**Day in the Life of the Hudson River 10/16/14 Data**

**(Salt Front RM 69.5)**

**RIVER MILE 118**

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**40 students 11th -12th grade, 7 adult helpers**

**Latitude – N 42.253830 Latitude – W -73.800476**

**Location:** Hudson River Waterfront Park, City of Hudson, Columbia County

**Area:** 1st dock in thewaterfront propertyused for fishing, marina, picnics, large grassy area, just north of the old quarry site, has a parking lot

**Surrounding Land Use:** 60% urban/residential, 20 % forested, 20% Industrial/Commercial

**Sampling Site:** waterfront with banks altered to include wooden & concrete bulkheads and large riprap on shoreline,

**Plants in area**: 15% water chestnut

**Water depth –** ~ 1 foot

**River Bottom** – muddy, rocky

**Plants in area –** Grass, Water Chestnut, trees

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | ***Time*** | ***Reading 1*** | ***Reading 2*** | ***Comments*** |
| ***Physical***  |   |  |  |  |
| Air Temperature | 9:20 AM9:28 AM 9:34 AM | 24.4°C25.524.3 | 75.9°F7876 |  |
|  | 9:46 AM10:00 AM10:15 AM | 23.4°C23.524 | 75.2°F74.375.2 |  |
|  | 10:30 AM10:37AM | 24°C23.8 | 75.2°F74 |  |
|  | 12:05 PM12:15 PM12:22 PM | 24.7 °C23.523.2 | 76.46°F74.373.7 |  |
|  | 12:37 PM12:4112:50  | 23°C23.825.7 | 73.4 °F74.878.3 |  |
| Cloud Cover | 9:22 AM>75% | 9:44 AM>75% | 10:35 AM >75% | 12:50 PM>75% |
| Wind – wind picked up during day | **Time**9:21 AM9:44 AM10:30 AM12:13 PM12:50 PM | **MPH**0.4; 1.1; 1.3 m/s2.0 m/s3.1 m/s4.6 m/s3.1 m/s | **Average**0.7 m/s | **Direction**WSESENE? |
| Weather today | 9:23 AM Rain | 9:44 AM Rain | 12:00 PM Rain |  |
| Weather recently | Rained/pour all night -  | Rainy & Windy | Last 3 days humid |  |
| Water  | calm |  |  |  |
| ***Water Temperature –*** | 9:54 AM1 m depth | 19°C 1919 |  | 19°C  |
| Taken in full sun, water still  | 10:10 AM1 m depth  | 20 °C 2020 |  | 20°C  |
| Full sun | 10:21AM1 m depth  | 20 °C 2020 |  | 20°C  |
| In shade | 10:36 AM1 m  | 17.1 °C  | 62.78 °F | 17.1°C  |
| In shade | 10:46 AM1 m. | 19 °C   | 66.20 °F | 19°C |
| In shade | 10:56 AM1 m | 19.1°C  | 66.38°F | 19.1°C |
|  | 12:10 PM3 m | 19.2 °C 19.2  | 66 °F | 19.2°C |
|  | 12:20 PM2 m | 19.8°C 19.6 | 67.6 °F67.3 | 19.7°C  |
|  | 12:30 PM1.8 m | 19.7°C 19.4 | 67.4°F 66.9 | 19.55°C  |
|  | 12:40 PM 3 m | 19 °C  |  |  |
|  | 12:50 PM 1.5 m | 20°C 19.519.75 |  |  |
|  | 1:00 PM 1m  | 19.5°C 19.5 |  |  |
| ***Turbidity – secchi–***  | 9:23 AM | 114 cm |  | Yes the water was very turbid |
|  | 9:45 AM | 100 cm |  |  |
|  | 10:30 AM | 100 cm |  |  |
|  | 11:00 AM | 100 cm |  | Chocolate milk look |
|  | 12:48PM | 417 cm |  | Water clear and yellowish |
| ***Chlorophyll*** | 9:23 AM | 0.1 | 10:35 AM | 0 |
|  | 12:00 PM | 0 |  |  |
| ***Chemical*** | **Time** | **Temp** | **DO**  | **% sat.** |
| DO | 9:20 AM9:34 AM | 17.6 C17.5 C | 8.09.3 | 83%95% |
|  | 9:48 AM10:01 AM10:16 AM | 17.7°C17.7°C17.8°C | 7.1 ppm7.37.2 | 74 %76 %78 % |
|  | 10:31 AM10:4110:51 | 17.7 °C17.817.8 | 8.6 ppm7.37.2 | 87%75%76% |
| ? | 10:50 AM11:00 AM11:12 AM | 17.617.117.1 | 10.5 ppm13.3\*11.6 | 108%135105 |
| \*air bubble | 12:05 PM12:1512:25 | 17.8 °C17.717.7 | 9.6 ppm8.114.4 | 100%85151 \*expect airbubble |
| \*air bubble | 12:35 PM12:4512:55 | 17.9°C17.917.9 | 13 ppm\*12.115.3\* | 138%122152 \*expect airbubble |
| pH – ***probe was broken*** |  |  |  |  |
| **Salinity**  | **Time** | **Total Salinity/conductivity?? But**  |  | **Average** |
| ***Meter - conductivity*** | 9:33 AM | 34.0 µs/cm28.128.1 |  | 30.1 µs/cm |
|  | 10:28 AM10:3110:3510:44 | 29 µs/cm292828 |  | 28.5 µs/cm |
|  | 11:00 AM | 28.7 µs/cm29.529.7 |  | 29.3 µs/cm |
|  | 12:0512:1412:23 | 29 µs/cm 2928 |  | 28.9 µs/cm |
|  | 12:48 PM12:57 PM | 28.6 µs/cm29.5 |  | 29.1 µs/cm |
| **Conductivity Meter** | 9:30 AM9:33 AM10:38 PM12:00 PM12:40 PM | 29.05 us/cm30 us/cm28.5 us/cm29.3 us/cm28.6 us/cm |  |  |
| ***Fish Catch***Seine net 20 feet X 4 ft., 1.4 inch mesh  | ***Time*** | ***Species*** | ***number*** | ***Size of largest*** |
| ***Diversity 1******Total Catch 2*** | 9:30 AM | *American Shad*  | *2* | small |
| ***Diversity 0******Total Catch 0*** | 10:15 AM  | *0* | *0* |  |
| ***Diversity 0******Total Catch 0*** | 11:00 AM | *0* |  |  |
| ***Diversity 1******Total Catch 1*** | 12:00 PM | *American Shad* | *1* | 4 inch |
| ***Diversity 1******Total Catch 22*** | 1:00 PM | *American Shad* | *22* | 3.5 inches |
|  | **For the Day**  | ***Total Diversity 1*** | ***Total Catch 25*** |  |
| ***Macro invertebrates*** |  |  |  |  |
| Rotation #19:30 AM | Rotation #210:15 AM | Rotation #311:00 AM | Rotations #4 12:00 PM\*\* | Rotation #51:00 PM |
| Unknown protist | Algae 20+Red algae | Algae 20 +Eucopepoda 3Daphnia 1 | Daphnia (2)2 copepods | Stylaria (worm)DiatomsScenedusmusScud |
| ***Tides*** | 9:15 AM9:24 AM9:32 AM9:38 AM | 45cm47.5 cm49 cm50 cm | SetRisingRisingRising | *Tidestick Set*  |
|  | 9:45 AM9:50 AM9:55 AM10:00 AM10:05AM10:10 AM10:15 AM | 52 cm54 cm56 cm58 cm57 cm56 cm55cm  | RisingRisingRisingRisingFalling (maybe waves action) |  |
|  | 10:30 AM10:37 AM10:45 AM10:53 AM10:58 AM11:03 AM11:08 AM  | 60cm60 cm61 cm61 cm59 cm60 cm60 cm | Appears to be holding steady for this period |  |
|  | 12:05 PM12:12 PM12:18 PM12:26 PM12:30 PM | 42 cm42 cm39 cm37 cm34 cm | Falling |  |
|  | 12:40 PM12:25 PM12:50 PM12:56 PM12:59 PM | 35 cm33 cm29 cm31 cm27 cm | Falling |  |
| ***Currents***  | **Time** | **Cm/30 secs** | **Cm/sec** | **Kts - E/F/S** |
|  | 9:19 AM. |  | 19.5 | 0.37  |
|  | 9:26 AM |  | 11.7 | 0.23  |
|  | 9:32 AM |  | 18.28 | 0.35  |
|  | 9:49 AM |  | 32.3 | 0.6  |
|  | 9:56 AM |  | 28.4 | 0.5  |
|  | 10:15 AM |  | 7.3 | 0.14  |
|  | 10:30 AM |  | 7.5 | 0.197 |
|  | 10:37 AM |  | 8.1 | 0.158 |
|  | 10:45 AM |  | 4.2 | 0.082 |
|  | 10:53 AM |  | 2.79 | 0.059  |
|  | 12:09 PM |  | 8.12 | 0.159 |
|  | 12:23 PM |  | 5.46 | 0.107 |
|  | 12:29 PM |  | 12.2 | 0.239 |
|  | 12:30 PM |  | 18.2 | 0.36  |
|  | 12:40 PM |  | 20.7 | 0.402– Flood  |
|  | 12:47PM |  | 24 | 0.461 – Flood |
|  | 12:51 PM |  | 11.7 | 0.227 Flood |
|  | 12:57PM |  | 6.7 | 0.130 - Flood |
| ***Core Sample*** | ***Length/Grain size/H2S*** | ***Abundant*** | ***Common*** | ***Rare*** |
| 9:25 AM | 4-5 inches – oil and oxidized top | Clay, Mud, Sand, Gravel, Pebbles, macroinvert, brick, slag, living things | Wood, Shells | Leaves, coal, zebra mussels |
| 10:45 AM | No length - Oxidized top | Clay, Mud |  | coal |
| 12:10 PM | 2 inches | Mud | Gravel, Pebbles | Brick, Living Vegetation |
| 12:16 PM | None listed | Clay |  | Mud, gravel, pebbles |
| 12:40 PM | None listed | Clay | Mud | pebbles |
| ***Traffic - commercial*** | ***Time***  | ***Name*** | ***Color*** | ***Direction/Loaded or Light*** |
|  | 10:32 AM | Mobile Pearl | Red & Black | Northbound, loaded |
|  | 10:37 AM | Riverkeeper | White | North |
|  | 11:16 AM | Bouchard | Black & Red | North/loaded |
|  | 11:45 AM | Barge | Black | North/light |
|  | 12:20 PM |  | Black  | South |
|  | 12:31 PM | Barge | Red & Black | North/loaded |
|  | 12:53 PM | Pretty Lamb | Black & Red | South/ light |
| ***Recreational***  | 10:10 AM | sailboat | White | southbound |
|  | 10:25 AM | Sadie  | Blue | Docked/light |
|  | 10:37 AM |  | White | southbound |
|  | 10:46 AM |  | White | southbound |
|  | 12:21 PM |  | Black | Southbound/loaded |
| ***Other Items*** | Water chestnut seeds | Ore pieces in rocks | Clay | Bald eagle, seagulls, bees |