

Stream & Location: Plum Creek (Adjacent to Old Wine Cellar, 7990 Columbia Rd) **RM:** 0.30 **Date:** 10/04/12

Scorers Full Name & Affiliation: J. Novak / S. Hoffman Northeast Ohio Regional Sewer District

River Code: - - - **STORET #:** - - - **Lat./ Long.:** 41.3759 181.9021 **Office verified location**

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

<p>BEST TYPES</p> <input type="checkbox"/> BLDR / SLABS [10] <input type="checkbox"/> BOULDER [9] <input type="checkbox"/> COBBLE [8] <input type="checkbox"/> GRAVEL [7] <input type="checkbox"/> SAND [6] <input checked="" type="checkbox"/> BEDROCK [5]	<p>POOL RIFFLE</p> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<p>OTHER TYPES</p> <input type="checkbox"/> HARDPAN [4] <input type="checkbox"/> DETRITUS [3] <input type="checkbox"/> MUCK [2] <input type="checkbox"/> SILT [2] <input type="checkbox"/> ARTIFICIAL [0]	<p>POOL RIFFLE</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>ORIGIN</p> <input type="checkbox"/> LIMESTONE [1] <input type="checkbox"/> TILLS [1] <input type="checkbox"/> WETLANDS [0] <input type="checkbox"/> HARDPAN [0] <input type="checkbox"/> SANDSTONE [0] <input type="checkbox"/> RIP/RAP [0] <input type="checkbox"/> LACUSTURINE [0] <input type="checkbox"/> SHALE [-1] <input type="checkbox"/> COAL FINES [-2]	<p>QUALITY</p> <input checked="" type="checkbox"/> HEAVY [-2] <input type="checkbox"/> MODERATE [-1] <input type="checkbox"/> NORMAL [0] <input type="checkbox"/> FREE [1] <input type="checkbox"/> EXTENSIVE [-2] <input type="checkbox"/> MODERATE [-1] <input type="checkbox"/> NORMAL [0] <input type="checkbox"/> NONE [1]
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NUMBER OF BEST TYPES: 4 or more [2] 3 or less [0]

Comments:

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.

<p><input type="checkbox"/> UNDERCUT BANKS [1] <input type="checkbox"/> OVERHANGING VEGETATION [4] <input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1] <input type="checkbox"/> ROOTMATS [1]</p>	<p><input type="checkbox"/> POOLS > 70cm [2] <input type="checkbox"/> ROOTWADS [1] <input type="checkbox"/> BOULDERS [1]</p>	<p><input type="checkbox"/> OXBOWS, BACKWATERS [1] <input type="checkbox"/> AQUATIC MACROPHYTES [1] <input type="checkbox"/> LOGS OR WOODY DEBRIS [1]</p>
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AMOUNT Check ONE (Or 2 & average)

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

Comments:

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

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

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

<p>EROSION</p> <input checked="" type="checkbox"/> NONE / LITTLE [3] <input type="checkbox"/> MODERATE [2] <input type="checkbox"/> HEAVY / SEVERE [1]	<p>RIPARIAN WIDTH</p> <input type="checkbox"/> WIDE > 50m [4] <input 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]	<p>FLOOD PLAIN QUALITY</p> <input 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]	<p>CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] MINING / CONSTRUCTION [0]</p>
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Comments:

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

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

Comments:

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=]

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

6] GRADIENT (ft/mi) VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6]

DRAINAGE AREA (mi²) (17.6)

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

Comments:

Stream & Location: Plum Creek (upstream of Usher Road) RM: 2.90 Date: 10/04/12

J. Novak / S. Hothorn Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: - STORET #: - Lat./Long.: 41.358218 | 92221 Office verified location

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

Substrate assessment section with categories: BEST TYPES, OTHER TYPES, POOL RIFFLE, ORIGIN, QUALITY. Includes checkboxes for BLDR/SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, etc. and a Substrate Maxim 20 score of 18.

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

Instream Cover assessment section with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS > 70cm, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes AMOUNT checkboxes and a Cover Maximum 20 score of 14.

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

Channel Morphology assessment section with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes for HIGH, MODERATE, LOW, NONE and a Channel Maximum 20 score of 11.5.

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

Bank Erosion and Riparian Zone assessment section with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY. Includes checkboxes for NONE, MODERATE, HEAVY/SEVERE, WIDE, MODERATE, NARROW, VERY NARROW, NONE, FOREST, SWAMP, SHRUB OR OLD FIELD, RESIDENTIAL, PARK, NEW FIELD, FENCED PASTURE, OPEN PASTURE, ROWCROP, CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION. Includes Riparian Maximum 10 score of 6.75.

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment section with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY. Includes checkboxes for depth and width ranges, and velocity types. Includes Recreation Potential Primary Contact Secondary Contact and a Pool / Current Maximum 12 score of 6.

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

Riffle / Run Quality assessment section with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes for riffle/run characteristics and a Riffle / Run Maximum 8 score of 4.5.

6) GRADIENT (9.43 ft/mi) DRAINAGE AREA (16.5 mi2) VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6] %POOL: %GLIDE: %RUN: %RIFFLE: Gradient Maximum 10 score of 10.

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

AJ SAMPLED REACH
Check ALL that apply

- METHOD**
- BOAT
 - WADE
 - L. LINE
 - OTHER
- STAGE**
- 1st - sample pass- 2nd
- HIGH
 - UP
 - NORMAL
 - LOW
 - DRY

- DISTANCE**
- 0.5 Km
 - 0.2 Km
 - 0.16 Km
 - 0.12 Km
 - OTHER
- CLARITY**
- 1st - sample pass- 2nd
- < 20 cm
 - 20-40 cm
 - 40-70 cm
 - > 70 cm/CTB
 - SECCHI DEPTH
- meters

- CANOPY**
- > 85% - OPEN
 - 65% - < 85%
 - 30% - < 65%
 - 10% - < 30%
 - < 10% - CLOSED
- CJ RECREATION**
- AREA DEPTH
- POOL: > 100ft² > 3ft

- BJ AESTHETICS**
- NUISANCE ALGAE
 - INVASIVE MACROPHYTES
 - EXCESS TURBIDITY
 - DISCOLORATION
 - FOAM / SCUM
 - OIL SHEEN
 - TRASH / LITTER
 - NUISANCE ODOR
 - SLUDGE DEPOSITS
 - CSOs/ISSOs/OUTFALLS

- DJ 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

- EJ 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

- FJ 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:

Stream Drawing: ← FLOW

