4-H Water Data Sheet

A record is part of your 4-H project. Keep your record neat, clean, and up-to-date. It's best to use a pencil. Write clearly. If you need help, ask your parents or leaders. If you need more space, add notebook paper to your record.

Date _____ Crew members _____

Location _____ Plot no. _____ Elevation _____ Percent of slope _____

Season _____ Temperature _____ Annual precipitation _____ Soil type _____

Type of water study area ***(check one)***

❑ Temperate forest ❑ High desert forest ❑ Coastal grassland/meadow
❑ Temperate grassland/meadow ❑ High desert grassland/meadow ❑ Coastal mountain grassland/meadow
❑ Marsh/wetlands ❑ High desert shrub land ❑ Other:

Record the amount of stream vegetative cover (all species), dissolved oxygen (DO), pH, width, depth, velocity, and temperature. These relate to the overall ability of the system to maintain aquatic life, slow stream flow, and decrease excessive stream bank erosion and incising. You will need a camera, 100-foot measuring tape, water quality kit, clipboard, data logger or thermometer, pencil, and this check sheet.

Stream type Perennial (year-round) _____ Intermittent (seasonal) _____

Photo station Perpendicular _____ Oblique to stream _____

Current precipitation year Wet _____ Normal _____ Dry _____

Channel type Entrenched: Slightly _____ Moderately _____ Deeply _____
Confined: Poor _____ Moderately _____ Well _____

Channel pattern Straight ____ Slightly sinuous ____ Meandering ____ Braided ____

Stream gradient Steep (>10%) _____ Moderate (4–10%) _____ Gentle (<4%) _____

Vegetation
___ Typical riparian, perennial, water-loving species dominate
___ Typical riparian, perennial, water-loving species infrequent
___ Typical riparian, perennial, water-loving species absent
___ Typical riparian, perennial, water-loving species replaced by upland species

List the three most abundant macro-invertebrates found.

_____

_____

List other species found (such as fish, snails, crayfish).

_____

_____

Water turbidity (sediment/muddy) Clear _____ Moderate _____ Extreme _____

Oregon State University | Extension Service

4-H 303LR-j
Revised June 2005

Stream flow data record

Site #	Stream width (w)	Stream depth (d) *(average of 5 locations across stream)* 1	2	3	4	5	Avg.	*Stream velocity (v)	**Streambed roughness (a)
Site 1									
Site 2									
Site 3									
Average									

*Use a floating ball to measure a distance along the stream. Time the ball's travel over the distance.

$$\text{Velocity} = \frac{\text{Distance (feet)}}{\text{Time (seconds)}}$$

**Streambed roughness—rubble, gravel, or plant: a = 0.8; smooth mud, silt, or bedrock: a = 0.9

To calculate stream flow rate (r), use the information on the above data chart. Use the **average** value of each measurement at the three sites in the formula: r = w x d x v x a

Stream flow = _____ x _____ x _____ x _____ = _____ ft^3/sec
r w d v a

Temperature data record

	Air temperature °C	°F	Time	Water temperature °C	°F	Time
Site 1						
Site 2						
Site 3						

Note:

$$\frac{9 \times (°C + 32)}{5} = °F$$

$$\frac{5 \times (°F - 32)}{9} = °C$$

pH data record

	Sample 1	Sample 2	Sample 3	Average
Site 1				
Site 2				
Site 3				

Dissolved oxygen (DO) data record

	Sample 1	Sample 2	Sample 3	Average	Time
Site 1					
Site 2					
Site 3					

Published July 2002. Revised June 2005.