



Volunteer Monitoring Program Updates



Susan Libes

Topics



- Briarcliffe Acres
New Program



- Surfside Beach
Lake Dogwood

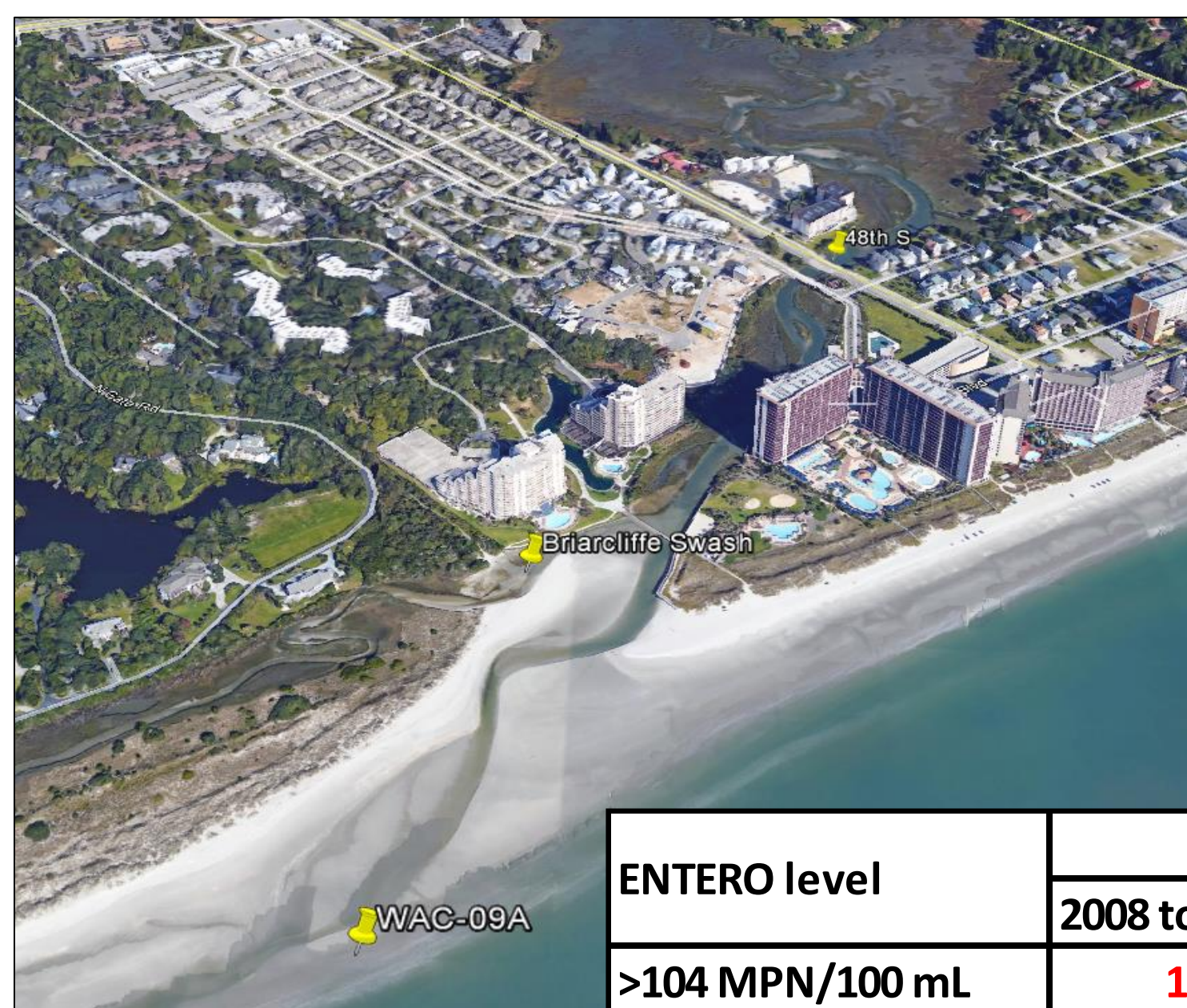


- Murrells Inlet
Watershed plan implementation progress evaluated by volunteers



- Waccamaw River
Aftermath of Florence. Record low DO's. Bad odor. SC DNR reports of fish kills.
Couple of sampling events with "high" E. coli.
- Logistics and personnel changes

Town Of
Briarcliffe Acres

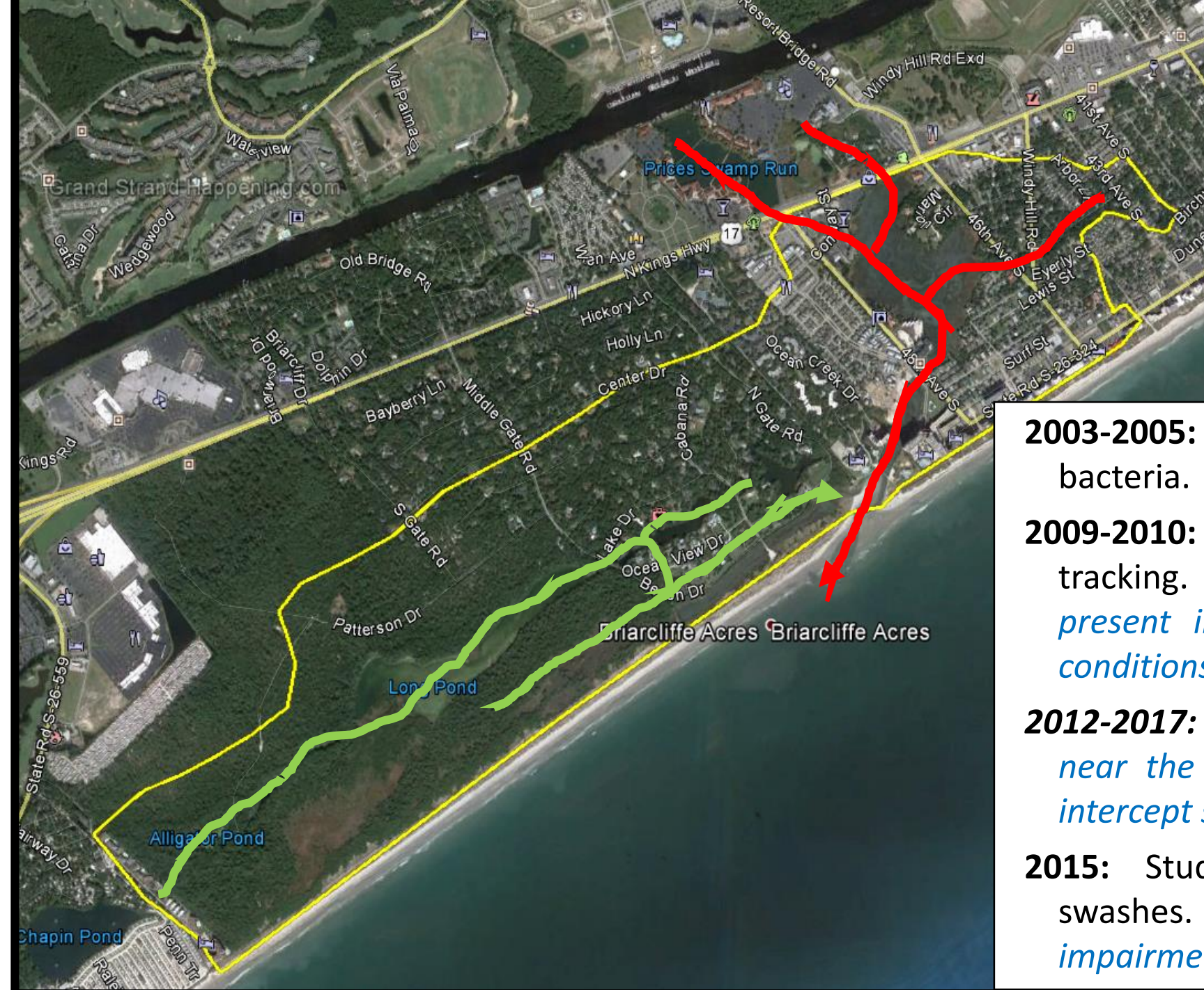


1997-present: Beach monitoring. → *WAC-09A on federal list of impaired waters.*

2000: Microbial source tracking of storm water outfalls on Grand Strand. → *Significant percentage of human-sourced fecal bacteria from spot sampling at Beach Dr.*

Beach Monitoring Program

ENTERO level	Date ranges		
	2008 to 2012	2013 to present	2008 to present
>104 MPN/100 mL	14%	19%	18%
>500 MPN/100 mL	2%	3%	3%
Total count	93	483	576



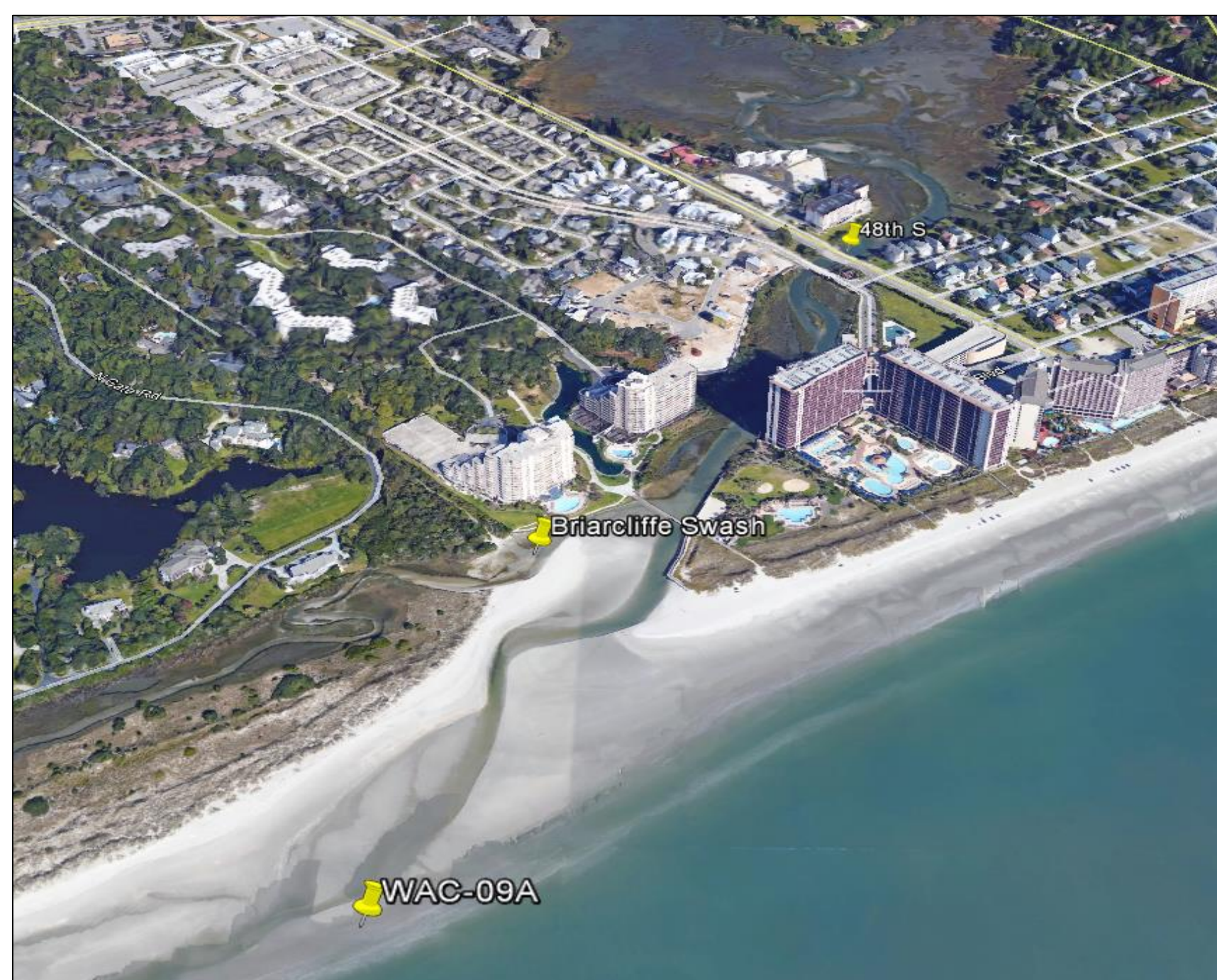
2003-2005: Spot sampling in lakes for fecal bacteria. → *Low levels reported.*

2009-2010: Watershed-scale microbial source tracking. → *Human sourced bacteria were present in BA swash during wet and dry conditions.*

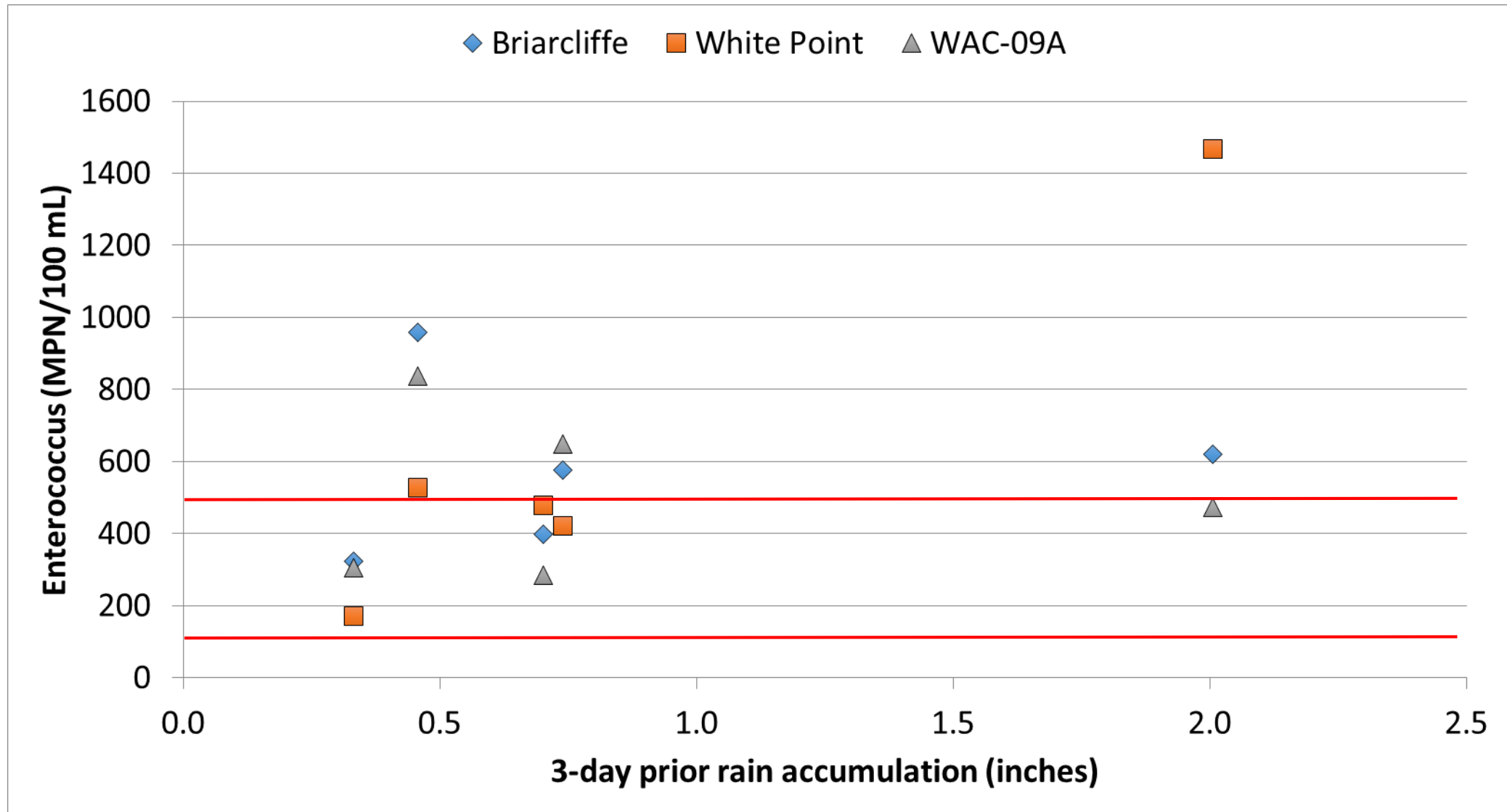
2012-2017: Groundwater study. → *Water table near the swash was often high enough to intercept septic tank leach lines.*

2015: Study comparing BA and White Point swashes. → *Both contribute to downstream impairment at WAC-09A.*

Sept to Nov 2015



Wet Weather Sampling from Sept to Nov 2015



Volunteer Monitoring Sampling Sites



Lakes as potential source

- North Lake
- South Lake
- Long Lake

Tidal flows

- Head of Swash
- Cabana Road
- Mouth of Swash

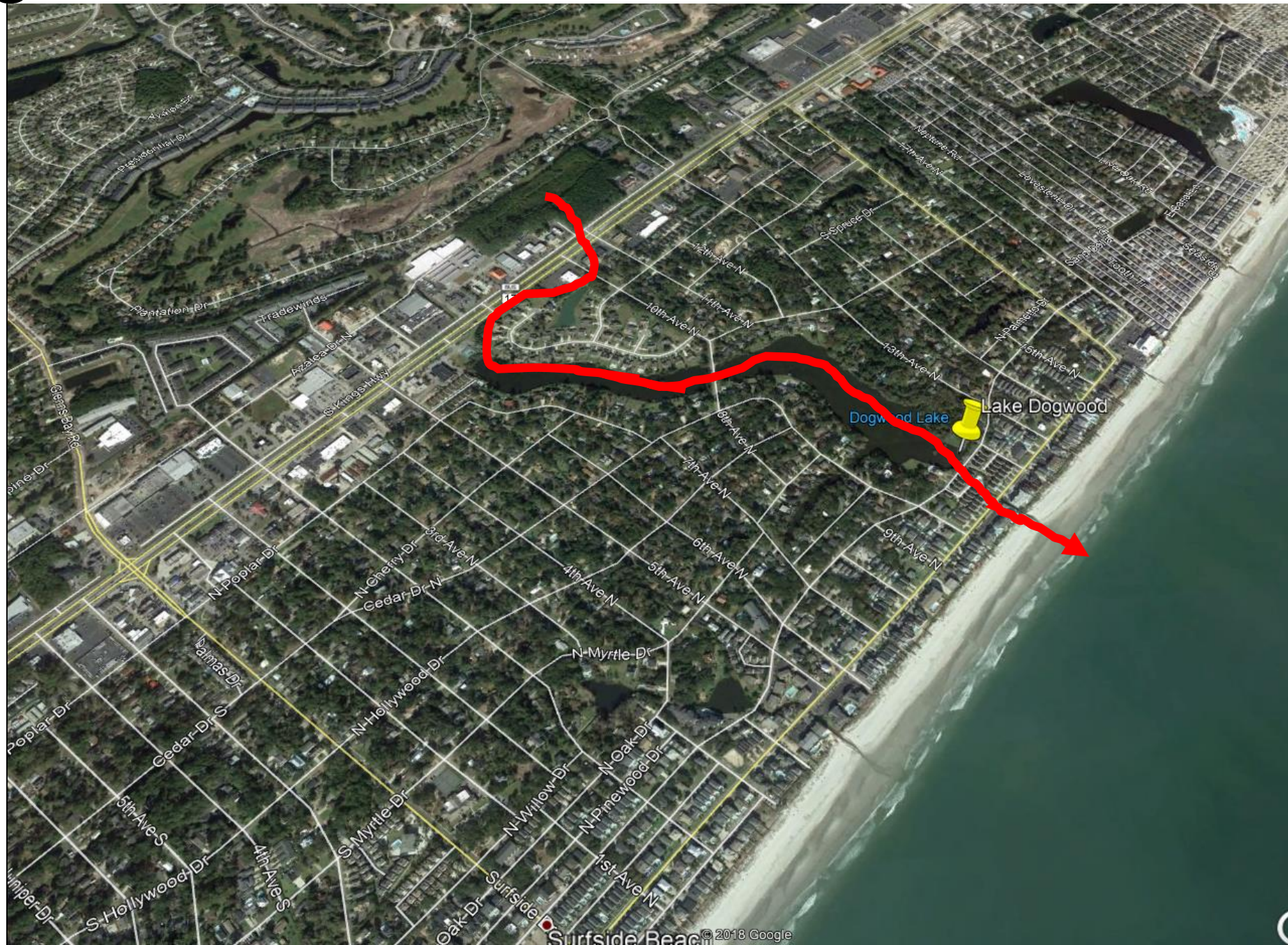
Includes ENTERO

Ocean (receiving waters)

WAC-09A

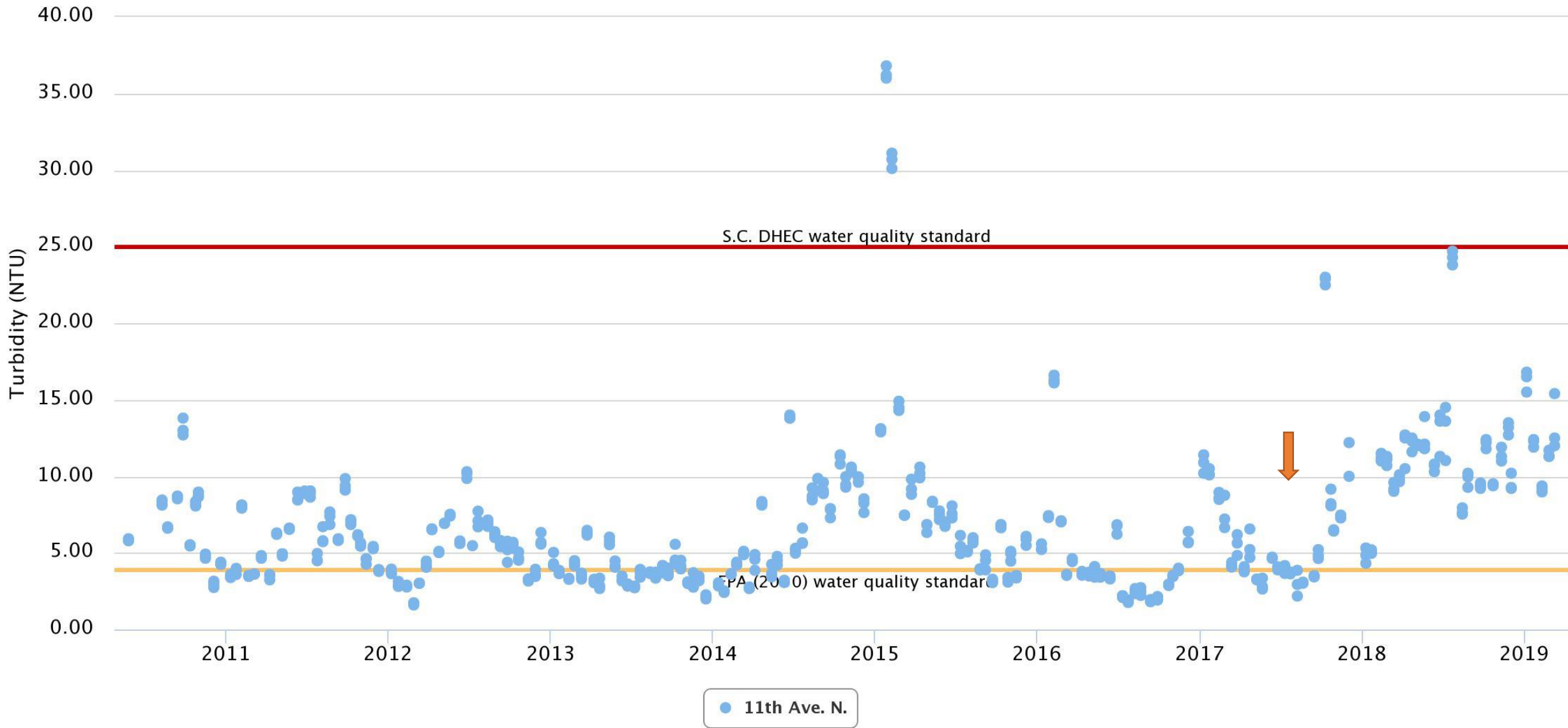


Lake Dogwood in Surfside Beach



Turbidity (NTU)

Data collected between May 27, 2010 and Mar 12, 2019



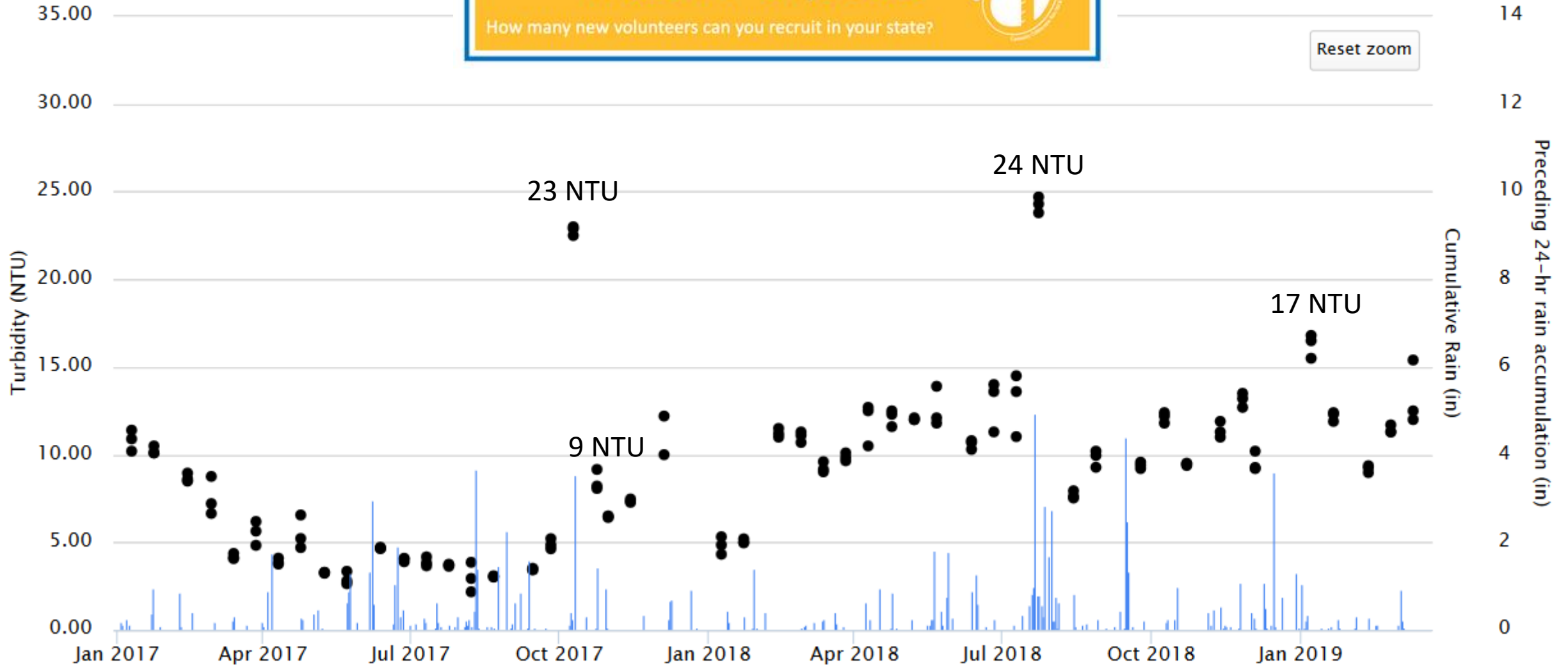
CoCoRaHS March Madness 2019

March 1–31, 2019



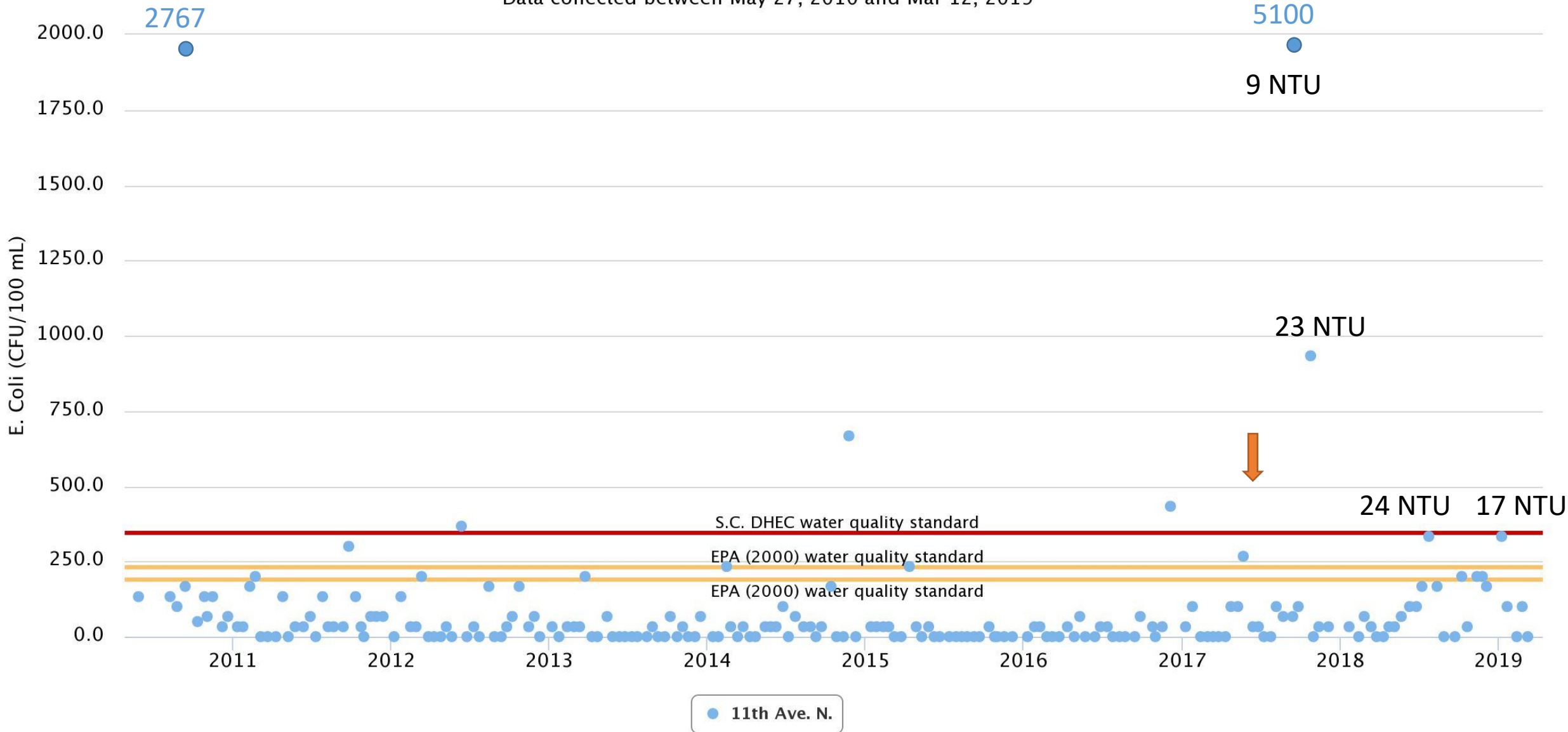
How many new volunteers can you recruit in your state?

Reset zoom



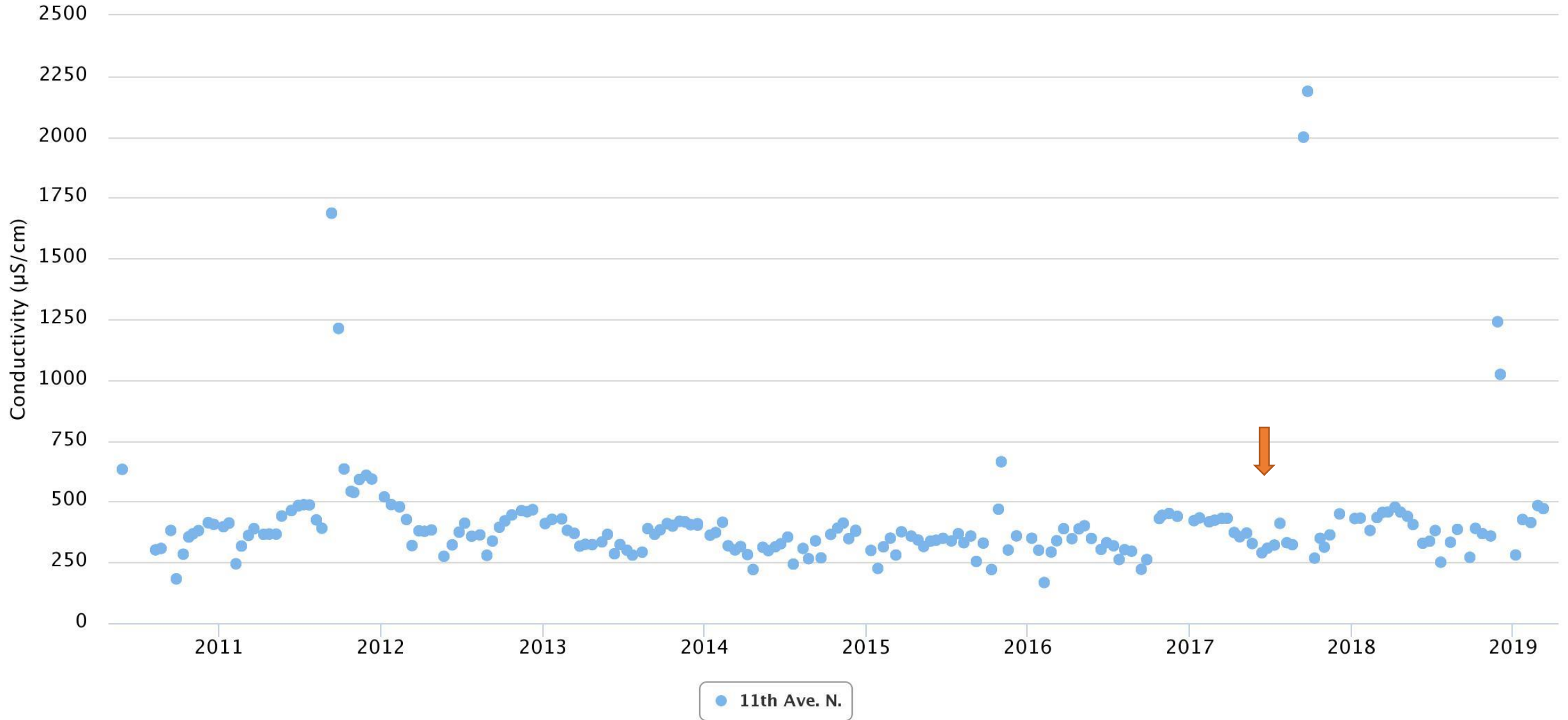
E. Coli (CFU/100 mL)

Data collected between May 27, 2010 and Mar 12, 2019

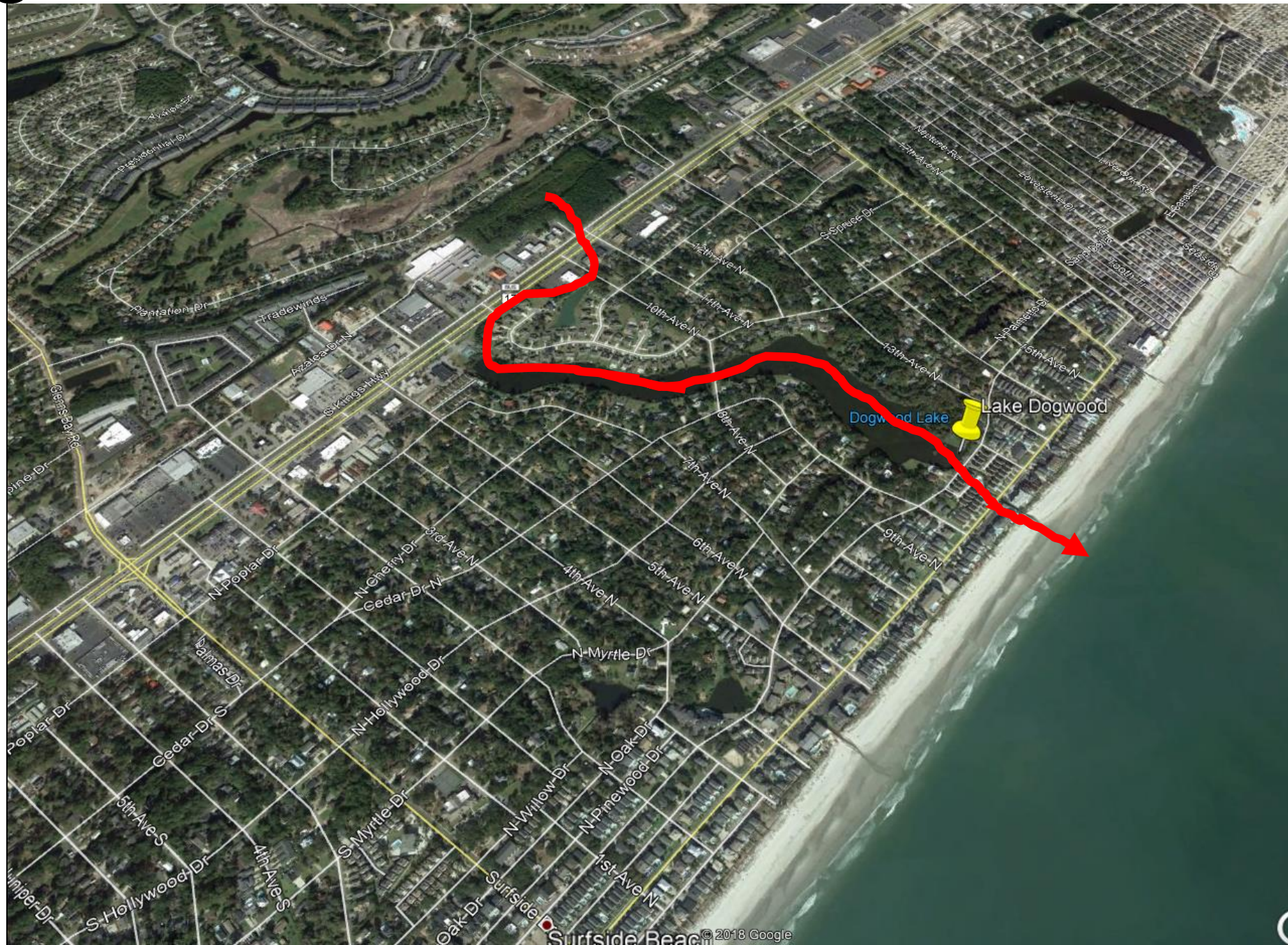


Conductivity ($\mu\text{S}/\text{cm}$)

Data collected between May 27, 2010 and Mar 12, 2019



Lake Dogwood in Surfside Beach





MURRELLS INLET 2020

A Clear Vision For The Inlet

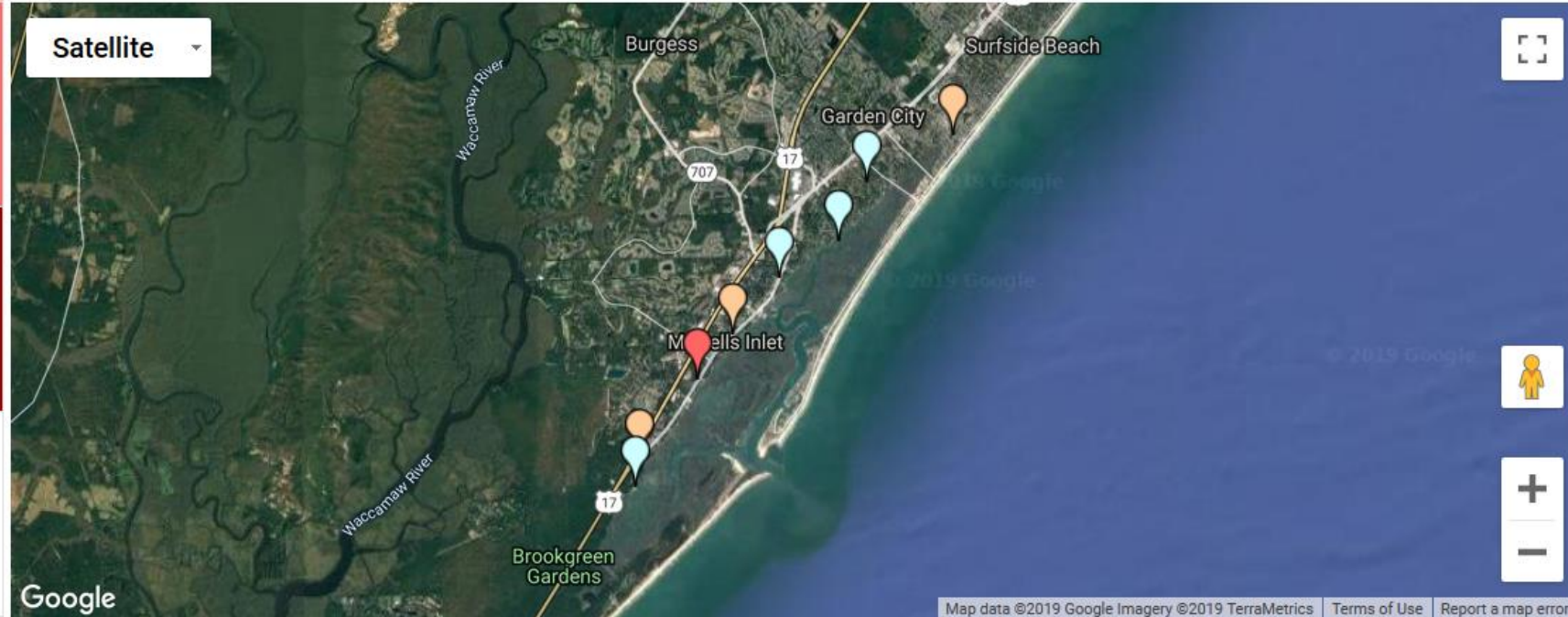
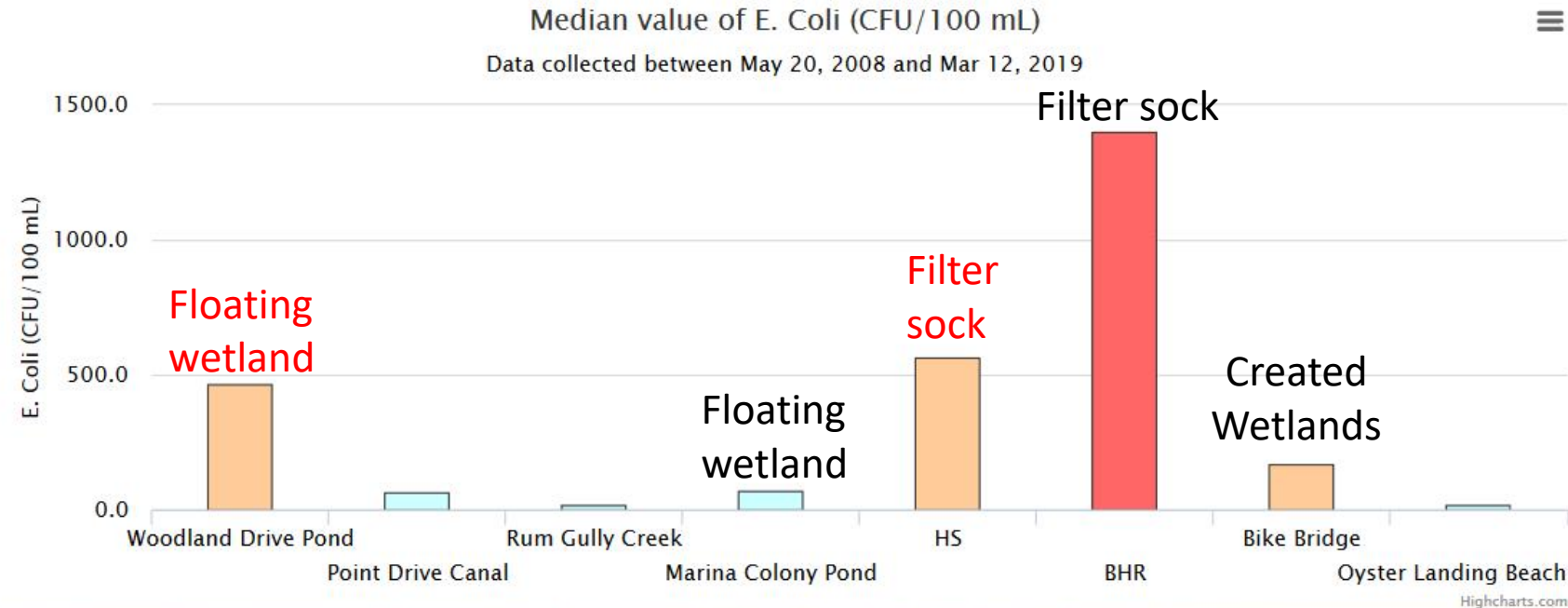
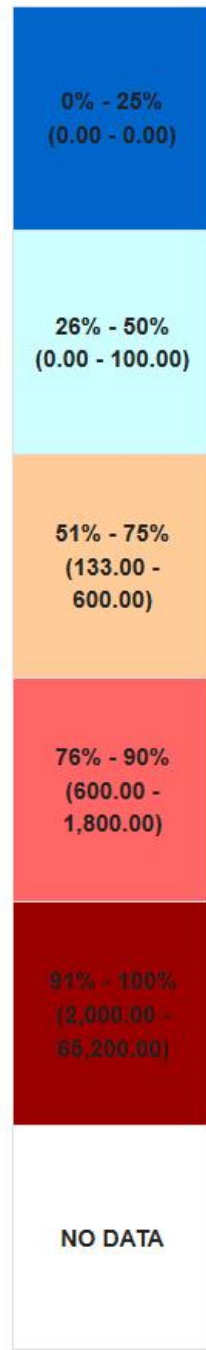
- ✓ Watershed plan approved
- ✓ Grant funding
- ✓ BMPs installed
- ✓ BMPs assessed

VM program

EQL & Woolpert

More on the way?

New webpage





WACCAMAW

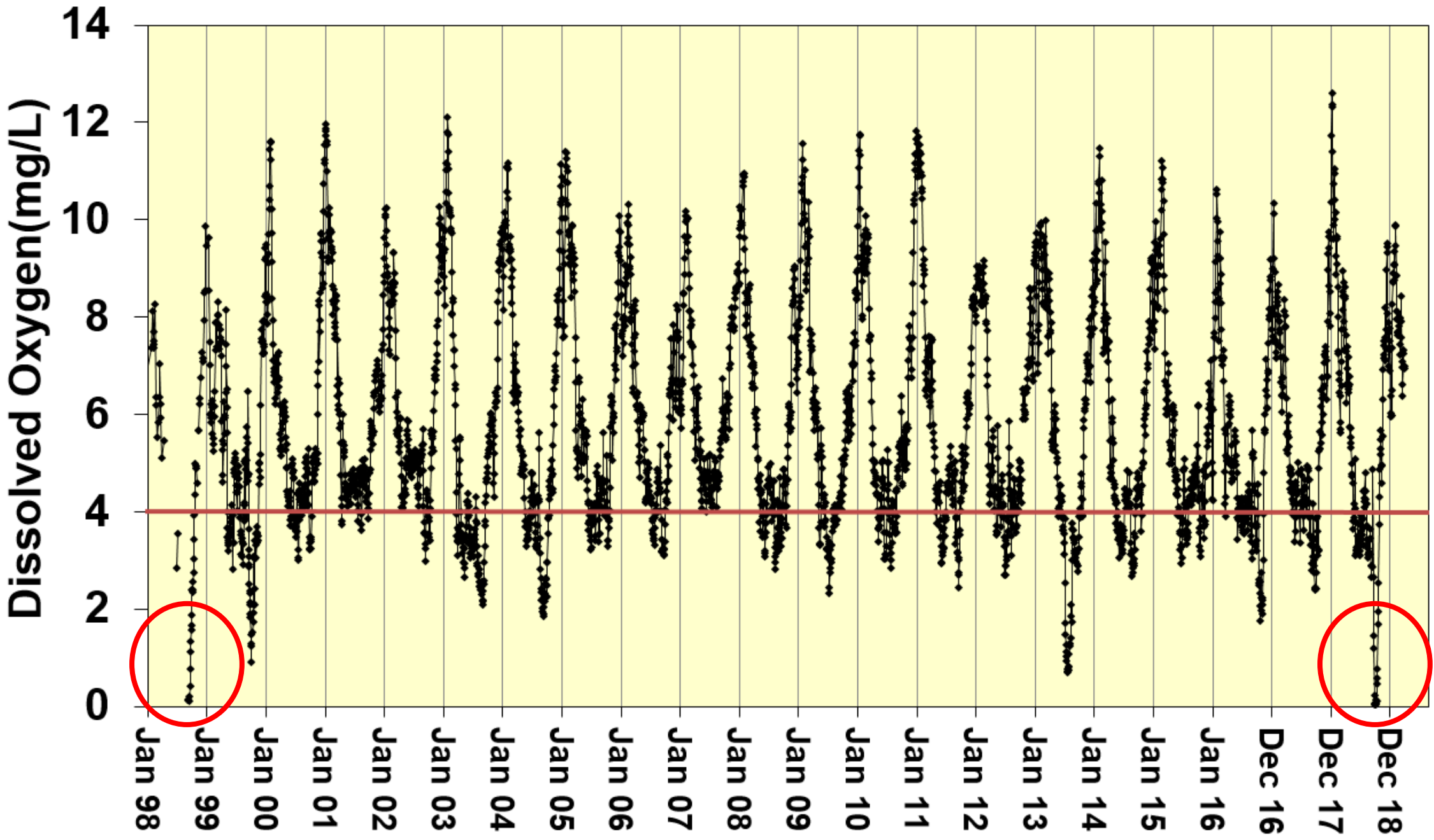
RIVERKEEPER

How the Waccamaw River water quality levels look now after Hurricane Florence

by WPDE | Thursday, November 15th 2018



Thanks to volunteers like this group, the Waccamaw Riverkeeper is able to test water quality on the Waccamaw River from Waccamaw Lake to Winyah Bay. (WPDE)





The Waccamaw experienced a pretty significant fish kill post Hurricane Florence. As I'm sure you are aware the DO in the late summer can get very low and become fatal for fish. They can't tolerate levels below 2.0mg/l for very long. With all the flooding and excess organic nutrient load caused our water quality to deteriorate quickly and in some spots there was nearly no oxygen at all. I had readings near Longs, SC at 0.1-0.3 mg/l and 0.3-0.5mg/l near Conway.

.....With the flooding being so extensive it was nearly impossible to get estimate, but easily tens of thousands of fish died. At any rate, it wasn't a complete die off and we plan to monitor the situation this summer to get an idea on the magnitude of the kill.

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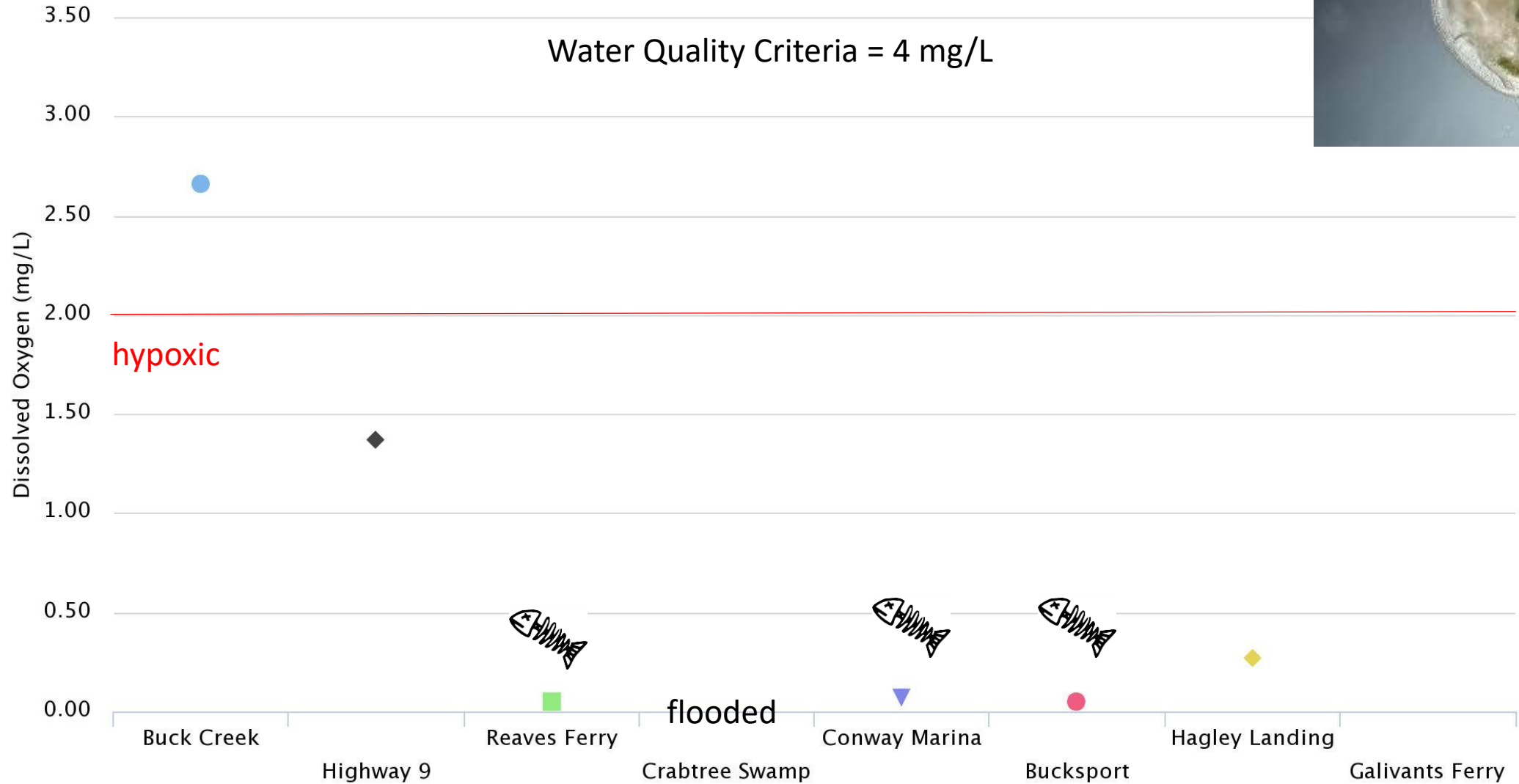
1/17/19



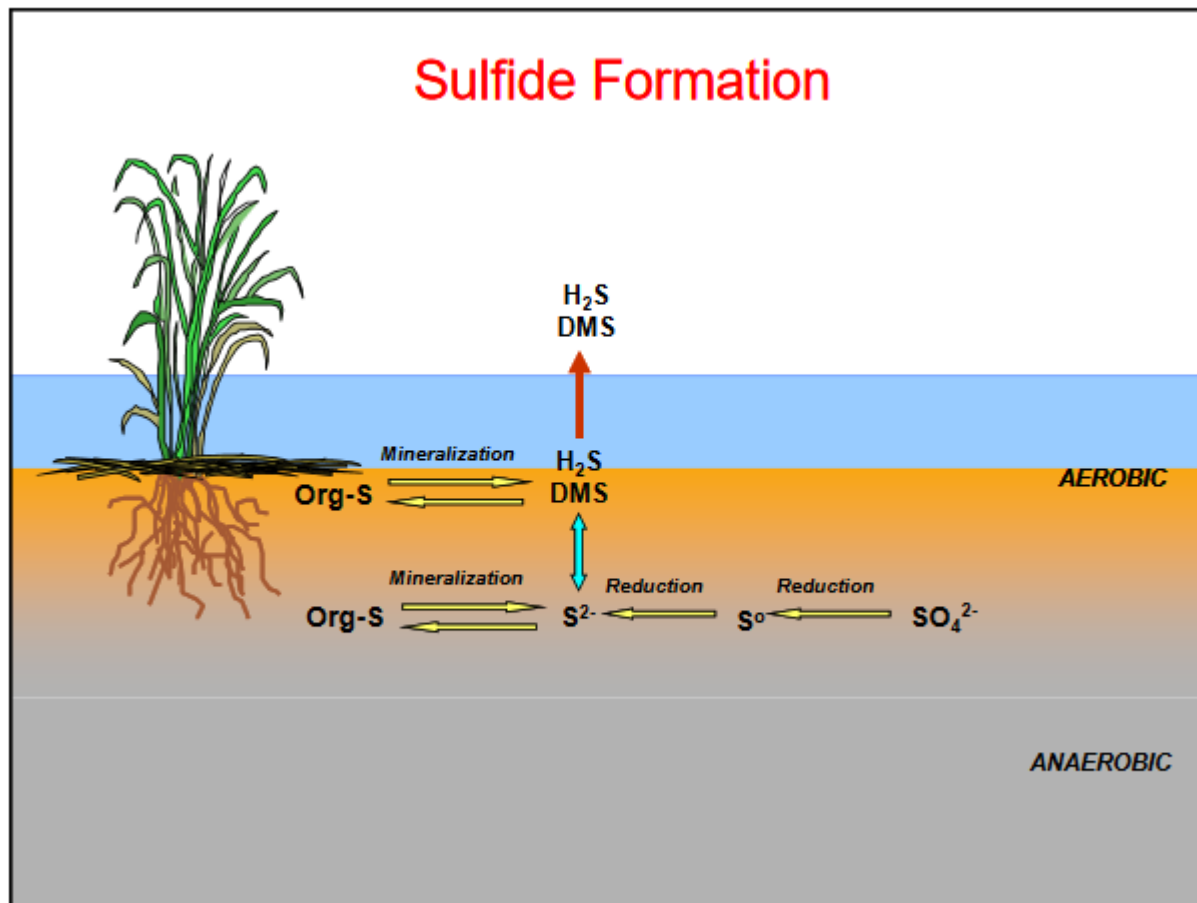
Dissolved Oxygen (mg/L)

Data collected on Oct 4, 2018

Water Quality Criteria = 4 mg/L



Sulfide Formation



Logistics and personnel changes

Migration to new web site is complete

- Let us know of any dead links
- New Murrells Inlet webpage to highlight watershed planning
 - Why, what, when, where and who
 - Highlight VM program
 - Includes spotlight articles and a video!

Many new volunteers

- Briarcliffe Acres
- Waccamaw River – particularly Team 4

AJ is moving on!

- Search to replace
- Increased role of grad students