Field Code:

Community Science Institute www.communityscience.org
Volunteer Monitoring Watershed Science Risk Communication

Field Data Sheet - Red Flag Monitoring

Volunteer group: _____ **Team:** _____

Sampling location: _____ **Field code**: _____

Sample Collector: _____ **Date**: _____ **Time**: _____

How collected: Waded__ From shore__ From bridge__ Other_____

Velocity: Slow__ Moderate___ Fast___ **Water Level:** Low___ Medium___ High___

Flow Assessment: Base Flow_____ Stormwater_____

Water Appearance: _____

Calibration Standards: Record the **results** from your calibration standards below.

pH _____ **Conductivity**_____ **Total Hardness**_____
Check the one you have: ☐ 94.1 ☐177 ☐353 ☐ 20 ☐50 ☐100

Temperature reading at 0°C_____ **Date of annual calibration:** _____

Calibration standards: Contact CSI lab for free refills, 607-257-6606.

Results:	Duplicate Results: (one site/day)	Dups Acceptable? (Write Y/N)
Temperature: °C (Record *corrected* temperature) Date: Time: Initials:	**Temperature:** °C (Record *corrected* temperature) Date: Time: Initials:	(+/- 1°C)
pH: Date: Time: Initials:	**pH:** Date: Time: Initials:	(+/- 0.5 units)
Conductivity: uS/cm ☐ Measured on site ☐ Measured later at _____°C Date: Time: Initials:	**Conductivity:** uS/cm ☐ Measured on site ☐Measured later at _____°C Date: Time: Initials:	(within 10%)
Total Hardness: mg/L Date: Time: Initials:	**Total Hardness:** mg/L Date: Time: Initials:	(within 20%*)
Dissolved Oxygen: mg/L **Date: Time: Initials:**	**Dissolved Oxygen: mg/L** **Date: Time: Initials:**	(within 20%)

See back of sheet for test information and quality control details

283 Langmuir Lab/Box 1044 95 Brown Road Ithaca NY 14850 Voice/Fax 607 257 6606
Certified Water Testing NYSDOH-ELAP #11790 EPA Lab Code NY01518
Stephen Penningroth Executive Director <info@communityscience.org>

Temperature (Pocket thermometer, glass or metal)
Holding time: Zero - perform on site!
Calibration: Immerse in ice water, compare reading to 0° C. **Correction:** _____
Measurement: a) Immerse thermometer in stream or sample container, wait for reading to stabilize, **record corrected temperature,** date and time, and initial.
Quality Control: Accuracy: One-time calibration with boiling water. **Precision**: Measure duplicate sample from 1 site per day or 20% of sites, if more than 5 sites.

pH (LaMotte kit 5858, wide range pH, accurate to 0.5 pH units)
Holding time: Zero - perform on site!
Calibration: At first sampling location, perform test with pH 7 standard to verify test is working and record result.
Measurement: Match color with comparator in natural light. Interpolate decimal reading to 0.25 if sample falls between two colors. Record date, time and result, and initial.
Quality Control: Accuracy: a) Verify calibration using pH 7 standard, and b) Split one sample every three months with certified lab. **Precision:** Measure duplicate sample from one location per day or 20% of locations, whichever is more.

Conductivity (Hanna Instruments DiST 3, HI98303)
Holding time: 28 days at 4° C
Calibration: At first sampling location, adjust reading to 353 uS/cm, or given standard, record result. Acceptable range is +/- 1% of given standard.
Measurement: Immerse meter. Record result, date and time, and initial.
Quality control: **Accuracy:** a) Check calibration with 353 uS/cm, or given standard at first sampling location b) Split one sample every three months with a certified lab. **Precision:** Measure duplicate from one location per day or 20% of locations, whichever is more.

Total Hardness (LaMotte kit #4482-DR-LT)
Holding time: 14 days at 4° C
Calibration: At first sampling location, perform test on 50 mg/L $CaCO_3$ equivalent standard. Repeat until result is 40-60 mg/L $CaCO_3$. Record calibration results.
Measurement: Follow instructions in kit. Record date, time and result, and initial.
Quality control: Accuracy: a) Check calibration with 50 mg/L standard at first sampling location, and b) Split one sample every three months with a certified lab. **Precision:** Measure duplicate from one location per day or 20% of locations, whichever is more.
***Duplicates must be within 20% or 8 mg/L of each other, whichever is greater.*

Dissolved Oxygen (LaMotte kit #5860)
Holding time: Zero. There are two options: a) Perform DO test within minutes of collecting sample, or b) Add first two chemicals to fix sample, store dark at 4°C, complete test within eight hours.
Calibration: None required. Test is accurate if performed correctly.
Measurement: Follow instructions in test kit. Record date, time and result, and initial.
Quality Control: Accuracy: Consult lab or other volunteers as needed to learn how to perform test correctly. **Precision:** Test duplicate sample from one location per day or 20% of locations, whichever is more.

Chemicals in LaMotte kits: Check expiration dates. Order replacements directly from Lamotte (800-344-3100) or contact CSI to purchase supplies.