**Day in the Life of the Hudson River 10/10/13 Data**

**(Salt Front RM 69.3**

**RIVER MILE 118**

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**35 students 10th -12th grade, 6 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:**

**Water depth –** ~ 1 foot

**River Bottom** – muddy, rocky

**Plants in area –** Grass, Water Chestnut, duck weed, poison ivy, trees

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***ITEM*** | ***Time*** | ***Reading 1*** | ***Reading 2*** | ***Comments*** |
| ***Physical*** |  |  |  |  |
| Air Temperature | 9:11 AM  9:29 AM  9:37AM | 11.9°C  9.8  9.8 | 53°F  50  50 |  |
|  | 9:54 AM  10:05 AM  10:11AM | 10.4°C  10.4  10.2 | 50.7 °F  50.7  52 |  |
|  | 10:39 AM  10:59 AM  11:10AM | 11.3°C  11.6  11.8 | 52.3°F  52.9  53.2 |  |
|  | 12:15 PM  12:21 PM  12:25 PM | 13 °C  12.3  13.9 |  |  |
| Cloud Cover | 9:40 AM  26-50% | 10:00 AM  26-50% | 12:00 PM  51-75% |  |
| Wind | **Time**  9:18 AM  10:01 AM  10:39 AM  12:13 PM | **Beaufort #**  #2  #2  #2  #1 | **MPH**  1.3 m/s  1.5 m/s  1.2 m/s  1.0 m/s | **Direction**  NW  N  N  N |
| Weather today | Cloud and drizzle |  |  |  |
| Weather recently | Heavy Rain on 10/7/13 - | 0.3 inches |  |  |
| Water calm |  |  |  |  |
| ***Water Temperature –*** | 10:07 AM  2.1 m depth | 18.5°C  18.6  18.55 | 65.3°F  65.5  65.4 | 18.55°C |
| Taken in the shade | 10:20 AM  1 m depth | 18.6 °C  18.6  18.6 | 65.5°F  65.5  65.5 | 18.6°C |
|  | 10:26 AM  0.2 m depth | 18.6 °C  18.6  18.6 | 65.5°F  65.5  65.5 | 18.6°C |
| In shade | 10:44 AM  2 m | 18.01 °C  18.3  18.2 | AVERAGE | 18.2°C |
| In shade | 10:56 AM  1 m. | 18.2 °C  18.2  18.2 | AVERAGE | 18.2°C |
| In shade | 11:07 AM  3.3 m | 18°C  18.2  18.2 | AVERAGE | 18.2°C |
|  | 12:50 PM  1.8 m | 18.1 °C  19 | AVERAGE | 18.5°C |
|  | 1:05 PM  1 m | 18  18.5 | AVERAGE | 18.25°C |
| ***Turbidity –short site tube*** | 9:54 AM | 40 JTU  40  100  60 | Avg. 60 | High Turbidity |
|  | 10:46 AM | 40 JTU  40  40  40 | Avg. 40 |  |
|  | 12:20 PM | 40 JTU  0  40 | Avg. 26.7 |  |
| ***Chlorophyll*** | 9:55 AM | 5.0. 0.5 | 10:45 AM | 0.1, 0.3 |
|  | 12:15 PM | 0.3, 2.0 | 12:46 PM | 0.5, 0.2 |
| ***Chemical*** | **Time** | **Temp** | **DO** | **% sat.** |
| DO | 9:53 AM  10:01 AM  10:31 AM | 17°C  16.7°C  16.3°C | 8.0 ppm  8.1  8.5 | 90 %  90 %  90% |
|  | 9:50 AM | 17.3 °C | 7.5 ppm | 37% |
| \*air bubble? | 10:50 AM  11:00 AM  11:12 AM | 17.6  17.1  17.1 | 10.5 ppm  13.3\*  11.6 | 108%  135  105 |
|  | 12:59 PM  1:00  1:06 | 14.5 °C  12.2  16.4 | 7.7 ppm  58.4  8.6 | 65%  75  75 |
| pH – pen | 9:30 AM | 7.78  8:05  8.26  8.35 |  | Average 8.11 |
|  | 10:13 AM | 7.68  6.94  7.37 |  | Average 7.33 |
|  | 10:37  10:52  11:03  11:13 | 7.5, 7.2, 8.3  7.25, 8.26, 8.31  7.76, 7.21, 7.64  8.28, 8.38, 8.4 | AVERAGE | 7.7  8  7.5  8.4 |
|  | 12:46 PM | 8.1  8.43  8.46  8.02  8.32 |  | 8. 3 |
| **Salinity** | **Time** | **Chloride** | **Total Salinity** | **Average** |
| Quantabs | 9:34 AM  9:37 AM  9:39 AM  9:41 AM | 28 ppm Cl-  30  30  29 | 51 ppm  54 ppm  54 ppm  52 ppm | 52.5 ppm |
|  | 10:18 AM | 27 ppm Cl-  29  29 | 50 ppm  52 ppm  52 ppm | 51.5 ppm |
|  | 10:37 AM  10:52  11:03  11:13 | 29 ppm Cl-  29  30  29 | 52 ppm  52  54  52 | 53 ppm |
|  | 12:48 PM | 29 ppm Cl-  29  29 | 52 ppm  52  52 | 52 ppm |
|  | 1:01 PM | 28 ppm Cl-  30  29 | 51 ppm  54  52 | 52 ppm |
|  |  |  |  |  |
| ***Fish Catch*** | ***Time*** | ***Species*** | ***number*** | ***Size of largest*** |
| Seine net 20 feet X 4 ft., 1.4 inch mesh | 9:32 AM | *Sunfish* | *2* | 4 inch |
| ***Diversity 2***  ***Total Catch 19*** |  | *Killifish* | *17* | 4 inch |
|  | 10:38 AM | *White Perch* | *1* | **1.5 inch** |
|  |  | *Killifish* | *3* | 2.5 inch |
|  |  | *Striped Bass* | *3* | 4 inch |
| ***Diversity 5***  ***Total Catch 10*** |  | *Pumpkin seed* | *1* | 5 inch |
|  |  | *Yellow Perch* | *2* | 1.5 inches |
| ***Diversity 1***  ***Total Catch 1*** | 12:30 PM | Banded Killifish | *1* | 4 inch |
|  | 12:50 PM | Striped Bass | *3* | 5 inches |
|  |  | Killifish | *1* | 2 inches |
|  |  | Sunfish | *1* | 2 inches |
|  |  | Smallmouth Bass | *1* | 3.5 inch |
| ***Diversity 5***  ***Total Catch******7*** |  | Largemouth Bass | *1* | 3.5 inch |
| ***Macro invertebrates*** | Rotation #1  9:30 AM | Rotation #2  10:38 AM | Rotations #3 12:30 PM | Rotation #4  12:50 PM |
|  | Daphnia (3)  Ostracods  Eggs/Larva  Bee type thing | Daphnia  Whirlygig Beetle  Conjugating Algea  Dragonfly Nymph  Bosmina  Worm | Daphnia (2)  Whirlygig Beetle  Unknown Zoo plankton | Algea  Diatoms  Ostracod  Copapod  Lacrymoria  Paramecium |
| ***Tides*** | 9:16 AM  9:26 AM  9:30 AM  9:36 AM  9:38 AM | 101cm  98 cm  97 cm  93 cm  90 cm | Set  Falling  Falling  Falling  Falling | *Tidestick Set* |
|  | 9:57 AM  10:04 AM  10:12AM  10:18 AM  10:23 AM | 91 cm  90.5 cm  89 cm  92 cm  91.5 | Falling | *Tidestick Set* |
|  | 10:46 AM  10:58 AM  11:07 AM  11:18 AM | 65cm  59 cm  55 cm  49 cm | Falling | *Tidestick Set* |
|  | 12:11 PM  12:21 PM  12:25 PM  12:30 PM  12:35 PM | 34 cm  32 cm  30 cm  29 cm  27 cm | Set stick  Falling  Falling  Falling  Falling | *Tidestick set* |
| ***Currents*** | **Time** | **Cm/30 secs** | **Cm/sec** | **Kts - E/F/S** |
|  | 9:20 AM. | 378 | 12.6 | 0.25 Ebb |
|  | 9:28 AM | 566.9 | 18.9 | 0.37 Ebb |
|  | 9:35 AM | 414 | 14 | 0.26 Ebb |
|  | 9:44 AM | 426 | 14 | 0.26 Ebb |
|  | 9:56 AM | 800 | 26.7 | 0.5 - Ebb |
|  | 10:08 AM | 335 | 11.2 | 0.21 - Ebb |
|  | 10:18 AM | 243 | 8.2 | 0.16 - Ebb |
|  | 10:23 AM | 224 | 9.1 | 0.18 Ebb |
|  | 10:41 AM | 685 | 21.8 | 0.42 Ebb |
|  | 10:54 AM | 579 | 19.3 | 0.38 Ebb |
|  | 11:07 AM | 274 | 9.1 | 0.18 Ebb |
| ***\*barge went by*** | 11:18 AM | 894 | 29.8 | 0.58 Ebb\* |
|  | 12:15 PM | 853 | 28.448 | 0.55 – Ebb |
|  | 12:21 PM | 744 | 24.8 | 0.48 – Ebb |
|  | 12:25 PM | 1157 | 38.6 | 0.75 - Ebb |
|  | 12:30 PM | 548 | 18.2 | 0.36 - Ebb |
|  | 12:51 PM | 365 | 12.2 | 0.24– Ebb |
|  | 12:55 PM | 884 | 29.5 | 0.57 – Ebb |
|  | 1:00 PM | 304 | 10 | 0.20 - Ebb |
|  |
| ***Core Sample*** | ***Length/Grain size/H2S*** | ***Abundant*** | ***Common*** | ***Rare*** |
| 10:03 AM | 4 inches, 2 inch oxidized top | Clay, Pebbles | Sand, Gravel, Brick, Slag | Mud, Shells |
| 10:45 AM | H2S smell  6.5 inches, 0.9 inch top | Mud | Clay | Gravel  Living Vegetation |
| 12:10 PM |  | Mud |  | Sand, Wood |
| 12:40 PM | 3 inches, 2 inch top & 1 inch bottom  H2S smell | Gravel | Clay, pebbles, leaves, wood | Sand  coal |
| ***Traffic - commercial*** | ***Time*** | ***Name*** | ***Color*** | ***Direction/Loaded or Light*** |
|  | 9:05 AM | Great Reward | Black & Brick color | North/loaded |
|  | 11:16 AM | RTC-103 | Red, black, tan | North/light |
|  | 11:49 AM | Barge | Black/yellow/blue | South/light |
| ***Recreational*** | 9:27 AM | Fiesta | White | loading |
|  | 11:04 AM | Canada (sailboat) | Blue/white | South/light |
|  | 12:25 PM | 3 vessels | White | South/light |
|  | 12:35 PM | Sailboat | White | South/light |
| ***Other Items*** | Bees, Seagulls |  |  |  |