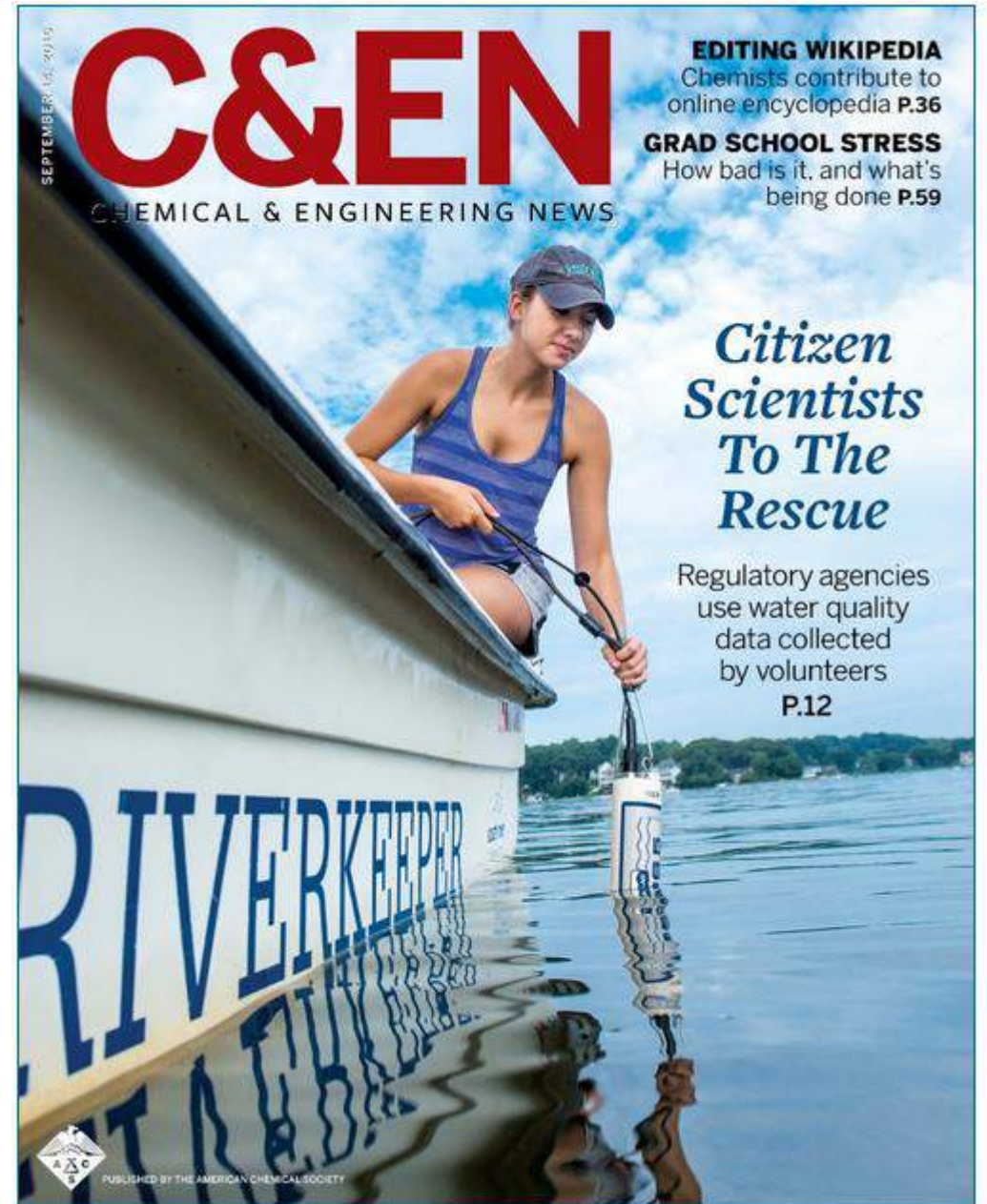


Using the online database to visualize spatial and temporal water quality trends

⇒ Use flood results to illustrate the new features





Waccamaw Watershed Academy

Meeting local needs for expertise in the areas of watershed and wetland science and management

You are here: > [Centers](#) > [Waccamaw Watershed Academy](#) > [Datasets](#)

Research

- [Environmental Quality Laboratory](#)
- [Volunteer Water Monitoring Program](#)
- [Ocean](#)
- [Water](#)
- [Student](#)
- [Dataset](#)

Educational

- [Educational](#)
- [School System Program](#)

Outreach

- [Community Outreach](#)
- [Watershed & Stormwater Issues](#)
- [Waccamaw Riverkeeper](#)

Contact Us

Datasets

The following are links to summary statistics and trend graphs for data being collected as part of continuing water quality and weather monitoring programs. Data can also be downloaded into .csv files.

Water Quality in Rivers

- [Waccamaw River Volunteer Water Quality Monitoring Program](#)
- [River Gauging Monitoring Program](#)

- [Apache Pier, Myrtle Beach \(near real-time\)](#)
- [2nd Ave North Pier, Myrtle Beach \(near real-time\)](#)
- [Cherry Grove Pier, Myrtle Beach \(near real-time\)](#)
- [Long Bay Observing System \(near real-time\)](#)

Water Quality on Campus

- [Coastal Carolina University Monitoring Program](#)

<http://www.coastal.edu/wwa/>

Website Upgrades

Site-specific percentiles in stats summary table

- Use in boxplots

Boxplots (plus old bar graphs)

Time trend graphs

- Show multiple sites (toggle)
- Show multiple parameters (toggle)

Rain trend graphs

- Show cumulative & daily rain

Behind the scene

- Data entry tool
- User management tool for tracking retraining

Highlights

Drought -> Big Flood

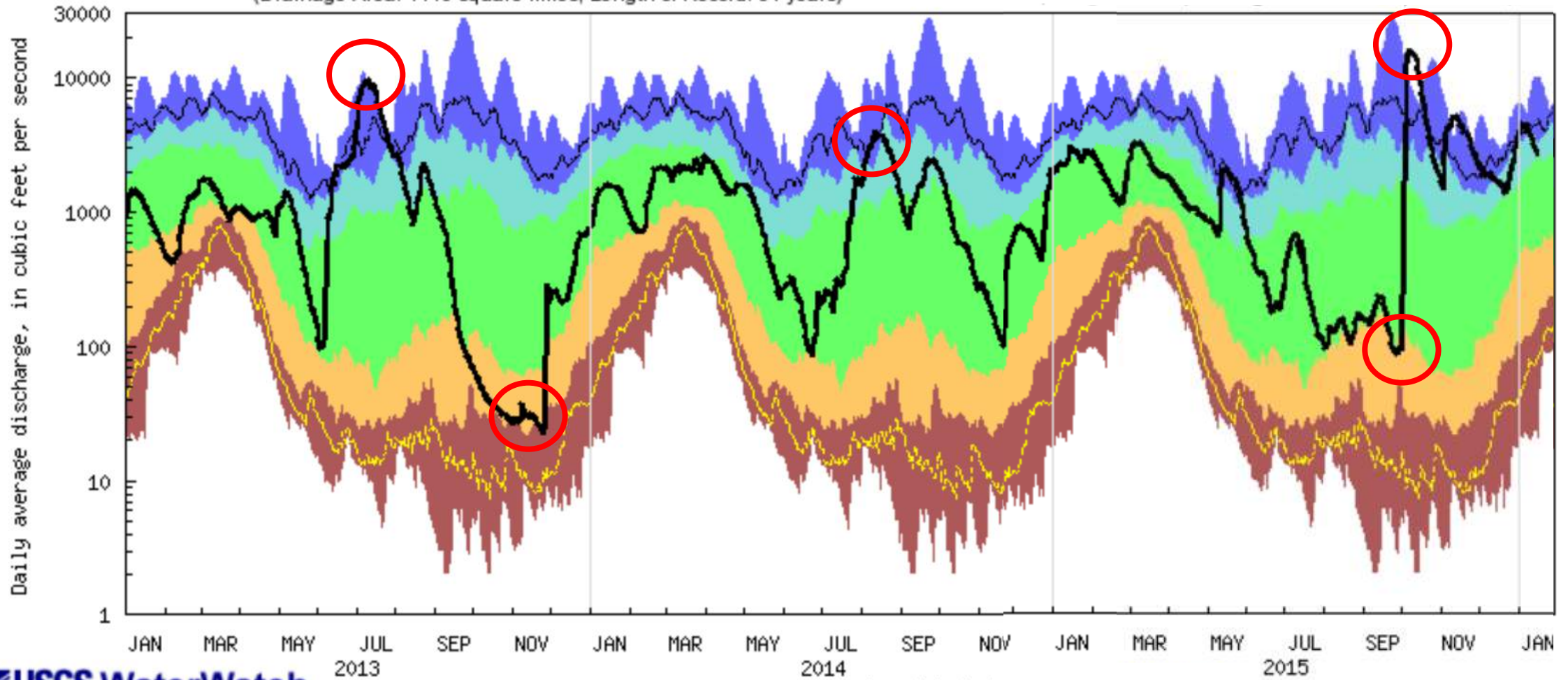
- The usual: low conductivity, oxygen and pH
- VM monitoring during the flood.
- Fecal bacteria and turbidity: First dilution. Big burst of fecal bacteria during first week of November after another 4" rain.

Provisional reporting to support illicit discharge detection and eliminations

- Two examples – turbidity in Sterritt Swamp and at Hagley



USGS 02110500 WACCAMAW RIVER NEAR LONGS, SC
 (Drainage Area: 1110 square miles, Length of Record: 64 years)



USGS WaterWatch

| 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 | | |

Since 2006

Historic Crests

- (1) 17.94 ft on 09/22/1999
- (2) 15.17 ft on 10/06/2015
- (3) 14.95 ft on 09/15/1996
- (4) 14.87 ft on 08/23/1981
- (5) 14.87 ft on 02/08/1998
- (6) 14.86 ft on 10/10/2015
- (7) 14.49 ft on 10/25/1999
- (8) 14.40 ft on 03/26/1983
- (9) 13.94 ft on 07/06/1961
- (10) 13.82 ft on 09/29/1955

Low Water Records for Waccamaw River at Longs

- (1) 0.10 ft on 07/23/2011
- (2) 0.39 ft on 07/21/2002
- (3) 0.46 ft on 09/24/2010
- (4) 0.55 ft on 10/16/2007
- (5) 0.65 ft on 08/22/2007
- (6) 0.67 ft on 08/10/2007
- (7) 0.72 ft on 09/22/2009
- (8) 0.75 ft on 06/20/2008
- (9) 1.27 ft on 07/27/2010
- (10) 1.30 ft on 10/04/2009

DATA PRODUCTION FROM 10 YEARS

| Site | Samplings | Measurements per sampling | Total independent |
|---------------|------------------|--------------------------------------|------------------------------|
| Maple Street | 93 | 11 | 1,023 |
| Canal Cove | 93 | 11 | 1,023 |
| Big Creek | 93 | 11 | 1,023 |
| LAWA Dam | 93 | 11 | 1,023 |
| Babson's Lndg | 60 | 11 | 660 |
| Pireway | 60 | 11 | 660 |
| Hwy 9 | 226 | 11 | 2,486 |
| Reaves Ferry | 217 | 11 | 2,387 |
| Murrells Lndg | 1670 | 17 | 28,390 |
| Conway | 226 | 11 | 2,486 |
| Pitch Landing | 226 | 11 | 2,486 |
| Peachtree | 189 | 11 | 2,079 |
| Enterprise | 224 | 11 | 2,464 |
| Bucksport | 227 | 11 | 2,497 |
| Wachesaw | 228 | 11 | 2,508 |
| Hagley | 224 | 11 | 2,464 |
| Sampit | 220 | 11 | 2,420 |
| | | | Total = 58,079 |

Dissolved salts

Low levels are measured as “Conductivity” or “TDS”.

High levels are measured as “Salinity”.

We use this as a water source tracer.

Groundwater has high salt levels

Rain water has very low salt levels

Polluted runoff can have high levels.

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

Data collected between Jun 06, 2006 and Dec 09, 2015

Seawater intrusion



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

40000
20000
10000
4000
2000
1000
400
200
100
40

Babson's
Pireway
Highway 9
Reaves Ferry
Murrells Landing
Sterritt Swamp
Conway Waterfront
Pitch Landing
Peachtree Landing
Enterprise Landing
Bucksport Landing
Wachesaw Landing
Hagley Plantation
Sampit River

Buck
Creek

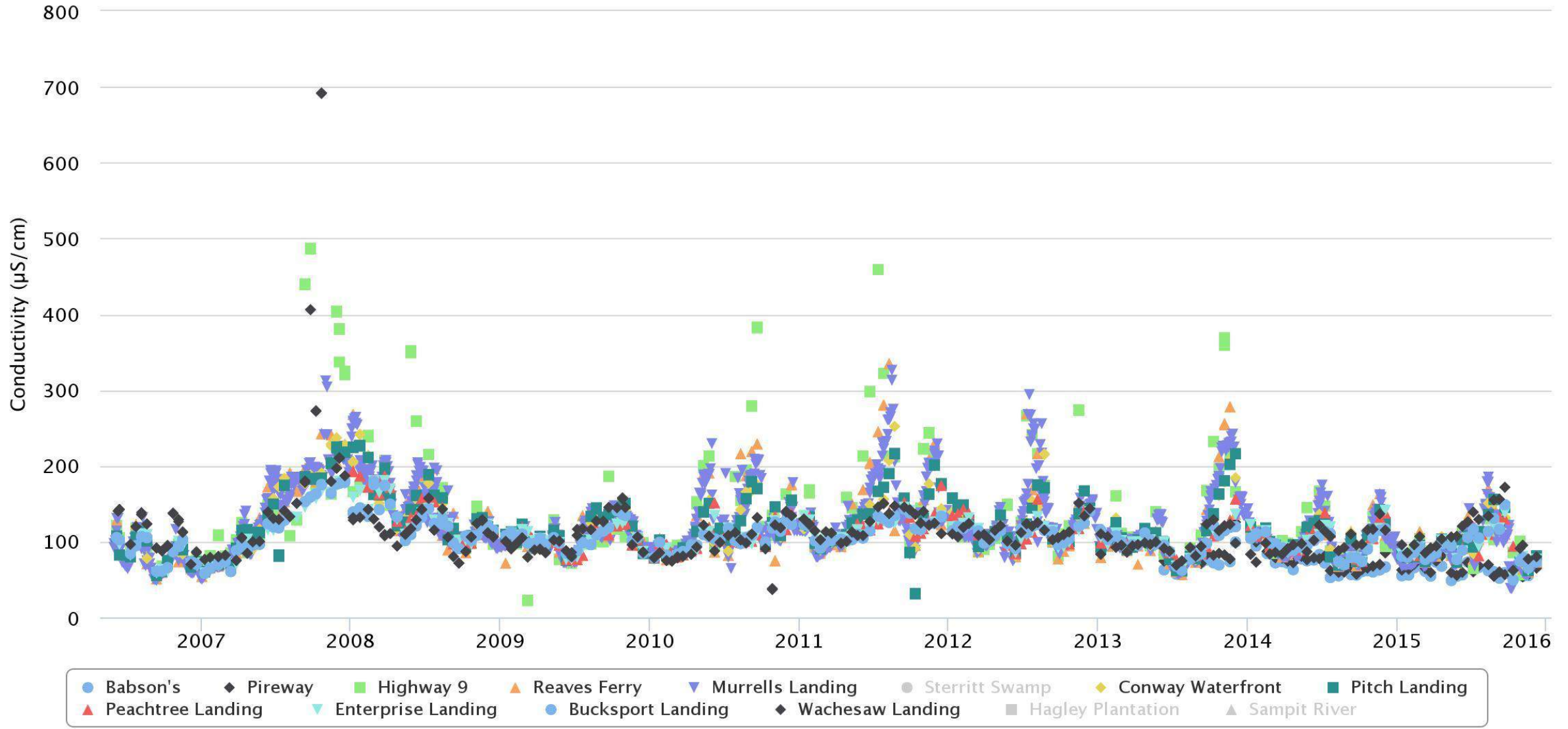


Crabtree
Canal



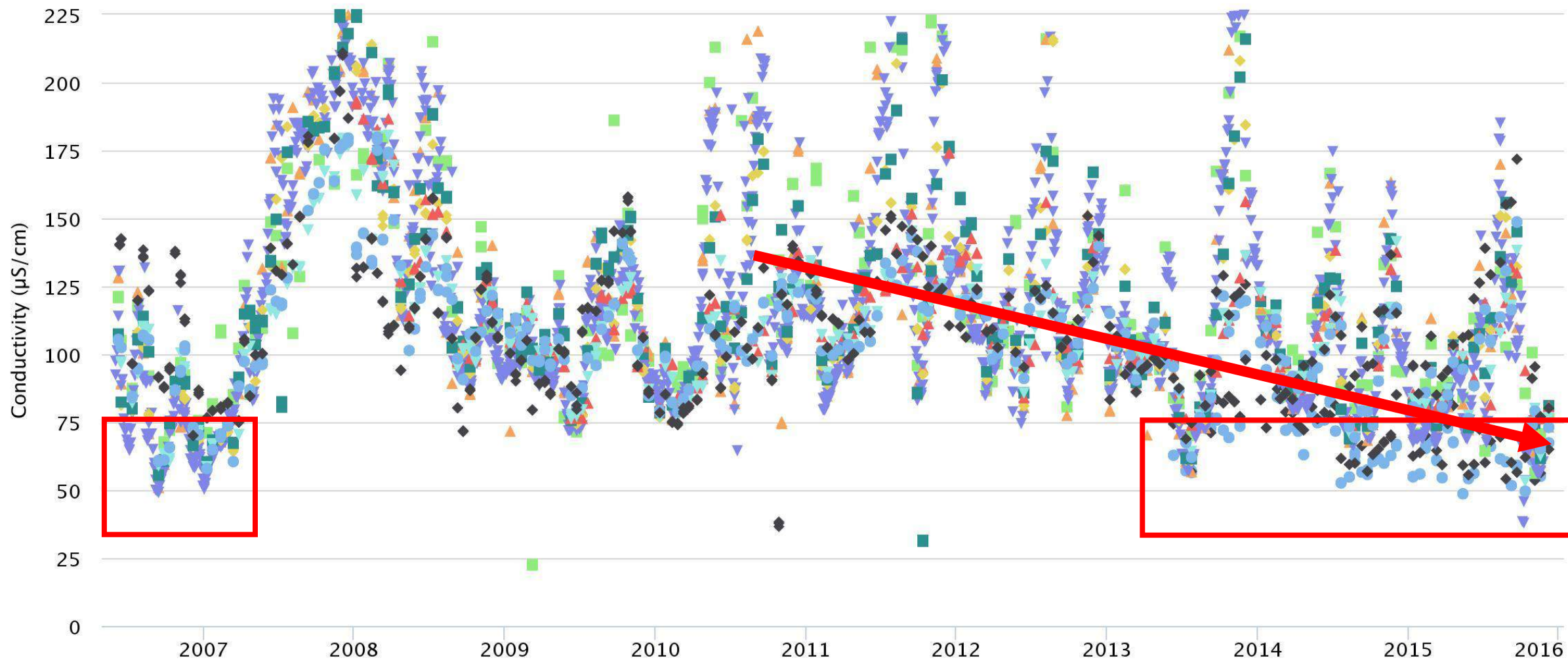
Conductivity ($\mu\text{S}/\text{cm}$)

Data collected between Jun 06, 2006 and Dec 09, 2015



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

Data collected between Jun 06, 2006 and Dec 09, 2015



- Babson's
- Pireway
- Highway 9
- Reaves Ferry
- Murrells Landing
- Sterritt Swamp
- Conway Waterfront
- Pitch Landing
- Peachtree Landing
- Enterprise Landing
- Bucksport Landing
- Wachesaw Landing
- Hagley Plantation
- Sampit River

CLIMATE CHANGE

Stationarity Is Dead: Whither Water Management?

P. C. D. Milly,^{1*} Julio Betancourt,² Malin Falkenmark,³ Robert M. Hirsch,⁴ Zbigniew W. Kundzewicz,⁵ Dennis P. Lettenmaier,⁶ Ronald J. Stouffer⁷

Systems for management of water throughout the developed world have been designed and operated under the assumption of stationarity. Stationarity—the idea that natural systems fluctuate within an unchanging envelope of variability—is a foundational concept that permeates training and practice in water-resource engineering. It implies that any variable (e.g., annual streamflow or annual flood peak) has a time-invariant (or 1-year-periodic) probability density function (pdf), whose properties can be estimated from the instrument record. Under stationarity, pdf estimation errors are acknowledged, but have been assumed to be reducible by additional observations, more efficient estimators, or regional or paleohydrologic data. The pdfs, in turn, are used to evaluate and manage risks to water supplies, water-



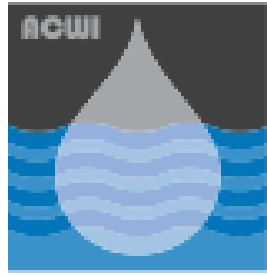
An uncertain future challenges water planners.

Climate change undermines a basic assumption that historically has facilitated management of water supplies, demands, and risks.

- Climate change will be accompanied by an increased frequency of extreme events.
- We can't predict the future from our historical past.
- An uncertain future is a challenge for water resource planners.

Kudo's to flood and rain sampling

- VM newsletter article – national
- Went one better after Joaquin
- Important because of questions about high bacteria levels
 - Flooding of septic systems
 - Would this impact the main stem given high dilution?
 - Series of news articles
 - Initial dilution from first flood followed by burst of fecal bacteria in early November.
 - Second set of flooding is near record at Hagley



National Water Quality Monitoring Council

Working together for clean water



Volunteer Monitoring News

A news update for – and by – the volunteer monitoring community



Issue No. 3

March 2013

In this issue....

Special Topic

Preparing for Cataclysmic Weather Events (an interview) (p. 2)

Special Topic: Preparing for Cataclysmic Weather Events

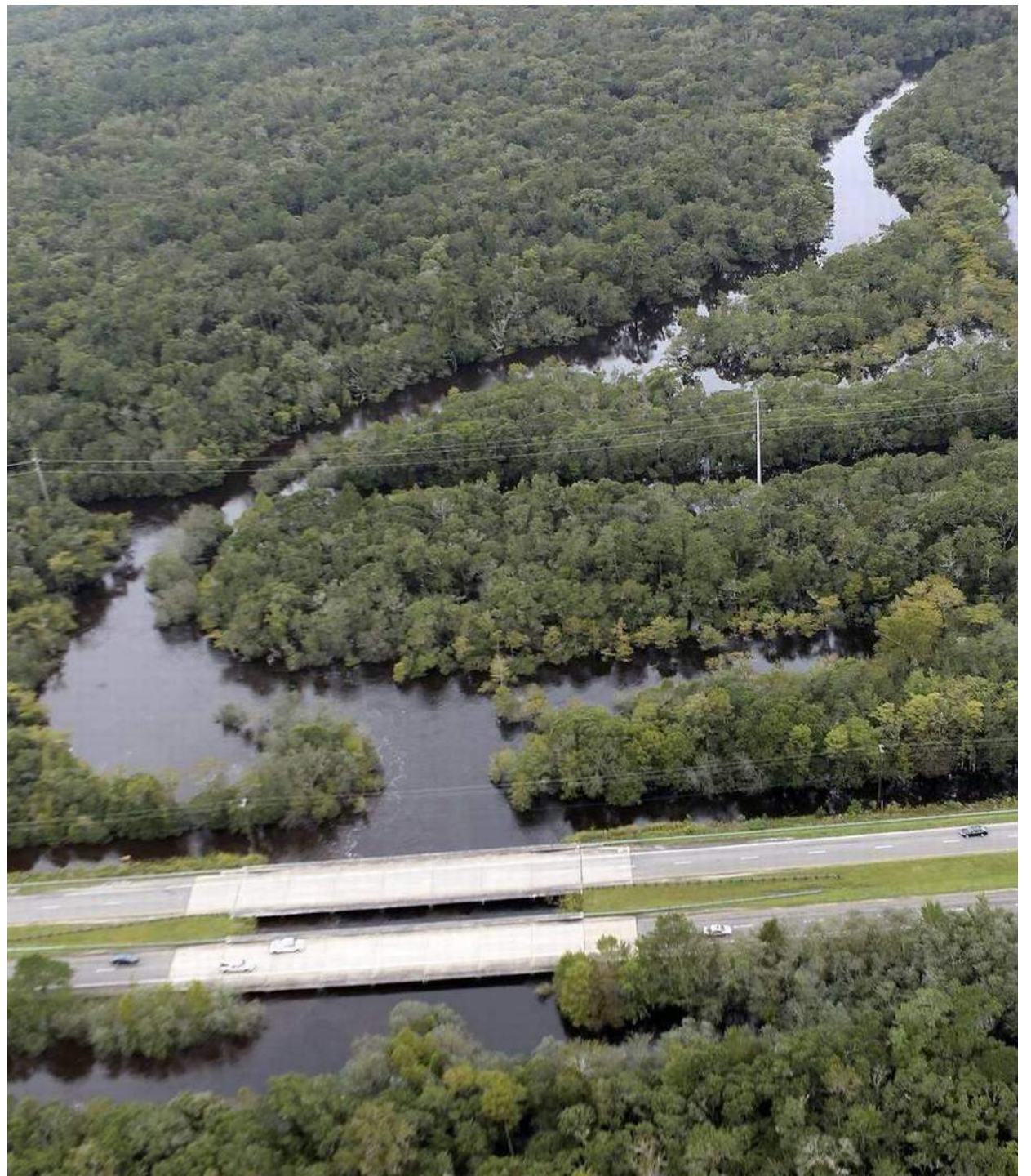
What follows is an abridged and paraphrased version of an interview VMN (Thomas Tisue) conducted by telephone with Prof. Susan Libes of Coastal Carolina University in late December 2012.

VolMonNews (VMN): In addition to your position as Professor of Marine Science, you also manage an extensive network of volunteers that monitors a large watershed extending from the Atlantic Coast back into the coastal plain. We understand that the focus of this effort is on point and nonpoint source inputs whose signatures include fecal indicator bacteria.

This focus must give added importance to monitoring in the wake of major, or even severe, precipitation events, even though those events often complicate operations and may put personnel and equipment at risk.

How do you prepare for dealing with such events in terms of training, risk management, and continuity of operations?

Hwy 9 on 10/6/15



CAROLINA COCORAHS

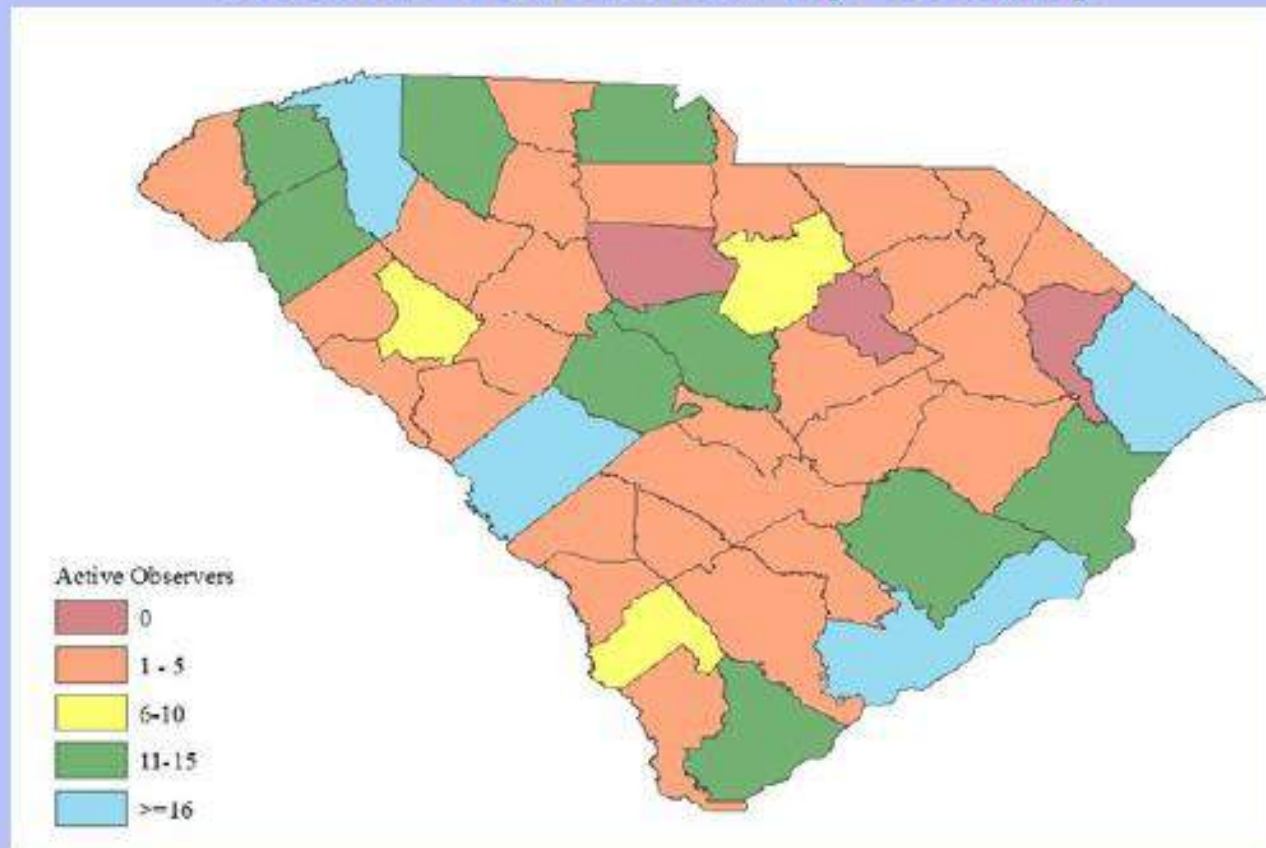
Community Collaborative Rain, Hail, and Snow Network
"CoCoRaHS- Because Every Drop Counts!"



**Special thanks to the
observers who reached the
milestone of reporting for
five years!**

111 observers in 2008-2013
40 observers in 2009-2014
314 total active observers

Active Observers by County*



Precipitation

USA

South Carolina

10/1/2015



US Units

Update

Map Satellite



CoCoRaHS
Precipitation Map



Date: 10/01/2015

Country: USA

State: SC

Units: US Units

- Zero
- Trace
- 0.01 - 0.18 in.
- 0.19 - 0.36 in.
- 0.37 - 0.90 in.
- 0.91 - 2.15 in.
- 2.16 - 3.22 in.
- 3.23 - 3.58 in.

Show US Active Fire Perimeters

Source: [GEOMAC](#). GEOMAC wildfire data layers courtesy of the [U.S. Geological Survey](#).

Start of Hurricane Joaquin



Map data ©2015 Google

20 km

[Terms of Use](#)

[Report a map error](#)

National Weather Service Public Information Statement:

The following are unofficial observations of total rainfall between 12 AM on Friday October 2nd and 8 AM on Monday Oct 5.

...GEORGETOWN COUNTY...

| | | | |
|-----------------------------|-------|--------------|----------------|
| GEORGETOWN 4 SSW | 20.75 | 800 AM 10/05 | CO-OP OBSERVER |
| GEORGETOWN 5 NNE | 19.93 | 800 AM 10/05 | COCORAHS |
| GEORGETOWN 5 NNE | 19.72 | 800 AM 10/05 | COCORAHS |
| GEORGETOWN 6 S | 18.75 | 800 AM 10/05 | COCORAHS |
| PAWLEY`S ISLAND 3 W | 16.93 | 800 AM 10/05 | COCORAHS |
| MURRELLS INLET | 16.74 | 800 AM 10/05 | COCORAHS |
| NORTH INLET WINYAH <u>B</u> | 15.13 | 800 AM 10/05 | NERR |
| PAWLEY`S ISLAND 1 WN | 14.92 | 800 AM 10/05 | COCORAHS |
| PAWLEY`S ISLAND 6 NN | 13.90 | 800 AM 10/05 | COCORAHS |
| MURRELLS INLET 1 NNE | 13.73 | 800 AM 10/05 | COCORAHS |
| PAWLEY`S ISLAND 3 W | 12.19 | 800 AM 10/05 | COCORAHS |
| PAWLEY`S ISLAND 5 N | 11.81 | 800 AM 10/05 | COCORAHS |

...HORRY COUNTY...

| | | | |
|---------------------------|-------|---------------|------------------------|
| LONGS | 23.74 | 1015 AM 10/05 | CO-OP OBSERVER |
| NORTH MYRTLE BEACH 1 | 21.24 | 800 AM 10/05 | COCORAHS |
| MYRTLE BEACH 7 NNW | 19.62 | 800 AM 10/05 | COCORAHS |
| CONWAY 6 E | 18.81 | 800 AM 10/05 | COCORAHS |
| SOCCASTEE | 17.80 | 1000 AM 10/05 | WEATHER SPOTTER |
| MYRTLE BEACH 8 WNW | 17.40 | 800 AM 10/05 | COCORAHS |
| LONGS 1 NW | 16.79 | 800 AM 10/05 | COCORAHS |
| MYRTLE BEACH 9 SW | 16.76 | 800 AM 10/05 | COCORAHS |
| MYRTLE BEACH 5 NE | 16.64 | 800 AM 10/05 | COCORAHS |
| MYRTLE BEACH 9 <u>WSW</u> | 16.48 | 800 AM 10/05 | COCORAHS |
| MYRTLE BEACH 5 WNW | 16.45 | 800 AM 10/05 | COCORAHS |
| MYRTLE BEACH 5 SW | 15.80 | 800 AM 10/05 | COCORAHS |
| NORTH MYRTLE BEACH | 15.30 | 800 AM 10/05 | <u>ASOS</u> |
| MYRTLE BEACH 5 NNW | 15.25 | 800 AM 10/05 | COCORAHS |
| MYRTLE BEACH 2 ENE | 15.21 | 800 AM 10/05 | COCORAHS |
| CRABTREE SWAMP | 14.79 | 800 AM 10/05 | USGS <u>RAIN GAUGE</u> |
| MURRELLS INLET 4 N | 14.61 | 800 AM 10/05 | COCORAHS |
| MURRELLS INLET 2 N | 14.05 | 800 AM 10/05 | COCORAHS |
| SURFSIDE BEACH 1 ENE | 13.22 | 800 AM 10/05 | COCORAHS |
| MURRELLS INLET 4 NE | 13.07 | 800 AM 10/05 | COCORAHS |
| CONWAY 9 NNE | 10.76 | 800 AM 10/05 | COCORAHS |
| LORIS 3 <u>WSW</u> | 9.04 | 800 AM 10/05 | COCORAHS |
| GALIVANTS FERRY | 8.92 | 800 AM 10/05 | USGS <u>RAIN GAUGE</u> |
| LORIS 1 ENE | 8.92 | 800 AM 10/05 | COCORAHS |

...HORRY COUNTY...

| | | | | |
|---------------------------|-------|---------|-------|------------------------|
| LONGS | 23.74 | 1015 AM | 10/05 | CO-OP OBSERVER |
| NORTH MYRTLE BEACH 1 | 21.24 | 800 AM | 10/05 | COCORAHS |
| MYRTLE BEACH 7 NNW | 19.62 | 800 AM | 10/05 | COCORAHS |
| CONWAY 6 E | 18.81 | 800 AM | 10/05 | COCORAHS |
| SOCCASTEE | 17.80 | 1000 AM | 10/05 | WEATHER SPOTTER |
| MYRTLE BEACH 8 WNW | 17.40 | 800 AM | 10/05 | COCORAHS |
| LONGS 1 NW | 16.79 | 800 AM | 10/05 | COCORAHS |
| MYRTLE BEACH 9 SW | 16.76 | 800 AM | 10/05 | COCORAHS |
| MYRTLE BEACH 5 NE | 16.64 | 800 AM | 10/05 | COCORAHS |
| MYRTLE BEACH 9 <u>WSW</u> | 16.48 | 800 AM | 10/05 | COCORAHS |
| MYRTLE BEACH 5 WNW | 16.45 | 800 AM | 10/05 | COCORAHS |
| MYRTLE BEACH 5 SW | 15.80 | 800 AM | 10/05 | COCORAHS |
| NORTH MYRTLE BEACH | 15.30 | 800 AM | 10/05 | <u>ASOS</u> |
| MYRTLE BEACH 5 NNW | 15.25 | 800 AM | 10/05 | COCORAHS |
| MYRTLE BEACH 2 ENE | 15.21 | 800 AM | 10/05 | COCORAHS |
| CRABTREE SWAMP | 14.79 | 800 AM | 10/05 | USGS <u>RAIN GAUGE</u> |
| MURRELLS INLET 4 N | 14.61 | 800 AM | 10/05 | COCORAHS |
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| SURFSIDE BEACH 1 ENE | 13.22 | 800 AM | 10/05 | COCORAHS |
| MURRELLS INLET 4 NE | 13.07 | 800 AM | 10/05 | COCORAHS |
| CONWAY 9 NNE | 10.76 | 800 AM | 10/05 | COCORAHS |
| LORIS 3 <u>WSW</u> | 9.04 | 800 AM | 10/05 | COCORAHS |
| GALIVANTS FERRY | 8.92 | 800 AM | 10/05 | USGS <u>RAIN GAUGE</u> |
| LORIS 1 ENE | 8.92 | 800 AM | 10/05 | COCORAHS |

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See [Sharp.com](#) for details

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Sharp.com

LOCAL

OCTOBER 16, 2015

Riverkeepers awaiting test results to determine bacteria levels in Waccamaw

HIGHLIGHTS

Samples taken this week should be in early next week

River may contain high levels of bacteria or could be safe due to dilution

Health officials give cleanup safety advice



The Waccamaw River swells beneath bridges on S.C. 9 in northern Horry County on Tuesday, Oct. 6, 2015. Janet

REIMAGINED
REDESIGNED

Shop the *NEW*
HOBBYLOBBY.com

VIDEOS



about 1 day ago

Wooden Boat Weekend In Georgetown



about 2 days ago

High & Dry



about 4 days ago

Hwy 9
10/08/15 from
Kelly



Murrells
Landing
10/8/16



Sterritt Swamp

From Grace...
The water was
algae free and
all the litter
that had been
building up was
flushed away.
Oh, that's
right....there is
no "away".



Conway waterfront







From Dave
Fuss
10/08/15

Horry
County
Admin
Bldg



Pitch
Landing –
10/26/15

From
Emma....
Still cant get
to the dock
but can
drive all the
way down to
the site.



Peachtree
Landing –



Team 4

Archie

Eric

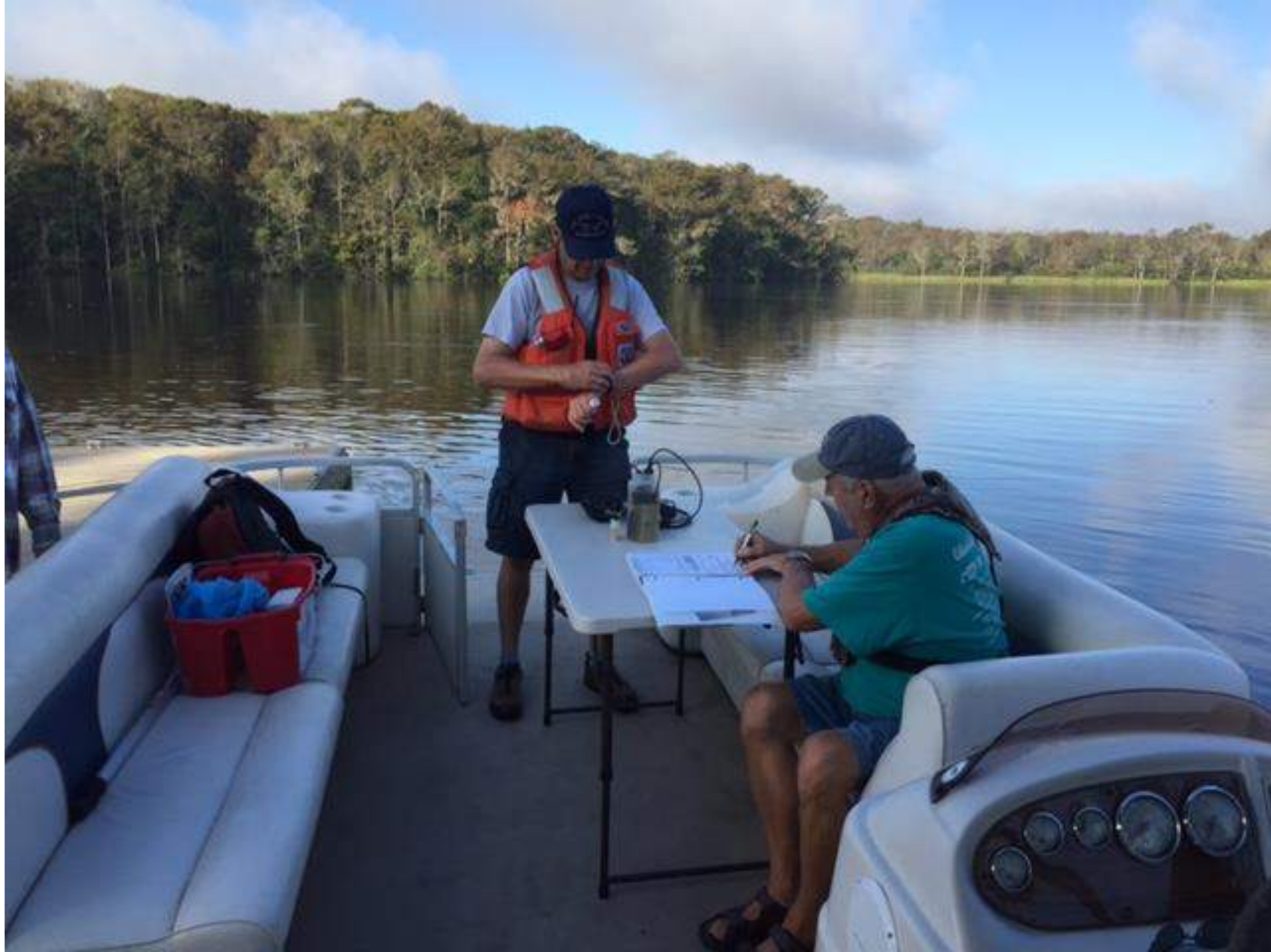
Eliot

Mark

Don

Alternate
sampling
strategy on
10/14/15





We completed our testing from the Pontoon Boat about 12:30. No problems, testing went very well. Susan hit the nail on the head, all test were low, just about the levels you suspected.

... there is much trash in the river although not as much large stuff as I expected

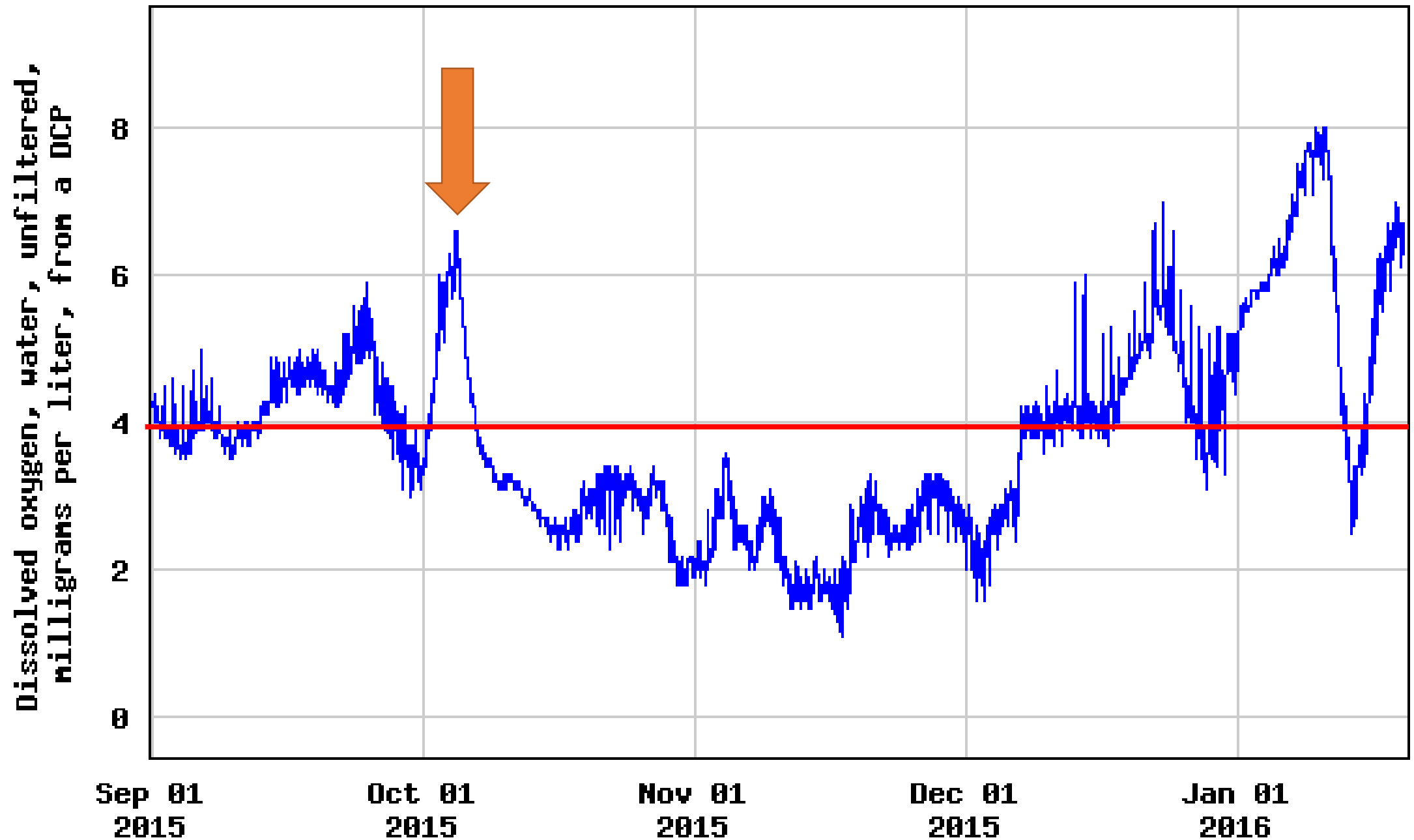
The influence of the Pee Dee river water coming through Bull Creek was amazing! Above Bull Creek, the water was flat, almost glassy with little or no wind. As soon as we passed Bull Creek on the way back down, the boat was moved all around by the eddies all over the river. We could see the effect heading up stream, but it was really awesome coming back down.

,,, We did see some fish mouth breathing near Peachtree. As I remember from my testing 40 years ago, when the DO drops below 2.0 mg/L, fish start having trouble. It was a interesting day.

Archie Biggs



USGS 02110802 WACCAHAN RIVER AT BUCKSPORT, SC



10/28/15
From Emma

King tide at
East Bay
Landing,
Sampit
sampling site
yesterday
morning.



More high water in January 2016

National Weather Service River Forecast Center
Southeast RFC

SERFC Home News Organization Search for: NWS All NOAA Go

Social Media Dashboard
Twitter Facebook

Local forecast by "City, St" or Zip Code
City, St Go

XML RSS Feeds

Rivers and Hydrology
Observed and Forecast River Conditions
Quick Briefing
5-Day Flood Outlook
Flash Flood Guidance
Nat'l AHPS Page
Forecaster Resources
48 Hour Outlook
Water Resource
Lakes & Reservoirs
Ensemble Forecasts

Precip & Weather
Observed Precip
Forecast Precip
Weather Forecasts
Radar
Nat'l Snow Cover
Hourly Precip
Daily Precip
Severe Weather
Tropical Weather

Major flooding occurring or expected

[48 Hour Outlook](#) [Forecast River Conditions](#) [Observed Precipitation](#)

[Click here to access the "old" SERFC legacy page](#)

Map Satellite

Map showing major flooding occurring or expected in the Southeastern United States (Georgia and South Carolina). The map displays numerous colored squares (green, yellow, orange, red) indicating flood status across the region, with major cities like Atlanta, Savannah, Charleston, and Myrtle Beach labeled.

1/11/16 Peachtree Landing



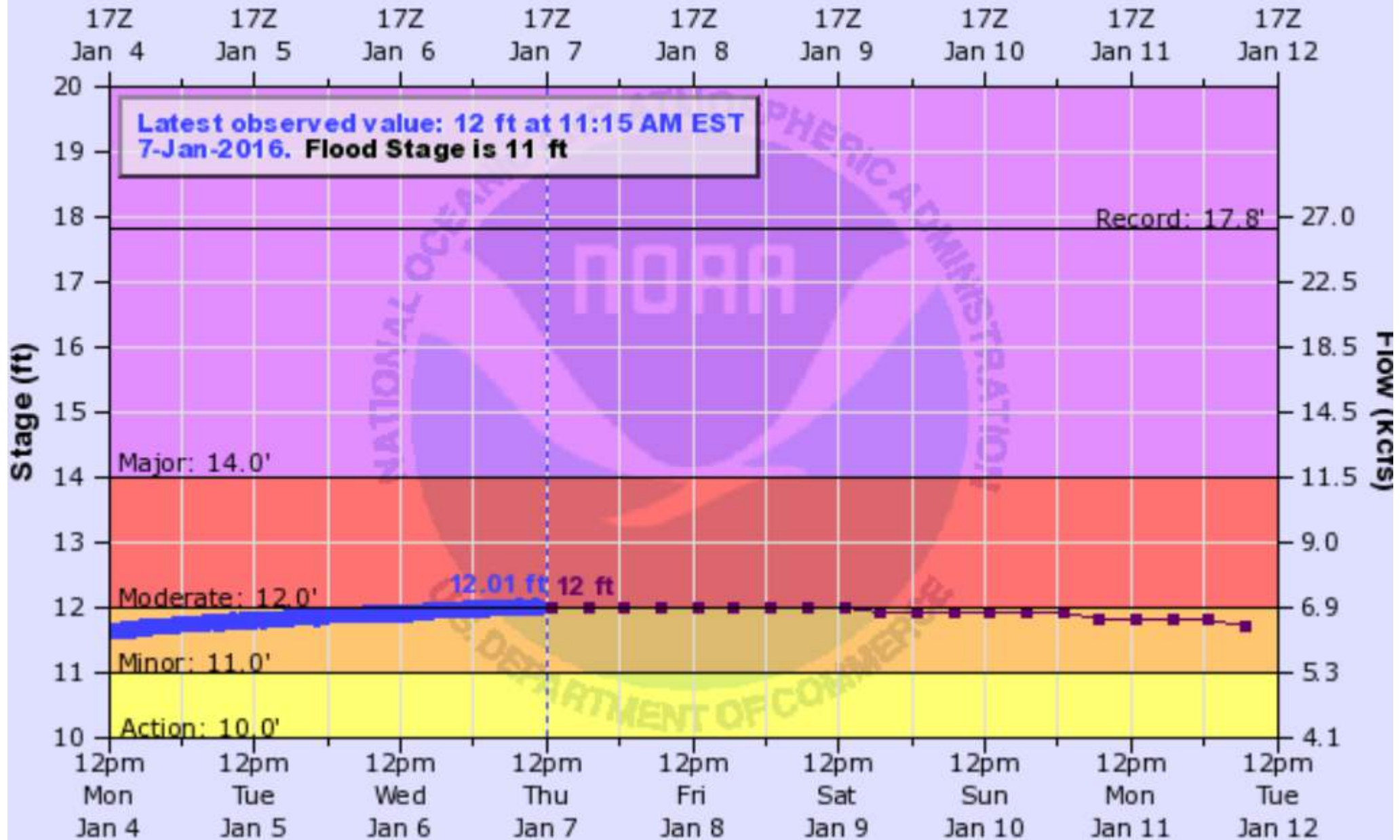
From: eliotjohnson@earthlink.net
To: WAB3@aol.com
Sent: 1/11/2016 3:44:08 P.M. Eastern Standard Time
Subj: Status of WW, Ent & PT Landing

Archie,

I went out and toured our testing sites early this afternoon. Unbelievable!!! Enterprise is OK and the parking lot is not flooded. However, look at the attached photos of PT landing! WW, as you stated, is still completely flooded. WW, we can walk down the boat walkways and do our testing off the fuel dock. Enterprise is no problem. PT is a problem.

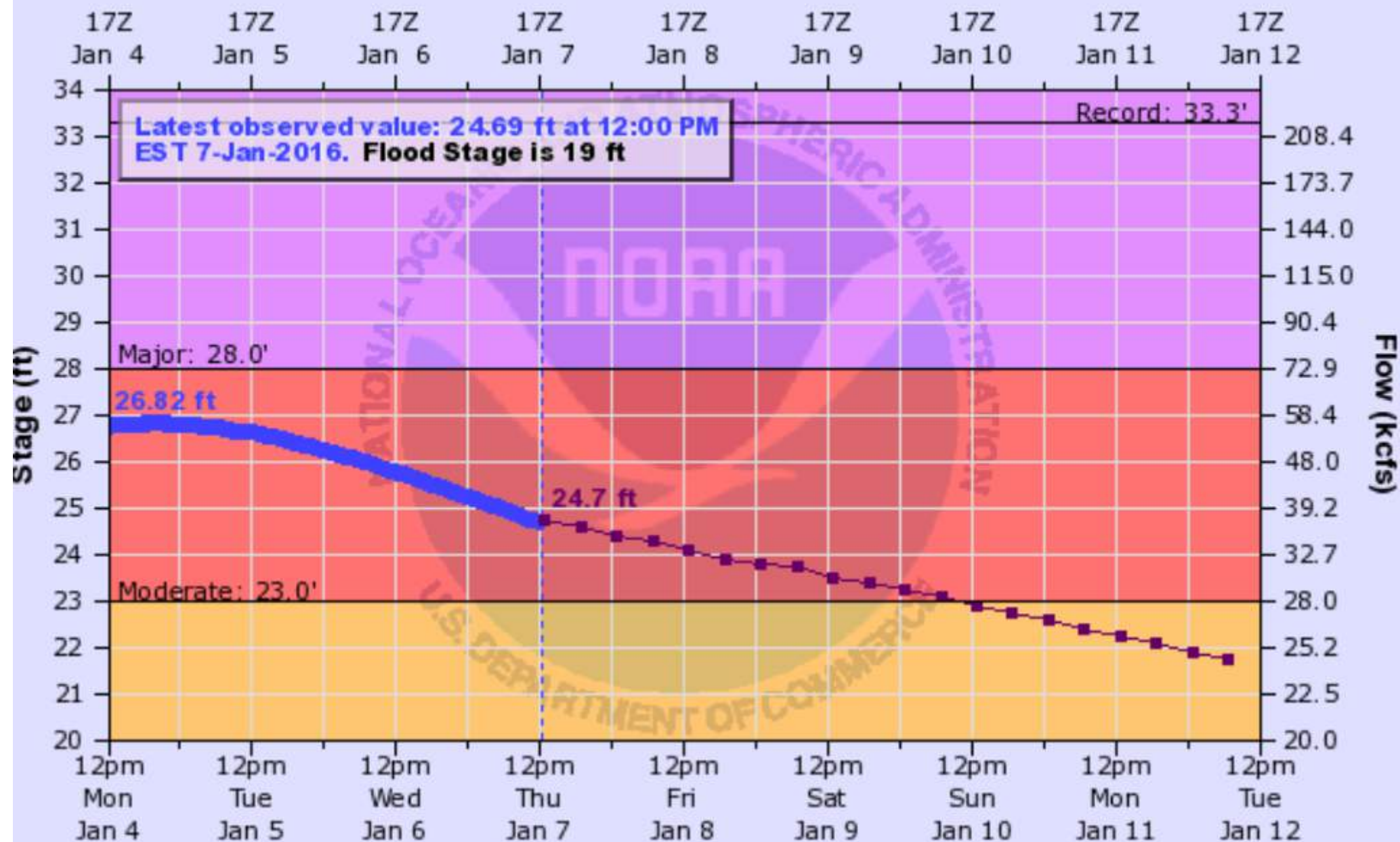
WACCAMAW RIVER NEAR CONWAY

Universal Time (UTC)



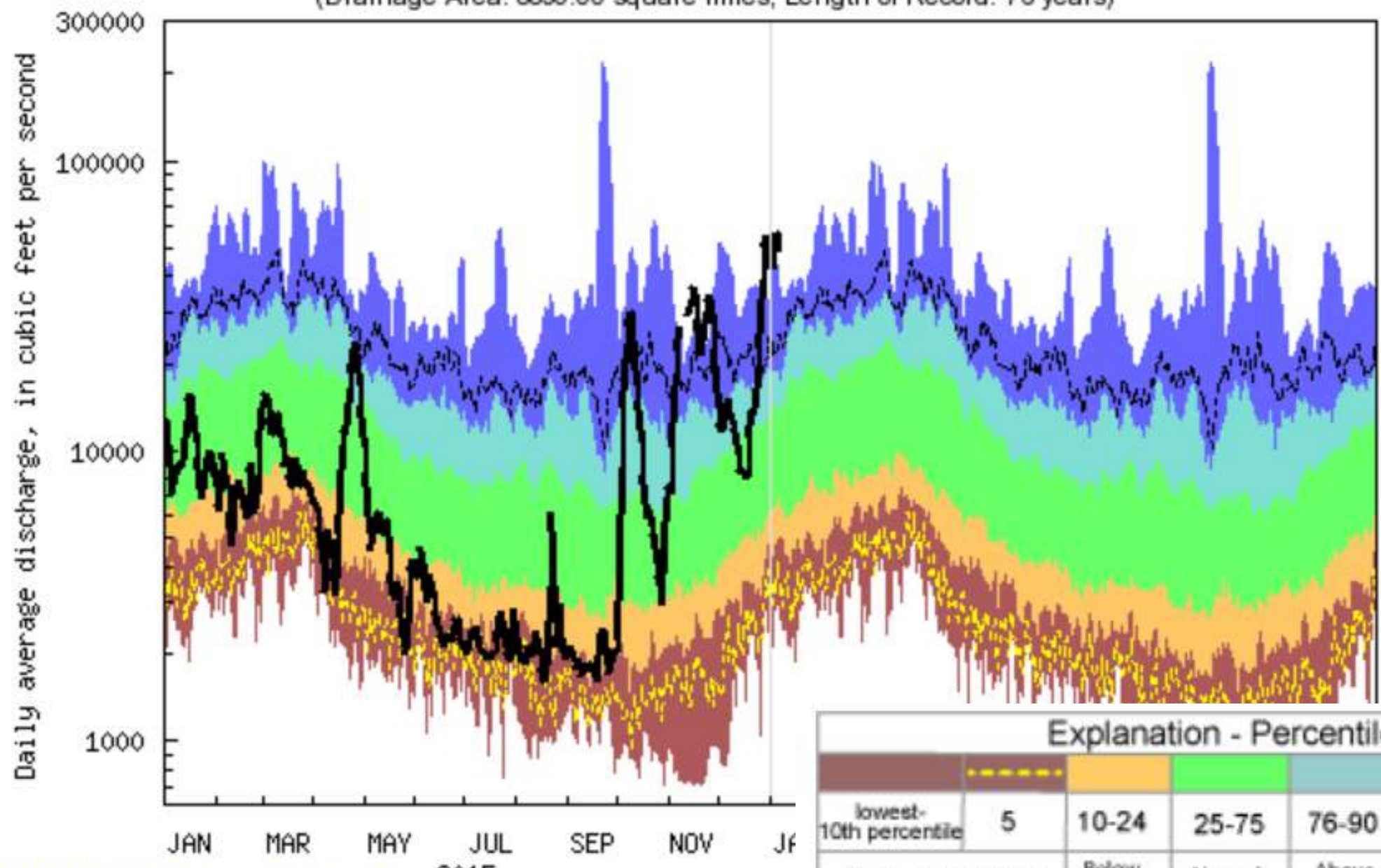
PEE DEE RIVER AT PEE DEE

Universal Time (UTC)



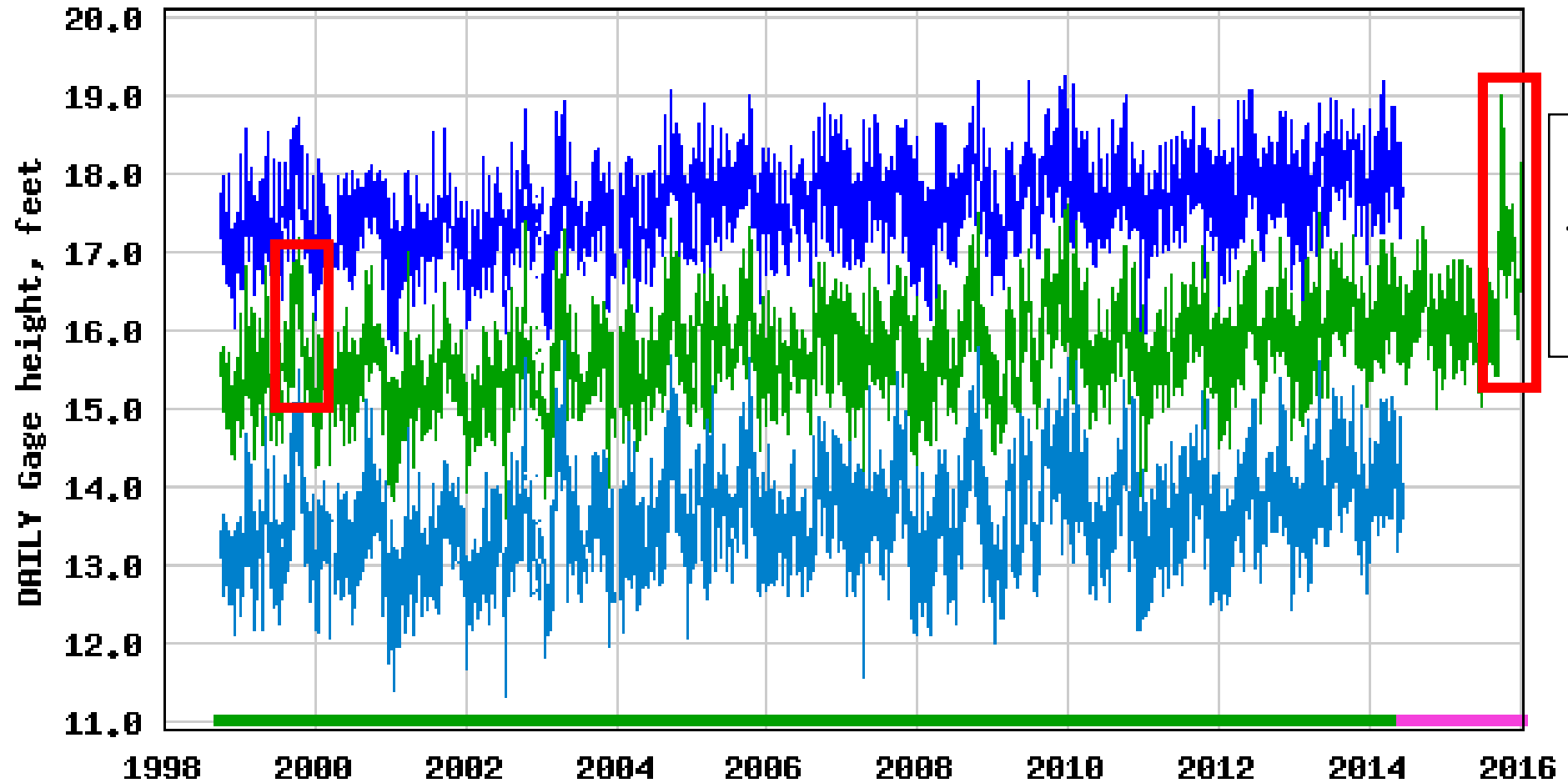
USGS 02131000 PEE DEE RIVER AT PEEDEE, SC
 (Drainage Area: 8830.00 square miles, Length of Record: 76 years)

1/7/26



| Explanation - Percentile classes | | | | | | |
|----------------------------------|---|--------------|--------|--------------|-------------------|--------------------------|
| | | | | | | |
| 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 | |
| | | | | | | Flow |

USGS 02110815 WACCAMAW R NR HAGLEY LAND. NR PAWLEYS ISLAND, SC



- Daily maximum gage height
- Daily minimum gage height
- Daily mean gage height
- Period of approved data
- Period of provisional data

From: Erbland, John [mailto:jerbland@usgs.gov]

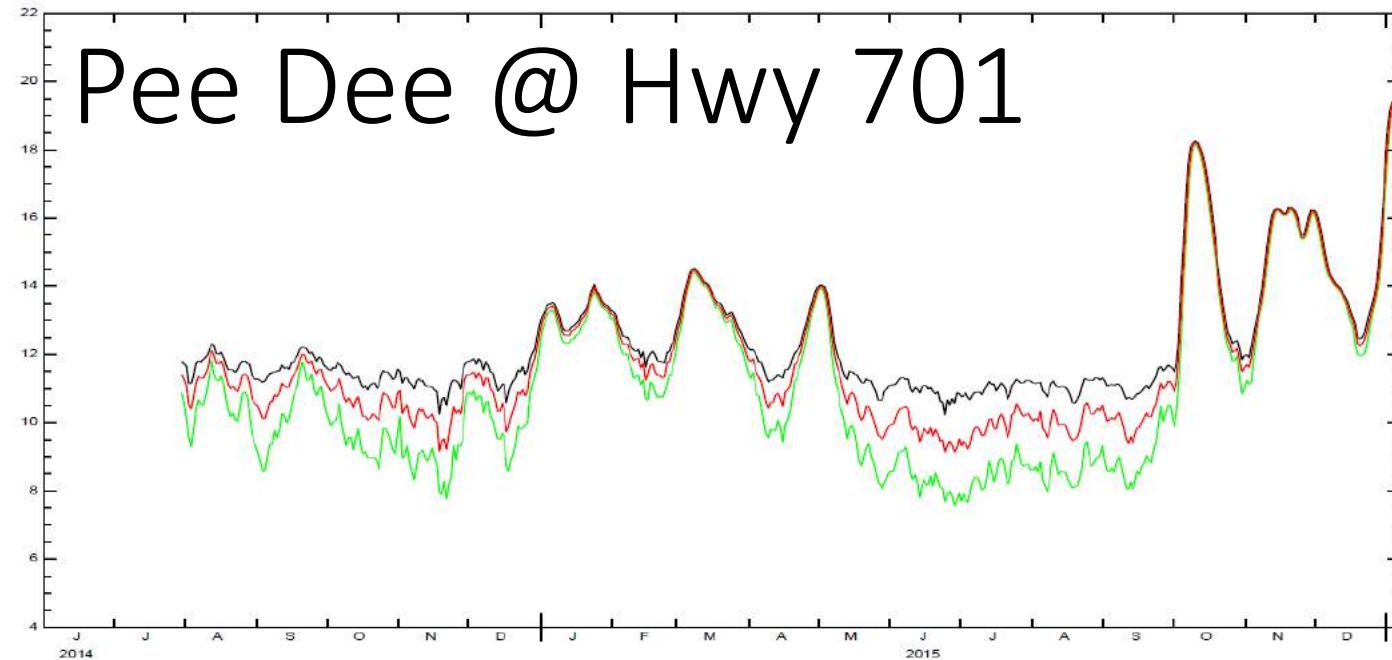
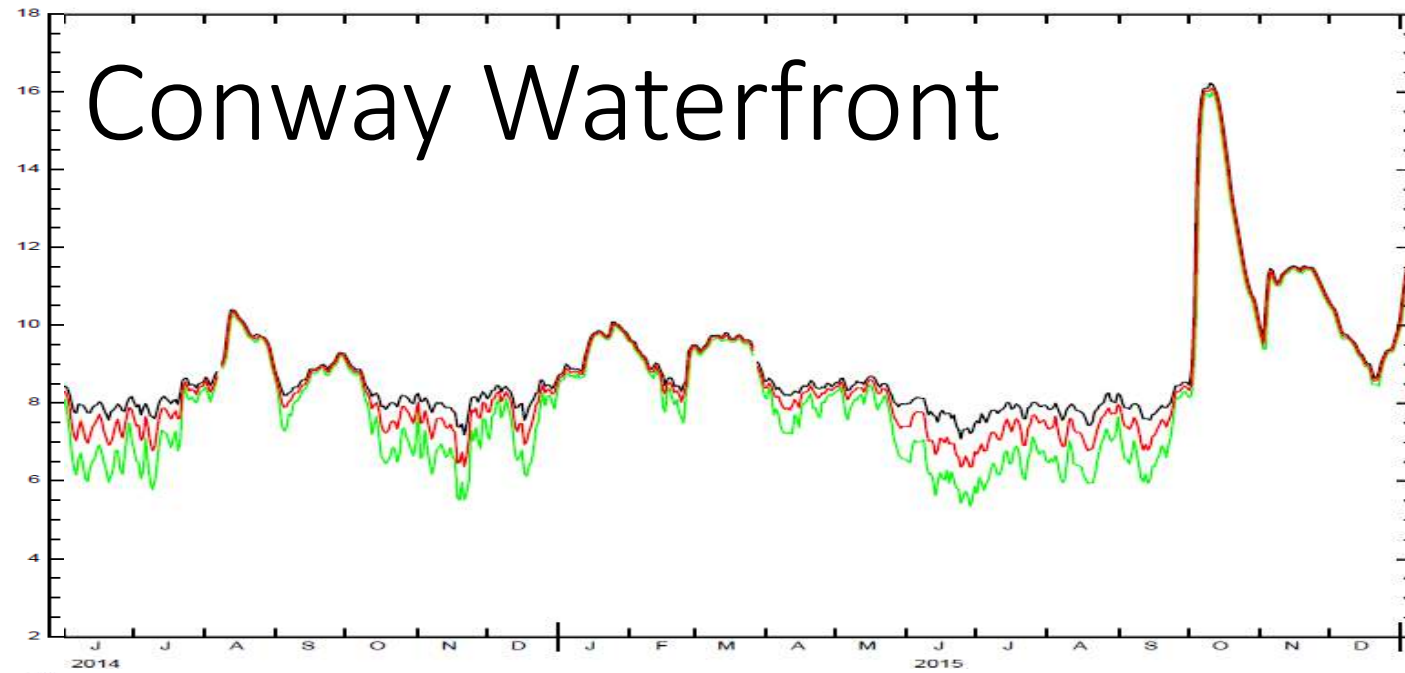
Sent: Thursday, January 07, 2016 5:45 AM

Subject: Re: High water at Hagley?

...My theory is that this flood event has lasted much longer and includes flooding on the Black River as well.. Floyd was somewhat contained in the Waccamaw basin. The Pee Dee's and Waccamaw have stayed high for 3+ months now. Floyd and other flood events came and went fairly quickly.

.... I did some digging and in our archives we have data before it was real time..e.g punch recorders. I found two historical peaks that were higher than this past October. Around March 10, 1989 a nor'easter blew for several days and the peak on Mar. 10 was 21.75 ft (highest ever). The peak for Hugo was 21.47 ft (Sep. 22, 1989). So to be factual, this October peak is the 3rd highest ever..but is the only peak associated with flooding. The peak from Floyd was 18.62 ft on Sep. 29, 1999 and the peak from Fran was 18.17 ft in Sep. 1996.

USGS
Gage
Heights



2014

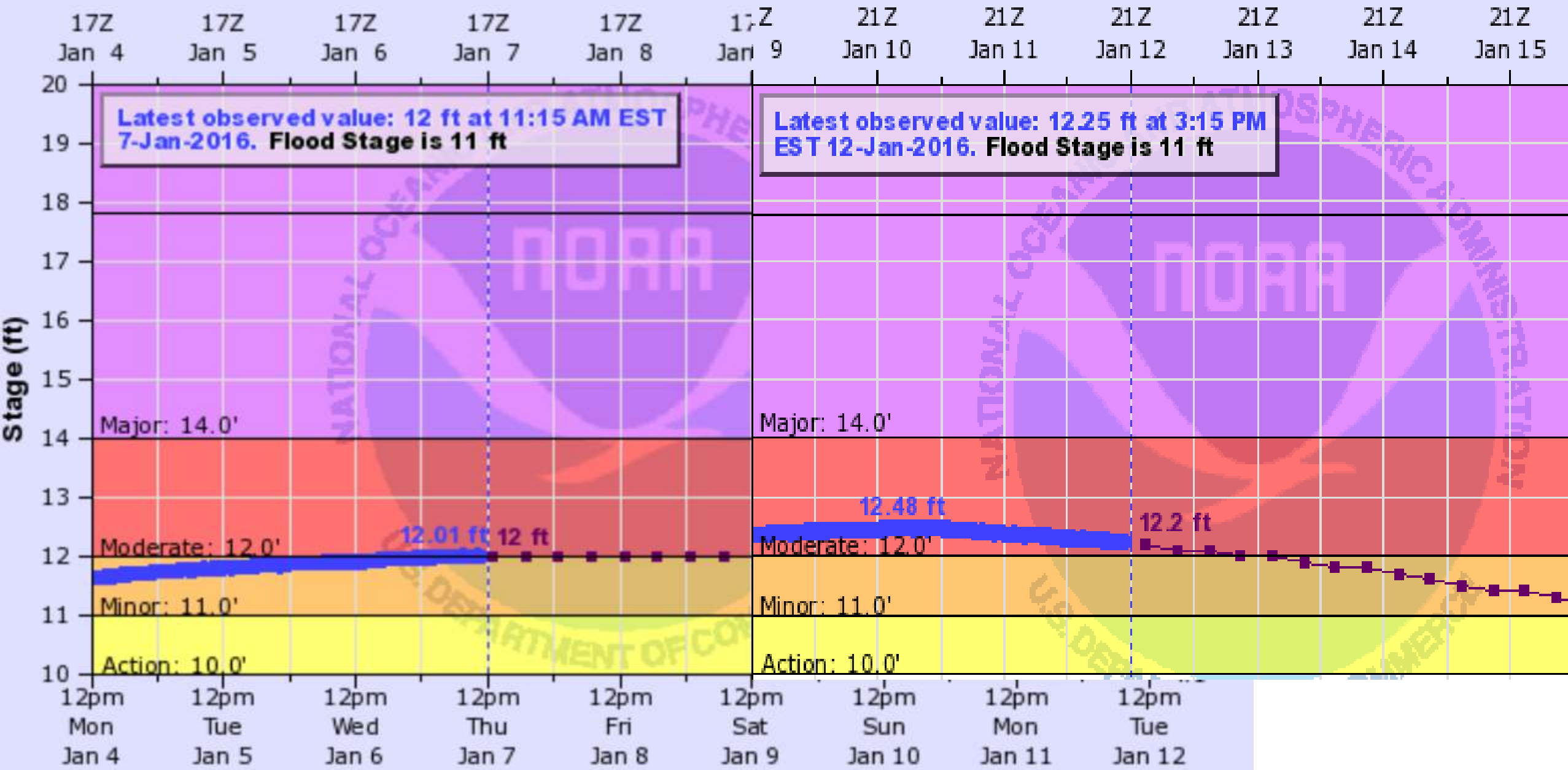
2015

WACCAMAW RIVER NEAR

Universal Time (UTC)

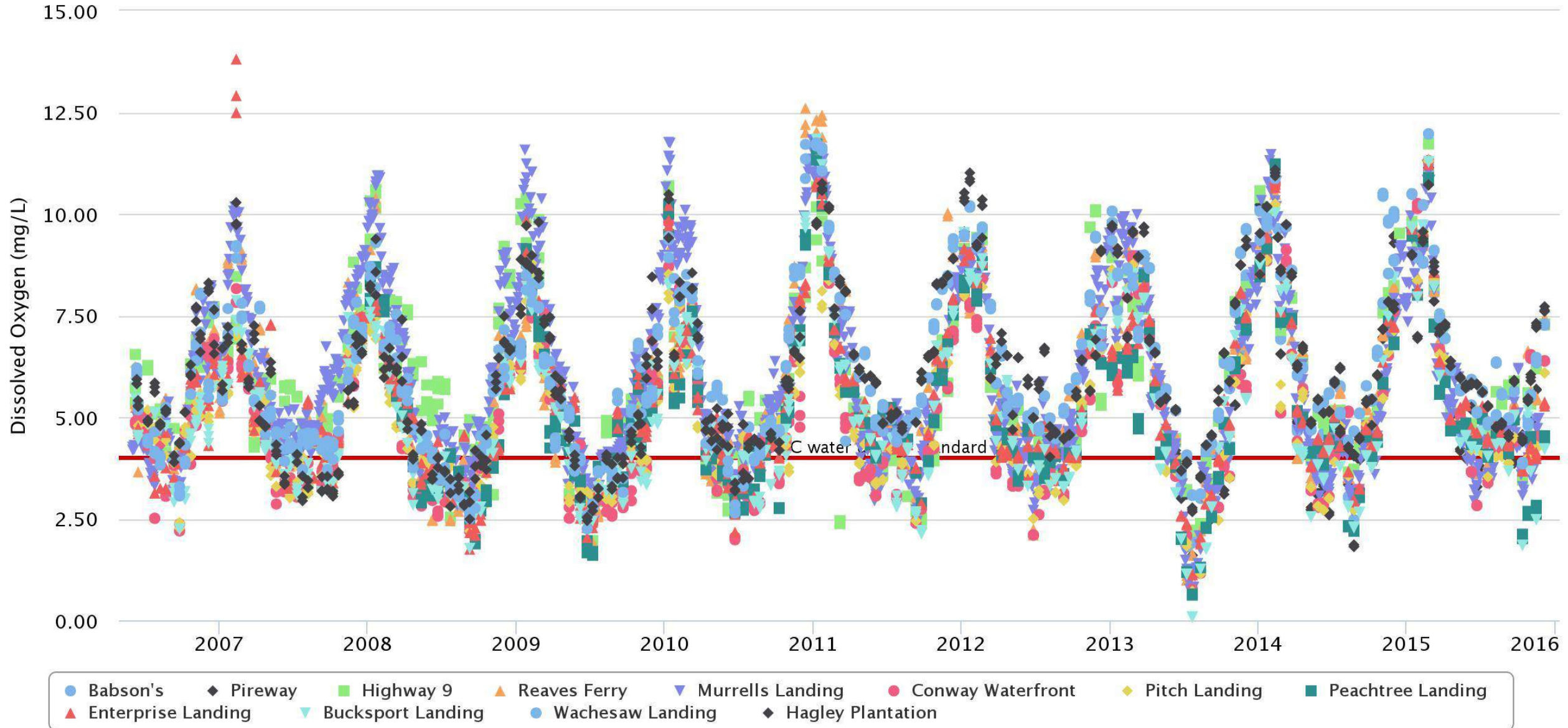
WACCAMAW RIVER NEAR CONWAY

Universal Time (UTC)



Dissolved Oxygen (mg/L)

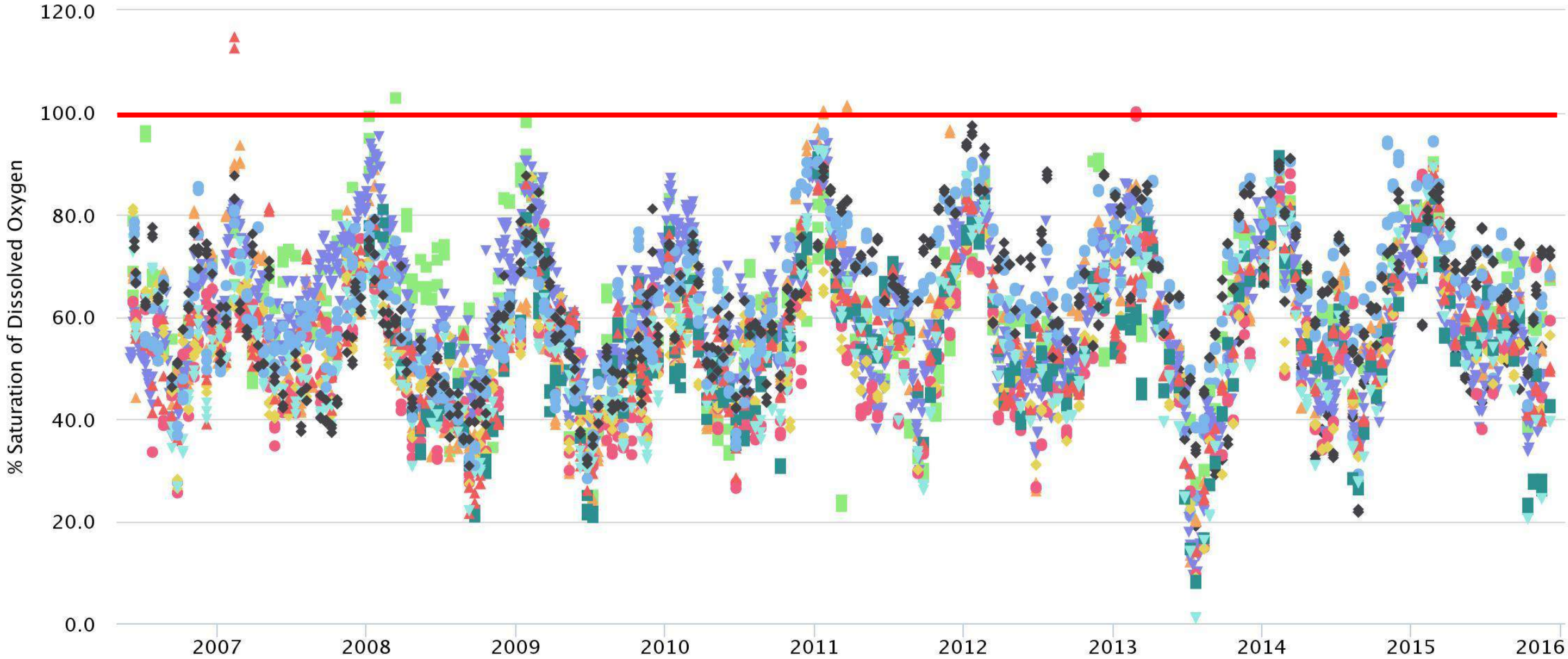
Data collected between Jun 06, 2006 and Dec 09, 2015



Usual seasonal cycle of low DO in summer, rising in winter. DO pretty high this past summer – we had a bit of drought. Interrupted this winter due to flood and unusually high temperatures

% Saturation of Dissolved Oxygen

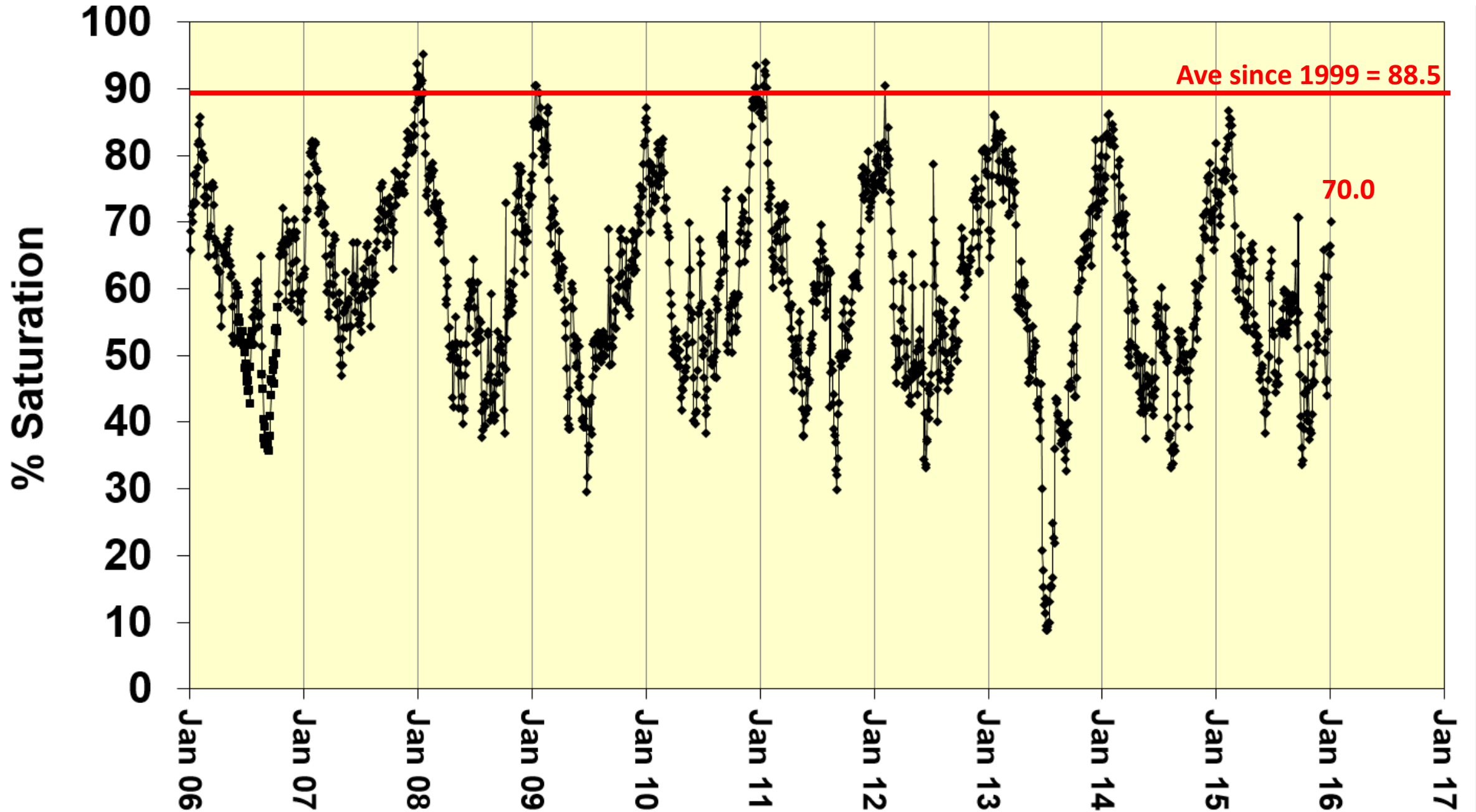
Data collected between Jun 06, 2006 and Dec 09, 2015



- Babson's
- Pireway
- Highway 9
- Reaves Ferry
- Murrells Landing
- Conway Waterfront
- Pitch Landing
- Peachtree Landing
- Enterprise Landing
- Bucksport Landing
- Wachesaw Landing
- Hagley Plantation

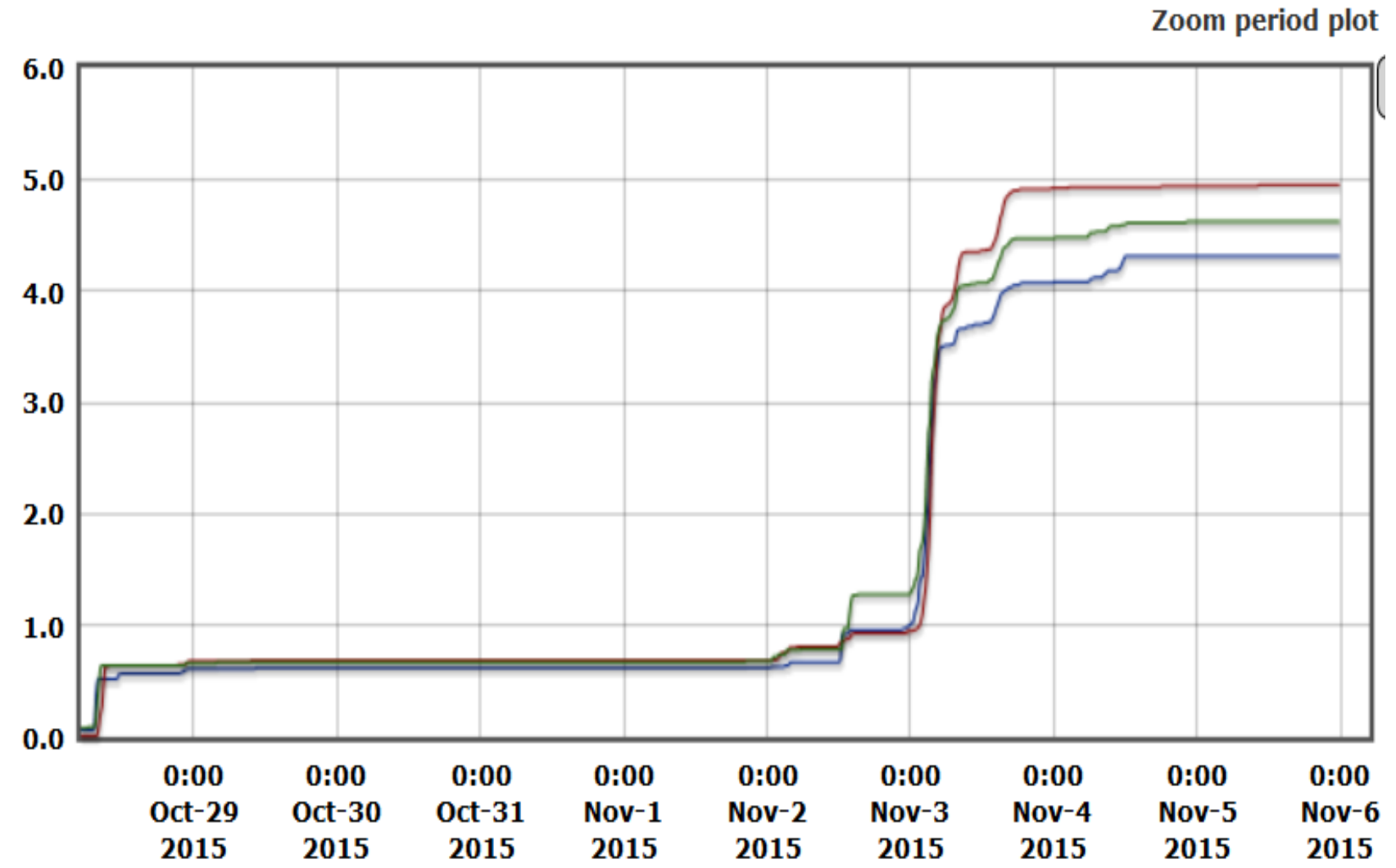
We should be at about 90% saturation by now.

Percent Saturation of Oxygen at Murrells Landing



**Around 4”
rain fell on
11/3/15. We
sampled on
11/4/15.**

**USGS 02110400 BUCK CREEK NEAR LONGS, SC
USGS 02110550 WACCAMAW RIVER ABOVE CONWAY, SC
USGS 02110701 CRABTREE SWAMP AT CONWAY, SC**



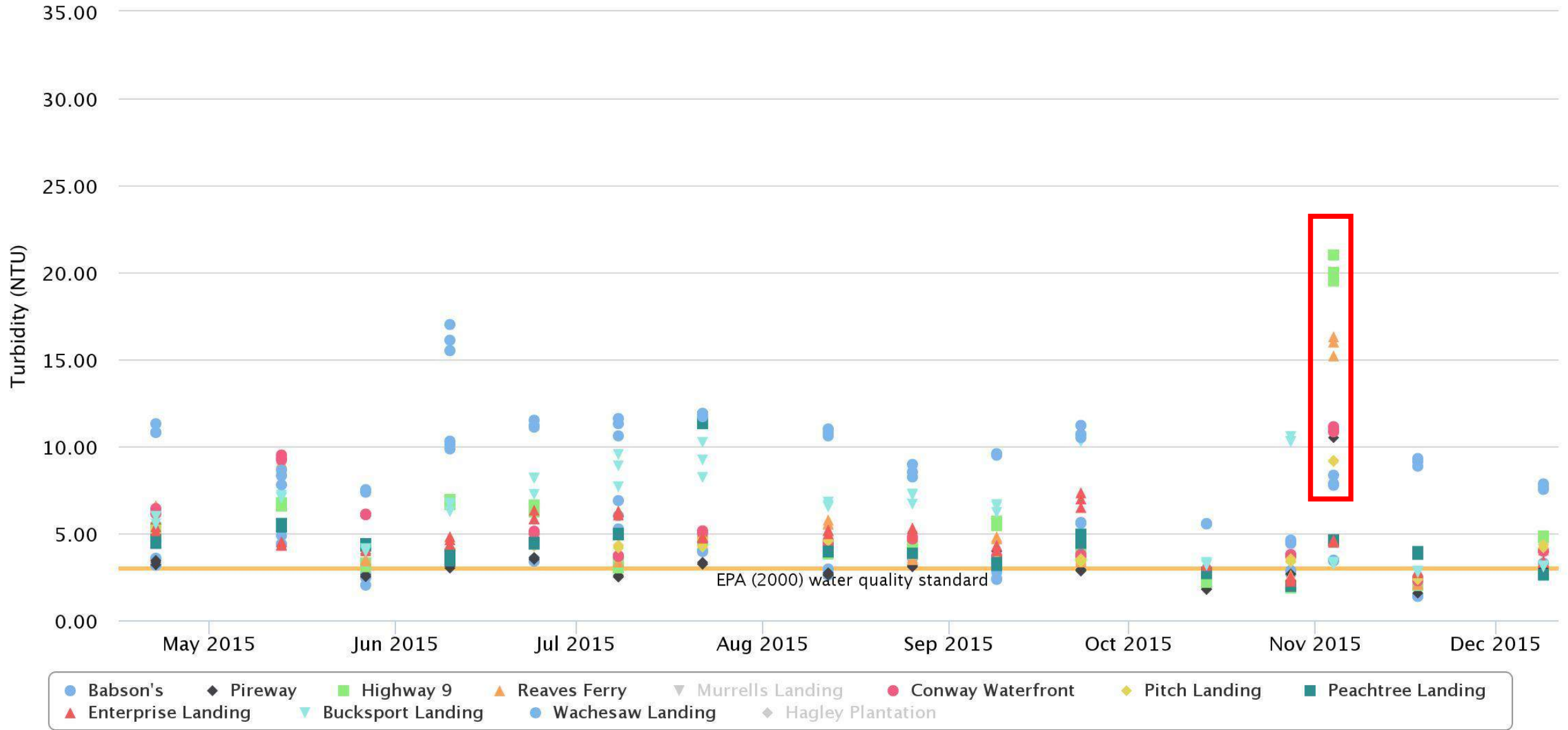
Sterritt Swamp on 10/4/15



Turbid
waters

Turbidity (NTU)

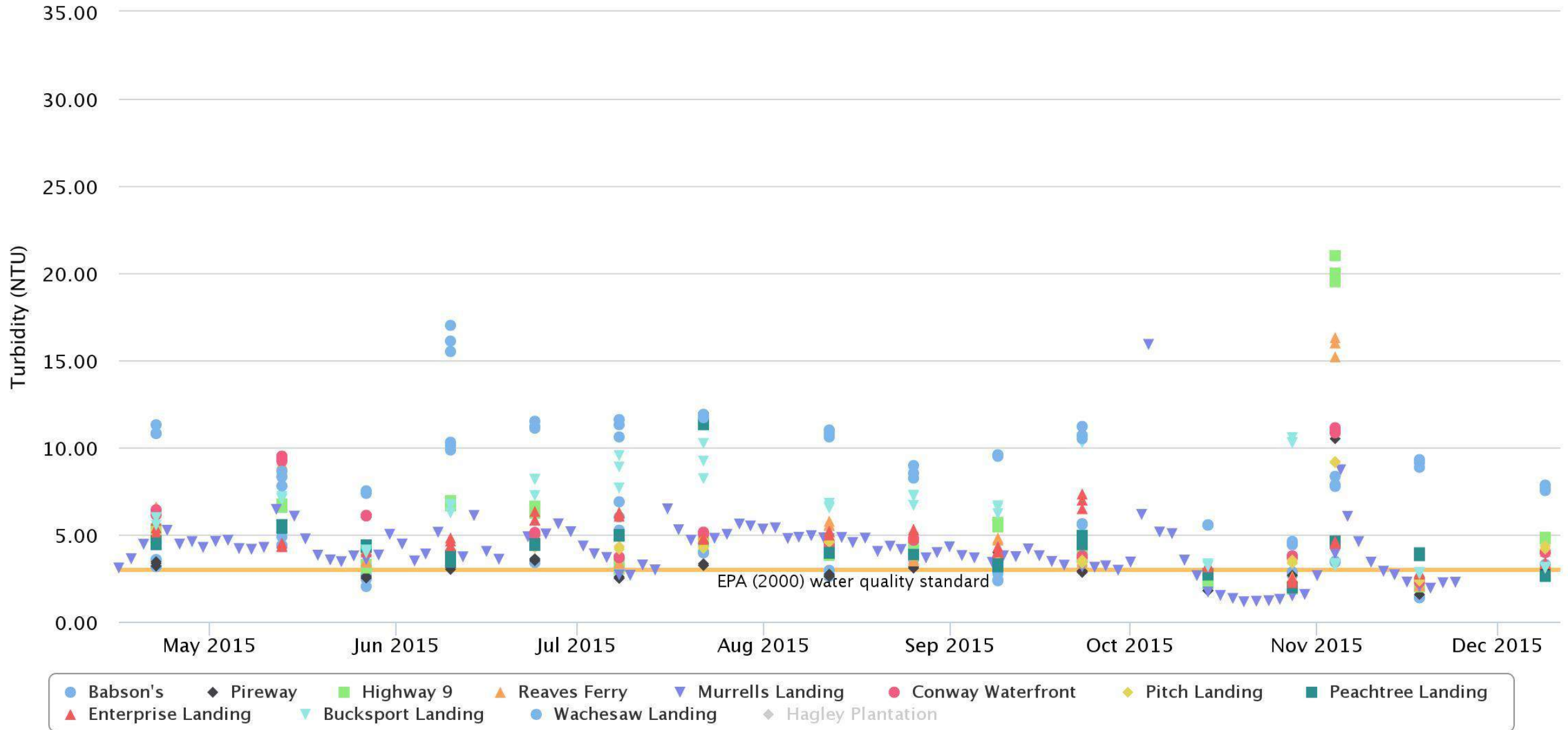
Data collected between Jun 06, 2006 and Dec 09, 2015



High turbidity after first Nov sampling event.

Turbidity (NTU)

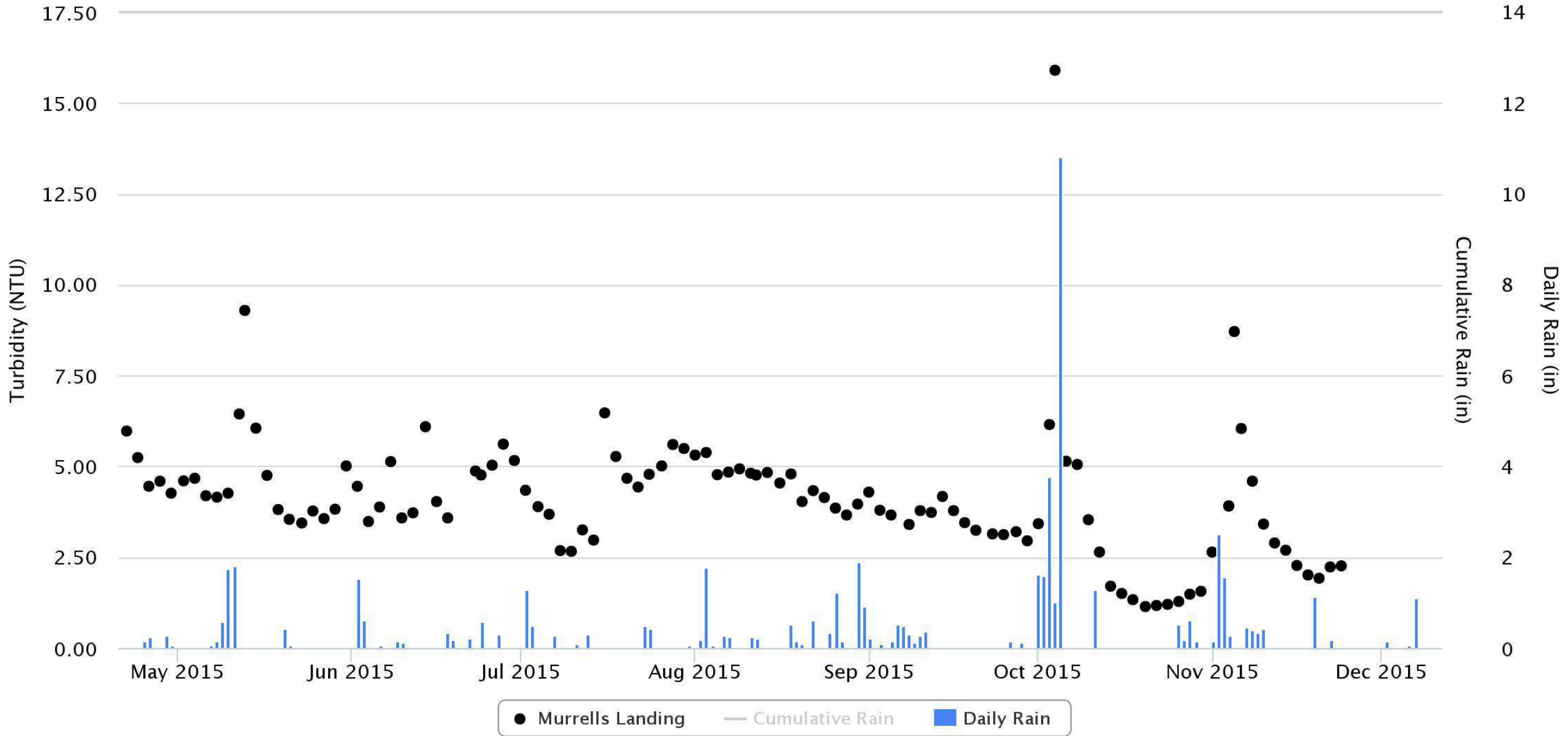
Data collected between Jun 06, 2006 and Dec 09, 2015



ML record shows this occurred over a number of days. Driven by rain as shown in next slide

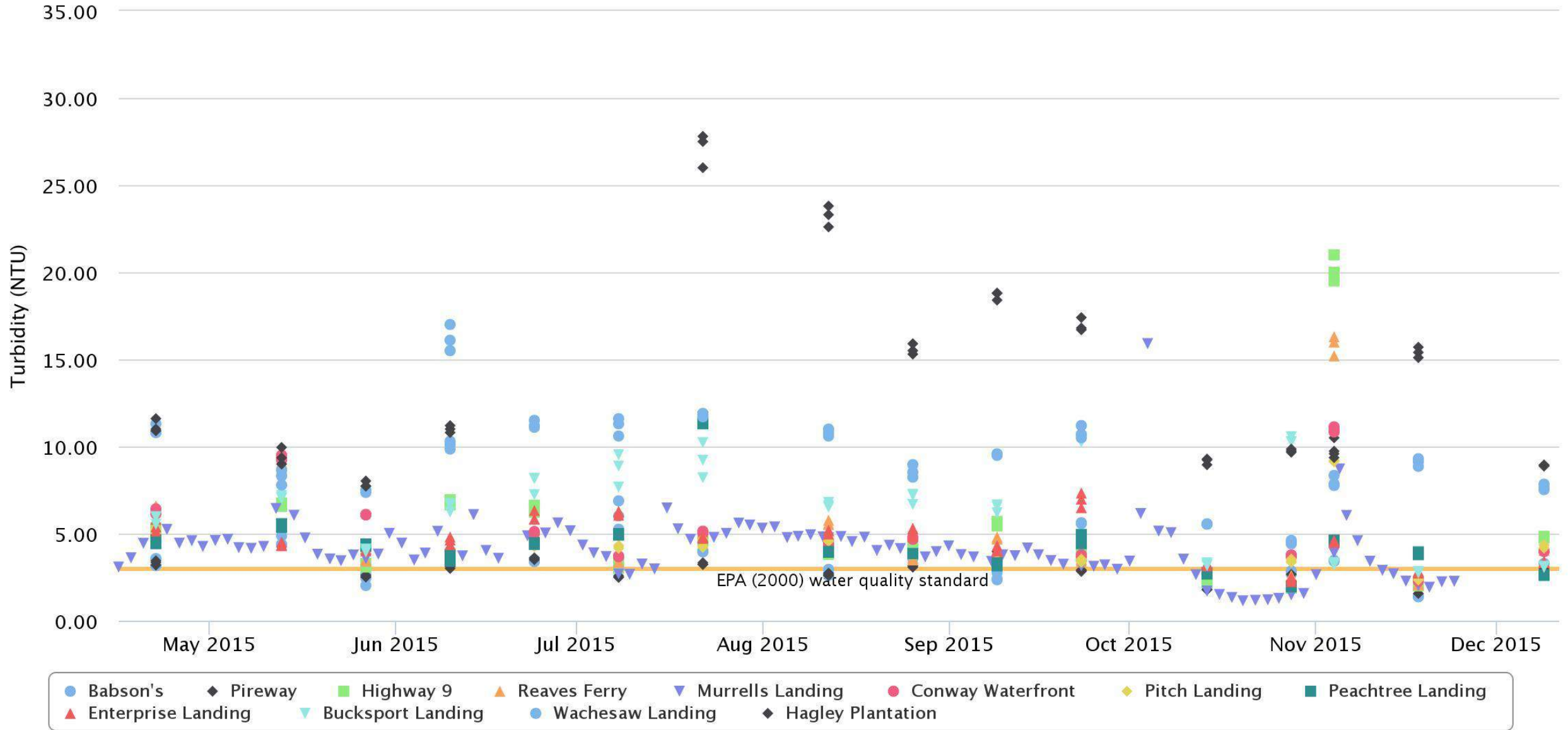
Turbidity (NTU) for Murrells Landing

Data collected between Jun 06, 2006 and Dec 09, 2015



Turbidity (NTU)

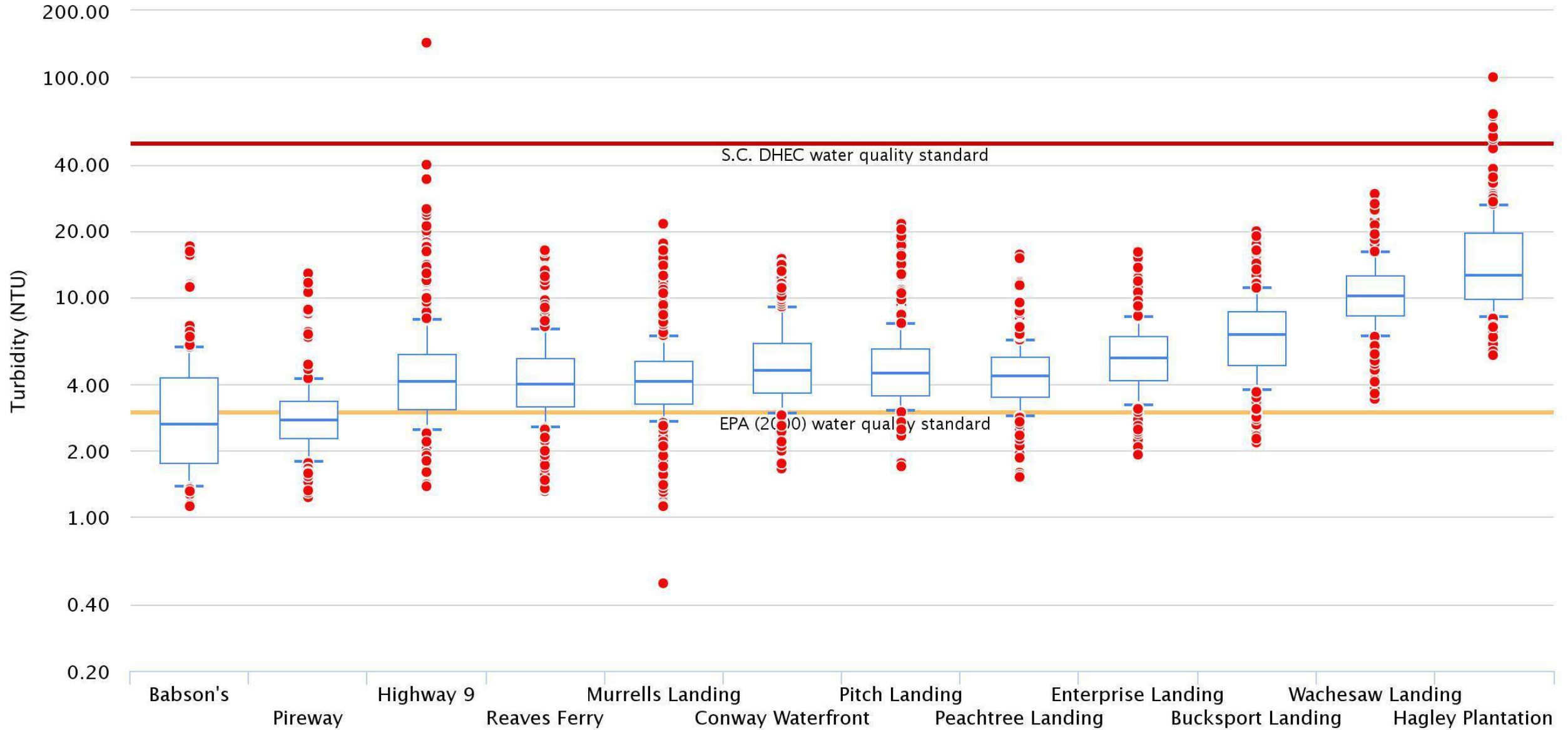
Data collected between Jun 06, 2006 and Dec 09, 2015



HG generally has higher turbidity due to influence of Pee Dee, but we've been seeing issues above DHEC standards. Report from Emma later

Turbidity (NTU)

Data collected between Jun 06, 2006 and Dec 09, 2015



| Site | <i>E.coli</i> (RG: MPN/100 mL) (VM: CFU/100 mL) | | |
|-------------------|---|------------------------|-----------------|
| | River Gaging 11/5/15 | Vol. Mon. (11/4/15) | %RPD (VM-RG) |
| Babson's Lndg, NC | | 366 | |
| Pireway, NC | | 1332 | |

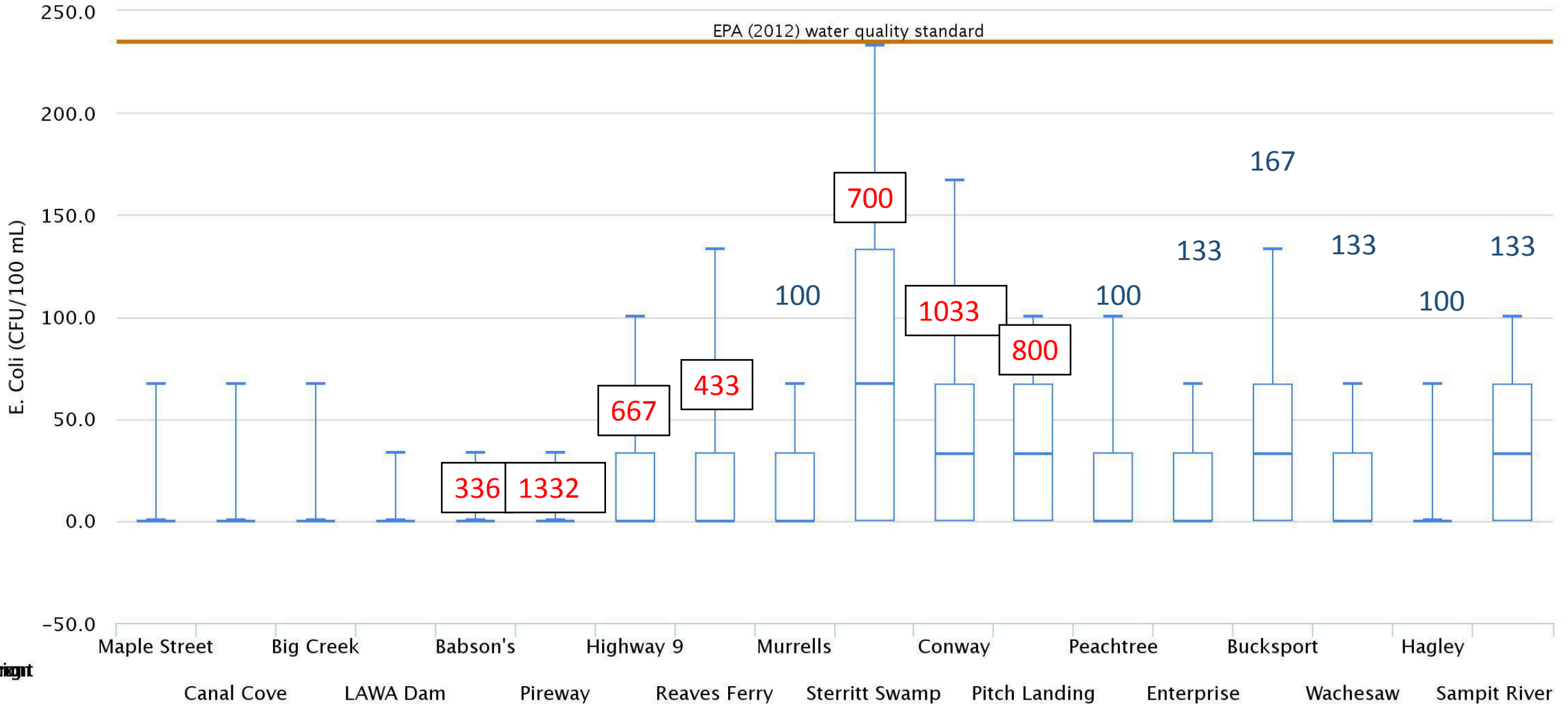
| | | | |
|-----------------|-----|------|------|
| Buck Creek | 687 | | |
| Highway 9 | 517 | 667 | 25% |
| Reaves Ferry | 345 | 433 | 23% |
| Murrells Lndg | | 100 | |
| Sterritt Swamp | | 700 | |
| Crabtree | 980 | | |
| Conway | 326 | 1033 | 104% |
| Pitch Landing | | 800 | |
| Bucksport | 118 | 100 | -16% |
| Peachtree Lndg | | 133 | |
| Enterprise Lndg | | 167 | |
| Wachesaw Lndg | | 133 | |
| Hagley | 186 | 100 | -60% |

| | | | |
|------------------|-----|-----|--|
| Gallivants Ferry | 365 | | |
| Sampit | | 133 | |

> SC DHEC WQS

E. Coli (CFU/100 mL)

Data collected between Jul 01, 2009 and Dec 09, 2015





What about those percentiles?

We update them annually

Use on the long term (box plots)

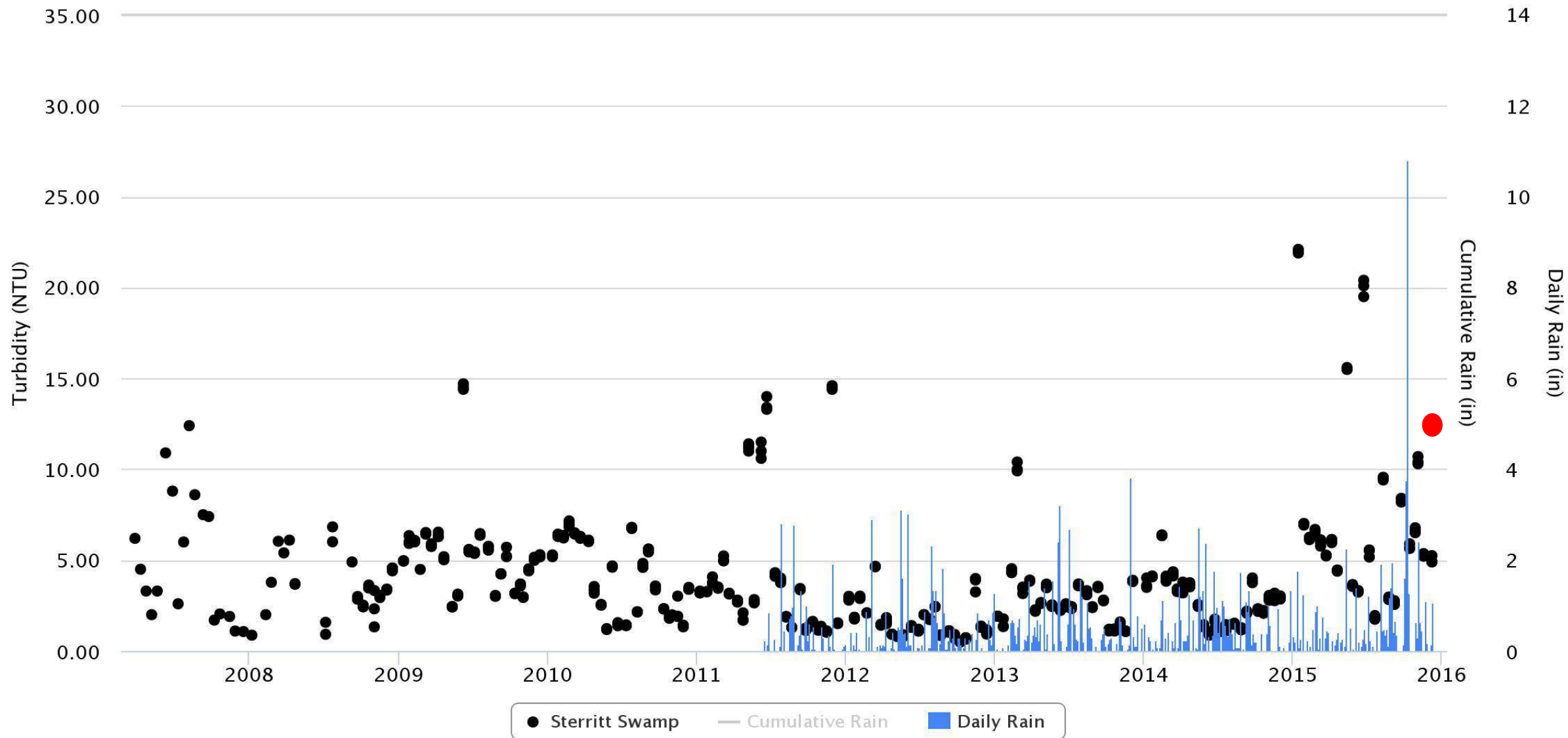
Use in the field

Use in provisional reports

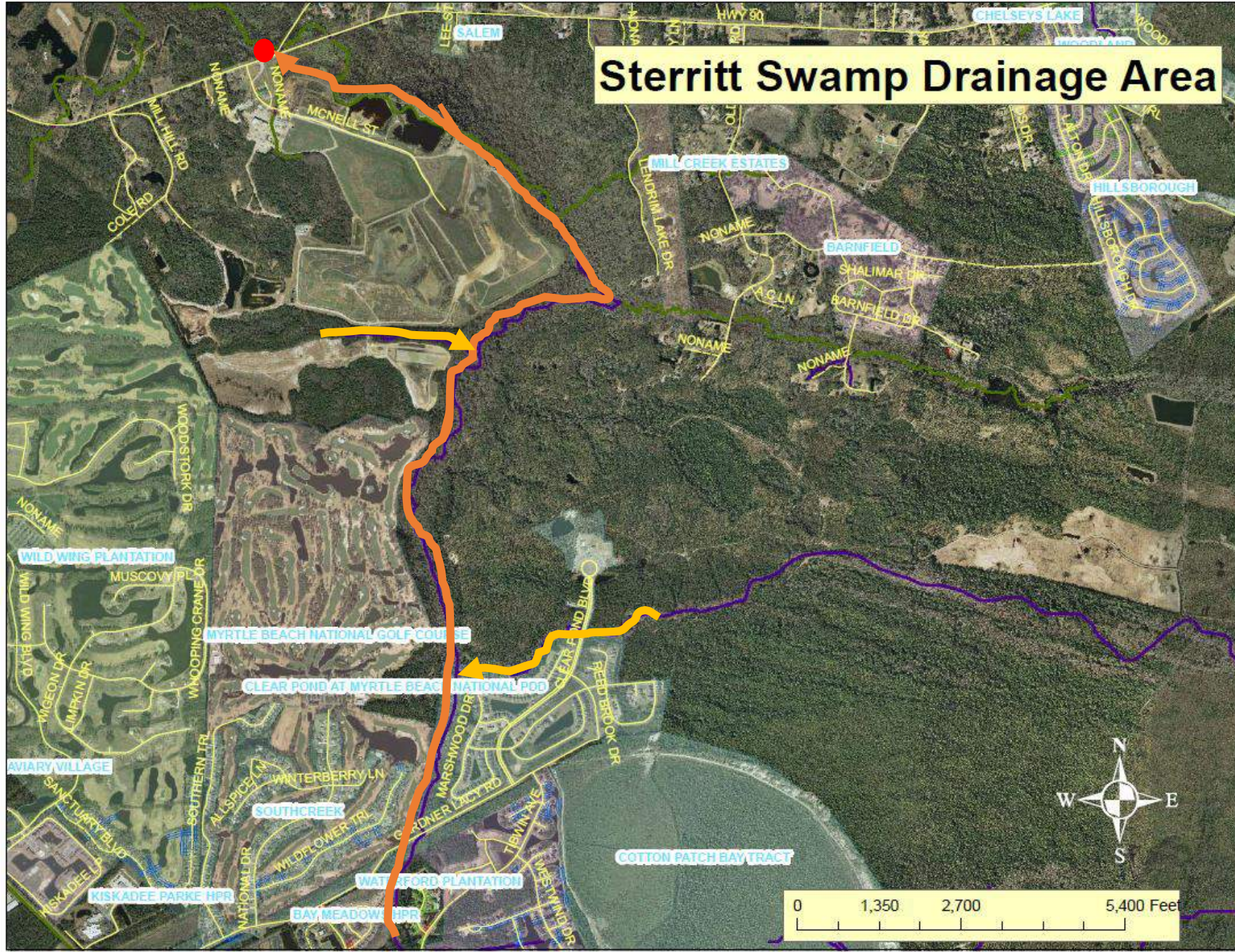
- Also compare to regulatory water quality standards

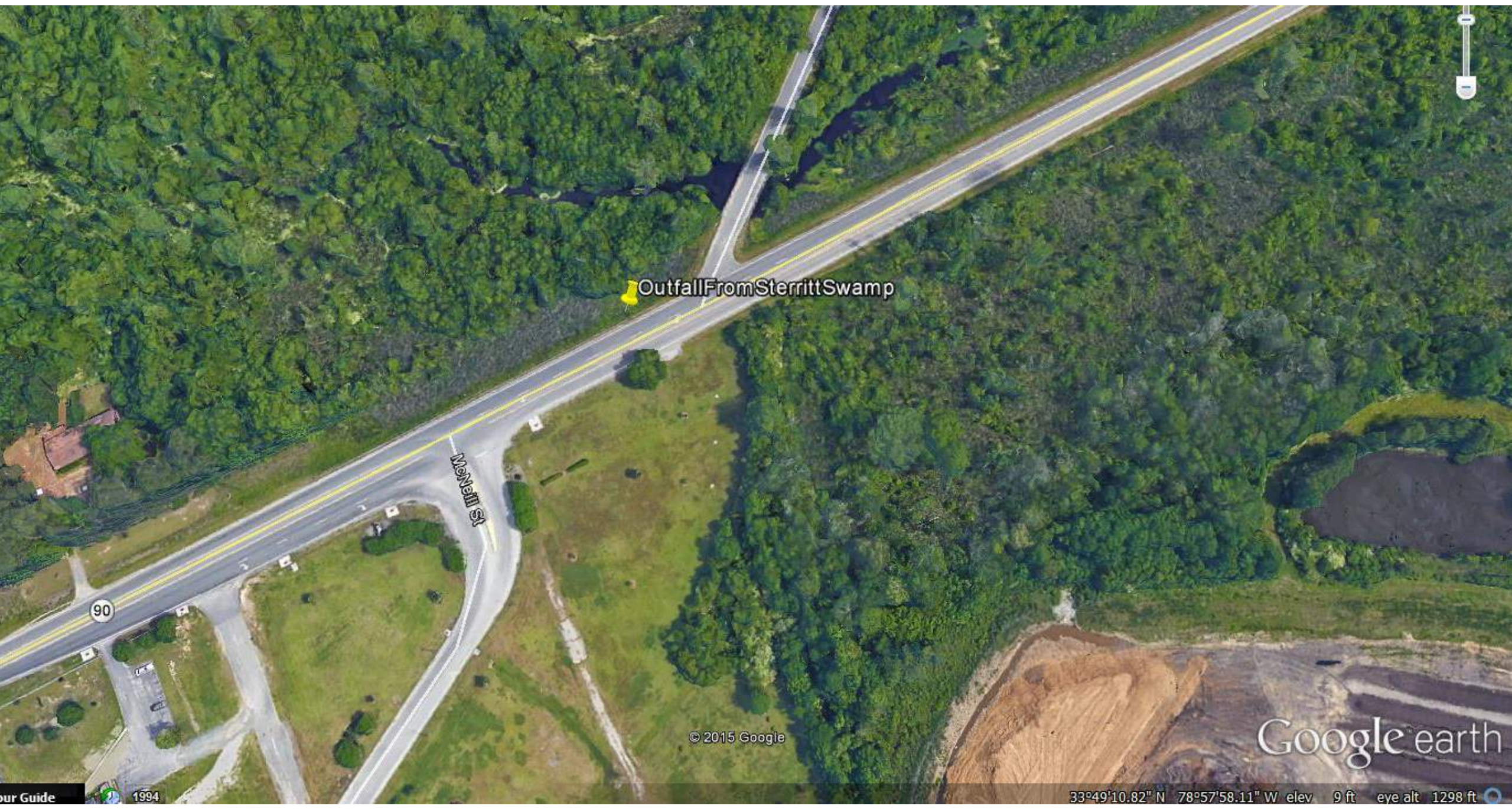
Turbidity (NTU) for Sterritt Swamp

Data collected between Jun 06, 2006 and Dec 09, 2015



Sterritt Swamp Drainage Area





Outfall From Sterritt Swamp

McNeill St

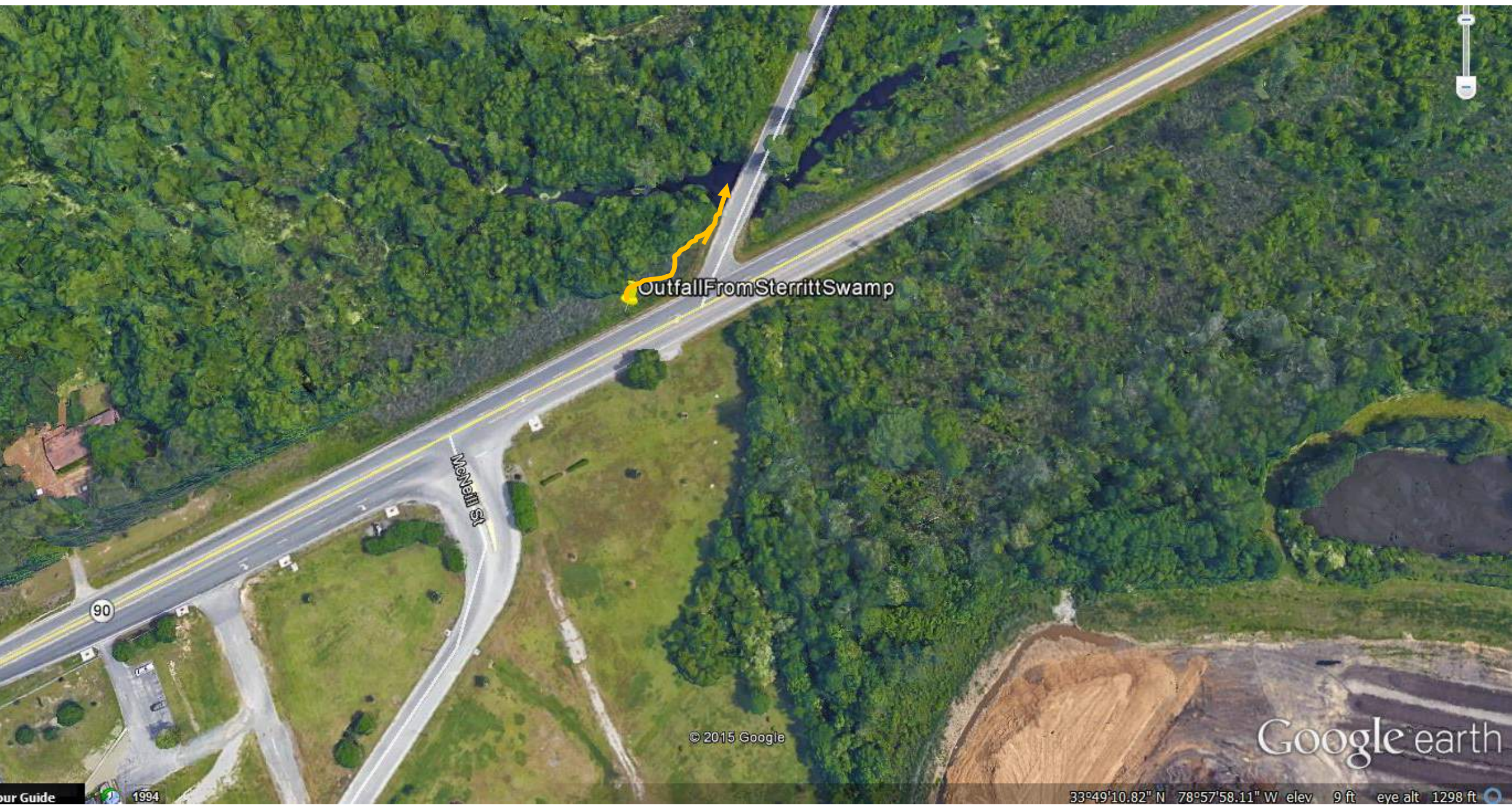
90

© 2015 Google

Google earth

Is this the source?





Outfall From Sterritt Swamp

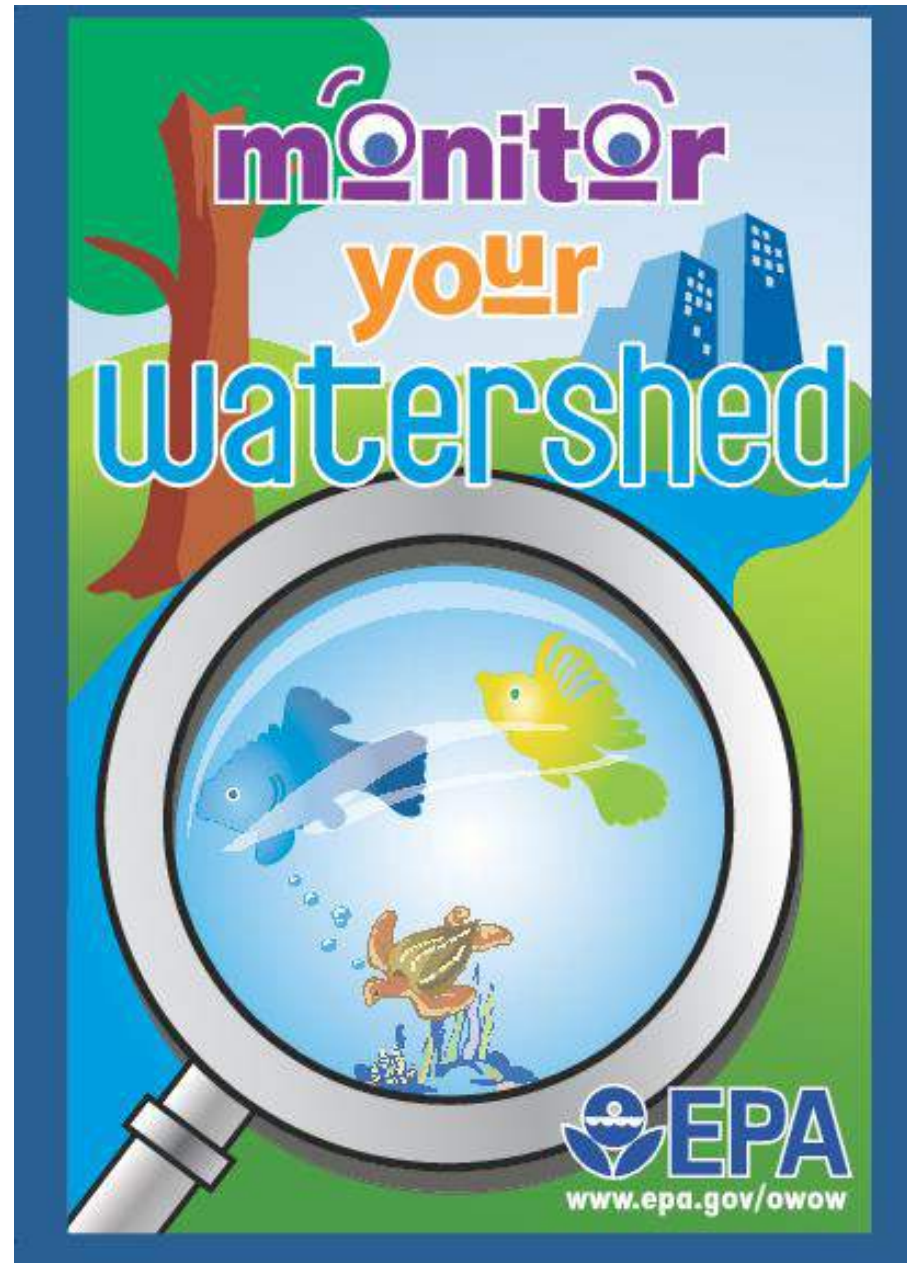
McNeill St

90

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Google earth

Why we need to keep at it.









LOCAL DECEMBER 8, 2015

Nearly 500 acres of Conway area land being marked for conservation

HIGHLIGHTS

After years of legwork, deal finally set to close this month

About half of the property will go to the Waccamaw National Wildlife Refuge; the other parcel will go to the city

City officials want land to hold walking trails



The Nature Conservancy wants to acquire this 494-acre tract on either side of the Main Street bridge close to downtown Conway. The group's plan is to convert the land into a series of hiking trails and use it for conservation purposes. The city supports the mission. **Charles Slatte** - cslatte@thesunnews.com



BY CHARLES D. FERRY
cferry@thesunnews.com

Nearly 500 acres across the water from Conway's River Walk will soon be marked for conservation.

The forests and wetlands are being purchased by the Nature Conservancy, an international organization dedicated to protecting key lands and waters. Maria Whitehead, the Conservancy's Winyah Bay/Pee Dee project director, told Conway City Council this week

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