

**Snapshot Day 10/14/10 Data
(Salt Front RM 36.0
RIVER MILE 25W
Piermont Pier
Lamont-Doherty Earth Observatory**



**Tom Mullane & Catherine Gerardi – Pearl River HS APES – 57 students (above)
Nicole Farish, Nicole Lai, Tappan Zee HS – AP Bio – 41 students
Jen Mazza,– Clarkstown South High School – 20 IB Env. Sci.
Latitude N 41 degrees 02'590 Longitude W 73 degrees 53'789**



Location: Piermont Pier, Piermont NY
Area: Man made 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: some plants in the water but lots of plants along pier & lots of water celery washed up on shore

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

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

Plants in area: sumac 30%; marsh plants 70%; reeds & cattails

<i>ITEM</i>	<i>Time</i>	<i>Reading 1</i>		<i>Comments</i>
Physical				
Air Temperature	9:30 AM	15°C 59°F	10:00 AM	14°C 57.2 °F
	10:30 AM	14.9 °C 58.8°F	11:00 AM	16.5 °C 61.7
	11:30 AM	22°C 71.6 °F	12:30 PM	19 °C 66 °F
	12:50 PM	19 °C 66.2°F	1:20 P	17 °C 62.6°F
	1:40 PM	18.5 °C 65.3 °F		
Wind Speed	Time	Beaufort # & Direction	Anenometer	Direction
Very windy	9:30 AM	3 - N	8 knots	Partly Cloudy
	10:00 AM	3 - N	7.5 knots	Partly Cloudy
	10:30 AM	2 - N	4 knots	Sunny & some clouds
	11:00 AM	1 - NW	2.75 knots	Partly Cloudy
	11:30 AM	1 - NE	1.0 knots	Partly Cloudy
	12:30 AM	3 - SE	7 knots	Mostly Cloudy
	12:50 PM	2 - SE	5 knots	Mostly Cloudy
	1:20 PM	2 - SE	6 knots	Mostly Cloudy
	1:40 PM	1 - SE	3 kts.	Mostly Cloudy
Cloud Cover	Partly cloudy			
Weather today	9:30 AM - cool but nice and sunny, windy by PM cloudy and cooler			
Weather recently	Cold and windy			
Water Temperature				Average
	9:45 AM	16°C	17°C	16.5°C
	10:20AM	16°C	18.4 °C	17.2°C
	11:00AM	17°C	19°C	18.5°C
	12:20PM	17°C	18°C	17.5°C
	1:15 PM	17°C	18.2°C	17.6°C
Turbidity –	9:40 AM	19.8 cm	Average	Long site tube
	10:02 AM	28.9 cm		
	10:08 AM	30.2 cm		
	10:48 AM	22.8 cm and 21.0 cm	21.9 cm	
	11:05 AM	28.6 and 27.0 cm	27.5 cm	
	11:38 AM	28.2 cm		
	12:35 PM	16.1 and 15.2 cm	15.6 cm	

	12:48 PM	17.6 cm and 17.6 cm	17.6 cm	
	1:03 PM	17.6 cm		
	1:21 PM	26.cm		
	1:30 PM	22.0 cm		
<i>Chlorophyll</i>	9:40 AM	4. 0, 2.0, 1.75		North side of pier/windward
	10:26 AM	1.5		South side of pier/lee side
	10:48 AM	3.5		
	11:05 AM	1.8		
	11:38 AM	1.5 – 2.0		Wind changed directions
	12:35 PM	2.0		
	12:48 PM	5.0, 2.0, 1.5		
	1:30 PM	2.0		
<i>Chemical</i>	SURFACE SAMPLES	(Niskin bottle broke)		
DO – group #1	9:45 AM	8 mg/L	16°C	80%
<i>Drop count</i>	10:20AM	8 mg/L	16°C	80%
	11:00AM	10 mg/L	17°C	100%
	12:20PM	8 mg/L	17°C	85%
	1:15 PM	12 mg/L	17°C	125%
DO –group #2	10:00 AM		17°C	
	10:34 AM	7 mg/L	18.4 °C	75%
	11:06 AM	13 mg/L	19°C	140 %
	12:28 PM	6 mg/L	18°C	110%
	1:14 PM	13 mg/L	18.2°C	140%
<i>pH</i>	9:45 AM	7.5	7.5	
<i>colorimeter</i>	10:20AM	7.3	7.3	
	11:00AM	7.4	7.5	
	12:20PM	7.3	7.4	
	1:15 PM	7.2	7.5	
Phosphate	9:45 AM	Not read		
<i>colorimeter</i>	10:20AM	<1 mg/L	.3 mg/L	
	11:00AM	0.06 mg/L	0.1 mg/L	
	12:20PM	0.06 mg/L	0.24 mg/L	
	1:15 PM	0.06 mg/L	0.164 mg/L	
Nitrate	9:45 AM	<0.2 mg/L – high range		
<i>Drop count</i>	10:20AM		0	
	11:00AM	<0.1 ppm – low range	<0.44 mg/L	
	12:20PM	<0.1 ppm- low range	<0.44 mg/L	
	1:15 PM		<0.44 mg/L	

Alkalinity	9:45 AM	40 ppm	150 ppm		
<i>Drop count</i>	10:20AM	96 ppm	145 ppm		
	11:00AM	88 ppm	68 ppm X2		
	12:20PM	100 ppm	64 ppm		
	1:15 PM		72 ppm 60 ppm 84 ppm		
Salinity -	9:45 AM	Hydrometer 1.2 ppt	Refractometer 1 ppt		
	10:20AM	0 ppt	1.4 ppt		
	11:00AM	1.5 ppt	2.0 ppt		
	12:20PM	0.85 ppt	2.0 ppt		
	1:15 PM	0.85 ppt	1-2 ppt		
Tides- Time	Tide Stick	Tide	Rate of Change	Water Depth end of pier-cm	
9:26 AM	20 cm			410 *falling	
9:54 AM	22.5 cm	ebb	0.9 cm?min	403.5	
10:19 AM	27.5 cm	Rising	.19 cm/min	402	
10:45 AM				391	
10:58 AM	35 cm	Rising	.2 cm/min	401 *rising	
11:17 AM	42 cm	Rising	.33 cm/min	419	
12:22 PM	68 cm	Rising	.34 cm/min	445	
12:55 PM	85 cm	Rising	.43 cm/min	466	
1:14 PM				465	
1:34 PM		Rising		513	
Currents	Time	CM/60 SEC	Cm per sec		
	9:26 AM	666 /South	11.1		
	10:03 AM	803/South Ebb	13.4		
	10:29 AM	343/South	5.7		
	10:40 AM				
	10:58 AM	520/North Flood			
	11:25 AM	2164/North	36.1		
	12:30 PM	3190/North	53.1		
	1:02 PM	3300/North	55.0		
	1:14 PM				
	1:34 PM	2850/North	47.5		
Fish Catch Northside of pier	Number Caught	Species	Measure of largest	Seine 30 m	TIME & CATCH
5 rotations – 2 netse each	33	Atlantic Silverside	11 cm		10:00 AM
	2	Striped Bass	7 cm		Diversity 3

	8	Juvenile Blue Crabs	2.5 cm		43 total catch
	16	Atlantic Silverside	8 cm		<i>10:40 AM</i>
	10	Striped Bass	12 cm		
	1	Mummichog	7 cm		
	2	Killifish	6 cm		Diversity 5
	38	Baby Blue Crabs	3 cm		67 total catch
	23	Atlantic Silverside	11 cm		<i>11:03 AM</i>
	9	Striped Bass	10 cm		
	1	White Perch	18 cm		Diversity 4
	6	Baby Blue Crab	1.5 cm		39 total
	13	Striped Bass	14 cm		<i>12:45 PM</i>
	33	Silverside	11 cm		
	2	White Perch	20 cm		
	17	Herring	7 cm		Diversity 5
	2	Baby Blue Crab	2 cm		67 total catch
	31	Atlantic Silverside	7 cm		<i>1:30 PM</i>
	5	Striped Bass	22 cm		Diversity 3
	22	Herrings	5 cm		58 total
		Grand Total			Diversity 7 Count 274
SHIPPING	12:00 PM	Riverkeeper boat	Northbound		
	1:04 PM	Bouchard Barge /Black color	Northbound		Full