



Field Code:

Community Science Institute  
Volunteer Partnerships

www.communityscience.org

Watershed Science

Online Public Database

### 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)
<b>Temperature:</b> °C (Record <u>corrected</u> temperature) Date: _____ Time: _____ Initials: _____	<b>Temperature:</b> °C (Record <u>corrected</u> temperature) Date: _____ Time: _____ Initials: _____	(+/- 1°C)
<b>pH:</b> Date: _____ Time: _____ Initials: _____	<b>pH:</b> Date: _____ Time: _____ Initials: _____	(+/- 0.5 units)
<b>Conductivity:</b> uS/cm <input type="checkbox"/> Measured on site <input type="checkbox"/> Measured later at _____ °C Date: _____ Time: _____ Initials: _____	<b>Conductivity:</b> uS/cm <input type="checkbox"/> Measured on site <input type="checkbox"/> Measured later at _____ °C Date: _____ Time: _____ Initials: _____	(within 10%)
<b>Total Hardness:</b> mg/L Date: _____ Time: _____ Initials: _____	<b>Total Hardness:</b> mg/L Date: _____ Time: _____ Initials: _____	(within 20%*)
<b>Dissolved Oxygen:</b> mg/L Date: _____ Time: _____ Initials: _____	<b>Dissolved Oxygen:</b> mg/L Date: _____ Time: _____ Initials: _____	(within 20%)

See back of sheet for test information and quality control details



Field Code:

Community Science Institute

www.communityscience.org

Volunteer Partnerships

Watershed Science

Online Public Database

**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<sub>3</sub> equivalent standard. Repeat until result is 40-60 mg/L CaCO<sub>3</sub>. 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.

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>