

Stream & Location: Dugway Brook

RM: 2.40 Date: 09/04/14

Eric Soehnten / Tom Zablotny

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: STOREY #: Lat./ Long.: 41.5122 81.5905 Office verified location

1) SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average). BEST TYPES: BLDR/SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK. OTHER TYPES: HARDPAN, DETRITUS, MUCK, SILT, ARTIFICIAL. ORIGIN: LIMESTONE, TILLS, WETLANDS, SANDSTONE, RIP/RAP, LACUSTURINE, SHALE, COAL FINES. QUALITY: HEAVY, MODERATE, NORMAL, FREE, EXTENSIVE, MODERATE, NORMAL, NONE. Substrate Maximum 20. Comments: 15, 2, 1.

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. Check ONE (Or 2 & average). AMOUNT: EXTENSIVE >75%, MODERATE 25-75%, SPARSE 5-<25%, NEARLY ABSENT <5%. UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS > 70cm, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Cover Maximum 20. Comments: 0, 0, 1, 1, 0, 0, 0, 0, 1, 0, 0.

3) CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average). SINUOSITY: HIGH, MODERATE, LOW, NONE. DEVELOPMENT: EXCELLENT, GOOD, FAIR, POOR. CHANNELIZATION: NONE, RECOVERED, RECOVERING, RECENT OR NO RECOVERY. STABILITY: HIGH, MODERATE, LOW. Channel Maximum 20. Comments: 11, 35.

4) BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average). River right looking downstream. RIPARIAN WIDTH: WIDE > 50m, MODERATE 10-50m, NARROW 5-10m, VERY NARROW < 5m, NONE. FLOOD PLAIN QUALITY: FOREST, SWAMP, SHRUB OR OLD FIELD, RESIDENTIAL, PARK, NEW FIELD, FENCED PASTURE, OPEN PASTURE, ROWCROP. CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION. Indicate predominant land use(s) past 100m riparian. Riparian Maximum 10. Comments: 3, 3, 1.5, 7.5, 42.5.

5) POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH: > 1m, 0.7-<1m, 0.4-<0.7m, 0.2-<0.4m, < 0.2m. CHANNEL WIDTH: POOL WIDTH > RIFFLE WIDTH, POOL WIDTH = RIFFLE WIDTH, POOL WIDTH < RIFFLE WIDTH. CURRENT VELOCITY: TORRENTIAL, SLOW, VERY FAST, FAST, MODERATE, INTERSTITIAL, INTERMITTENT, EDDIES. Recreation Potential Primary Contact Secondary Contact. Pool / Current Maximum 12. Comments: 0, 0, 3, 3, 45.5.

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: BEST AREAS > 10cm, BEST AREAS 5-10cm, BEST AREAS < 5cm [metric=0]. RUN DEPTH: MAXIMUM > 50cm, MAXIMUM < 50cm. RIFFLE / RUN SUBSTRATE: STABLE, MOD. STABLE, UNSTABLE. RIFFLE / RUN EMBEDDEDNESS: NONE, LOW, MODERATE, EXTENSIVE. Riffle / Run Maximum 8. Comments: 0, 1, 1.5, 1, 3.5, 49.

6) GRADIENT (111.61 ft/mi) DRAINAGE AREA (2.6 mi^2) VERY LOW - LOW, MODERATE, HIGH - VERY HIGH. %POOL, %GLIDE, %RUN, %RIFFLE. Gradient Maximum 10. Comments: 4, 53.

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

**AJ SAMPLED REACH**

Check ALL that apply

**METHOD STAGE**

- BOAT
- WADE
- L. LINE
- OTHER
- DISTANCE
- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER

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

- 1st \_\_\_\_\_ cm
- 2nd \_\_\_\_\_ cm
- CANOPY**
- > 85%- OPEN
  - 55%-<85%
  - 30%-<55%
  - 10%-<30%
  - <10%- CLOSED

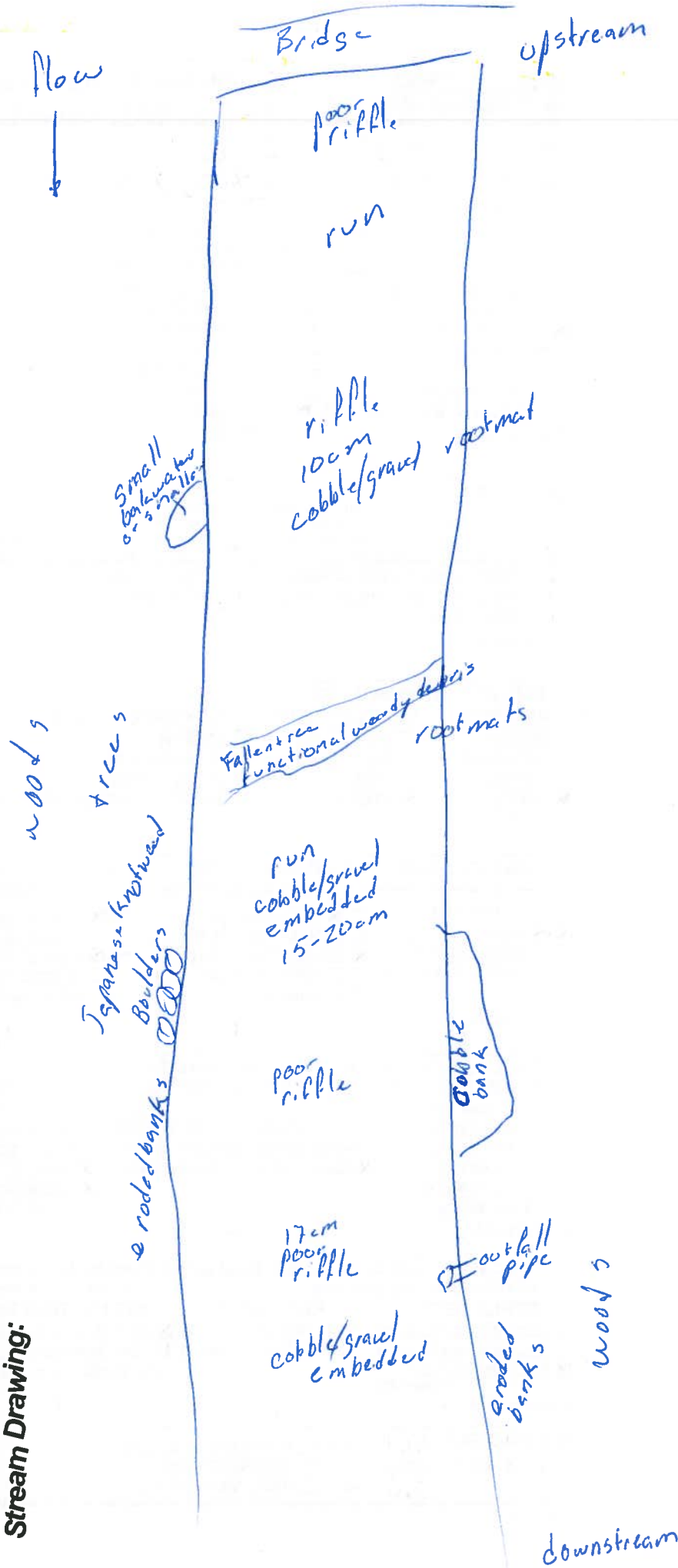
- BJ AESTHETICS**
- NUISANCE ALGAE
  - INVASIVE MACROPHYTES
  - EXCESS TURBIDITY
  - DISCOLORATION
  - FOAM / SCUM
  - OIL SHEEN
  - TRASH / LITTER
  - NUISANCE ODOR
  - SLUDGE DEPOSITS
  - CSOs/SSOs/OUTFALLS

- 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

- 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 H<sub>2</sub>O / TILE / H<sub>2</sub>O 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:**



Stream & Location: Downy Brook RM: 037 Date: 09/09/14

Eric Seibler / Tom Zablony Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: - STORET #: - Lat./ Long.: 41.5509 181.6086 Office verified location

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

<b>BEST TYPES</b>	<b>POOL RIFFLE</b>	<b>OTHER TYPES</b>	<b>POOL RIFFLE</b>	<b>ORIGIN</b>	<b>QUALITY</b>
<input type="checkbox"/> BLDR /SLABS [10]	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> HEAVY [-2]
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> DETRITUS [3]	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> TILLS [1]	<input type="checkbox"/> MODERATE [-1]
<input checked="" type="checkbox"/> COBBLE [8]	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> MUCK [2]	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> WETLANDS [0]	<input checked="" type="checkbox"/> NORMAL [0]
<input type="checkbox"/> GRAVEL [7]	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> SILT [2]	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> FREE [1]
<input checked="" type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]
<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> <input type="checkbox"/>			<input type="checkbox"/> RIP/RAP [0]	<input checked="" type="checkbox"/> MODERATE [-1]

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

Comments: 6 1

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>3</u> UNDERCUT BANKS [1]	<u>3</u> POOLS > 70cm [2]	<u>0</u> OXBOWS, BACKWATERS [1]	<b>AMOUNT</b>
<u>2</u> OVERHANGING VEGETATION [1]	<u>2</u> ROOTWADS [1]	<u>0</u> AQUATIC MACROPHYTES [1]	Check ONE (Or 2 & average)
<u>0</u> SHALLOWS (IN SLOW WATER) [1]	<u>0</u> BOULDERS [1]	<u>2</u> LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/> EXTENSIVE >75% [11]
<u>2</u> ROOTMATS [1]			<input checked="" type="checkbox"/> MODERATE 25-75% [7]
			<input type="checkbox"/> SPARSE 5-<25% [3]
			<input type="checkbox"/> NEARLY ABSENT <5% [1]

Comments: 3 3 1 7

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

<b>SINUOSITY</b>	<b>DEVELOPMENT</b>	<b>CHANNELIZATION</b>	<b>STABILITY</b>
<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 checked="" type="checkbox"/> FAIR [3]	<input 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 6 2

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

<b>EROSION</b>	<b>RIPARIAN WIDTH</b>	<b>FLOOD PLAIN QUALITY</b>
<input checked="" type="checkbox"/> NONE / LITTLE [3]	<input checked="" type="checkbox"/> WIDE > 50m [4]	<input checked="" type="checkbox"/> FOREST, SWAMP [3]
<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]
<input checked="" type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input checked="" type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]
	<input 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 3.5 2.5

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

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

Comments: 6 2 1 1

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

<b>RIFFLE DEPTH</b>	<b>RUN DEPTH</b>	<b>RIFFLE / RUN SUBSTRATE</b>	<b>RIFFLE / RUN EMBEDDEDNESS</b>
<input type="checkbox"/> BEST AREAS > 10cm [2]	<input checked="" 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 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 2 2 2

6) GRADIENT (2.0 ft/ml)  VERY LOW - LOW [2-4] %POOL: 25% %GLIDE: 0%

DRAINAGE AREA (6.2 ml<sup>2</sup>)  MODERATE [6-10] %RUN: 65% %RIFFLE: 10%

HIGH - VERY HIGH [10-6]

