

Upper Cape Fear
River Basin Association
Metals Request



Recap

- In July, the UCFRBA received a request from NC DWR to collect total and dissolved metals data at 8 UCF stations.
- 26 stations total amongst the coalitions:
 - YPDRBA = 11 stations
 - LNBA = 4 stations
 - LCFRP = 3 stations
- This data will provide rationale for the potential delisting of certain stream segments from the 303(d) list.
- The stations need to be sampled at least ten times by December 31st, 2020 so data can be assessed in time for the 2022 303(d) report.


ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
LINDA CULPEPPER
Director



NORTH CAROLINA
Environmental Quality

July 11, 2019

To: Yadkin Pee-Dee River Basin Association
Upper Cape Fear River Basin Association
Lower Cape Fear Basin Program
Lower Neuse Basin Association

From: Linda Culpepper 
Division of Water Resources

Subject: Collecting Metals Data at Targeted Monitoring Coalition Stations

On May 22, 2019, EPA officially approved the Division of Water Resources (DWR) 2018 303(d) Impaired Waters list. With the approval, DWR was able to delist 35 stream segments, or assessment units (AUs), as impaired for metals. Further monitoring is needed to evaluate additional segments to confirm or provide a rationale for their potential delisting from the 303(d) list, specifically metals data at twenty-six additional AUs.

We would appreciate the support of the Monitoring Coalition Program to collect metals data at targeted stations monitored by the individual associations. The stream segments in which these targeted stations are located are ONLY impaired for metals, and analysis is necessary only for metals with North Carolina water quality standards.

A station list with AUs can be found in the enclosed Total and Dissolved Metals Data Request memorandum. The number of stations is detailed by coalition below:

- Yadkin Pee-Dee River Basin Association – 11
- Upper Cape Fear River Basin Association – 8
- Lower Cape Fear Basin Program – 5
- Lower Neuse Basin Association – 4

The data collected will either confirm the segments are impaired or provide the rationale to have them delisted. The stations need to be sampled at least ten times by December 31st, 2020 so data can be assessed in time for the 2022 303(d) report.

To assist the coalition, the DWR can provide training videos and an updated metals sampling SOP. Again, the focus would be targeted metals sampling at stream segments only impaired for metals and metals with North Carolina water quality standards. Please contact Mark Vander Borgh (919-743-8423, coalitioncoordinator@ncdenr.gov) if you have any questions or comments, and to let him know if you are interested in participating.

We truly value our relationship with the Monitoring Coalitions as we mutually protect North Carolina's most important resource, our beautiful waters.

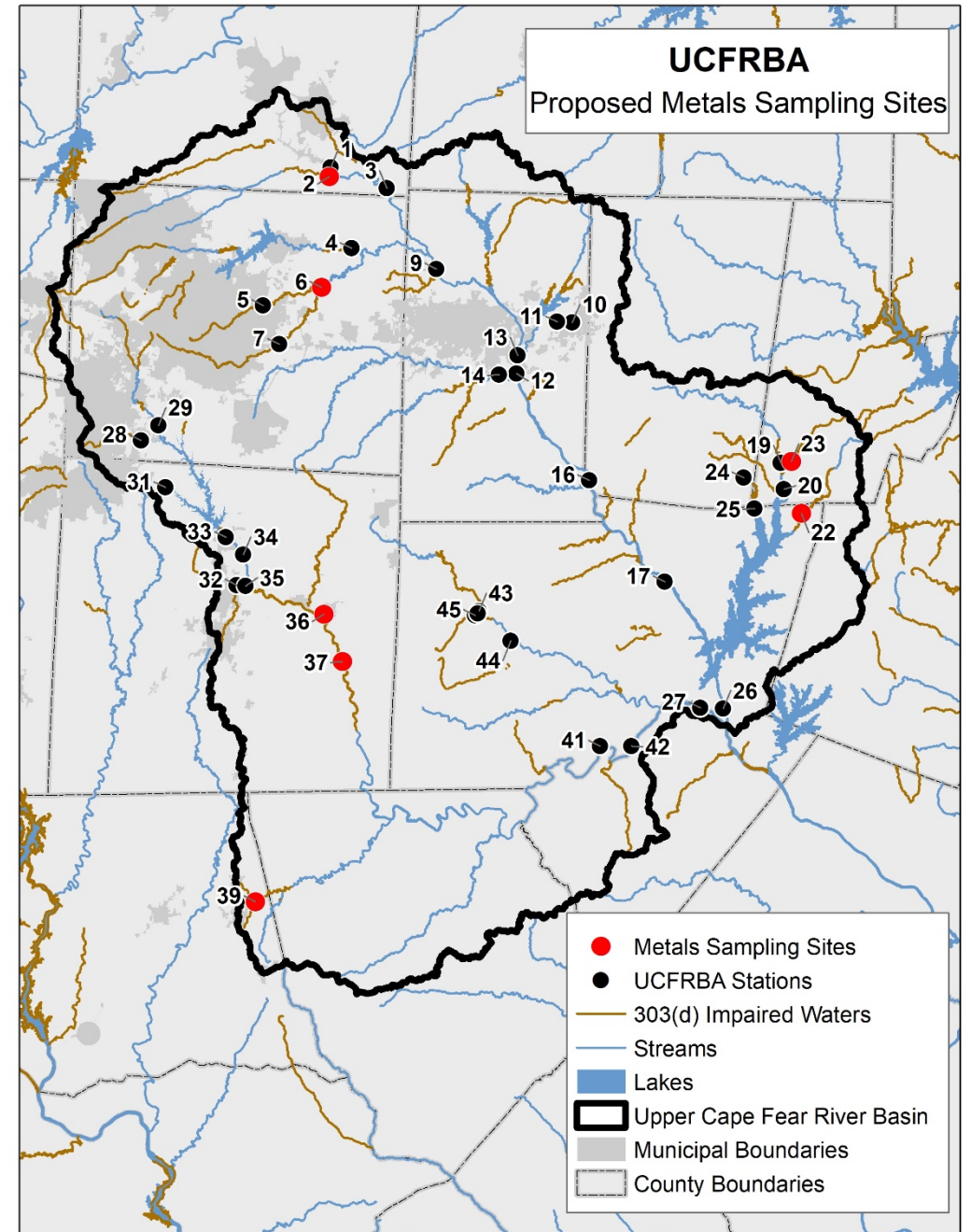


North Carolina Department of Environmental Quality | Division of Water Resources
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Requested Sites

UCF Station #	DEQ Station #	AU Name	AU Description	Classification
2	B0050000	Haw River	From SR 2426 to Troublesome Creek at US 29	WS-V NSW
6	B0540050	North Buffalo Creek	From North Buffalo Creek WWTP to Buffalo Creek	WS-V NSW
22	B3670000	Third Fork Creek	From a point 2.0 miles upstream of NC HWY 54 to New Hope Creek	WS-IV NSW
23	B3025000	Northeast Creek	From Kit Creek to a point 0.5 mile downstream of Panther Creek	WS-IV NSW
36	B5070000	Deep River	From Gabriels Creek to Bush Creek	C
37	B5100000	Deep River	From Gabriels Creek to Bush Creek	C
39	B5390800	Cotton Creek	From SR 1369 to SR 1371	WS-III

*Station B3300000 (previously UCFRBA #21) is currently inactive, and thus, excluded from the scope



Requested Parameters

Metal	Fraction	Notes
Arsenic	Total	All Waters
Cadmium	Dissolved	All Waters
Chromium	Dissolved	All waters
Copper	Dissolved	All waters
Lead	Dissolved	All waters
Selenium	Total	All waters
Nickel	Total	WS Only
Nickel	Dissolved	All waters
Silver	Dissolved	All waters
Zinc	Dissolved	All waters
Beryllium	Dissolved	Freshwater only
Hardness	Total	Freshwater only

- A minimum of 10 samples need to be collected to determine if there are more (or less) than 10% exceedances at $\geq 90\%$ statistical confidence.
- DWR would like samples to be collected to reflect seasonal variance while avoiding extreme environmental conditions.

Important Updates

- DWR has prepared a list of questions and concerns shared by the coalitions and provided responses.
- DWR has also clarified that the coalitions DO NOT have to collect ALL the parameters requested for the data to be accepted.
- Meritech has provided an updated quote to reflect these changes.

Updated Quote

Analytical Costs per event (7 sites)

Cost Breakdown per Event (7 site / event)

Transportation	300 miles X .58/ mile	\$174.00
Labor -1 Technicians	10 Hours/ day X \$60.00/ hr	\$600.00
Equipment (filters, tubing, etc.)		\$400.00
Analysis: (126 Metals + Hardness per Event)		\$2,571.00

Total per monthly event \$ 3,745.00

Total Project Costs X 10 events \$37,450.00

“Event” consists of one field technician sampling 7 sites in one day; there will be 10 different events over the course of the study in 2020. At each site, for each event:


- two samples will be collected, field-filtered, and returned to the lab for an average dissolved metals analyses shown in Table above;
- one sample will be collected and returned unfiltered to the lab for total metals analyses shown in Table above, and;
- one sample will be collected and returned unfiltered to the lab for Hardness analysis.

Test	Reporting Limit (ug/L)	Method	Quantity Per Event	Cost Per Test	Totals
Arsenic, Total	2.0	US EPA 200.8	7	\$18.00	\$126.00
Cadmium, Dissolved	0.15	US EPA 200.8	14	\$18.00	\$252.00
Chromium, Dissolved	2.0	US EPA 200.8	14	\$18.00	\$252.00
QC Field blanks		US EPA 200.8	4	\$18.00	\$72.00
Copper, Dissolved	2.0	US EPA 200.8	14	\$18.00	\$252.00
Lead, Dissolved	0.50	US EPA 200.8	14	\$18.00	\$252.00
Selenium, Total	1.0	US EPA 200.8	7	\$18.00	\$126.00
Nickel, Total	0.50	US EPA 200.8	7	\$18.00	\$126.00
Nickel, Dissolved	0.50	US EPA 200.8	14	\$18.00	\$252.00
Silver, Dissolved	0.50	US EPA 200.8	14	\$18.00	\$252.00
Zinc, Dissolved	5.0	US EPA 200.8	14	\$18.00	\$252.00
Beryllium, Dissolved	0.50	US EPA 200.8	14	\$18.00	\$252.00
Hardness	1.0 mg/l	SM-2340C	7	\$15.00	\$105.00
TOTAL/ Event	-	-			\$2,571.00

Alternative Reduced Scope

Station	AU	AU Name	Impaired Parameter	Estimated Analytical Costs
B0050000	16-(1)c1	Haw River	Copper	\$360
B0540050	16-11-14-1b	North Buffalo Creek	Copper & Zinc	\$720
B3025000	16-41-1-12-(2)	Third Fork Creek	Copper	\$360
B3670000	16-41-1-17-(0.7)b2	Northeast Creek	Copper & Zinc	\$720
B5070000	17-(10.5)d2	Deep River	Copper	\$360
B5100000	17-(10.5)d2	Deep River	Copper	\$360
B5390800	17-26-5-3b3	Cotton Creek	Copper	\$360
Total				\$3,240

Same AU, could potentially combine



Reduces analytical costs by **\$22,470**.

Unsure how this will impact equipment and labor, but total study should be **<\$15,000**

Budget Considerations

	FY 2017-2018 Budget	FY 2018-2019 Approved Budget	Projected Budget – Full Metals Request	Projected Budget - Impaired Parameters
Revenues				
Membership Dues	\$137,451	\$137,451	\$137,451	\$137,451
Interest Earned	\$900	\$900	\$900	\$900
Total Revenues	\$138,351	\$138,351	\$138,351	\$138,351
Expenses				
Meritech	\$90,282	\$111,088	\$148,538	\$126,088
Database Management	\$1,500	\$1,500	\$1,625	\$1,625
Insurance	\$2,466	\$2,466	\$2,466	\$2,466
TJCOG	\$20,000	\$20,000	\$20,000	\$20,000
PTRC	\$20,000	\$20,000	\$20,000	\$20,000
Total Expenses	\$134,248	\$155,054	\$192,629	\$170,179
Net to/from Contingency	\$4,103	(\$16,703)	(\$54,278)	(\$31,828)
Contingency Balance	\$196,385	\$179,683	\$142,108	\$164,558

Questions?



MOA Considerations

Purpose:

- The purpose of this MOA is to:
 - 1) facilitate the collection of instream water quality data for parameters that are of interest to all parties to this MOA;
 - 2) facilitate the collection of instream water quality data at preferred sampling locations (i.e., to reduce duplicative sampling locations and to sample at locations that would otherwise not be sampled) which are mutually agreeable to the both parties;
 - 3) facilitate the collection of instream water quality data at frequencies that provide useful information to all parties to this MOA;
 - 4) leverage the resources available to the parties of this MOA for instream sampling; and
 - 5) provide all parties with consistent instream water quality data for the Neuse Basin.

General Provisions:

- This MOA only applies to the collection and submission of instream water quality monitoring data for the parameters, locations, and frequencies identified in Table 2.
- Nothing in this MOA precludes DWR from requesting UCFRBA Permittees or UCFRBA to take additional samples. Similarly, there is nothing in this MOA that precludes UCFRBA Permittees or UCFRBA to voluntarily conduct and submit sampling data to DWR in addition to what is set forth in Table 2, including hardness and emerging contaminants.
- This MOA does not relieve UCFRBA Permittees from complying with other NPDES permit requirements, including influent and effluent monitoring requirements, or other Federal and State laws, including State water quality standards.
- By signing this MOA, the UCFRBA PERMITTEES authorize the UCFRBA to act as their agent and on their behalf in collecting and submitting instream monitoring data to DWR for the parameters listed in Table 2.
- The UCFRBA PERMITTEES are exempted from instream water quality monitoring for certain parameters *as specified in their individual NPDES permits*. If there is any discrepancy or conflict between this MOA and an UCFRBA Permittee's NPDES permit, the UCFRBA Permittee's NPDES permit shall prevail.