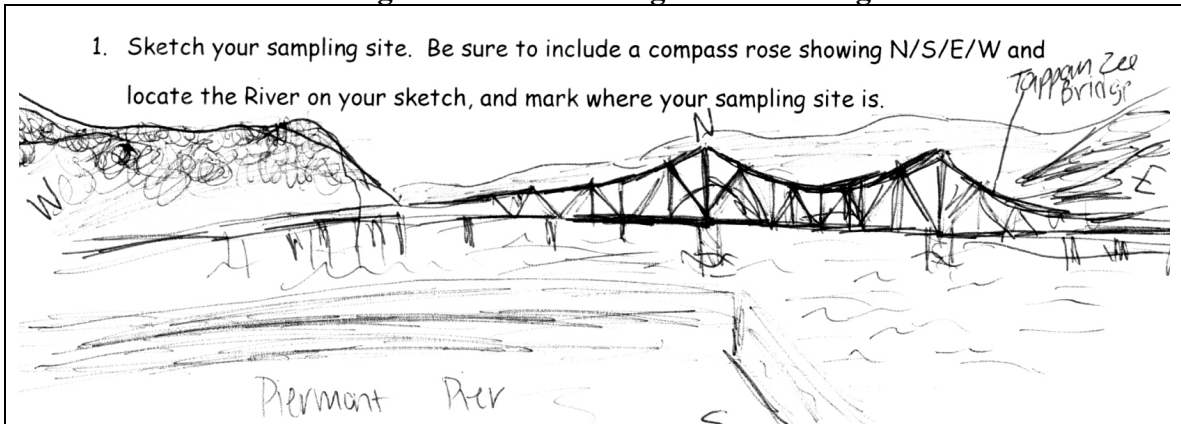


**Snapshot Day 10/7/08 Data
(Salt Front RM 63.4)
RIVER MILE 25W
Piermont Pier
Lamont-Doherty Earth Observatory**



**Ellen Pollina, Brian Newburger– Tappan Zee High School AP Bio. – 33 students
Tom Mullane & Sheryl Turk - Pearl River High School APES – 37 students
Jen Mazza – Clarkstown South High School - 6 HS students
Latitude N 41 degrees 02'591" Longitude W 73 degrees 53'758"**

1. Sketch your sampling site. Be sure to include a compass rose showing N/S/E/W and locate the River on your sketch, and mark where your sampling site is.



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: 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

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

<i>ITEM</i>	<i>Time</i>	<i>Reading 1</i>		<i>Comments</i>
<i>Physical</i>				
Air Temperature	9:33 AM	12.5°C 54.5 °F		
	10:00 AM	15 °C	14.7 °C	
	10:20 AM	13.6°C 55.4 °F	13.6°C 57.4 °F	
	10:53 AM	15.1 °C 57.2 °F		
	11:06 PM	14.9 °C 58.5 °F		
	11:19 AM	17.7 °C 63 °F	16.6 °C 62.1°F	
	12:59 PM	17.5 °C		
	1:15 PM	15.5 °C		
	1:32 PM	17.6°C 65.5 °F		
Wind Speed	Time	Beaufort #	Anenometer	Direction
	9:30 AM	1	2.5 knots	North
	10:20 AM	0.0	0.6 knots 3.6 knots	NW ->SE
	10:53 AM		3.6 knots 1.6 knots	NW anonometer
	11:19 AM	1	1.8-2.0 knots 2.0 knots	North
	11:30 AM	2-3	6.9-9.3 knots	North
	12:35 PM	2-3	4.5–7.0 knots	
	12:59 PM	3 3	7.0 knots 8-12 knots	
	1:15 PM	2	4.8-5.6	
	1:32 PM	3	6.8-7.9	
Cloud Cover	clear			

Weather today	Clear and cool – wind started to pick up at about 10:30 AM			
Weather recently	Mon – little rain, and it has been cooler than normal			
Water Temperature	10:15AM	17°C		SURFACE SAMPLE
	10:34AM	17°C		
	11:45AM	17°C		
	12:50PM	18°C		
	1:20 PM	19°C		
Water Temperature				BOTTOM SAMPLE
	9:30AM	18°C		
	10:30AM	16°C		
	11:15AM	18°C		
	12:35PM	19°C		
	1:15PM	19°C		
Turbidity – <i>All readings are an average of 2 or 3 readings taken in each of 2 groups for each time period</i>	9:30 AM	40.7cm		Long site tube
	10:30AM	37.5		
	10:55AM	26.5 cm		
	11:23AM	20.05 cm		
	11:40AM	26.45 cm		
	12:40PM	35.5 cm		
	1:00 PM	30.5 cm		
	1:20 PM	29.0 cm		
Turbidity	9:30 AM			Small site tube
	10:30AM	20 JTU		
	10:55AM	20 JTU		
	11:23AM	25 JTU		
	11:40AM	15 JTU		
	12:40PM	25 cm		
	1:00 PM	20 cm		
	1:20 PM	20 cm		
Chlorophyll	9:30 AM	1.35		
	10:30AM	0.3		
	10:55AM	1.4		
	11:23AM	2.0		
	11:40AM	2.5		
	12:40PM	0.8		
	1:00 PM	Not read		
	1:20 PM	1.75		
Chemical	SURFACE WATER SAMPLES			
DO	10:15AM	8.0 mg/L	17°C	80%
<i>Drop count</i>	10:34AM	Spilled – no reading	17°C	
	11:45AM	13.0 mg/L	17°C	Over 100%

	12:50PM	9 mg/L	18°C	94%
	1:20 PM	5 mg/L	19°C	55%
pH	10:15AM	7.4		
<i>colorimeter</i>	10:34AM	7.5		
	11:45AM	7.5		
	12:50PM	7.7		
	1:20 PM	7.0		
Phosphate	10:15AM	No results		
<i>colorimeter</i>	10:34AM	No results		
	11:45AM	4.96 mg/L	Seems too high?	
	12:50PM	5 mg/L	Seems too high?	
	1:20 PM	.44 mg/L		
Nitrate	10:15AM	No results		
<i>Drop count</i>	10:34AM	0.44 ppm		
	11:45AM	0.1 ppm		
	12:50PM	0.88 ppm		
	1:20 PM	0.88 ppm		
Alkalinity	10:15AM	100 ppm		
<i>Drop count</i>	10:34AM	80 ppm		
	11:45AM	56 ppm		
	12:50PM	60 ppm		
	1:20 PM	36 ppm		
Salinity	10:15AM	8.0 ppt		<i>Hydrometer</i>
	10:34AM	6.7 ppt		
	11:45AM	6.7 ppt		
	12:50PM	7.0 ppt		
	1:20 PM	7.2 ppt		
Chemical	BOTTOM WATER SAMPLES			
DO	9:30AM	8.0 mg/L	18°C	82%
	10:30AM	5.0 mg/L	16°C	54%
	11:15AM	8.0 mg/L	18°C	80%
	12:35PM	5.0 mg/L	19°C	54%
	1:15PM	9.0 mg/L	19°C	95%
pH	9:30AM	7.5		
	10:30AM	7.5		
	11:15AM	7.5		
	12:35PM	7.5		
	1:15PM	7.5		
Phosphate	9:30AM	0.10 mg/L		
	10:30AM	0.40 mg/L		
	11:15AM	0.08 mg/L		
	12:35PM	0.5 mg/L		

	1:15PM	0.6 mg/L		
Nitrate	9:30AM	0.3 ppm		
	10:30AM	0.3 ppm		
	11:15AM	0.15 ppm		
	12:35PM	0.44 ppm		
	1:15PM	0.44 ppm		
Alkalinity	9:30AM	120 ppm		
	10:30AM	35 ppm		
	11:15AM	38 ppm		
	12:35PM	80ppm		
	1:15PM	80 ppm		
Salinity	9:30AM	7 ppt		refractometer
	10:30AM	6 ppt		
	11:15AM	6 ppt		
	12:35PM	6 ppt		
	1:15PM	6 ppt		
Tides	Time	Tide Stick		
	9:33 AM	25 cm		
<i>Setting a tide stick</i>	10:23AM	25 cm	*falling	*the tide was dropping from 9:33 AM until 10:30 AM when it hit low tide
	10:48AM	29.5 cm	rising	
	11:13AM	33 cm	rising	
	11:35AM	40 cm	rising	
	12:34PM	57 cm	rising	
	12:56PM	66 cm	rising	
<i>Measuring down with tape off side of wood piling pier</i>	1:23PM	72 cm	rising	
	9:33 AM	55 cm	falling	
	10:28AM	53 cm cm	falling	
	10:48AM	57 cm	rising	
	11:16AM	63 cm	rising	
	11:37AM	80 cm	rising	
	12:37PM	84 cm	rising	
	12:58PM	107 cm	rising	
Currents	Time	Cm/60 secs	Cm per sec	Knots/direction
current differs from the main stem. AT 10:35 AM visually can see the switch in current from a line on the water in the main stem	9:50AM	90cm/60 secs.	1.5 cm/sec	0.3 knots N flood
	10:02AM	364cm /60 secs.	6.0 cm/sec	0.12 knots S ebb
	10:35AM	1061cm /60 secs	17.7 cm/sec	.35 knots
	11:00AM	1840 cm/60 secs	30.1 cm/sec	0.61 knots
	11:26AM	1400 cm/60 secs	23.3 cm/sec	0.476 knots ebb
	11:42AM	1434 cm/60 secs	23.9cm/sec	0.478 knots S ebb
•expect error	•1:20 PM	3286.8 cm/60secs	54.78	1.10 knots N

<i>here?</i>			cm/sec	flood	
	12:45PM	102cm/60sec	1.6 cm/sec	.03 knots N flood	
	1:05 PM	860cm/sec	14.33cm/sec	.29 knots Flood	
	1:17 PM	1460 cm/sec	24.3 cm/sec	.49 knots Flood	
	1:36 PM	1400 cm/sec	23.3 cm/sec	.46 knots Flood	
<i>Fish Catch</i>	<i>Number Caught</i>	<i>Species</i>	<i>Measure of largest</i>	<i>Seine 30 m</i>	
<i>Northside of pier</i>	48	Atlantic Silverside	11.5 cm	10:00 AM	
5 rotations –	1	Striped Bass	5 cm		
Each group 1 seine	4	Juvenile Blue Crabs	2 cm		
But with 2 nets	2	Blue Crab	6 cm	Diversity 4	
	2	Shore shrimp	2 cm	57 total	
	17	Atlantic Silverside	12 cm	10:40 AM	
	2	Naked Goby	4 cm		
	5	Striped Bass	1 cm	Diversity 4	
	20	Blue Crab	6 cm	44 total	
	7	Atlantic Silverside	11 cm	11:45 AM	
	2	Striped Bass	10.5 cm		
	1	Comb Jellies	13 cm	Diversity 4	
	10	Blue Crab	9 cm	20 total	
	10	Atlantic Silverside	11 cm	12:30 PM	
	3	Striped Bass	9 cm		
	3	Naked Goby	2 cm		
	3	Striped Bass	9 cm		
	9	Blue Crab	6 cm		
	3	Comb jellies	2 cm	Diversity 6	
	2	Shore shrimp	2 cm	33 total	
	2	Striped Bass	10 cm	1:15 PM	
	2	Blue Crab	2 cm	Diversity 3	
	3	Comb Jellies		7 total	
		Grand Total		Diversity 6 Count 161	
Cores	Length	Abundant	Common	Rare	Comments
9:30 AM – water	16 cm 6 cm top grainy (sand & Gravel) bottom smooth clay	Clay	Sand	Gravel, Pebbles	H2S smell
10:06 AM – water 20 cm deep	13 cm - 4 cm top	Clay,	Sand Pebbles	Mud Gravel	H2S smell 1 crab in top 4

	mainly pebbles bottom 9 cm mainly clay				cm Oxidized material in a pocket in the clay down by bottom
10:20 AM – water 34 cm deep	15 cm – top 12 cm watery & sandy, from 12 cm to 15 cm gravel	Sand –	Gravel Pebbles	Brick	H2S smell medium
10:50 AM – water 35 cm	16 cm – top 8 cm clay, 2 cm sand, 6 cm gravel	Sand	Clay Gravel	Pebbles	H2S smell
11:20 AM – water 52 cm	27 cm – top 14 cm gravel and sand	Mud	Clay, sand, gravel	Pebbles Leaves Wood Shells Brick	Dense feel – sandy clay, hard H2S smell
11:50 PM – water 48 cm	11 cm - top 5 cm sand	Sand	Gravel Pebbles	Clay Shells Brick	Small bit of H2S odor
12:30 PM – water 58 cm (Marsh core)	13 cm top 8 cm lots of fibers, at 2 cm a leaf	Sand Living Vegetation	Leaves	Clay Gravel Pebbles Macroinvert	Small bit of H2S odor Lightly oxidized top
1:00 PM – water 60 cm	13 cm mud top 1 cm, rhizomes between cm 4 and cm 9	Sand	Rhizome & Living Vegetation	Clay Mud Gravel Pebbles	Small bit of H2S odor
1:20 PM – water 32 cm (core near bank)	6 cm core	Clay	Pebbles	Mud Gravel Plant material	Rock in top corner, clay and rhizomes at bottom H2S odor