Parameter	Method/Range	Units	Sensitivity (a)	Precision	Accuracy	Calibration Method
Air Temperature	Thermometer -40 to 120°F	Degree Farenheit (°F)	1.0°F (d)	±1.0°F (d)	±1.0°F (d)	NIST Certified Thermometer
Water Temperature	Thermometer -5.0 to +50.0°C	Degrees Celsius (°C)	0.5°C	±0.5°C (d)	±0.5°C (b)	NIST Certified Thermometer
	Hanna Meter HI 98129 0.0 to 60.0 °C; 32.0 to 140.0°F	(°C) (°F)	0.1 °C 0.1°F (d)	±0.5 °C (c) ±1.0 °F (d)	±0.5 °C (c) ±1.0 °F (d)	NIST Certified Thermometer
pH	pH Octet Comparator (Wide-Range) Lamotte 5858	Standard pH units	0.25 units (d)	±0.25 units (b)	±0.4 units (b)	Checked against Hanna Meter HI 98129
	Hanna pH Tester Combo HI98129 0.0 to 14.0	Standard pH units	0.01 units (d)	±0.02 units (d)	±0.05 units (d)	Standard Solutions Method
Dissolved Oxygen	Micro Winkler Titration Lamotte 5856 0 to 20 mg/l	Milligrams per liter (mg/l)	0.1 mg/l	±0.6 mg/l (d)	±0.3 mg/l (b)	Checked against DO Meter
	LaMotte Model DO 4000 0 to 19.99 mg/l	Milligrams per liter (mg/l)	0.01 mg/l (d)	±0.01 mg/l (d)	±0.1 mg/l	Saturated air calibration
Salinity	Hydrometer 0 to 42 ppt (1.0000 to 1.0700 SG)	Parts per thousand (ppt)	0.1 ppt (0.0005 specific gravity)	±1.0 ppt (b)	±0.82 ppt (b)	Standard Solutions Method
Turbidity	Turbidity Lamotte 7519 0 to 200 JTU	Jackson Turbidity Units (JTU)	5 JTU	±5 One addition or 5 JTU (d)	±5 units at 0 - 200 JTU (c) (d)	Checked against LaMotte meter
	LaMotte Model 2020 Turbidity Meter 0.00 to 100 NTUs	Nephelometric Turbidity Units	NTU Report to Nearest 0 to 1.0 then 0.05NTU 10 to 40 then 1NTU 40 to 100 then 5NTU 100 to 400 then 10NTU 400 to 1000 then 50NTU over 1000 then 100NTU (d)	±2% for readings below 100 NTUs ±3% above 100 NTUs (d)	±2% or 0.05 for readings below 100 NTUs (whichever is greater) +3% above 100 NTUs (d)	Standard Solutions Method
Specific Conductance	Hanna TDS Meter 0 to 3999 microS/cm	Micro-Siemens/cm (µS/cm) (converted to 25 °C)	1.0 µS	±2 units (d)	±2% of the standard (d)	Standard Solutions Method

Parameter	Method/Range	Units	Sensitivity (a)	Precision	Accuracy	Calibration Method
Apparent Color	Borger Color System 147 standard colors	Color index number	1 to 2 Color Numbers (d)	NA	NA	NA
Stage	Water gauge reading, USGS Staff Gage 0 - 3.32 ft, 3.32 - 6.72 ft	Feet	0.02 ft	NA	NA	Measurement
Flow	woffer 3000 velocity mete	Ft/sec m/sec	0.1 fps 0.1 mps	NA	1% fps 1% mps	Computer calibration
Nitrate-Nitrogen	Zinc reduction (Colorimetric) Lamotte 3354	ppm (mg/L)	0.1 ppm (d)	±0.5 ppm (c)	±0.5 ppm (c)	Standard Solutions Method
Ortho-Phosphate	Ascorbic acid reduction (Colorimetric) Hach PO-19, Low Range	ppm (mg/L)	.02 ppm	±5% (d)	±5% (d)	Standard Solutions Method
Total Dissolved Solids	Hanna Combo Meter HI98129 0 to 2000 ppm	ppm (mg/L)	1 ppm	±2% Full scale	±2% Full scale	Standard Solutions Method
Fecal Coliform	Fecal Coliform Membrane Filtration (SM18 9222D)	Number of colony forming units (CFU) per 100 ml	Depends on dilution: Filter 100ml < 1/0 Filter 50ml < 2 (d)	Control checks of sterility, temperature	Control checks of sterility, temperature	Send water sample split to EPA/ADEC Certified Lab
E. Coli	EasyGel Coliscan 0 to 60 CFU	Number of colony forming units (CFU) per 100 ml	1 CFU/100 ml (d)	Control checks of sterility, temperature	Control checks of sterility, temperature	Send water sample split to EPA/ADEC Certified Lab

(a) Sensitivity is determined by the limitations (I.e. number of decimal places) of the instrument.

Accuracy is defined by the manufacturor and is a designation of confidence in the instrument

Precision is set by the Partnership and is a reflection of the goals set for volunteers to ensure accurate data collection (generally close to accuracy range)

(b) Data taken from the Quality Assurance Project Plan for Friends of Casco Bay, 1995, p.21; based on data taken from EPA Volunteer Water Monitoring: A Guide for State Managers, 1990, EPA 440/4-90-010, p. 39; and the Quality Assurance Project Plan for the Chesapeake Bay Citizen Monitoring Program, Section 5, p.2.

(c) Data taken from the manufacturer's instruction manuals

(d) Agreed upon by CEMP Partners, Feb 2009