

## Knox County Adopt-A-Watershed Physical Data Reporting Form

<b>Watershed:</b> _____ <b>Teacher:</b> _____ <b>Course/Block/Period:</b> _____	<b>Data Collectors (include first/last names &amp; any class/investigative team name):</b> _____ _____	
<b>Date:</b> _____	<b>Time of Sampling:</b> _____	
<b>Stream Name:</b> _____ <b>Stream Mile Marker:</b> _____ <b>Location</b> (specific road directions to the site & its location on stream – include landmarks. Example: 100 ft. below crossroads of Main and Second Streets): _____ _____		
<b>Weather in past 24 hours</b> <input type="checkbox"/> Storm (heavy rain) <input type="checkbox"/> Rain (steady rain) <input type="checkbox"/> Showers (intermittent rain) <input type="checkbox"/> Overcast <input type="checkbox"/> Clear/Sunny	<b>Weather now</b> <input type="checkbox"/> Storm (heavy rain) <input type="checkbox"/> Rain (steady rain) <input type="checkbox"/> Showers (intermittent rain) <input type="checkbox"/> Overcast <input type="checkbox"/> Clear/Sunny	
<b>Water Odors</b> <i>Check all that apply</i> <input type="checkbox"/> Normal <input type="checkbox"/> Sewage <input type="checkbox"/> Petroleum <input type="checkbox"/> Chemical <input type="checkbox"/> Other: _____	<b>Water Color Appearance</b> <i>Check all that apply</i> <input type="checkbox"/> No unusual color <input type="checkbox"/> Multi-colored (oily sheen) <input type="checkbox"/> Brown/muddy <input type="checkbox"/> Milky/white <input type="checkbox"/> Foam/Suds <input type="checkbox"/> Other: _____	<b>Algae</b> <i>Check all that apply</i> <input type="checkbox"/> Minimal growth <input type="checkbox"/> Covers substrate <input type="checkbox"/> Floating in spots <input type="checkbox"/> Thick mats
<b>Site Observations</b> (Describe any notable physical (e.g., bends in stream; eroded banks) and/or biological (e.g., lacks riparian cover; recently cut trees) features) _____ _____ _____		

<b>Clarity Measurements (Take 3 &amp; average)</b>	<b>Water Temperature Readings, °C (Take 3 &amp; average)</b>
#1: _____ #2: _____ #3: _____ <b>Average:</b> _____	#1: _____ #2: _____ #3: _____ <b>Average:</b> _____

<b>Notes from the Field</b>
(Include any tentative interpretations about the physical measurements based on field observations) _____ _____

### Stream Flow

To determine stream flow, collect the data below to solve the following equation  $Flow = \frac{A L C}{T}$

Where:

A = Average cross-sectional area of the stream. L = Length of the stream reach measured (usually 20 ft.)

C = A coefficient or correction factor (0.8 for rocky-bottom streams or 0.9 for muddy-bottom streams.)

T = the length in seconds for the float to travel the length of A.

#### A: Average Cross- Sectional Area

Transect #1 (upstream)		Transect #2 (downstream)	
Interval width (feet)	Depth (feet)	Interval width (feet)	Depth (feet)
A to B = _____	_____ (at B)	A to B = _____	_____ (at B)
B to C = _____	_____ (at C)	B to C = _____	_____ (at C)
C to D = _____	_____ (at D)	C to D = _____	_____ (at D)
D to E = _____	_____ (at shoreline)	D to E = _____	_____ (at shoreline)
Totals _____	_____ ) 4 =	Totals _____	_____ ) 4 =
average depth _____ ft.		average depth _____ ft.	
Total width (ft) X Avg. depth (ft) = avg. cross-sectional area		Total width (ft) X Avg. depth (ft) = avg. cross-sectional area	
<input style="width: 40px; height: 20px;" type="text"/>	X <input style="width: 40px; height: 20px;" type="text"/>	=	<input style="width: 60px; height: 20px; border: 2px solid black;" type="text"/> ft <sup>2</sup>

Cross-sectional area of Transect #1 + Cross sectional area of Transect #2 ) 2 = Average Cross-sectional area.

$$\frac{\boxed{\phantom{0000}} + \boxed{\phantom{0000}}}{2} = \boxed{\phantom{0000}} \text{ ft}^2$$

#### L: Length of Stream Reach

ft.

#### C: Coefficient

#### T: Travel Time

(Travel Time of float in seconds)

Trial #1 \_\_\_\_\_

Trial #2 \_\_\_\_\_

Trial #3 \_\_\_\_\_

Total  ) 3

Avg. Time  sec.

$$Flow = \frac{A L C}{T} = \frac{\boxed{\phantom{0000}} \boxed{\phantom{0000}} \boxed{\phantom{0000}}}{\boxed{\phantom{0000}}} = \boxed{\phantom{0000}} \text{ ft}^3 / \text{sec.}$$

Convert Inches to Feet (rounded to the nearest tenth)

Inches	1	2	3	4	5	6	7	8	9	10	11	12
Feet	.1	.2	.3	.3	.4	.5	.6	.7	.8	.8	.9	1