"good"

#### **OhioEPA**

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI	Score:	67:
Discount of the		

	an J				east Ohio Regional Sewer D	
River Code:		STORET #:	Lat./ Long. (NAD 83 - decima) °	41.4009	8]. 7511 Oma	ce ver loca
1] SUBSTRATE	Check ONLY Two sul estimate % or note e	bstrate TYPE BOXES.		Check ONE (C	Or 2 & average)	
BEST TYP		OTHER TYPES	POOL RIFFLE	ORIGIN	QUALITY	
BLDR/SLABS		☐ ☐ HARDPAN [4]	LIN	MESTONE [1]	☐ HEAVY [-2]	
BOULDER [9]	Marie V	☐ ☐ DETRITUS [3]		LS [1]	MODERATE [-1]	Su
COBBLE [8]	XX	☐ ☐ MUCK [2]		: I LANDS [U]	☐ NORMAL [0]	
☐ GRAVEL [7] ☐ SAND [6]	TO X	☐ ☐ SILT [2] ☐ ☐ ARTIFICIAL [0]		RDPAN [0] NDSTONE [0]	FREE [1]  EXTENSIVE [-2]	
BEDROCK [5]	ALIU ALIU	The second secon	The state of the s	P/RAP [0]	DEON DEXTENSIVE [-2]  MODERATE [-1]  NORMAL [0]  NONE [1]	
NUMBER OF BE	ST TYPES: 4	or more [2] sludge from	n point-sources) 🔲 LA	CUSTURINE [0] 🖺	NORMAL [0]	IVIC
Comments		or less [0]		ALE [-1] AL FINES [-2]	□ NONE [1]	
134	Aford Formay	10n - 1-1		ACTINEO [-2]	0	
2] INSTREAM C	OVER Indicate pres	sence 0 to 3: 0-Absent;	1-Very small amounts o	r if more common of m	arginal AMOUNT	
quality: 3-Highest or	uality in moderate or o	oderate amounts, but no greater amounts (e.g., v	erv large boulders in de	ep or fast water, large	hest Check ONE (Or 2 & av	verage
diameter log that is	stable, well develope	d rootwad in deep / fast	water, or deep, well-de	fined, functional pools.	□ EXTENSIVE >75% [	and the latest terms and the latest terms are the l
UNDERCUT E	BANKS [1] NG VEGETATION [1]		m [2] OXBOW			and the same of
SHALLOWS	IN SLOW WATER) [1	ROOTWADS  BOULDERS	and the second s	IC MACROPHYTES [1 OR WOODY DEBRIS [	TO THE PROPERTY OF THE PROPERT	
/ ROOTMATS [		DOOLDERO		TOOD I DEBING [	Cove	-
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		grad (1) . Jr	# N			20
		eck ONE in each catego				
SINUOSITY	DEVELOPMEN			TABILITY		
HIGH [4]	EXCELLENT [7]	Management of ASSEST Ave.		HIGH [3]		
☐ MODERATE [3] ☐ LOW [2]	☐ GOOD [5] ☐ FAIR [3]	☐ RECOVERED [	EAST OF THE PERSON OF THE PERS	MODERATE [2] LOW [1]		
☐ NONE [1]	☐ POOR [1]	<ul> <li>Zessytes/es/2/demotors/vmss/v</li> </ul>	RECOVERY [1]	- And full	Chann	nel 🌅
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Comments	5 W. 1920 G W		Α.	151.7	Maximu	ım
2	L+ buds	a	4	+5+6+2	Maximu	ım 20
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A] BANK EROSION  EROSION  NONE / LITTLI  MODERATE [2]  HEAVY / SEVE  Comments  5] POOL / GLIDE  MAXIMUM DE  Check ONE (ONE  1 m [6]  0.7~1m [4]  0.2~0.4m [1]  <0.2m [0]  Comments  Indicate for of riffle-oblig RIFFLE DEPT  BEST AREAS > 10  BEST AREAS < 5-[me]	GON AND RIPARI WINDE E [3]  MODE E [3]  MODE E [3]  MODE E [4]  VERY NONE E AND RIFFLE / PTH CHA LY/) Check C M POOL WID POOL WID POOL WID POOL WID The control of the cont	ARIAN WIDTH  > 50m [4]  ERATE 10-50m [3]  ROW 5-10m [2]  NARROW < 5m [1]  E [0]  RUN QUALITY  ANNEL WIDTH  DNE (Or 2 & average)  DTH > RIFFLE WIDTH [1]  DTH < RIFFLE WIDTH [1	FLOOD P FLOOD P FLOOD P FOREST, SWAMP SHRUB OR OLD F RESIDENTIAL, PA FENCED PASTURE, OPEN PASTURE,  CURREN Check AL TORRENTIAL [-1] FAST [1] MODERATE [1] Indicate for reac t be large enough ONE (Or 2 & average) FLE / RUN SUBST BLE (e.g., Cobble, Bould STABLE (e.g., Fine Graverage) FABLE (e.g., Fine Graverage)	EACH BANK (Or 2 per LAIN QUALITY  [3]  FIELD [2]  RK, NEW FIELD [1]  ROWCROP [0]  FIELD [1]	Recreation Poter   Primary Contact   Circle one and comment or   Circle one and commen	AGE   IAL [0]
A] BANK EROSION  River right looking do  EROSION  NONE / LITTLI  MODERATE [2]  HEAVY / SEVE  TOMMENTS  AND	GON AND RIPARI WINDE E [3]  MODE E [3]  MODE E [3]  MODE E [4]  NONE E AND RIFFLE / PTH CHA LY/) Check C M POOL WID POOL WID POOL WID FINANCE FINANCE FINANCE I MAXIML Cm Cm I MAXIML CM I	ARIAN WIDTH  > 50m [4]  ERATE 10-50m [3]  ROW 5-10m [2]  NARROW < 5m [1]  E [0]  RUN QUALITY  ANNEL WIDTH  DITH > RIFFLE WIDTH [2]  OTH > RIFFLE WIDTH [2]  STH = RIFFLE WIDTH [2]  STH = RIFFLE WIDTH [2]  OTH > RIFFLE WIDTH [3]  STH = RIFFLE WIDTH [4]  OTH > RIFFLE WIDTH [4]  OTH > RIFFLE WIDTH [6]  STHE STAR STAR STAR STAR STAR STAR STAR STAR	FLOOD P FLOOD P FLOOD P FOREST, SWAMP SHRUB OR OLD F RESIDENTIAL, PA FENCED PASTURE, OPEN PASTURE,  CURREN Check AL TORRENTIAL [-1] FAST [1] MODERATE [1] Indicate for reac t be large enough ONE (Or 2 & average) FLE / RUN SUBST BLE (e.g., Cobble, Bould STABLE (e.g., Fine Graverage) FABLE (e.g., Fine Graverage)	EACH BANK (Or 2 per LAIN QUALITY  [3]  FIELD [2]  RK, NEW FIELD [1]  ROWCROP [0]  FIELD [1]	CONSERVATION TILL CONSERVATION CONS	AGE [IAL [0] ITION [IN IN I
A] BANK EROSION River right looking do EROSION NONE / LITTLI MODERATE [2] HEAVY / SEVE  Comments  5] POOL / GLIDE MAXIMUM DE Check ONE (ONE 1 > 1m [6] 0.7<1m [4] 0.2<0.4m [1] 0.2<0.4m [1] comments  Indicate for of riffle-oblig RIFFLE DEPT BEST AREAS > 10 BEST AREAS > 5-10 BEST AREAS < 5-10 BEST AREAS < 5-10	CON AND RIPARI   WIDE   WIDE   WIDE     NARR   WIDE   WIDE     NARR   WIDE   WIDE     NONE   WIDE   WIDE     NONE   WIDE   WIDE     POOL WID   POOL WID     POOL WID   POOL WID     POOL WID   POOL WID     POOL WID   WIDE   WIDE     OCT   MAXIMUL   COM   MAXIMUL     COM   COM   MAXIMUL   COM   COM   COM   COM   COM     COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM   COM	ARIAN WIDTH  > 50m [4]  ERATE 10-50m [3]  ROW 5-10m [2]  NARROW < 5m [1]  E [0]  RUN QUALITY  ANNEL WIDTH  DNE (Or 2 & average)  DTH > RIFFLE WIDTH [1]  DTH < RIFFLE WIDTH [1]  OTH < RIFFLE WIDTH [1]  DTH < RIFFLE WIDTH [1	FLOOD P FLOOD P FLOOD P FOREST, SWAMP SHRUB OR OLD F RESIDENTIAL, PA FENCED PASTURE, OPEN PASTURE,  CURREN Check AL TORRENTIAL [-1] FAST [1] MODERATE [1] Indicate for reac t be large enough ONE (Or 2 & average) FLE / RUN SUBST BLE (e.g., Cobble, Bould STABLE (e.g., Fine Graverage) FABLE (e.g., Fine Graverage)	EACH BANK (Or 2 per LAIN QUALITY  [3]  FIELD [2]  RK, NEW FIELD [1]  ROWCROP [0]  FIELD [1]  INTERMITTENT  Ch - pools and riffles  Into support a population of the suppor	Recreation Poter   Primary Contact   Circle one and comment or   Circle one and commen	AGE [IAL [O ITION   Implication of the control of t

aradient greates than upper bound

Stream Drawing:	□ 0.5 Km	m DD	OTHER ORNAL	CKJALL A
	### BJAESTHETICS  ####   NUISANCE ALGAE    INVASIVE MACROPHYTES    March   NUISANCE ALGAE   INVASIVE MACROPHYTES   EXCESS TÜRBIDITY   DISCOLORATION   FOAMI/SCUM   FOAMI/SCUM   OIL SHEEN   Cm			
the randown to	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 / SCOURED IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE	t		
The same of the sa	Circle some & COMMENT			al A
College topology	WATP / 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> 0 / TILE / H <sub>2</sub> 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	100 mm	が見る	
Sand clay	F] MEASUREMENTS  x width x depth max. depth x bankfull width bankfull x depth W/D ratio bankfull max. depth floodprone x² width entrench. ratio Legacy Tree:	A A	i de la companya de l	

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# Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:



Stream & Location:	Stickney Creek	RM:	0.15 Date: 08   27   15
DA: 15.8 ni2.	Friedman Scorers	Full Name & Affiliation: Northea	ast Ohio Regional Sewer District
River Code:	- STORET #:	Lat./Long.: 1 .4294 18	1.7494 Office verified location
BEST TYPES	LYTwo substrate TYPE BOXES: or note every type present  L RIFFLE OTHER TYPES POOI  HARDPAN [4]  DETRITUS [3]  X DETRITUS [3]  X DETRITUS [2]  X DETRITUS [3]  X DETRITUS [4]  X DETRITUS [4]	TILLS [1]  TILLS [1]  WETLANDS [0]  SIL	QUALITY  HEAVY [-2]  MODERATE [-1] Substrate
quality: 3-Highest quality in mo	uality: 2-Moderate amounts, but not of his derate or greater amounts (e.g., very lar developed rootwad in deep / fast water  POOLS > 70cm [2] ATION [1] ROOTWADS [1]	or deep, well-defined, functional pools.  OXBOWS, BACKWATERS [1]  AQUATIC MACROPHYTES [1]  LOGS OR WOODY DEBRIS [1]	Check ONE (Or 2 & average)  EXTENSIVE >75% [11]  MODERATE 25-75% [7]  SPARSE 5-<25% [3]  NEARLY ABSENT <5% [1]  Cover  Maximum
			20
SINUOSITY DEVELO	[3] RECOVERING [3]	ON STABILITY  HIGH [3] MODERATE [2] LOW [1]	Channel Maximum 20
	RIPARIAN ZONE Check ONE in e	each category for EACH BANK (Or 2 per b	pank & average)
River right looking downstream  EROSION  NONE / LITTLE [3]  MM MODERATE [2]  HEAVY / SEVERE [1]	RIPARIAN WIDTH  WIDE > 50m [4]  MODERATE 10-50m [3]  NARROW 5-10m [2]  VERY NARROW < 5m [1]	FLOOD PLAIN QUALITY OREST, SWAMP [3] HRUB OR OLD FIELD [2] ESIDENTIAL, PARK, NEW FIELD [1] ENCED PASTURE [1]	CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] MINING / CONSTRUCTION [0] Icate predominant land use(s) It 100m riparian Riparlan
Comments	2+1.5+1		Maximum 10
□ 0.7<1m [4] □ 1	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 [-1  MODERATE [1] EDDIES [1]  Indicate for reach - pools and riffles	
of riffle-obligate spe RIFFLE DEPTH ☐ BESTAREAS > 10cm [2]	al riffles; Best areas must be cies: Check ONE ( RUN DEPTH RIFFLE / ] MAXIMUM > 50cm [2] STABLE (6	e.g., Cobble, Boulder) [2] BLE (e.g., Large Gravel) [1] E (e.g., Fine Gravel, Sand) [0]	
6] GRADIENT ( 222m) DRAINAGE AREA	mi)	%POOL: %GL %RUN: %RIFF	N: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 -

Stream Drawing:	A] SAMPLE FEACH  Check A. at apply  METHOD STAGE  BOAT   1st -sample pass- 2nd
A Recorded to 18 and 18	BJAESTHETICS    NUISANCE ALGAE   NUISANCE ALGAE   NUISANCE ALGAE   PUBLIC / PRIVATE / BOTH   ACTIVE / HISTORIC / BOTH   YOUNG-SUCCESSION-O   SPRAY / SNAG / REMOVING-BED / ONE SIDED   RELOCATED / CUTOFF   NUISANCE ODOR   SLUDGE DEPOSITS   SLUDGE DEPOSITS   SLUDGE DEPTH   POOL:   >100ft2   >3ft   FLOOD CONTROL / DRAIN
Service Servic	AGE SES NEGZZ "
Signal poor	Circle some & COMMENT
Jeel incirced to the second of	**ETILIZATION OF THE PARK / GOLF / LAND / STAGNANT ** EJ ISSUES / 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> 0 / TILE / H <sub>2</sub> 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY
Stay Stay Stay Stay	F] MEASUREMENTS  x̄ width x̄ depth max. depth bankfull x̄ depth bankfull x̄ depth bankfull max. depth floodprone x² width entrench. ratio Legacy Tree:

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## Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

		1 (2)
QHEI	Score:	68,5

Stream & Location: Rig Creek INTESTER	rance DS Memohia RM: D.D 2 Date: D813 1115
Zablotny (K. Amidun)	Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District
River Code: - STORET #:	(NAD 83 - decimal e) 10 10 10 location U
BLDR /SLABS [10]	Check ONE (Or 2 & average)  ORIGIN  QUALITY  LIMESTONE [1]
quality 3-Highest quality in moderate or greater amounts (e. diameter log that is stable, well developed rootwad in deep $I$	ent; 1-Very small amounts or if more common of marginal the not of highest quality or in small amounts of highest g, very large boulders in deep or fast water, large fast water, or deep, well-defined, functional pools.  70cm [2] OXBOWS, BACKWATERS [1] MODERATE 25-75% [7]
Comments	Maximum 20
☐ HIGH [4]       ☐ EXCELLENT [7]       ■ NONE [6]         ☐ MODERATE [3]       ☐ GOOD [5]       ☐ RECOVERI         ☐ LOW [2]       ☐ FAIR [3]       ☐ RECOVERI	LIZATION STABILITY  HIGH [3]  D [4] MODERATE [2]
RIVER right looking downstream RIPARIAN WIDTH REROSION WIDE > 50m [4] MODERATE [3] MODERATE [1] MODERATE [2] MODERATE [1] VERY NARROW < 5m [1] NONE [0]	☐ ☐ OPEN PASTURE, ROWCROP [0] past 100m riparian Riparian
Comments 2 12.5	Maximum 10
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]  Comments	H [2]
of riffle-obligate species: Che RIFFLE DEPTH RUN DEPTH F BEST AREAS > 10cm [2] MAXIMUM > 50cm [2] S BEST AREAS 5-10cm [1] MAXIMUM < 50cm [1] MAXIM	nust be large enough to support a population  ck ONE (Or 2 & average).  RIFFLE / RUN SUBSTRATE RIFFLE / RUN EMBEDDEDNESS  RIABLE (e.g., Cobble, Boulder) [2] NONE [2]  MOD. STABLE (e.g., Large Gravel) [1] LOW [1]  INSTABLE (e.g., Fine Gravel, Sand) [0] MODERATE [0] Riffle / Run  Maximum  Maximum  RIFFLE [metric=0]  NO RIFFLE [metric=0]  NONE [2]  NONE [2]  MODERATE [0]  Riffle / Run  Maximum  Maximum  Run
6] GRADIENT (   \( \frac{1}{4} \frac{1}{4	%POOL: %GLIDE: Gradient Maximum

Boursey Son	Stream Drawing:	O.5 Km O.2 Km O.15 Km O.15 Km O.15 Km O.15 Km O.15 Km O.12 Km O.13 KNASIVE MACROPHYTES OIN CESS TURBIDITY OIN SECCHI DEPTH OIN OIL SHEEN O	AJ SAMPL 7EACH Check A at apply  METHOD STAGE BOAT 1st-sample pass- 2nd UP
Brance Andrews	Jan Canada Canad	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	s reach typical of steam? Rec +on/Observed -
Ward House of the state of the	133 1515 CHENTY TO	Circle some & COMMENT  WWTP / HARDEN CONT BMPs-C( LOGGING BANK FALSE B WASH ACID / NATURA PARK ATMOS	
ement primary and	SWIND ON SWIND	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> 0 / TILE / H <sub>2</sub> 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	nferred, <i>Other/</i> Sampling observations, Concerns, Access direction
praga som	Musochilos ~	F] MEASUREMENTS  x width x depth max. depth y bankfull width bankfull x depth W/D ratio bankfull max. depth floodprone x² width entrench. ratio Legacy Tree:	ess direction atc

**ChioEPA** 

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:



	Stream & Location: Big Creek Men phis Tieder RM: 4.40 Date: 8/14/15
U. Y	Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District  River Code:  STORET #: 182 Lat./ Long.: 11 44 60/81.7540 Office verified location
Zalphoting	River Code: - STORET #: 19 Latti Long. 1 . 99 90181 . 15 10 location
	SUBSTRATE Check ONLY Two substrate TYPE BOXES. estimate % or note every type present   BEST TYPES
	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.    UNDERCUT BANKS [1]
	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
	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]   CONSERVATION TILLAGE [1]  NONE / LITTLE [3]   MODERATE 10-50m [3]   SHRUB OR OLD FIELD [2]   URBAN OR INDUSTRIAL [0]  MODERATE [2]   NARROW 5-10m [2]   RESIDENTIAL, PARK, NEW FIELD [1]   MINING / CONSTRUCTION [0]  HEAVY / SEVERE [1]   VERY NARROW < 5m [1]   FENCED PASTURE [1]   Indicate predominant land use(s)  Past 100m riparian Riparlan  Maximum  Maximum  10
1	5] POOL / GLIDE AND RIFFLE / RUN QUALITY  MAXIMUM DEPTH  Check ONE (ONLY)  Check ONE (Or 2 & average)  Check ALL that apply  Check ALL that apply  TORRENTIAL [-1] SLOW [1]  O.7-<1m [4]  POOL WIDTH = RIFFLE WIDTH [1]  CIRRENT VELOCITY  Check ALL that apply  TORRENTIAL [-1] INTERSTITIAL [-1]  FAST [1]  INTERSTITIAL [-1]  FAST [1]  FAST [1]  INTERMITTENT [-2]  MODERATE [1]  Indicate for reach - pools and riffles  Comments  Recreation Potential  Primary Contact  (circle one and comment on back)  Pool /  Current  Maximum  12
	Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).  RIFFLE DEPTH RUN DEPTH RIFFLE / RUN SUBSTRATE STABLE (e.g., Cobble, Boulder) [2] BEST AREAS > 10cm [2] MAXIMUM > 50cm [2] MAXIMUM > 50cm [1] MOD. STABLE (e.g., Carge Gravel) [1] BEST AREAS < 5cm [metric=0] Comments  Riffle / Run Maximum Maximum Maximum 8
0	6] GRADIENT ( Very Low - Low [2-4] %POOL: %GLIDE: Gradient Maximum ( Maximum 10 ) High - Very High [10-6] %RUN: %RIFFLE:

Stream Drawing:	A J SAMPLE 'EACH Check Alsat apply  METHOD STAGE  BOAT   STAGE   HIGH   WADE   NORMAL   OTHER   LOW   OTHER   LOW   OTHER   O.2 Km   O.15 Km   O.12 Km   O.12 Km   O.12 Km   O.12 Km   O.14 Cm   OTHER   O.15 Km   O.15 Km   O.15 Km   O.15 Km   O.15 Km   O.15 Km   O.16 Km   O
Exert Cooperation of the state	AGE  ple pass- 2nd  H  RMAL  W  B  NUISANCE ALGAE  INVASIVE MACROPHYTES  CM  CM  CM  CM  CM  CM  CM  CM  CM  C
30	TED NAGE
S. S	on/Observed - Inferred. Other/
All bedrick.  SwoodArea.  SwoodArea.	REJISSUES  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> 0 / TILE / H <sub>2</sub> 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY  EJ MEA  T width T depth T bankfull
	F] MEASUREMENTS  x width x depth max. depth bankfull x depth bankfull x depth bankfull max. depth hoodprone x² width entrench. ratio  Legacy Tree:

		-	
(U)	•		A

### Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:	72.5
AHEI Score:	(EW3)

Stream & Location:	B. Carl	Jan 1	2	PM· n IS Dat	e: 9 10 1 15
Zabiotny	Dia ( proced	Secreta Full No	Affiliation:	Northeast Ohio Region	
River Code: -	- STORET #:			o /81.6865	Office verified location
estimate BEST TYPES BEDR /SLABS [10] BOULDER [9] COBBLE [8] GRAVE [7] SAND [6] BEDROCK [5]	ONLYTwo substrate TYPE BOXI e % or note every type present OOL RIFFLE	PES POOL RIFFLE  [4]  [5]  [3]		SILT HEAV MODE NORM FREE DEO MODE MODE	ALITY Y [-2] ERATE [-1] Substrai
quality: 3-Highest quality in	GETATION [1] 2 ROOTW	out not of highest quality.g., very large boulder / fast water, or deep, v > 70cm [2]O O ADS [1]O A	ity or in small amounts rs in deep or fast water	cornigness Check ONE pools. EXTENS  RS [1] MODERA  TES [1] SPARSE	MOUNT E (Or 2 & average) IVE >75% [11] ATE 25-75% [7] 5-<25% [3] ABSENT <5% [1]  Cover Maximum 20
SINUOSITY DEVI	CCELLENT [7] NONE [6] DOD [5] RECOVER AIR [3] RECOVER	ELIZATION ED [4]	STABILITY  HIGH [3]  MODERATE [2]  LOW [1]	1.2 1.2005	Channel Maximum 20
4] BANK EROSION A. River right looking downstream EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1] Comments	☐ ☐ WIDE > 50m [4] ☐ ☐ MODERATE 10-50m [3] ☐ ☐ NARROW 5-10m [2]	FLOG PROFEST, SI SHRUB OR RESIDENTIA FENCED PA OPEN PAS	O <b>D PLAIN QUALI</b> WAMP [3] OLD FIELD [2] AL, PARK, NEW FIELD	TY  CONSERVA URBAN OR III MINING / CO	ATION TILLAGE [1] I INDUSTRIAL [0] ONSTRUCTION [0] ant land use(s)
MAXIMUM DEPTH Check ONE (ONLY!)	CHANNEL WIDTH Check ONE (Or 2 & avera POOL WIDTH > RIFFLE WID' POOL WIDTH = RIFFLE WID' POOL WIDTH < RIFFLE WID'	Y I CUR gge) CH TH [2] TORRENT TH [1] VERY FAS TH [0] FAST [1] MODERA		TIAL [-1] TENT [-2]	tion Potential ary Contact dary Contact and comment on back)  Pool / Current Maximum 12
Indicate for funct of riffle-obligate s RIFFLE DEPTH  BEST AREAS > 10cm [2] BEST AREAS 5-10cm [1] BEST AREAS < 5cm [metric=0]  Comments	RUN DEPTH    MAXIMUM > 50cm [2]     MAXIMUM < 50cm [1]	heck ONE (Or 2 & ave RIFFLE / RUN S STABLE (e.g., Cobb	erage). UBSTRATE RIF le, Boulder) [2] Large Gravel) [1]	a population  FLE / RUN EMBEI  NONE [2] LOW [1] MODERATE EXTENSIVE	NO RIFFLE [metric=0 DDEDNESS
6] GRADIENT ( 17.6 DRAINAGE AREA ( 27)	ft/mi)		%POOL:	%GLIDE:	Gradient Maximum 10

