
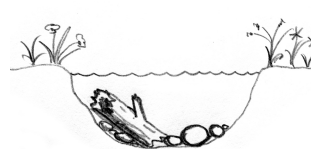
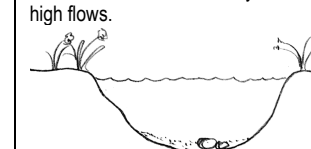
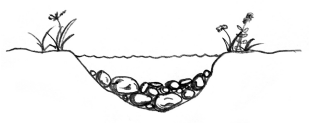
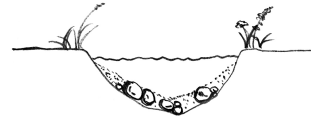
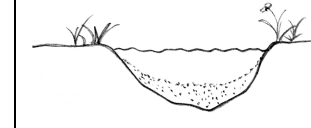



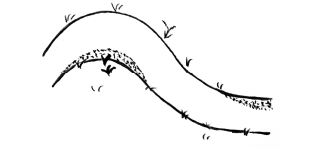

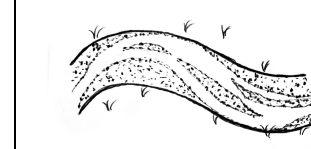
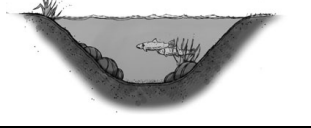
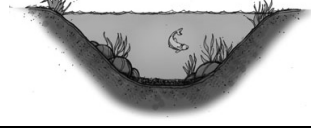
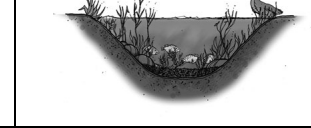


Stream Habitat Survey: For Rocky and Muddy Bottom Streams (circle one)

Group _____ Stream name or Site ID _____ Investigators _____ Date _____

Stream habitat will be evaluated looking both upstream and downstream, and includes: channel bottom materials, streamside vegetation, slope, and other channel characteristics. You may choose a value between 0-10 for each parameter. Note #s 8-10 ask you to evaluate each bank separately.









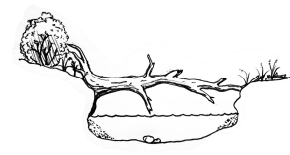
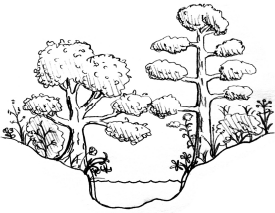
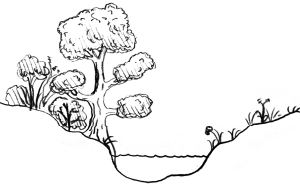


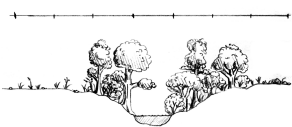

All measurements should be taken during baseflow conditions. Stream reach is defined as 12 times stream width, bankfull to bankfull.

Habitat Parameter	Excellent -----Poor											
1. Epifaunal Substrate What types of submerged materials are on the channel bottom?	Abundant stable habitat cover for colonization by macroinvertebrates and fish: submerged roots, woody and vegetative debris, cobbles, leaf packs and undercut banks. 	Adequate stable habitat cover for colonization by macroinvertebrates and fish: submerged roots, woody and vegetative debris, cobbles, leaf packs and undercut banks. 	Little or no stable habitat cover available for colonization by macroinvertebrates and fish: submerged roots, woody and vegetative debris, cobbles, leaf packs and undercut banks; habitat may move during high flows. 	What did you see?								
	10	9	8	7	6	5	4	3	2	1	0	Score <input type="text"/>
2. Embeddedness * For ROCKY BOTTOM streams only Are fine sediments being deposited in riffle/run area?	Gravel and cobble are slightly embedded in riffle area. 	Gravel and cobble are partially embedded in riffle area. 	Gravel and cobble are completely embedded in riffle area. 	What did you see?								
	10	9	8	7	6	5	4	3	2	1	0	Score <input type="text"/>
3. Riffle/Run/Pool Is a diversity of instream habitats available: riffle, runs and pools?	Yes, all three (3) habitat types (riffle, run, pool) are present and frequent. 	Two (2) habitat types are present. 	Only one (1) habitat type present and dominant. 	What did you see?								
	10	9	8	7	6	5	4	3	2	1	0	Score <input type="text"/>
4. Sediment Deposition Are sand bars and islands present?	Little or no enlargement of vegetated islands or point bars. 	Some new bar formation of the channel bottom with new deposition in pools. Some increase in point bar formation. 	Heavy deposits of usually fine sediment; channel affected by extensive deposition. Point bars are bare. 	What did you see?								
	10	9	8	7	6	5	4	3	2	1	0	Score <input type="text"/>
5. Aquatic Vegetation How much algae and aquatic plant growth exists in the stream?	Clear water in whole reach; diverse aquatic plant community - low quantity of plants; little algae growth 	Fairly clear to slightly greenish water in whole reach; some to abundance of lush green plants; moderate to abundant algae growth 	Pea green, gray, or brown water in whole reach; dense stands of plants clog stream; severe algal blooms create thick algal mats in stream 	What did you see?								
	10	9	8	7	6	5	4	3	2	1	0	Score <input type="text"/>

Aquatic Vegetation diagrams courtesy of Houghton Lake Improvement Board

Take two photographs, looking upstream and downstream, capturing banks and riparian zone on both sides.

Total first side _____

Habitat Parameter	Excellent -----Poor											
6. Channel Alteration	No evidence of channelization (straightening) or alterations such as dredging, agriculture, concrete banks or construction activities.			Some evidence of channelization and/or alterations such as dredging, agriculture, concrete banks or construction activities. Or full recovery from any alteration.			Most of stream reach channelized and/or many alterations present such as dredging, agriculture, concrete banks or construction activities. Little sign of recovery.				What did you see?	
Is the stream channel altered by humans?												
	10	9	8	7	6	5	4	3	2	1	0	Score
7. Channel Sinuosity	Yes, bends in the channel are frequent .			There are more bends than straight sections.			There are more straight sections than sections with bends or channel is entirely straight.				What did you see?	
* For MUDDY BOTTOM streams only												
Does the channel have lots of curves and bends?	10	9	8	7	6	5	4	3	2	1	0	Score
8. Bank Stability	Bank stable; erosion, scouring, undercutting or bank failure absent or minimal. Vegetation overhanging the stream is abundant.			Bank moderately stable; evidence of small areas of erosion, undercutting and scouring, or bank failure present. Moderate amounts of overhanging vegetation present.			Bank unstable; many eroded and scoured areas with undercutting; bank failure present; steep banks. Little overhanging vegetation present.				What did you see?	
How stable are the streambanks?												
Determine right/left bank by facing downstream												
Left bank	10	9	8	7	6	5	4	3	2	1	0	Score (Average both banks)
Right bank	10	9	8	7	6	5	4	3	2	1	0	
9. Vegetative Protection	Most streambank surfaces covered and shaded by a large variety of vegetation (trees, shrubs, flowering plants and grasses).			Some streambank surfaces covered and shaded by some variety of vegetation (trees, shrubs, flowering plants and grasses).			Few streambank surfaces covered and shaded by vegetation. Little variety of vegetation. Streambank dominated by one type of vegetation (trees, shrubs, flowering plants and grasses).				What did you see?	
Are streambanks covered & shaded by a variety of vegetation?											Did you see any nonnative vegetation? Check here if YES <input type="checkbox"/>	
Determine right/left bank by facing downstream												
Left bank	10	9	8	7	6	5	4	3	2	1	0	Score (Average both banks)
Right bank	10	9	8	7	6	5	4	3	2	1	0	
10. Riparian Vegetative Zone Width	Buffer present; a large variety of vegetation extends at least three channel widths on each side.			Some buffer present; some variety of vegetation extends two to one channel width on each side. Human activities have impacted buffer zone.			Little or no buffer present; vegetation extends less than one channel width on each side. Human activities substantially impact buffer zone.				What did you see?	
What is the amount of buffer available?											Did you see any nonnative vegetation? Check here if YES <input type="checkbox"/>	
Determine right/left bank by facing downstream												
Left bank	10	9	8	7	6	5	4	3	2	1	0	Score (Average both banks)
Right bank	10	9	8	7	6	5	4	3	2	1	0	

Stream Habitat Score: **Excellent (69-90)** **Good (46-68)** **Fair (23-45)** **Poor (0-22)** Total second side _____
Total first side _____
Total _____