

Appendix 4.3: Qualitative Habitat Evaluation Index (QHEI) field data sheet.

Qualitative Habitat Evaluation Index Field Sheet

QHEI Score:

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Stream \_\_\_\_\_
RM \_\_\_\_\_
Date \_\_\_\_\_
River Code \_\_\_\_\_

Location \_\_\_\_\_
Scorer's Name: \_\_\_\_\_

**1] SUBSTRATE** (Check **ONLY Two Substrate TYPE BOXES**; Estimate % or note every type present);

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLABS [10]	<input type="checkbox"/> GRAVEL [7]	Check ONE (OR 2 & AVERAGE)		Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input type="checkbox"/> LIMESTONE [1]	SILT:	<input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> COBBLE [8]	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> SANDSTONE [0]	EMBEDDED	<input type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> SILT [2]		<input type="checkbox"/> RIP/RAP [0]	NESS:	<input type="checkbox"/> EXTENSIVE [-2]
		<input type="checkbox"/> LACUSTRINE [0]		<input type="checkbox"/> MODERATE [-1]
		<input type="checkbox"/> SHALE [-1]		<input type="checkbox"/> NORMAL [0]
		<input type="checkbox"/> COAL FINES [-2]		<input type="checkbox"/> NONE [1]

NOTE: (Ignore sludge that originates from point-sources; score on natural substrates)  5 or More [2]

NUMBER OF SUBSTRATE TYPES:  4 or Less [0]

COMMENTS: \_\_\_\_\_

**2] INSTREAM COVER**

TYPE: (Check All That Apply)

<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> DEEP POOLS > 70 cm [2]	<input type="checkbox"/> OXBOWS [1]	<input type="checkbox"/> EXTENSIVE > 75% [1]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> AQUATIC MACROPHYTES [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	COMMENTS: _____		<input type="checkbox"/> NEARLY ABSENT < 5% [1]

AMOUNT: (Check ONLY One or check 2 and AVERAGE)

Cover  
Max 20

**3] CHANNEL MORPHOLOGY:** (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [1]	<input type="checkbox"/> SNAGGING	<input type="checkbox"/> IMPOUND.
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION	<input type="checkbox"/> ISLANDS
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL	<input type="checkbox"/> LEVEED
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING	<input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS	

COMMENTS: \_\_\_\_\_

**4] RIPARIAN ZONE AND BANK EROSION** - (check ONE box per bank or check 2 and AVERAGE per bank) ★ River Right Looking Downstream★

RIPARIAN WIDTH		FLOOD PLAIN QUALITY (PAST 100 FOOT RIPARIAN)		BANK EROSION	
L	R (Per Bank)	L	R (Most Predominant Per Bank)	L	R (Per Bank)
<input type="checkbox"/>	<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/>	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/>	<input type="checkbox"/> CONSERVATION TILLAGE [1]
<input type="checkbox"/>	<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/>	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/>	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]
<input type="checkbox"/>	<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/>	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/>	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]
<input type="checkbox"/>	<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/>	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/>	<input type="checkbox"/> MINING/CONSTRUCTION [0]
<input type="checkbox"/>	<input type="checkbox"/> NONE [0]			<input type="checkbox"/>	<input type="checkbox"/> NONE/LITTLE [3]
				<input type="checkbox"/>	<input type="checkbox"/> MODERATE [2]
				<input type="checkbox"/>	<input type="checkbox"/> HEAVY/SEVERE [1]

COMMENTS: \_\_\_\_\_

Channel  
Max 20

**5] POOL/GLIDE AND RIFFLE/RUN QUALITY**

MAX DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (POOL & RIFFLES!) (Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input type="checkbox"/> FAST [1]
<input type="checkbox"/> 0.2-0.4m [1]	COMMENTS: _____	<input type="checkbox"/> MODERATE [1]
<input type="checkbox"/> < 0.2m [POOL=0]		<input type="checkbox"/> INTERSTITIAL [-1]
		<input type="checkbox"/> INTERMITTENT [-2]
		<input type="checkbox"/> SLOW [1]

**6] GRADIENT** (ft/mi): \_\_\_\_\_ DRAINAGE AREA (sq.mi.): \_\_\_\_\_

%POOL:   %GLIDE:  

%RIFFLE:   %RUN:

Riffle/Run  
Max 8

Gradient  
Max 10