

# Water Monitoring Field Data Sheet *(p 5 of 12)*

**Stream Flow Volume or Discharge** Check to see if the United States Geological Survey (USGS) has the information for Stream Flow Volume or Discharge for your site. Check this Internet address:

**water.usgs.gov/**  
 "USGS Water Resources of the United States"  
 Look under "Water Data"; "Real-time"

If stream discharge data is available for your site, you can use this information rather than performing the procedures on the following pages (stream width, depth, and velocity). Make sure to check for this information BEFORE you go out to the stream site.

If the USGS does not have this information for your site, make sure to do all of the physical assessments and all of the math to save yourself or your SEC's designated Web Host time.

**Stream Width** Determine the average width of wadeable streams by measuring at 5 places within your sampling area and dividing the total by 5. For the purpose of converting feet to meters use: feet x 0.3048 = meters.

_____	+	_____	+	_____	+	_____	+	_____	=	_____	÷ 5 =	_____
<i>meters</i>		<i>meters</i>		<i>meters</i>		<i>meters</i>		<i>meters</i>		<i>meters</i>		<i>meters</i>
Sample 1		Sample 2		Sample 3		Sample 4		Sample 5		Total		Average Width

\_\_\_\_\_ Non-wadeable Stream

For non-wadeable streams, if you have recorded stream width, note WHAT you have done below.  
 Notes: \_\_\_\_\_

**Stream Depth** Determine the average depth for wadeable streams by measuring at 5 equal intervals along the width of the stream and dividing the total by 5. For the purpose of converting use: inches x 2.54 = centimeters centimeters ÷ 100 = meters.

_____	+	_____	+	_____	+	_____	+	_____	=	_____	÷ 5 =	_____
<i>meters</i>		<i>meters</i>		<i>meters</i>		<i>meters</i>		<i>meters</i>		<i>meters</i>		<i>meters</i>
Sample 1		Sample 2		Sample 3		Sample 4		Sample 5		Total		Average Depth

\_\_\_\_\_ Non-wadeable Stream

For non-wadeable streams, if you have recorded stream depth, note WHAT you have done below.  
 Notes: \_\_\_\_\_

Date \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Site ID # \_\_\_\_\_

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## Surface Velocity

Complete the following steps to determine the surface velocity of wadeable streams:

1. Measure and mark a 10 meter distance at your stream site, using the depth management line as the up stream mark. Each of the 5 intervals marked off to measure stream depth should be used as starting points for the weighted bobber.
2. Release the bobber at each of the 5 intervals, and time how long it takes the bobber to travel from the upstream mark down 10 meters to the downstream mark.
3. Divide the 10 meter distance by the travel time of the bobber to determine the stream's surface velocity.
4. Run the test 5 times, once at each of the 5 intervals you used for measuring depth along the transect, and take the average.

Trial #1: \_\_\_\_\_ meters ÷ \_\_\_\_\_ time (seconds) = \_\_\_\_\_ meters per second

Trial #2: \_\_\_\_\_ meters ÷ \_\_\_\_\_ time (seconds) = \_\_\_\_\_ meters per second

Trial #3: \_\_\_\_\_ meters ÷ \_\_\_\_\_ time (seconds) = \_\_\_\_\_ meters per second

Trial #4: \_\_\_\_\_ meters ÷ \_\_\_\_\_ time (seconds) = \_\_\_\_\_ meters per second

Trial #5: \_\_\_\_\_ meters ÷ \_\_\_\_\_ time (seconds) = \_\_\_\_\_ meters per second

Total = \_\_\_\_\_ ÷ 5 = \_\_\_\_\_ meters per second

*Average Velocity*

\_\_\_\_\_ Non-wadeable stream

For non-wadeable streams, if you have recorded surface velocity, note WHAT you have done below.

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Site ID # \_\_\_\_\_

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## Stream Flow Volume or Discharge

Calculate the streamflow volume (cubic meters/second - cms) using the above measurements.

Check here if stream discharge data was obtained from the USGS. \_\_\_\_\_

Enter this data below as the Stream Flow Volume in cubic meters/second.

(You will need to convert cubic feet/second to cubic meters/second.)

For the purpose of converting cfs (cubic feet/second) to cms use: cfs x 0.0283 = cms

**w x d x v x k = cms**

$$\frac{\text{Avg. Width}}{\text{(meters)}} \times \frac{\text{Avg. Depth}}{\text{(meters)}} \times \frac{\text{Avg. Velocity}}{\text{(meters sec.)}} \times \frac{k^*}{\text{(stream bottom constant)}} = \frac{\text{Streamflow Volume}}{\text{cms}}$$

\*k = stream bottom constant (0.8 if it's rubble/gravel or 0.9 if it is sand, mud, silt or bedrock)

**Ice Coverage, if any** (refer to page 46) \_\_\_\_\_ %

**Snow Depth, if any** \_\_\_\_\_ inches

**Wildlife seen (alive or dead) or heard** – Please identify species (see Extras Appendix) when possible, and/or take a photo when able.

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**Seasonal Changes Observed**

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Weather Notes (example: our county is under a drought watch, tornados touched down in area earlier this week)

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Date \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Site ID # \_\_\_\_\_