

# Salinity Testing

Using Quantab Chloride Test Strips

December 2021 – February 2022

Arlington County

# Starting the 2021-22 Salinity Season

- **If you have old test strips from last year, please throw them out!** Our new test strips are calibrated differently and I don't want us mixing them up.
- **Start salinity testing in December.** We will plan to test in December, January, and February on the regular monitoring days.
- **Storm Samples.** We will also plan to test on up to two additional storm days, either on a weekend or when the federal government is shut down. This is optional and you should only do this if/once you can get to your site safely! As storms approach, I will keep you updated on our team plan.

# How Do I Get The Test Strips?

- This year, I will be combining test strips with regular supplies pickup at 2100 Clarendon Blvd, 1<sup>st</sup> floor information desk.
- If you need more, please reach out to me.

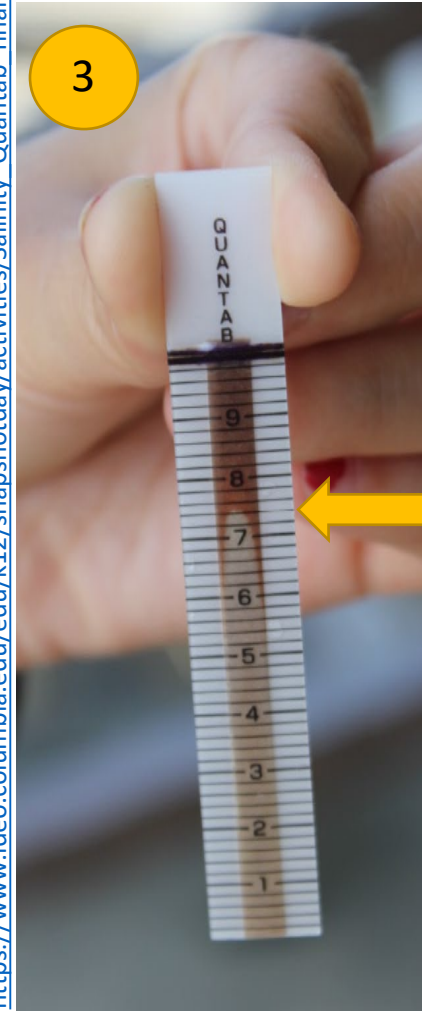
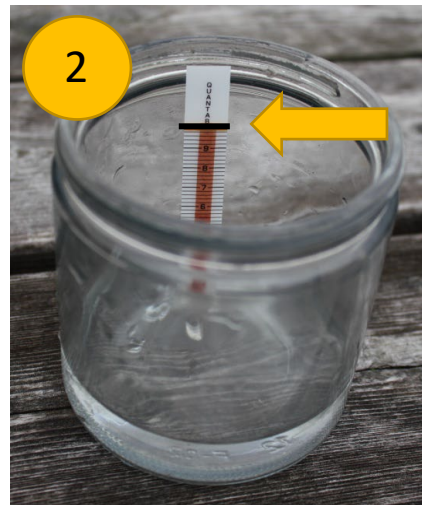
# Always Be Safe

If you feel access to your site is not safe due to **icy or snowy/slippery** conditions when driving or walking, please do not attempt to take a sample. The storm testing is optional – it's always best to stay off the roads in winter weather.

That goes for bacteria sampling too, but **please email me** to let me know so I can collect a make-up sample.

# Getting Ready to Use the Test Strip

- **Bring a small clean container to the stream.** It does not need to be sterile. Glass or plastic works well.
- **Collect water.** Use the container to collect about 1" of water from your normal bacteria sampling location, or from the safest location given site conditions. You can conduct your test at the stream – or you can bring your sample home and do your test in warmer conditions. (You can use your leftover water from the bacteria collection bottle after you run your petri dishes.)



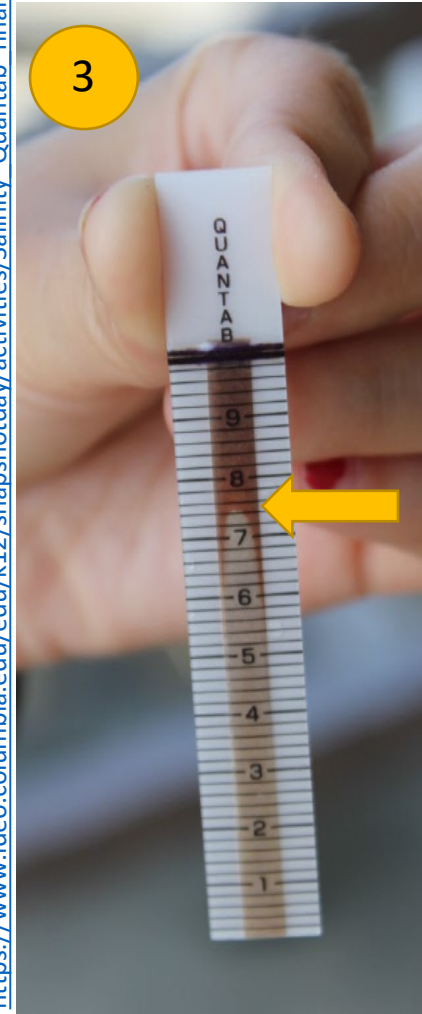
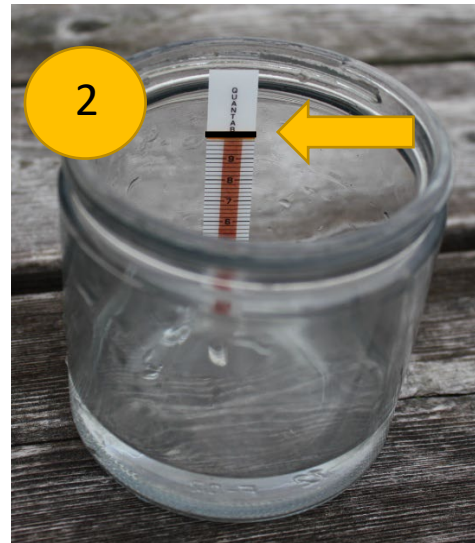
# Select Your Test Strip (Orange vs. Red)

- **Low range vs. high range.** In your bag will be 3 orange (low-range) and 2 red (high-range) test strips per site.
- Under normal conditions, use the orange one. Under high salt levels, use the red one. Lily will email which to use.



# Run and Read The Quantab Test Strip

1. Put the **lower end of test strip** into the water. **Do not** allow water to touch the yellow completion band at top of test strip.
2. Allow water to completely saturate the lower end of the test strip. When the yellow completion band turns completely dark, it is ready to read.
3. Note where the tip of the white chloride peak falls on the numbered Quantab scale. This represents the Quantab unit value.



Photos from NY Hudson River Estuary Program:

[https://www.ideo.columbia.edu/edu/k12/snapshotday/activities/Salinity\\_Quantab\\_final.pdf](https://www.ideo.columbia.edu/edu/k12/snapshotday/activities/Salinity_Quantab_final.pdf)

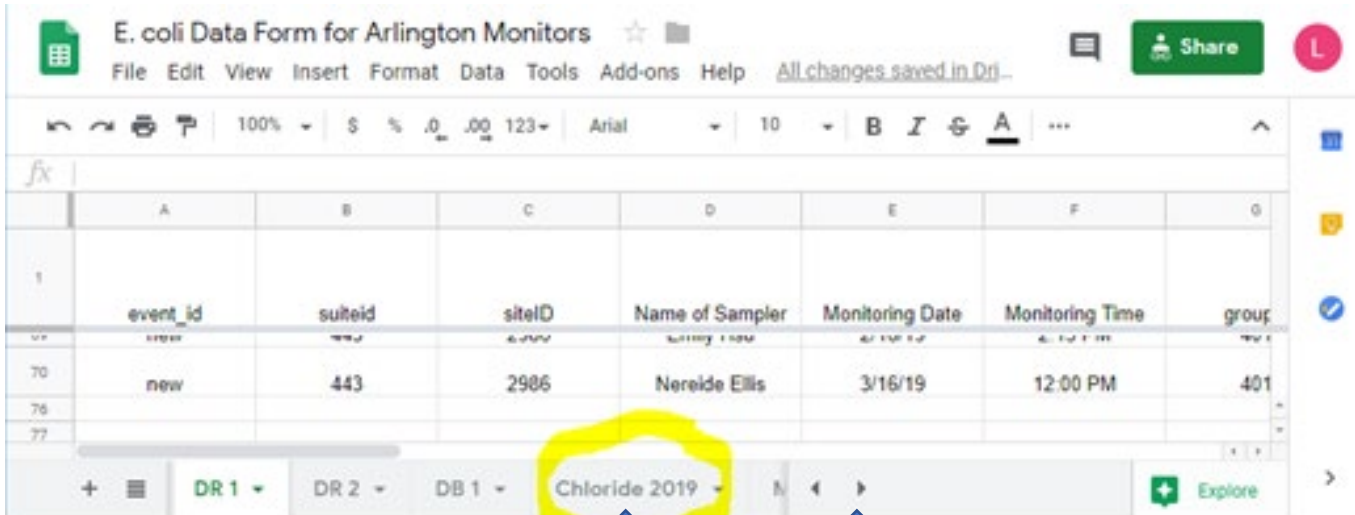
# Reporting

- Report data in the E. coli google doc – there is a tab at the end (far right) named Chloride. Include:
  - Site
  - Date and time of the sample
  - Quantab value
  - Orange or red test strip (very important!)
  - (Lily will use conversion tables to fill in chloride levels.)
  - Approximate temperature from your preferred weather app/website
  - Snow melt conditions, water levels, sample location
  - Your name
  - Any other notes or observations



# Finding the Reporting Form

- Go to the Google doc where you normally enter bacteria data
- From your site tab, look at the bottom for the tab named “Chloride.” You may need to use the arrows to find it (on the far right). Click on the tab.



The screenshot shows a Google Sheet interface. The title bar reads "E. coli Data Form for Arlington Monitors". The menu bar includes "File", "Edit", "View", "Insert", "Format", "Data", "Tools", "Add-ons", and "Help". The toolbar shows "100%", "123", "Arial", "10", "B", "I", "G", "A", and a "Share" button. The spreadsheet contains a table with the following data:

	A	B	C	D	E	F	G
1	event_id	suiteid	siteID	Name of Sampler	Monitoring Date	Monitoring Time	group
70	new	443	2986	Nereide Ellis	3/16/19	12:00 PM	401
76							
77							

At the bottom of the sheet, there is a tab bar with tabs labeled "DR 1", "DR 2", "DB 1", and "Chloride 2019". The "Chloride 2019" tab is highlighted with a yellow circle, and two blue arrows point to it from below. To the right of the tabs are navigation arrows and an "Explore" button.

# Entering Your Chloride Results

- Scroll down to the next open row at the bottom of the data sheet. Enter your data.

E. coli Data Form for Arlington Monitors ☆

File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

100% \$ % .0\_ .00 123- Arial 10 B I U A

	A	B	C	D	E	F	G	H	I	J	K	
1		Site	Date of sample	Time of sample	Quantab value, as read from the test strip	Low range (orange) or high range (red) Quantab?	% NaCl (Lily fills in)	ppm (mg/L) Cl- (Lily fills in)	Outdoor air temperature (use weather app or website)	Snow melt conditions, water levels, sample location (always be safe!)	Monitor Name	Other notes
62		FMR1	3/16/2019	9:50 AM	1.2	Low range	<0.005	<28	45 F	Normal water flow	Savannah Sierco	
63		Wren Branch	3/16/2019	9:50 AM	1	Low range	<0.005	<28	45 F	Normal water flow	Savannah Sierco	
64		Windy Run	3/16/2019	3:00 PM	4.2	low range	0.026	158	50 F	Normal water flow	Theo Moll	
65		FMR5	3/16/19	3:15 PM	3.8	Low range	0.022	133	51F	Normal water flow	Emily Hsu	
66		FMR2	3/16/2019	2:30 PM	2.8	Low range	0.014	82	50 F	Normal water flow	Trisha Gruesen	
67		LBR 1	3/16/2019	9:10 AM	2.6	Low range	0.012	73	45 F		Ann Kelly	
68		LBR2	3/16/2019	9:15 AM	4	Low range	0.024	145	45 F		Ann Kelly	
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79												

1 WR 1 LBR 1 LBR 2 LBR 3 ULB 1 LLB 1 DR 1 DR 2 DB 1 Chloride 2019 MargaretsCreek (no longer active)

# Tips

- You do not have to use a bacteria collection bottle, any clean container is fine.
- Some people have asked if they can take their sample home in a watertight container so they can run the Quantab test at home. This is fine.
- Please discard the test strips at the end of the season. The conversion scales are different from one year to another. Or you can return them to Lily.