

Stream & Location: 9-Mile S.R. 10 US of Belvoir RM: 3.24 Date: 6/27/24

Justin Teleg Scores Full Name & Affiliation: Northeast Ohio Regional Sewer District
River Code: 19-040-000 STORET #: 301435 Lat./Long.: 41.5457 / 81.5523 Office verified location ☐1] SUBSTRATE Check ONLY Two substrate TYPE BOXES.
estimate % or note every type present

BEST TYPES		OTHER TYPES		ORIGIN		QUALITY	
POOL RIFFLE		POOL RIFFLE					
☐ BLDR / SLABS [10]	☐	☐ HARDPAN [4]	☐	☐ LIMESTONE [1]	☐	☐ HEAVY [-2]	Substrate 15 Maximum 20
☐ BOULDER [9]	☐	☐ DETRITUS [3]	☐	☐ TILLS [1]	☐	☐ MODERATE [-1]	
☒ COBBLE [8]	☐	☐ MUCK [2]	☐	☐ WETLANDS [0]	☐	☐ NORMAL [0]	
☐ GRAVEL [7]	☐	☐ SILT [2]	☐	☐ HARDPAN [0]	☐	☐ FREE [1]	
☐ SAND [6]	☐	☐ ARTIFICIAL [0]	☐	☐ SANDSTONE [0]	☐	☐ EXTENSIVE [-2]	
☒ BEDROCK [5]	☐	(Score natural substrates; ignore sludge from point-sources)		☐ RIP/RAP [0]	☐	☐ MODERATE [-1]	
				☐ LACUSTURINE [0]	☐	☐ NORMAL [0]	
				☐ SHALE [-1]	☐	☐ NONE [1]	
				☐ COAL FINES [-2]	☐		

Check ONE (Or 2 & average)

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 roadbed in deep / fast water, or deep, well-defined, functional pools.

		AMOUNT	
		Check ONE (Or 2 & average)	
☐ UNDERCUT BANKS [1]	☐ POOLS > 70cm [2]	☐ CUBBOWS, BACKWATERS [1]	☐ EXTENSIVE >75% [11]
☐ OVERHANGING VEGETATION [1]	☐ ROOTWADS [1]	☐ AQUATIC MACROPHYTES [1]	☐ MODERATE 25-75% [7]
☐ SHALLOWS (IN SLOW WATER) [1]	☒ BOULDERS [1]	☐ LOGS OR WOODY DEBRIS [1]	☐ SPARSE 5-25% [3]
☐ ROOTMATS [1]			☐ NEARLY ABSENT <5% [1]

Comments

Cover
Maximum
20
5

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

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
☐ HIGH [4]	☐ EXCELLENT [7]	☐ NONE [6]	☐ HIGH [3]
☐ MODERATE [3]	☐ GOOD [5]	☐ RECOVERED [4]	☐ MODERATE [2]
☐ LOW [2]	☐ FAIR [3]	☐ RECOVERING [3]	☐ LOW [1]
☐ NONE [1]	☐ POOR [1]	☐ RECENT OR NO RECOVERY [0]	

Comments

Channel
Maximum
20
14

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

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

Comments

Riparian
Maximum
10
7.25

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

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

Indicates for reach - pools and riffles.

Comments

Pool / Current
Maximum
12
6

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
☐ BEST AREAS > 10cm [2]	☐ MAXIMUM > 50cm [2]	☐ STABLE (e.g., Cobble, Boulder) [2]	☐ NONE [2]
☐ BEST AREAS 5-10cm [1]	☐ MAXIMUM < 50cm [1]	☐ MOD. STABLE (e.g., Large Gravel) [1]	☐ LOW [1]
☐ BEST AREAS < 5cm [metric=0]		☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]	☐ MODERATE [0]
			☐ EXTENSIVE [-1]

Comments

Riffle / Run
Maximum
8
5

6] GRADIENT (6.7 ft/mi)
DRAINAGE AREA (0.70 mi²)

☐ VERY LOW - LOW [2-4]	%POOL: 10	%GLIDE: 15	Gradient Maximum 10 4
☐ MODERATE [6-10]	%RUN: 25	%RIFFLE: 50	
☐ HIGH - VERY HIGH [10-6]			

Gradient exceeds
upper bound

AJ SAMPLED REACH

Check ALL that apply

METHOD

STAGE

1st sample pass-- 2nd

BOAT

WADE

L. LINE

OTHER

HIGH

UP

NORMAL

LOW

DRY

DISTANCE

0.5 Km

0.2 Km

0.15 Km

0.12 Km

OTHER

CLARITY

< 20 cm

20-40 cm

40-70 cm

> 70 cm/CTB

SECCHI DEPTH

1st pass

2nd pass

cm

cm

CANOPY

> 85% - OPEN

55%-<85%

30%-<55%

10%-<30%

<10% - CLOSED

CJ RECREATION

AREA

DEPTH

POOL: <100ft²

>3ft

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

ARMORED / SLUMPS

ISLANDS / SCOURED

IMPOUNDED / DESICCATED

FLOOD CONTROL / DRAINAGE

BJ AESTHETICS

NUISANCE ALGAE

INVASIVE MACROPHYTES

EXCESS TURBIDITY

DISCOLORATION

FOAM / SCUM

OIL SHEEN

TRASH / LITTER

NUISANCE ODOR

SLUDGE DEPOSITS

CSOs/SSOs/OUTFALLS

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

width

depth

max. depth

bankfull width

bankfull depth

W/D ratio

bankfull max. depth

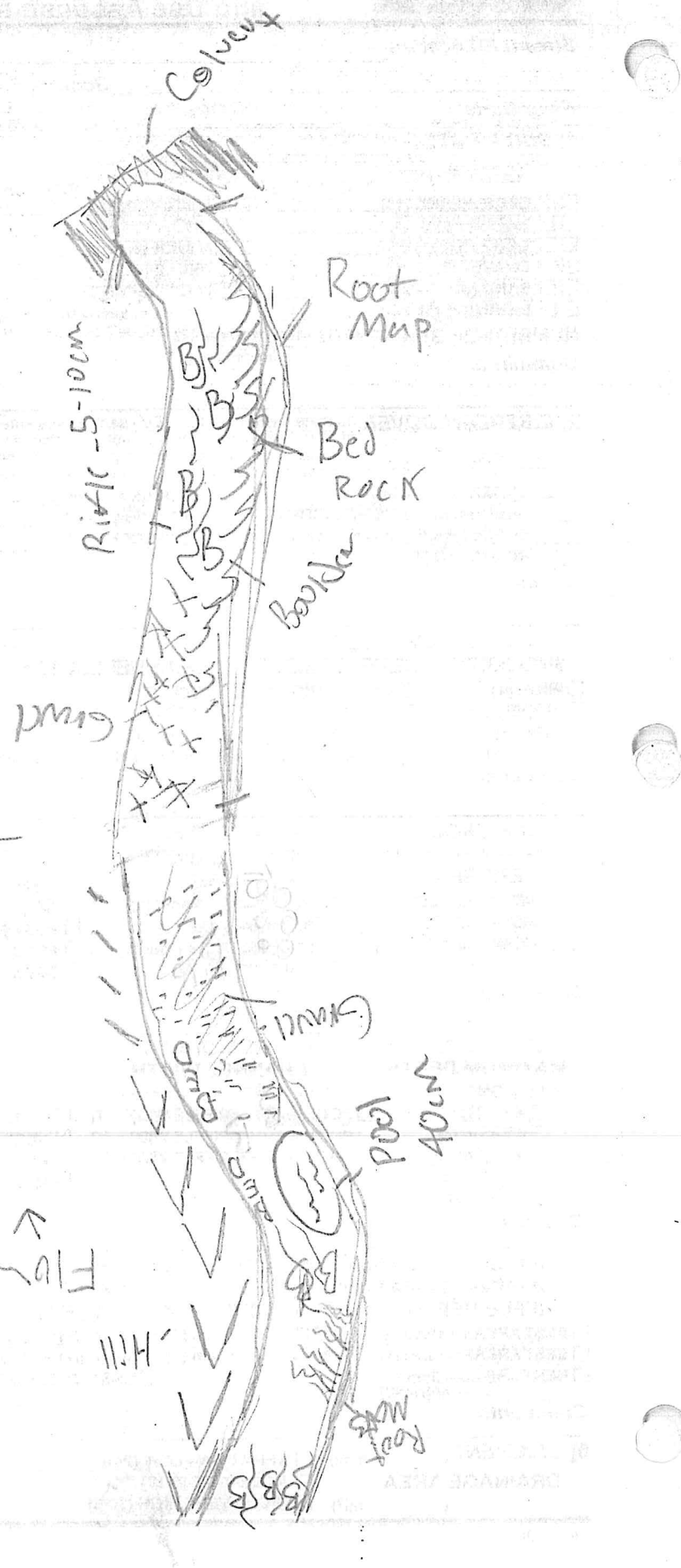
floodprone x² width

entrench. ratio

Legacy Tree:

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

Stream Drawing



Stream & Location: Nine Mile Creek US of Lakeshore BlvdRM: 0.40 Date: 6/27/89

Mark Matteson

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer DistrictRiver Code: 19-040-000 STORET #: 301432Lat./Long.: 41.5574 -81.5991Office verified location ☐1] SUBSTRATE Check ONLY Two substrate TYPE BOXES;
estimate % or note every type present

Check ONE (Or 2 & average)

- | BEST TYPES | | POOL RIFFLE | | OTHER TYPES | | POOL RIFFLE | |
|--|-------------------------------------|-------------------------------------|--------------------------|--|--------------------------|-------------------------------------|-------------------------------------|
| ☐ BLDR / SLABS [10] | ☐ | ☐ | ☐ | ☐ HARDPAN [4] | ☐ | ☐ | ☐ |
| ☐ BOULDER [9] | ☒ | ☐ | ☐ | ☐ DETRITUS [3] | ☐ | ☒ | ☐ |
| ☐ COBBLE [8] | ☒ | ☒ | ☐ | ☐ MUCK [2] | ☐ | ☒ | ☐ |
| ☐ GRAVEL [7] | ☒ | ☒ | ☐ | ☒ SILT [2] | ☐ | ☒ | ☒ |
| ☒ SAND [6] | ☒ | ☒ | ☐ | ☐ ARTIFICIAL [0] | ☐ | ☐ | ☐ |
| ☐ BEDROCK [5] | ☐ | ☐ | ☐ | (Score natural substrates; ignore sludge from point-sources) | | | |

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

Comments

- | ORIGIN | |
|---|--------------------------|
| ☐ LIMESTONE [1] | ☐ |
| ☒ TILLS [1] | ☐ |
| ☐ WETLANDS [0] | ☐ |
| ☐ HARDPAN [0] | ☐ |
| ☐ SANDSTONE [0] | ☐ |
| ☐ RIP/RAP [0] | ☐ |
| ☐ LACUSTURINE [0] | ☐ |
| ☐ SHALE [-1] | ☐ |
| ☐ COAL FINES [-2] | ☐ |

- | QUALITY | |
|--|--------------------------|
| ☒ HEAVY [-2] | ☐ |
| ☒ MODERATE [-1] | ☐ |
| ☐ NORMAL [0] | ☐ |
| ☐ FREE [1] | ☐ |
| ☒ EXTENSIVE [-2] | ☐ |
| ☒ MODERATE [-1] | ☐ |
| ☐ NORMAL [0] | ☐ |
| ☐ NONE [1] | ☐ |

Substrate
8
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.

AMOUNT

Check ONE (Or 2 & average)

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

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

Comments

Cover
Maximum
20
8

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

- | SINUOSITY | DEVELOPMENT | CHANNELIZATION | STABILITY |
|--|--|--|--|
| ☐ HIGH [4] | ☐ EXCELLENT [7] | ☒ NONE [6] | ☐ HIGH [3] |
| ☒ MODERATE [3] | ☐ GOOD [5] | ☐ RECOVERED [4] | ☒ MODERATE [2] |
| ☐ LOW [2] | ☒ FAIR [3] | ☐ RECOVERING [3] | ☐ LOW [1] |
| ☐ NONE [1] | ☐ POOR [1] | ☐ RECENT OR NO RECOVERY [1] | |

Comments

Channel
Maximum
20
14

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

River right looking downstream

- | EROSION | RIPARIAN WIDTH | FLOOD PLAIN QUALITY | |
|---|--|--|--|
| ☒ NONE / LITTLE [3] | ☒ WIDE > 50m [4] | ☒ FOREST, SWAMP [3] | ☐ CONSERVATION TILLAGE [1] |
| ☐ MODERATE [2] | ☐ MODERATE 10-50m [3] | ☐ SHRUB OR OLD FIELD [2] | ☐ URBAN OR INDUSTRIAL [0] |
| ☐ HEAVY / SEVERE [1] | ☐ NARROW 5-10m [2] | ☒ RESIDENTIAL, PARK, NEW FIELD [1] | ☐ MINING / CONSTRUCTION [0] |
| | ☐ VERY NARROW < 5m [1] | ☐ FENCED PASTURE [1] | |
| | ☐ NONE [0] | ☐ OPEN PASTURE, ROWCROP [0] | |

Comments

Indicate predominant land use(s)
past 100m riparian.Riparian
Maximum
10
9

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH

Check ONE (ONLY!)

- | |
|--|
| ☒ > 1m [6] |
| ☐ 0.7-<1m [4] |
| ☐ 0.4-<0.7m [2] |
| ☐ 0.2-<0.4m [1] |
| ☐ < 0.2m [0] |

CHANNEL WIDTH

Check ONE (Or 2 & average)

- | |
|---|
| ☒ POOL WIDTH > RIFFLE WIDTH [2] |
| ☐ POOL WIDTH = RIFFLE WIDTH [1] |
| ☐ POOL WIDTH < RIFFLE WIDTH [0] |

CURRENT VELOCITY

Check ALL that apply

- | | |
|--|--|
| ☐ TORRENTIAL [-1] | ☒ SLOW [1] |
| ☐ VERY FAST [1] | ☐ INTERSTITIAL [-1] |
| ☐ FAST [1] | ☐ INTERMITTENT [-2] |
| ☒ MODERATE [1] | ☐ EDDIES [1] |

Indicate for reach - pools and riffles.

Comments

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)Pool /
Current
Maximum
12
10

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 |
|---|--|--|--|
| ☐ BEST AREAS > 10cm [2] | ☐ MAXIMUM > 50cm [2] | ☒ STABLE (e.g., Cobble, Boulder) [2] | ☐ NONE [2] |
| ☒ BEST AREAS 5-10cm [1] | ☒ MAXIMUM < 50cm [1] | ☐ MOD. STABLE (e.g., Large Gravel) [1] | ☐ LOW [1] |
| ☐ BEST AREAS < 5cm [metric=0] | | ☐ UNSTABLE (e.g., Fine Gravel, Sand) [0] | ☒ MODERATE [0] |
| | | | ☐ EXTENSIVE [-1] |

Comments

Riffle /
Run
Maximum
8
3.5

6] GRADIENT (10.46 ft/mi)

DRAINAGE AREA

(11.8 mi²)

- | |
|---|
| ☐ VERY LOW - LOW [2-4] |
| ☒ MODERATE [6-10] |
| ☐ HIGH - VERY HIGH [10-6] |

%POOL:

%GLIDE:

%RUN:

%RIFFLE:

Gradient
Maximum
10
10

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

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

DISTANCE

- ☐ 0.5 Km ☐ CLARITY
- ☐ 0.2 Km ☐ 1st --sample pass-- 2nd
- ☐ 0.15 Km ☐ < 20 cm
- ☐ 0.12 Km ☐ 20-40 cm
- ☐ OTHER ☐ 40-70 cm
- ☐ > 70 cm/ CTB ☐
- ☐ SECCHI DEPTH ☐

meters

CANOPY

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

CJ RECREATION

POOL: ☐ >100ft² ☐ >3ft

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
- ☐ ARMORED / 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 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:

