

Day in the Life of the Hudson River 10/13/22

Piermont Pier, Piermont

RIVER MILE: 25.4

Salt Front: ~ 76

Lamont Doherty Earth Observatory- Margie Turrin, Laurel Zaima, Marisa Annunziato

Tom Mullane & Pearl River HS, Shawn Kapusinsky & Spring Valley HS,

Alexis Dean & Clarkstown South HS, Liana Gertzler & Clarkstown North HS, and Brian Newburger & Tappan Zee HS

97 students & 14 adults

Latitude 41.043189 N & Longitude – 73.89595 W



Location: Piermont Pier, Piermont, Rockland, NY

Area: Human made fishing/shipping pier at the east end, mile 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

*NR = Not read/recorded

<i>ITEM</i>	<i>Time</i>	<i>Reading</i>	<i>Comments</i>
<i>Physical</i>			
<i>Air Temperature</i>	9:22 AM	20° C	
	10:00 AM	19° C	
	10:30 AM	20° C	
	12:26 PM	20.4° C	

Wind Speed:	9:22 AM 10:00 AM 10:30 AM 12:26 PM	<i>Anemometer</i> 6 mph 7 mph 11.6 mph 21.5 mph	<i>Beaufort</i> 2 3 3 NR	<i>Direction</i> SW SW SE NR	
Weather today	10:30 AM	> 75% cloud cover	Drizzle		
Weather the past 3 days:	Sunny, cool, Drizzling, rainy				
Tides- measure water level change	Time	Rising, Falling, Unchanged		Water Height (cm)	
Group 1	9:00 AM-12:04 PM	Rising		340 cm 406 cm	
Group 2	9:01 AM-12:15 PM	Rising		373 cm 573 cm	
Current-	Time	Cm/sec	Knots	North/South	Ebb/Flood/Still
	9:15 AM 9:50 AM 10:34 AM 10:50 AM 12:10 PM 12:20 PM 12:50 PM	89.2 60.4 67.6 63.49 46.9 43.8 48.8	1.7 1.17 1.3 1.24 0.91 0.85 0.94	North North North North North North North	Flood Flood Flood Flood Flood Flood Flood
Water Temperature-	9:00 AM 10:00 AM 10:30 AM 12:00 PM 12:50 PM	18°C 18.5° C 19° C 20° C 19° C	GROUP 1	9:15 AM 10:03 AM 10:30 AM NR 12:55 PM	18°C GROUP 2 19° C 18° C NR 19° C
Turbidity- Long sight tube (120 cm)	9:17 AM 9:37 AM 10:00 AM 10:33 AM 11:03 AM 12:08 PM 12:30 PM 12:55 PM 1:00 PM	18.16 cm 18.6 cm 17 cm 16.4 cm 20 cm 27.7 cm 25.1 cm 18 cm 27.2 cm		<i>Secchi Disk (time)</i> 9:19 AM 9:45 AM 10:05 AM 11:10 AM 12:15 PM 12:30 PM 1:00 PM 1:15 PM	<i>Secchi Disk (cm)</i> 25.3 cm 32.0 cm 24.5 cm 31.7 cm 33 cm 42 cm 36 cm 46 cm
Chemical					
Salinity- Refractometer	GROUP1 9:00 AM 10:00 AM 10:30 AM 12:00 PM 12:55 PM	11,000 ppm 8,000 ppm 11,000 ppm 11,000 ppm 10,000 ppm		GROUP2 9:10 AM 10:03 AM 10:30 AM 1:00 PM	10,000 ppm 10,000 ppm 10,000 ppm 10,000 ppm
Standardized Salinity – Refractometer	9:05 AM	10,000 ppm			
DO – Hach Drop Count Kit	Time	Temp	ppm DO	% saturation	
	9:22 AM 9:30 AM 10:00 AM 10:03 AM 10:30 AM 10:30 AM 12:00 PM	18° C 18° C 19° C 19° C 18° C 19° C	10 8 10 8 9 9 9	NR 85% NR 85% NR 95% NR	

	12:00 PM 12:55 PM 1:00 PM	20° C 20° C 19° C 19° C	10 10 10	110% 110% NR	
<i>pH – Color Match Kit</i>	9:20 AM 9:22 AM 10:00 AM 10:03 AM 10:30 AM 10:30 AM 12:00 PM 12:50 PM 12:55 PM	8.5 8 8.5 8 7.5 7 8 8 7.5			
<i>Nitrates- Lamotte Kit</i>	9:00 AM 9:20 AM 10:00 AM 10:03 AM 10:30 AM 10:30 AM 12:00 PM 12:00 PM 12:55 PM 1:00 PM	0.8 ppm 0.8 ppm 0.8 ppm 0.4 ppm 0.6 ppm 0.5 ppm 0.6 ppm 0.4 ppm 0.4 ppm 0.4 ppm			
<i>Phosphates- Lamotte Kit</i>	9:00 AM 9:30 AM 10:00 AM 10:03 AM 10:30 AM 10:30 AM 12:00 PM 12:00 PM 1:00 PM	0.64 ppm 0.5 ppm 0.2 ppm 0.5 ppm 0.22 ppm 0.55 ppm 0.28 ppm 0.32 ppm 0.62 ppm			
<i>Alkalinity- Lamotte Kit</i>	10:30 AM 12:00 PM 12:00 PM 12:55 PM 1:00 PM	66 ppm 62 ppm 72 ppm 60 ppm 72 ppm			
Biological					
<i>Fish – Seine</i>	<i>Number</i>	<i>Name</i>	<i>Length of longest</i>	<i>Length of smallest</i>	
9:20 AM- 1:15 PM	253 5 4 1	Atlantic Silverside Striped Bass Atlantic Menhaden Atlantic Herring			
Fish Totals	TOTAL: 263	Diversity: 4			
<i>Macroinvertebrates</i>	<i>Number</i>	<i>Name</i>	<i>Length of longest</i>	<i>Length of smallest</i>	
	8 (3M & 5F) ~1500 ~50	Blue Crab Moon Jelly Ctenophore sp.			
Macroinvertebrate Totals	TOTAL: 1558	Diversity: 3			
Sediment Core					
Length	H2S smell	Oxid Top	Oil	Grain Size	Other Features
9.5 cm	No	No	No	Abundant: clay,	Common: wood,

3.8 cm	No	No	Yes	mud, sand, gravel Common: pebbles Abundant: Mud Common: clay, gravel, pebbles Rare: sand	shells Rare: leaves, macroinvertebrates, living vegetation, coal, brick, slag Rare: coal, living vegetation
13 cm	No	No	No	Abundant: clay, mud Common: sand Rare: pebbles	Common: living vegetation
13 cm	No	No	Yes	Abundant: sand Common: clay, mud, pebbles Rare: gravel	Abundant: leaves Common: wood, living vegetation Rare: coal
4 cm	No	No	No	Abundant: sand Common: gravel Rare: mud, pebbles	Rare: brick, coal
12 cm	Yes	No	Yes	Abundant: clay, mud, sand, gravel Rare: pebbles	Common: wood Rare: brick, coal
13.6 cm	Yes	No	No	Abundant: clay, mud Common: sand Rare: gravel, pebbles	Common: leaves, living vegetation
14.5 cm	Yes	No	Maybe	Common: clay, mud Rare: sand, gravel, pebbles	Common: living vegetation Rare: leaves, brick, coal
6 cm	No	No	No	Abundant: sand, gravel Common: mud Rare: pebbles	Rare: leaves, wood, brick, living vegetation

Boats-NR

	Time	Name	Color	North/Southbound	Light/Loaded
Commercial					
Residential					