Memorandum of Agreement
Between
The State of North Carolina's Division of Water Resources,
The Tar Pamlico Basin Association Permittees,
and
The Tar Pamlico Basin Association

DWR
Division of Water Resources

TPBA

Effective:
March 1, 2022 through February 28, 2027

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement (MOA) is entered into this 1st day of March 2022, by and between the North Carolina Department of Environmental Quality's Division of Water Resources (DWR), the National Pollutant Discharge Elimination System (NPDES) Dischargers in the Tar Pamlico River Basin who have voluntarily executed this MOA (TPBA Permittees), and the TAR PAMLICO BASIN ASSOCIATION (TPBA), a non-profit corporation whose members include the TPBA Permittees (see Table 1). DWR, TPBA Permittees, and TPBA are collectively the "Parties."

WITNESSETH, THAT,

Whereas, the TPBA Permittees have instream (e.g., upstream and downstream) monitoring requirements in their respective NPDES permits pursuant to Federal and State law.

Whereas, the DWR has obligations to collect water quality data, which it uses for various purposes, including but not limited to enforcement, regulatory, scientific, and educational purposes.

Whereas, DWR has discretion in determining instream sampling locations in the context of NPDES permitting.

Whereas, the TPBA Permittees are willing to combine their resources to provide for a more efficient and effective method for instream monitoring to meet the requirements of their respective NPDES permits.

Whereas, all parties to this MOA benefit from the collection of instream water quality data in the Tar Pamlico River Basin.

NOW, THEREFORE, in consideration of mutual benefits that will accrue to each party, the Parties agree as follows:

I. Purpose:

The purpose of this MOA is to:

a. facilitate the collection of instream water quality data for parameters that are of interest to the Parties;
b. 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 Parties;
c. facilitate the collection of instream water quality data at frequencies that provide useful information to the Parties;
d. leverage the resources available to the Parties for instream sampling; and
e. provide the Parties with consistent instream water quality data for the Tar Pamlico River Basin.

II. General Provisions:

a. 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.

b. Nothing in this MOA precludes DWR from requesting TPBA Permittees or TPBA to take

additional samples. Similarly, there is nothing in this MOA that precludes TPBA Permittees or TPBA to voluntarily conduct and submit sampling data to DWR in addition to what is set forth in Table 2, including sampling for hardness and emerging compounds of concern. Special/Additional sampling activities outlined in Table 2 are not a legal binding part of this MOA and arrangements are made between the TPBA and the individual Permittees.

c. Nothing in this MOA limits DWR's authority to require sampling or investigate pursuant to applicable laws.

d. This MOA does not relieve TPBA 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.

e. By signing this MOA, the TPBA Permittees authorize the TPBA 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.

f. By signing this MOA, the TPBA Permittees authorize the TPBA to act as their agent and on their behalf in modifying this MOA pursuant to Paragraph VIII below.

g. The TPBA 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 TPBA Permittee's NPDES permit, the TPBA Permittee's NPDES permit shall prevail.

III. Collection of instream water quality data:

a. The TPBA and its agents shall perform the collection and analyses of the instream water quality monitoring data for the parameters, locations and frequencies specified in Table 2 of this MOA.

b. The TPBA will contract for the performance of the monitoring activities with a laboratory appropriately certified by DWR for the required laboratory and field analysis.

c. The TPBA and its agents shall comply with the requirements and protocols set forth in Tables 3 and 4 located in Appendix A.

IV. Submission of (monthly) instream water quality data to DWR:

a. The TPBA shall submit the monitoring results to DWR on behalf of TPBA Permittees.

b. The TPBA shall submit the water quality data to the DWR within 90 days of the end of the month in which the sampling was performed to the Coalition Coordinator at coalitioncoordinator@ncdenr.gov.

c. The TPBA or its agents shall submit the water quality data to the DWR in a format set forth in Table 5 located in Appendix B of this MOA and preferably in Microsoft® Excel.

d. The TPBA shall archive all data for five (5) years.

e. The TPBA Permittees may provide comments to DWR on data and work submitted by TPBA to DWR.

f. Failure by the TPBA Permittees or the TPBA or their agents to collect or analyze the water quality data as described in this MOA, or to provide data to the DWR in the required format, may result in the termination of this MOA by the DWR and the return to individual upstream and downstream monitoring requirements, as specified in the individual NPDES permits for each of the TPBA Permittees.

g. Special and/or additional data collected (i.e., hardness) at a designated monitoring station concurrently with the regularly scheduled samples, should be submitted to the Coalition Coordinator.

V. Annual Report:

a. The TPBA shall submit an annual written report that summarizes the previous calendar year's sampling activities.

b. The TPBA shall submit the annual report no later than April 30th each year that this MOA is in effect and shall comply with the requirements set forth in Appendix B.

c. The TPBA shall submit the annual report to the DWR Coalition Coordinator at 1621 Mail Service Center, Raleigh, NC 27699-1621 or electronically at coalitioncoordinator@ncdenr.gov.

VI. Signatures for all Submissions to DWR:

a. The TPBA Chair shall sign annual reports submitted to DWR pursuant to this MOA.

VII. Special Circumstances affecting sampling:

a. Stream sampling under this MOA may be suspended or discontinued under the following circumstances:
   1. If flow conditions in the receiving waters and/or extreme weather conditions will result in a substantial risk of injury to the person(s) collecting samples; or
   2. If environmental conditions, such as a dry stream, prevent sample collection.

b. If sampling is suspended or discontinued for any reason, the TPBA shall provide a written explanation to DWR explaining why sampling was not performed. The written explanation shall be submitted to the DWR Coalition Coordinator with TPBA's monthly data submittal (electronic submittal is authorized).

c. If sampling is suspended or discontinued under the provisions above, TPBA shall resume stream sampling as soon as possible.

VIII. Miscellaneous Provisions:

a. Entire Agreement: This MOA constitutes the entire agreement between the Parties and supersedes all previous agreements.

b. Incorporation by reference: Appendices A and B are attached to and incorporated by reference into this MOA.

c. Savings Clause: Should any part of this MOA be declared invalid or unenforceable by a court of competent jurisdiction, invalidation of the affected portion shall not invalidate the remaining portions of the MOA and they shall remain in full force and effect.

d. Effective Date and Term: This MOA may be executed in counterparts and is effective upon the signature of DWR, TPBA, and at least one NPDES Permittee. This MOA becomes effective as to additional NPDES Permittees upon their signature. This MOA is effective until June 30, 2026, unless extended in writing by the consent of both the DWR and the TPBA.

e. Modification: Modifications, including changes to sampling parameters, locations, or frequencies, shall be in writing and signed by DWR and the TPBA.

f. Subsequent Addition of NPDES Permittees to this MOA: Subsequent to the initial execution of this MOA, NPDES permittees within the Tar Pamlico River Basin may subsequently be added to this MOA. Subsequent addition of NPDES permittees requires amendment of this MOA in writing, signed by DWR, TPBA, and the NPDES permittee. The DWR will not unreasonably withhold consent to the addition of NPDES permittees to this MOA. The TPBA Permittees included in this MOA are listed in Table 1 and will be updated upon the addition/removal of individual participants.

g. Termination: DWR or TPBA may unilaterally terminate this MOA for any reason. Unilateral termination requires at least sixty days written notice and is effective upon the date specified in the notice. DWR and TPBA may mutually terminate this MOA in writing at any time. Upon termination of this MOA, the monitoring requirements contained in the individual NPDES permit for each TPBA Permittee shall become effective immediately.

h. Withdrawal from this MOA by TPBA Permittees: An TPBA Permittee may withdraw and cancel its participation in this MOA by providing at least sixty (60) days written notice to the TPBA, the DWR Coalition Coordinator, the appropriate DWR Regional Office(s), *and* the DWR Water Quality Permitting Section. Subsequent to the required notice period, withdrawal is effective upon a written amendment, signed by DWR, TPBA, and the withdrawing TPBA Permittee. Upon withdrawal from this MOA, the monitoring requirements contained in the individual NPDES permit shall become effective immediately.

i. Effect of an NPDES Permittee Terminating/Cancelling its Membership with the TPBA: Upon the termination or cancellation of an NPDES Permittee's membership with the TPBA, the monitoring requirements contained in the individual NPDES permit shall become effective immediately. The TPBA may request that DWR review the monitoring plan described in this MOA for a possible reduction in sampling effort and/or requirements.

j. No limitation on use of the data: There are no limitations on DWR's, TPBA, or TPBA Permittee's use of the data collected under this MOA.

k. Remedies for Breach: The only remedy for breach of this MOA is an action for specific performance or injunction.

1. Authority to sign: In signing this MOA, the individual certifies that he/she has the requisite legal authority and capacity to sign on behalf of his/her respective organization.

IN WITNESS WHEREOF, the Parties have caused the execution of this instrument by authority duly given, to be effective as of the date executed by the DWR.

DIVISION OF WATER RESOURCES

By: _____

S. Daniel Smith
Director
Division of Water Resources

Date: 2/28/22

TAR PAMLICO BASIN ASSOCIATION

By: _____

David W. Springer, P.E.
Chair
Tar Pamlico Basin Association

Date: 2/25/22

Table 1 – TPBA Permittees

NPDES Permit	TPBA Permittees	Authorized Representative and Title	Authorized Representative Signature	Signature Date
NC0020061	Town of Spring Hope Spring Hope WWTP	Andrew Delonno Town Manager		02-22-22
NC0020231	Town of Louisburg Louisburg WWTP	Johnathan Franklin Town Administrator		2/16/2022
NC0020435	Town of Pine Tops WWTP	**Brenda Harrell** **Mayor**	Brenda Harrell	2-17-22
NC0020605	Town of Tarboro Tarboro WWTP	Troy Lewis Town Manager		02/25/22
NC0020648	City of Washington Washington WWTP	Jonathan Russell City Manager		2-18-2022
NC0020834	Town of Warrenton Warrenton WWTP	Robert Davie Town Administrator		2-22-2022
NC0023337	Town of Scotland Neck WWTP	Nancy Dempsey Town Manager		2-16-2022
NC0023931	Greenville Utilities Commission WWTP	Anthony Cannon General Manager		2-24-22
NC0025054	City of Oxford WWTP	M. Allen Thornton Town Manager		2/22/2022
NC0025402	Town of Enfield Enfield WWTP	Tyree Davis Mayor		2/24/22
NC0026042	Town of Robersonville WWTP	James Duncan Town Manager		2/16/22
NC0026492	Town of Belhaven Belhaven WWTP	Lynn Davis Town Manager		2/16/22
NC0030317	City of Rocky Mount Tar River WTP	Peter Varney City Manager		2-16-22
NC0042269	Town of Bunn Bunn WWTP	Marsha Strawbridge Mayor		2-21-22
NC0069311	Franklin County Public Utilities	**Kimberly B. Denton** **County Manager**		2-25-22
NC0072125	City of Rocky Mount Sunset Ave. WTP	Peter Varney City Manager		2-16-22
NC0072133	City of Rocky Mount Tar River WWTP	Peter Varney City Manager		2-16-22
NC0081191	City of Washington Washington WTP	Jonathan Russell City Manager		2-18-2022
NC0084034	Town of Enfield WTP	Tyree Davis Town Administrator		2/24/24

Table 2
TPBA Sampling Stations, Parameters, & Frequencies

Station	Location	Station Comments	Latitude	Longitude	County	Region	8 Digit HUC	Stream Class	Stream Index	Field Parameters (1)	Nutrients (2)	Turbidity	TSS	Fecal Coliform
O0057000	Tar River at US 158 nr Berea	Tar headwaters	36.3341	-78.7680	Granville	RRO	03020101	WS-IV NSW	28-(1)	M + 2SM	M	M	M	M
O0320000	Fishing Crk ups SR 1607 (Knotts Grove Rd) nr Oxford	ups of Oxford WWTP	36.2770	-78.5911	Granville	RRO	03020101	C NSW	28-11	M + 2SM	M	M		M
O1025000	Tar River at SR 1003 (Sims Bridge Road) nr Louisburg	ups Louisburg WWTP	36.1422	-78.3722	Franklin	RRO	03020101	WS-IV NSW	28-(15.5)	M + 2SM	M	M	M	M
O1030000	Tabbs Creek at SR 1100 (Egypt Mountain Rd) nr Kittrell	Tabbs Creek nr mouth	36.1823	-78.4556	Vance	RRO	03020101	C NSW	28-17-(0.5)	M + 2SM	M	M	M	M
O1600000	Cedar Creek at SR 1116 (Cedar Creek Rd) nr Franklinton	ups Franklin County WWTP	36.0662	-78.4313	Franklin	RRO	03020101	C NSW	28-29-(2)	M + 2SM	M	M		M
O1920000	Cedar Creek at SR 1109 (Timberlake Rd) nr Louisburg	dns Franklin County WWTP	36.0602	-78.3537	Franklin	RRO	03020101	C NSW	28-29-(2)	M + 2SM	M	M		M
O2000000	Tar River at SR 1001 nr Bunn	dns Louisburg WWTP, DWQ ambient station	36.0023	-78.2433	Franklin	RRO	03020101	WS-V NSW	28-(24.7)	M + 2SM	M	M		M
O2015000	Crooked Creek at SR 1719 nr Bunn	ups Bunn WWTP	35.9450	-78.2605	Franklin	RRO	03020101	C NSW	28-30	M + 2SM	M	M		M
O2020000	Crooked Creek at NC 98 nr Bunn	dns Bunn WWTP	35.9386	-78.2089	Franklin	RRO	03020101	C NSW	28-30	M + 2SM	M	M		M
O2101000	Tar River at SR 1145 (Old Spring Hope Rd) nr Spring Hope	ups Spring Hope WWTP	35.9051	-78.1132	Nash	RRO	03020101	WS-V NSW	28-(24.7)	M + 2SM	M	M		M
O2102000	Tar River at NC 581 nr Stanhope	dns Spring Hope WWTP	35.8821	-78.0893	Nash	RRO	03020101	WS-V NSW	28-(24.7)	M + 2SM	M	M		M
O2140000	Tar River at SR 1981 (Tar River Church Rd) nr Cliftonville	ups Tar River Reservoir	35.8466	-77.9639	Nash	RRO	03020101	WS-IV NSW CA	28-(35.5)	M + 2SM	M	M		M
O2320000	Sapony Creek at SR 1704 (Batchelor Dr) nr Nashville	ups Tar River Reservoir	35.9320	-77.9348	Nash	RRO	03020101	WS-IV NSW	28-55-(5.5)	M + 2SM		M		M
O2360000	Tar River at US 301 Bypass at Rocky Mount	btwn reservoir and Rocky Mount, USGS gage	35.9257	-77.8307	Nash	RRO	03020101	WS-IV NSW	28-(64.5)	M + 2SM	M	M	M	M
O3140000	Stony Creek at Winstead Ave nr Little Easonburg	USGS gage	35.9688	-77.8497	Nash	RRO	03020101	C NSW	28-68	M + 2SM	M	M	M	M
O3189000	Tar River ar SR 1250 (Springfield Rd) at Rocky Mount	ups Rocky Mount WWTP	35.9779	-77.7577	Edgecombe	RRO	03020101	C NSW	28-(69)	M + 2SM	M	M	M	M

Station	Location	Station Comments	Latitude	Longitude	County	Region	8 Digit HUC	Stream Class	Stream Index	Field Parameters (1)	Nutrients (2)	Turbidity	TSS	Fecal Coliform
O3600000	Tar River at SR 1252 nr Hartsease	dns Rocky Mount WWTP, DWQ ambient station	35.9409	-77.6551	Edgecombe	RRO	03020101	WS-IV NSW	28-(74)	M + 2SM	M	M	M	M
O4100000	Tar River at NC 33 nr Tarboro	Tar River dns of Swift Creek and ups of Fishing Creek.	35.9284	-77.5498	Edgecombe	RRO	03020101	WS-IV NSW	28-(74)	M + 2SM	M	M		M
O4300000	Fishing Creek at SR 1001 (Dr King Blvd) nr Warrenton	ups Warrenton WWTP	36.3840	-78.1814	Warren	RRO	03020101	C NSW	28-79-(1)	M + 2SM	M	M		M
O4400500	Fishing Creek at SR 1600 (Baltimore Rd) nr Warrenton	dns Warrenton WWTP	36.3574	-78.1449	Warren	RRO	03020101	C NSW	28-79-(1)	M + 2SM	M	M		M
O4480000	Fishing Creek at NC 561 nr Wood	dns of confluence with Shocco Creek	36.2011	-78.0040	Nash	RRO	03020101	WS-V NSW	28-79-(21)	M + 2SM	M	M	M	M
O4630000	Little Fishing Creek at NC 481 nr White Oak	ups of confluence with Porter Creek, USGS gage.	36.1862	-77.8760	Halifax	RRO	03020101	C NSW	28-79-25	M + 2SM	M	M	M	M
O4670000	Fishing Creek at SR 1222 (Bellamy Mill Rd) nr Enfield	ups Enfield WWTP, first bridge ups of US 301	36.1549	-77.7404	Halifax	RRO	03020101	WS-IV NSW	28-79-(25.5)	M + 2SM	M	M		M
O4690000	Fishing Creek at SR 1109 (Etheridge Farm Rd) nr Enfield	dns Enfield WWTP, first bridge dns of US 301.	36.1134	-77.6270	Halifax	RRO	03020101	C NSW	28-79-(29)	M + 2SM	M	M		M
O4899000	Fishing Creek at NC 97 nr Lawrence	USGS Gage, nr confluence with Tar	36.0083	-77.5252	Edgecombe	RRO	03020101	WS-IV NSW	28-79-(30.5)	M + 2SM	M	M	M	M
O4995000	UT to Deep Creek at SR 1104 (Bynums Bridge Rd) nr Scotland Neck	ups Scotland Neck WWTP	36.1355	-77.4852	Halifax	RRO	03020101	C NSW	28-79-32-(0.5)ut18	M + 2SM	M	M		M
O5100000	Deep Creek at US 258 nr Scotland Neck	dns Scotland Neck WWTP	36.1096	-77.4383	Halifax	RRO	03020101	C NSW	28-79-32-(0.5)	M + 2SM	M	M		M
O5250000	Tar River at NC 33/US 64 Bus at Tarboro	ups Tarboro WWTP, USGS gage, DWQ ambient station,	35.8935	-77.5323	Edgecombe	RRO	03020101	C NSW	28-(80)	M + 2SM	M	M	M	M
O5600000	Town Creek at NC 111 (SR 1202) nr Wiggins Crossroads	ups Pinetops WWTP	35.8224	-77.6339	Edgecombe	RRO	03020101	C NSW	28-83	M + 2SM		M		M
O5990000	Town Creek at US 258 nr Cobbs Crossroads	dns Pinetops WWTP, USGS gage	35.7983	-77.5914	Edgecombe	RRO	03020101	C NSW	28-83	M + 2SM		M		M
O6000000	Tar River at NC 42 at Old Sparta	dns Tarboro WWTP, just dns of Town Creek,	35.7903	-77.5507	Edgecombe	RRO	03020101	C NSW	28-(80)	M + 2SM	M	M	M	M

Station	Location	Station Comments	Latitude	Longitude	County	Region	8 Digit HUC	Stream Class	Stream Index	Field Parameters (1)	Nutrients (2)	Turbidity	TSS	Fecal Coliform
O6201000	Ballahack Canal at SR 1526 nr Conetoe	Agricultural land use site, Cropland, no point source dischargers	35.8645	-77.4438	Edgecombe	RRO	03020101	C NSW	28-87-1.2	M + 2SM	M	M	M	M
O6240000	Tar River at US 264 Byp nr Greenville	ups Greenville WWTP, USGS gage	35.6460	-77.4221	Pitt	WARO	03020101	WS-IV NSW	28-(84)	M + 2SM	M	M	M	M
O6700000	Grindle Creek at SR 1427 nr Bethel	Agricultural land use site, Cropland, no point source dischargers	35.7632	-77.3781	Pitt	WARO	03020101	C NSW	28-100	M + 2SM	M	M	M	M
O6798000	Grindle Creek at US 264 at Pactolus	Last bridge crossing ups of Tar	35.6243	-77.2212	Pitt	WARO	03020101	C NSW	28-100	M + 2SM	M	M	M	M
O7000000	Flat Swamp at SR 1159 (Third St) at Robersonville	ups Robersonville WWTP	35.8160	-77.2642	Martin	WARO	03020101	C Sw NSW	28-103-2	M + 2SM	M	M		M
O7100000	Flat Swamp at SR 1157 nr Robersonville	dns Robersonville WWTP	35.7818	-77.2568	Martin	WARO	03020101	C Sw NSW	28-103-2	M + 2SM	M	M		M

APPENDIX A

SAMPLE COLLECTION AND ANALYSIS

Sample Collection Procedures

Sample collection shall be performed by trained personnel employed by NC DWR-certified laboratories in accordance with the DWR Monitoring Coalition Program Field Monitoring Guidance Document (November 2017) and subsequent documents. The Field Monitoring Guidance Document can be found on the web at: http://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/ecosystems-branch/monitoring-coalition-program. Alternate collection procedures require the approval of the DWR Coalition Coordinator prior to use.

Laboratory Analysis

All laboratory analyses shall be performed at a DWR-certified laboratory using approved methods as prescribed by section 40 of the Code of Federal Regulations part 136 (40 CFR part 136) or other methods certified by the DWR Laboratory Certification Branch (http://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch) or the Director of DWR. 40 CFR Part 136 can be accessed on the web at http://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/rules-regulations.

Reporting levels will be at least as stringent as the reporting levels used by the DWR Laboratory. For guidance purposes Table 3 lists target reporting levels for each parameter based on the reporting levels of the DWR Laboratory. The lowest possible analytical limits for all the parameters should be pursued.

TABLE 3
DWR Laboratory Reporting Limits

Parameters	Target Reporting Level	Comments
Water Temperature		Resolution to 0.1 degree Celsius
Dissolved Oxygen		Report results to the nearest 0.1 mg/L.
pH		Report results to the nearest 0.1 pH units.
Specific Conductivity		Report results to the nearest whole µmho/cm at 25 °C.
Turbidity	1.0 NTU	
TSS	6.2 mg/L	
Fecal Coliform	1 colony/100 mL	At least 3 dilutions should be used to achieve optimum colony counts per membrane filter of 20-60 colonies.
Chlorophyll *a*	1 µg/L	Report Chlorophyll *a* values free from pheophytin and other chlorophyll pigments. Analysis by HPLC is not approved by DWR.
Ammonia (NH3 as N)	0.02 mg/L	Address distillation requirement. See 40CFR136 Table II footnote.
Nitrate + Nitrite as N	0.02 mg/L	
Total Kjeldahl Nitrogen as N	0.20 mg/L	
Total Phosphorus as P	0.02 mg/L	
Hardness	1.0 mg/L	

Data Qualification Codes

When reporting data, the DWR's data qualifier codes must be used to provide additional information regarding data quality and interpretation. The current set of qualifier codes to be used is provided in Table 4. Review the data remark codes at least annually and utilize the most current set, as codes are subject to change. Contact the Coalition Coordinator for a current copy of the codes.

Table 4
Data Qualification Codes for Use with Coalition Data

Symbol	Definition
A	Value reported is the mean (average) of two or more determinations. This code is to be used if the results of two or more discrete and separate samples are averaged. These samples shall have been processed and analyzed independently (e.g. field duplicates, different dilutions of the same sample). This code is not required for BOD, coliform or acute/chronic metals reporting since averaging multiple results for these parameters is fundamental to those methods or manner of reporting. 1 The reported value is an average, where at least one result is qualified with a "U". The PQL is used for the qualified result(s) to calculate the average.
B	Results based upon colony counts outside the acceptable range and should be used with caution. This code applies to microbiological tests and specifically to **membrane filter (MF)** colony counts. It is to be used if less than 100% sample was analyzed and the colony count is generated from a plate in which the number of colonies exceeds the ideal ranges indicated by the method. These ideal ranges are defined in the method as: *Fecal coliform or Enterococcus bacteria: 20-60 colonies Total coliform bacteria: 20-80 colonies* 1 Countable membranes with less than 20 colonies. Reported value is estimated or is a total of the counts on all filters reported per 100 ml. 2 Counts from all filters were zero. The value reported is based on the number of colonies per 100 ml that would have been reported if there had been one colony on the filter representing the largest filtration volume (reported as a less than "<" value). 3 Countable membranes with more than 60 or 80 colonies. The value reported is calculated using the count from the smallest volume filtered and reported as a greater than ">" value. 4 Filters have counts of both >60 or 80 and <20. Reported value is estimated or is a total of the counts on all filters reported per 100 ml. 5 Too many colonies were present; too numerous to count (TNTC). TNTC is generally defined as >150 colonies. The numeric value represents the maximum number of counts typically accepted on a filter membrane (60 for fecal or enterococcus and 80 for total), multiplied by 100 and then divided by the smallest filtration volume analyzed. This number is reported as a greater than value. 6 Estimated Value. Blank contamination evident. 7 Many non-coliform or non-enterococcus colonies or interfering non-coliform or non-enterococcus growth present. In this competitive situation, the reported value may under- represent actual density. Note: A "B" value shall be accompanied by justification for its use denoted by the numbers listed above (e.g., B1, B2, etc.). Note: A "J2" should be used for spiking failures.
C	Total residual chlorine was present in sample upon receipt in the laboratory; value is **estimated**. Generally, applies to cyanide, phenol, NH3, TKN, coliform, and organics.

Symbol	Definition
G	A single quality control failure occurred during biochemical oxygen demand (BOD) analysis. The sample results should be used with caution. 1 The dissolved oxygen (DO) depletion of the dilution water blank exceeded 0.2 mg/L. 2 The bacterial seed controls did not meet the requirement of a DO depletion of at least 2.0 mg/L and/or a DO residual of at least 1.0 mg/L. 3 No sample dilution met the requirement of a DO depletion of at least 2.0 mg/L and/or a DO residual of at least 1.0 mg/L. 4 Evidence of toxicity was present. This is generally characterized by a significant increase in the BOD value as the sample concentration decreases. The reported value is calculated from the highest dilution representing the maximum loading potential and should be considered an **estimated** value. 5 The glucose/ glutamic acid standard exceeded the range of 198 ± 30.5 mg/L. 6 The calculated seed correction exceeded the range of 0.6 to 1.0 mg/L. 7 Less than 1 mg/L DO remained for all dilutions set. The reported value is an **estimated** greater than value and is calculated for the dilution using the least amount of sample. 8 Oxygen usage is less than 2 mg/L for all dilutions set. The reported value is an **estimated** less than value and is calculated for the dilution using the most amount of sample. 9 The DO depletion of the dilution water blank produced a negative value. The cBOD value is greater than the BOD value. Note: A "G" value shall be accompanied by justification for its use denoted by the numbers listed above (e.g., G1, G2, etc.).
J	**Estimated** value; value may not be accurate. This code is to be used in the following instances: 1 Surrogate recovery limits have been exceeded. 2 The reported value failed to meet the established quality control criteria for either precision or accuracy. 3 The sample matrix interfered with the ability to make any accurate determination. 4 The data is questionable because of improper laboratory or field protocols (e.g., composite sample was collected instead of grab, plastic instead of glass container, etc.). 5 Temperature limits exceeded (samples frozen or >6°C) during transport or not verifiable (e.g., no temperature blank provided): non-reportable for NPDES compliance monitoring. 6 The laboratory analysis was from an unpreserved or improperly chemically preserved sample. The data may not be accurate. 7 This qualifier is used to identify analyte concentration exceeding the upper calibration range of the analytical instrument/method. The reported value should be considered estimated. 8 Temperature limits exceeded (samples frozen or >6°C) during storage, the data may not be accurate. 9 The reported value is determined by a one-point estimation rather than against a regression equation. The estimated concentration is less than the laboratory PQL and greater than the laboratory method detection limit. 10 Unidentified peak; estimated value. 11 The reported value is determined by a one-point estimation rather than against a regression equation. The estimated concentration is less than the laboratory PQL and greater than the instrument noise level. This code is used when an MDL has not been established for the analyte in question. 12 The calibration verification did not meet the calibration acceptance criterion for field parameters. Note: A "J" value shall be accompanied by justification for its use denoted by the numbers listed above (e.g., J1, J2, etc.). A "J" value shall not be used if another code applies (e.g., N, V, M).
M	Sample and duplicate results are "out of control". The sample is non-homogenous (e.g., VOA soil). The reported value is the lower value of duplicate analyses of a sample.

Symbol	Definition
N	Presumptive evidence of presence of material; estimated value. This code is to be used if: 1 The component has been tentatively identified based on mass spectral library search. 2 There is an indication that the analyte is present, but quality control requirements for confirmation were not met (i.e., presence of analyte was not confirmed by alternate procedures). 3 This code shall be used if the level is too low to permit accurate quantification, but the estimated concentration is less than the laboratory PQL and greater than the laboratory method detection limit. This code is not routinely used for most analyses. 4 This code shall be used if the level is too low to permit accurate quantification, but the estimated concentration is less than the laboratory practical quantitation limit and greater than the instrument noise level. This code is used when an MDL has not been established for the analyte in question. 5 The component has been tentatively identified based on a retention time standard.
Q	Holding time exceeded. These codes shall be used if the value is derived from a sample that was received, prepared and/or analyzed after the approved holding time restrictions for sample preparation and analysis. The value does not meet NPDES requirements. 1 Holding time exceeded prior to receipt by lab. 2 Holding time exceeded following receipt by lab.
P	Elevated PQL due to matrix interference and/or sample dilution.
S	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or matrix spike duplicate (MSD).
U	Indicates that the analyte was analyzed for, but not detected above the reported PQL. The number value reported with the "U" qualifier is equal to the laboratory's PQL*.
UU	Indicates that the analyte was not detected by a screen analysis. The number value reported with the "UU" qualifier is equal to the laboratory's PQL. The number value was determined by a one-point estimation at the PQL, rather than against a regression equation.
V	Indicates the analyte was detected in both the sample and the associated blank. Note: The value in the blank shall not be subtracted from the associated samples. 1 The analyte was detected in both the sample and the method blank. 2 The analyte was detected in both the sample and the field blank.
X	Sample not analyzed for this constituent. This code is to be used if: 1 Sample not screened for this compound. 2 Sampled, but analysis lost or not performed-field error. 3 Sampled, but analysis lost or not performed-lab error. Note: an "X" value shall be accompanied by justification for its use by the numbers listed.
Y	Elevated PQL due to insufficient sample size.
Z	The sample analysis/results are not reported due to: 1 Inability to analyze the sample. 2 Questions concerning data reliability. Note: The presence or absence of the analyte cannot be verified.
Supporting Definitions listed below	
MDL	A Method Detection Limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the true value is greater than zero and is determined in accordance with 40 CFR Part 136, Appendix B.
ML	Minimum Levels are used in some EPA methods. A Minimum Level (ML) is the lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method - specified sample weights, volumes, and cleanup procedures have been employed. The ML is calculated by multiplying the MDL by 3.18 and rounding the result to the nearest factor of 10 multiple (i.e., 1, 2, or 5). For example, MDL = 1.4 mg/L; ML = 1.4 mg/L x 3.18 = 4.45 rounded to the nearest factor of 10 multiple (i.e., 5) = 5.0 mg/L.

Supporting Definitions listed below	
PQL	The Practical Quantitation Limit (PQL) is defined as the lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. PQLs are subjectively set at some multiple of typical MDLs for reagent water (generally 3 to 10 times the MDL depending upon the parameter or analyte and based on the analyst's best professional judgement, the quality and age of the instrument and the nature of the samples) rather than explicitly determined. PQLs may be nominally chosen within these guidelines to simplify data reporting and, where applicable, are generally equal to the concentration of the lowest non-zero standard in the calibration curve. PQLs are adjusted for sample size, dilution and % moisture. For parameters that are not amenable to MDL studies, the PQL may be defined by the sample volume and buret graduations for titrations or by minimum measurement values set by the method for method-defined parameters (e.g., BOD requires a minimum DO depletion of 2.0 mg/L, fecal coliform requires a minimum plate count of 20 cfu, total suspended residue requires a minimum weight gain of 2.5 mg, etc.). Additionally, some EPA methods prescribe Minimum Levels (MLs) and the lab may set the PQL equal to this method-stated ML. Determination of PQL is fully described in the laboratory's analytical Standard Operating Procedure (SOP) document.

*PQL, The Practical Quantitation Limit (PQL), is defined as the lowest level achievable among laboratories within specified limits during routine laboratory operation. The Practical Quantitation Limit (PQL) is "about three to five times the method detection limit (MDL) and represents a practical and routinely achievable detection level with a relatively good certainty that any reported value is reliable." (APHA, AWWA, WEF. 1992. Standard Methods for the Examination of Water and Wastewater, 18th ed.)
** Data remarks are current as of May 4, 2018.

APPENDIX B

DATA FORMAT AND REPORTING REQUIREMENTS

Data Format for Monthly submittals:
Table 5 provides the format of a data submittal spreadsheet. **It is very important that the format of the headings and the number and order of columns is consistent among all monthly submissions.** Do not use commas, tabs, or other common file delimiters anywhere in the submittal spreadsheet table. Do not add, delete, or hide any rows or columns. The first row should contain the column headings only. Column headings must include appropriate information on measurement units (e.g., mg/L, µg/L, cfu/100mL, etc.). The second row must contain the method code. The DWR station number (e.g., B6140000) must be provided as identified in the MOA. The comment column is used for describing pertinent information related to the sampling event or specific samples. Ensure that there are no missing values for station, date, time, and depth. Place all remark codes in a separate column, as demonstrated in Table 5. If there is no result for a particular parameter, leave the cell blank. Delete duplicate rows for stations that were not sampled (e.g., stations sampled twice in summer months). Screen all data for inappropriate or improbable values, such as a pH of 21.2 SU.

Annual Report:
The TPBA will be required to submit an annual report by April 30th for each year the MOA is in effect. The annual report will formally summarize all data collection activities in the past calendar year and contain at least the following elements:

- Monitoring Station List to include station number, station description, county, accurate coordinates (in decimal degrees to 4 decimal places), stream classification, and 8-digit hydrologic unit code (HUC).
- List of all certified laboratories that conducted work for the coalition in the past year; identify time frames for all laboratories and analysis methods used during the year; and summarize any laboratory certification issues for individual parameters.
- A list of active TPBA members with authorized representative updates, contact names, email addresses, and phone numbers. Identify the facility name and permit number.
- A list of members whom became inactive during the year and their permit numbers.
- A summary of all quality assurance and quality control issues and any field audits conducted.
- A summary of any significant issues, special studies, or projects.
- Description of any required data collection that was missed, with an explanation.
- Suggested changes to the monitoring program and/or MOA modifications.
- The TPBA's website address.

Table 5
File Format for Coalition Data Reporting

				Temp (°C)	Temp_rmk	DO (mg/L)	DOrmk	pH (su)	pH_rmk	Conductivity (umhos/cm)	Conductivity_rmk	Fecal Coliform	Fecal Coliform_rmk	Suspended Residue (mg/L)	Suspended Residue_rmk	Turbidity (NTU)	Turbidity_rmk	Chlorophyll_a (ug/L)	Chlorophyll_rmk	NH3_N (mg/L)	NH3_N_rmk	TKN_N (mg/L)	TKN_N_rmk	NO2_NO3_N (mg/L)	NO2_NO3_N_rmk	TP (mg/L)	TP_rmk	Hardness (ug/L)	Hardness_rmk	
Station	Date (m/d/yyyy)	Time (hh:mm)	Depth (m)	10	10rmk	300	300rmk	400	400rmk	94	94rmk	31616	31616rmk	530	530rmk	82079	82079rmk	32209	32209rmk	610	610rmk	625	625rmk	630	630rmk	665	665rmk	900	900rmk	Comments