

WIDTH AND DEPTH MEASUREMENTS: Record the wetted width and average depth from at least two of the channel's habitats (RUN, RIFFLE or POOL). Record the average depth from a minimum of five measurements (one of these should be from the deepest part of the channel). The width should be measured from the widest section of the feature.

- 1. Riffle Wetted Width ^(feet) _____ Depth ^(feet) _____
- 2. Run Wetted Width ^(feet) _____ Depth ^(feet) _____
- 3. Pool Wetted Width ^(feet) _____ Depth ^(feet) _____

HABITAT CONDITIONS: Rate the habitat conditions by choosing the best description, and then choose a score from the range within the description. Note: Bank stability and riparian buffer width are assessed on both the **LEFT** and **RIGHT** side of the stream.

		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Embeddedness EVALUATED IN RIFFLES																					
		Optimal					Suboptimal					Marginal					Poor				
Sediment deposition	Little or no formation of depositional features; < 20% of the reach affected. See below for examples						Some increase in depositional features; 20-40% of the reach affected.					Moderate amounts of depositional features; 40-60% of the reach affected.					Heavy amounts of deposition; > 60% of the reach affected.				
		Optimal					Suboptimal					Marginal					Poor				

The next two conditions are evaluated on both the left and the right sides of the stream.

		10	9	8	7	6	5	4	3	2	1										
Bank stability	Banks are stable; no evidence of erosion or bank failure; little or no potential for future problems; < 10% of the reach affected.						Banks are moderately stable; infrequent areas of erosion occur, mostly shown by banks healed over or a few bare spots; 10-30 % of the reach affected.					Banks are moderately unstable; 30-50% of the reach has some areas of erosion; high potential for erosion during flooding events.					Banks are unstable; many have eroded areas (bare soils) along straight sections or bends; obvious bank collapse or failure; > 50% affected.				
		Optimal					Suboptimal					Marginal					Poor				
Riparian buffer width	Mainly undisturbed vegetation > 60 ft; no evidence of human impacts such as parking lots, road beds, clear-cuts, mowed areas, crops, lawns etc.						Zone of undisturbed vegetation 40-60 ft; some areas of disturbance evident.					Zone of undisturbed vegetation 20-40 ft; disturbed areas common throughout the reach.					Zone of undisturbed vegetation < 20 ft; disturbed areas common throughout the entire reach.				
		Optimal					Suboptimal					Marginal					Poor				

Totals	> 65	65 - 50	49 - 35	< 35
	Optimal	Suboptimal	Marginal	Poor

Habitat condition comments: _____

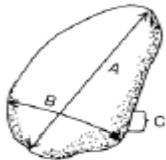
SEDIMENT DEPOSITION may cause the formation of islands, point bars (areas of increased deposition usually at the beginning of a meander that increase in size as the channel is diverted toward the outer bank) or shoals, or result in the filling of runs and pools. Usually deposition is evident in areas that are obstructed by natural or manmade debris and areas where the stream flow decreases, such as bends.

NOTE: TO CALCULATE A SCORE BASED ON A 0-100 SCALE DIVIDE THE TOTAL BY 80 AND MULTIPLY BY 100

STREAMBED COMPOSITION: You should always collect information about the composition of your reach. You can either estimate the proportions or you use a **PEBBLE COUNT** for a more accurate measure of composition. At a minimum you should estimate composition of the riffles within your reach. The size categories are determined by the (B) axis measured in millimeters. Use the table below to record your data. Did you estimate or count?

Silt/clay < 0.06	Sand 0.06 – 2	Gravel 2 - 64	Cobble 65 - 255	Boulder 256 - 1096	Bedrock > 1096	Woody debris
Very small; having a smooth slick feel	Very small; having a grainy feel	Pea to tennis ball	Tennis ball to basketball	Basketball to car size	Usually larger than a car; solid surface	Includes sticks, leaves etc

Riffle only Entire reach Estimates should be made from riffles only



- (A) Long axis (**Length**)
- (B) Intermediate axis (**Width**)
- (C) Short axis (**Height**)

Pebble counts require two people, one in the stream and one on shore. The person in the stream walks upstream from bank to bank using a zigzag pattern. After each step the person reaches down without looking, picks up the first particle touched, and measures the intermediate axis with a ruler. The on-shore partner records the measurement. The process continues until **100** pebbles have been measured or the reach has been walked. For a quick estimate, the coordinator recommends that **50** be collected from the entire reach and **20** if collecting from riffles only. Note: Pebble counts are not required; they are optional and should only be completed once each year or less frequently.

LAND USE: Indicate the land uses that you believe may be having an impact on your stream station. Use the letters (**S**) streamside, (**M**) within ¼ mile and (**W**) somewhere in the watershed, to indicate the approximate location of the disturbance and the numbers (**1**) slight, (**2**) moderate or (**3**) high, to represent the level of disturbance.

Active construction		Pastureland		Single-family residences	
Mountaintop mining		Cropland		Sub-urban developments	
Deep mining		Intensive feedlots		Parking lots, strip-malls etc.	
Abandoned mining		Unpaved Roads		Paved Roads	
Logging		Trash dumps		Bridges	
Oil and gas wells		Landfills		Other (describe)	
Recreation (parks, trails etc.)		Industrial areas			

Pipes? Yes No

Describe the types of pipes observed and indicate if there is any discharge from the pipes. Also describe the colors and odors of the discharge, and provide any other land-use comments _____

PHOTOGRAPH AND SKETCH THE STUDY REACH: Use the space below to draw your study reach. Indicate the direction of flow, sample locations and important features of the reach. Choose at least two locations from which to take your photos and submit your photos with your survey data sheet.