WAV Stream Habitat Assessment Datasheet

Assess the quality of fish habitat for wadeable streams ≤ 33 feet (10 meters) wide. This method should not be used for wider streams or rivers.

Station summary in SWIMS

Station name:	**Date: / /**
Station ID:	**Start time:**
Names of volunteers:	**End time:**

Fieldwork comments and stream habitat observations:

Step 1: Calculate station length and transect spacing

Stream width at starting point =		Stream width (ft)
Stream width x 35 =		Total habitat assessment length (ft) *(minimum 300ft to maximum 1300ft)*
Habitat assessment length ÷ 10 =		Transect spacing (ft)

Riparian buffer width (ft): In each transect, look at the riparian area on each side of the stream. If the undisturbed buffer appears to be <10m or <33ft wide, use your tape measure to measure the width on each side.

Bank erosion (ft): In each transect, measure the height of any eroded banks on each side of the stream with your marked D-net or meter stick.

Pool area (%): In each transect, observe the number of pools (or measure their lengths) to determine the percentage (%) of the transect that is comprised of pools. Pools are deeper areas with slow-moving water compared to the rest of the stream.

Width:Depth ratio: In each transect, measure the stream width and the depth of the thalweg. The thalweg is the main path of deepest, fastest water.

Fine sediments (%): In each transect, observe the stream bottom to determine the percentage (%) made up of fine sediments (silt, sand, clay).

Cover for fish (%): In each transect, look for places that provide fish with cover and measure the depth of the water to confirm it is at least 0.7 ft deep. Determine the percentage (%) of the transect that has fish cover.

Riffle:Riffle or Bend:Bend ratio: Walk *the entire length of your station*, measuring the distance between riffles OR bends. If measuring riffles (walking downstream), measure from the bottom of a riffle to the top of the next riffle. If measuring bends, measure from the middle of a bend to the middle of the next bend.

Step 2: Walk your stream to measure the 7 habitat parameters

Walk your stream to measure all habitat parameters. Then calculate an average value for each parameter for your entire stream habitat assessment length. These data will help you select your final ratings on the next page.

Transects	Riparian buffer width (ft)	Bank erosion (ft)	Pool area (%)	Width:Depth ratio			Fine sediments (%)	Cover for fish (%)	Riffle:Riffle or Bend:Bend distances (ft)
1				*Width*	*Depth*	*Ratio*			
2				*Width*	*Depth*	*Ratio*			
3				*Width*	*Depth*	*Ratio*			
4				*Width*	*Depth*	*Ratio*			
5				*Width*	*Depth*	*Ratio*			
6				*Width*	*Depth*	*Ratio*			
7				*Width*	*Depth*	*Ratio*			
8				*Width*	*Depth*	*Ratio*			
9				*Width*	*Depth*	*Ratio*			
10				*Width*	*Depth*	*Ratio*			
Average	*ft*	*ft*	*%*	*width (ft)*	*ratio*		*%*	*%*	*ft* *ratio*

Tip: To calculate the Riffle:Riffle or Bend:Bend ratio, divide the *average distance between riffles or bends (ft)* by the *average stream width (ft)*.

Step 3: Calculate your final ratings for the 7 habitat parameters

	Poor	Fair	Good	Excellent	Final Rating in SWIMS
Riparian Buffer Width: Width of contiguous undisturbed land uses: meadow, shrubs, woodland, wetland, exposed rock.	**0**	**5**	**10**	**15**	
	Riparian zone very disturbed, buffer very narrow or absent	*Riparian zone moderately disturbed, buffer narrow*	*Riparian zone moderately protected, buffer moderate*	*Riparian zone very protected, buffer wide*	
	< 3.3 ft buffer	*3.3-16 ft buffer*	*16-33 ft buffer*	*> 33 ft buffer*	
Bank Erosion: Height of bare soil on banks.	**0**	**5**	**10**	**15**	
	Extensive erosion	*Moderate erosion*	*Limited erosion*	*No significant erosion*	
	> 3.3 ft bare soil	*1.7-3.3 ft bare soil*	*0.7-1.6 ft bare soil*	*< 0.7 ft bare soil*	
Pool Area: Percent of stream length in pool habitat.	**0**	**3**	**7**	**10**	
	Pools absent or very dominant, not balanced by other habitats	*Pools rare or moderately dominant, few other habitats present*	*Pools present, not frequent or overabundant*	*Pools common, and balanced by other habitats*	
	<10% or >90% of station	*10-29% or 71-90% of station*	*30-39% or 61-70% of station*	*40-60% of station*	
Width:Depth Ratio: Average stream width divided by average thalweg depth in runs and pools.	**0**	**5**	**10**	**15**	
	Stream relatively wide and shallow	*Stream moderately deep and narrow*	*Stream relatively deep and narrow*	*Stream very deep and narrow*	
	ratio >25	*ratio 16-25*	*ratio 8-15*	*ratio ≤7*	
Riffle:Riffle or Bend:Bend Ratio: Average distance between riffles or bends, divided by the average stream width.	**0**	**5**	**10**	**15**	
	Habitat monotonous, riffles or bends rare, generally continuous run habitat	*Habitat diversity low, occasional riffles or bends*	*Diverse habitats, bends and riffles present but not abundant*	*Diverse habitats, meandering stream with deep bends and riffles common*	
	ratio >25	*ratio 15-25*	*ratio 10-14*	*ratio < 10*	
Fine Sediments: Percent of the substrate that is sand, silt, clay.	**0**	**5**	**10**	**15**	
	Fines extensive in all habitats	*Fines common in mid-channel areas, present in riffles and extensive in pools*	*Fines present but limited, generally in stream margins or pools*	*Fines rare or absent*	
	>60%	*21-60%*	*10-20%*	*< 10%*	
Cover for fish: Percent of stream area with cover in water or overhanging water at least 0.7 ft deep.	**0**	**5**	**10**	**15**	
	Cover rare or absent	*Occasional cover, limited to one or two areas*	*Cover common, but not extensive*	*Cover/shelter for fish abundant*	
	< 5%	*5-9%*	*10-15%*	*> 15%*	

Final Stream Habitat Score	
Excellent:	*75 – 100*
Good:	*50 – 74*
Fair:	*25 – 49*
Poor:	*0 - 24*