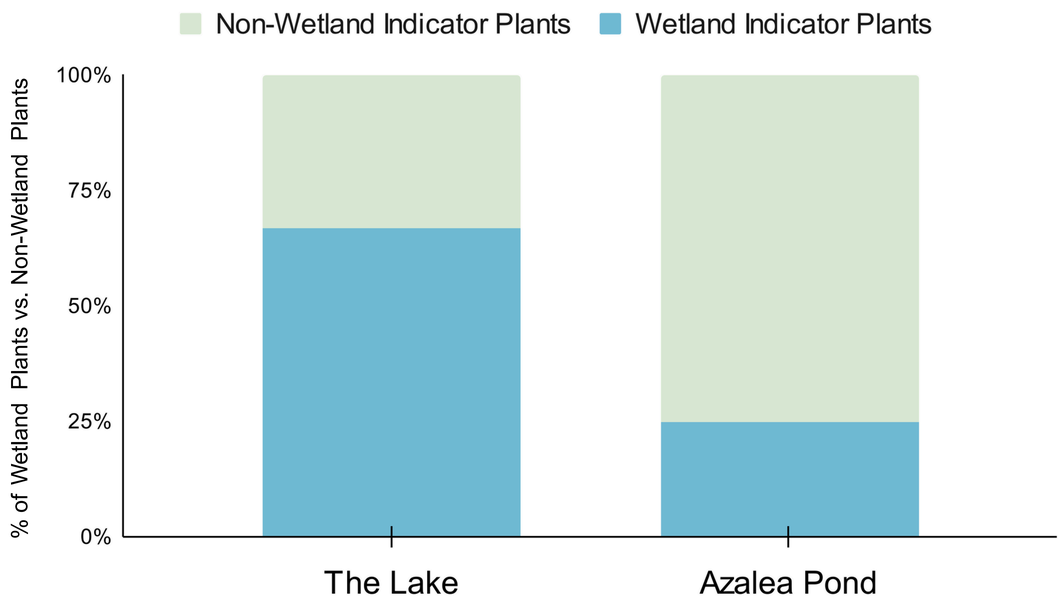


Figure 1. Stacked bar graph showing the **percentage of wetland indicator plants vs. non-wetland indicator plants.**

Water Body	Temperature (˚C)	pH	Nitrite (ppm)	Nitrate (ppm)	Dissolved O2 (mg/L)
The Lake	14.4	7.6	0	3.8	6.6
Azalea Pond	10.06	7.88	0	1.25	11

Figure 2. Table with **water quality averages** from both locations.

Discussion

- Wetland status requires **50% or more of a region's flora to consist of wetland indicator plants**
  - Only the plants from The Lake met this parameter (p-value=0.1967. Chi-square Goodness of Fit)
- We had **very little data on Azalea Pond**, but our data suggests that it is not a wetland
  - This corresponds with Azalea Pond's current classification
  - We could not run a Chi-square test
- The **water quality data likely does not correspond** with each wetland classification
  - The **only variable** with a significant difference was **temperature** (p=0.0003, two-tailed t-test, Bonferroni correction α=0.0125).
  - **No significant differences for all other parameters**

Future Studies

- Studying **abiotic** wetland-determinant **factors** in the same locations to better determine wetland status
  - **hydrology indicators**
  - **hydric soil criteria**
- Sampling at many **different times of the year,** to determine how the seasons change the state of the water

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References