

Table 2. Data Quality Objectives and Indicators, and Measurement Quality Objectives for Water Quality Monitoring. Water Quality Grab sample information presented here is based on laboratories used during the 2018 field season, the State of Maine Health and Environmental Testing Laboratory (HETL), and in-house DEP processing. Parameter analysis technique and specifications are subject to change. RPD = relative percent difference between the results for each pair of duplicates. "EPA Method" refers to Methods for Chemical Analysis of Water and Wastes (USEPA 1983). "Standard Method" refers to Standard Methods for the Examination of Water and Wastewater (21st ed. unless otherwise indicated, APHA et al. 2005).

Parameter	Parameter subgroup	Sampling technique	Analysis technique	Analysis location	Method detection limit for given reporting unit	Measurement range*	Duplicate precision (RPD)	Accuracy (% recovery for spiked samples)	Report limit
Dissolved oxygen (instantaneous)	mg/L	YSI ProODO	field	field	0.01 or 0.1 mg/L (auto-scaling)	0 - 50 mg/L	field: $\pm 15\%$ (1.0-5.0 mg/L) ; $\pm 20\%$ (5.1-11.0 mg/L) ; and $\pm 25\%$ (>11.0 mg/L)	field: 0 to 20 mg/L $\pm 0.1$ mg/L or $\pm 1\%$ of the reading, 20 to 50 mg/L $\pm 10\%$ of the reading	0.01 or 0.1 mg/L (auto-scaling)
	% saturation				0.1 % air saturation	0 - 500 % air saturation	field: $\pm 15\%$	field: 0 to 200% air saturation $\pm 1\%$ of the reading or $\pm 1\%$ air saturation, 200 to 500% air saturation $\pm 10\%$ of the reading	0.1 % air saturation
Temperature (instantaneous)	--	YSI ProODO	field	field	0 °C	0.5 - 70 °C	field: $\pm 15\%$	field: $\pm 0.2$ °C	0.1 °C
	--	YSI Pro1030			0 °C	-5 - 55 °C	field: $\pm 15\%$	field: $\pm 0.2$ °C	0.1 °C
Specific conductance	--	YSI Pro1030	field	field	0.1 - 0.0 $\mu$ S/cm	1-500 $\mu$ S/cm	field: $\pm 15\%$	field: $\pm 1.0\%$ or 1 $\mu$ S/cm	0.1 $\mu$ S/cm
pH					0.00	1-14 pH units	field: $\pm 7\%$	--	0.01
Temperature (continuous)	--	HOBO Water Temp Pro	download onto computer using HOBO Ware Pro	field	0.2°C	(-20) - 70 °C	--	--	0.0°C
Flow velocity (average)	--	Global flow meter	field	field	3 cm/sec	9-180 cm/sec	field: $\pm 15\%$	--	2 cm/sec
Nitrogen	TKN	grab sample	Lachat 10-107-06-2-E	HETL	Determined at least annually by lab	0.1-5 mg/L	lab: $\pm 10\%$	lab: $\pm 30\%$	0.1 mg/L
	NO <sub>3</sub> +NO <sub>2</sub> -N		Lachat 10-107-04-1-J		Determined at least annually by lab	.01 ppm to 1.0 ppm	lab: $\pm 10\%$	lab: $\pm 10\%$	0.01 mg/L
	NH <sub>3</sub> -N		Lachat 10-107-06-1-J		Determined at least annually by lab	0.01-1 mg/L	lab: $\pm 10\%$	lab: $\pm 10\%$	0.01 mg/L

Table 2, continued

Parameter	Parameter subgroup	Sampling technique	Analysis technique	Analysis location	Method detection limit for given reporting unit	Measurement range*	Duplicate precision (RPD)	Accuracy (% recovery for spiked samples)	Report limit
Phosphorus	Total-P	grab sample	Lachat 10-115-01-1-F	HETL	Determined at least annually by lab	0.001-0.2 mg/L	lab: $\pm$ 10%	lab: $\pm$ 30%	2.0 $\mu$ g/L
	OPO4-P		Lachat 10-115-01-1-B		Determined at least annually by lab	0.001-0.2 mg/L	lab: $\pm$ 10%	lab: $\pm$ 10%	1.0 $\mu$ g/L
Chlorophyll <i>a</i>	--	grab sample		HETL	Determined at least annually by lab	0.001-0.178 mg/L	lab: $\pm$ 20%	--	0.001 mg/L
Total suspended solids	--	grab sample	Standard Method 2540 D (20th ed.)	HETL	Determined at least annually by lab	2-20,000 mg/L	lab: $\pm$ 10%	--	2 mg/L
Total dissolved solids	--	grab sample	Standard Method 2540C (20th ed.)	HETL	Determined at least annually by lab	2-20,000 mg/L	lab: $\pm$ 10%	--	10 mg/L
Dissolved organic carbon	--	grab sample	Standard Method 5310C	HETL	Determined at least annually by lab	1-10 mg/L	lab: $\pm$ 15%	lab: $\pm$ 15%	1 mg/L
Chloride	--	grab sample	EPA Method 300.0	HETL	Determined at least annually by lab	1-300 mg/L	lab: $\pm$ 10%	lab: $\pm$ 10%	1 mg/L
Alkalinity (as CaCO <sub>3</sub> )	--	grab sample	DEP SOP #DEPLW094R1	DEP	Determined at least annually by lab	>5mg CaCO <sub>3</sub> /L	lab: $\pm$ 2 %	lab: $\pm$ 10%	5mg CaCO <sub>3</sub> /L
True Color	--	grab sample	Lachat 10-308-00-1-A	HETL	Determined at least annually by lab	5-50 color units	lab: $\pm$ 10%	lab: $\pm$ 10%	5 color units
Silicon and dissolved silica	--	grab sample	EPA Method 200.7	HETL	Determined at least annually by lab	100 mg/L	lab: $\pm$ 10%	lab: $\pm$ 30%	0.05 mg/L for Silicon, 1.100 mg/L for Silica

\* The upper limit for lab-analyzed parameters can usually be circumvented by diluting the sample, rerunning it, and multiplying the new result by the dilution factor.