

Introduction

- Project Objective: to find a correlation between ozone levels and plant biodiversity in NYC parks.
- Hypothesis: If a park has a higher ozone level then, there would be less biodiversity because ozone harms plant growth and reproduction.
- We are participants of the Urban Barcoding Project.

Plant Biodiversity in NYC

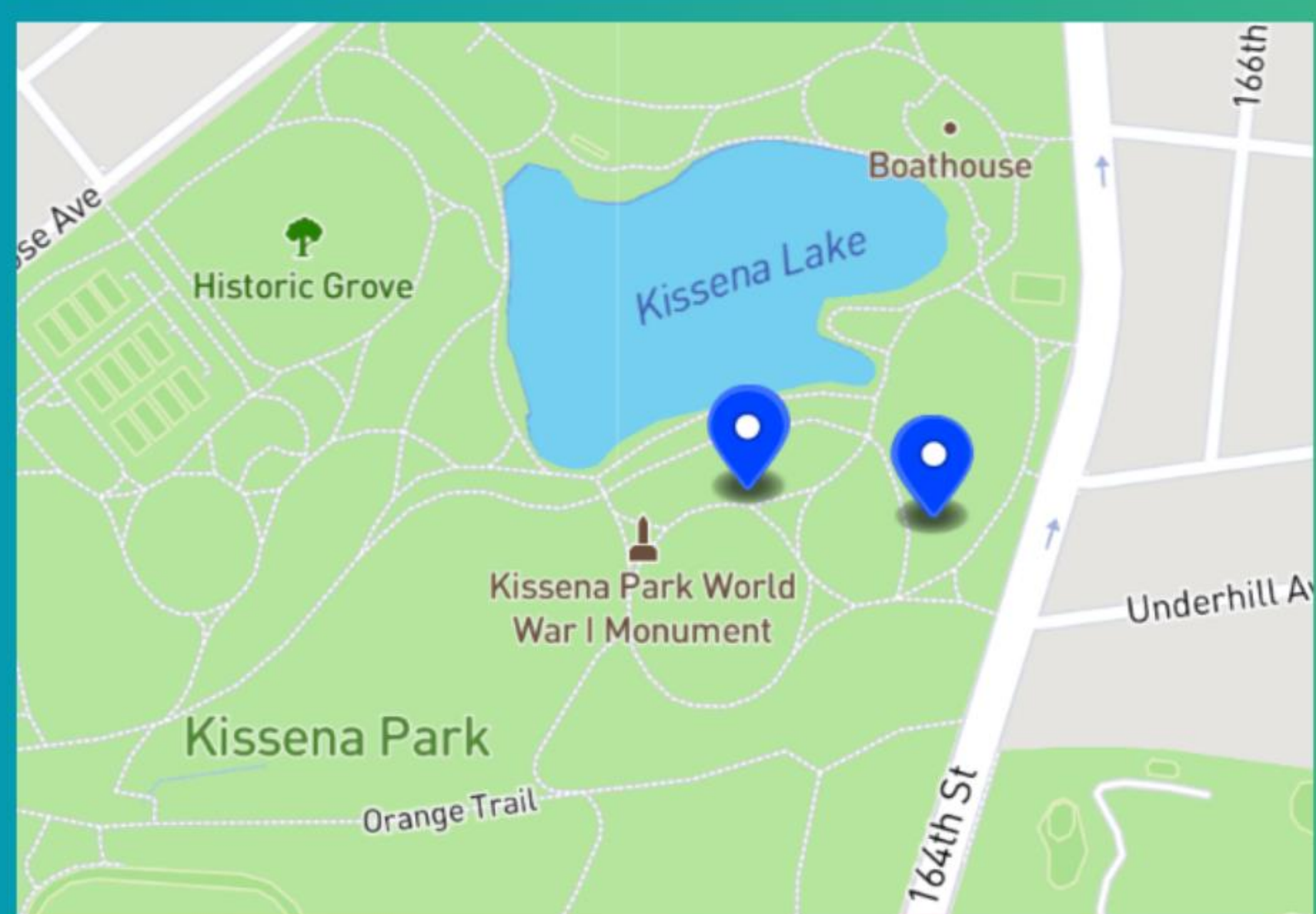
How do ozone levels impact plant biodiversity in parks across NYC?
Chloe Chin, Unica Columna, and Sonia Tarnawski

Results

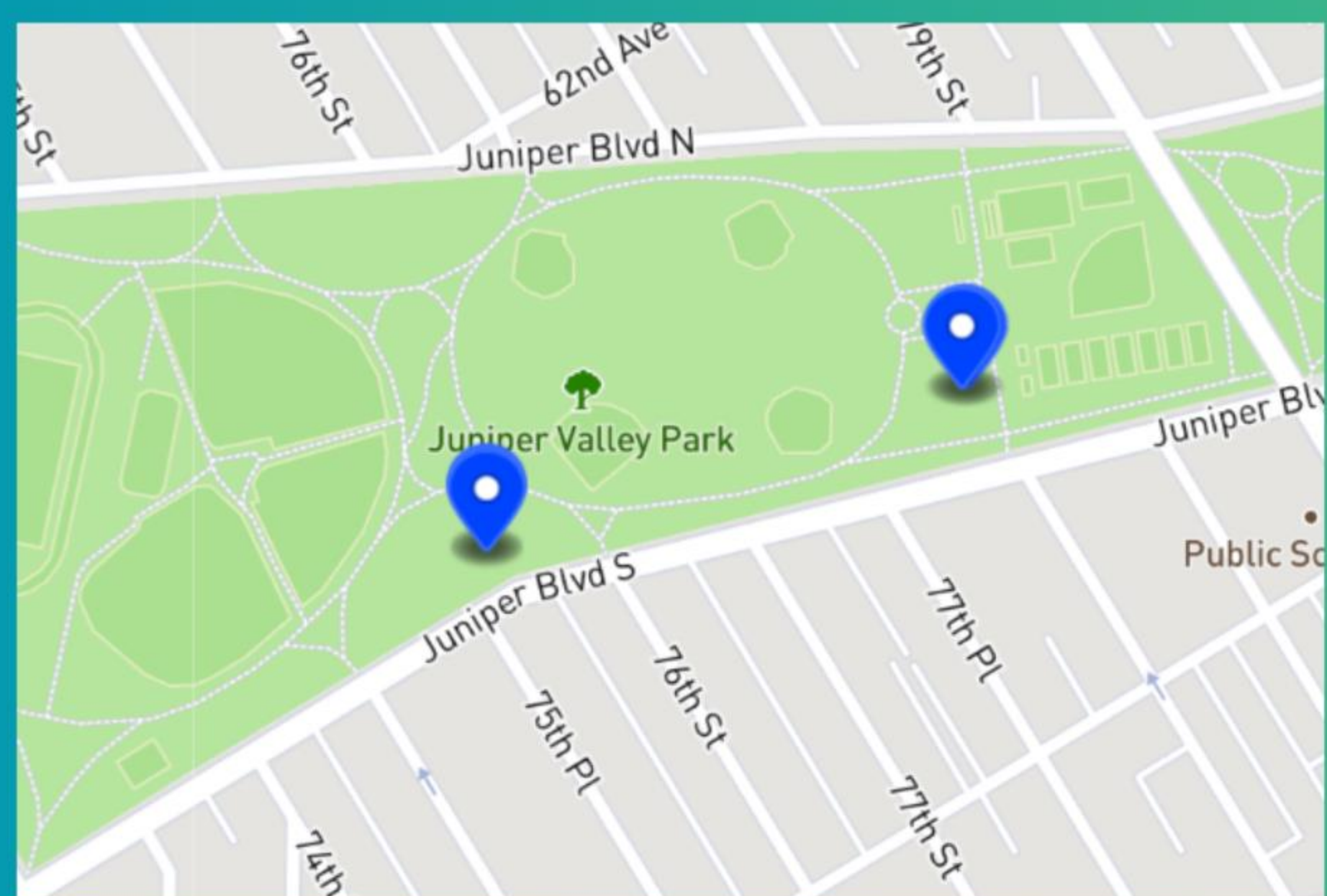
- From the chromatograms it appears that Juniper Valley Park less G and T nucleotides
- There is less variety of nucleotides in Juniper Valley Park compared to Kissena and Central Park
- The ozone test strips for Juniper Valley Park indicated there was more ozone in the atmosphere compared to the other parks.

Figures

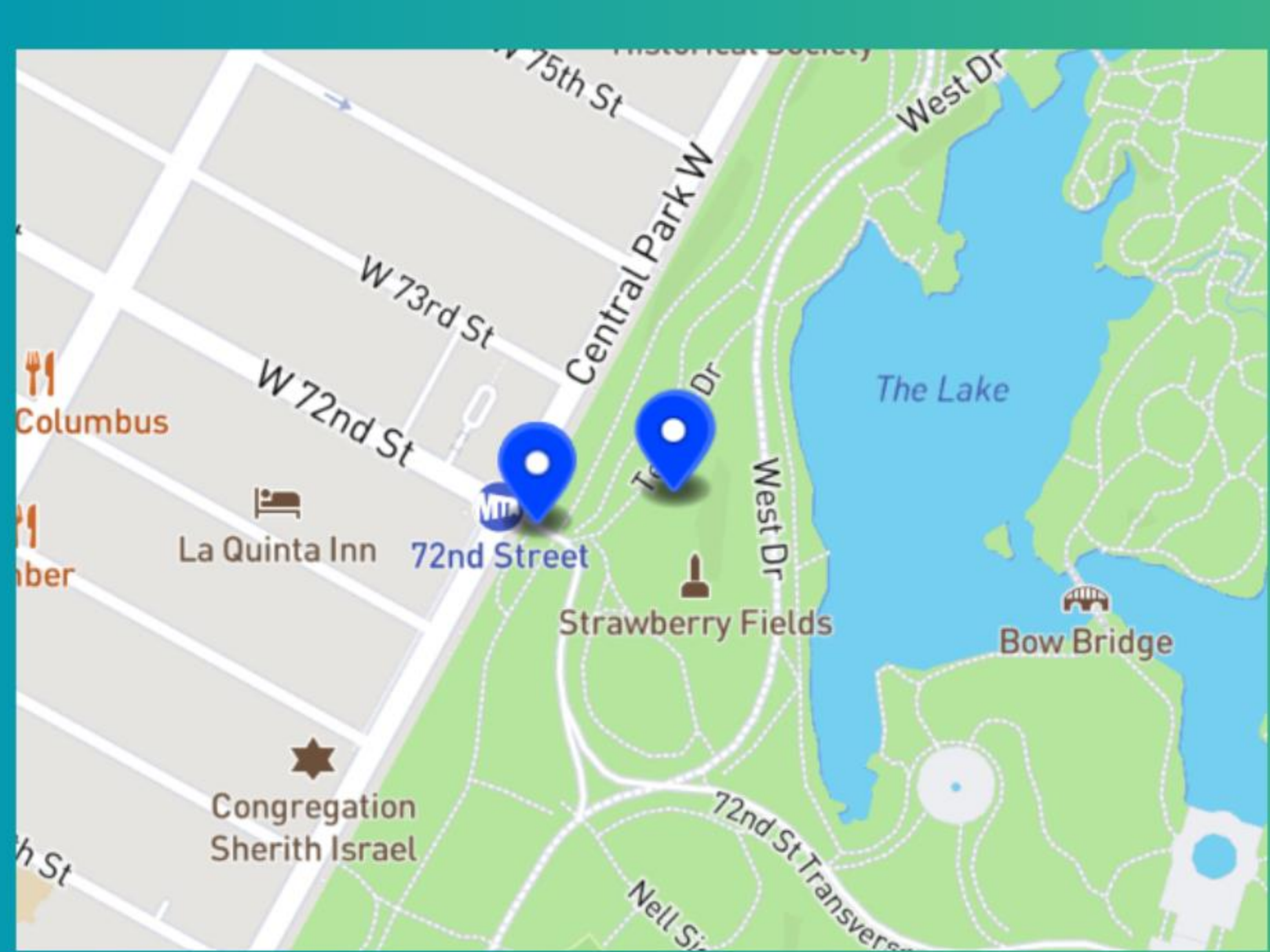
Kissena Park



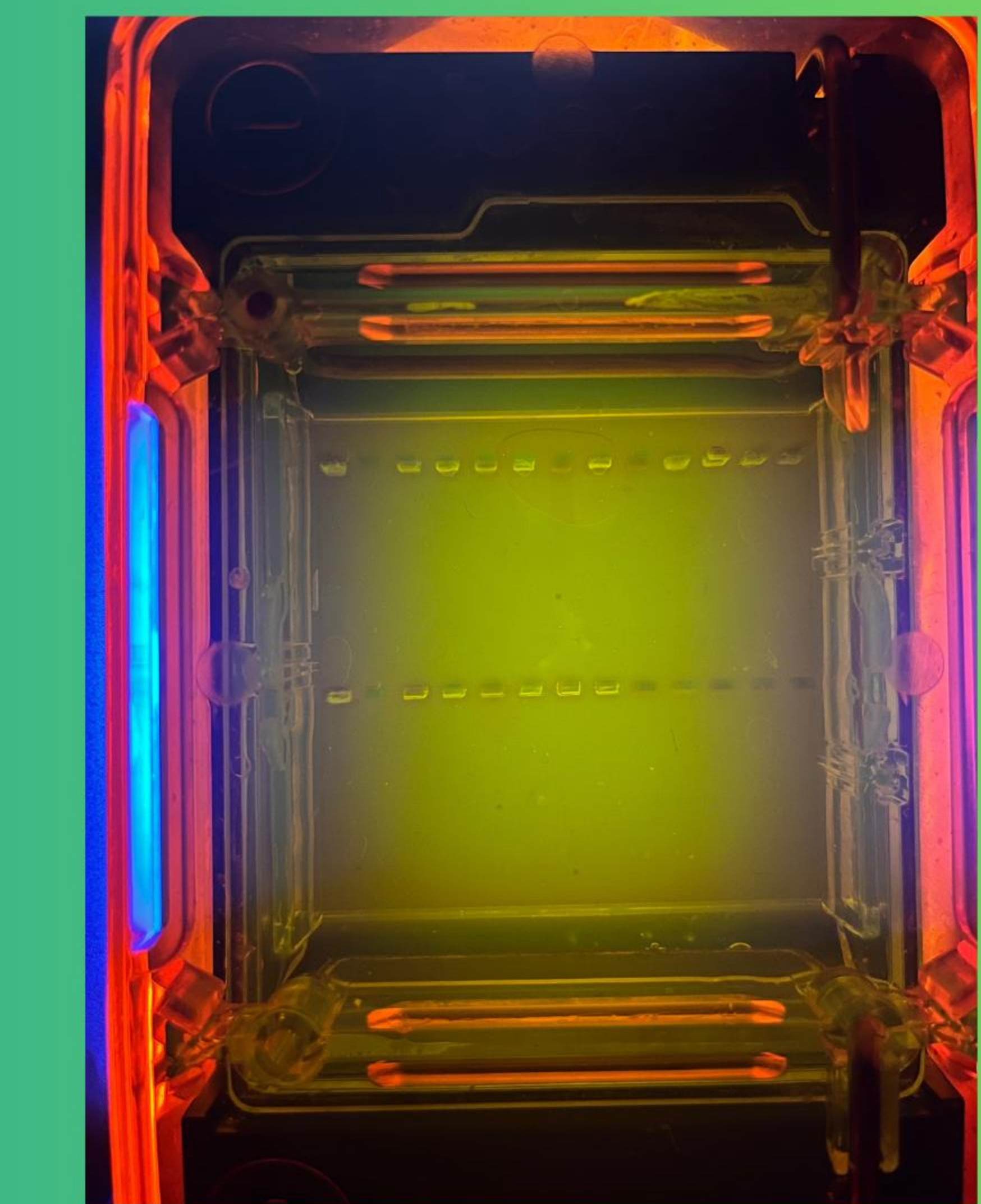
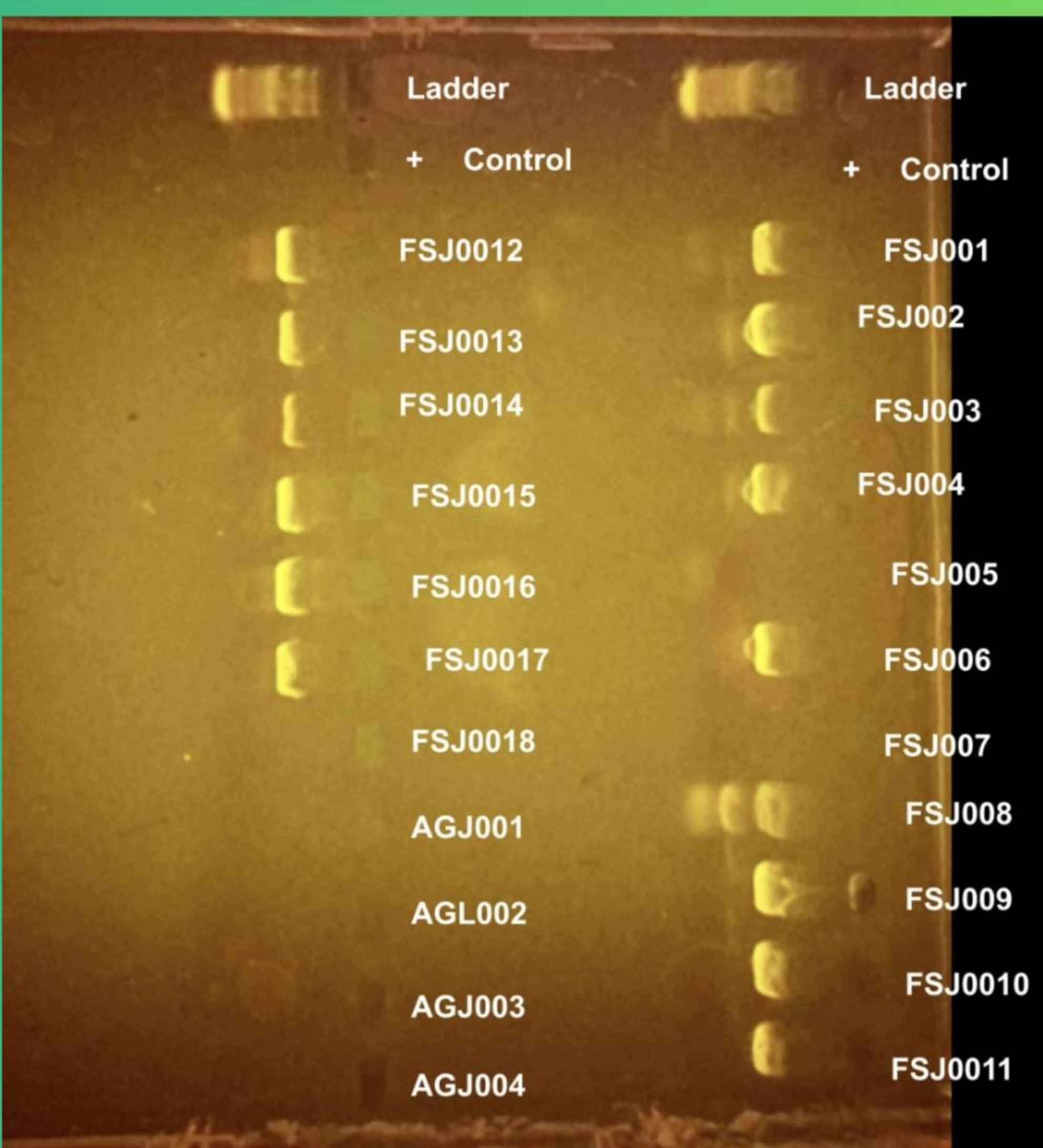
Juniper Valley Park



Central Park



Gel Electrophoresis with Sample Numbers



Gel Electrophoresis

Methods

- We collected the plant samples in one day from Juniper Valley Park, Kissena Park, and Central Park
- During the month we conducted our experiment using the materials provided by the Urban Barcoding Project.
- We went through the processes of DNA Extraction, PCR, and Gel Electrophoresis
- The successful samples were packaged and shipped to be sequenced.

Discussion

- The result somewhat supports our hypothesis as the park with more ozone had less diverse plants.
- During the DNA extraction, PCR, and gel electrophoresis there was a variety of things that could have affected the outcome of the experiment.
- If the experiment was conducted with a bigger sample size and difference in ozone levels between environments there potentially could be a more noticeable pattern.