Qualitative Habitat Evaluation Index Field Sheet QHEI Score: ____

River Code:_____ RM: _____ Stream_____

Date_____ Location_____

Scorers Initials:_____ Comments_____

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

TYPE	POOL	RIFFLE		POOL	RIFFLE
❒ ❒-BLDR /SLBS[10]	____	____	❒ ❒-GRAVEL [7]	____	____
❒ ❒-BOULDER [9]	____	____	❒ ❒-SAND [6]	____	____
❒ ❒-COBBLE [8]	____	____	❒ ❒-BEDROCK[5]	____	____
❒ ❒-HARDPAN [4]	____	____	❒ ❒-DETRITUS[3]	____	____
❒ ❒-MUCK [2]	____	____	❒ ❒-ARTIFICIAL[0]	____	____
❒ ❒-SILT [2]	____	____			

SUBSTRATE ORIGIN Check ONE (OR 2 & AVERAGE)

❒ -LIMESTONE [1]
❒ -TILLS [1]
❒ -WETLANDS[0]
❒ -HARDPAN [0]
❒ -SANDSTONE [0]
❒ -RIP/RAP [0]
❒ -LACUSTRINE [0]
❒ -SHALE [-1]
❒-COAL FINES [-2]

SUBSTRATE QUALITY Check ONE (OR 2 & AVERAGE)

SILT:
❒ - *SILT HEAVY [-2]*
❒ -SILT MODERATE [-1]
❒ -SILT NORMAL [0]
❒ -SILT FREE [1]

EMBEDDEDNESS:
❒ -EXTENSIVE [-2]
❒ -MODERATE [-1]
❒ -NORMAL [0]
❒ -NONE [1]

Substrate ____ Max 20

NOTE: *(Ignore sludge originating from point-sources; score on natural substrates)*

NUMBER OF SUBSTRATE TYPES: ❒-5 or More [2] ❒-4 or Less [0]

COMMENTS_____

2] INSTREAM COVER (see back for instructions for additional cover scoring method)

TYPE: **(Check *All* That Apply)**

❒ ___UNDERCUT BANKS [1]
❒ ___OVERHANGING VEGETATION [1]
❒ ___SHALLOWS (IN SLOW WATER) [1]
❒ ___ROOTMATS [1]
❒ ___POOLS> 70 cm [2]
❒ ___ROOTWADS [1]
❒ ___BOULDERS [1]
❒ ___OXBOWS, BACKWATERS [1]
❒ ___AQUATIC MACROPHYTES [1]
❒ ___LOGS OR WOODY DEBRIS [1]

COMMENTS:_____

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

❒ - EXTENSIVE > 75% [11]
❒ - MODERATE 25-75% [7]
❒ - SPARSE 5-25% [3]
❒ - NEARLY ABSENT < 5%[1]

Cover ____ Max 20

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

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

Channel ____ Max 20

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

Riparian ____ Max 10

COMMENTS:_____

5.]POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH **(Check 1 ONLY!)**

❒ - >1m [6]
❒ - 0.7-1m [4]
❒ - 0.4-0.7m [2]
❒ - 0.2-0.4m [1]
❒ - < 0.2m [POOL=0]

MORPHOLOGY **(Check 1 or 2 & AVERAGE)**

❒ - POOL WIDTH > RIFFLE WIDTH [2]
❒ - POOL WIDTH = RIFFLE WIDTH [1]
❒ - POOL WIDTH < RIFFLE W. [0]

CURRENT VELOCITY [**POOLS & RIFFLES!**] **(Check *All* That Apply)**

❒ - EDDIES [1]
❒ - FAST [1]
❒ - MODERATE [1]
❒ - SLOW [1]
❒ - TORRENTIAL [-1]
❒ - INTERSTITIAL [-1]
❒ - INTERMITTENT [-2]

Pool/Current ____ Max 12

COMMENTS:_____

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
❒ - *Best Areas >10 cm [2]	❒ - MAX > 50 [2]	❒-STABLE (e.g., Cobble, Boulder) [2]	❒ - NONE [2]
❒ - Best Areas 5-10 cm [1]	❒ - MAX < 50 [1]	❒-MOD. STABLE (e.g., Large Gravel) [1]	❒ - LOW [1]
❒ - Best Areas < 5 cm [RIFFLE=0]		❒-UNSTABLE (Fine Gravel, Sand) [0]	❒ - MODERATE [0]
			❒ - EXTENSIVE [-1]

Riffle/Run ____ Max 8

COMMENTS:_____ ❒ - NO RIFFLE [Metric=0]

Gradient ____ Max 10

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

%POOL: ____ *%GLIDE:* ____
%RIFFLE: ____ *%RUN:* ____

*Best areas must be large enough to support a population of riffle-obligate fish 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 Mean Depth	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 cover 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.