Macroinvertebrate Collection Data Sheets

(Sample Site Information and Depth Profile - Page 1 of 4)

Station Name_____ Date of sample ___/___/___ Time ___:___

River_____ Station number:_____

Group (School)_____ **Substrate** : **ROCKY** ☐ **SANDY** ☐

RW Net and method ☐ or Other_____ **# of Kicks/ dips conducted?** ☐

☐ Field Data Collected	☐ Depth Profile Completed
☐ Metals Collected	☐ Micro-habitat (4 kicks/dips) completed
☐ Nutrients Collected	☐ Macro-habitat reach assessment
☐ QA Macro Sample Collected	☐ Yes or No -Is this your normal water quality station?

Part 1

a. Draw a picture of the sample site (from bank to bank, 200 feet above/below sample area):

Left bank or **right** bank-looking upstream (circle one)

Left bank or **right** bank looking upstream (circle one)

b. Flow direction on diagram ⟶ OR ⟵
(circle one)

c. Draw in stream attributes such as riffle, dams, fallen trees, pools, roads, tributaries, bridges, wetlands, riprap, pipes, and other landmarks to identify reach, Label appropriately, include larger sheet if desire.

d. Draw a square representing bug sample location and a number in each square representing each 1 of 4 kicks.

Part 2 -Average Depth Profile of representative sample transect

Select a spot typical of the sample area. Measure depths at 1-step intervals from bank to bank across the river and record below. Please use inches or feet if can, state UNIT=_____. Place transect on diagram above. Use back or another sheet if needed and record.

1 _____	6_____	11_____	16_____	21_____	26_____	31_____
2_____	7_____	12_____	17_____	22_____	27_____	32_____
3_____	8_____	13_____	18_____	23_____	28_____	33_____
4_____	9_____	14_____	19_____	24_____	29_____	34_____
5_____	10_____	15_____	20_____	25_____	30_____	35_____

ROCKY Substrate Composition for Each Kick (page 2 of 4)
DO NOT USE IF SAMPLING SANDY SUBSTRATE

Part 3 Substrate Composition kick #1:

a. Total Time Sampled Rocky Substrate habitat _____ seconds
b. Average Depth of rectangle sampled = _____inches or _____unit?_____

c. Circle: Fast Riffle (1.5-2.5 ft/sec) OR Slow Riffle (0.5-1.5 ft/sec)
1 2

Inorganic Substrate Components			**Organic Substrate Components**		
Should ALWAYS add to 100%			**May NOT add up to 100%**		
Substrate Type	Diameter	% Composition in sample	Substrate Type	Describe Characteristics	% Composition in sample
Bedrock	>11 inches		Detritus	Sticks, wood, coarse plant material, CPOM	
Boulder	>256mm, 10 inches				
Cobble	64-256mm, 2.5-10"		Muck-Mud	Black, very fine organic material, FPOM	
Gravel	2-64 mm, 0.1-2.5"				
Sand	0.06-2 mm, Gritty				
Silt	0.004-0.06mm		Marl	Grey, shell fragments	
Clay	<0.004, slick/slimy				
	TOTAL %				

Part 3 Substrate Composition kick #2:

a. Total Time Sampled Rocky Substrate habitat _____ seconds
b. Average Depth of rectangle sampled = _____inches or _____unit?_____

c. Circle: Fast Riffle (1.5-2.5 ft/sec) OR Slow Riffle (0.5-1.5 ft/sec)
1 2

Inorganic Substrate Components			**Organic Substrate Components**		
Should ALWAYS add to 100%			**May NOT add up to 100%**		
Substrate Type	Diameter	% Composition in sample	Substrate Type	Describe Characteristics	% Composition in sample
Bedrock	>11 inches		Detritus	Sticks, wood, coarse plant material, CPOM	
Boulder	>256mm, 10 inches				
Cobble	64-256mm, 2.5-10"		Muck-Mud	Black, very fine organic material, FPOM	
Gravel	2-64 mm, 0.1-2.5"				
Sand	0.06-2 mm, Gritty				
Silt	0.004-0.06mm		Marl	Grey, shell fragments	
Clay	<0.004, slick/slimy				
	TOTAL %				

ROCKY Substrate Composition for Each Kick (page 3 of 4)
DO NOT USE IF SAMPLING SANDY SUBSTRATE

Part 3 Substrate Composition kick #3:

d. Total Time Sampled Rocky Substrate habitat _____ seconds
e. Average Depth of rectangle sampled = _____inches or _____unit?_____

f. Circle: Fast Riffle (1.5-2.5 ft/sec) OR Slow Riffle (0.5-1.5 ft/sec)

1 2

Inorganic Substrate Components			**Organic Substrate Components**		
Should ALWAYS add to 100%			**May NOT add up to 100%**		
Substrate Type	Diameter	% Composition in sample	Substrate Type	Describe Characteristics	% Composition in sample
Bedrock	>11 inches		Detritus	Sticks, wood, coarse plant material, CPOM	
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Cobble	64-256mm, 2.5-10"		Muck-Mud	Black, very fine organic material, FPOM	
Gravel	2-64 mm, 0.1-2.5"				
Sand	0.06-2 mm, Gritty				
Silt	0.004-0.06mm		Marl	Grey, shell fragments	
Clay	<0.004, slick/slimy				
	TOTAL %				

Part 3 Substrate Composition kick #4:

d. Total Time Sampled Rocky Substrate habitat _____ seconds
e. Average Depth of rectangle sampled = _____inches or _____unit?_____

f. Circle: Fast Riffle (1.5-2.5 ft/sec) OR Slow Riffle (0.5-1.5 ft/sec)

1 2

Inorganic Substrate Components			**Organic Substrate Components**		
Should ALWAYS add to 100%			**May NOT add up to 100%**		
Substrate Type	Diameter	% Composition in sample	Substrate Type	Describe Characteristics	% Composition in sample
Bedrock	>11 inches		Detritus	Sticks, wood, coarse plant material, CPOM	
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Cobble	64-256mm, 2.5-10"		Muck-Mud	Black, very fine organic material, FPOM	
Gravel	2-64 mm, 0.1-2.5"				
Sand	0.06-2 mm, Gritty				
Silt	0.004-0.06mm		Marl	Grey, shell fragments	
Clay	<0.004, slick/slimy				

SANDY Substrate Composition for Each Kick (page 2 of 4)
DO NOT USE IF SAMPLING ROCKY SUBSTRATE

Part 3 Substrate Composition kick or dip #1:

a. Total Time Sampled Sandy Substrate habitat _____ seconds

b. Average Depth of rectangle, IF sampled water column = _____inches _____unit?_____

1 2

Type of Habitat sampled				Organic Substrate Components		
Time should Add to 240 Seconds % Composition Should Always add to 100%				Will Likely NOT add up to 100% Complete if Sample in Water Column		
Habitat Type	% Composition in Reach	Describe Characteristics	Time sampled (seconds)	Substrate Type	Describe Characteristics	% Composition of sample
Vegetated Banks				Detritus	Sticks, wood, coarse plant material, CPOM	
Submerged Vegetation				Muck-Mud	Black, very fine organic material, FPOM	
Snags/Debris				Marl	Grey, shell fragments	
Water Column						
Sand/Subs						
TOTAL %		**TOTAL TIME**			**TOTAL %**	

Part 3 Substrate Composition kick or dip #2:

a. Total Time Sampled Sandy Substrate habitat _____ seconds

b. Average Depth of rectangle, IF sampled water column = _____inches _____unit?_____

1 2

Type of Habitat sampled				Organic Substrate Components		
Time should Add to 240 Seconds % Composition Should Always add to 100%				Will Likely NOT add up to 100% Complete if Sample in Water Column		
Habitat Type	% Composition in Reach	Describe Characteristics	Time sampled (seconds)	Substrate Type	Describe Characteristics	% Composition of sample
Vegetated Banks				Detritus	Sticks, wood, coarse plant material, CPOM	
Submerged Vegetation				Muck-Mud	Black, very fine organic material, FPOM	
Snags/Debris				Marl	Grey, shell fragments	
Water Column						
Sand/Subs						
TOTAL %		**TOTAL TIME**			**TOTAL %**	

SANDY Substrate Composition for Each Kick (page 3 of 4)
DO NOT USE IF SAMPLING ROCKY SUBSTRATE

Part 3 Substrate Composition kick or dip #3:

c. Total Time Sampled Sandy Substrate habitat _____ seconds

d. Average Depth of rectangle, IF sampled water column = _____inches _____unit?_____

1 2

Type of Habitat sampled				Organic Substrate Components		
Time should Add to 240 Seconds % Composition Should Always add to 100%				Will Likely NOT add up to 100% Complete if Sample in Water Column		
Habitat Type	% Composition in Reach	Describe Characteristics	Time sampled (seconds)	Substrate Type	Describe Characteristics	% Composition of sample
Vegetated Banks				Detritus	Sticks, wood, coarse plant material, CPOM	
Submerged Vegetation				Muck-Mud	Black, very fine organic material, FPOM	
Snags/Debris				Marl	Grey, shell fragments	
Water Column						
Sand/Subs						
TOTAL %		**TOTAL TIME**			**TOTAL %**	

Part 3 Substrate Composition kick or dip #4:

c. Total Time Sampled Sandy Substrate habitat _____ seconds

d. Average Depth of rectangle, IF sampled water column = _____inches _____unit?_____

1 2

Type of Habitat sampled				Organic Substrate Components		
Time should Add to 240 Seconds % Composition Should Always add to 100%				Will Likely NOT add up to 100% Complete if Sample in Water Column		
Habitat Type	% Composition in Reach	Describe Characteristics	Time sampled (seconds)	Substrate Type	Describe Characteristics	% Composition of sample
Vegetated Banks				Detritus	Sticks, wood, coarse plant material, CPOM	
Submerged Vegetation				Muck-Mud	Black, very fine organic material, FPOM	
Snags/Debris				Marl	Grey, shell fragments	
Water Column						
Sand/Subs						
TOTAL %		**TOTAL TIME**			**TOTAL %**	

Part 4 – Macro - Stream Reach Physical Habitat (page 4 of 4)

Part 4 Overall area physical habitat assessment (complete whether Rocky or Sandy)

Habitat Features	**A**	Indicate % of each habitat type in reach (50 ft above/below sample): ☐ Cobble____% ☐ Snags_____% ☐ Vegetated Banks_____% ☐ Sand_____%
Watershed Features	**B**	Predominant Surrounding Land Use **R**ight **B**ank: / **L**eft **B**ank: ☐ Forest ☐ Dense housing / ☐ Forest ☐ Dense housing ☐ Field/pasture ☐ Sparse housing / ☐ Field/pasture ☐ Sparse housing ☐ Irrigated ☐ Commercial / ☐ Irrigated ☐ Commercial ☐ RR/hwy ☐ Industrial / ☐ RR/hwy ☐ Industrial ☐ Park/Bike Path ☐ Other_____ / ☐ Park/Bike Path ☐ Other_____
Localized Erosion	**C**	**% Bare Bank Soil** ☐ 80-100% ☐ 10-39% ☐ 40-79% ☐ 0-9% **Erosion Amount** ☐ extensive ☐ localized ☐ some evidence ☐ no evidence **Bank Movement** ☐ bank failures ☐ slight ☐ mod collapses ☐ none
Riparian Vegetation	**D**	Indicate the dominant riparian zone vegetation type and record dominant species: **R**ight **B**ank: / **L**eft **B**ank: ☐ Trees ☐ shrubs / ☐ Trees ☐ shrubs ☐ grasses ☐ herbaceous / ☐ grasses ☐ herbaceous ☐ other_____ / ☐ other_____ ☐ dominant species_____ / ☐ dominant species_____ **Riparian Zone** Right Bank ____ ft Wide Left Bank ____ ft Wide
Aquatic Vegetation	**E**	Indicate the **dominant vegetation** type instream (not on banks): ☐ Rooted emergent ☐ Submerging floating leaf ☐ Rooted floating ☐ Free Floating ☐ Attached Algae **Portion of reach with aquatic Vegetation**: _____%
Instream Features	**F**	**Canopy Cover:** _____% of stream bank covered with Canopy/other **% of Reach Stream:** ☐ Riffle_____% ☐ Pool_____% ☐ Run_____% Estimated **Wet** Water Width _____Ft Estimated **Bank** Full Width _____Ft Estimated average stream **depth** _____Ft **Channelized** ☐ YES ☐ NO

Macroinvertebrate Sample Labels For Inside Sample

River Name ____________________________
Station Name ___________________________
Station Number _________________________
Date _____________ Time _____________
Sample Collector _______________________

Preserved with 95% ethanol / method 1

River Name ____________________________
Station Name ___________________________
Station Number _________________________
Date _____________ Time _____________
Sample Collector _______________________

Preserved with 95% ethanol / method 1

River Name ____________________________
Station Name ___________________________
Station Number _________________________
Date _____________ Time _____________
Sample Collector _______________________

Preserved with 95% ethanol / method 1

River Name ____________________________
Station Name ___________________________
Station Number _________________________
Date _____________ Time _____________
Sample Collector _______________________

Preserved with 95% ethanol / method 1

River Name ____________________________
Station Name ___________________________
Station Number _________________________
Date _____________ Time _____________
Sample Collector _______________________

Preserved with 95% ethanol / method 1

River Name ____________________________
Station Name ___________________________
Station Number _________________________
Date _____________ Time _____________
Sample Collector _______________________

Preserved with 95% ethanol / method 1

River Name ____________________________
Station Name ___________________________
Station Number _________________________
Date _____________ Time _____________
Sample Collector _______________________

Preserved with 95% ethanol / method 1

River Name ____________________________
Station Name ___________________________
Station Number _________________________
Date _____________ Time _____________
Sample Collector _______________________

Preserved with 95% ethanol / method 1

River Name ____________________________
Station Name ___________________________
Station Number _________________________
Date _____________ Time _____________
Sample Collector _______________________

Preserved with 95% ethanol / method 1

River Name ____________________________
Station Name ___________________________
Station Number _________________________
Date _____________ Time _____________
Sample Collector _______________________

Preserved with 95% ethanol / method 1