

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATER MONITORING AND STANDARDS ELEMENT
BUREAU OF FRESHWATER AND BIOLOGICAL MONITORING
P.O. Box 420; Mail Code 35-01
TRENTON, NEW JERSEY

Quality Assurance Project Plan
2022-2023 Summer Ambient Surface Water Bacterial Monitoring Program

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1.0 Project Name: 2022-2023 New Jersey Summer Ambient Surface Water Bacterial Monitoring Program

2.0 Requesting Agencies: United States Environmental Protection Agency (USEPA), and New Jersey Department of Environmental Protection (NJDEP)

3.0 Date of Project: May-September 2022, May-September 2023

4.0 Project Fiscal Information: Job Number 7W106CXX, Activity Code V38A

5.0 Project Oversight:

Project Officer: Anna Signor (AnnaMarie.Signor@dep.nj.gov), NJDEP-BFBM
Responsible for day-to-day planning and scheduling, training, assigning sites to samplers, conducting field audits and review of final data.

Project Supervisor: Dean Bryson (Dean.Bryson@dep.nj.gov), NJDEP-BFBM
Responsible for general oversight of the program and coordinating with BEARS in site selection and NJDOH laboratory for analysis of samples.

Project Data Manager: Leigh Lager (Leigh.Lager@dep.nj.gov), NJDEP-BFBM
Responsible for assignment of valid site identifiers, verifying locational information and coordinates and formatting and uploading data (after review) into the USEPA's water quality data repository (WQX).

6.0 Quality Assurance Officer

Jenna Majchrzak (Jenna.Majchrzak@dep.nj.gov), NJDEP-Office of Quality Assurance (OQA)

7.0 Project Background

The monitoring design aligns with current Surface Water Quality Standards (SWQS) and the current primary contact recreational use assessment approach, with monitoring in one Water Region for two consecutive years. The sampling in 2022 is the first of the two consecutive years in the Raritan Water Region. Collection of samples at the same sites in two consecutive years and the regional sampling approach is consistent with the rotating basin approach as described in the 2016 New Jersey Integrated Water Quality Methods Document (see link below)

https://www.nj.gov/dep/wms/bears/docs/2016_final_methods_doc_wRTC.pdf

8.0 Project Description

This project collects ambient bacterial water quality data at freshwater rivers and streams of New Jersey to assess the primary contact recreational use standard. The current primary contact recreational use standard for freshwater in New Jersey is based on *Escherichia coli* (*E. coli*) levels. The current standard, per New Jersey's SWQS, N.J.A.C. 7:9B-1.14(d), re-adopted October, 2016, last amended April, 2020, *E. coli* counts shall not exceed a geometric mean of 126 per 100 ml. To assess this criterion, 5 samples will be collected within a 30-day period at each site in both 2022 and 2023.

9.0 Project Objectives

The objective of the ambient bacterial monitoring program is to (1) assess whether primary contact recreation standards are being met, as defined in New Jersey's SWQS, N.J.A.C. 7:9B, re-adopted October, 2016, last amended April, 2020, (2) evaluate status of bacterial concentrations, as specified in the NJDEP/USEPA Performance Partnership Agreement (PPA), and (3) supplement NJDEP's database of ambient stream water temperatures.

This data will be used to report water quality conditions in the biennial "Integrated Water Quality Assessment Report", pursuant to sections 305(b) and 303(d) of the federal Clean Water Act, specifically

to assess the fresh (FW2) waters, which are designated for primary contact recreational use, and to focus watershed management initiatives in areas with violations of surface water quality criteria.

10.0 Monitoring Network Design

The targeted site list is based on data needs provided by NJDEP's Bureau of Environmental Analysis, Restoration, and Standards (BEARS). Data is utilized by BEARS for Primary Contact Recreation Use assessments at the respective subwatershed. The assessment unit used by BEARS is this delineated subwatershed, known as a HUC14, a 14-digit Hydrologic Unit Code to identify this subwatershed. Sites being sampled are in HUC14s where data is lacking or existing data is insufficient to determine recreational use attainment, or where additional data is needed for listing or delisting purposes. The complete site list, which includes GPS coordinates, can be found in Appendix A, Table 1.

To conform to SWQS and the Integrated Report methods document, each site will be sampled five (5) times over thirty (30) days. SWQS has adopted *E. coli* as the public health sanitary indicator for all freshwaters (FW1, FW2, PL) in New Jersey. Because this is an ambient monitoring program, no attempt will be made to target or avoid rainfall impacted conditions. Ambient water temperature of the stream will be recorded concurrent with sample collection.

11.0 Special Training Needs

All staff assisting in collecting samples for this project will be trained in the proper techniques. The training will entail safety measures, collection of a representative sample and temperature reading, sample labeling, completing paperwork, sample storage, and decontamination of sampling gear. The Project Officer or Project Supervisor will be responsible for all training. GIS maps showing the proper location of each sampling site and GPS coordinates, will be provided to the sampler.

Safety training and safety requirements will comply with Bureau of Freshwater and Biological Monitoring Field Work Health and Safety Plan (HASP) Version #2 August 2019.

12.0 Collection of Samples

12.1 Sampling Procedure

To ensure that samples are collected at the correct site locations, vehicles used are equipped with GPS units to navigate to sites. If actual sampling location is not at a road crossing, handheld units are available to navigate.

Critical to the success of this project is that all sample collectors are properly trained to collect a representative grab sample, correctly label the sample, complete laboratory sample submittal form, take an accurate water temperature reading, and maintain the integrity of the sample by placing in a cooler of ice. Sample collection will follow guidance provided in NJDEP's Field Sampling Procedures Manual, 2005; the document is available online at the NJDEP's webpage, [NJDEP SRP - Guidance: Field Sampling Procedures Manual \(state.nj.us\)](http://state.nj.us). (The NJDEP Field Sampling Procedures Manual is currently being updated and the sections are subject to change in the update. Chapters 1, 2 and 4 have been updated on the website). Samples will be collected directly into a sterile, plastic single-use bacteriological containers. The samples will be collected as a center-of-flow grab sample by carefully wading into the stream to prevent disturbing the stream bottom upstream of the collection point. Containers will not be rinsed. Wearing protective gloves, the closure of the sample container is removed. Facing upstream, the sample container will be inverted to avoid any surface scum and submerged to a depth of 15 to 30 cm (6 to 12 inches) below the surface, or mid-depth if stream is shallow. The opening of the sample container will then be turned into the current, allowing water to enter and air to exit. If the water body is slowly moving or stagnant, an artificial current can be created by moving the container horizontally in the upstream direction. An air space will be left in the container to enable the sample to be

properly mixed before analysis. Containers will be filled to the shoulder, slightly above the 100ml line which will provide the minimum volume (101ml) required by the laboratory to analyze the sample at the required dilutions. The sample container will then be tightly closed, a sample number label affixed to container, and placed in a cooler of ice for transport to the laboratory. A corresponding sample number label is also affixed to the Bact-44 form. If a stream cannot be safely waded due to steep or slippery stream banks or fast-flowing or deep water, collecting the sample from a bridge is allowable using a weighted sampler attached to a rope or a pole sampler. Samples must be received at the NJDOH laboratory to allow for the initiation of analyses within eight (8) hours of collection.

A water temperature reading is taken directly instream concurrent with collection of the *E. coli* sample. The sample collection time and the time of temperature reading are the same unless otherwise noted. This information is recorded on the NJ Department of Health Bacteriological Sample Submittal Form (Bact-44, see Appendix B).

12.2 Field Precautions for Aquatic Invasives

If more than one site is sampled on a given day, sampling gear, such as waders, will be decontaminated after each site to prevent possible transport of invasive aquatic species. A new set of disposable gloves will be used at each site. At a minimum, decontamination will consist of thoroughly rinsing gear (waders and weighted sampler, if used) with clean, fresh water. Drying waders and gear (overnight) is also an effective method in preventing spread of aquatic invasives.

13.0 Data Quality/ Quality Control Requirements

13.1 Field Measurements

NJDEP-BFBM (#11896) is certified by the Office of Quality Assurance (OQA) for measuring water temperature (N.J.A.C 7:18 “Regulations Governing the Certification of Laboratories and Environmental Measurements”) using SM 2550 B-10. Samplers will be provided a digital thermometer which has an accuracy of at least $\pm 1^{\circ}\text{C}$. These thermometers will be calibrated against a NIST-certified thermometer prior to distribution and again at the end of each five-week sampling period to ensure accuracy. Records of calibration will be maintained by BFBM in a bound logbook. Water temperature data will be recorded on the NJDOH lab submittal form (Bact-44) and entered into an internal BFBM database.

13.2 Sample Analysis

Samples will be analyzed by the New Jersey Department of Health’s (NJDOH) Public Health and Environmental Laboratory (#11036) using method SM 9223B (Colilert) for *E. coli*. Quality control procedures (including required calibrations and quality control procedures required by regulation or by the method) shall be defined in the laboratory’s Quality Manual for Sanitary Bacteriology (QM), or Standard Operating Procedures (SOPs). The QM and SOPs must be approved by the NJDEP-OQA.

To sufficiently quantify the range, using Colilert Quanti-Tray-2000, for all streams, the suggested dilutions are as follows. Using *E. coli* method SM 9223 B (Colilert), no dilution is required to quantify the range <1-2419.6 MPN/100 ml. A 1:100 dilution is required to quantify the range 2,419.6-241,960 MPN/100 ml. These dilutions will allow for the quantification of *E. coli* spanning concentrations expected in New Jersey rivers and streams. Also, as per the laboratory’s QM, a 290 ml sample will be provided for internal laboratory quality control procedures for 5% of samples submitted (1 for every 20 samples, or weekly, if less than 20 samples are collected during a given week).

14.0 Data Analysis

Final data tabulation will occur at the end of the sampling season. The data will also be made available to NJDEP-BEARS for inclusion in the biennial Integrated Water Quality Assessment Report.

15.0 Sampling Schedule

Five (5) samples, collected over a 30-day period between May 1st and September 30th, are needed to calculate the geometric mean for each site. All sites will be sampled in both 2022 and 2023, with five samples collected over a 30-day period in each year.

16.0 Resource Needs: BFBM will utilize hourly staff to complete this project. FTE will be utilized as needed.

17.0 Quality Assurance

17.1 Laboratory

NJDOH's Public Health and Environmental Laboratory- Sanitary Bacteriology will use method SM 9223-B (Colilert) for *E.coli*. The NJDOH laboratory (#11036) is certified by NJDEP-OQA for this method for the analysis of ambient freshwater samples. The NJDOH laboratory is located at 3 Schwarzkopf Drive, Ewing, NJ.

17.2 Sample Containers, Preservation, and Holding Times

Sterile, single-use 150 ml plastic containers will be provided by NJDOH laboratory. Immediately after collection, samples will be placed in a cooler of ice and kept below 10°C. Samples will be delivered to the laboratory to allow for initiation of analyses within the eight-hour holding time. Larger volume (290 ml) sterile single-use plastic bottles will be utilized in providing additional sample volume for 5% of the samples submitted, per the laboratory's internal quality control procedures.

17.3 Sample Custody Procedures

All persons collecting, handling, or transporting the samples to the NJDOH laboratory will complete the appropriate section at the bottom of the Bact-44 form, prior to relinquishing the samples, with name, signature, and date/time of sample transfer.

18.0 Data Validation

The NJDEP Project Officer is responsible for all data validation. If apparent anomalous data is suspected, the Project Officer will review the sampling procedures with the field sampler to make sure the proper collection and preservation procedures were followed. If the data is still suspect, the NJDOH laboratory will be contacted. An internal review of the laboratory analytical procedures and/or calculations used in the analysis of the suspect sample, with special emphasis on transcription of data to assure that no transposition of figures occurred, will be conducted. If no problems are found in the analytical laboratory procedures, the data may then be compared to any historical data that might have been collected at the same site prior to the most recent sampling event to see if similar anomalies might have been found previously. The suspect data may also be compared to literature values or standard analytical treatises to verify whether the results are within the limits of accuracy of the test method.

If no obvious problems are found after these reviews, the complete data set will be reported with the suspect data identified as such. The BFBM will then conduct its own review of the data, as it relates to the objectives(s) and data accuracy required in this project.

19.0 Data Storage

All data will be uploaded into USEPA's Water Quality Exchange system (WQX) by June of the year following receipt of results from the analytical laboratory. All raw data records shall be maintained for a period of no less than five years. Data will be available for download from the Water Quality Portal (www.waterqualitydata.us).

20.0 Performance System Audits

20.1 Field Audits

The Project Officer will conduct random field audits of samplers. This field audit will focus on: (1) are the correct locations being sampled, (2) are the correct sample collection procedures being used and (3) is the field paperwork being completed correctly with all necessary information being entered. Also, samplers are subject to periodic, random audits by NJDEP-OQA personnel to ensure sampling is conducted per procedures listed in this QAPP. NJDEP-OQA will be notified of anticipated sampling schedule to allow for field audit.

20.2 Laboratory Audits

All New Jersey certified laboratories are subject to audits and to the requirements of the NJDEP-OQA's Laboratory Certification Program, as well as internal performance evaluations.

21.0 Data Reporting

21.1 Preliminary Reports

Preliminary analytical data will be made available to BFBM by the NJDOH laboratory in electronic format within 21 calendar days from receipt of sample. Samples which yield results considered anomalous by the Project Officer and/or Project Manager will be validated as specified in section 18.0, Data Validation.

21.2 Final Reports

Final analytical data will be made available to NJDEP-BFBM by NJDOH in electronic format within 40 calendar days of receipt of the sample. All data shall be reported in a complete and concise fashion and shall meet the reporting requirements of N.J.A.C. 7:18. Routine quality control results must be retained on file by NJDOH for possible review by the NJDEP-BFBM and the NJDEP-OQA.

21.3 Integrated Water Quality Assessment Reports

BEARS currently employs a rotating regional approach to integrated water quality assessments. Under this approach, BEARS conducts a stream-lined assessment of statewide water quality along with a comprehensive assessment in one of the state's five water regions. The Raritan Water Region is scheduled for comprehensive assessment in the 2026 report.

22.0 Corrective Action

The Project Officer will be responsible for the oversight of all field activities related to this project. The Project Officer will assess field collection functions and make corrections when necessary to maintain the data accuracy as defined in this plan. If any changes or modifications are made to this plan regarding data collection, as it relates to the objective(s) and data accuracy required in this project, all original signees of the QAPP will be notified.

Data Management Tables

For Data Management purpose, Water Chemistry is defined as parameters analyzed by a laboratory; Field measurements are defined as analyze-immediately parameters.

Table 1 Site List

Site ID	Waterbody	Latitude	Longitude	County
01397400	South Branch Raritan River	40.517111	-74.802211	HUNTERDON
01397950	Third Neshanic River	40.47481	-74.862801	HUNTERDON
01399720	Rockaway Creek	40.623305	-74.720862	HUNTERDON
AN0320	Willoughby Brook	40.67164	-74.915111	HUNTERDON
AN0322	South Branch Raritan River	40.635251	-74.911585	HUNTERDON
AN0324	Beaver Brook	40.636334	-74.909668	HUNTERDON
AN0335	Back Brook	40.459362	-74.80628	HUNTERDON
AN0362	Cold Brook	40.674999	-74.737805	HUNTERDON
AN0366	North Branch Rockaway Creek	40.661778	-74.76589	HUNTERDON
AN0368	South Branch Rockaway River	40.623499	-74.766638	HUNTERDON
BFBM000010	Stony Brook	40.386208	-74.825215	HUNTERDON
BFBM000027	Prescott Brook	40.573396	-74.863615	HUNTERDON
BFBM000044	North Branch Rockaway Creek	40.630163	-74.766962	HUNTERDON
BFBM000224	South Branch Raritan River	40.598396	-74.904831	HUNTERDON
BFBM000318	First Neshanic River	40.48051	-74.85811	HUNTERDON
BFBM000319	Neshanic River	40.47086	-74.8267	HUNTERDON
BFBM000325	South Branch Raritan River	40.724366	-74.834403	HUNTERDON
BFBM000328	South Branch Raritan River	40.677775	-74.879186	HUNTERDON
01400598	Rocky Brook	40.270289	-74.52274	MERCER
AN0382C	Millstone River	40.293235	-74.526912	MERCER
AN0392	Stony Brook	40.331278	-74.767167	MERCER
01400725	Cranbury Brook	40.32666	-74.602699	MIDDLESEX
01404010	Ambrose Brook	40.534389	-74.428558	MIDDLESEX
01404470	Ireland Brook	40.420391	-74.484858	MIDDLESEX
01405340	Manalapan Brook	40.296111	-74.397778	MIDDLESEX
AN0430	Lawrence Brook	40.380973	-74.543806	MIDDLESEX
BFBM000029	Tennent Brook	40.415345	-74.305308	MIDDLESEX
BFBM000111	Shallow Brook	40.346816	-74.557072	MIDDLESEX
BFBM000161	Lawrence Brook	40.416312	-74.493634	MIDDLESEX
BFBM000333	Millstone River	40.342961	-74.629908	MIDDLESEX
BFBM000337	Mill Brook	40.49884	-74.3805	MIDDLESEX
BFBM000338	Tennent Brook	40.42558	-74.340491	MIDDLESEX
FIBI017a	South Branch Rahway River	40.577472	-74.307192	MIDDLESEX
NJW04459-033-O	Cranbury Brook	40.309827	-74.51675	MIDDLESEX
01400540	Millstone River	40.261899	-74.4201	MONMOUTH
AN0443	Weamaconk Creek	40.297362	-74.361639	MONMOUTH
AN0449	Pine Brook	40.315444	-74.350055	MONMOUTH
BFBM000217	McGellairds Brook	40.296191	-74.340526	MONMOUTH
01396180	Drakes Brook	40.812099	-74.729356	MORRIS
01399200	Lamington River	40.835251	-74.644601	MORRIS
01399280	Lamington River	40.8025	-74.6975	MORRIS
AN0310	South Branch Raritan River	40.860305	-74.759972	MORRIS

AN0310A	South Branch Raritan River	40.834306	-74.73884	MORRIS
AN0311	Drakes Brook	40.856084	-74.678305	MORRIS
AN0315	South Branch Raritan River	40.785029	-74.780028	MORRIS
BFBM000317	Lamington River	40.873266	-74.618933	MORRIS
BFBM000320	Peapack Brook tributary	40.773206	-74.689897	MORRIS
BFBM000323	India Brook	40.79939	-74.62145	MORRIS
BFBM000327	Trout Brook	40.75065	-74.73076	MORRIS
DR-LB2	Drakes Brook tributary	40.881066	-74.659875	MORRIS
FIBI093	North Branch Raritan River	40.747499	-74.632901	MORRIS
01398110	Holland Brook	40.553194	-74.700528	SOMERSET
01399100	Middle Brook	40.647461	-74.681053	SOMERSET
01399900	Chambers Brook	40.592358	-74.683011	SOMERSET
01402730	Royce Brook	40.536995	-74.589634	SOMERSET
AN0353	Mine Brook	40.682305	-74.630056	SOMERSET
AN0415	Cuckels Brook	40.56144	-74.563935	SOMERSET
BFBM000112	Pike Run	40.456344	-74.650397	SOMERSET
BFBM000114	Peapack Brook	40.691592	-74.64779	SOMERSET
BFBM000144	North Branch Raritan River	40.696501	-74.650642	SOMERSET
BFBM000308	Millstone River	40.399541	-74.629062	SOMERSET
BFBM000321	Pleasant Run	40.5292	-74.74033	SOMERSET
01393690	Morses Creek	40.625658	-74.248478	UNION
01394600	Nomahegan Brook	40.678354	-74.331369	UNION
01396003	Robinsons Branch	40.609711	-74.2875	UNION
AN0193A	Rahway River tributary	40.708142	-74.313958	UNION

Table 2 Sample Types

STATION ID	Field Msr/Obs	Flow	Water Chemistry	Continuous Monitoring	Biological Sampling	Sediment Collection	Bacteria Collection	Habitat	Metrics	Indices
All Sites	Yes	No	No	No	No	No	Yes	No	No	No

Table 3 Partners

Station ID	Field Measurements/ Observations	Flow	Water Chemistry	Continuous Monitoring	Biological Sampling	Sediment Collection	Bacteria Collection
All Sites	NJDEP-BFBM	No	No	No	No	No	NJDEP-BFBM

Table 4 Field Measures

Field Name	WQX Name	Method	Media	Units
Water Temp	Temperature, Water	SM2550 B-10	Water	deg C

Table 5 Chemical Parameter Table

Analysis (lab name)	EPA Characteristic Name	Method Speciation Name	Result Sample Fraction	Result Measure Unit	Result Value Type	Sample Collection Type	Sample Collection Equipment
E. Coli	Escherichia coli			#/100ml	Actual	Grab	Water Sampler (Other)

Table 6 Laboratory Worksheet

Parameter	Laboratory	Lab #	Method	Method ID Context	Lower Reporting Limit	Units	Method Detection Limit	Units	Upper Reporting Limit	Units	Holding Time	Preservative
E. coli	NJDOH	11036	9223-B (Colilert)	SM	1 MPN/100 ml	#/100ml		CFU/100mL	241,960 MPN/100ml	#/100 ml	8 hours	Ice <10°C

Table 7 Data Inventory Supplement

Dates	May 1- September 30, 2022, May 1-September 30, 2023
Project Description	This project collects ambient bacterial water quality data from freshwater rivers and streams of New Jersey. The current primary contact recreation use standard for freshwater in New Jersey is based on Escherichia coli (E. coli) levels. E. coli counts shall not exceed a geometric mean of 126 per 100 ml. To assess this criterion, at least 5 samples collected over a 30-day period, between the months of May and September, are needed to calculate the geometric mean.
Parameters analyzed type	Microbiological/pathogenic

Table 8 Data Management Supplement

QAPP network path file location?	V:\LUM\BFBM\Bfbm\Quality Assurance Plans\Calendar Year 2022 QAPPS\
Where will data be recorded in field (media)	Paper
If on tablets or phones, will download at office occur or will you connect wirelessly?	N/A
If on tablets or phones, who will do the download?	N/A
If data collected electronically, where will it be stored?	N/A
Format to be received from Lab	Data Feed
Method of receipt from lab/s	Electronic
Personnel receiving outside lab data	BFBM
Is data expected to go to WQX?	Yes
Data manager - (Bureau and Name)	BFBM, Leigh Lager

Appendix B- NJDOH Bacteriology Laboratory Sample Submittal Form

Field ID Number

New Jersey Department of Health
 Sanitary Bacteriology Laboratory
 PO Box 361, Trenton, NJ 08625-0361
 Phone: 609-530-8395

Lab Sample Number
 (For Lab Use Only)

BACTERIOLOGICAL SAMPLE SUBMITTAL

(See Instructions)

AGENCY INFORMATION			
Submitting Agency NJDEP-BFBM	Send Results To	Agency No. 207	Project Name Bact121
Street Address 35 Arctic Parkway	Final Report Option <input type="checkbox"/> Tier 1 <input type="checkbox"/> Tier 2	Would you like copies of the internal chain of custody forms sent with your report? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Project Code V38A
	Electronic Report Option <input type="checkbox"/> EDD <input type="checkbox"/> E-2		Memo Number
City, State, Zip Code Trenton, NJ 08625	Phone 609-292-0427	Fax 609-633-1095	Email

SAMPLE INFORMATION			
Facility ID/Sample Point/Station ID Number	Collection Date (YY/MM/DD)	Sample Type	
Sampling Point ID/Sampling Site/Facility/Supply/Location	Coll. Time (24h) Start	Coll. Time (24h) End	<input checked="" type="checkbox"/> Stream/Surface <input type="checkbox"/> Ground Water <input type="checkbox"/> Private Well <input type="checkbox"/> Septic <input type="checkbox"/> Ocean/Saline <input type="checkbox"/> Sediment <input type="checkbox"/> Tissue <input type="checkbox"/> Sewage: <input type="checkbox"/> Raw <input type="checkbox"/> Effluent <input type="checkbox"/> Industrial: <input type="checkbox"/> Raw <input type="checkbox"/> Effluent
Waterbody Name	Sample Retention Retain? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Duration _____	<input type="checkbox"/> Potable: <input type="checkbox"/> Groundwater Rule <input type="checkbox"/> Source <input type="checkbox"/> Confirmation <input type="checkbox"/> Raw <input type="checkbox"/> Finished <input type="checkbox"/> Private Well <input type="checkbox"/> At Source <input type="checkbox"/> Flushed <input type="checkbox"/> 1st Draw <input type="checkbox"/> Lead Source Line <input type="checkbox"/> Surface H ₂ O Intake <input type="checkbox"/> Distribution System Fraction: <input checked="" type="checkbox"/> Total <input type="checkbox"/> Dissolved Other: <input type="checkbox"/> _____ Priority: <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Priority <input type="checkbox"/> Emergency	
Municipality/County	Type of Sampling Event <input checked="" type="checkbox"/> Regular <input type="checkbox"/> Compliance <input type="checkbox"/> Repeat <input type="checkbox"/> Non-Regulatory <input type="checkbox"/> Other		
Sampling Point Street Address	If Repeat or GWR, List Original Lab Sample No.		
PWSID	Sample Collector		
	Trip #		

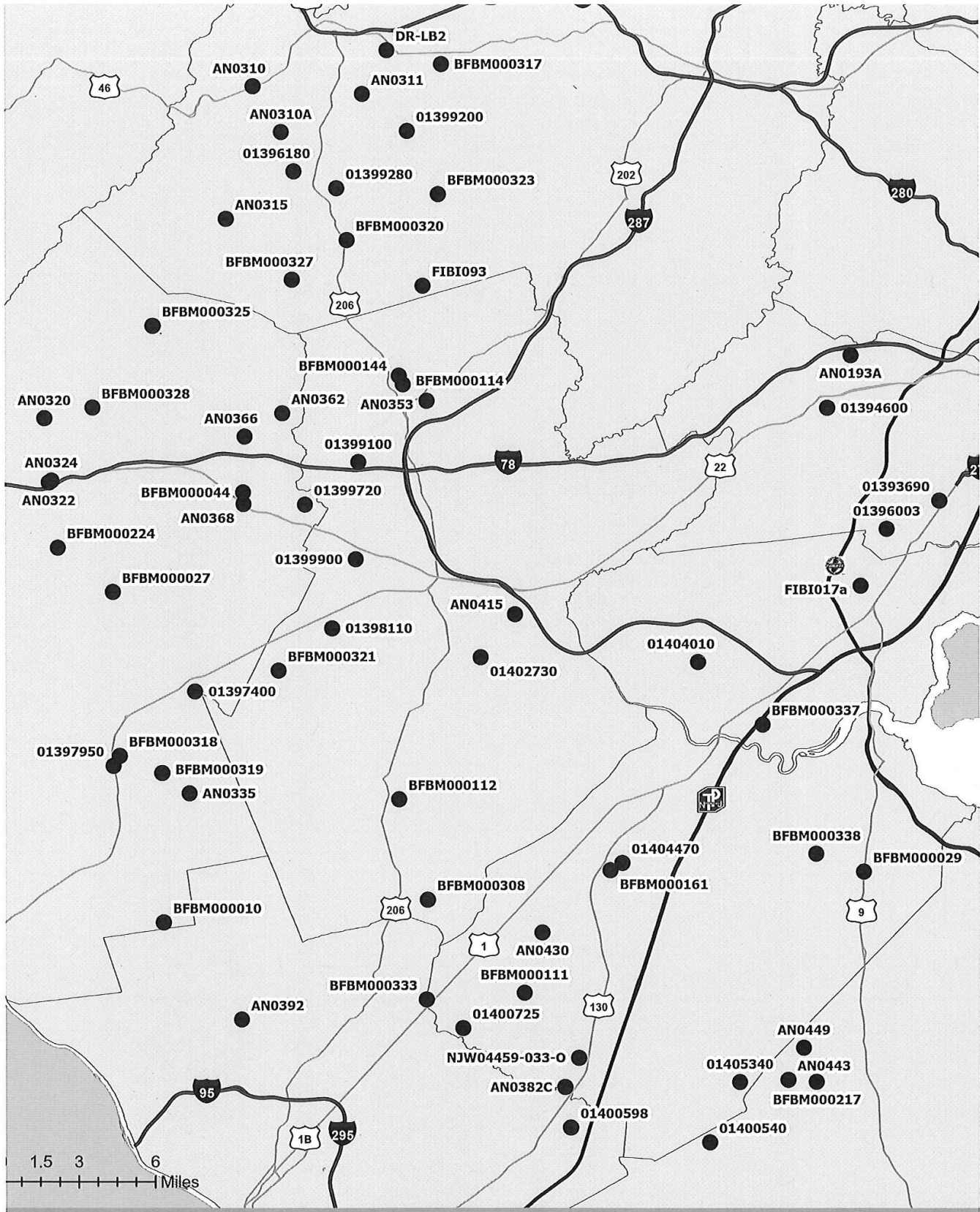
FIELD INFORMATION		
Air Temp °C	Water Temp °C	Stream Flow-CFS
Weather Conditions	Sample pH (Field)	Gage Height-Ft.
Preserved in: <input type="checkbox"/> Field <input type="checkbox"/> Lab	DO (mg/l)	Spec.Cond. (µS/CM)
Date: ___/___/___	DO% Sat	Salinity (ppm)
Time: _____	Sample Depth Ft.	Tide Stage
Rain Events	Barometric Pressure (mmHg)	Turbidity (NTU)
Rain in the last 24 hours? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Rain in the last 48 hours? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Comments		Chlorine Residual

ANALYSIS REQUESTS			
Suggested Dilutions		Suggested Dilutions	
Fecal Coliform/100 ml <input type="checkbox"/> MPN SM9221E	<input type="checkbox"/> 10 <input type="checkbox"/> 1 <input type="checkbox"/> -1 <input type="checkbox"/> -2 <input type="checkbox"/> -3 <input type="checkbox"/> -4 <input type="checkbox"/> -5 <input type="checkbox"/> -6	Fecal Coliform by A1 <input type="checkbox"/> MPN SM9221E	<input type="checkbox"/> 10 <input type="checkbox"/> 1 <input type="checkbox"/> -1 <input type="checkbox"/> -2 <input type="checkbox"/> -3 <input type="checkbox"/> -4 <input type="checkbox"/> -5 <input type="checkbox"/> -6
Fecal Streptococci/100 ml <input type="checkbox"/> MPN SM9230B	<input type="checkbox"/> 10 <input type="checkbox"/> 1 <input type="checkbox"/> -1 <input type="checkbox"/> -2 <input type="checkbox"/> -3 <input type="checkbox"/> -4 <input type="checkbox"/> -5 <input type="checkbox"/> -6	Enterococci / 100 ml <input type="checkbox"/> MPN SM9230B	<input type="checkbox"/> 10 <input type="checkbox"/> 1 <input type="checkbox"/> -1 <input type="checkbox"/> -2 <input type="checkbox"/> -3 <input type="checkbox"/> -4 <input type="checkbox"/> -5 <input type="checkbox"/> -6
Total Coliform / 100 ml <input type="checkbox"/> MPN SM9221B	<input type="checkbox"/> 10 <input type="checkbox"/> 1 <input type="checkbox"/> -1 <input type="checkbox"/> -2 <input type="checkbox"/> -3 <input type="checkbox"/> -4 <input type="checkbox"/> -5 <input type="checkbox"/> -6	Enterococci / 100 mL <input type="checkbox"/> MF SM9230C	<input type="checkbox"/> 10 <input type="checkbox"/> 1 <input type="checkbox"/> -1 <input type="checkbox"/> -2 <input type="checkbox"/> -3 <input type="checkbox"/> -4 <input type="checkbox"/> -5 <input type="checkbox"/> -6
Total Coliform E.Coli/ 100 mL <input type="checkbox"/> P/A (Colilert) SM9223B		E.Coli / 100 mL <input checked="" type="checkbox"/> Enumeration (Colilert) (Non-Drinking Water) SM9223B	<input type="checkbox"/> 10 <input type="checkbox"/> 1 <input type="checkbox"/> -1 <input type="checkbox"/> -2 <input type="checkbox"/> -3 <input type="checkbox"/> -4 <input type="checkbox"/> -5 <input type="checkbox"/> -6
		SPC/HPC/ml <input type="checkbox"/> SM9215B	

Relinquished By:	Affiliation:	Received By:	Affiliation:	Date/Time	Reason for Custody Change
Name (Print): _____		Name (Print): _____			
Signature: _____		Signature: _____			
Name (Print): _____		Name (Print): _____			
Signature: _____		Signature: _____			

BACT-44
 FEB 16

Appendix C- Site Overview Map



Summer Bacti 2022