

Upper Cape Fear  
July 2018 Organizational Updates



# 2018 Quality Assurance Audit

- Conducted on June 19<sup>th</sup>, 2018
- Meter Calibration ✓
- Field Sampling Procedures ✓
- Safety ✓



**MERITECH, INC.**

ENVIRONMENTAL LABORATORIES



*Environmental  
Quality*

# Upper & Middle Cape Fear Monitoring Plan

- Updated monitoring plan has been approved
- Better prioritizes data gaps & needs and substantially reduced costs
- Additional monitoring is set to begin in January 2019



# New Temporary Monitoring Stations (DWR)

- DWR are establishing 9 new sampling sites as part of this 2-year monitoring effort
- These sites will be monitored on a monthly basis
- Monitoring data will fill existing coverage gaps and assist with model calibration and validation

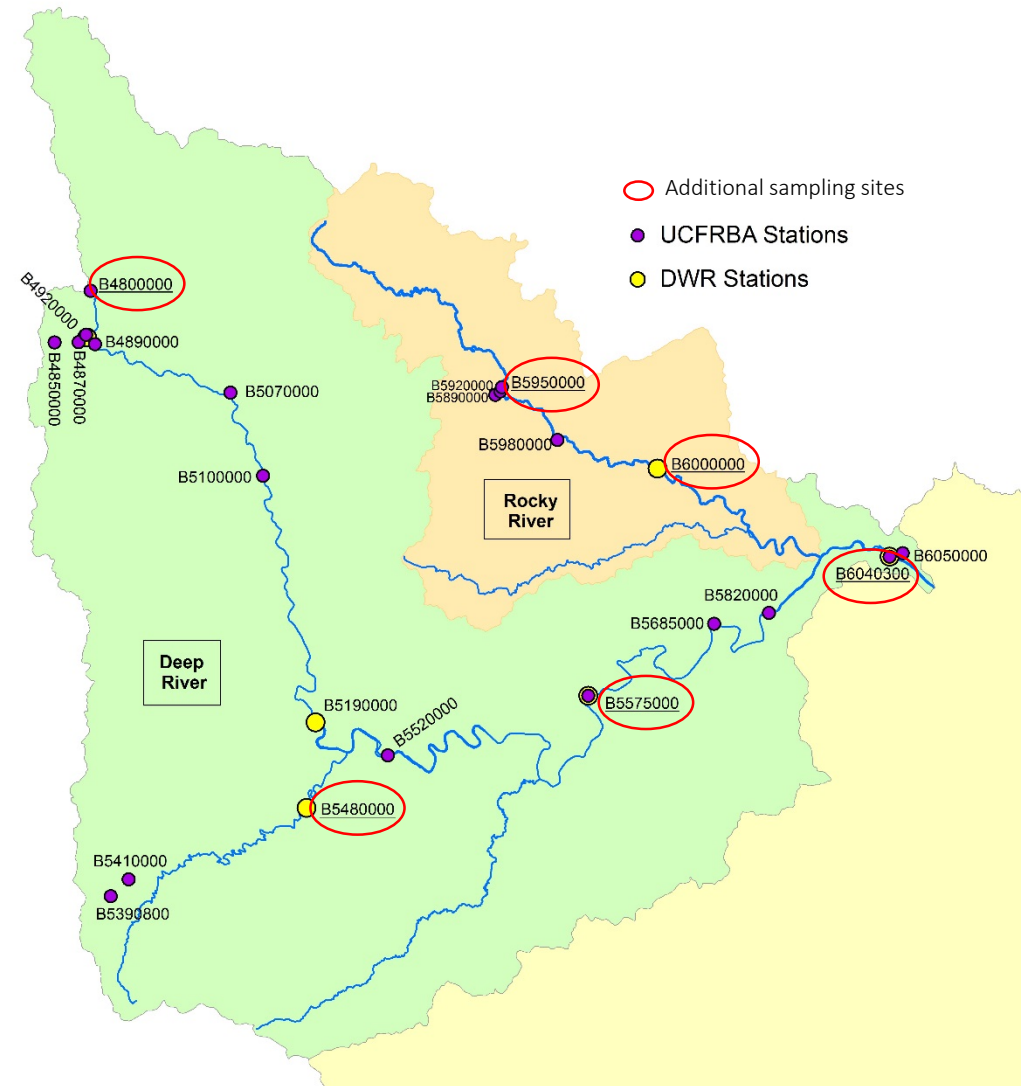
Watersheds	Receiving River	Station Location		Road Crossing
		Longitude	Latitude	
Bush Creek	Deep River	-79.713	35.753	SR 2226:
Brush Creek	Deep River	-79.583	35.602	SR 22 and 42
Richland Creek	Deep River	-79.619	35.608	SR 2873
Headwaters Rocky River	Rocky River	-79.493	35.802	SR1362
Landrum Creek	Rocky River	-79.275	35.688	NC 902
Bear Creek	Rocky River	-79.212	35.635	SR 2156
Gulf Creek	Cape Fear River	-79.027	35.566	SR#1916
Headwaters Locks Creek	Cape Fear River	-78.855	35.047	SR 1006
Carvers Creek	Cape Fear River	-78.404	34.453	NC 87



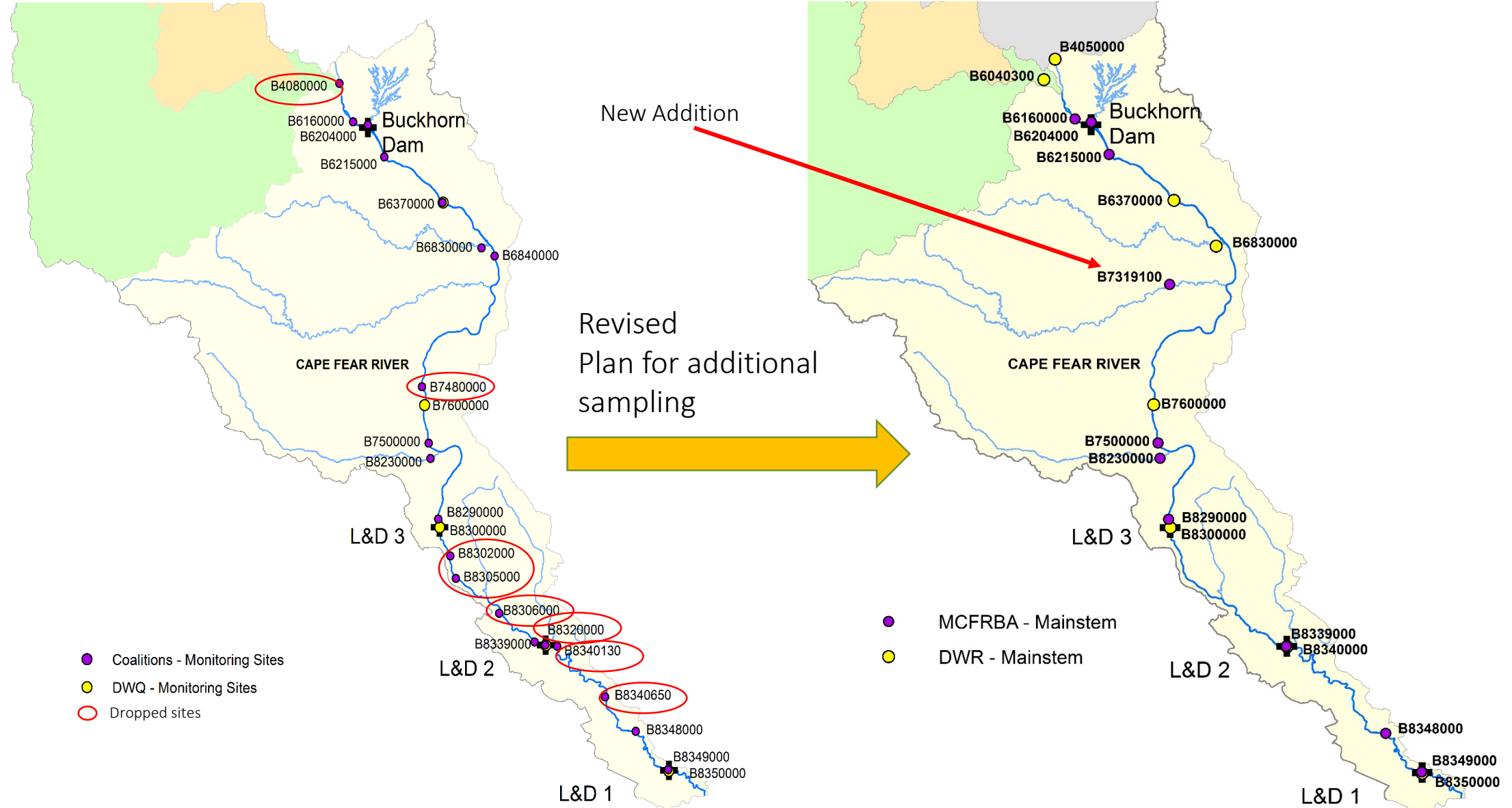
# Existing Stations Identified for Additional Monitoring (Upper Basin)

Station ID	Waterbody	Location Description	Agency	Intended Use
B4800000	Deep River	Deep Riv at SR 2122/2128 Worthville Rd at Worthville	UCFRBA	Headwater
B5480000	Bear Creek	Bear Creek at NC 705 at Robbins	DWR	Tributary Input
B5575000	Deep River	Deep Riv at NC 42 at Carbonton	DWR	Calibration
B6040300	Deep River	Deep Riv at SR 1011 Old US 1 nr Moncure	DWR	Calibration
B5950000	Rocky River	Rocky Riv at US 64 near Siler City	UCFRBA	Calibration
B6000000	Rocky River	Rocky Riv at NC 902 nr Pittsboro	DWR	Calibration

- Additional monitoring of nutrients, turbidity, & TSS needed during summer months (May-September)
- New Parameters:
  - Chlorophyll-a
  - Ortho-p
  - TOC
  - BOD5
  - Long term BOD (CBOD removed)



# Revised Plan



# Number of Additional Collections by Parameter (over 2 year period)

Station	UCFRBA		MCFRBA									
	B4800000	B5950000	B6160000	B6204000	B6215000	B7319100	B7500000	B8230000	B8290000	B8339000	B8348000	B8349000
Grab or Composite	G	G	G	G	G	G	C	G	C	C	C	C
Boat or Bridge	Bridge	Bridge	Bridge	Bridge	Bank	Bridge	Boat	Bridge	Boat	Boat	Boat	Boat
Total # of Extra Trips	0	0	0	10	0	10	0	10	0	0	0	0
Physicals (DO, pH, cond, temp)*	0	0	0	10	0	10	0	10	0	0	0	0
ammonia	10	10	10	10	10	10	10	10	10	10	10	10
nitrite/nitrate	10	10	10	10	10	10	10	10	10	10	10	10
tkn	10	10	10	10	10	10	10	10	10	10	10	10
tp	10	10	10	10	10	10	10	10	10	10	10	10
turbidity	10	10	10	10	10	10	10	10	10	10	10	10
sus residue	10	10	10	10	10	10	10	10	10	10	10	10
chla	34	34	10	34	34	34	34	34	10	10	34	10
ortho-p	34	34	34	34	34	34	34	34	34	34	34	34
TOC	34	34	34	34	34	34	34	34	34	34	34	34
BOD5**	24	24	24	24	24	24	0	24	24	24	0	24
BOD20 or 30	2	2	0	2	2	2	0	2	2	2	0	2
phyto***	0	0	24	0	0	0	0	0	24	24	0	24

\* Physicals = DO, pH, cond, and temp should include secchi depth for composite samples

\*\* DWR will review BOD5 data after the first year of collection, if the majority of BOD5 data is below detection limit for any station, there will be no requirement for a second year for BOD5 or BOD20 or 30.

\*\*\* While DWR is asking coalition to collect sample for phytoplankton composition, DWR will perform the actual analysis

# Estimated Costs

UCFRB Parameter	Reporting Limit (mg/L)	Method	Quantity/ 2 years	Cost Per Test	Cost Per 2 Years
BOD, 5 day	2.0	SM 5210B	48	\$25.00	\$1,200.00
BOD20 or 30	2.0	SM 5210B	4	\$75.00	\$300.00
Total Suspended Solids	2.5	SM2540D	20	\$9.00	\$180.00
Ammonia, Nitrogen	0.1	EPA 350.1	20	\$12.00	\$240.00
TKN	0.2	EPA 351.2	20	\$21.00	\$420.00
Nitrate/Nitrite, Nitrogen	0.10	EPA 353.2	20	\$15.00	\$300.00
Phosphorus, total	0.05	EPA 200.7	20	\$12.00	\$240.00
Ortho-Phosphate	0.05	SM 4500P E	68	\$45.00	\$3,060.00
Chlorophyll A	0.001	EPA 445	68	\$80.00	\$5,440.00
TOC	1	SM 5310C	68	\$45.00	\$3,060.00
Turbidity	1.0 NTU	EPA 180.1	20	\$10.00	\$200.00
Extra Trips	-	-	0	-	\$0.00
Phyto	-	-	0	-	\$0.00
<b>TOTAL</b>	-	-	-	-	<b>\$14,640.00 or \$7,320.00/year</b>



# Proposed Surface Water Rule Updates

## Overview

- The Environmental Management Commission intends to readopt several surface water quality rules with substantive changes as a result of EPA feedback.
- Proposed Effective Date: January 1, 2019
- Comment period just ended on July 16, 2018
- More Information at:  
<https://deq.nc.gov/about/divisions/water-resources/planning/classification-standards/surface-water-standards>

## Proposed Changes

- Action Levels for Copper, Silver, & Zinc were disapproved by EPA. Retained chloride.
- Remove low-end cap of 25 mg/l hardness cap for use in deriving WQS
- Removal of a biological confirmation approach
- When hardness-dependent water quality standards are used in deriving NPDES permit limits, actual in-stream hardness will be used instead of the median.