

**Snapshot Day 10/2/07 Data  
(Salt Front RM 78.2)  
RIVER MILE 25W  
Piermont Pier**

**Lamont-Doherty Earth Observatory  
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144 HS students  
Latitude N 41 degrees 02'34.5" Longitude W 73 degrees 53'45.9"**

**Location:** Piermont Pier, Piermont NY

**Area:** Fishing/shipping pier at the east end, long pier with paved roadway and vegetation along both sides

**Surrounding Land Use:** Urban/residential 80% , Forested 20%

**Sampling Site:** Pier, roadway in center of whole pier, parking area at end, Plants and trees along side. Shoreline Rip Rap, collected wood in area and piping entering river on the South of sampling site

**Plants in area:** few plants in the water but lots of plants along pier

**Water depth:** Varied by location on the pier –

**River Bottom** – sandy/rocky bottom with marsh grass growing in or near the water

<i>ITEM</i>	<i>Time</i>	<i>Reading 1</i>		<i>Comments</i>
<i>Physical</i>				
<b>Air Temperature</b>	10:30 AM	25°C		
	11:02 PM	24 °C		
	12:38 PM	28 °C		
	1:00 PM	29.5°C		
	1:20 PM	30°C		
<b>Wind Speed</b>	<b>Time</b>	<b>Beaufort #</b>	<b>Anenometer</b>	<b>Direction</b>
	10:30 AM	0.5	0.7 knots	
	11:02AM	2.0	1.1 knots	east
	11:23AM	1.0	Not read	east
	11:39AM	0.5	Not read	
	12:30PM	1.0	1.3 knots	
	1:00 PM	Not read	Not read	east
	1:20 PM	0.5	1.9 knots	east
Cloud Cover	overcast			
Weather today	Cloudy/overcast			
Weather recently	Mon – rain; Tues – no rain, nice; Wed. rain and wind			
<i>Water Temperature</i>	10:35 AM	18°C		SURFACE SAMPLE

	11:05 AM	63.5° F 17.5°C		
	11:42 Am	17°C		
	12:45 PM	18°C		
	1:25 PM	18°C		
<b>Water Temperature</b>				<b>BOTTOM SAMPLE</b>
<b>(YSI meter)</b>	12:45 PM	18.38 °C		
<b>(thermometer)</b>	10:30 AM	17°C	17 °C	18 °C
	11:10	17.9 °C	17°C	
	11:50	18°C		
	12:56	18°C		
	1:30 PM	18°C		
<b>Turbidity –</b>	10:20AM	27 cm	27.4 cm	<b>Long site tube</b>
<i>All readings are an average of 2 or 3 readings taken in each of 2 groups for each time period</i>	11:39AM	23.9cm	24.7 cm	
	10:48AM	22.1 cm	26.2 cm	
	11:06AM	29.8 cm	26.9 cm	
	11:31AM	34.6 cm	26.0 cm	
	11:36AM	36.5 cm	35.1 cm	
	11:50AM	36.83 cm	34.2 cm	
	12:44PM	31.9 cm	29.8 cm	
	12:50PM	32.06 cm	31.0 cm	
	1:09 PM	26.15 cm	33.4 cm	
<b>Turbidity</b>	10:24AM	25 JTU		<b>Small site tube</b>
	11:05AM	25 JTU		
	11:27AM	30 JTU		
	12:33AM	20 JTU		
	1:15 PM	30 JTU		
<b>Turbidity</b>	10:30AM	50 cm		<b>Secchi Disk</b>
	11:00AM	62 cm		
	11:30AM	80 cm		
	12:40AM	52 cm		
	1:10PM	40 cm		
<b>Sediment Core</b>	11:10 AM	7 cm length oxidized top H <sub>2</sub> S smell	Plant layer on bottom – fine texture	Mud-abundant Sand & gravel common Pebbles - rare
<b>Chlorophyll</b>	10:28	1.0	11:42 AM	0.8

	AM			
	10:45 AM	0.4	11:53 AM	1.0
	10:53 AM	1.5	12:46 PM	0.5
	11:14 AM	1.5	12:53 PM	0.7
	11:34 AM	1.0	1:20 PM	2.0
<b>Chemical</b>	<b>SURFACE WATER SAMPLES</b>			
DO	10:24AM	8.0 mg/L	21.5°C	90%
	11:05AM	7.0 mg/L	22.5°C	80%
	11:27AM	8.0 mg/L	23°C	95%
	12:33AM	10 mg/L	23°C	120%
	1:15 PM	9 mg/L	23°C	110%
pH	10:24AM	8.2		
	11:05AM	8.2		
	11:27AM	8.2		
	12:33AM	8.2		
	1:15 PM	8.6		
Phosphate	11:27AM	0.1 mg/L		
	12:33AM	0.4 mg/L		
	1:15 PM	0.3 mg/L		
Nitrate				
Alkalinity	10:24AM	154 ppm		
	11:05AM	90 ppm		
	11:27AM	115 ppm		
	12:33AM	82 ppm		
	1:15 PM	120 ppm		
<b>Salinity</b>	10:24AM	12 ppt		refractometer
	11:05AM	12 ppt		
	11:27AM	11 ppt		
	12:33AM	11 ppt		
	1:15 PM	10.2 ppt		
<b>Chemical</b>	<b>BOTTOM WATER SAMPLES</b>			
DO	10:30AM	7.0 mg/L	20°C	75%
*thermometer not Working for 1st 3 samples so used Temp. from 1 <sup>st</sup> YSI Reading as a proxy	11:00AM	6.0 mg/L	20°C	65%
	11:30AM	6.0 mg/L	20°C	65%
	11:50AM	6.66 mg/L	20.95°C	76% (YSI)
	12:40PM	5.0 mg/L	20°C	53%
	1:10PM	8.0 mg/L	23°C	94%
	1:30PM	6.5 mg/L	21.92°C	74%(YSI)

pH	10:30AM	7.8		
	11:00AM	7.8		
	11:30AM	7.0		
	11:50AM	7.41		<b>YSI</b>
	12:40PM	7.5		
	1:10PM	7.5		
	1:30PM	7.45		<b>YSI</b>
Phosphate	10:30AM	10 mg/L ???		
	11:00AM	.32 mg/L		
	11:30AM	0.1 mg/L		
	12:40PM	0.5 mg/L		
	1:10PM	<0.5 mg/L		
Nitrate	11:00	0.1 ppm		
	11:30	0.15 ppm		
	12:40	0.44 ppm		
	1:10	<0.1 ppm		
Alkalinity	10:30	68 ppm		
	11:00	70 ppm		
	11:30	346.6 ppm???		
	12:40	78ppm		
	1:10	32 ppm		
<b>Salinity</b>	10:30AM	10.1 ppt	1.0070	hydrometer
	11:00AM	11.4 ppt	1.0080	
	11:30AM	11.4 ppt	1.0080	
	11:50AM	10.97 ppt		
	12:40PM	Not recorded		
	1:10PM	11.4 ppt	1.0080	
	1:30PM	11.33 ppt		<b>YSI</b>
<b>Tides</b>	Time	Tide Stick		
	10:30AM	25 cm		
<i>Setting a tide stick</i>	11:02AM	41 cm	rising	
	11:23AM	50 cm	rising	
	11:39AM	60 cm	rising	
	12:30PM	85 cm	rising	
	1:00 PM	92 cm	rising	
	1:20 PM	95 cm	Rising	
<i>Measuring down with tape at end of pier</i>	10:30AM	411 cm	rising	
	11:02AM	430 cm	rising	
	11:23AM	436 cm	rising	
	11:39AM	429 cm*	falling	* error?
	12:30PM	535 cm	rising	
	1:00 PM	540 cm	rising	
	1:20 PM	534 cm*	falling	* error? High tide @

				3:21 PM
<b>Currents</b>	10:30AM	2194.6cm /60 secs.	36.58 cm/sec	0.73 knots N flood
	11:02AM	2479cm /60 secs.	41.32 cm/sec	0.83 knots N flood
	11:23AM	3124.2cm /60 secs	52.07 cm/sec	1.04 knots N flood
	11:39AM	2829.6 cm/60 secs	47.16 cm/sec	0.94 knots N flood
	12:30PM	2672.1 cm/60 secs	44.54 cm/sec	0.89 knots N flood
	1:00 PM	2540 cm/60 secs	42.33 cm/sec	0.85 knots N flood
	1:20 PM	3286.8 cm/secs	54.78 cm/sec	1.10 knots N flood
<b>Fish Catch</b>	<b>Number Caught</b>	<b>Species</b>	<b>CPUE</b>	<b>Seine 30 m</b>
<b>Northside of pier</b>	86	Atlantic Silverside		10:30 AM
5 rotations –	5	Striped Bass		
Each group 1 seine	5	Blue Crab	<b>Total 96</b>	
But with 2 nets	15	Atlantic Silverside		11:30 AM
	1	Grass Shrimp	<b>Total 16</b>	
	9	Atlantic Silverside		11:53 AM
	11	Striped Bass	<b>Total 20</b>	
	66	Atlantic Silverside		12:50 PM
	7	Striped Bass	<b>Total 73</b>	
	9	Atlantic Silverside		1:08 PM
	24	Striped Bass		
	1	Blue Crab	<b>Total 34</b>	
		<b>Grand Total</b>	<b>239</b>	
<b>Length of Nets:</b> <b>Net A 580cm</b> <b>Net B 598 cm</b>	<b>Total Pull</b>	<b>Total Catch</b>	<b>CPUE</b>	
	50m 50m 25m	96	0.129	
	20 m	16	0.153	
	15m	20	0.225	
	40m	73	0.310	
	12m	34	0.457	
<b>Macroinvertebrates</b>	10:30AM	4 Blue crab 1 comb jelly Anabaena Moss		Southside of pier
<b>Also found trapa</b>	11:00AM	3 Blue crab		

<i>natans seed pods</i>		1 Eteone heteropoda 20 (Marine) Diatom - coscinodiscus 1 – freshwater pennate			
<i>Valvate (mud snail)</i>					
	11:30AM	2 Blue crab 1 Anabaena			
	1:00 PM	2 Blue crab 3 comb jelly 1 Anabaena			
	1:30 PM	2 Blue crab 3 comb jelly 1 Anabaena 1 freshwater pennate			
<b>Traffic</b>					
<b>Cores</b>	<b>Length</b>	<b>Abundant</b>	<b>Common</b>	<b>Rare</b>	<b>Comments</b>
<b>10:21 AM – water 4’3 “ deep</b>	9 cm no layers	Sand	Shells		H2S smell, oil
<b>10:42 AM – water 1 meter deep</b>	13 cm - 3cm oxidized top	Clay, mud, sand	Gravel, pebbles, shells, slag	Macros	H2S smell
<b>11:12 AM – water 1 meter deep</b>	13 cm – 2 cm oxid. top	Sand – bottom	Clay & mud in top	Pebbles, shells, macros	
<b>11:30 AM – (not given)</b>	Not given	Mud			Oxidized top – no measure given
<b>11:50 AM – water 1.3 meters</b>	8 cm	Sand	Clay, mud		Oxidized top – no measure given
<b>12:45 PM -</b>	7 cm	Mud	Living vegetation	Clay	
<b>Other Items</b>	Large amounts of Monarch butterflies are on the pier today.				