

# Paula

- Introduce Kelly
- Have teams introduce themselves
  - Recognize Joan and Ken Kreikemeier
- Discuss transition to new field leader
  - Introduce Emma
- Talk about BMI or ask Jack Galloway to do this.
  - Funded by IP
- Thank other funding partners (MS4's)

# Christine

- Jo's award
- Training on 3/9
- Presentation on 3/9
- Gage reactivated at Babson's Landing
- New IP grant funds meters and money from Norcross to help with probes



# Technical Discussion

## Waccamaw River Volunteer Monitoring Volunteer Luncheon

2015



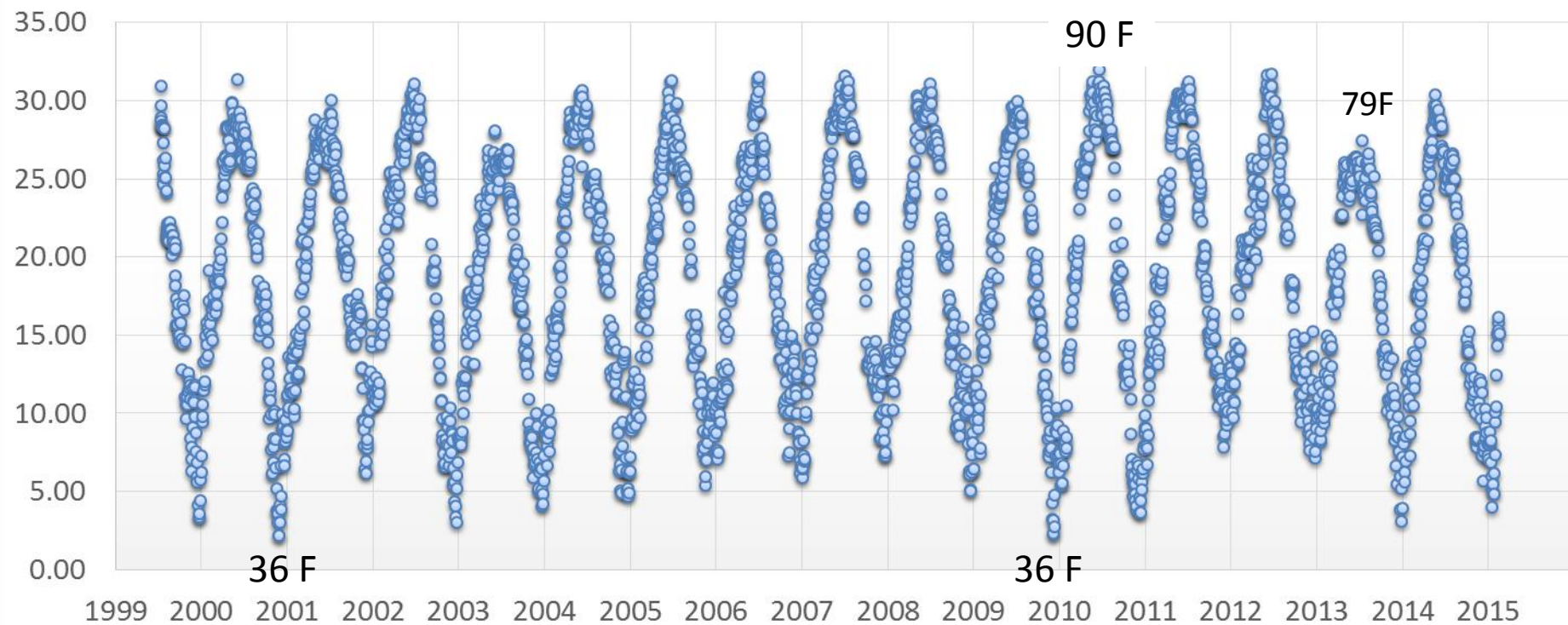
# Topics

- Some recent data trends
- Cold weather issues with monitoring
  - Equilibrating meters
- The US mail and our data backup plans
- Site location check
- Upgraded website

At least it didn't get this bad!



## Water Temperature at Murrells Landing













# Temperature issues

- We hit the temperature limit on the equipment this winter!
  - This is somewhere around 0 to 5 C, so some equipment performance issues were unavoidable.
- Conductivity probes do not perform well in cold conditions
  - You can keep the turbidity sample and read conductivity from this a couple of hours later back at your house once the meter has warmed up.

# Temperature equilibrating

- Fill your 1-L wide mouth bottle with sample water
- Let all the sensors equilibrate for at least 10 min. pH might take longer in cold weather.
- Keep hitting the measure button
- While waiting, collect water for turbidity, bacteria and make nutrient measurements
- Refill your thermos bottle, transfer sensors into this water
- Stir gently





# DRIFT

## Dissolved Oxygen

Time Measured:

**Sample Readings:** Watch for drift in last two readings

Rep	DO% (drift $\leq 5\%$ )	DO (mg/L) (drift $\leq 0.20$ )	Temp ( $^{\circ}\text{C}$ ) (drift $\leq 0.10$ )
1			
2			
3			
4			
(5)			
(6)			

## Conductivity

Meter model :

A329

Time Measured:

**Sample Readings:** Watch for drift in last two readings

Rep	Conductivity <input type="checkbox"/> ( $\mu\text{S}/\text{cm}$ ) (Drift $\leq 1\%$ ) <input type="checkbox"/> ( $\text{mS}/\text{cm}$ ) (Drift $\leq 0.1$ )	Total Dissolved Solids (TDS) <input type="checkbox"/> (ppm) <input type="checkbox"/> (ppt)	Salinity (ppt)	Temp ( $^{\circ}\text{C}$ ) (drift $\leq 0.10$ )
1				
2				
3				
4				
(5)				

## pH

Meter model :

A329

Time Measured:

**Sample Readings:** Watch for drift in last two readings

Rep	pH (drift $\leq 0.10$ )	Temp ( $^{\circ}\text{C}$ ) (drift $\leq 0.10$ )
1		
2		
3		
4		
(5)		
(6)		

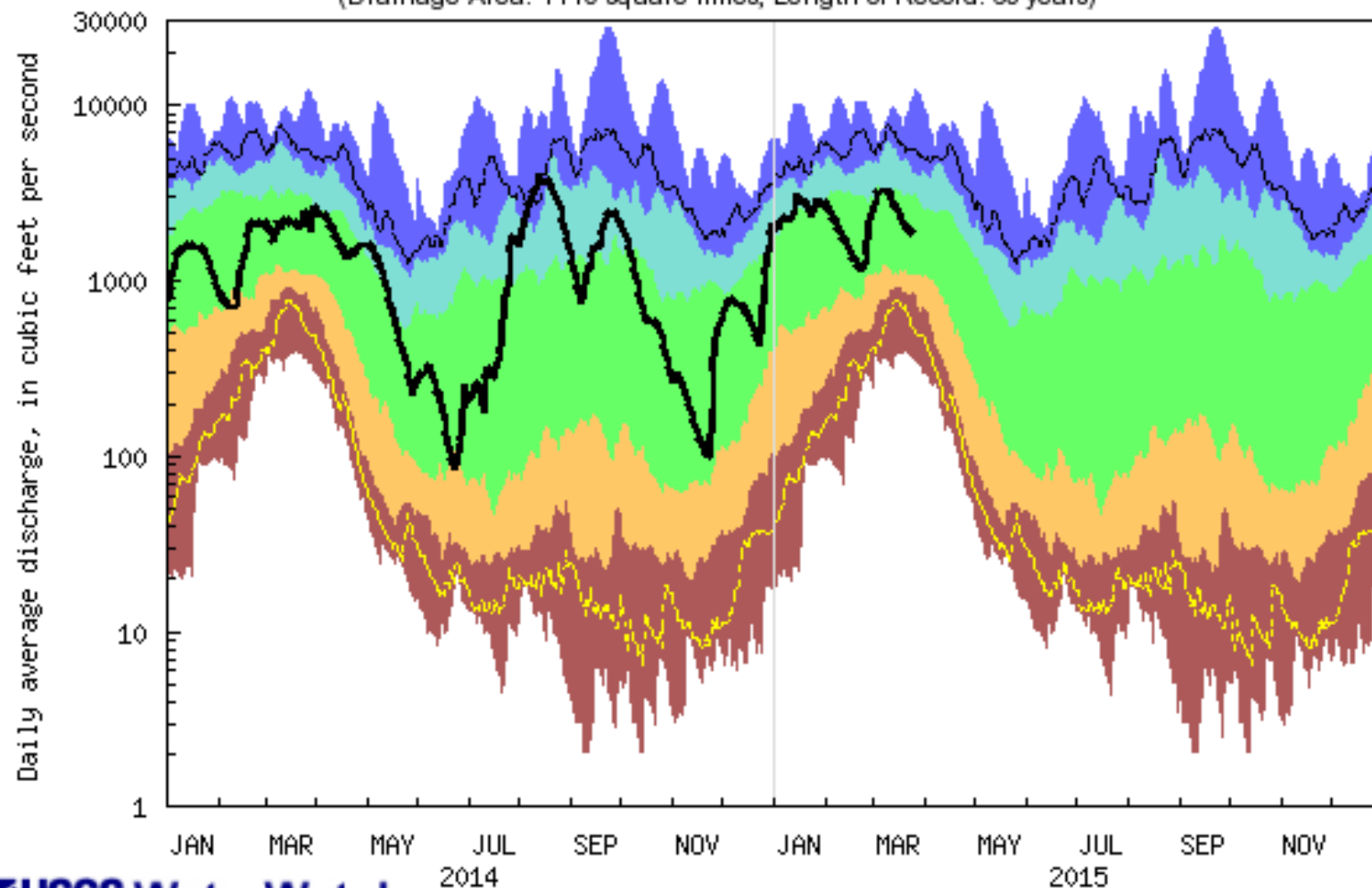
*\*In the event of a meter or check failure, continue measuring. **SAVE** your turbidity sample to be analyzed later for conductivity. Call the VM coordinator for assistance.*

# Flood?

- Jul 2014
- Winter 2015




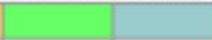





USGS 02110500 WACCAMAW RIVER NEAR LONGS, SC  
(Drainage Area: 1110 square miles, Length of Record: 63 years)

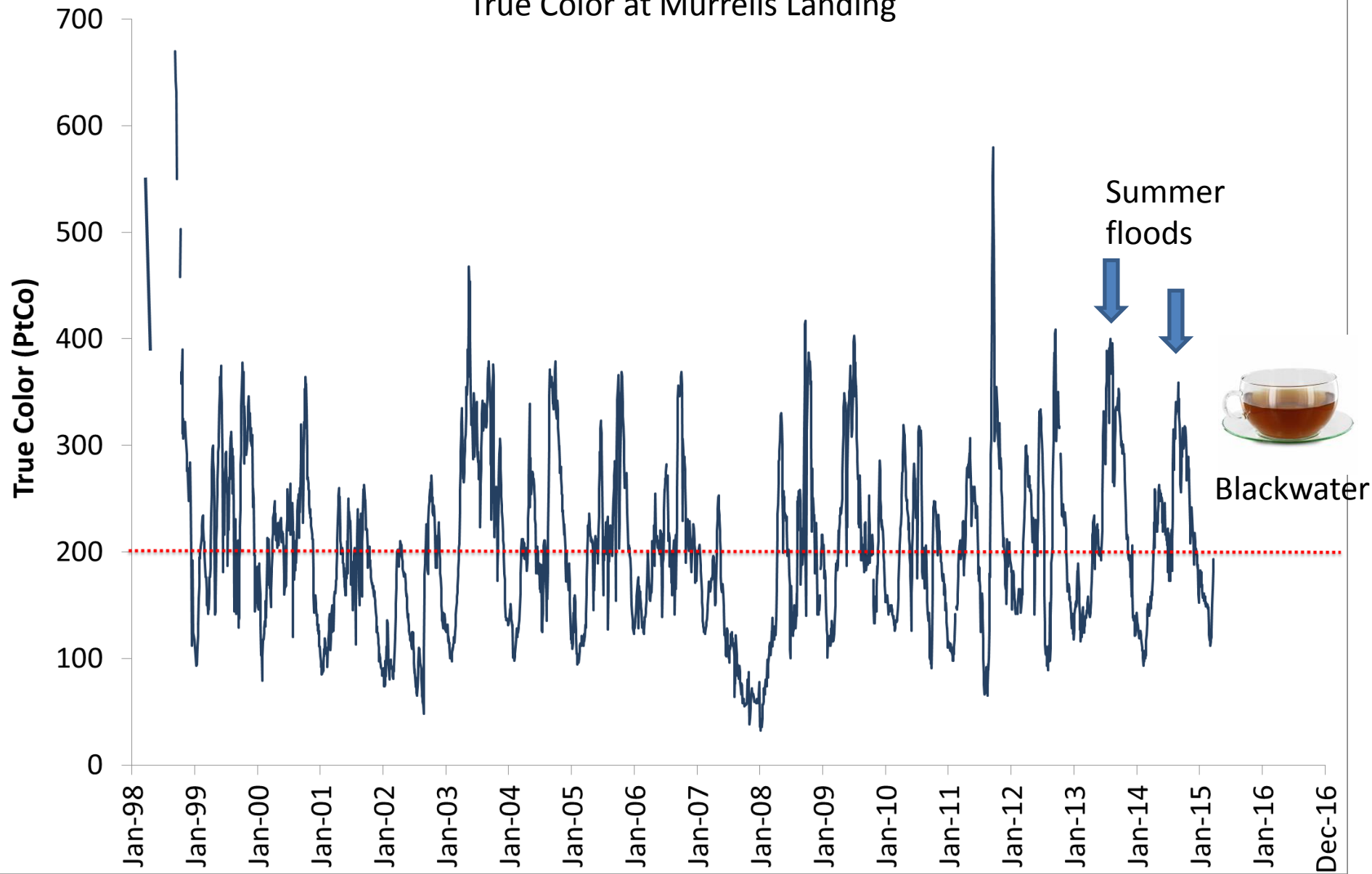


**USGS WaterWatch**

*Last updated: 2015-03-26*

Explanation - Percentile classes							Flow
							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	
Much below Normal		Below normal	Normal	Above normal	Much above normal		

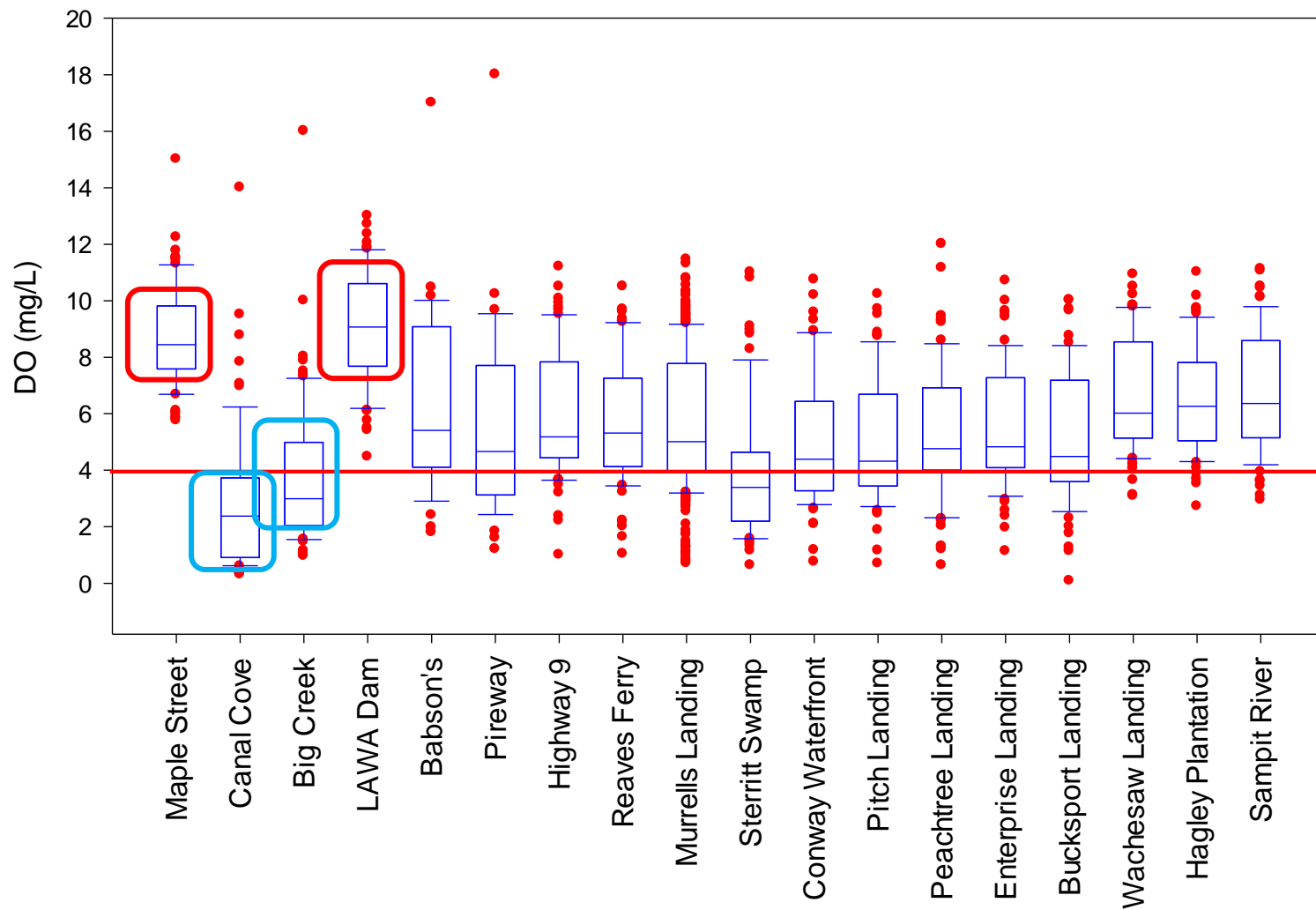
# True Color at Murrells Landing





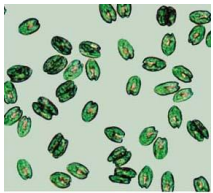
# Native bacteria degrade colored dissolved organic matter and consume oxygen

Data collected between March 01, 2012 and February 17, 2015



New charts!

Algae



Supersaturated

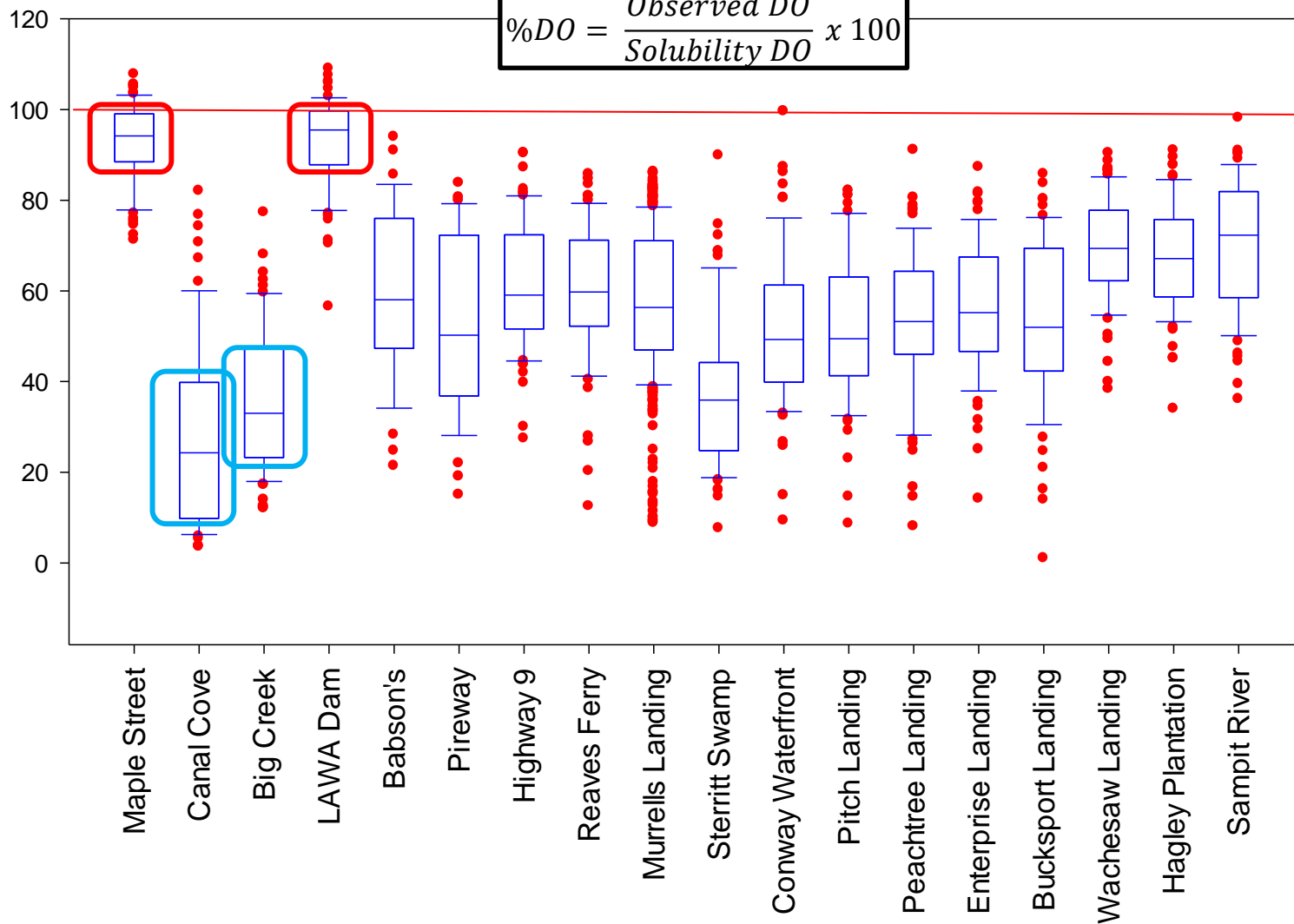
Undersaturated



Bacteria

% DO

$$\%DO = \frac{\text{Observed } DO}{\text{Solubility } DO} \times 100$$





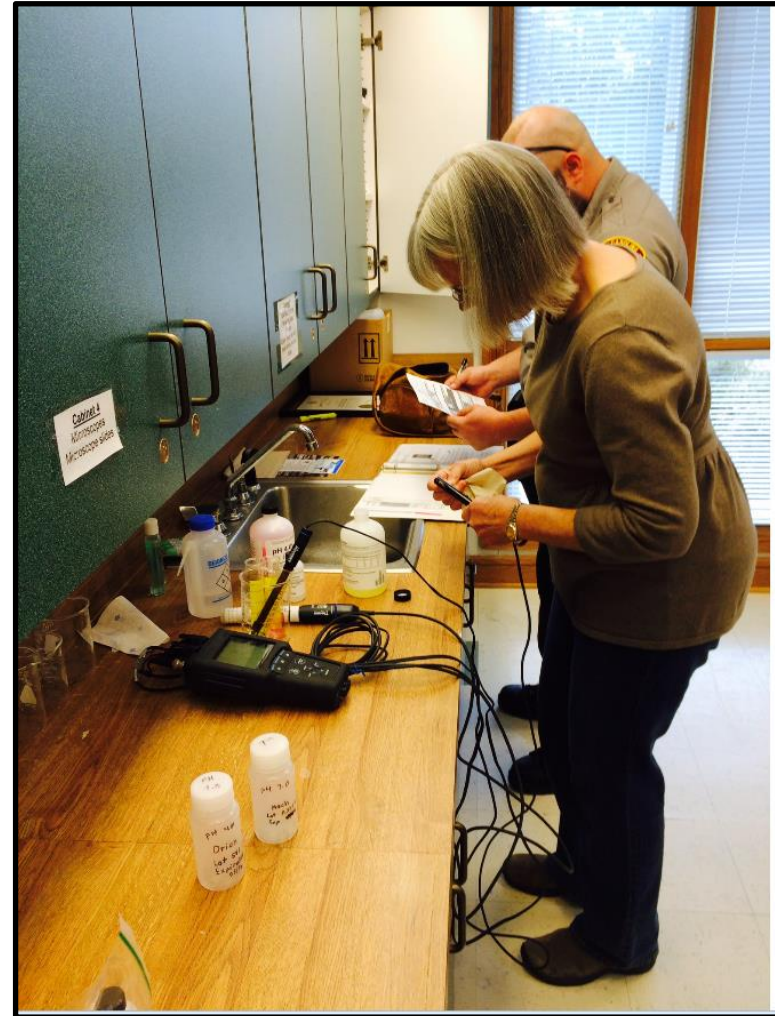
# More technical info

- What's that silver thing?
  - Weight and protection for DO sensor.
- pH sensor should not be submerged below the blue line



# A few reminders

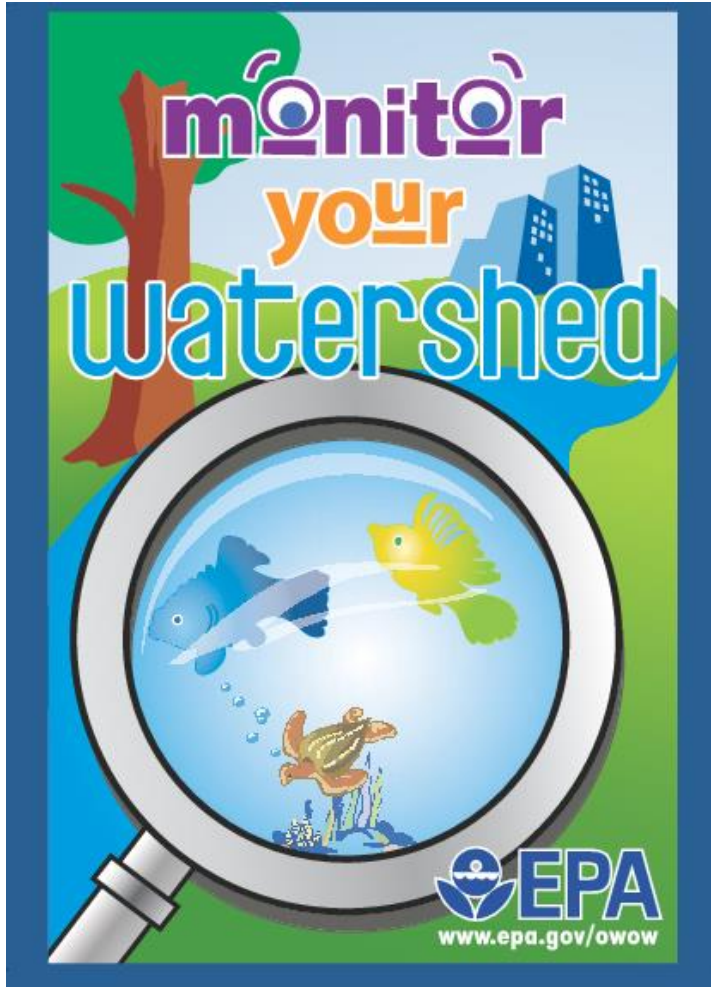
- Check to make sure you are filling out the whole data sheet
- Review data back up plan
- We're continuing to rotate the retraining site visits. Let us know if you'd like more retraining.
- Don't forget to call if you have problems or unusual readings as per your percentile ranges.
  - Ranges will be updated soon.
- We're here to help you and enjoy talking with you! Review new phone numbers



NC training on 3/9/15 at  
Waccamaw Lake State Park

Beta version of new website

<http://bccmws.coastal.edu/quaye/vm/>



Let us know  
what you think

We need help recruiting  
more volunteers. Ideas?





# Site location checks