

## Ten Mile River Sampling Plan Umbrella Document

**Project Collaborators**  
**Massachusetts Department of Environmental Protection**  
**Rhode Island Department of Environmental Management**  
**United States Environmental Protection Agency**

### Quality Assurance Project Plan Acceptance

**MA**

MASS DEP QA Officer Richard Chase

**Signature**

Date:

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MASS DEP Project Officer Brian Friedmann

**Signature**

Date:

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**RI**

RI DEM QA Officer Elizabeth Scott

**Signature**

Date:

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RI DEM Project Officer Brian Zalewsky

**Signature**

Date:

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**EPA**

OEP RI TMDL Coordinator Steven Winnett

**Signature**

Date:

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OEP MA TMDL Coordinator Michael Hill

**Signature**

OEME Chemistry Team Leader Dan Boudreau

**Signature**

Date:

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OEME QA officer Charlie Porfert

**Signature**

Date:

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OEME Project Coordinator Tom Faber

**Signature**

Date:

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This document provides a brief description of the Ten Mile River Interstate Project, summarizes EPA's Office on Environmental Measurement and Evaluation (OEME) assistance, and provides the umbrella document for the Massachusetts Department of Environmental Protection (MASS DEP) and the Rhode Island Department of Environmental Management (RI DEM) Ten Mile River project plans. Collaborators that are listed and sign the cover page agree to the procedures and roles and responsibilities specified in this umbrella document. State specific project plans will be individually approved by the appropriate personnel.

In early 2007, EPA's Office on Environmental Measurement and Evaluation (OEME) was asked to assist in providing technical and analytical support for a joint state sampling project on the Ten Mile River. Request for OEME assistance was made by EPA's Office of Environmental Protection (OEP), MASS DEP and RI DEM. MASS DEP assesses their waters on a 5-year rotating basin cycle, and 2007 is the scheduled year for monitoring in the Ten Mile River Basin.

On April 9, 2007, a scoping meeting was held with Michael Hill (OEP), Steven Winnett (OEP) Dan Boudreou (OEME), Tom Faber (OEME) Charlie Porfert (OEME) Diane Switzer (OEME), Cynthia Veit (OEME), Richard Chase (MASS DEP), Brian Friedmann (MASS DEP), Elizabeth Scott (RI DEM), and Brian Zalewsky (RI DEM). At this meeting, OEME agreed to provide laboratory support for approximately 100 dissolved and 100 total recoverable metals samples. OEME also agreed to provide sampling supplies (kits) for the metals collection and to provide training on EPA's collection procedure.

The low level metals filtering procedure and collection will be performed at each site in the stream by wading in and following the procedure specified in EPA's *Standard Operating Procedure for the Collection of Low Level Metals Ambient Water Samples* (ECASOP-Metals, revision 2, May 21, 2007). For this project, the procedure will consist of no field preserving of metals samples. A dissolved metals filter blank and total metals blank will be collected by each agency during each sampling event. The filter blank will be performed on the bank of the river at one of the sampling locations using the same procedure specified for in-stream sample collection. Metals samples shall be delivered to the EPA laboratory within five days of sample collection with the appropriate chain of custody form(s). Samples will be logged in and tracked according to EPA's sample login, tracking and sample disposition SOP (EIASOP-ADMLOG13, Revision 13, March 24, 2006). All metals preservation will be performed by an EPA chemist in the clean room of the laboratory. Once the samples are preserved there will be a 16 hour waiting period before analysis can begin. The analysis will follow EPA's standard operating Procedure for the Determination of Metals in Environmental Samples using Inductively Coupled Plasma Mass Spectrometry (EIA-INGICOMS4.SOP, February 24, 2004). Final EPA laboratory reports will be reviewed and signed by the chemistry team leader prior to release. Sampling will be consistent with the intent of EPA method 1669, and field method quality control will have on-going testing to verify performance.

Also requested, but currently put on hold, is an ambient toxicity test. OEME currently has a problem with one of its test organisms (*Ceriodaphia dubia*) and is unable to schedule this test at this time. Other analyses, such as nutrients and bacteria, will be arranged by the appropriate state agency.

Table 1: Roles and Responsibilities

<b>Titles and Roles</b>	<b>Responsibilities</b>
<b>MA Project Managers</b>	
Richard Chase MASS DEP QA Officer	Project Quality Assurance Developing Sampling and Analysis Plan (SAP) training, verifying appropriate procedures are followed, and reviewing data
Brian Friedmann MASS DEP Project Officer	Project planning, sampling
<b>RI Project Managers</b>	
Elizabeth Scott RI DEM QA Officer	Project Quality Assurance, reviewing QAPP
Brian Zalewsky RI DEM Project Officer	Developing QAPP, project planning, sampling, training, verifying appropriate procedures are followed, and reviewing data
<b>EPA Project Managers</b>	
Michael Hill OEP MA TMDL Coordinator	Verifying EPA TMDL goals are met (MA)
Steven Winnett OEP RI TMDL Coordinator	Verifying EPA TMDL goals are met (RI)
Dan Boudreau OEME Chemistry Team Leader	Coordinating metals analyses and reviewing EPA's metals laboratory data
Charlie Porfert OEME QA Officer	Reviewing project the RI Quality Assurance Program Plan, MA Sampling and Analysis Plan, Umbrella Document
Tom Faber and Cynthia Veit OEME Project Coordinators	Training on metals sampling procedure, coordinating OEME's project support, reviewing project sampling plans

An overlap station (TM14 -MA/TM1-RI) will be sampled by MASS DEP and RI DEM at the same time to evaluate comparability with sampling protocols and laboratory analyses. These results will be used to evaluate the data comparability between sampling programs. With the exception of the metals analyses each state program is using different laboratories and in some cases different methods. Each state will review their data according to the criteria specified in their Quality Assurance Project Plan and according to the comparison goals listed below (for the overlap station only). Table 2 below list the comparison goals for the overlap station. If these goals are not met correction actions may be taken by project managers and at a minimum it will be noted in any data reports that are produced.

Table 2: Quality Assurance Goals for Comparison Data between MASS DEP and RIDEM

<b>Parameter</b>	<b>Comparison data Goal</b>
Dissolved/Total Metals	30% RPD
Total Phosphorus	35% RPD
Ammonia as N	35% RPD
Nitrate/Nitrite as N	35% RPD
Total Nitrogen	no criteria established
Field Measurements	
DO	+/-0.5mg/L
Sp. Conductivity	20% RPD
Temperature	0.5°C

Note: The criteria will not be assessed if one of the reported results is less than 4 times the reporting limit.

Data collected by Mass DEP and RI DEM will be compiled in a report by each of the respective agency. A copy of the report will be made available to EPA. Each agency will be responsible for the eventual upload of the final quality assured data to EPA's Water Quality Exchange. If requested by Mass DEP and RI DEM, or determined necessary by EPA, EPA will review any of the project data. EPA may also review any data that is used in the development of a Total Maximum Daily Load (TMDL). This determination will be made by the EPA TMDL coordinators listed in Table 1. For more details on this project see the MASS DEP Division of Watershed Management's *2007 Sampling Plan for Surface Water Monitoring in the Ten Mile River Watershed* (CN 290.00) or RI DEM Surface Water Protection Section's *Sampling Plan Surface Water Monitoring in the Ten Mile River Watershed Year 2007*, dated June 6, 2007. Table 1 lists the Roles and responsibility of each key manager.

The reporting limits for EPA's laboratory are listed below in Table 3. As the project progresses project managers may work with the Lab on reducing the reporting limit for cadmium or work on finding a second lab to report lower for cadmium. If an additional lab is used, an addendum will be added to this umbrella document for approval by MA, RI and EPA QA officers.

Table 3: EPA Laboratory metals reporting limits

Metal	Reporting limit (ug/L)
Al	5.00
Sb	0.50
As	0.50
Ba	0.20
Be	0.20
Cd	0.20
Ca	100
Cr	0.50
Co	0.20
Cu	0.20
Fe	50
Pb	0.20
Mg	50
Mn	0.20
Mo	0.50
Ni	0.20
Se	1.00
Ag	0.20
Tl	0.50
V	0.20
Zn	5.00