

**A Day in the Life of the Hudson - Student Salinity Readings**

**10/7/08**

**USGS Salt Front (100 ppm Cl-) RM 63.4**

**INTRODUCTION: To measure salt content, Day in the Life groups use Quantabs where salinity is likely to be low, and refractometers, hydrometers and meters where it's likely to be high. Quantabs give results in parts per million [ppm] of chloride [Cl<sup>-</sup>]; the other methods read total salinity. Both units are useful. USGS defines the location of the salt front using chloride. HRECOS and other references give total salinity in practical salinity units [psu], the roughly equal parts per thousand [ppt], and sometimes ppm. To make comparisons easier, we have converted these results to show both chloride and total salinity at all sites.**

<b>RM FOR GRAPHING</b>	<b>SAMPLING TIME</b>	<b>READINGS AS PPM TOTAL SALINITY:</b>	<b>READINGS AS PPM CHLORIDE (Cl<sup>-</sup>):</b>	<b>MEASUREMENT TECHNIQUE</b>
300.0	9:00 AM	no salinity recorded at all	no salinity recorded at all	Quantabs
133.0	11:30 AM	145	80	Quantabs
127.0	3:50 PM	54	30	Quantabs
124.5	9:35 AM	51	28	Quantabs
102.0	10:00-noon	72	40	Quantabs
96.5	10:50 AM	45	25	Quantabs
84.5	10 AM to 1 PM	38	21	Quantabs
76.0	10:30 AM	51	28	Quantabs
61.0	11:30 AM	101	56	Quantabs
58.0	10:45 AM	155	86	Quantabs
57.0	10:10 AM	146	81	Quantabs
52.5	12:58 PM	3,400	1,882	meter
41.0	11:45 AM	3,500	1,937	meter
36.0	9AM-12:30 PM	8,129	4,500	Quantabs
32.0	0.5	14,830		hydrometer* reading too high for site
31.0	11:33 AM	5,130	2,840	test strip
30.0	9:39 AM	5,000	2,768	refractometer
28.0	10:30-1:15 PM	1,700	1,700	meter
25.0	11:30 AM	15,500	8,580	very high reading-estuary test kit-probably ineffective in this salinity range
25.1	10:15-1:30 PM	1,600	886	hydrometer - surface samples
	9:30-1:15 PM	1,400	775	refractometer - bottom samples
18.5	10:45 AM	12,000	6,642	
18.0	9:20-11:15 AM	6,000	3,321	hydrometer
17.0	1:00 PM	7,600	4,207	refractometer
Inwood 14.0	11:30 AM	7,700	4,262	YSI meter
13.0	9:50 AM	9,300	5,148	hydrometer
10.0	9:30 AM	8,500	4,705	hydrometer
7.1	1:51 PM	12,000	6,642	refractometer
7.0	10:15-2:30 PM	7,000	3,875	hydrometer
5.5	10:00 AM	15,300	8,469	drop kit
4.0	10:15 AM	14,000	7,750	hydrometer
2.5	9:45-11:00 AM	14,600	4,262	hydrometer
2.5	10-10:30 AM	14,300	4,096	hydrometer
2.1	11:30 AM	13,600	7,528	
2.0	12:15-2 PM	14,100	2,583	hydrometer
Ft. Wadsworth -7.0	10:30 AM	20,900	11,569	instant ocean hydrometer
Breezy Pt -11.0	11:20 AM	28,140	15,577	hydrometer
Jamaica Bay	10:15 AM	29,000	16,053	hydrometer/ refractometer
Harlem R 12.0	11:30 AM	18,100	10,019	
East RM 8.0	10:30-2PM	24,000	6,827	hydrometer
East RM 4.2	not provided	23,000	12,731	hydrometer
East RM 4.0	12:00 PM	23,340	12,920	meter

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**10/8/09**

**USGS Salt Front (100 ppm CL-) RM 60.3**

<b>RM FOR GRAPHING</b>	<b>SAMPLING TIME</b>	<b>READINGS AS PPM TOTAL SALINITY:</b>	<b>READINGS AS PPM CHLORIDE (Cl<sup>-</sup>):</b>	<b>MEASUREMENT TECHNIQUE</b>
153.0	10-11:30 AM	70	39	Quantabs
144.0	8:30-10:30 AM	43	24	Quantabs
138.0	10:30 AM	179	99	Quantabs
127.0	4:00 PM	51	28	Quantabs
115.0	10-11:30 AM	51	28	Quantabs
103.0	10:45 AM	29	16	Quantabs
96.5	12:00 PM	78	43	drop count
96.5	12:00 PM	60	33	Quantabs
92.0		51	28	Quantabs
87.0	1:40 PM	60	33	Quantabs
84.5	10:00 AM	100	55	not noted
76.0	10:15	108	60	Quantabs
76.0	10:15-11:15 AM	54	30	Quantabs
E 61.0	2-2:30 PM	51	28	quantabs
W 61.0	2:30 PM	60	33	quantabs
58.0	10:30 AM	110	61	quantabs
57.0	11-12:40 AM	123	68	quantabs
55.0	11:00 AM	96	53	quantabs
53.0	9:30-11:30	112	62	quantabs
41.0	11:30-12:15 PM	2,150	1,190	meter
Nyack MS 31.1	9:30-10:30	5,185	2,870	conductivity meter converted
Blue Rock 31.0	10:45 AM	5,058	2,800	test strip
30.5	10:10 AM	3,300	1,827	hydrometer
28.0	1:00 PM	5,500	3,044	meter
surface W 25.1	9:30-1:15 PM	6,600	3,653	hydrometer
bottom W 25.1	9:30-1:15 PM	7,000	3,875	refractometer
E 25.0	10:15-11:45 AM	9,000	4,982	
W 18.5	8:30AM	10,000	5,535	hydrometer
W 18.5	9:30-10:00 AM	9,000	4,982	refractometer
boat 18.5	10:45-3:00 PM	6,500	3,598	hydrometer
E 18.0	9:30-11:30	6,375	3,529	hydrometer
Inwood 14.0	11:30 AM	7,700	4,262	YSI meter
13.0	10:45 AM	12,000	6,642	hydrometer
11.5	10AM-5:30 PM	13,600	7,528	
T. Marshall 11.5	11:39 AM	11,100	6,144	hydrometer
10.0	10:30-11:15 AM	12,663	7,009	hydrometer
M225 5.5	12:00 PM	18,000	9,964	hydrometer
Midtown W 5.5	9-11AM	16,500	9,133	hydrometer
4.1	11:30-noon	17,200	9,521	hydrometer
NYCSWD 2.5	9:15-1:40 PM	14,800	8,192	hydrometer
Wallerstein 2.5	11-11:30 AM	13,000	7,196	hydrometer
River Proj 2.0	10:30-11:20 AM	16,750	9,272	hydrometer
Harbor Sch 2.0	12:00 PM	18,000	9,964	hydrometer
Breezy Pt -11.0	12:22 PM	32,600	18,045	hydrometer
Bronx R 8.0	11:25-11:45 AM	18,000	9,964	hydrometer
East RM 8.0	11:30 AM	27,000	14,946	hydrometer
East RM 4.5	10:30 AM	22,000	12,178	hydrometer
East RM 4.1	12:03 PM	27,000	14,946	hydrometer
East River 4.0	9:30-10:30 AM	21,000	11,624	hydrometer/refractometer
East RM W 1.0	11:30-11:45 AM	24,500	13,562	hydrometer
boat East RM 0.75	11:25 AM	22,000	12,178	refractometer
East RM W 0.5	11:00 AM	24,000	13,285	refractometer

**A Day in the Life of the Hudson - Student Salinity Readings**

**10/14/10**

**USGS Salt Front (100 ppm CL-) RM 36**

<b>RM FOR GRAPHING</b>	<b>SAMPLING TIME</b>	<b>READINGS AS PPM TOTAL SALINITY:</b>	<b>READINGS AS PPM CHLORIDE (Cl<sup>-</sup>):</b>	<b>MEASUREMENT TECHNIQUE</b>
300.0	6:00 AM	below detection	no salinity recorded at all	quantabs
200.0	9:30:00 AM	below detection	no salinity recorded at all	quantabs
153.0	11:00 AM	51	28	quantabs
138.0	11:00 AM	< 51	<28	quantabs
127.0	3:45 PM	< 51	<28	quantabs
115.0	10:00 AM	< 51	<28	quantabs
112.0	11:00 AM	< 51	<28	quantabs
102.0	1:17 PM	< 51	<28	quantabs
96.5	10:30 AM	51	28	quantabs
92.0	11:15 AM	< 51	<28	quantabs
84.5	11:42 AM	51	28	quantabs
78.0	9:40 PM	below detection		not recorded
76.0	11:30 AM	< 51	<28	quantabs
58.0	9:30-noon	78		conductivity meter
57.0	10:00 AM	51	29	quantabs
55.0	not recorded	51	28	quantabs
53.0	not recorded	51	28	quantabs
41.0	11:00 AM	100	55	meter
39.5	12:20 PM	448	248	quantabs
31.0	10-11AM	485	268	meter
28.0	10-11AM	1,300	720	meter
25.1	10-1PM	881	488	hydrometer
25.0	10:30 AM	1,400	775	not recorded
18.5	11:00 AM	500	277	not recorded
18.0	10-11:30 AM	300	166	hydrometer
13.0	12:40 PM	6,000	3,321	hydrometer
5.0	11:00 AM	6,000	3,321	hydrometer
4.1	12:20 PM	10,500	5,812	hydrometer
4.0	11:00 AM	6,000	3,321	hydrometer
2.5	11-noon	4,350	2,408	hydrometer
2.0	11:00 AM	9,710	5,375	hydrometer
-1.0	3:02 PM	13,000	7,196	hydrometer
-7.0	10:15 AM	23,460	12,986	not recorded
-11.0	11:00 AM	28,200	15,610	hydrometer
Harlem R 13.0	11:05 PM	7,400	4,096	not recorded
Harlem R 12.0	noon-1:30 PM	14,000	7,750	not recorded
Bronx R 8.5	9-11AM	3,666	2,029	not recorded
Bronx R 8.0	10:45 AM	13,000	7,196	not recorded
East RM 4.5	11:30-1PM	24,500	13,562	hydrometer
East RM 4.0		23,000	12,731	hydrometer
East RM 0.5	11:30 AM	26,000	14,392	refractometer