

Table 3. Specifications of oceanographic sensors used for long-term observations in Massachusetts Bay. [cm, centimeter; cm/s, centimeters per second; °, degrees; °C, degrees centigrade; kHz, kilohertz; m, meters; mg/L, milligrams per liter; MHz, megahertz; mm, millimeters; nm, nanometer; rev/m, revolutions per meter; μM , micro molar; S/m, Siemens per meter; <, less than; %, percent; *, no longer commercially available]

Parameter	Manufacturer, Sensor, URL	Manufacturer's Specification	Comments
Temperature	Sea-Bird Electronics SBE-3 Temperature Probe www.seabird.com	Range: -5 to 35 °C Accuracy: 0.002 °C Resolution: 0.0001 °C	
Current (single point)	Woods Hole Oceanographic Institution Vector Measuring Current Meter (VMCM)*	Detection Threshold: 0.9 cm/s Propeller Sensitivity: 2.67 rev/m Cosine Response: 1 % Compass Accuracy: < 5° Accurate when tilted: < 15°	Fouling can obstruct mechanical propellers.
Current (profile)	RD Instruments 300-kHz Workhorse acoustic Doppler current profiler (ADCP) www.rdinstruments.com	Profiling Range: 2-99 m Depth Cell Size: 2 m Velocity Range: 5 m/s Accuracy as operated: 0.4 cm/s Compass Accuracy: 2° Tilt Accuracy: 0.5°	As operated for these measurements.
Near-bottom current	Oceanographic Instrument Systems Benthic Acoustic Stress Sensor (BASS)	Range: 0-120 cm/s Resolution: 0.03 cm/s Accuracy: 0.3 cm/s Cosine Response: 5% Tilt Accuracy: 0.1° Compass Accuracy: 0.5°	Accuracy depends on zero-calibration; 0.3 cm/s was reliably achieved using dock calibrations.
Near-bottom current	Sontek Acoustic Doppler Velocimeter (ADV) www.sontek.com/	Acoustic Frequency: 5 MHz Resolution: 0.01 cm/s Accuracy: 1% of measured velocity, +/- 0.25 cm/s Range: 5-500 cm/s	Accuracy depends on range selected.
Conductivity	Sea-Bird Electronics Conductivity Cells SBE-04 (tripod) SBE 16 (SEACAT) SBE-37 (MicroCAT) www.seabird.com	Range: 0-7 S/m Accuracy: 0.0003 S/m Resolution: 0.00001 S/m	Sensitive to fouling and sediment in cell, especially when on a stable platform. Flushing cell reduces sediment buildup.
Light transmission	Sea Tech 25-cm path transmissometer*	Path Length: 25 cm Wave Length: 660 nm red LED Accuracy: +/-0.05% Sensitivity: 0.4 mg/L per 0.1% decrease	Signal often degraded due to fouling, especially when deployed near the surface.
Pressure	Paroscientific, Inc. Digiquartz pressure sensor http://www.paroscientific.com/	Range: 0-130 m Resolution: 0.57 mm Repeatability: 0.005% full scale	
Oxygen	Aanderaa Optode www.aanderaa.com/	Range: 0-500 μM Resolution: <1 μM Accuracy: < 8 μM or 5%, whichever is greater.	