

SITE NAME/LOCATION _____

_____ SITE NUMBER _____ RIVER BASIN _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____

DATE _____ SCORER _____ COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS:

NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _____

(A)

Substrate Percentage Check

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI Metric Points

Substrate Max = 40

A + B

2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

Pool Depth Max = 30

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters):

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> > 4.0 meters [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m [25 pts]	<input type="checkbox"/> ≤ 1.0 m [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m [20 pts]	

Bankfull Width Max=30

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters):

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

3. Macroinvertebrate Scoring Sheet:

THE HEADWATER MACROINVERTEBRATE FIELD EVALUATION INDEX (HMFEI) SCORING SHEET

Indicate Abundance of Each Taxa Above each White Box.

Record HMFEI Scoring Value Points Within each Box.

For EPT taxa, also indicate the different taxa present.

Key: **V** = Very Abundant (> 50); **A** = Abundant (10 -50); **C** = Common (3 -9); **R** = Rare (< 3)

Sessile Animals (Porifera , Cnidaria , Bryozoa) (HMFEI pts = 1)	<input type="text"/>	Crayfish (Decapoda) (HMFEI pts = 2)	<input type="text"/>	Fishfly Larvae (Corydalidae) (HMFEI pts = 3)	<input type="text"/>
Aquatic Worms (Turbellaria , Hirudinea , Oligochaeta) (HMFEI pts = 1)	<input type="text"/>	Dragonfly Nymphs (Anisoptera) (HMFEI pts = 2)	<input type="text"/>	Water Penny Beetles (Psephenidae) (HMFEI pts = 3)	<input type="text"/>
Sow Bugs (Isopoda) (HMFEI pts = 1)	<input type="text"/>	Riffle Beetles (Dryopidae , Elmidae , Ptilodactylidae) (HMFEI pts = 2)	<input type="text"/>	Crane-fly Larvae (Tipulidae) (HMFEI pts = 3)	<input type="text"/>
Scuds (Amphipoda) (HMFEI pts = 1)	<input type="text"/>	Larvae of other Flies (enter name in comments) (Diptera): (HMFEI pts = 1)	<input type="text"/>	EPT TAXA*	
Water Mites (Hydracarina) (HMFEI pts = 1)	<input type="text"/>	Midges (Chironomidae) (HMFEI pts = 1)	<input type="text"/>	Total No. EPT Taxa = _____	
Damselfly Nymphs (Zygoptera) (HMFEI pts = 1)	<input type="text"/>	Snails (Gastropoda) (HMFEI pts = 1)	<input type="text"/>	Mayfly Nymphs (Ephemeroptera) Taxa Present: HMFEI pts = _____	<input type="text"/>
Alderfly Larvae (Sialidae) (HMFEI pts = 1)	<input type="text"/>	Clams (Bivalvia) (HMFEI pts = 1)	<input type="text"/>	No. Taxa (x) 3] _____	
Other Beetles (Coleoptera) (HMFEI pts = 1)	<input type="text"/>	Other Taxa :		Stonefly Nymphs (Plecoptera) Taxa Present: HMFEI pts = _____	<input type="text"/>
Other Taxa:		Other Taxa:		No. Taxa (x) 3] _____	
Other Taxa:		Other Taxa:		Caddisfly Larvae (Trichoptera) Taxa Present: HMFEI pts = _____	<input type="text"/>
Other Taxa:		Other Taxa:		No. Taxa (x) 3] _____	

*Note: EPT identification based upon Family or Genus level of taxonomy

Voucher Sample ID _____

Time Spent (minutes): _____

Notes on Macroinvertebrates: (Predominant Organisms; Other Common Organisms; Diversity Estimate)

Final HMFEI Calculated Score (Sum of All White Box Scores) =

IF Final HMFEI Score is > 19, Then CLASS III PWHH STREAM
 IF Final HMFEI Score is 7 to 19, Then CLASS II PWHH STREAM
 IF Final HMFEI Score is < 7, Then CLASS I PWHH STREAM