



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 55

Stream & Location: Dugway Brook Lakeshore Blvd **RM:** 0.37 **Date:** 8/17/09

River Code: Zablotny **Scorers Full Name & Affiliation:** K. Christiani Northeast Ohio Regional Sewer District

STORET #: **Lat./Long.:** 41.5509 181.6086 (NAD 83 - decimal) **Office verified location**

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

BEST TYPES		OTHER TYPES		ORIGIN		QUALITY	
<input type="checkbox"/> BLDR /SLABS [10]	<input type="checkbox"/> POOL RIFFLE	<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> POOL RIFFLE	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> SILT	<input type="checkbox"/> HEAVY [-2]	<input type="checkbox"/> MODERATE [-1]
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> <u>✓</u>	<input type="checkbox"/> DETRITUS [3]	<input checked="" type="checkbox"/> <u>✓</u>	<input checked="" type="checkbox"/> TILLS [1]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> NORMAL [0]	<input type="checkbox"/> FREE [1]
<input type="checkbox"/> COBBLE [8]	<input type="checkbox"/> <u>✓</u>	<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> <u>✓</u>	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]	<input type="checkbox"/> MODERATE [-1]
<input checked="" type="checkbox"/> GRAVEL [7]	<input type="checkbox"/> <u>✓</u>	<input type="checkbox"/> SILT [2]	<input type="checkbox"/> <u>✓</u>	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> NORMAL [0]	<input type="checkbox"/> NONE [1]
<input checked="" type="checkbox"/> SAND [6]	<input type="checkbox"/> <u>✓</u>	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> <u>✓</u>	<input type="checkbox"/> LACUSTURINE [0]	<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> COAL FINES [-2]	<input type="checkbox"/> NONE [1]
<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> <u> </u>	<small>(Score natural substrates; ignore sludge from point-sources)</small>		<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> COAL FINES [-2]		

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

Comments: Lots of organic material in substrate all along creek bottom odor when disturbed

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.)

<u>1</u> UNDERCUT BANKS [1]	<u>1</u> POOLS > 70cm [2]	<u>1</u> OXBOWS, BACKWATERS [1]
<u>1</u> OVERHANGING VEGETATION [1]	<u>2</u> ROOTWADS [1]	<u>1</u> AQUATIC MACROPHYTES [1]
<u>1</u> SHALLOWS (IN SLOW WATER) [1]	<u> </u> BOULDERS [1]	<u>2</u> LOGS OR WOODY DEBRIS [1]
<u>2</u> ROOTMATS [1]	<u> </u>	<u> </u>

Comments:

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

<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input checked="" 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 type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> NONE [1]	<input checked="" type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	

Comments:

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

<input type="checkbox"/> NONE / LITTLE [3]	<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NONE [0]	<input checked="" type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> NONE [0]	<input checked="" type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]	<input type="checkbox"/> CONSERVATION TILLAGE [1]	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]	<input type="checkbox"/> MINING / CONSTRUCTION [0]
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Comments:

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

<input checked="" type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [-1]	<input checked="" type="checkbox"/> SLOW [1]
<input checked="" type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> VERY FAST [1]	<input type="checkbox"/> INTERSTITIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input checked="" type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<input type="checkbox"/> FAST [1]	<input type="checkbox"/> INTERMITTENT [-2]
<input type="checkbox"/> 0.2-0.4m [1]		<input checked="" type="checkbox"/> MODERATE [1]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> < 0.2m [0]		<small>Indicate for reach - pools and riffles.</small>	

Comments:

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: NO RIFFLE [metric=0]

<input type="checkbox"/> BEST AREAS > 10cm [2]	<input checked="" type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input checked="" type="checkbox"/> BEST AREAS 5-10cm [1]	<input 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 checked="" type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

Comments:

6) GRADIENT (2.0 ft/mi) VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6] **%POOL:** 10 **%GLIDE:** 90 **%RUN:** **%RIFFLE:** 0

Comments:

2116 RL Look OS
2117 RR 7 OS

A) SAMPLED REACH

Check ALL that apply

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

METHOD

- BOAT
- WADE
- L. LINE
- OTHER

STAGE

- 1st-sample pass-2nd
- HIGH
- UP
- NORMAL
- LOW
- DRY

DISTANCE

- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER

CLARITY

- 1st--sample pass-- 2nd
- < 20 cm
- 20-<40 cm
- 40-70 cm
- > 70 cm/ CTB
- SECCHI DEPTH

B) AESTHETICS

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- 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-BEDLOAD-STABLE
- ARMOURED / SLUMPS
- ISLANDS / SCoured
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

E) ISSUES

- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&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

- \bar{x} width
- \bar{x} depth
- max. depth
- \bar{x} bankfull width
- bankfull \bar{x} depth
- W/D ratio
- bankfull max. depth
- floodprone \bar{x}^2 width
- entrench. ratio
- Legacy Tree:

CANOPY

- > 85% - OPEN
- 55% - < 85%
- 30% - < 55%
- 10% - < 30%
- < 10% - CLOSED

- 1st _____ cm
- 2nd _____ cm

C) RECREATION

- AREA DEPTH
- POOL: < 100ft² > 3ft

Stream Drawing:

