

Day in the Life of the Hudson River 10/14/21

PIERMONT PIER, PIERMONT

RIVER MILE: 25.4

Salt Front: ~ RM 49

Lamont Doherty Earth Observatory– Margie Turrin, Laurel Zaima and 7 helpers

Tappan Zee High School, 20

Spring Valley High School, 11

Clarkstown South High School, 10

Clarkstown North High School, 3

Latitude 41.043189 N & Longitude – 73.89595 W



Spring Valley High School



Seining & Fish ID with Clarkstown



Tappan Zee High School

Location: Piermont Pier, Piermont, Rockland, NY

Area: Human made fishing/shipping pier at the east end, long pier with paved roadway and vegetated strip along both sides

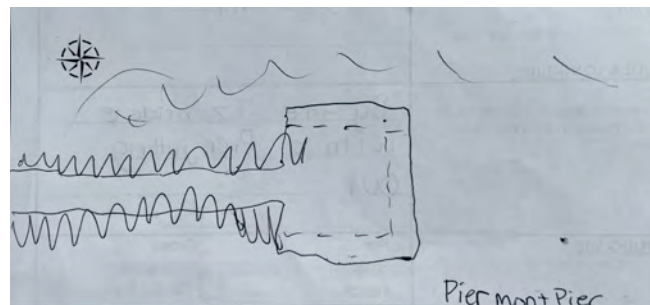
Surrounding Land Use: 80% Urban/Residential; 20% Forested

Sampling Site: Pier, roadway in center of whole pier, parking area at the end, plants and trees along side. Shoreline riprap, collected wood in area and piping entering river on the south of sampling site

Water Depth: Varied by location on the pier and by the tide

Plants in area: 15% sumac and other plants; 85% phragmites; no submerged aquatic plants in water

River Bottom: Sandy, rocky bottom with phragmites growing in or near the water



ITEM	Time	Reading		Comments
<i>Physical</i>				
Air Temperature.:	9:12 AM	22.5 ° C	72.5 ° F	*seems a little hot, maybe the thermometer was left in the sun
	10:09 AM	26.1 ° C	78.98 ° F	
	9:47 AM	34.5 ° C	94.1 ° F*	
	11:15 AM	29 ° C	84.2 ° F	
	11:17 AM	31.1 ° C	87.98 ° F	
	12:41 PM	24 ° C	75.2 ° F	
Wind Speed:	9:12 AM	2 mph	South	
	9:19 AM	Beaufort 1 (1-3 mph)	South	
	9:31 AM	2.4 mph	South	
	9:35 AM	Beaufort 1 (1-3 mph)	South	
	9:47 AM	2.2 mph	North	
	9:47 AM	Beaufort 1 (1-3 mph)	North	
	10:09 AM	4.35 mph	Northeast	
	10:14 AM	Beaufort 1 (1-3 mph)	Northeast	
	11:10 AM	3.4 mph	Northwest	
	11:13 AM	Beaufort 2	Northwest	
	11:17 AM	3.63 mph	North	
	12:33 PM	8.5 mph	Northeast	
12:33 PM	Beaufort 2	Northeast		

Weather today	No Rain 9:15 am- clear <25%, 9:27 am- clear < 25%, sunny, foggy morning 9:47 am – partly cloudy (26-50%) 10:04 am - clear < 25% 11:12 am – clear <25% 12:24 PM- partly cloudy (26-50%)			
Weather past 3 days:	No rain, foggy mornings, partly cloudy, sunny , 60-70s			
Tides-	Low Tide	Water Depth (cm)	Rising/Falling/Still	Rate of Change (cm/min)
<i>Station 1</i>	8:57 am 9:49 am 10:53 am 12:13 pm	246.4 cm 237 cm 211 cm 211 cm	- Ebb Ebb Still	- 0.180 cm/min 0.406 cm/min 0 cm/min
<i>Station 2</i>	9:00 am 9:47 am 10:48 am 12:14 pm	360 cm 343 cm 334 cm 346 cm	- Ebb Ebb Flood	- 0.362 cm/min 0.148 cm/min 0.140 cm/min
Current-	Time	cm/second	North/South	Ebb/Flood/Still
<i>Low tide: 11:46 am High tide: 5:44 pm</i>	9:33 am 9:20 am 9:47 am 10:28 am 10:48 am 11:30 am 12:14 pm 12:50 pm	21.09 cm/sec, 0.41 knots 19.3 cm/sec, 0.375 knots 34.4 cm/sec, 0.669 knots 35.56 cm/sec, 0.69 knots 30.3 cm/sec, 0.589 knots 17.3 cm/sec, 0.337 knots 20.8 cm/sec, 0.40 knots 29.8 cm/sec, 0.579 knots	South South South South South South North North	Ebb Ebb Ebb Ebb Ebb Ebb Flood Flood
Water Temperature-	9:00 am 10:15 am 10:17 am 10:22 am 10:53 am 10:55 am 12:12 pm 12:13 pm	20 ° C, 20 ° C 21 ° C 21 ° C 21 ° C 22 ° C 21 ° C 24 ° C 22 ° C	68 ° F, 68 ° F 69.8 ° F 69.8 ° F 69.8 ° F 71.6 ° F 69.8 ° F 75.2 ° F 71.6 ° F	
Turbidity- Long Sight Tube	10:54 am 10:55 am 12:31 pm 12:49 pm	49.70 cm 48.2 cm 26.8 cm 26.2 cm		
Chemical				
Salinity-	9:00 am 9:15 AM 10:17 am 10:35 am 10:53 am 12:12 pm 12:13 pm	<i>Hydrometer</i> 7 ppt 7 ppt 6 ppt, 6 ppt 6 ppt 6 ppt, 5 ppt 6 ppt, 6 ppt 6 ppt	<i>Refractometer</i> 4.8 ppt 4.8 ppt 6 ppt 6 ppt 5.5 ppt, 5ppt 5 ppt	
DO – Hach Drop count	Time	Temp	ppm DO	% saturation
	9:00 am 10:15 am 10:17 am 10:42 am 10:53 am	20 ° C 21 ° C 21 ° C 21 ° C 22 ° C	8 ppm 7 ppm 12 ppm 7 ppm 7 ppm	88% 75% 135% 75% 80%

	10:55 am 12:12 pm 12:13 pm 12:39 pm	21 ° C 24 ° C 22 ° C 24 ° C	6 ppm 12 ppm 13 ppm 12 ppm	65% 140% 145% 140%
<i>pH – Color Match Kit</i>	9:00 am 10:17 am 10:53 am 12:12 pm	7.5, 7.1 7.5, 7.3 7.5, 7.2 7.5, 7.2		
<i>Nitrates- Hach</i>	9:00 am 9:10 am 10:15 am 10:17 am 10:53 am 10:55 am 12:12 pm 12:13 pm	0 ppm, 0.8 ppm 0ppm 0.8 ppm, 0.8 ppm 0.88 ppm 0.44 ppm 0.8 ppm 0.44 ppm 0.8 ppm		
<i>Phosphates- Hach</i>	9:00 am 10:53 am 10:55 am 12:12 pm 12:28 pm	0.2 ppm, 0.2 ppm 0 ppm 0.14 ppm 0.15 ppm 0.15 ppm		
<i>Alkalinity- Hach</i>	9:00 am ~10:30 am 12:12 pm	72 ppm 340 ppm 160 ppm		

Biological

<i>Fish</i>	<i>Number</i>	<i>Name</i>	<i>Length of longest</i>	<i>Length of smallest</i>
8:40-9:40am	3	Fry	2 cm	1 cm
	6	Striped Bass	11.4 cm	7 cm
	1	White Perch	11.2 cm	-
10:00am	11	Atlantic Silverside	11 cm	7 cm
	9	Atlantic Silverside	11.3 cm	6 cm
10:30am	3	Striped Bass	9 cm	7 cm
	1	Striped Bass	10 cm	-
11:44am	1	Fry	1.5 cm	-
	2	Striped Bass	9 cm	7 cm
	15	Atlantic Silverside	9 cm	5 cm
12:00pm	1	White Perch	8 cm	-
	2	Striped Bass	10 cm	7cm
	43	Atlantic Silverside	10 cm	6.5 cm
	2	White Perch	9 cm	-

Fish Totals	TOTAL: 100	Diversity: 4 (3 + fry)		
--------------------	-----------------------	-------------------------------	--	--

<i>Macroinvertebrates</i>	<i>Number</i>	<i>Name</i>	<i>Length of longest</i>	<i>Length of smallest</i>
8:40-9:40am	2	Blue Crab	5.2 cm	4 cm
10:00am	3	Comb Jelly	1.5 cm	0.5 cm
	1	Shore Shrimp	3.3 cm	-
10:30am	13	Blue Crab	12 cm	0.2cm
	7	Blue Crab	5 cm	-
	2	Moon Jelly	1 cm	-
11:44am	1	Comb Jelly	1 cm	-
	4	Blue Crab	5 cm	1.5 cm
	1	Shrimp	5 cm	-
12:00pm	1	Mud Crab	2 cm	-
	1	Sand Shrimp	2 cm	-

		1 6	Leidy's Comb Jelly Blue Crab	5 cm 5 cm	- 2 cm	
Macroinvertebrate Totals	TOTAL: 43	Diversity: 5				
<i>Sediment Core</i>						
Time	Length	H2S smell	Oxid Top	Oil	Grain Size	Other Features
10:20 AM	4.9 inches	Yes	No	No	Abundant: mud, sand Common: clay	NA
10:51 AM	14.4 cm	Yes	No	No	Common: mud, sand Rare: clay, gravel, pebbles	Abundant: leaves Rare: wood
11:04 AM	10.8 cm	No	No	No	Abundant: sand, gravel, pebbles	Rare: mussels, brick, coal
12:27 PM	10 cm	Yes	No	Yes	Abundant: clay, sand Common: mud Rare: gravel, pebbles	Abundant: leaves Rare: wood
12:37 PM	7.5 cm	Yes	No	Yes	Abundant: clay, mud Rare: Sand, gravel, pebbles	Abundant: leaves Common: wood
12:40 PM	7 cm	No	No	No	Abundant: sand Common: gravel, pebbles	Common: leaves, wood Rare: coal, slag
12:45 PM	6 cm	Yes	No	No	Abundant: clay, mud Common: sand Rare: gravel	NA
NA	6 cm	No	No	No	Abundant: mud Common: clay Rare: sand, gravel	Common: wood Rare: coal, leaves
<i>Boats</i>						
	Time	Name	Color	North/Southbound	Light/Loaded	
Commercial	9:00 am	Cruise ship	White	South	Light	
Recreational	10:00 am	Transport boat	White	North	Loaded	