

Primary Headwater Habitat Evaluation Form

STREAM BB

HHEI Score (sum of metrics 1, 2, 3):

69

ALSO SEE QHEI for Stream BB

SITE NAME/LOCATION EXP007 SITE NUMBER 5BB RIVER BASIN DRAINAGE AREA (mi²) 1.11
 LENGTH OF STREAM REACH (ft) 200 LAT. 40.143 LONG. 83.6201 RIVER CODE RIVER MILE
 DATE 6/29/11 SCORER BMF COMMENTS Treacle Creek - EWH

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

STREAM CHANNEL ☒ NONE / NATURAL CHANNEL ☒ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY
 MODIFICATIONS: Channelized Ag Ditch

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"/> BLDR SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pts]	13
<input checked="" type="checkbox"/> BOULDER (>256 mm) [16 pts]	2	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	30	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pts]	19
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	15	<input type="checkbox"/> MUCK [0 pts]	
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	21	<input type="checkbox"/> ARTIFICIAL [3 pts]	

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

32%

(A)

18

(B)

6

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI Metric Points

Substrate Max = 40

24

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 checked="" 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]

COMMENTS

MAXIMUM POOL DEPTH (centimeters):

33

Pool Depth Max = 30

20

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> < 1.0 m (< 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 7" - 9' 7") [20 pts]	

COMMENTS

AVERAGE BANKFULL WIDTH (meters)

11'10"

Bankfull Width Max=30

25

This information must also be completed

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

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L R	(Per Bank)	L R	(Most Predominant per Bank)
<input type="checkbox"/> <input type="checkbox"/>	Wide >10m	<input type="checkbox"/> <input type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/> <input type="checkbox"/>	Moderate 5-10m	<input type="checkbox"/> <input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/> <input type="checkbox"/>	Narrow <5m	<input type="checkbox"/> <input type="checkbox"/>	Residential, Park, New Field
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	None	<input type="checkbox"/> <input type="checkbox"/>	Fenced Pasture

COMMENTS

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

<input checked="" 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 checked="" 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)

STREAM BB

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☒ Yes ☐ No QHEI Score 45 (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: _____ Distance from Evaluated Stream _____
☒ EWH Name: Treacle Creek Distance from Evaluated Stream headwaters

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: North Lewisburg NRCS Soil Map Page: 33 NRCS Soil Map Stream Order 2
 County: Champaign Township / City: Union Twp / Urbana

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: > 2 days Quantity: ?
 Photograph Information: Yes
 Elevated Turbidity? (Y/N): Y Canopy (% open): 100
 Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

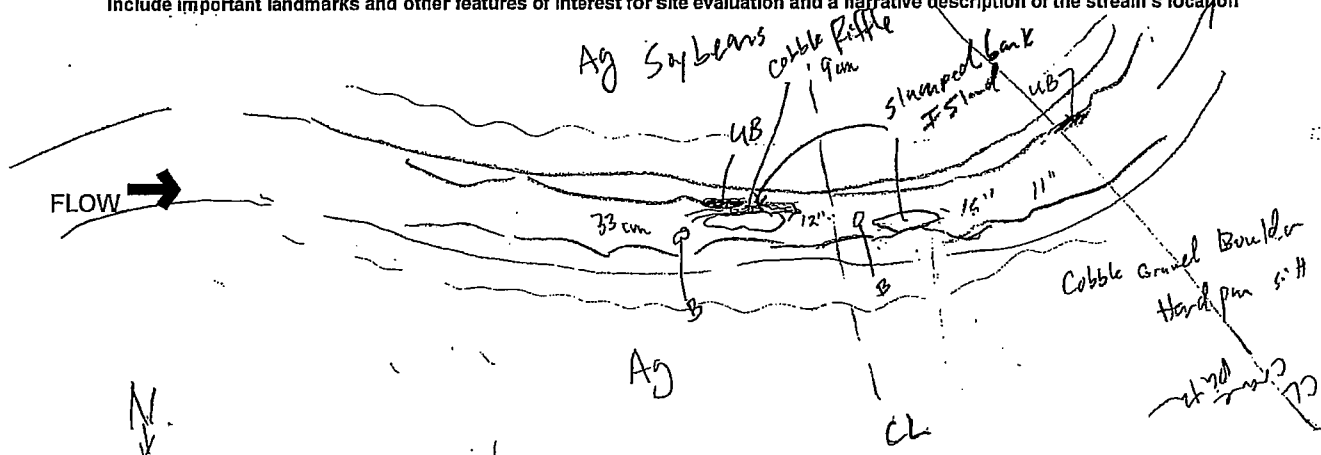
BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) ✓ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____
 Comments Regarding Biology: Green frog, Ebony jewelwing adults,

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





STREAM BB - Check Drainage Area

Qualitative Habitat Evaluation Index
and Use Assessment Field SheetQHEI Score: **44**Stream & Location: ENP001RM: _____ Date: 6/29/11Scorers Full Name & Affiliation: B. FALLINBERG - HULLRiver Code: _____ STORET #: _____ Lat./Long.: 40.143 183.6201 Office verified location ☐

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL RIFFLE	OTHER TYPES	POOL RIFFLE
<input type="checkbox"/> BLDG SLABS [10]		<input type="checkbox"/> HARDPAN [4]	
<input type="checkbox"/> BOULDER [9]	<u>2%</u>	<input type="checkbox"/> DETRITUS [3]	
<input checked="" type="checkbox"/> COBBLE [8]	<u>30%</u>	<input type="checkbox"/> MUCK [2]	
<input type="checkbox"/> GRAVEL [7]	<u>15%</u>	<input type="checkbox"/> SILT [2]	<u>3%</u>
<input checked="" type="checkbox"/> SAND [6]	<u>21%</u>	<input type="checkbox"/> ARTIFICIAL [0]	
<input type="checkbox"/> BEDROCK [5]			

(Score natural substrates; ignore

NUMBER OF BEST TYPES: 2 4 or more [2] 3 or less [0]

Comments

2 + 0 + 6 + 1 - 1 - 1 = 15

Check ONE (Or 2 & average)

ORIGIN	QUALITY
<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> HEAVY [2]
<input checked="" type="checkbox"/> SILT [1]	<input checked="" type="checkbox"/> MODERATE [1]
<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> NORMAL [0]
<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> FREE [1]
<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [2]
<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> MODERATE [1]
<input type="checkbox"/> LACUSTURINE [0]	<input type="checkbox"/> NORMAL [0]
<input type="checkbox"/> SHALE [2]	<input type="checkbox"/> NONE [1]
<input type="checkbox"/> COAL FINES [2]	

Substrate
15
Maximum
20

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

COVER	AMOUNT
<input checked="" type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> EXTENSIVE 75% [1]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> MODERATE 25-75% [2]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOT MATS [1]	<input type="checkbox"/> NEARLY ABSENT <5% [1]
<input type="checkbox"/> POOLS > 70cm [2]	
<input type="checkbox"/> ROOTWADS [1]	
<input type="checkbox"/> BOULDERS [1]	
<input type="checkbox"/> OXBOWS/BACKWATERS [1]	
<input type="checkbox"/> AQUATIC MACROPHYTES [1]	
<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	

Comments

1 + 1 + 3 = 5Cover
Maximum
20
5

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]
<input checked="" type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	

Comments

2 + 3 + 3 + 2Channel
Maximum
20
10

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

EROSION	RIPARIAN WIDTH	FLOOD PLAIN QUALITY
<input type="checkbox"/> NONE / LITTLE [3]	<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST SWAMP [3]
<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]
<input type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> RESIDENTIAL PARK NEW FIELD [1]
	<input checked="" type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> FENCED PASTURE [1]
	<input type="checkbox"/> NONE [0]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]

Comments

2 + 1 + 1 = 4Indicate predominant land use(s)
past 100m riparian.
Riparian
Maximum
10
4

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH	CHANNEL WIDTH	CURRENT VELOCITY
Check ONE (ONLY!)	Check ONE (Or 2 & average)	Check ALL that apply
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> SLOW [1]
<input type="checkbox"/> 0.4-0.7m [2]	<input checked="" type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<input type="checkbox"/> VERY FAST [1]
<input checked="" type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> FAST [1]
<input type="checkbox"/> < 0.2m [0]		<input type="checkbox"/> MODERATE [1]
		<input type="checkbox"/> INTERSTITIAL [1]
		<input type="checkbox"/> INTERMITTENT [2]
		<input type="checkbox"/> EDDIES [1]

Comments

1 + 0 + 1 = 2Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)Pool /
Current
Maximum
12
2

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Check ONE (Or 2 & average).

☐ NO RIFFLE [metric=0]

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS
<input type="checkbox"/> BEST AREAS > 10cm [2]	<input type="checkbox"/> MAXIMUM > 50cm [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input checked="" type="checkbox"/> NONE [2]
<input checked="" type="checkbox"/> BEST AREAS 5-10cm [1]	<input checked="" type="checkbox"/> MAXIMUM < 50cm [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [1]

Comments

1 + 1 + 2 + 2 = 6Riffle /
Run
Maximum
8
6

6] GRADIENT

DRAINAGE AREA

f/mi	<input checked="" type="checkbox"/> VERY LOW: LOW [2-4]
	<input type="checkbox"/> MODERATE [6-10]
	<input type="checkbox"/> HIGH: VERY HIGH [10-5]

%POOL: 60 %GLIDE: 35
%RUN: 0 %RIFFLE: 5Gradient
Maximum
10
2

Comment RE: Reach consistency/Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

A) SAMPLED REACH

Check ALL that apply

METHOD

1st-sample pass-2nd

BOAT

WAD

LINE

OTHER

DISTANCE

0.5 km

0.2 km

0.15 km

0.12 km

OTHER

1st-sample pass-2nd

CLARITY

1st-sample pass-2nd

20 cm

40-70 cm

70 cm/GTB

SECCI DEPTH

1st

2nd

cm

cm

CANOPY

<10% CLOSED

10%-30%

30%-55%

55%-85%

>85% OPEN

C) RECREATION

AREA DEPTH

POOL: >100ft >3ft

B) AESTHETICS

INVASIVE ALGAE

EXCESS TURBIDITY

DISCOLORATION

FOAM/SCUM

OIL SHEEN

TRASH/LITTER

NUISANCE ODOUR

SLUDGE DEPOSITS

CSOS/SSOS/OUTFALLS

D) MAINTENANCE

PUBLIC / PRIVATE / BOTH / NA

ACTIVE / HISTORIC / BOTH / NA

YOUNG-SUCCESSION-OLD

SPRAY / SNAG / REMOVED

MODIFIED / DIPPED OUT / NA

LEVEED / ONE SIDED

RELOCATED / CUTOFFS

MOVING-BEADLOAD-STABLE

ARMOURD / SLUMPS

ISLANDS / SCOURD

IMPOUNDED / DESICCATED

FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

E) ISSUES

WWTP / CSO / NPDES / INDUSTRY

HARDENED / URBAN / DIRTY GRIME

CONTAMINATED / LANDFILL

BMPS-CONSTRUCTION-SEDIMENT

LOGGING / IRRIGATION / COOLING

BANK / EROSION / SURFACE

FALSE BANK / MANURE / LAGOON

WASH H₂O / TILE / H₂O TABLE

ACID / MINE / QUARRY / FLOW

NATURAL / WETLAND / STAGNANT

PARK / GOLF / LAWN / HOME

ATMOSPHERE / DATA PAUCITY

F) MEASUREMENTS

max depth

x depth

x width

max depth

x bankfull width

bankfull x depth

W/D ratio

bankfull max depth

floodprone x width

entrench ratio

Legacy Tree:

Stream Drawing:

Ag Soy beans

cobble R. file

cobble gravel, Hand pan

Slumped bank island

CL CRANE PATH

Slumped bank - forming islands

Ag - Soy beans

Stream BB

N

Flow

Ditched, vegetated N

LB

83 cm

grass

grass / old field

B

11"

10"

11"

TRACILE CREEK

STREAM BB

0566 0001-20-01



Mod class II
Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

61

SITE NAME/LOCATION UNT 10 Treach Creek
SITE NUMBER BB-3 RIVER BASIN _____ DRAINAGE AREA (mi²) 0.15
LENGTH OF STREAM REACH (ft) _____ LAT. 40.14581 LONG. 83.161736 RIVER CODE _____ RIVER MILE _____
DATE 12-12-11 SCORER BME/KMT COMMENTS _____

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

STREAM CHANNEL ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☒ RECOVERING ☒ RECENT OR NO RECOVERY
MODIFICATIONS channelized + filled

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"/> BLDR SLABS [16 pts]		<input type="checkbox"/> SILT [3 pts]	<u>15</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>1</u>	<input type="checkbox"/> LEAF PACK WOODY DEBRIS [3 pts]	<u>5</u>
<input type="checkbox"/> BEDROCK [16 pt]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>15</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>40</u>	<input type="checkbox"/> MUCK [0 pts]	
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>40</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of
Bldr Slabs, Boulder, Cobble, Bedrock 16

(A) 15

(B) 6

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
Points

Substrate
Max = 40

21

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]	<u>25.6 cm</u>	<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 checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]		<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS 9" 8" 9" 8"

MAXIMUM POOL DEPTH (centimeters):

Pool Depth
Max = 30

25

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3'3" - 4'8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9'7" - 13') [25 pts]	<input type="checkbox"/> < 1.0 m (< 3'3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9'7" - 4'8") [20 pts]	

COMMENTS 3' 4' 4' 6"

AVERAGE BANKFULL WIDTH (meters)

Bankfull
Width
Max=30

15

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 checked="" type="checkbox"/>	Moderate 5-10m
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

COMMENTS _____

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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

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

<input checked="" 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"/> 0.5	<input checked="" 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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

BB-3

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: _____ Distance from Evaluated Stream _____
☒ EWH Name: TREACLE CREEK Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Champaign Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: _____ Quantity: _____

Photograph Information: yes ↑ + ↓

Elevated Turbidity? (Y/N): N Canopy (% open): 20%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y - upstream N - downstream - turns into

a grassed waterway - no bed/bank, no channel

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

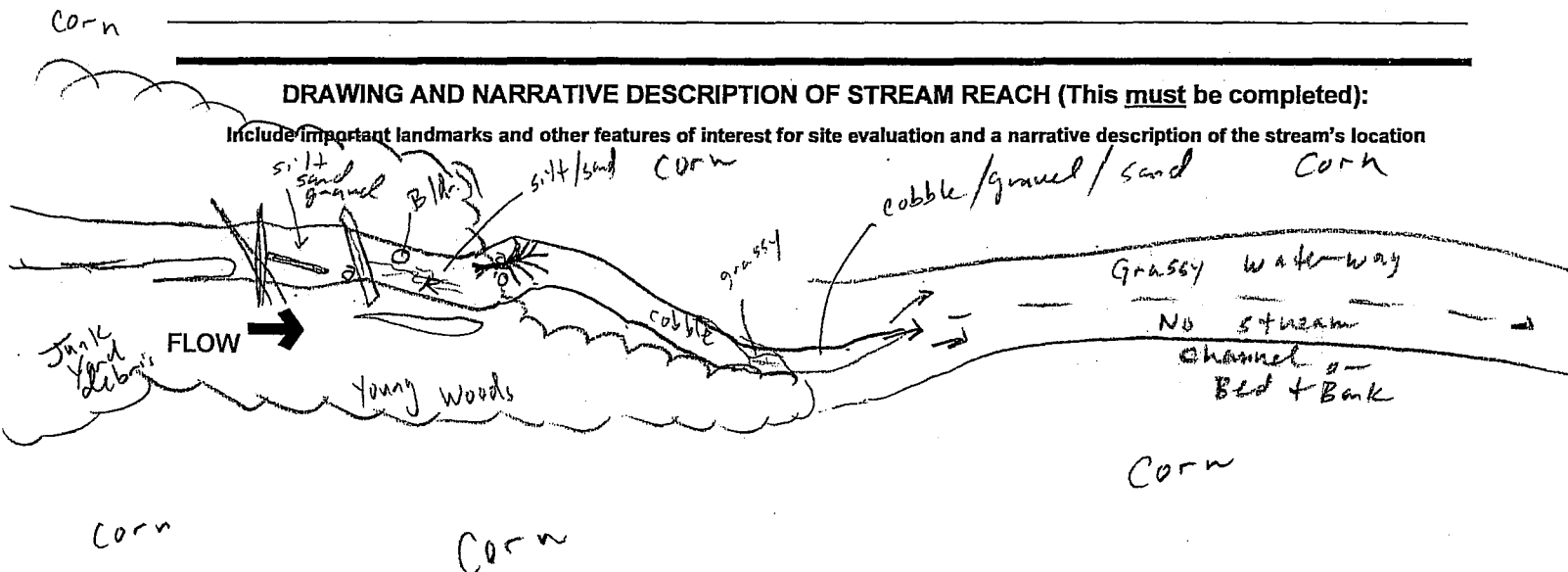
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) _____ Salamanders Observed? (Y/N) N Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



STREAM CC

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

21

SITE NAME/LOCATION EXP 007 SITE NUMBER CC RIVER BASIN UT Buck Creek DRAINAGE AREA (mi²) 0.63
 LENGTH OF STREAM REACH (ft) 200 LAT. 40.0821 LONG. 83.6267 RIVER CODE _____ RIVER MILE _____
 DATE 6/30/11 SCORER B. FALKINBURG COMMENTS Dry narrow stream channel

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

STREAM CHANNEL ☐ NONE / NATURAL CHANNEL ☒ RECOVERED ☒ RECOVERING ☒ RECENT OR NO RECOVERY
 MODIFICATIONS: channelized

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"/> BLDR SLABS [16 pts]		<input type="checkbox"/> SILT [3 pts]	
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	2	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	25	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	49
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	24	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 27% (A) 12

(B) 4

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI Metric Points

Substrate Max = 40

16

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

Pool Depth Max = 30

0

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 (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> < 1.0 m (< 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

Bankfull Width Max=30

5

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

FLOODPLAIN QUALITY

L R (Per Bank)	L R (Most Predominant per Bank)	L R
<input type="checkbox"/> Wide >10m	<input type="checkbox"/> Mature Forest, Wetland	<input checked="" type="checkbox"/> Conservation Tillage
<input type="checkbox"/> Moderate 5-10m	<input type="checkbox"/> Immature Forest, Shrub or Old Field	<input type="checkbox"/> Urban or Industrial
<input type="checkbox"/> Narrow <5m	<input checked="" type="checkbox"/> Residential, Park, New Field	<input type="checkbox"/> Open Pasture, Row Crop
<input type="checkbox"/> None	<input type="checkbox"/> Fenced Pasture	<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 checked="" 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 checked="" 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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☒ CWH Name: BUCK CREEK Distance from Evaluated Stream 1,451 feet
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: Urbana East NRCS Soil Map Page: 50 NRCS Soil Map Stream Order 3
 County: Champaign Township / City: Union twp / Mutual

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: > 2 days Quantity: ?

Photograph Information: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): _____ (Note lab sample no. or Id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: channel reach + dry

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

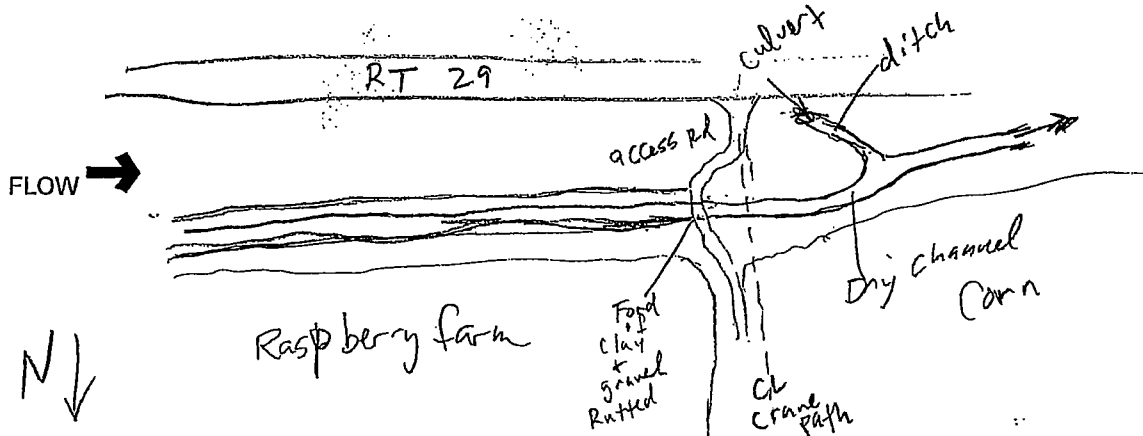
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) _____ Salamanders Observed? (Y/N) N Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) _____

Comments Regarding Biology: None observed

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Stream DD

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

22

SITE NAME/LOCATION EVP007 Stream DD
 SITE NUMBER Str. DD RIVER BASIN Little Darby DRAINAGE AREA (mi²) 0.068
 LENGTH OF STREAM REACH (ft) 200 LAT. 40.0885 LONG. 83.5876 RIVER CODE _____ RIVER MILE _____
 DATE 6/30/11 SCORER BMF COMMENTS WT to Little Darby Creek

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

STREAM CHANNEL ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☒ RECOVERING ☐ RECENT OR NO RECOVERY
 MODIFICATIONS: Channelized

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"/> BLDR SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pts]	<u>10</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>25</u>	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>50</u>
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>10</u>	<input type="checkbox"/> MUCK [0 pts]	
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>5</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of
Bldr Slabs, Boulder, Cobble, Bedrock 25%

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

**HHEI
Metric
Points**

Substrate
Max = 40

17

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS _____

MAXIMUM POOL DEPTH (centimeters):

Pool Depth
Max = 30

0

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> < 1.0 m (< 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 7" - 9' 8") [20 pts]	

COMMENTS _____

AVERAGE BANKFULL WIDTH (meters)

Bankfull
Width
Max=30

5

This information must also be completed

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

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L R (Per Bank)

☐ ☐ Wide >10m

☐ ☐ Moderate 5-10m

☐ ☐ Narrow <5m

☐ ☐ None

COMMENTS _____

L R

(Most Predominant per Bank)

☐ ☐

Mature Forest, Wetland

☒ ☒

Immature Forest, Shrub or Old

☐ ☐

Field + CRP

☐ ☐

Residential, Park, New Field

☐ ☐

Fenced Pasture

L R

Conservation Tillage

☐ ☐

Urban or Industrial

☐ ☐

Open Pasture, Row

☐ ☐

Crop Mining or Construction

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

☐ Stream Flowing

☐ Subsurface flow with isolated pools (Intermittent)

COMMENTS _____

☐

Moist Channel, isolated pools, no flow (Intermittent)

☒

Dry channel, no water (Ephemeral)

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

☐ None

☐ 0.5

☒ 1.0

☐ 1.5

☐ 2.0

☐ 2.5

☐ 3.0

☐ >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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)**DOWNSTREAM DESIGNATED USE(S)**

☐ WWH Name: _____ Distance from Evaluated Stream _____

☒ CWH Name: Little Darby Creek Distance from Evaluated Stream 390'

☒ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: Mechanicsburg NRCS Soil Map Page: 51 NRCS Soil Map Stream Order 1st

County: Champaign Township / City: Union / Mechanicsburg

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Dry Date of last precipitation: > 3 days Quantity: ?

Photograph Information: yes

Elevated Turbidity? (Y/N): Dry Canopy (% open): 25

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: Dry

Additional comments/description of pollution impacts: Dry

BIOTIC EVALUATION

Performed? (Y/N): N Dry (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

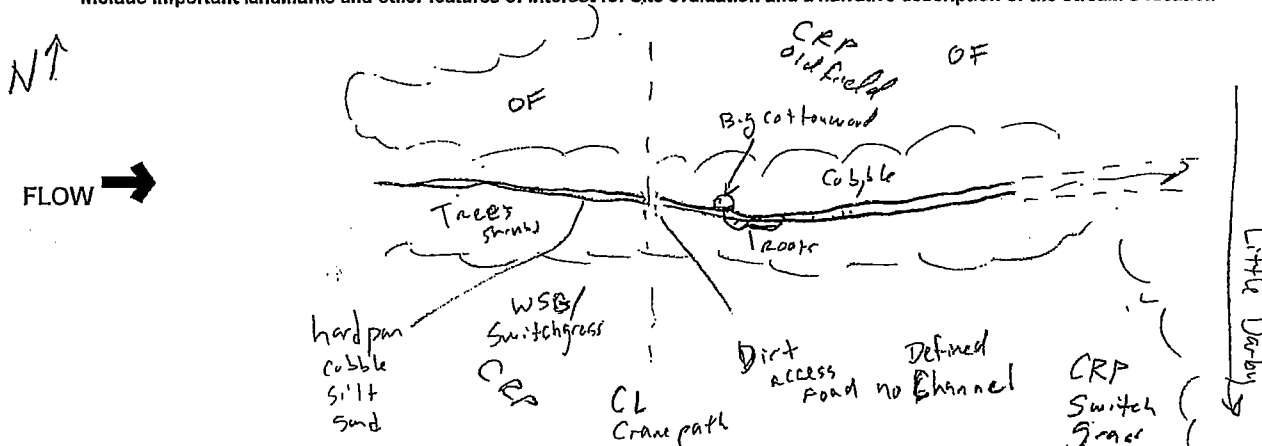
Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____

Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____

Comments Regarding Biology: None observed - Dry channel

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



STREAM EE

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

34

SITE NAME/LOCATION Evapor - UT East Fork Buck Creek
 SITE NUMBER EE RIVER BASIN _____ DRAINAGE AREA (mi²) 0.31
 LENGTH OF STREAM REACH (ft) 200 LAT. 40.0656 LONG. 83.6156 RIVER CODE _____ RIVER MILE _____
 DATE 6/30/11 SCORER B.M. FALLINBURG COMMENTS Dry Channel, phalaris dominated, silt & gravel

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

STREAM CHANNEL: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☒ RECOVERING ☐ RECENT OR NO RECOVERY

MODIFICATIONS:

Channelled Ag Ditch

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"/> BLDR SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pts]	<u>75</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]		<input type="checkbox"/> CLAY or HARDPAN [0 pts]	
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>25</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

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

0%

(A)

12

(B)

2

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
Points

Substrate
Max = 40

14

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS

Dry

MAXIMUM POOL DEPTH (centimeters):

0

Pool Depth
Max = 30

0

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> < 1.0 m (< 3' 3") [5 pts]
<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	

COMMENTS

AVERAGE BANKFULL WIDTH (meters)

6'

Bankfull
Width
Max=30

20

This information must also be completed

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

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L R	(Per Bank)	L R	(Most Predominant per Bank)	L R	
<input type="checkbox"/> <input type="checkbox"/>	Wide >10m	<input type="checkbox"/> <input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/> <input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/> <input type="checkbox"/>	Moderate 5-10m	<input type="checkbox"/> <input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/> <input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/> <input type="checkbox"/>	Narrow <5m	<input type="checkbox"/> <input type="checkbox"/>	Residential, Park, New Field	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/> <input type="checkbox"/>	None	<input type="checkbox"/> <input type="checkbox"/>	Fenced Pasture	<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 checked="" 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 checked="" 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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: E. Fork Buck Creek Distance from Evaluated Stream 1160
☐ CWH Name: _____ Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: Mechanicsburg NRCS Soil Map Page: 60 NRCS Soil Map Stream Order 3rd
 County: Champaign Township / City: Union / Mechanicsburg

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Dry > 30+ days Quantity: ?
 Photograph Information: Y
 Elevated Turbidity? (Y/N): N Canopy (% open): 100
 Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or Id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) N Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

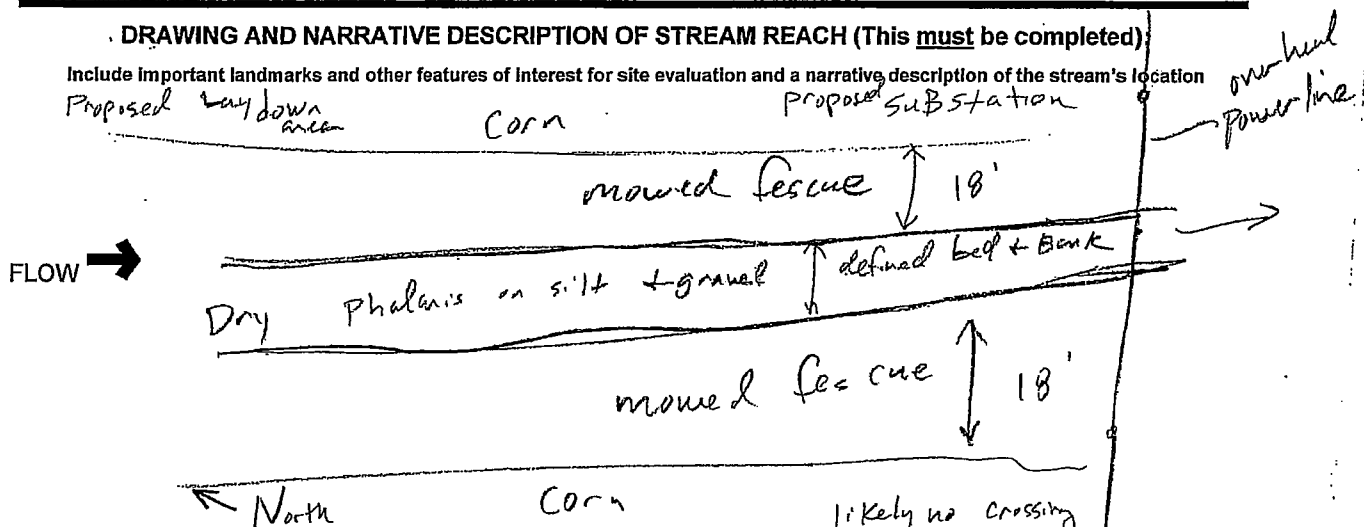
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



ephemeral, isolated

STREAM GG

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

45

SITE NAME/LOCATION EVER POWERSITE NUMBER STR-GG

RIVER BASIN

DRAINAGE AREA (mi²) 0.19LENGTH OF STREAM REACH (ft) 200 LAT. LONG. RIVER CODE RIVER MILEDATE 10/10/11 SCORER B. FALKINBERG COMMENTS DRY - ISOLATED - No Receiving Stream

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

STREAM CHANNEL ☒ NONE / NATURAL CHANNEL ☒ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERYMODIFICATIONS: past channelization - recovered

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"/> BLDG SLABS [16 pts]		<input type="checkbox"/> SILT [3 pts]	<u>40</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>40</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>10</u>
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>10</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of
Bldr Slabs, Boulder, Cobble, Bedrock 40(A) 21(B) 4

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
PointsSubstrate
Max = 4025

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS DRY

MAXIMUM POOL DEPTH (centimeters):

0Pool Depth
Max = 300

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> < 1.0 m (< 3' 3") [5 pts]
<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 9" - 9' 8") [20 pts]	

COMMENTS 5.5'

AVERAGE BANKFULL WIDTH (meters)

5.5Bankfull
Width
Max=3020

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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

COMMENTS

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland
<input checked="" type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input checked="" 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

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 checked="" 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 checked="" 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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

STREAM GG

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: _____ Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: CHAMPAIGN Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: _____ Quantity: _____

Photograph Information: Y

Elevated Turbidity? (Y/N): N Canopy (% open): 60

Were samples collected for water chemistry? (Y/N): _____ (Note lab sample no. or Id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N): Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

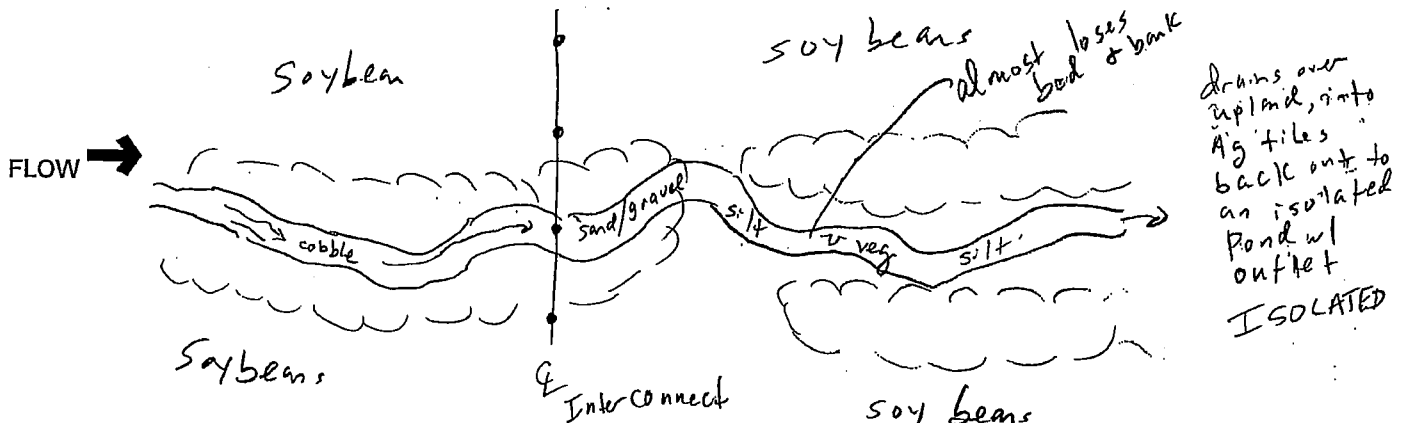
Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____

Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____

Comments Regarding Biology: NO WATER

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Mod class I

STREAM HH

Primary Headwater Habitat Evaluation Form

Ephemeral

HHEI Score (sum of metrics 1, 2, 3):

22

SITE NAME/LOCATION EVERPOWER SITE NUMBER STR. HH RIVER BASIN _____ DRAINAGE AREA (mi²) 0.25
 LENGTH OF STREAM REACH (ft) 200 LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 10/10/11 SCORER BMF COMMENTS Completed OFFSITE NO ACCESS

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

STREAM CHANNEL: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY
 MODIFICATIONS:

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"/> BLDG SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pt]	<u>85</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pt]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>15</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]		<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of
 Bldg Slabs, Boulder, Cobble, Bedrock 15%

(A) 15(B) 2

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
PointsSubstrate
Max = 40

17

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

Pool Depth
Max = 30

0

COMMENTS

MAXIMUM POOL DEPTH (centimeters):

0

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> < 1.0 m (< 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

Bankfull
Width
Max=30

5

COMMENTS

AVERAGE BANKFULL WIDTH (meters)

feet 2'

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L R (Per Bank)

L R (Most Predominant per Bank)

L R

☐ Wide >10m☐ Mature Forest, Wetland☐ Conservation Tillage☒ Moderate 5-10m☐ Immature Forest, Shrub or Old☐ Urban or Industrial☐ Narrow <5m☐ Residential, Park, New Field☐ Open Pasture, Row☐ None☒ Fenced Pasture☐ Mining or Construction

COMMENTS

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

☐ Stream Flowing☐ Moist Channel, isolated pools, no flow (Intermittent)☐ Subsurface flow with isolated pools (Interstitial)☒ Dry channel, no water (Ephemeral)

COMMENTS

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

☐ None☐ 1.0☐ 2.0☐ 3.0☐ 0.5☐ 1.5☐ 2.5☒ >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)

ADDITIONAL STREAM INFORMATION (This information must also be completed):

STREAM HH

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: BULK CREEK Distance from Evaluated Stream 100'
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: CHAMPAIGN Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: _____ Quantity: _____

Photograph Information: YES

Elevated Turbidity? (Y/N): N Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): _____ (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) _____ If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

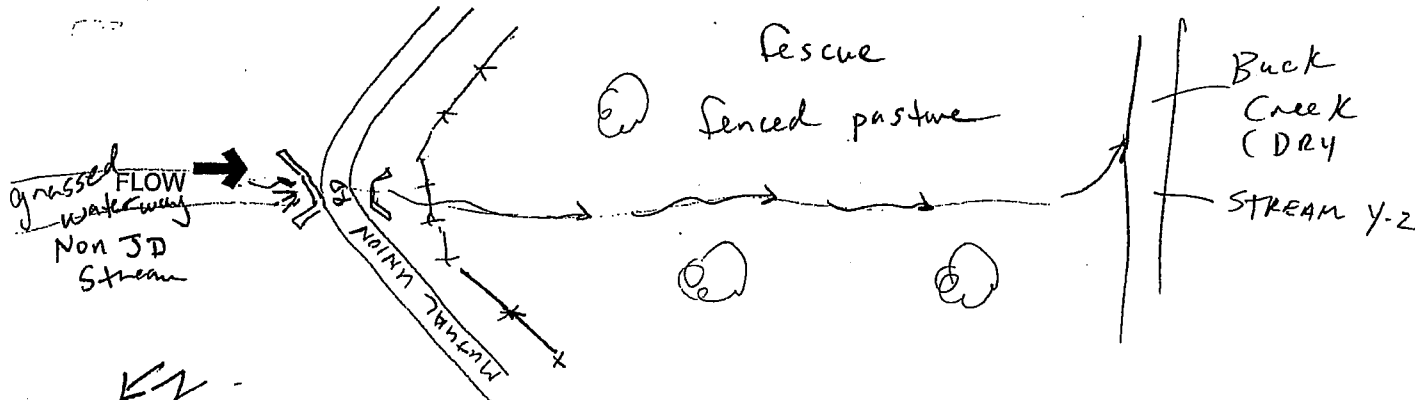
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____

Comments Regarding Biology: DRY

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral

Mod class I

STREAM II

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

25

SITE NAME/LOCATION EVER POWER SITE NUMBER STR II RIVER BASIN _____ DRAINAGE AREA (mi²) 0.04
 LENGTH OF STREAM REACH (ft) 200 LAT. 40.09861 LONG. 83.63875 RIVER CODE _____ RIVER MILE _____
 DATE 10/10/11 SCORER BMF-HULL COMMENTS DRY

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

STREAM CHANNEL: ☒ NONE / NATURAL CHANNEL ☒ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY
 MODIFICATIONS: Channelization

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"/> BLDR SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pts]	<u>90</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>1</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>2</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>7</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

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

3%

(A)

6

(B)

4

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
PointsSubstrate
Max = 40

10

A + B

Pool Depth
Max = 30

0

Bankfull
Width
Max=30

15

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS

MAXIMUM POOL DEPTH (centimeters):

0

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	

COMMENTS

3.5

AVERAGE BANKFULL WIDTH (meters)

1.1

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)
☐ Wide >10m
☐ Moderate 5-10m
☒ Narrow <5m
☐ None

COMMENTS

FLOODPLAIN QUALITY

L R (Most Predominant per Bank)
☐ Mature Forest, Wetland
☒ Immature Forest, Shrub or Old Field
☐ Residential, Park, New Field
☐ Fenced Pasture

L R
☒ Conservation Tillage
☐ Urban or Industrial
☐ Open Pasture, Row Crop
☐ Mining or Construction

- 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 checked="" 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 checked="" 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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

STREAM II

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: BUCK CREEK - DRY Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____
 County: CHAMPAIGN Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: _____ Quantity: _____
 Photograph Information: Y _____
 Elevated Turbidity? (Y/N): N Canopy (% open): 50 _____
 Were samples collected for water chemistry? (Y/N): _____ (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: DRY

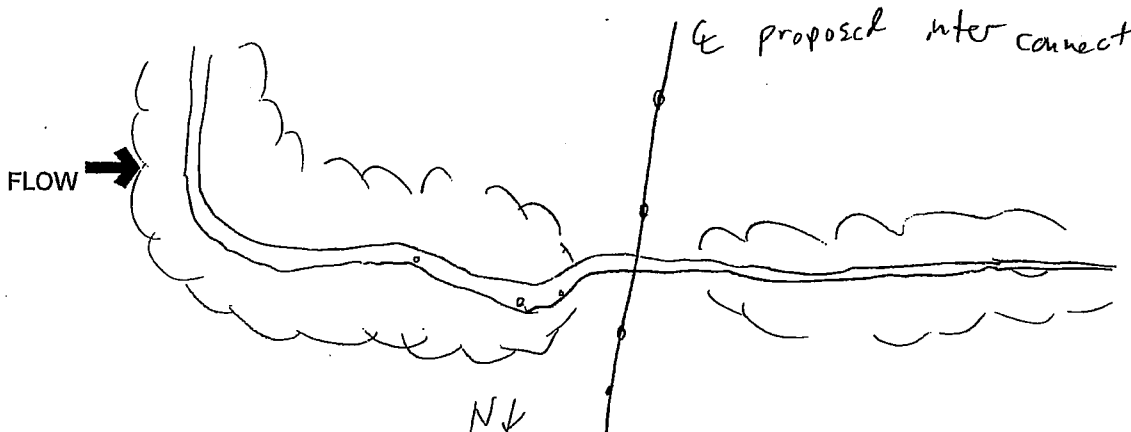
Additional comments/description of pollution impacts: Broken Glass / tractor tires

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
 Fish Observed? (Y/N) N Voucher? (Y/N) _____ Salamanders Observed? (Y/N) N Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) _____
 Comments Regarding Biology: DRY

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Mod WWH

STREAM JJ



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: **36.5**Stream & Location: UT BUCK CREEKRM: Date: 10/10/11Scorer's Full Name & Affiliation: B. FALKINBURG - HULLRiver Code: STORET #: Lat/Long: 40.1103483.63819Office verified location ☐

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL RIFFLE	OTHER TYPES	POOL RIFFLE
<input type="checkbox"/> BEDROCK SLABS [10]	<input type="checkbox"/> <u>27</u>	<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> <u>25</u>
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> <u>30</u>	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> <u>25</u>
<input checked="" type="checkbox"/> COBBLES [8]	<input type="checkbox"/> <u>30</u>	<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> <u>25</u>
<input checked="" type="checkbox"/> GRAVEL [7]	<input type="checkbox"/> <u>14</u>	<input type="checkbox"/> SILT [2]	<input type="checkbox"/> <u>25</u>
<input type="checkbox"/> SAND [6]	<input type="checkbox"/> <u>14</u>	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> <u>25</u>
<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> <u>14</u>	<input type="checkbox"/> (Score natural substrates; ignore sludge from point-sources)	<input type="checkbox"/> <u>25</u>

NUMBER OF BEST TYPES: ☒ 4 or more ☐ 3 or less ☐ 2 or less ☐ 1 or lessComments: 8 + 7 + 2 + 1 + -1 -1 = 16

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

AMOUNT	Check ONE (Or 2 & average)
<input type="checkbox"/> UNDERBANKS [1]	<input type="checkbox"/> EXTENSIVE >75% [1]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> MODERATE 25-75% [1]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> SPARSE 5-25% [1]
<input type="checkbox"/> ROOTMATS [1]	<input checked="" type="checkbox"/> NEARLY ABSENT <5% [1]
<input type="checkbox"/> POLES >70cm [2]	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]
<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> OXBOWS/BACKWATERS [1]
<input type="checkbox"/> BOULDER [1]	<input type="checkbox"/> AQUATIC MACROPHYTES [1]

Comments: 1 + 1Cover Maximum 20 **2**

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
<input type="checkbox"/> HIGH [1]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]
<input checked="" type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input checked="" type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]
<input type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	<input type="checkbox"/> NONE [0]

Comments: 3 + 3 + 3.5 + 2Channel Maximum 20 **11.5**

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

EROSION	RIPARIAN WIDTH	FLOOD PLAIN QUALITY
<input type="checkbox"/> NONE/LITTLE [1]	<input type="checkbox"/> WIDE >50m [4]	<input type="checkbox"/> FOREST/SWAMP [3]
<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]
<input type="checkbox"/> HEAVY/SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> RESIDENTIAL/PARK/NEW FIELD [1]
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> VERY NARROW <5m [1]	<input type="checkbox"/> FENCED PASTURE [1]
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> NONE [0]	<input checked="" type="checkbox"/> OPEN PASTURE/ROW CROP [1]

Comments: 2 + 1 + 0

Indicate predominant land use(s) past 100m riparian.

Riparian Maximum 10 **3**

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH	CHANNEL WIDTH	CURRENT VELOCITY
<input type="checkbox"/> 1m [8]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> SLOW [1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<input type="checkbox"/> VERY FAST [1]
<input type="checkbox"/> 0.2-0.4m [1]	<input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<input type="checkbox"/> FAST [1]
<input type="checkbox"/> <0.2m [0]	<input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<input type="checkbox"/> MODERATE [1]

Comments: DRY

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Pool / Current Maximum 12 **0**

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS
<input type="checkbox"/> BEST AREAS > 10cm [2]	<input type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g. Cobble/Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> BEST AREAS > 10cm [1]	<input type="checkbox"/> MAXIMUM > 50cm [1]	<input type="checkbox"/> MOD. STABLE (e.g. Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input checked="" type="checkbox"/> BEST AREAS > 5cm [1]	<input type="checkbox"/> MAXIMUM > 50cm [1]	<input type="checkbox"/> UNSTABLE (e.g. Fine Gravel/Sand) [0]	<input type="checkbox"/> MODERATE [0]
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> NONE [0]	<input type="checkbox"/> NONE [0]	<input type="checkbox"/> EXTENSIVE [1]

Comments: DRYRiffle / Run Maximum 8 **0**6] GRADIENT 46 ft/mi
DRAINAGE AREA 1.08 mi²

<input type="checkbox"/> VERY LOW LOW [24]	<input type="checkbox"/> MODERATE [16]	<input checked="" type="checkbox"/> HIGH VERY HIGH [10-5]
--	--	---

%POOL: %GLIDE:
%RUN: %RIFFLE:

Gradient Maximum 10 **4**

Check ALL that apply

STAGE

METHOD



DISTANCE

0.5 km	<input type="checkbox"/>
0.2 km	<input type="checkbox"/>
0.15 km	<input type="checkbox"/>
0.12 km	<input type="checkbox"/>
OTHER	<input type="checkbox"/>

CANOPY

2

<10%	<input type="checkbox"/>
10%~<30%	<input checked="" type="checkbox"/>
30%~<55%	<input type="checkbox"/>

C] RECREATION

AREA DEPTH ☐ >100ft ☐ >3ft

B] AESTHETICS

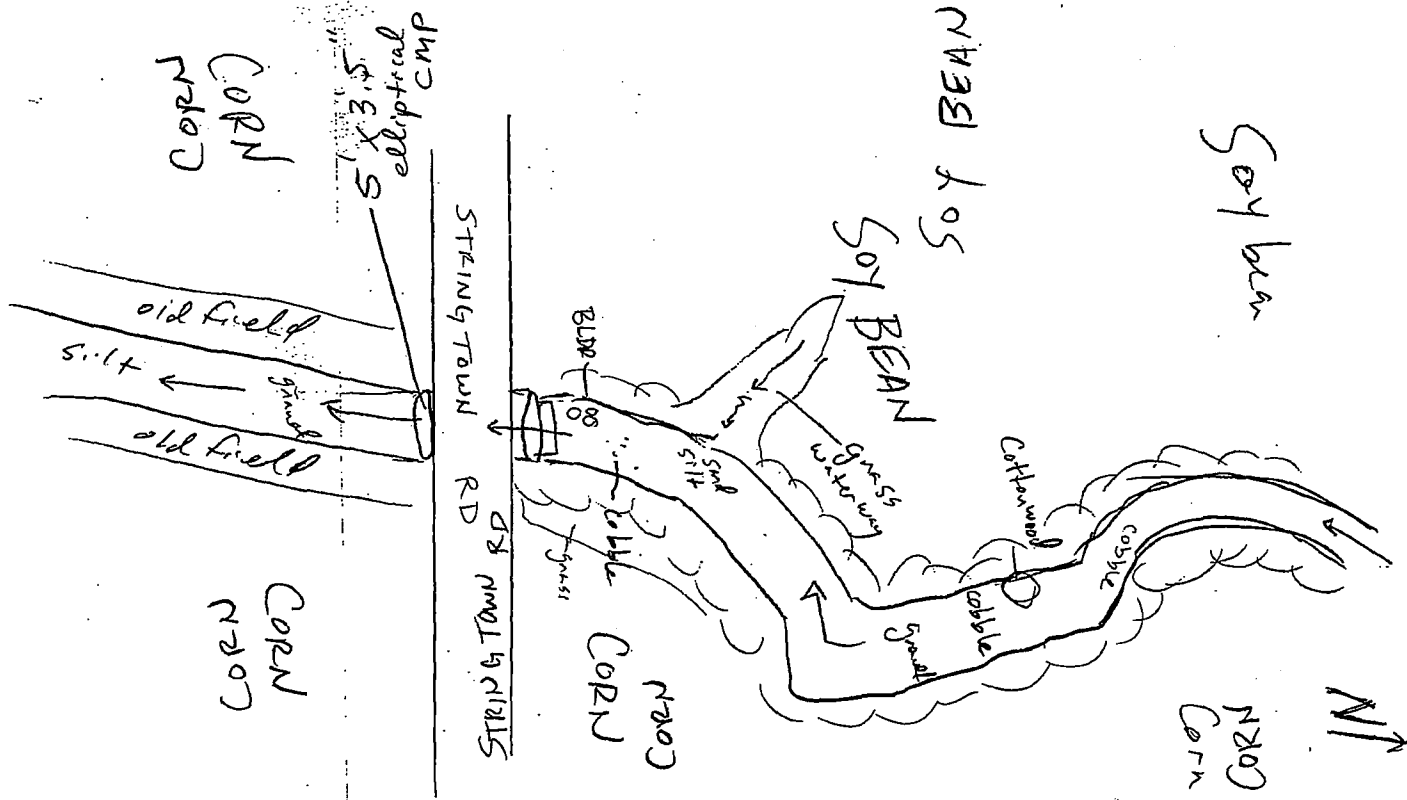
D] MAINTENANCE

Circle some & COMMENT

ISSUES

7. MEASUREMENTS

Stream-Drawing:



Comment RE: Reach consistency/ is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.



Primary Headwater Habitat Evaluation Form

Ephemeral

Class II

STREAM LL

HHEI Score (sum of metrics 1, 2, 3) :

32

SITE NAME/LOCATION EVER POWER UT to UT to Dugan Run
 SITE NUMBER STR-LL RIVER BASIN _____ DRAINAGE AREA (mi²) 0.05
 LENGTH OF STREAM REACH (ft) 200 LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 10/12/11 SCORER B. FALKENBERG COMMENTS _____

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

STREAM CHANNEL ☒ NONE/NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY
 MODIFICATIONS NO EVER POWER PUMP ON MAINS. PUMP CALLED

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"/> BLDR SLABS (16 pts)		<input type="checkbox"/> SILT (3 pt)	<u>20</u>
<input type="checkbox"/> BOULDER (>256 mm) (16 pts)		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS (3 pts)	<u>10</u>
<input type="checkbox"/> BEDROCK (16 pt)		<input type="checkbox"/> FINE DETRITUS (3 pts)	
<input checked="" type="checkbox"/> COBBLE (65-256 mm) (12 pts)	<u>20</u>	<input checked="" type="checkbox"/> CLAY or HARDPAN (0 pt)	<u>40</u>
<input type="checkbox"/> GRAVEL (2-64 mm) (8 pts)	<u>10</u>	<input type="checkbox"/> MUCK (0 pts)	
<input type="checkbox"/> SAND (<2 mm) (6 pts)		<input type="checkbox"/> ARTIFICIAL (3 pts)	

Total of Percentages of
Bldr Slabs, Boulder, Cobble, Bedrock 20

(A)

12

(B)

5

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
Points

Substrate
Max = 40

17

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 (16 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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL (0 pts)

COMMENTS _____

MAXIMUM POOL DEPTH (centimeters):

0

Pool Depth
Max = 30

0

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

<input type="checkbox"/> > 4.0 meters (> 13') (30 pts)	<input checked="" type="checkbox"/> 1.0 m - 1.5 m (> 3' - 4' 8") (16 pts)
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' - 13') (25 pts)	<input type="checkbox"/> < 1.0 m (< 3' 3") (5 pts)
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") (20 pts)	

COMMENTS 3'

AVERAGE BANKFULL WIDTH (meters)

1.5

Bankfull
Width
Max=30

15

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY

NOTE: River Left (L) and Right (R) as looking downstream

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<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 checked="" 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 checked="" 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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: STREAM B - UT to Dugan Run Distance from Evaluated Stream _____
☐ CWH Name: _____ Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: CHAMPAIGN Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/12/11 Quantity: ?

Photograph Information: yes - 1

Elevated Turbidity? (Y/N): N Canopy (% open): 10%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: culvert

BIOTIC EVALUATION

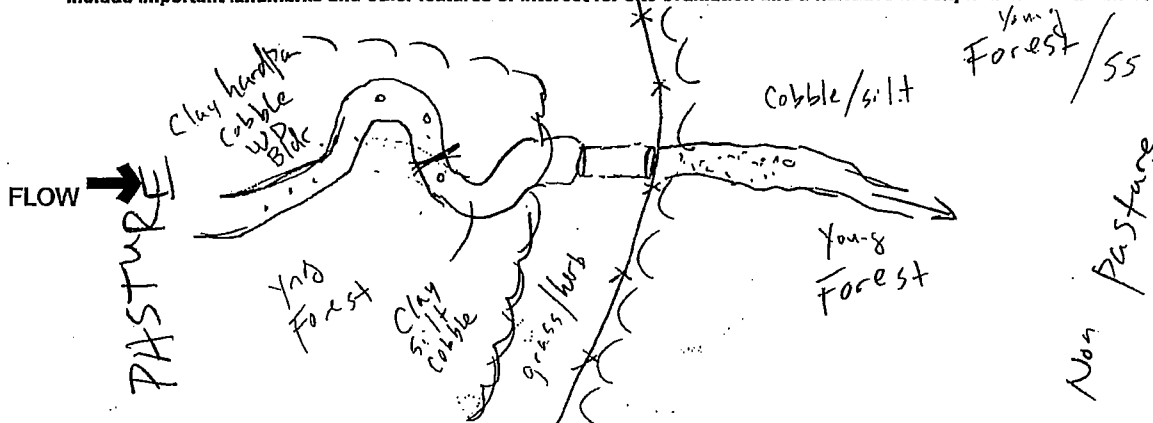
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
 Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

29

SITE NAME/LOCATION STREAM MMUT to PROCTOR RUN
SITE NUMBER STR-MM RIVER BASIN MM DRAINAGE AREA (mi²) 0.13
LENGTH OF STREAM REACH (ft) 200 LAT. 40.13742 LONG. 83.57935 RIVER CODE MM RIVER MILE 0.13
DATE 10/12/11 SCORER B. FALKENBERG COMMENTS DRY

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

STREAM CHANNEL: ☒ NONE/NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY
MODIFICATIONS: ☐ NONE ☐ 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"/> BLDR SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pt]	98%
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]		<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	1%
<input type="checkbox"/> BEDROCK [16 pt]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	1%	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]		<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of
Blr Slabs, Boulder, Cobble, Bedrock

(A) 6

(B) 3

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
Points

Substrate
Max = 40

9

A + B

Pool Depth
Max = 30

0

Bankfull
Width
Max=30

20

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

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 (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> < 1.0 m (< 3' 3") [5 pts]
<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 9" - 9' 8") [20 pts]	

COMMENTS 6'

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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

COMMENTS

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 checked="" type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

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 checked="" 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)

ADDITIONAL STREAM INFORMATION (This information must also be completed):

STREAM-MM

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: PROCTOR RUN Distance from Evaluated Stream _____
☐ CWH Name: _____ Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Champaign Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/12/11 Quantity: Trace

Photograph Information: Yes ↑ ↓

Elevated Turbidity? (Y/N): N Canopy (% open): 0

Were samples collected for water chemistry? (Y/N): _____ (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

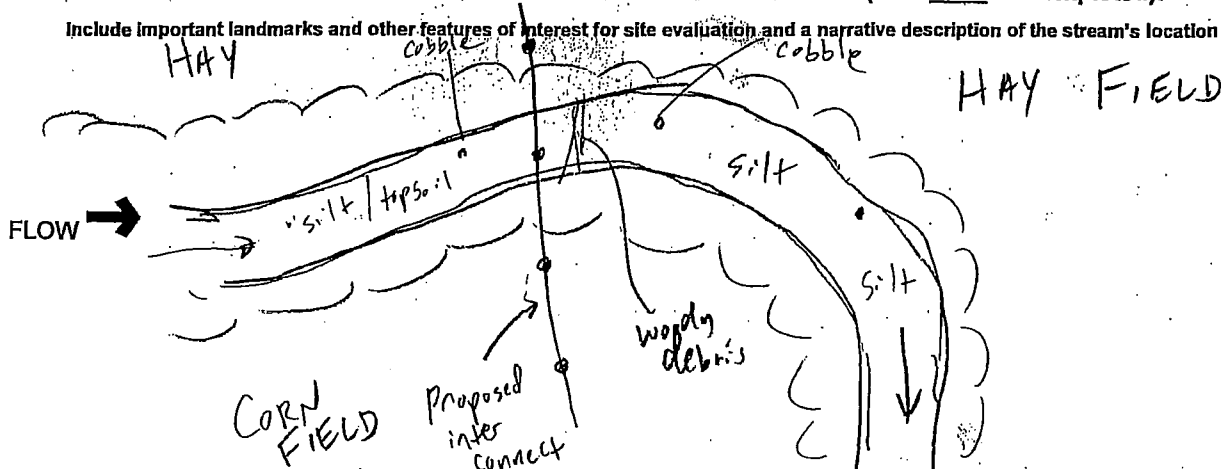
Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____

Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____

Comments Regarding Biology: None - DRY

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

46

SITE NAME/LOCATION EVER POWER UT to Little Darby Creek
SITE NUMBER STR-NN RIVER BASIN Little Darby DRAINAGE AREA (mi²) 0.51
LENGTH OF STREAM REACH (ft) 700 LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
DATE 10/13/11 SCORER B. FALKINBURG COMMENTS DRY

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

STREAM CHANNEL ☐ NONE/NATURAL CHANNEL ☒ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY
MODIFICATIONS: _____

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"/> BLDR SLABS (16 pts)	<u>5</u>	<input type="checkbox"/> SILT (3 pts)	_____
<input type="checkbox"/> BOULDER (>256 mm) (16 pts)	<u>5</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS (3 pts)	_____
<input type="checkbox"/> BEDROCK (16 pts)	_____	<input type="checkbox"/> FINE DETRITUS (3 pts)	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) (12 pts)	<u>60</u>	<input type="checkbox"/> CLAY or HARDPAN (0 pts)	_____
<input type="checkbox"/> GRAVEL (2-64 mm) (9 pts)	<u>20</u>	<input type="checkbox"/> MUCK (0 pts)	_____
<input type="checkbox"/> SAND (<2 mm) (6 pts)	<u>10</u>	<input type="checkbox"/> ARTIFICIAL (3 pts)	_____

Total of Percentages of
Bldr Slabs, Boulder, Cobble, Bedrock 70%

(A)

21

(B)

5

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
Points

Substrate
Max = 40

26

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL (0 pts)

COMMENTS DRY

MAXIMUM POOL DEPTH (centimeters):

0

Pool Depth
Max = 30

0

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

<input type="checkbox"/> > 4.0 meters (> 13') (30 pts)	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") (15 pts)
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') (25 pts)	<input type="checkbox"/> < 1.0 m (< 3' 3") (5 pts)
<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") (20 pts)	

COMMENTS 8' 7' 9'

AVERAGE BANKFULL WIDTH (meters)

8'

Bankfull
Width
Max=30

20

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 checked="" type="checkbox"/>	Wide >10m
<input checked="" 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 checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS DRY

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 checked="" 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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

STREAM NN

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: LITTLE DARBY CREEK Distance from Evaluated Stream _____
☐ CWH Name: _____ Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____
 County: CHAMPAIGN Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/13/11 today Quantity: _____
 Photograph Information: yes ↓ ↑
 Elevated Turbidity? (Y/N): N Canopy (% open): 55
 Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____
 Is the sampling reach representative of the stream (Y/N): Y If not, please explain: _____

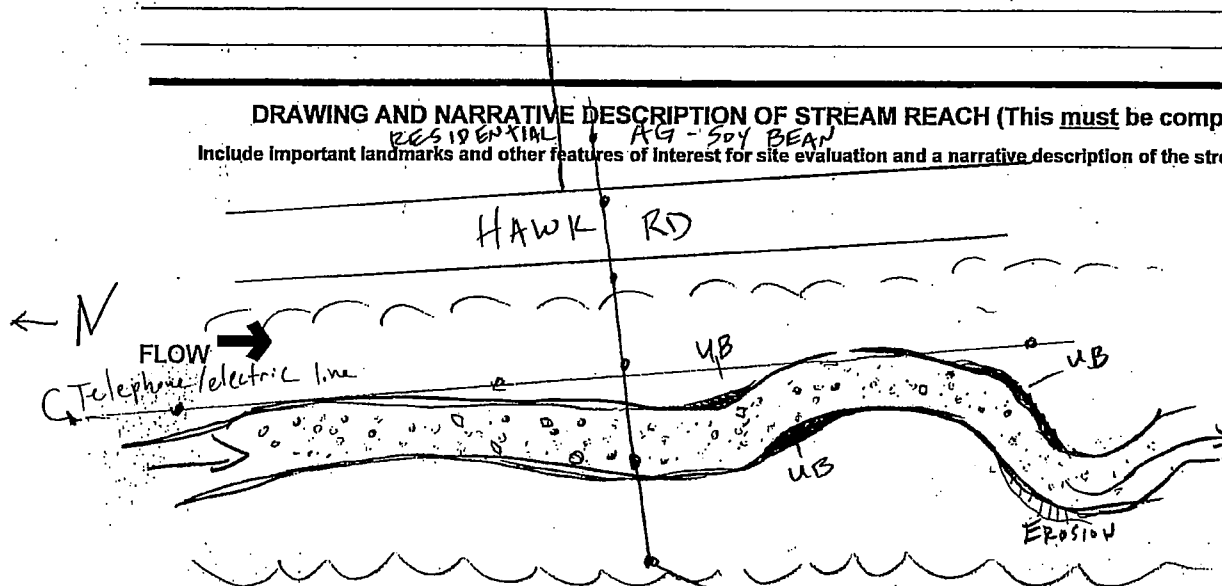
Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
 Fish Observed? (Y/N): N Voucher? (Y/N): N Salamanders Observed? (Y/N): N Voucher? (Y/N): N
 Frogs or Tadpoles Observed? (Y/N): N Voucher? (Y/N): N Aquatic Macroinvertebrates Observed? (Y/N): N Voucher? (Y/N): N
 Comments Regarding Biology: terrestrial bugs

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral

Mod class II

STREAM-00



Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

36

SITE NAME/LOCATION EVER POWER - LT + to BUCK CR.
 SITE NUMBER STR-00 RIVER BASIN _____ DRAINAGE AREA (mi²) 0.69
 LENGTH OF STREAM REACH (ft) 200 LAT. 40.07727 LONG. 83.64613 RIVER CODE _____ RIVER MILE _____
 DATE 10/13/11 SCORER B. FALKINBERG COMMENTS dry & channelized

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

STREAM CHANNEL ☒ NONE/NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☒ RECENT OR NO RECOVERY
 MODIFICATIONS: channelized

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"/> BLDR SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pts]	<u>60%</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>17%</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>19%</u>	<input type="checkbox"/> CLAY or HARPAN [0 pt]	
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>20%</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

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

20%

(A)

12

(B)

4

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
PointsSubstrate
Max = 40

16

A + B

Pool Depth
Max = 30

0

Bankfull
Width
Max=30

20

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS Dry 0

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 (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' - 4' 8") [15 pts]
<input type="checkbox"/> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 9" - 9' 8") [20 pts]	

COMMENTS 6' 9"

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

FLOODPLAIN QUALITY

L R

(Per Bank)

☐

Wide >10m

☐

Moderate 5-10m

☒

Narrow <5m

☐

None

COMMENTS

L R

(Most Predominant per Bank)

☐

Mature Forest, Wetland

☐

Immature Forest, Shrub or Old Field

☐

Residential, Park, New Field

☐

Fenced Pasture

L R

Conservation Tillage

☐

Urban or Industrial

☒

Open Pasture, Row Crop

☐

Mining or Construction

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

☐

Stream Flowing

☐

Subsurface flow with isolated pools (Interstitial)

☐

Moist Channel, isolated pools, no flow (Intermittent)

☒

Dry channel, no water (Ephemeral)

COMMENTS dry

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

☒

None

☐

1.0

☐

2.0

☐

3.0

☐

0.5

☐

1.5

☐

2.5

☐

>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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

Stream 00

QHEI PERFORMED? - ☐ Yes ☐ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☒ CWH Name: Back Creek Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Champaign Township / City: Mutual

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: today 10/13/11 Quantity: ?

Photograph Information: yes ↓ & ↑

Elevated Turbidity? (Y/N): N Canopy (% open): 100%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

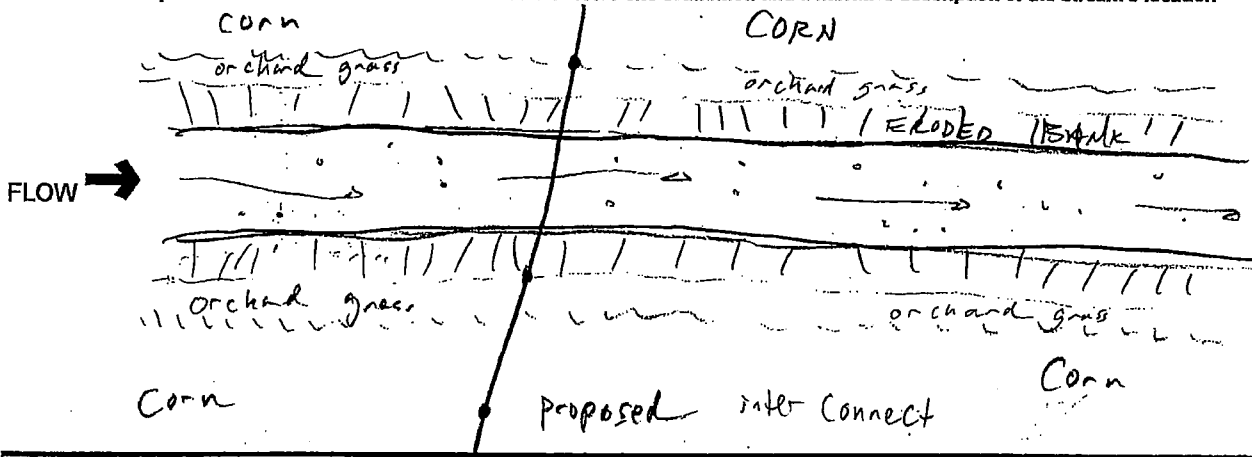
Fish Observed? (Y/N) N Voucher? (Y/N) _____ Salamanders Observed? (Y/N) N Voucher? (Y/N) _____

Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) _____

Comments Regarding Biology: Earthworm under piece of wood
upland plant species (FACU + UPL) growing in
stream channel - velvet leaf, banyard grass, morning glory
pigweed, mulberry saplings, green fox tail, yellow sweet
clover

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Primary Headwater Habitat Evaluation Form

STREAM PP

HHEI Score (sum of metrics 1, 2, 3):

15

SITE NAME/LOCATION EVER POWER - STREAM PP - phase 2 interconnect b/w T80 & T90SITE NUMBER STR-PP

RIVER BASIN

DRAINAGE AREA (mi²) 20.1LENGTH OF STREAM REACH (ft) 200 LAT. 40.09636 LONG. 83.60214 RIVER CODE

RIVER MILE

DATE 9/14/11 SCORER B. FALKINBURG COMMENTS DRY-UT to Little Darby Creek

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

STREAM CHANNEL

☐ NONE / NATURAL CHANNEL ☒ RECOVERED ☒ RECOVERING ☐ RECENT OR NO RECOVERY

MODIFICATIONS:

previous channel work / adjust

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"/> BLDR SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pts]	<u>80</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>1</u>	<input type="checkbox"/> LEAF PACK WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>10</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>9</u>
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]		<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of
Blr Slabs, Boulder, Cobble, Bedrock11%

(A)

6

(B)

4

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
PointsSubstrate
Max = 4010

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS

0 - DRY

MAXIMUM POOL DEPTH (centimeters):

0Pool Depth
Max = 300

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> < 1.0 m (< 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

COMMENTS

3', 2.5', 3.5' = 3'

AVERAGE BANKFULL WIDTH (meters)

3'Bankfull
Width
Max=305This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wide >10m	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS

Soybeans on R side

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 checked="" 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 checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5
		<input type="checkbox"/> 3.0
		<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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☒ WWH Name: Little Darby Creek Distance from Evaluated Stream _____
☐ CWH Name: _____ Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: CHAMPAIGN Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/14/11 Quantity: ?

Photograph Information: yes ↓ + ↑

Elevated Turbidity? (Y/N): N Canopy (% open): 50

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

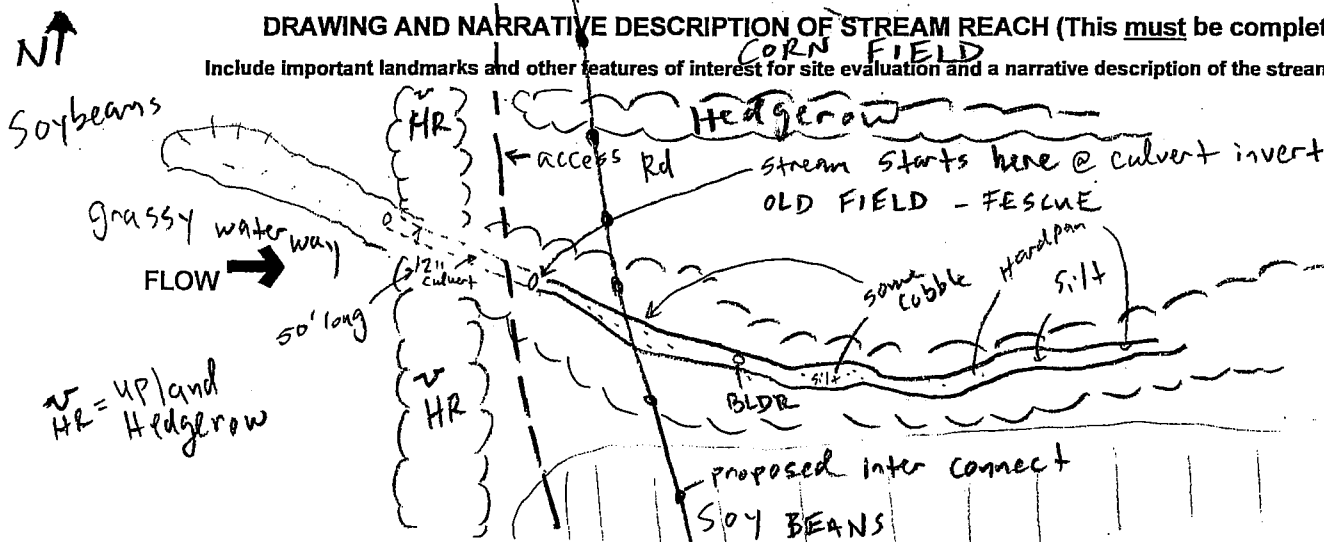
Fish Observed? (Y/N) N Voucher? (Y/N) _____ Salamanders Observed? (Y/N) N Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) _____

Comments Regarding Biology: _____

None noted

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

15

SITE NAME/LOCATION EVEL POWELL SITE NUMBER STR-QQ RIVER BASIN _____ DRAINAGE AREA (mi²) 0.20
LENGTH OF STREAM REACH (ft) 200 LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
DATE 10/17/11 SCORER B. FALKINBERG COMMENTS DRY

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

STREAM CHANNEL ☐ NONE/NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☒ RECENT OR NO RECOVERYMODIFICATIONS: Channel red / green / yellow

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"/> BLDR SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pts]	<u>8.5</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>1</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>12</u>
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>2</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of
Bldr Slabs, Boulder, Cobble, Bedrock 1%

(A)

6

(B)

4

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
PointsSubstrate
Max = 4010

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS DRY

MAXIMUM POOL DEPTH (centimeters):

0Pool Depth
Max = 300

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> < 1.0 m (< 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

COMMENTS 24"

AVERAGE BANKFULL WIDTH (meters)

2Bankfull
Width
Max=305

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L R	(Per Bank)	L R	(Most Predominant per Bank)	L R	
<input type="checkbox"/> <input type="checkbox"/>	Wide >10m	<input type="checkbox"/> <input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/> <input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/> <input type="checkbox"/>	Moderate 5-10m	<input type="checkbox"/> <input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/> <input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/> <input type="checkbox"/>	Narrow <5m	<input type="checkbox"/> <input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/> <input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/> <input type="checkbox"/>	None	<input type="checkbox"/> <input type="checkbox"/>	Fenced Pasture	<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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

STREAM QQ

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: _____ UT to TREACLE CREEK Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: CHAMPAIGN Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/14/11 Quantity: 7

Photograph Information: Yes ↑ & ↓

Elevated Turbidity? (Y/N): N Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N): Y If not, please explain: _____

Additional comments/description of pollution impacts: Grassed waterway w/ a defined channel, Bed & Bank & evidence of flow

BIOTIC EVALUATION

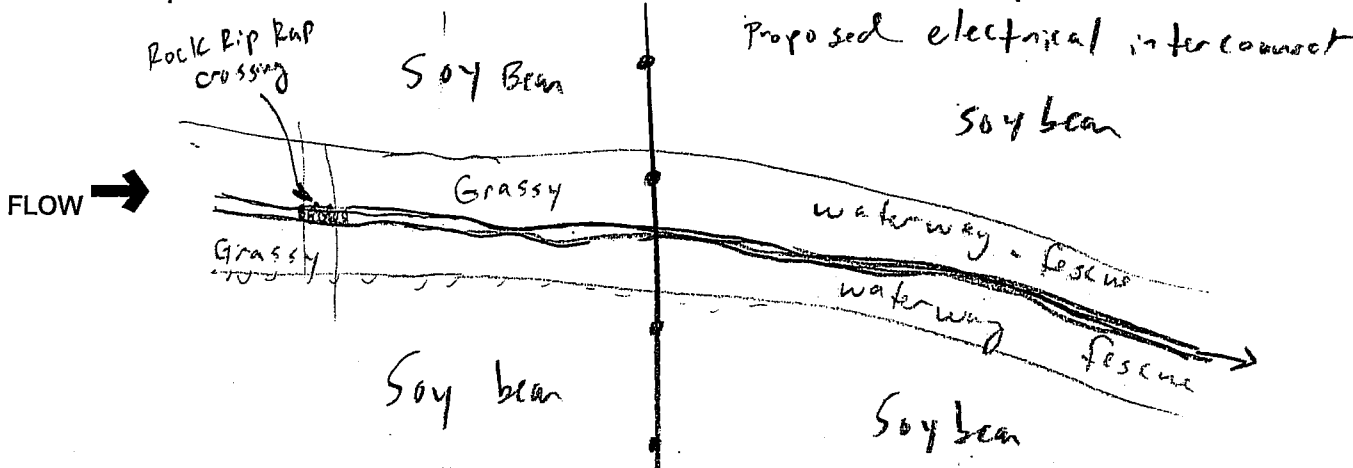
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N): N Voucher? (Y/N): _____ Salamanders Observed? (Y/N): N Voucher? (Y/N): _____
 Frogs or Tadpoles Observed? (Y/N): N Voucher? (Y/N): _____ Aquatic Macroinvertebrates Observed? (Y/N): N Voucher? (Y/N): _____

Comments Regarding Biology: DRY - Nothing observed

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Mod class II
by HHEI

STREAM WW Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

42

SITE NAME/LOCATION EVER POWER - PH 2
SITE NUMBER STR WW RIVER BASIN UT Little Darby DRAINAGE AREA (mi²) 0.72
LENGTH OF STREAM REACH (ft) 200 LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
DATE 10/19/11 SCORER BMF COMMENTS _____

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

STREAM CHANNEL: ☒ NONE / NATURAL CHANNEL ☒ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

MODIFICATIONS:

Channelization

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
<input type="checkbox"/> BLDG SLABS [16 pts]	_____
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____
<input type="checkbox"/> BEDROCK [16 pt]	_____
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>5</u>
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [8 pts]	<u>80</u>
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>10</u>

TYPE	PERCENT
<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>10</u>

Total of Percentages of
Bldr Slabs, Boulder, Cobble, Bedrock 5

(A) 18

(B) 4

SCORE OF TWO MOST PREDOMINANT SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
Points

Substrate
Max = 40

22

A + B

Pool Depth
Max = 30

0

Bankfull
Width
Max=30

20

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS

dry channel

MAXIMUM POOL DEPTH (centimeters):

0

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 6") [15 pts]
<input type="checkbox"/> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> < 1.0 m (< 3' 3") [5 pts]
<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 6") [20 pts]	

COMMENTS

7', 6', 8'

AVERAGE BANKFULL WIDTH (meters)

7'

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY

NOTE: River Left (L) and Right (R) as looking downstream

RIPARIAN WIDTH		FLOODPLAIN QUALITY			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		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 checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS

No flow / Dry

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 checked="" type="checkbox"/> 0.5	<input checked="" 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)

ADDITIONAL STREAM INFORMATION (This information must also be completed):

STREAM WW

QHEI PERFORMED? ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: _____ Distance from Evaluated Stream _____
☐ EWH Name: Little Darby Creek Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: CHAMPAIGN Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: TODAY Quantity: ~1"

Photograph Information: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 30%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or Id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: Concrete Rubble Ford Crossing
for Ag implements.

BIOTIC EVALUATION

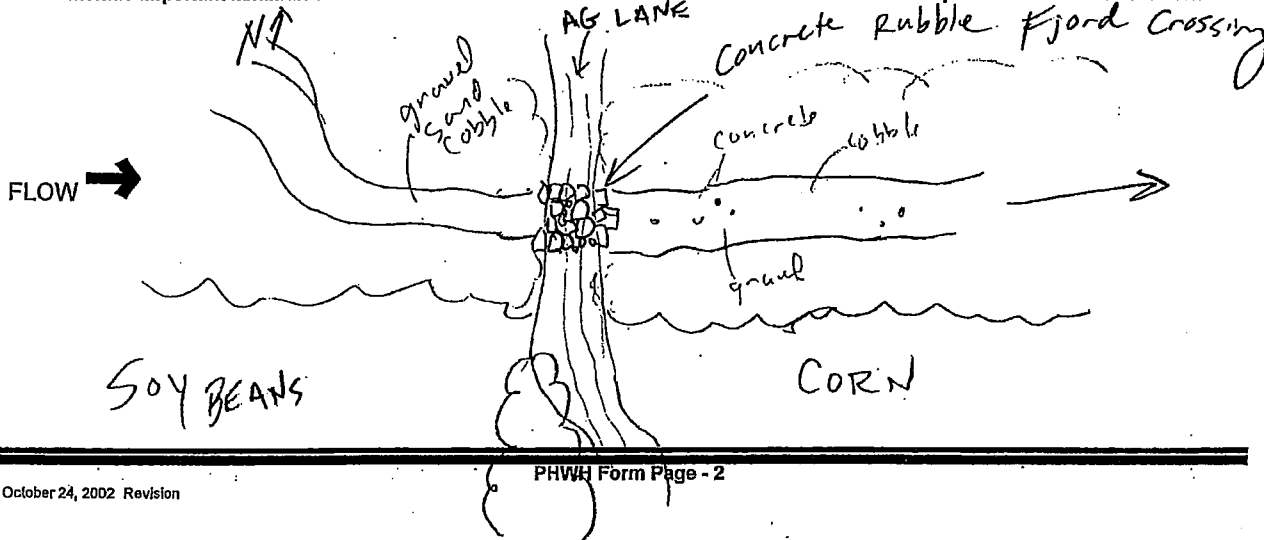
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) _____ Salamanders Observed? (Y/N) N Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) _____

Comments Regarding Biology: None

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



ephemeral

Mod class II
by HHEI

Primary Headwater Habitat Evaluation Form

STREAM XX

HHEI Score (sum of metrics 1, 2, 3):

38

SITE NAME/LOCATION EVER POWER
 SITE NUMBER STR-XX RIVER BASIN Little Darby DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) 200 LAT. 40.08511 LONG. 83.584107 RIVER CODE _____ RIVER MILE _____
 DATE 10/19/11 SCORER BMF COMMENTS _____

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

STREAM CHANNEL ☒ NONE / NATURAL CHANNEL ☒ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY
 MODIFICATIONS _____

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"/> BLDG SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pts]	<u>20</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>10</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>10</u>
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [19 pts]	<u>60</u>	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>10</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

Total of Percentages of
 Bldg Slabs, Boulder, Cobble, Bedrock 10

(A) 18(B) 5

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

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):

☐ > 30 centimeters [20 pts]
☐ > 22.5 - 30 cm [20 pts]
☐ > 10 - 22.5 cm [25 pts]
☒ < 5 cm - 10 cm [15 pts]
☐ < 5 cm [5 pts]
☒ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS DRY

MAXIMUM POOL DEPTH (centimeters):

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

☐ > 4.0 meters (> 13') [30 pts]
☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
☐ > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
☒ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐ < 1.0 m (< 3' 3") [5 pts]

COMMENTS _____

AVERAGE BANKFULL WIDTH (meters)

HHEI
Metric
PointsSubstrate
Max = 40

23

A + B

Pool Depth
Max = 30

0

Bankfull
Width
Max=30

15

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)
☐ Wide >10m
☒ Moderate 5-10m
☐ Narrow <5m
☐ None

FLOODPLAIN QUALITY

L R (Most Predominant per Bank)
☐ Mature Forest, Wetland
☒ Immature Forest, Shrub or Old Field
☐ Residential, Park, New Field
☐ Fenced Pasture

L R
☐ Conservation Tillage
☐ Urban or Industrial
☐ Open Pasture, Row Crop
☐ Mining or Construction

COMMENTS CRP WSG

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

☐ Stream Flowing
☐ Subsurface flow with isolated pools (Interstitial)
☒ Moist Channel, isolated pools, no flow (Intermittent)
☐ Dry channel, no water (Ephemeral)

COMMENTS Dry

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

☐ None
☐ 0.5
☐ 1.0
☐ 1.5
☐ 2.0
☐ 2.5
☐ 3.0
☐ >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)

ADDITIONAL STREAM INFORMATION (This information must also be completed):

STREAM XX

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: _____ Distance from Evaluated Stream _____
☐ EWH Name: LITTLE DARBY CR. Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: CHAMPAIGN Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Today Quantity: 1"

Photograph Information: yes ↑ + ↓

Elevated Turbidity? (Y/N): N Canopy (% open): 20

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

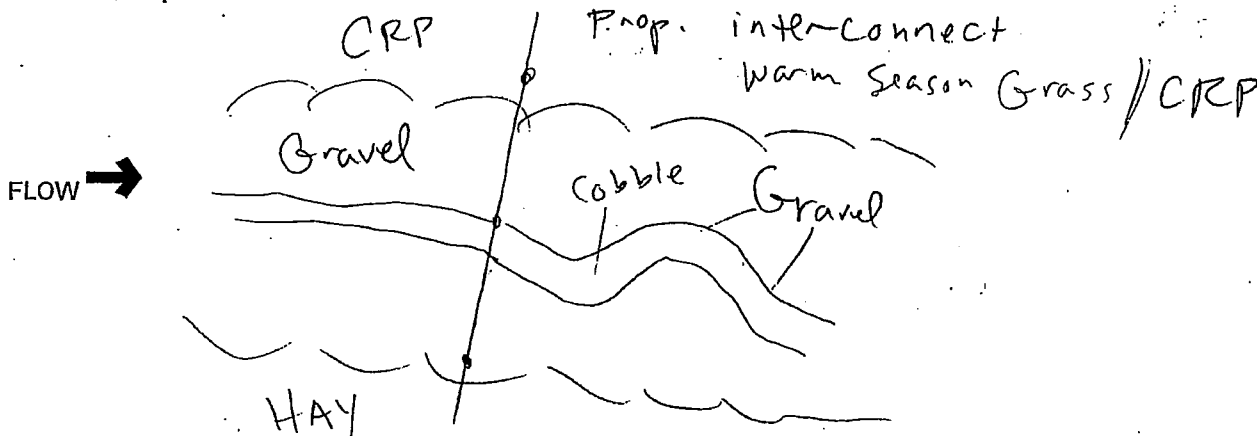
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

8

STREAM YY

SITE NAME/LOCATION EVER POWER

SITE NUMBER

RIVER BASIN

Little Darby

DRAINAGE AREA (mi²)

0.27

LENGTH OF STREAM REACH (ft)

LAT. 40.076222

LONG. 83.585147

RIVER CODE

RIVER MILE

DATE

10/19/11

SCORER

BMF

COMMENTS

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

STREAM CHANNEL

☒ NONE / NATURAL CHANNEL

☐ RECOVERED

☐ RECOVERING

☒ RECENT OR NO RECOVERY

MODIFICATIONS:

channel bank + open pasture

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

☐
☐
☐
☐
☐
☐
☐

BLDR SLABS [16 pts]

BOULDER (>256 mm) [16 pts]

BEDROCK [16 pt]

COBBLE (65-256 mm) [12 pts]

GRAVEL (2-64 mm) [9 pts]

SAND (<2 mm) [6 pts]

PERCENT

15
15
15
15
15
15
15

TYPE

☐
☐
☐
☒
☐
☐
☐

SILT [3 pt]

LEAF PACK/WOODY DEBRIS [3 pts]

FINE DETRITUS [3 pts]

CLAY or HARDPAN [0 pt]

MUCK [0 pts]

ARTIFICIAL [3 pts]

PERCENT

70
70
70
70
70
70
70

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

15

(A)

0

(B)

3

HHEI Metric Points

Substrate Max = 40

3

A + B

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

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):

☐
☐
☐

> 30 centimeters [20 pts]

> 22.5 - 30 cm [30 pts]

> 10 - 22.5 cm [25 pts]

☐
☐
☒

> 5 cm - 10 cm [15 pts]

< 5 cm [5 pts]

NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS

MAXIMUM POOL DEPTH (centimeters):

0

Pool Depth Max = 30

0

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

☐
☐
☐

> 4.0 meters (> 13') [30 pts]

> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]

> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]

☐
☒
☐

> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]

< 1.0 m (< 3' 3") [5 pts]

COMMENTS

AVERAGE BANKFULL WIDTH (meters)

24"

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L R

☐ ☐

(Per Bank)

Wide >10m

☐ ☐

Moderate 5-10m

☐ ☐

Narrow <5m

☒ ☒

None

☐ ☐

Comments

L R

☐ ☐

(Most Predominant per Bank)

Mature Forest, Wetland

☐ ☐

Immature Forest, Shrub or Old Field

☐ ☐

Residential, Park, New Field

☐ ☐

Fenced Pasture

L R

☐ ☐

Conservation Tillage

☐ ☐

Urban or Industrial

☒ ☒

Open Pasture, Row Crop

☐ ☐

Mining or Construction

COMMENTS

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

☐

Stream Flowing

☐

Subsurface flow with isolated pools (Interstitial)

☐

Moist Channel, isolated pools, no flow (Intermittent)

☒

Dry channel, no water (Ephemeral)

COMMENTS

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

☐

None

☐

0.5

☐

1.0

☒

1.5

☐

2.0

☐

2.5

☒

3.0

☐

>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)

ADDITIONAL STREAM INFORMATION (This information must also be completed):

STREAM YY

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ VWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: _____ Distance from Evaluated Stream _____
☐ EWH Name: Little Darby Creek Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Champaign Township / City: Mechanicsburg

MISCELLANEOUS

Base Flow Conditions? (Y/N): _____ Date of last precipitation: Today Quantity: > 1"

Photograph Information: Yes ↓ & ↑

Elevated Turbidity? (Y/N): N Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or Id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

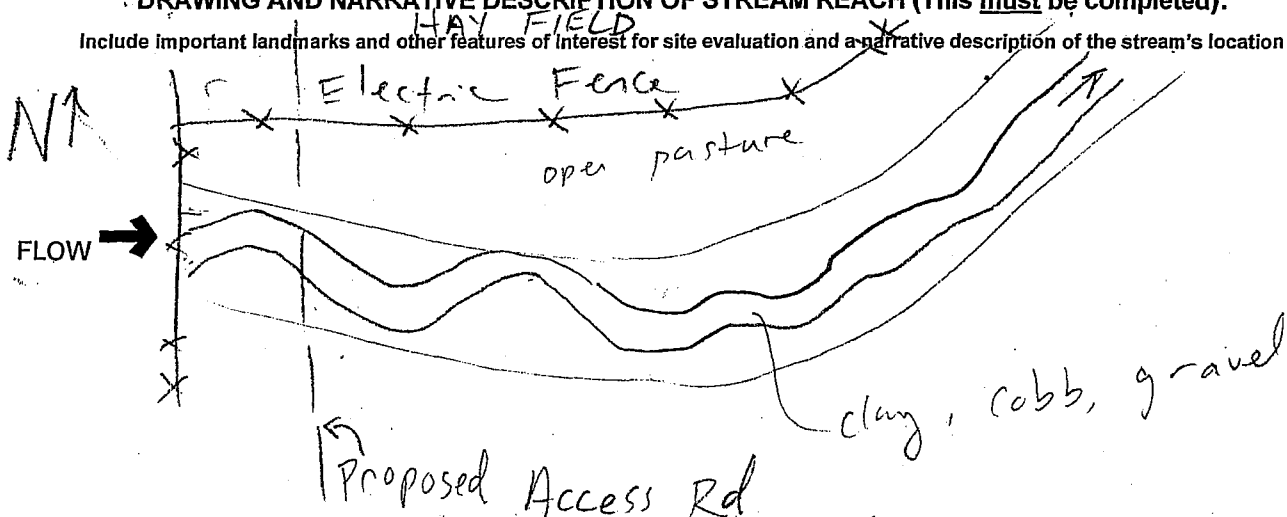
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) _____ Salamanders Observed? (Y/N) N Voucher? (Y/N) N
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

43

SITE NAME/LOCATION EVERPOWER PHASE II

SITE NUMBER SRM 22-1 RIVER BASIN

DRAINAGE AREA (mi²) 0.24

LENGTH OF STREAM REACH (ft) 200

LAT. 40.10537

LONG. 83.62419

RIVER CODE

RIVER MILE

DATE 10/20/11

SCORER RMF

COMMENTS DRY DESPITE 2 DAYS SOLID RAIN!

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

STREAM CHANNEL

☐ NONE / NATURAL CHANNEL

☒ RECOVERED

☐ RECOVERING

☐ RECENT OR NO RECOVERY

MODIFICATIONS:

Channelization

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"/> BLDR SLABS [16 pts]		<input type="checkbox"/> SILT [3 pt]	
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>1</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pt]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>5</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>2</u>
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>90</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>2</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	

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

6%

(A)

18

(B)

5

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
Points

Substrate
Max = 40

23

A + B

Pool Depth
Max = 30

0

Bankfull
Width
Max=30

20

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 checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS

MAXIMUM POOL DEPTH (centimeters):

0

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> < 1.0 m (< 3' 3") [5 pts]
<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

COMMENTS

AVERAGE BANKFULL WIDTH (meters)

6', 7', 7'

6.0

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L R	(Per Bank)	L R	(Most Predominant per Bank)
<input checked="" type="checkbox"/> <input type="checkbox"/>	Wide >10m	<input type="checkbox"/> <input type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/> <input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/> <input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Narrow <5m	<input type="checkbox"/> <input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/> <input type="checkbox"/>	None	<input type="checkbox"/> <input type="checkbox"/>	Fenced Pasture
		<input type="checkbox"/> <input type="checkbox"/>	Conservation Tillage
		<input type="checkbox"/> <input type="checkbox"/>	Urban or Industrial
		<input checked="" type="checkbox"/> <input checked="" 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 checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS

DRY

- 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 checked="" 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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

STREAM ZZ

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: BUCK CREEK Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____
 County: CHAMPAIGN Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: TODAY Quantity: ✓ 1-2"?
 Photograph Information: Y
 Elevated Turbidity? (Y/N): N Canopy (% open): 40%
 Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or Id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) N Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

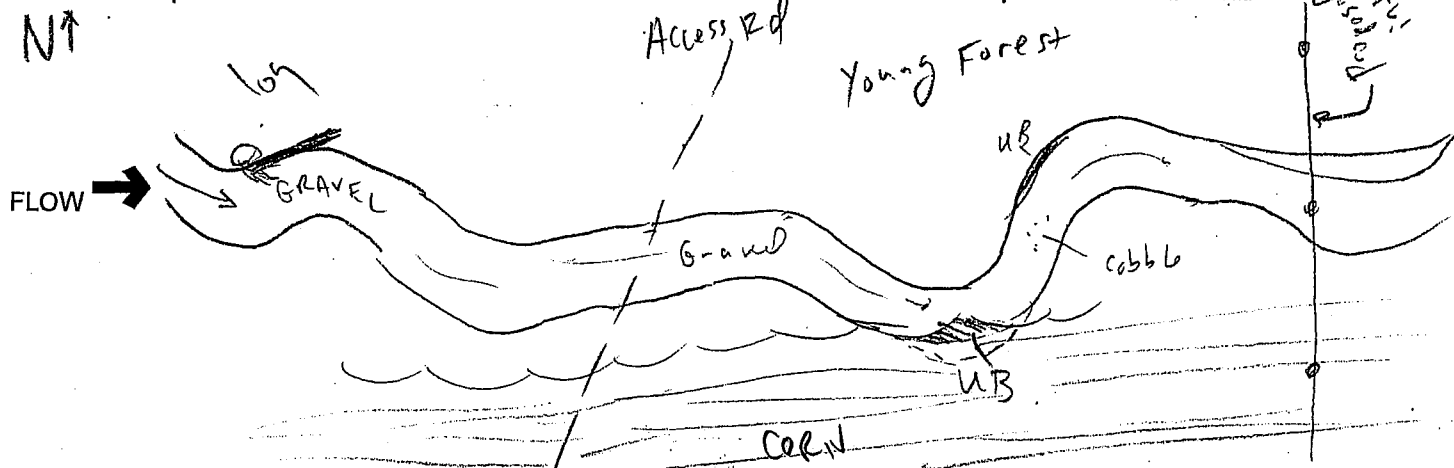
BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____
 Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



STREAM 22-2

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

29

SITE NAME/LOCATION EVERPOWER Phase II
 SITE NUMBER 22-2 RIVER BASIN _____ DRAINAGE AREA (mi²) 0.10
 LENGTH OF STREAM REACH (ft) 200 LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 10/20/11 SCORER _____ COMMENTS _____

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

STREAM CHANNEL ☐ NONE / NATURAL CHANNEL ☒ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY
MODIFICATIONS: _____

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.)				HHEI Metric Points
TYPE	PERCENT	TYPE	PERCENT	
<input type="checkbox"/> BLDG SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pts]	25	Substrate Max = 40 <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">9</div> A + B
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	1	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	14	
<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]		
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]		<input type="checkbox"/> CLAY or HARDPAN [0 pts]		
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]		<input type="checkbox"/> MUCK [0 pts]		
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]		
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>1</u>		(A) <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">6</div>	(B) <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">3</div>	
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:		TOTAL NUMBER OF SUBSTRATE TYPES:		
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):				Pool Depth Max = 30 <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">0</div>
<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 checked="" 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]			
COMMENTS <u>dry</u> MAXIMUM POOL DEPTH (centimeters): <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">0</div>				
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):				Bankfull Width Max=30 <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">20</div>
<input checked="" type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]			
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]			
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]				
COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">20</div> <u>5' 4"</u>				

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)
- ☒ Wide >10m
- ☐ Moderate 5-10m
- ☐ Narrow <5m
- ☐ None

COMMENTS _____

FLOODPLAIN QUALITY

- L R (Most Predominant per Bank)
- ☒ Mature Forest, Wetland
- ☒ Immature Forest, Shrub or Old Field
- ☐ Residential, Park, New Field
- ☐ Fenced Pasture

- L R
- ☐ Conservation Tillage
- ☐ Urban or Industrial
- ☒ Open Pasture, Row Crop
- ☐ Mining or Construction

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

- ☐ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☒ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS _____

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

- ☐ None
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☒ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >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)

STREAM 222

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: Buck Creek Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____
 County: Champaign Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N) N Date of last precipitation: 10-20-11 Quantity: 1-2"
 Photograph Information: Y
 Elevated Turbidity? (Y/N) N Canopy (% open): 15
 Were samples collected for water chemistry? (Y/N) N (Note lab sample no. or Id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) NA Dissolved Oxygen (mg/l) NA pH (S.U.) NA Conductivity (µmhos/cm) NA
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

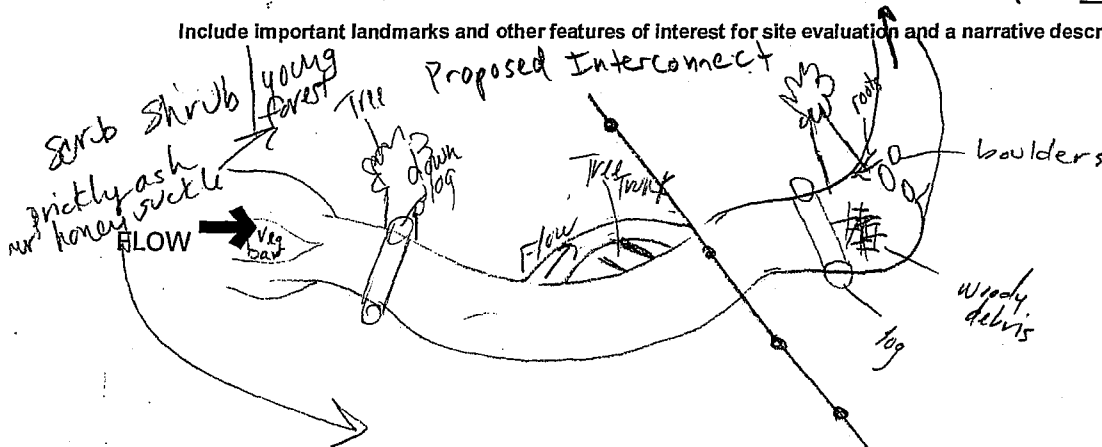
Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N) N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
 Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
 Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Mod Class II

STREAM AAA

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

34

SITE NAME/LOCATION EXP010 UT to Buck Creek
 SITE NUMBER _____ RIVER BASIN _____ DRAINAGE AREA (mi²) 0.06
 LENGTH OF STREAM REACH (ft) _____ LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE _____ SCORER BMF COMMENTS _____

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

STREAM CHANNEL ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☒ RECOVERING ☐ RECENT OR NO RECOVERY
 MODIFICATIONS: Channel dug + 1' deep

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"/> BLDG SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pt]	<u>30</u>
<input checked="" type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>10</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> BEDROCK [16 pt]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>15</u>	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>40</u>
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>20</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>5</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of
Bldr Slabs, Boulder, Cobble, Bedrock 15

(A) 3

(B) 6

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI
Metric
Points

Substrate
Max = 40

9

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 checked="" 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]

COMMENTS 15" 12" 11"

MAXIMUM POOL DEPTH (centimeters):

37"

Pool Depth
Max = 30

20

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

COMMENTS 3' 2"

AVERAGE BANKFULL WIDTH (meters)

1

Bankfull
Width
Max=30

5

This information must also be completed

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

RIPARIAN WIDTH		FLOODPLAIN QUALITY			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)			
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input checked="" type="checkbox"/> Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input type="checkbox"/> Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/> None		Fenced Pasture		Mining or Construction	

COMMENTS _____

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

<input checked="" 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 checked="" 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)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

STREAM AAA

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☒ CWH Name: Buck Creek Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: _____ Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: today Quantity: _____

Photograph Information: Yes ↑ & ↓

Elevated Turbidity? (Y/N): Y Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) _____ If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

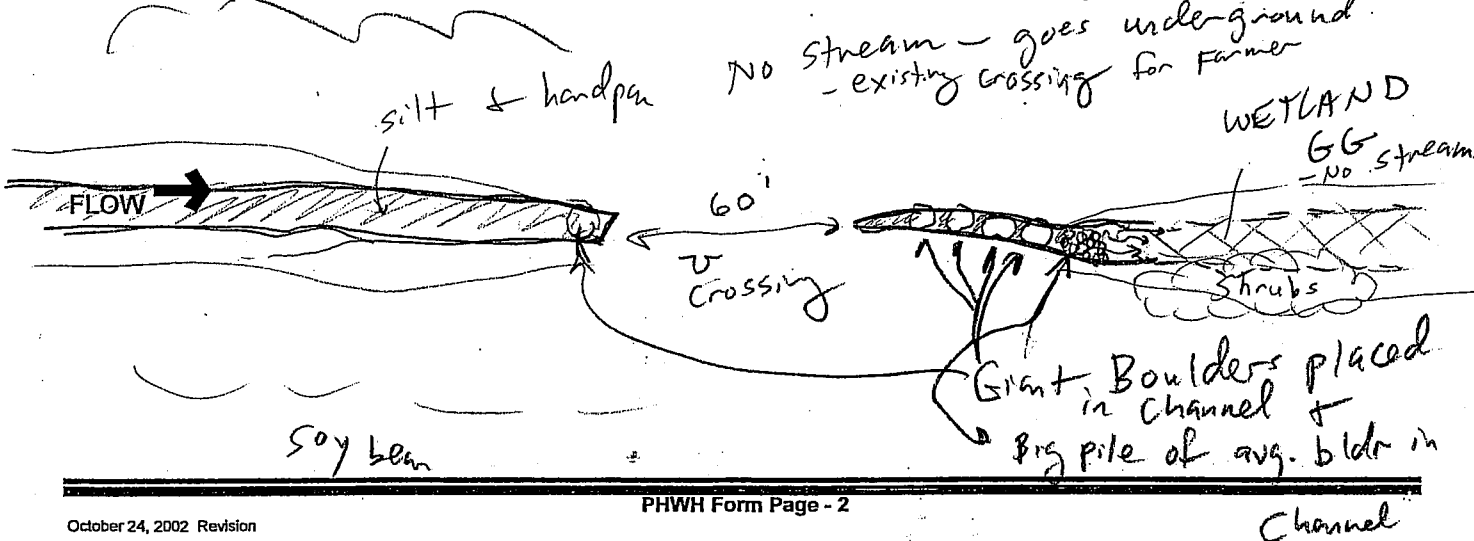
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

3/19/2013 4:39:19 PM

in

Case No(s). 13-0360-EL-BGA

Summary: Application Appendix C - Surface Water Report (279-322) electronically filed by Mr. Michael J. Settineri on behalf of Buckeye Wind LLC