Tom Perry Nyack High School APES Class  
Latitude 40°05.243’N, Longitude 73°54.988 ’W

**Location:** Nyack Park where Nyack Brook feeds in  
**Area:** Open and grassy, has a parking lot, used for picnics, fishing  
**Surrounding Land Use:** 100% park  
**Sampling Site:** beach, banks altered, riprap on shoreline, bulkhead  
**Plants in area:** no water plants in area  
**Water depth:** varied  
**River Bottom** – sandy/muddy bottom, water calm

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Time</th>
<th>Reading 1</th>
<th>Reading 2</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Temperature</td>
<td>9:30 AM</td>
<td>18°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wind Speed</td>
<td>1 knot</td>
<td>South</td>
<td>Light breeze</td>
<td></td>
</tr>
<tr>
<td>Cloud Cover</td>
<td></td>
<td>overcast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weather today</td>
<td></td>
<td>drizzle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weather recently</td>
<td></td>
<td>Heavy rain last night</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Water Temperature</strong></td>
<td>9:30 AM</td>
<td>18.2°C ramp</td>
<td>16.4 °C top</td>
<td>17.9 °C bottom</td>
</tr>
<tr>
<td><strong>Turbidity</strong></td>
<td>9:30 AM</td>
<td>30.25 cm</td>
<td>Old pier</td>
<td>secchi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50.0 cm</td>
<td>Boat launching ramp</td>
<td></td>
</tr>
<tr>
<td><strong>Chlorophyll</strong></td>
<td>9:30 AM</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Chemical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9:30 AM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>---------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td><strong>DO</strong></td>
<td>9:30 AM</td>
<td>6.8 mg/L</td>
<td>18.2°C</td>
<td>70%</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>9:30 AM</td>
<td>7.0</td>
<td>pH paper</td>
<td></td>
</tr>
<tr>
<td>Phosphate</td>
<td>9:30 Am</td>
<td>&lt;1.0 mg/L ramp</td>
<td>&lt;1.0 mg/L top</td>
<td>&lt;1.0 mg/L bottom</td>
</tr>
<tr>
<td>Nitrate</td>
<td>9:30 AM</td>
<td>0.15 mg/L (ramp)</td>
<td>0.04 mg/L (top)</td>
<td>0.02 mg/L (bottom)</td>
</tr>
<tr>
<td>Alkalinity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salinity (meter)</td>
<td>9:30 AM</td>
<td>3.6 ppt ramp</td>
<td>0.4 ppt top</td>
<td>1.6 ppt bottom</td>
</tr>
</tbody>
</table>

**Fish Catch @ mouth of Nyack Brook & Hudson River**

<table>
<thead>
<tr>
<th><strong>Number Caught</strong></th>
<th><strong>Species</strong></th>
<th><strong>CPUE</strong></th>
<th><strong>Seine</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Atlantic Silversides</td>
<td>Menidia menidia</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Banded Killifish</td>
<td>Fundulus diaphanus</td>
<td></td>
</tr>
</tbody>
</table>

**Other Catch**

| **Glass Shrimp** |

**Tides**

<table>
<thead>
<tr>
<th>9:30 AM</th>
<th>20 cm depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 AM</td>
<td>29 cm rising</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>50 cm rising</td>
</tr>
<tr>
<td>11:00 Am</td>
<td>65 cm rising</td>
</tr>
</tbody>
</table>

**Currents**

**Sediment Cores**

| 14 cm core | 7 cm Top layer Light & liquidy | 1 cm Second layer dark brown and sandy | 5.5 cm 3rd layer most carbonated, black |

**Mud description**

Very carbonated, dark, decomposing, liquidy. Came out easily

**Sand Description**

Very compact, rocky, big chunks of gravel, difficult to get out, many air bubbles

**Other Items STRATIFICATION STUDY**

Did a transect study from Nyack Brook out to the Hudson River. Found a stratification in the “Zone of Mixing” – an estuary within an estuary. Found colder fresher water moving toward the river on the surface (See results above), with warmer saltier water pushing in along the bottom.

**HEADING EAST FROM THE BROOK OVER TOP**

16.6 °C and 16.8 °C temp.
0.5 ppt and 0.5 ppt salinity

**HEADING WEST FROM THE HUDSON BELOW**

17.9 °C and 17.2 °C temp.
2.1 ppt and 2.2 ppt salinity
<table>
<thead>
<tr>
<th>Distance</th>
<th>Salinity</th>
<th>Temp °C</th>
<th>DO mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.4</td>
<td>16.4</td>
<td>8.25</td>
</tr>
<tr>
<td>10</td>
<td>0.4</td>
<td>16.4</td>
<td>7.9</td>
</tr>
<tr>
<td>20</td>
<td>0.5</td>
<td>16.4</td>
<td>7.1</td>
</tr>
<tr>
<td>30</td>
<td>0.5</td>
<td>16.4</td>
<td>6.8</td>
</tr>
<tr>
<td>40</td>
<td>0.5</td>
<td>16.4</td>
<td>6.8</td>
</tr>
<tr>
<td>50</td>
<td>0.5</td>
<td>16.4</td>
<td>7.15</td>
</tr>
<tr>
<td>60</td>
<td>0.5</td>
<td>16.5</td>
<td>7.7</td>
</tr>
<tr>
<td>70</td>
<td>0.5</td>
<td>16.6</td>
<td>7.3</td>
</tr>
<tr>
<td>80</td>
<td>0.6</td>
<td>17.1</td>
<td>7.5</td>
</tr>
<tr>
<td>130</td>
<td>7.6</td>
<td>17.9</td>
<td>8.2</td>
</tr>
<tr>
<td>RAMP</td>
<td>3.6</td>
<td>18.2</td>
<td>6.8</td>
</tr>
</tbody>
</table>