

Albany

Newburgh

NYC

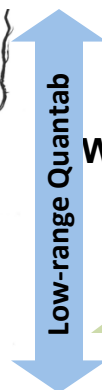
Low-range Quantab

High-range Quantab

Hydrometer

Refractometer

Which method can I use?



## What is Salinity?

Salinity is a measure of dissolved salt in water. Majority of ions in seawater are sodium (Na+) & chloride (Cl-). In the Hudson, salinity is usually low above Newburgh and increases closer to New York City & the Atlantic Ocean. Salinity can change quickly at any location depending on tides and rainfall.

## Why we measure salinity...

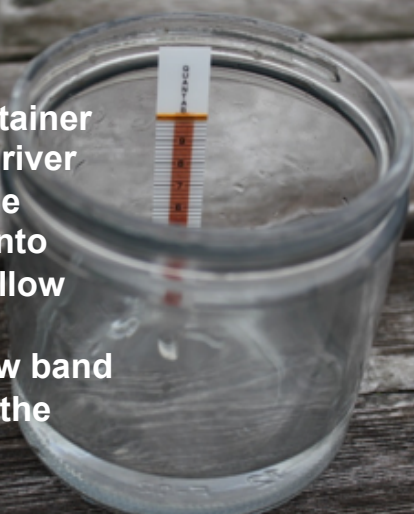
Salinity determines where different types of animals & plants can be found in the estuary.

**Note:** Hydrometers & refractometers read total salinity in parts per thousand (ppt). Quantabs read in parts per million (ppm) or mg/L of chloride [Cl-]. **Be sure to record units & whether you used high or low quantabs!!**

## How to use a Quantabs...

1

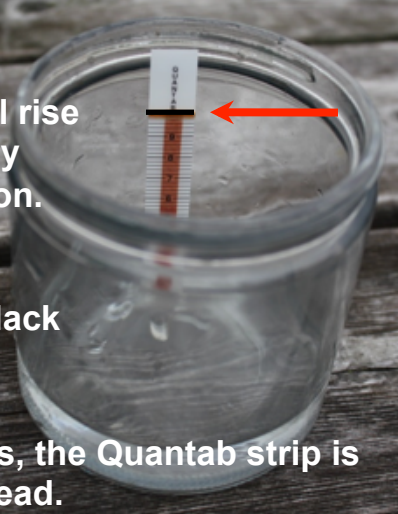
Fill a small container with an inch of river water. Place one Quantab strip into water. Do not allow water to touch the yellow band near the top of the strip.



2

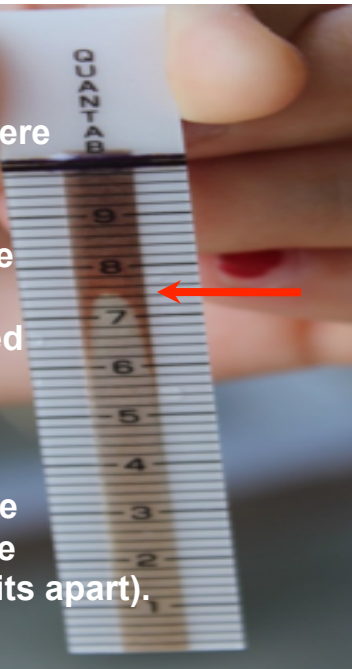
The water will rise up the strip by capillary action. When yellow band turns completely black after

a few minutes, the Quantab strip is ready to be read.



3

Read where the tip of the white line is on the numbered scale to get the Quantab unit value (each line is 0.2 units apart).



4

Find your Quantab unit value on the chart. Read across to find the concentration of Chlorides [Cl-] in mg/L. Record data in ppm Cl-

Quantab Unit Value	Concentration of Chlorides [Cl-] in mg/L
1.0	0.005
1.2	0.006
1.4	0.007
1.6	0.008
1.8	0.009
2.0	0.011
2.2	0.012
2.4	0.014
2.6	0.015
2.8	0.017
3.0	0.019
3.2	0.020
3.4	0.022
3.6	0.024
3.8	0.027
4.0	0.029
4.2	0.032
4.4	0.034
4.6	0.037
4.8	0.040
5.0	0.043
5.2	0.046
5.4	0.050
5.6	0.054
5.8	0.058
6.0	0.062
6.2	0.067
6.4	0.072
6.6	0.077
6.8	0.083
7.0	0.089
7.2	0.096
7.4	0.102

**Note:** Each bottle of Quantabs has a different chart! Use the chart that comes with your Quantabs. Convert to total salinity by multiplying (ppm Cl-) \* 1.8066

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## How to use a Hydrometer

1

Submerge hydrometer in water until it's completely filled with water.

2 Gently tap on flat surface to remove air bubbles.

3 Needle will rise based on water density. Read where the needle stops in Salinity ppt.

Record this number in ppt on data sheet.

In this example, the reading is 24 ppt.

## How to use a Refractometer

1

Rinse platform and the cover with fresh water to clean refractometer before use.

2

Put a couple drops of river water on the platform.

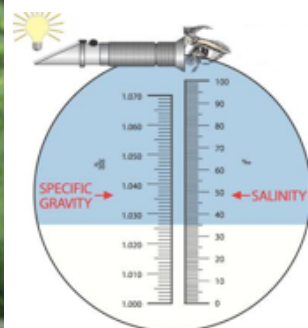
3

Gently close cover over drop of water.

4

Look into eyepiece towards a light source to get your reading based on light refraction.

Read right side of scale, where the two colors meet, in parts per thousand (ppt, or per mille ‰)



In this example, the reading is 35 ppt.