



Qualitative Habitat Evaluation Index Field Sheet QHEI Score:

River Code: _____ RM: _____ Stream: _____
Date: _____ Location: _____

Scorers Full Name: _____ Affiliation: _____

1] SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY	
<input type="checkbox"/> <input type="checkbox"/> -BLDR /SLBS[10] _____	<input type="checkbox"/> <input type="checkbox"/> -GRAVEL [7] _____	Check ONE (OR 2 & AVERAGE)		Check ONE (OR 2 & AVERAGE)	Substrate <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div> Max 20
<input type="checkbox"/> <input type="checkbox"/> -BOULDER [9] _____	<input type="checkbox"/> <input type="checkbox"/> -SAND [6] _____	<input type="checkbox"/> -LIMESTONE [1] _____	SILT:	<input type="checkbox"/> - SILT HEAVY [-2]	
<input type="checkbox"/> <input type="checkbox"/> -COBBLE [8] _____	<input type="checkbox"/> <input type="checkbox"/> -BEDROCK[5] _____	<input type="checkbox"/> -TILLS [1] _____		<input type="checkbox"/> -SILT MODERATE [-1]	
<input type="checkbox"/> <input type="checkbox"/> -HARDPAN [4] _____	<input type="checkbox"/> <input type="checkbox"/> -DETRITUS[3] _____	<input type="checkbox"/> -WETLANDS[0] _____		<input type="checkbox"/> -SILT NORMAL [0]	
<input type="checkbox"/> <input type="checkbox"/> -MUCK [2] _____	<input type="checkbox"/> <input type="checkbox"/> -ARTIFICIAL[0] _____	<input type="checkbox"/> -HARDPAN [0] _____		<input type="checkbox"/> -SILT FREE [1] _____	
<input type="checkbox"/> <input type="checkbox"/> -SILT [2] _____	NOTE: Ignore Sludge Originating From Point Sources		<input type="checkbox"/> -SANDSTONE [0] EMBEDDED	<input type="checkbox"/> -EXTENSIVE [-2]	
-----		<input type="checkbox"/> -RIP/RAP [0] _____	NESS:	<input type="checkbox"/> -MODERATE [-1]	
NUMBER OF SUBSTRATE TYPES: <input type="checkbox"/> -4 or More [2]		<input type="checkbox"/> -LACUSTRINE [0] _____		<input type="checkbox"/> -NORMAL [0]	
(High Quality Only, Score 5 or >) <input type="checkbox"/> -3 or Less [0]		<input type="checkbox"/> -SHALE [-1] _____		<input type="checkbox"/> -NONE [1]	
COMMENTS: _____		<input type="checkbox"/> -COAL FINES [-2] _____			

2] INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions) AMOUNT: (Check ONLY One or check 2 and AVERAGE)

TYPE: Score All That Occur			Cover <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div> Max 20
<input type="checkbox"/> UNDERCUT BANKS [1] _____	<input type="checkbox"/> POOLS> 70 cm [2] _____	<input type="checkbox"/> OXBOWS, BACKWATERS [1] _____	
<input type="checkbox"/> OVERHANGING VEGETATION [1] _____	<input type="checkbox"/> ROOTWADS [1] _____	<input type="checkbox"/> AQUATIC MACROPHYTES [1] _____	
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1] _____	<input type="checkbox"/> BOULDERS [1] _____	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1] _____	
<input type="checkbox"/> ROOTMATS [1] _____	COMMENTS: _____		
<input type="checkbox"/> - EXTENSIVE > 75% [11] <input type="checkbox"/> - MODERATE 25-75% [7] <input type="checkbox"/> - SPARSE 5-25% [3] <input type="checkbox"/> - NEARLY ABSENT < 5%[1]			

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

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	Channel <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div> Max 20	
<input type="checkbox"/> - HIGH [4] _____	<input type="checkbox"/> - EXCELLENT [7] _____	<input type="checkbox"/> - NONE [6] _____	<input type="checkbox"/> - HIGH [3] _____	<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 Meter RIPARIAN)	BANK EROSION	Riparian <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div> Max 10
L R (Per Bank)	L R (Most Predominant Per Bank)	L R	
<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] _____	

COMMENTS: _____

5.] POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH	MORPHOLOGY	CURRENT VELOCITY [POOLS & RIFFLES!]	Pool/ Current <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div> Max 12
(Check 1 ONLY!)	(Check 1 or 2 & AVERAGE)	(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"/> - FAST[1] _____	
<input type="checkbox"/> - 0.4-0.7m [2] _____	<input type="checkbox"/> - POOL WIDTH < RIFFLE W. [0] _____	<input type="checkbox"/> - MODERATE [1] _____	
<input type="checkbox"/> - 0.2- 0.4m [1] _____		<input type="checkbox"/> - SLOW [1] _____	

COMMENTS: _____

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS	Riffle/Run <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div> Max 8 Gradient <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div> Max 10
<input type="checkbox"/> - Best Areas >10 cm [2] _____	<input type="checkbox"/> - MAX > 50 [2] _____	<input type="checkbox"/> -STABLE (e.g.,Cobble, Boulder) [2] _____	<input type="checkbox"/> - NONE [2] _____	
<input type="checkbox"/> - Best Areas 5-10 cm[1] _____	<input type="checkbox"/> - MAX < 50[1] _____	<input type="checkbox"/> -MOD. STABLE (e.g.,Large Gravel) [1] _____	<input type="checkbox"/> - LOW [1] _____	
<input type="checkbox"/> - Best Areas < 5 cm [RIFFLE=0] _____		<input type="checkbox"/> -UNSTABLE (Fine Gravel,Sand) [0] _____	<input type="checkbox"/> - MODERATE [0] _____	
COMMENTS: _____		<input type="checkbox"/> - NO RIFFLE [Metric=0]	<input type="checkbox"/> - EXTENSIVE [-1] _____	

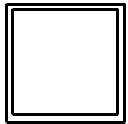
6] GRADIENT (ft/mi): _____ DRAINAGE AREA (sq.mi.) : _____

%POOL: <input style="width: 40px;" type="text"/>	%GLIDE: <input style="width: 40px;" type="text"/>
%RIFFLE: <input style="width: 40px;" type="text"/>	%RUN: <input style="width: 40px;" type="text"/>

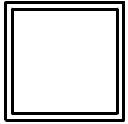
* Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N)____ If Not, Explain:

- Major Suspected Sources of Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other: _____



Subjective Rating (1-10)



Aesthetic Rating (1-10)

Gradient:

- Low, - Moderate, -High

Gear:	Distance:	Water Clarity:	Water Stage:	Canopy -% Open
First Sampling Pass _____	_____	_____	_____	_____

Stream Measurements:									
Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Depth	Bankfull Mean W/D Ratio	Bankfull Max Depth	Floodprone Area	Width	Entrench. Ratio

Stream Drawing:

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

- Yes/No
- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
 - Is there water upstream?
How Far: _____
 - Is There Water Close Downstream?
How Far: _____
 - Is Dry Channel Mostly Natural?