

WYOMING STREAM TEAM WATER MONITORING

STREAM NAME: _____

SITE LOCATION: _____ **ELEVATION:** _____

DATE: _____ **TIME:** _____ **COLLECTORS:** _____

WEATHER CONDITIONS:

Today: Sunny Overcast Intermittent Rain Steady Rain Heavy Rain Snow Air Temperature: _____ °C
 Past 24 Hours: Sunny Overcast Intermittent Rain Steady Rain Heavy Rain Snow

LEGAL SITE DESCRIPTION:

UTM: Northing _____ Easting _____ or Latitude: N _____ Longitude: W _____

WATER AND WATERSHED INFORMATION: Circle what best applies. Others that apply can be underlined.

<p>Water Appearance: clear multi-colored sheen foamy muddy brown green orange/red none other _____</p>	<p>Water Smell: Sulphurous (rotten-egg) chlorine sewage petroleum chemical none other _____</p>
<p>Dominant Land Use: factories pavement agriculture logging grazing homes mining coal bed methane recreational wildlands water treatment plant other _____</p>	<p>Secondary Land Use: factories pavement agriculture logging grazing homes mining coal bed methane recreational wildlands water treatment plant other _____</p>
<p>Present Upstream: Irrigation diversion road crossings dam irrigation return channelization beaver dam fish migration barriers fish habitat structures other _____</p>	<p>Point Sources of Pollution: _____ _____ Non-Point Sources of Pollution: _____ _____</p>

WATER QUALITY PARAMETERS

Mandatory Parameters	Optional Parameters
Water Temperature: _____ °C Range: 0-60	Nitrates: _____ mg/l Range: 0-10
DO: _____ mg/l Range: 3-15	Orthophosphates: _____ mg/l Range: 0-10
Alkalinity: _____ mg/l Range: 0-500	Coliform: _____ colonies/100ml Range: 0-500
pH: _____ Range: 6.5-10	Notes:
Turbidity: _____ NTU Range: 0-240	
Conductivity: _____ μS/cm Range: 50-4000	

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MACROINVERTEBRATES

Macroinvertebrates should be collected from a representative riffle if riffles are present within your sample reach. If no riffles are present, collect macroinvertebrates from each habitat type (pool, backwater area, eddy, undercut banks). # found column is used when counting the number of each type of macroinvertebrate. % of total = # found/total number collected*100.

Orders Identified (Order Richness): (Excellent > 22, Good 17 -22, Fair 11-16, Poor < 11)

Macroinvertebrate	√ if found	# found	% of total	PTI #	PTI #
Ephemeroptera Mayflies				3	
Trichoptera Caddisflies				3	
Plecoptera Stoneflies				3	
Chironomidae Midge Larvae				1	
Tipulidae Craneflies				2	
Simuliidae Blackfly Larvae				1	
Pelecypoda Clams				1	
Amphipoda Scud/Shrimp				2	
Hydracarina Water Mites				2	
Turbellaria Flatworms				1	
Odonatia Damselflies				2	
Odonatia Dragonflies				2	
Gastropoda Snails				3	
Sialidae Alderfly Larvae				2	
Atherix Snipfly Larvae				3	
Megaloptera Fishfly Larvae				3	
Megaloptera Dobsonfly Larvae				3	
Tabanidae Horsefly or Deerfly				1	
Decapoda Crayfish				1	
Hemiptera (Gerridae) Waterstriders				2	
Hemiptera (Notonectidae) Backswimmers				2	
Lepidoptera Aquatic Caterpillars				2	
Isopoda Sowbugs				2	
Oligochaeta Aquatic Worms				1	
Hirudinea Leeches				1	
Coleoptera (Elmidae) Riffle Beetle				3	
Coleoptera (Psephenidae) Water Penny				3	
Hemiptera (Corixidae) Water Boatman				2	
Total (Sum PTI #s in last column)					

Velocity and Discharge

Distance (D) = _____ ft.

Time Trial 1 = _____ s

Time Trial 2 = _____ s

Time Trial 3 = _____ s

Avg. Time (t_{avg}) = _____ s

Corrected Time (t) = $t_{avg} * K$

K = 0.8 for rocky bottom;
0.9 for sand, silt bottom

Corrected Time (t) = _____ s

Velocity (V) = $\frac{D}{t}$

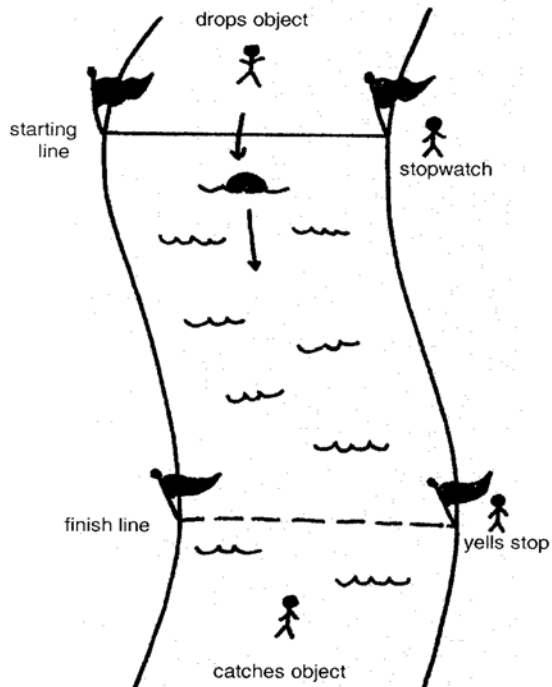
Velocity (V) = _____ ft/s

X-Sectional Area = _____ ft²

Graph cross section or
mean width*mean depth

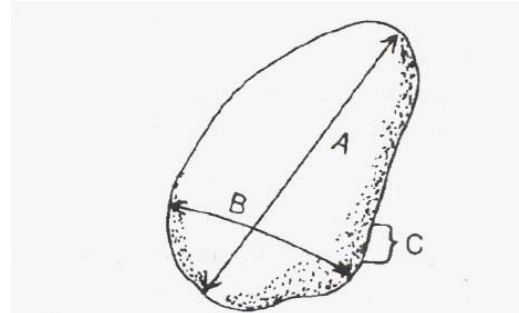
Discharge (D) = V*X-Sect.Area

Discharge (Q) = _____ cfs



Pebble Count

Measure and tally the size of the intermediate axis of 100 substrate samples.



A = LONGEST AXIS (LENGTH)

B = INTERMEDIATE AXIS (WIDTH)

C = SHORTEST AXIS (THICKNESS)

Class	Size (mm)	Size (in)	Tally
Bedrock	Solid rock		
Boulder	>256	>10	
Cobble	64-256	3-10	
Gravel	64-2	1/16-3	
Sand	2-0.062	1/500-1/16	
Silt/Clay	<.062	<1/500	

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RIPARIAN VEGETATION

Vegetation Categories

GREENLINE		Deep Rooted Plants		Shallow Rooted Plants		Bare Ground
		Sedges and Rushes	Shrubs and Trees	Grasses	Forbs	
Row 1	Record Vegetation Category at Each Pace Along 100 ft. Greenline					
Row 2	Total Observations Per Category					
Row 3	Total # Observations (total # of paces)					
Row 4	% of Each Category (divide row 2 values by total in row 3. Multiply by 100)					
Row 5	Factor	9	8	6	3	1
Row 6	Site Score (multiply row 4 by row 5)					
Row 7	Total (sum of row 6 scores)		The higher your score the stronger your plant roots are and the more your stream banks will resist erosion.			

CANOPY COVER

		Miss (Open Sky)	Hit (Vegetation)
Row 1	At each pace along greenline, record as a slash whether you see a miss (open sky) or hit (vegetation) with your ocular tube		
Row 2	Total (sum the slash marks above)		
Row 3	Total observations (total # paces)		The higher the percent canopy cover, the greater shading received by the stream.
Row 4	Percent Canopy Cover (divide row 2 hits (vegetation) by row 3 and multiply by 100)		

GROUND COVER (15 paces at five transects)

	1	2	3	4	5	Category Total	Percent of Each Category (category total divided by 75 (the total number of paces))
Live Vegetation							
Litter							
Rocks							
Bare Ground							

