



Maine Volunteer River Monitoring Program (VRMP)

Appendix E

Sample Holding Times and Preservation (VRMP QAPP-Table 3d)

Program-Wide SAP Appendix

From:

Maine DEP (Maine Department of Environmental Protection). 2009. Maine Volunteer River Monitoring Program [VRMP] - Quality Assurance Program Plan. Doc #: DEPLW-0984. Portland, ME. <http://www.maine.gov/dep/blwq/docstream/vrmp/publication.htm>

Table 3d. Typical sampling techniques and sample preservation methods for common water quality parameters of the VRMP.

* Reference for sample container type and holding time (except bacteria): USEPA. 1983. Methods for Chemical Analysis of Water and Wastes.

VRMP-approved laboratories (see section 4.5 and Appendix 11 of QAPP) shall be consulted regarding container types/volumes that should be used for specific projects.

Parameter	Sampling Techniques	Typical Sample Volume*	Sample Container Type* / Preparation	Sample Preservation / Maximum Holding Time*	Analysis Location
Dissolved Oxygen	Place <u>field meter</u> in channel; <i>or</i> use Winkler-style chemical <u>kit</u>	--	Kit: Glass sample collection bottle	<u>For kits: (Preservation):</u> Fix immediately, store in the dark. <u>(Sample Temperature):</u> Store (a) at the temperature of the collected water or (b) water-sealed and kept 10°C - 20°C. <u>(Max. Hold. Time):</u> 8 hrs.	Field (or lab for kit)
Specific Conductance	<i>Usually measured in the field with a meter</i> (however, when spec. cond. or TDS can't be measured in the field, they can be analyzed in a lab)	--	Plastic or Glass	Cool, 4 °C; 28 days	Field (or lab for conductance and TDS)
Total Dissolved Solids			Plastic or Glass	Cool, 4 °C; 7 days	
Temperature (instantaneous)					
pH					
Temperature (continuous)	Optic Stowaway data logger	--	--	--	Record in field; download onto office computer using appropriate logger software
Total Kjeldahl Nitrogen	Grab sample	250 ml	Plastic or Glass	Cool, 4°C; H ₂ SO ₄ to pH<2; 28 days (speak with lab about the H ₂ SO ₄ & safety; they may add the acid)	VRMP certified lab
Nitrate or Nitrite	Grab sample	250 ml	Plastic or Glass	Cool, 4°C; 48 hr	VRMP certified lab
Total Phosphorus	Grab sample	55 ml	Plastic or Glass	Cool, 4°C; H ₂ SO ₄ to pH<2; 28 days (speak with lab about the H ₂ SO ₄ & safety; they may add the acid)	VRMP certified lab
Ortho-Phosphate	Grab sample	250 ml	Plastic or Glass	Cool, 4°C; 48 hr	VRMP certified lab
Chloride	Grab sample	250 ml	Plastic or Glass	(Cooling not required); 28 days	VRMP certified lab
Total Suspended Solids	Grab sample	500 ml	Plastic or Glass	Cool, 4°C; 7 days	VRMP certified lab
Suspended Sediment Concentration	Grab sample	500 ml	Plastic or Glass	Cool, 4°C; 7 days	VRMP certified lab
Turbidity	Grab sample	500 ml	Plastic or Glass	Cool, 4°C; 48 hr	VRMP certified lab
Hardness	Grab sample	250 ml (x 2)	Plastic or Glass	Cool, 4°C; HNO ₃ to pH<2; 6 months (speak with lab about the HNO ₃ & safety)	VRMP certified lab
Alkalinity	Grab sample	250 ml (x 2)	Plastic or Glass	Cool, 4°C; 14 days	VRMP certified lab
Bacteria	Grab sample	100 ml	Sterile Plastic or Glass (e.g., Whirl-pak or new cubitainer)	Cool, < 10°C; 6 hr (Samples must processed within 2 hr of arriving at laboratory.)	VRMP certified lab