

**Day in the Life of the Hudson River 10/10/13 Data  
(Salt Front RM 69.3  
RIVER MILE 118**

**Celia Cuomo, Cary Institute of Ecosystem Studies  
Ashley Gerace, Chatham High School, Chatham NY  
35 students 10<sup>th</sup> -12<sup>th</sup> grade, 6 adult helpers  
Latitude – N 42.253830 Longitude – W -73.800476**

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

**Area:** 1<sup>st</sup> dock in the waterfront property used 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

<i>ITEM</i>	<i>Time</i>	<i>Reading 1</i>	<i>Reading 2</i>	<i>Comments</i>
<b>Physical</b>				
Air Temperature	9:11 AM	11.9°C	53°F	
	9:29 AM	9.8	50	
	9:37AM	9.8	50	
	9:54 AM	10.4°C	50.7 °F	
	10:05 AM	10.4	50.7	
	10:11AM	10.2	52	
	10:39 AM	11.3°C	52.3°F	
	10:59 AM	11.6	52.9	
	11:10AM	11.8	53.2	
	12:15 PM	13 °C		
	12:21 PM	12.3		
	12:25 PM	13.9		
Cloud Cover	9:40 AM 26-50%	10:00 AM 26-50%	12:00 PM 51-75%	
Wind	<b>Time</b> 9:18 AM 10:01 AM 10:39 AM 12:13 PM	<b>Beaufort #</b> #2 #2 #2 #1	<b>MPH</b> 1.3 m/s 1.5 m/s 1.2 m/s 1.0 m/s	<b>Direction</b> NW N N N
Weather today	Cloud and drizzle			
Weather recently	Heavy Rain on 10/7/13 -	0.3 inches		

Water calm				
<b>Water Temperature –</b>	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
<b>Turbidity – short site tube</b>	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	
<b>Chlorophyll</b>	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
<b>Chemical</b>	<b>Time</b>	<b>Temp</b>	<b>DO</b>	<b>% sat.</b>
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	14.5 °C	7.7 ppm	65%

	1:00 1:06	12.2 16.4	58.4 8.6	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
<b>Salinity</b>	<b>Time</b>	<b>Chloride</b>	<b>Total Salinity</b>	<b>Average</b>
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
<b><i>Fish Catch</i></b>	<b><i>Time</i></b>	<b><i>Species</i></b>	<b><i>number</i></b>	<b><i>Size of largest</i></b>
Seine net 20 feet X 4 ft., 1.4 inch mesh	9:32 AM	<i>Sunfish</i>	2	4 inch
<b><i>Diversity 2</i></b>		<i>Killifish</i>	17	4 inch

<b>Total Catch 19</b>				
	10:38 AM	<i>White Perch</i>	<i>1</i>	<b>1.5 inch</b>
		<i>Killifish</i>	<i>3</i>	2.5 inch
		<i>Striped Bass</i>	<i>3</i>	4 inch
<b>Diversity 5 Total Catch 10</b>		<i>Pumpkin seed</i>	<i>1</i>	5 inch
		<i>Yellow Perch</i>	<i>2</i>	1.5 inches
<b>Diversity 1 Total Catch 1</b>	12:30 PM	Banded Killifish	<i>1</i>	4 inch
	12:50 PM	Striped Bass	<i>3</i>	5 inches
		Killifish	<i>1</i>	2 inches
		Sunfish	<i>1</i>	2 inches
		Smallmouth Bass	<i>1</i>	3.5 inch
<b>Diversity 5 Total Catch 7</b>		Largemouth Bass	<i>1</i>	3.5 inch
<b>Macro invertebrates</b>	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 Algae Dragonfly Nymph Bosmina Worm	Daphnia (2) Whirlygig Beetle Unknown Zoo plankton	Algae Diatoms Ostracod Copapod Lacrymorina Paramecium
<b>Tides</b>	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	<i>Tidestick Set</i>
	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	<i>Tidestick Set</i>
	10:46 AM 10:58 AM 11:07 AM 11:18 AM	65cm 59 cm 55 cm 49 cm	Falling	<i>Tidestick Set</i>

	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	<i>Tidestick set</i>
<b>Currents</b>	<b>Time</b>	<b>Cm/30 secs</b>	<b>Cm/sec</b>	<b>Kts - E/F/S</b>
	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
<b>*barge went by</b>	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
<b>Core Sample</b>	<b>Length/Grain size/H2S</b>	<b>Abundant</b>	<b>Common</b>	<b>Rare</b>
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
<b>Traffic - commercial</b>	<b>Time</b>	<b>Name</b>	<b>Color</b>	<b>Direction/Loaded or Light</b>
	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
<b><i>Recreational</i></b>	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
<b><i>Other Items</i></b>	Bees, Seagulls			