

Day in the Life of the Hudson River 10/15/21

PIERMONT PIER, PIERMONT

RIVER MILE: 25.4

Salt Front ~ locations from 10/14/21 ~ RM49

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

Pearl River High School, 43 students

Latitude 41.043189 N & Longitude – 73.89595 W



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

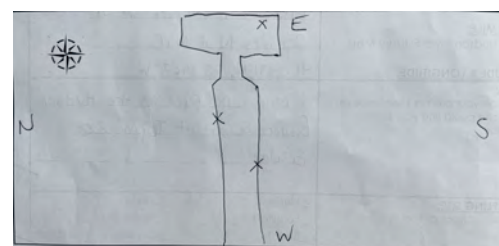
Surrounding Land Use: 80% Urban/Residential; 20% Forested

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
Physical				
Air Temperature	9:05 AM	22 ° C	71.6 ° F	
	9:16 AM	21 ° C	69.8 ° F	
	10:07 AM	24 ° C	75.2 ° F	
	10:10 AM	24 ° C	75.2 ° F	
	10:45 AM	24 ° C	75.2 ° F	
	10:55 AM	25 ° C	77 ° F	
	11:00 AM	22.8 ° C	73 ° F	
	12:25 PM	27 ° C	80.6 ° F	
	12:30 PM	27 ° C	80.6 ° F	
Wind Speed:		Anemometer	Beaufort	
	9:19 AM	3.3 mph	1	NE
	9:20 AM	4 mph	1	N
	10:08 AM	1.5 mph	1	NE
	10:10 AM	2.2 mph	1	NE
	10:28 AM	2.4 mph	1	
	10:52 AM	2.4 mph	1	N
	10:54 AM	2.2 mph	1	N
	12:30 PM	5.7 mph	2	S
12:38 PM	6.1 mph	2	SE	
Weather today	No Rain, 9:16 AM – 12:30 PM Clear (<25%), 12:30-12:45PM Partly Cloudy (26-50%)			
Weather past 3 days:	No rain, but warmer than usual for this time of year			
Tides-	Time	Water Depth (cm)	Rising/Falling/Still	Rate of Change

LT 12:49 PM HT 6:50 PM				(cm/min)
Station 1	9:08 AM 9:25 AM 10:00 AM 10:28 AM 10:46 AM 11:10 AM 12:30 PM 12:42 PM	325 cm 323 cm 303 cm 294 cm 300 cm* 290 cm 269 cm 272 cm	- Falling Falling Falling *suspect waves Falling Falling Still	- 0.12 cm/min 0.57 cm/min 0.32 cm/min 0.33 cm/min 0.42 cm/min 0.26 cm/min 0.25 cm/min
Station 2	9:16 AM 10:00 AM 10:23 AM 10:46 AM 11:05 AM 12:30 PM 12:52 PM	258 cm 256 cm 300 cm 215 cm 222 cm 220 cm 200 cm	- Falling *suspect waves Falling *suspect waves Falling Falling	- 0.045 cm/min 1.91 cm/min 3.70 cm/min 0.37 cm/min 0.024 cm/min 0.90 cm/min
Current-	Time	cm/second, Knots	North/South	Ebb/Flood/Still
*anomalous	9:31 AM 9:35 AM 10:15 AM 10:22 AM 11:00AM 11:10 AM 12:35 PM 12:45 PM	24.1 cm/sec, 0.47 knots 18.5 cm/sec, 0.36knots 25.88 cm/s, .459 knots 106 cm/s *, 2.06 knots 28.01 cm/s, 0.55 knots 21.1 cm/s, 0.41 knots 111 cm/s*, 2.16 knots 18.55 cm/s, .361 knots	South South South South South South South South	Ebb Ebb Ebb Ebb Ebb Ebb Ebb Ebb
Water Temperature-	8:56 AM 9:15 AM 10:00 AM 10:24 AM 10:40 AM 11:00 AM 12:40 PM	21 ° C 22 ° C 22 ° C 22 ° C 22 ° C 23 ° C 22.1 ° C, 23.7 ° C	69.8 ° F 71.6 ° F 71.6 ° F 71.6 ° F 71.6 ° F 73.4 ° F 71.78 ° F, 74.66 ° F	
Turbidity- Long Sight Tube	9:20 AM 9:47 AM 10:00 AM 10:20 AM 10:45 AM 11:06 AM 12:20 PM 12:55 PM	47.25 cm 51.66 cm 52.4 cm 32.4 cm 21.6 cm 24.5 cm 23.1 cm 14.2 cm *very turbid		
Chemical				
Salinity-	9:10 AM 9:15 AM 10:00 AM 10:20 AM 10:40 AM 11:00 AM 12:40 PM 12:43 PM 12:46 PM	Refractometer N/R 5 ppt N/R 5 ppt 3 ppt 5 ppt 5 ppt N/R 5 ppt	Hydrometer 6 ppt N/R 7 ppt, 5 ppt N/R 5 ppt N/R 6 ppt 5ppt N/R	
DO – Hach Drop count	Time	Temp	ppm DO	% saturation
Low but the test was rechecked.	8:56 AM 9:15 AM	21 ° C 22 ° C	10 4	110% 45%

	9:51 AM 10:00 AM 10:24 AM 10:40 AM 11:00 AM 12:40 PM 12:57 PM	21 ° C 22 ° C 22 ° C 22 ° C 22 ° C 23.7 ° C 22.1 ° C	10 8 12 10, 8 8 7 8	110% 90% 130% 113%, 90% 90% 95% 90%
pH – Color Match Kit	8:56 AM 9:15 AM 10:00 AM 10:24 AM 10:40 AM 11:00 AM 12:25 PM 12:40 PM	7 7.5 7 7.5 7 7.5 7 7, 7.5		
Nitrates- Hach	8:56 AM 9:15 AM 9:23 AM 10:00 AM 10:24 AM 10:40 AM 11:02 AM 12:40 PM 12:44 PM	0 ppm 0 ppm 0 ppm 0 ppm 0 ppm 0 ppm 0 ppm 0 ppm 0 ppm		
Phosphates- Hach	8:56 AM 9:20 AM 9:24 AM 10:00 AM 10:30 AM 10:40 AM 11:00 AM 12:40 PM	0.2 ppm 0 ppm 0.2 ppm 0.16 ppm 0 ppm 0.18 ppm 0.45 ppm 0.26 ppm, .1 ppm		
Alkalinity- Hach	8:56 AM 9:20 AM 9:25 AM 10:00 AM 10:30 AM 10:40 AM 10:50 AM 12:30 PM 12:44 PM	80 ppm 60 ppm 80 ppm 64 ppm 80 ppm 90 ppm 60 ppm 90 ppm 60 ppm		
Biological				
Fish	Number	Name	Length of longest	Length of smallest
	64 8	Atlantic Silverside Striped Bass	9cm 9.8 cm	7 cm 8 cm
Fish Totals	TOTAL: 72	Diversity: 2		
Macroinvertebrates	Number	Name	Length of longest	Length of smallest
	8 2 2 1 1	Blue Crab Grass Shrimp Scuds Leidy comb Jelly Moon Jelly	4.5 cm 2.5 cm - 2.5 cm -	1 cm - - - -
Macroinvertebrate Totals	TOTAL: 14	Diversity: 5		

<i>Sediment Core</i>						
Time	Length	H2S smell	Oxid Top	Oil	Grain Size	Other Features
9:36 AM	8 inch	Yes	No	Yes	Abundant: clay, mud Common: sand Rare: Gravel	Abundant: leaves, wood Rare: slag Abundant: leaves, wood
10:02 AM	2.5 inch	Yes	Yes	No	Abundant: clay, mud Rare: sand, gravel	Rare: macroinverts
12:25 PM	5 inch	Yes	No	Yes	Abundant: sand, pebbles Common: mud, gravel Rare: clay	Abundant: mussels Common: coal Rare: wood, oyster shells, brick, slag
NA	10.5 cm	No	No	No	Abundant: clay, mud, gravel, pebbles Rare: sand	Rare: wood, oysters, mussels, macroinverts, living veg, brick, coal, slag
<i>Boats</i>						
	<i>Time</i>	<i>Name</i>	<i>Color</i>	<i>South/North</i>	<i>Light/Loaded</i>	
<i>Commercial</i>						
<i>Residential</i>	12:43 PM 12:51 PM	Jetski Speed Boat	Black, Orange White, Blue	North South	4 people Loaded- people	
Observations						