

Form A2 Reference Guide



Reference Guide for FormA2: Habitat Assessment Using US EPA Rapid Bioassessment Protocols

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Bottom cover	Greater than 50% of the bottom is snags, old submerged logs, undercut banks, medium-sized stones or other stable habitat	30-50% of the bottom is a mix of stable habitat; Also may have new submerged logs	10-30% of the bottom is a mix of stable habitat; Bottom looks frequently disturbed	Less than 10% of the bottom is stable habitat; Bottom looks completely disturbed and unstable
2. Pool bottom	Bottom is a mixture including mostly gravel and firm sand. Also root mats and submerged vegetation	Mixture of soft sand, mud, or clay; some root mats and submerged vegetation	All mud or clay or sand bottom; little or no root mat; no submerged vegetation	Hard clay or bedrock; no root mat or vegetation
3. Pool variability	Even mix of depths and sizes among pools	Majority of pools are large and deep; very few shallow pools	Many more shallow pools than deep pools	Majority of pools small and shallow or pools absent
4. Sediment deposition	Little or no bare sand/sediment around islands; no exposed sand/sediment bars; less than 20% of the bottom loose sand/sediment	May have exposed sand/sediment/gravel bars; 20-50% of the bottom is loose sand/sediment; some pool bottoms have loose sand/sediment	Some exposed sand/sediment/gravel bars; 50-80% of the bottom loose sand/sediment; sediment deposits at obstructions and bends; pool bottoms have loose sand/sediment	Many exposed sand/sediment/gravel bars; more than 80% of the bottom loose sand/sediment; pools almost absent with loose sand/sediment bottoms
5. Channel flow	Water reaches base of both banks, and minimal amount of channel bottom is exposed	Water fills more than 75% of the channel; less than 25% of channel substrate is exposed	Water fills 25-75% of the channel; rocks/stones in riffles are mostly exposed	Very little water in channel and mostly present as standing pools
6. Channel alteration	Little/no evidence of channel being altered or dredged; stream pattern looks natural	Some evidence of channel being altered or dredged in past; stream pattern looks mostly natural	Strong evidence of channel being altered or dredged; may include embankments or structures supporting banks; 40-80% of natural stream pattern altered	Banks may be supported with cement; over 80% of natural stream pattern altered
7. Channel sinuosity	Lots of bends in the stream; length 3 to 4 times longer than if it was straight	Some bends in the stream; length 2 to 3 times longer than if it was straight	Few bends in the stream; length 1 to 2 times longer than if it was straight	Channel completely or almost straight; almost no bends
8 & 9. Bank stability	More than 95% of bank is stable; little or no evidence of erosion	70-95% of bank is stable; some small areas of erosion	40-70% of bank is stable; some areas of erosion	Most of bank is unstable; may be evidence of bank collapse and substantial erosion
10 & 11. Riparian zone	More than 18 meters between bank and human impact such as road, parking lot, agricultural field, lawn, building, cleared land	12-18 meters between bank and human impact	6-12 meters between bank and human impact	Less than 6 meters between bank and human impact
12 & 13. Bank Vegetation	More than 90% of riparian zone covered in mix of vegetation including trees, shrubs, bushes and small plants; little or no evidence of vegetation disturbance, such as mowing	70- 90% of riparian zone covered in vegetation; one/some of following absent: trees, shrubs, bushes or small plants; some evidence of vegetation disturbance, such as mowing	50- 70% of riparian zone covered in vegetation; some of following absent: trees, shrubs, bushes or small plants; strong evidence of vegetation disturbance, such as mowing	Less than 50% of riparian zone covered in vegetation; no mix of vegetation (for example, only grass); extensive vegetation disturbance; large patches of bare ground