Introduction

The secondary sewage field research program (SSFRP) has spent the last 15 years in
studying the Hudson Islands located on the north bank of the Hudson River. For the past 4
years, the hydraulics team has conducted research from different areas. Central Park, RiverHill
Park, Inwood Hill Park, Dyckman Park, Prospect Park, as well as samples from each of the
Boroughs, was chosen for the study. By the purpose of the researchers’ Fitting method, they
have decided to test the water that comes from the Continental sewer outflow (CSO) at each
of the locations. We did this by collecting data on, temperature, conductivity, and
pH, were all done in the field by testing kits. This study shows the significance of clean
water within our cities, whether that be our parks or our homes, and how an undisturbed flow of
these water systems is crucial to our health.

Methods/Materials

Each week we went out to a new park or waterway within the city. So collecting data varied each time. For the
most part, once we got to the parks and found an accessible entry into the water way, we began to take tests using
the various testing kits. For nitrate, we tested using the HI-1141B PH Neutral pH Comparator Kit (figure 1). For testing
nitrate, we used the HI93141B Aquario Phosphate (Pb(NO3)2) Comparator Kit (figure 2). Conductivity was
measured by using conductivity meter, 836-1 Digital Conductivity TDS Meter (fig d). We
measured conductivity by using conductivity

Results

We collected various amounts of water for our sampling including, tap water, fountain, and river water. Our pH values varied to
the most part for water which is located near our sampling sites. Figure 1, shows the average being around 7.5, taken from Prospect Park. The
lowest pH reading for the sites was Inwood Park, at 6.5, but for the most part the pH levels exceeded 7. For Salinity most variations were for the places near or direct
access to the ocean, that being RiverHill Park where the salinity fraction took up about 25% of the sites. And the lowest being found in
Midtown Manhattan, at about 13%. It is to be noted that salt water never exceeded our freshwater percentages. Nitrate had small variation through the samples, it was either closer to the highest amount, which was 350 ppm in Inwood Hill Park, or closer to the
lowest amount which was 0 ppm in the Central Park ponds. For our samples, once the solution was fully acclimated, we combined
the solution against the comparator and came to a consensus of what we think the value was to avoid bias. Many of the samples ranged from
about 2 to 3 ppm, although there was a considerable amount of ranging from 2 to 3 ppm. Figure 3 is showing the relation between phosphate levels
and the nitrate (blue). Fig. 3 is showing the relation between Atlantic fraction (red) and Freshwater fraction (blue).

Discussion

For the basic test we use the Hudson Islands located on the north bank of the
Hudson River. For the past 4 years, the hydraulics team has conducted research from different
areas. Central Park, RiverHill Park, Inwood Hill Park, Dyckman Park, Prospect Park, as well as samples from each of the
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Figure 1: Location of sample Sites

Figure 2: 3 percent of Atlantic fraction (F) and Fresh Water fraction (R) within the different locations.

Figure 3: Atlantic Fraction and Freshwater Fraction at different locations.

Figure 4: Dyckman Park collection site for sample DM 4

Figure 5: Riverside Park collection site for RP 6

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