Appendix A

Field Data Sheets and Field Notes

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Stormwater Retention Basin

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BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME RETENTION POND	LOCATION RP-1	
STATION # _____ RIVERMILE _____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		LOT NUMBER
FORM COMPLETED BY SPT/JKS/SNL	DATE 06/13/05 TIME 12:45 AM (PM)	REASON FOR SURVEY

HABITAT TYPES	**Indicate the percentage of each habitat type present** ☐ Cobble ____% ☐ Snags ____% ☐ Vegetated Banks 60 % ☐ Sand ____% ☑ Submerged Macrophytes 30 % ☑ Other (emergent) 10 %
SAMPLE COLLECTION	**Gear used** ☐ D-frame ☑ Kick-net ☑ Other Jabs **How were the samples collected?** ☑ wading ☐ from bank ☐ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ☐ Cobble ____ ☐ Snags ____ ☑ Vegetated Banks 60 % ☐ Sand ____ ☑ Submerged Macrophytes 30 ☑ Other (10 %) ____
GENERAL COMMENTS	Ludwigia spp. 3 — 30% in ludwigia Alligator weed 3 — 10% in Alligator weed

QUALITATIVE LISTING OF AQUATIC BIOTA

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	(0)	1	2	3	4	Slimes	(0)	1	2	3	4
Filamentous Algae	(0)	1	2	3	4	Macroinvertebrates	0	1	2	3	(4)
Macrophytes	0	1	2	3	(4)	Fish	0	(1)	2	3	4

FIELD OBSERVATIONS OF MACROBENTHOS

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	(1)	2	3	4	Chironomidae	0	1	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	(3)	4	Ephemeroptera	0	1	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	(3)	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	(3)	4	Other	0	1	2	3	(4)
Hirudinea	0	(1)	2	3	4	Lepidoptera	0	1	2	3	4	Cladocera					
Oligochaeta	0	1	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	(2)	3	4						

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME Retention Pond	SITE NAME ANNISTON PCB SITE - OU-1/OU-2 AREA	
STATION # RP-STA-1	LOCATION ANNISTON, AL	
RIVER BASIN	UPPER LIMIT LATITUDE/LONGITUDE: 33°37'00.9"/85°49'32.1"	
AGENCY	LOWER LIMIT LATITUDE/LONGITUDE: 33°36'58.9"/85°49'31.8"	
INVESTIGATORS SPT, SML, JKS		LOT NUMBER
FORM COMPLETED BY SPT	DATE 6/13/2005 TIME 1245 AM (PM)	REASON FOR SURVEY BMI COMMUNITY ASSESSMENT

HABITAT TYPES	**Indicate the percentage of each habitat type present** ❑ Cobble_____% ❑ Snags_____% ☒ Vegetated Banks 60 % ❑ Sand_____% ☒ Submerged Macrophytes 30 % ☒ Other (emergent veg) 10 %
SAMPLE COLLECTION	**Gear used** ❑ D-frame ❑ kick-net ☒ Other jabs **How were the samples collected?** ☒ wading ❑ from bank ❑ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ❑ Cobble_____ ❑ Snags_____ ☒ Vegetated Banks 60 ❑ Sand_____ ☒ Submerged Macrophytes 30 ☒ Other ( ) 10
GENERAL COMMENTS	

QUALITATIVE LISTING OF AQUATIC BIOTA
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	(0)	1	2	3	4	Slimes	(0)	1	2	3	4
Filamentous Algae	(0)	1	2	3	4	Macroinvertebrates	0	1	2	3	(4)
Macrophytes	0	1	2	3	(4)	Fish	0	(1)	2	3	4

FIELD OBSERVATIONS OF MACROBENTHOS
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	(1)	2	3	4	Chironomidae	0	1	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	(3)	4	Ephemeroptera	0	1	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	(3)	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	(3)	4	Other	0	1	2	3	(4)
Hirudinea	0	(1)	2	3	4	Lepidoptera	0	1	2	3	4	Cladocera					
Oligochaeta	0	1	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	(2)	3	4						

Benthic Macroinvertebrates Collected by BBL Science for Project Number 10213.001.

	Sample Location:	**Station RP-01**		
	Sample Date:	13-Jun-05		
	Sample Type:	Kick Net		
Taxon:		Common Name	Number	Percent
Rhyncobdellida				
Glossiphoniidae				
Helobdella papillata		leech	2	0.6%
Hydrachnidia				
Limnesiidae				
Limnesia sp.		mite	13	3.9%
Ephemeroptera				
Baetidae				
Callibaetis sp.		mayfly	120	36.3%
Caenidae				
Caenis sp.		mayfly	3	0.9%
Odonata				
Aschnidae				
Aeschna sp.		dragonfly	8	2.4%
Anax sp.		dragonfly	1	0.3%
Coenagrionidae				
Enallagma sp.		damselfly	54	16.3%
Libellulidae (early instar)		dragonfly	1	0.3%
Erythemis simplicollis		dragonfly	3	0.9%
Hemiptera				
Belostomatidae				
Belostoma sp.		giant water bug	4	1.2%
Corixidae				
Hesperocorixa sp.		water boatman	1	0.3%
Sigara sp.		water boatman	2	0.6%
Gerridae				
Gerris sp.		water strider	2	0.6%
Mesoveliidae				
Mesovelia mulsanti		water treader	6	1.8%
Naucoridae				
Pelocoris femoratus		creeping water bug	9	2.7%
Notonectidae				
Notonecta indica		back swimmer	36	10.9%
Coleoptera				
Dytiscidae				
Ilybius sp.		diving beetle	5	1.5%
Haliplidae				
Haliplus sp.		crawling water beetle	2	0.6%
Peltodytes sp.		crawling water beetle	1	0.3%
Hydrophilidae				
Berosus sp.		scavenger beetle	1	0.3%
Tropisternus sp.		scavenger beetle	22	6.6%
Noteridae				
Hydrocanthus sp.		burrowing water beetle	1	0.3%
Diptera				
Ceratopogonidae				
Palpomyia gr.		biting midge	4	1.2%
Chaoboridae				
Chaoborus punctipennis		phantom midge	1	0.3%
Chironomidae				
Cricotopus bicinctus		midge	1	0.3%
Endochironomus nigricans		midge	6	1.8%
Larsia sp.		midge	10	3.0%
Parachironomus chaetoalus		midge	5	1.5%
Paratanytarsus sp.		midge	1	0.3%
Culicidae				
Culex sp.		mosquito	5	1.5%
Stratiomyiidae				
Odontomyia sp.		soldier fly	1	0.3%
Total Number of Specimens			**331**	100.0%
Total Number of Taxa			**31**	

FISH SAMPLING FIELD DATA SHEET (FRONT)

STREAM NAME Retention Pond	SITE NAME Anniston PCB Site - OU-1/OU-2 Area
STATION # RP-STA-1	LOCATION Anniston, AL
RIVER BASIN	STATION-CENTER LATITUDE/LONGITUDE: 33°39'10.5"/85°50'54.6"
AGENCY	LOWER LIMIT LATITUDE/LONGITUDE: N/A
GEAR Smith-Root LR24 Electro-shocker	INVESTIGATORS SML, SPT, JKS
FORM COMPLETED BY SPT	DATE 6/13/05 TIME 0141 AM (PM) — REASON FOR SURVEY: fish community study

SAMPLE COLLECTION	**How were the fish captured?** ☒ back pack ❑ tote barge ❑ other _____ **Block nets used?** ❑ YES ☒ NO **Sampling Duration** Start time _____ End time _____ Duration _____ **Stream width (in meters)** Max_____ Mean_____
HABITAT TYPES	**Indicate the percentage of each habitat type present** ❑ Riffles_____% ☒ Pools 50 % ❑ Runs_____% ❑ Snags_____% ☒ Submerged Macrophytes 50 % ❑ Other ( )_____%
GENERAL COMMENTS	no fish species observed

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)					ANOMALIES*							
							D	E	F	L	M	S	T	Z

* ANOMALY CODES: D = deformities; E = eroded fins; F = fungus; L = lesions; M = multiple DELT anomalies; S = emaciated; Z = other

FISH SAMPLING FIELD DATA SHEET (BACK)

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)					ANOMALIES*							
							D	E	F	L	M	S	T	Z

* ANOMALY CODES: D = deformities; E = eroded fins; F = fungus; L = lesions; M = multiple DELT anomalies; S = emaciated; Z = other

Snow Creek Station 1

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bottom - 33° 39' 40.7" 85°50' 51.7"
top 33° 39' 43.2" 85°50' 55.5"

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME Snow Creek	LOCATION Station/Reach 1 - 14th & McDaniel	
STATION # _____ RIVERMILE _____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		LOT NUMBER
FORM COMPLETED BY SMC/SPT/JKS	DATE 6/10/05 TIME 10:00 (AM) PM	REASON FOR SURVEY

HABITAT TYPES	**Indicate the percentage of each habitat type present** ☑ Cobble 20 % ☐ Snags ____ % ☑ Vegetated Banks 20 % ☑ Sand Gravel/60 % ☐ Submerged Macrophytes ____ % ☐ Other ( ) ____ %
SAMPLE COLLECTION	**Gear used** ☐ D-frame ☒ kick-net ☐ Other _____ **How were the samples collected?** ☒ wading ☐ from bank ☐ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ☒ Cobble 4 ☐ Snags ____ ☒ Vegetated Banks 4 ☒ Sand Gravel 12 ☐ Submerged Macrophytes ____ ☐ Other ( ) ____
GENERAL COMMENTS	Flow 1.13 ft/sec See field notebook for results of DMI/PMT reach

QUALITATIVE LISTING OF AQUATIC BIOTA

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	0	1	2	3	4	Slimes	0	1	2	3	4
Filamentous Algae	0	1	2	3	4	Macroinvertebrates	0	1	2	3	4
Macrophytes	0	1	2	3	4	Fish	0	1	2	3	4

FIELD OBSERVATIONS OF MACROBENTHOS

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	1	2	3	4	Chironomidae	0	1	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	1	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	3	4	Other	0	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4	Fish fry					
Oligochaeta	0	1	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME	SNOW CREEK	SITE NAME	ANNISTON PCB SITE - OU-1/OU-2 AREA
STATION #	SC-STA-1	LOCATION	ANNISTON, AL
RIVER BASIN		UPPER LIMIT LATITUDE/LONGITUDE:	33°39'43.2"/85°50'55.5"
AGENCY		LOWER LIMIT LATITUDE/LONGITUDE:	33°39'40.7"/85°50'51.7"
INVESTIGATORS	SPT, SML, JKS	LOT NUMBER	
FORM COMPLETED BY	SPT	DATE 6/10/2005 TIME 0940 (AM) PM	REASON FOR SURVEY BMI COMMUNITY ASSESSMENT

HABITAT TYPES	**Indicate the percentage of each habitat type present** ☒ Cobble 20 % ❑ Snags_____% ☒ Vegetated Banks 20 % ☒ Sand 60 % (gravel) ❑ Submerged Macrophytes_____% ❑ Other ( )_____%
SAMPLE COLLECTION	**Gear used** ❑ D-frame ☒ kick-net ❑ Other _____ **How were the samples collected?** ☒ wading ❑ from bank ❑ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ☒ Cobble 4 ❑ Snags_____ ☒ Vegetated Banks 4 ☒ Sand 12 (gravel) ❑ Submerged Macrophytes_____ ❑ Other ( )_____
GENERAL COMMENTS	

QUALITATIVE LISTING OF AQUATIC BIOTA
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	(0)	1	2	3	4	Slimes	(0)	1	2	3	4
Filamentous Algae	(0)	1	2	3	4	Macroinvertebrates	0	1	(2)	3	4
Macrophytes	0	1	(2)	3	4	Fish	0	1	(2)	3	4

FIELD OBSERVATIONS OF MACROBENTHOS
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	1	(2)	3	4	Chironomidae	0	(1)	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	1	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	(1)	2	3	4	Other (Fish fry)	0	1	(2)	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
Oligochaeta	0	(1)	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	(3)	4	Simuliidae	0	(1)	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

Benthic Macroinvertebrates Collected by BBL Science for Project Number 10213.001.

	Sample Location:	**Station SC-1**		
	Sample Date:	10-Jun-05		
	Sample Type:	Kick Net		
Taxon:		Common Name	Number	Percent
Tubificida				
	Tubificidae			
	Bothrioneurum vejdovskyanum	tubeworm	1	1.0%
	Branchiura sowerbyi	tubeworm	3	3.1%
	Ilydrilus templetoni	tubeworm	1	1.0%
	Limnodrilus sp.	tubeworm	23	23.7%
Basommatophora				
	Ancylidae			
	Ferrissia rivularis	limpet snail	3	3.1%
	Lymnaeidae			0.0%
	Fossaria sp.	pond snail	3	3.1%
	Physidae			
	Physa sp.	pouch snail	9	9.3%
Veneroida				
	Sphaeriidae			
	Pisidium sp.	pill clam	3	3.1%
Decapoda				
	Cambaridae			
	Orconectes sp.	crayfish	1	1.0%
Odonata				
	Aschnidae			
	Aeschna sp.	dragonfly	6	6.2%
	Coenagrionidae			
	Enallagma sp.	damselfly	7	7.2%
	Ischnura sp.	damselfly	14	14.4%
Coleoptera				
	Haliplidae			
	Peltodytes sp.	crawling water beetle	1	1.0%
Diptera				
	Chironomidae			
	Chironomus sp.	midge	1	1.0%
	Natarsia sp.	midge	3	3.1%
	Phaenopsectra obedians gr.	midge	3	3.1%
	Stictochironomus sp.	midge	2	2.1%
	Tanypus sp.	midge	1	1.0%
	Thienemannimyia gr.	midge	12	12.4%
	Total Number of Specimens		**97**	100.0%
	Total Number of Taxa		**19**	

FISH SAMPLING FIELD DATA SHEET

STREAM NAME Snow Creek	SITE NAME Anniston PCB Site - OU-1/OU-2 Area
STATION # SC-STA-1	LOCATION Anniston, AL
RIVER BASIN	UPPER LIMIT LATITUDE/LONGITUDE: 33°39'43.2"/85°50'55.5"
AGENCY	LOWER LIMIT LATITUDE/LONGITUDE: 33°39'40.7"/85°50'51.7"
GEAR Smith-Root LR24 Electro-shocker	INVESTIGATORS SML, SPT, JKS
FORM COMPLETED BY SPT	DATE 6/10/05 TIME 0700 AM (PM) — REASON FOR SURVEY: fish community study

SAMPLE COLLECTION	**How were the fish captured?** ☒ back pack ❑ tote barge ❑ other _____ **Block nets used?** ☒ YES ❑ NO **Sampling Duration** Start time _____ End time _____ Duration 2,386 seconds **Stream width (in meters)** Max_____ Mean_____
HABITAT TYPES	**Indicate the percentage of each habitat type present** ❑ Riffles_____% ❑ Pools_____% ☒ Runs 100% ❑ Snags_____% ❑ Submerged Macrophytes_____% ❑ Other (_____)_____%
GENERAL COMMENTS	

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)					ANOMALIES*							
							D	E	F	L	M	S	T	Z
Eastern Mosquitofish	110	34/0.5	47/1.2	40/0.9	43/0.9	41/0.9								
(Gambusia holbrooki)		44/1.1	45/0.9	46/1.0	46/1.0	47/1.3								
		50/1.6	39/0.8	42/1.0	44/1.0	37/0.6								
		34/0.4	42/0.7	42/0.8	46/1.0	49/1.6								
		34/0.3	40/0.8	38/0.5	45/1.0	41/0.8								
Largescale Stoneroller	15	97/9.4	95/9.5	98/10.8	95/9.4	83/6.4								
(Campostoma oligolepis)		83/7.1	79/5.8	89/8.2	89/6.8	92/7.6								
		82/6.3	87/7.6	79/5.4	113/14.6	100/12.5								
Bluespotted Sunfish	2	152/65.3	65/4.6											
(Enneacanthus gloriosus)														

* ANOMALY CODES: D = deformities; E = eroded fins; F = fungus; L = lesions; M = multiple DELT anomalies; S = emaciated; Z = other

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

STREAM NAME Snow Creek	LOCATION SC - STA 1	
STATION # _____ RIVERMILE _____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		
FORM COMPLETED BY SML/JKS/SDT	DATE 06/12/05 TIME 1400 AM (PM)	REASON FOR SURVEY

WEATHER CONDITIONS

Now		Past 24 hours
☐	storm (heavy rain)	☐
☐	rain (steady rain)	☐
☐	showers (intermittent)	☐
60 % ☑	%cloud cover	☐ ___ %
☐	clear/sunny	☐

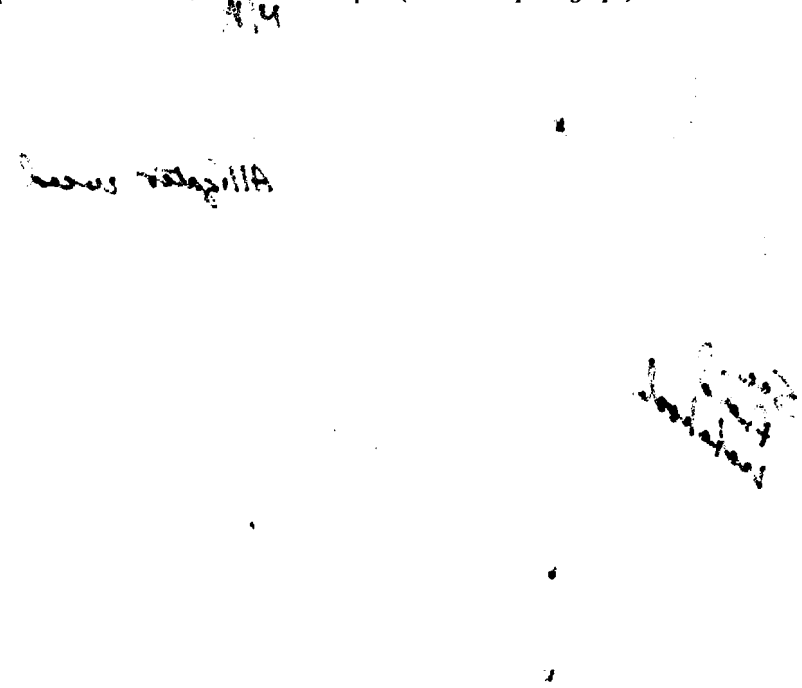
Has there been a heavy rain in the last 7 days? ☑ Yes ☐ No

Air Temperature 85 °C

Other _____

SITE LOCATION/MAP

Draw a map of the site and indicate the areas sampled (or attach a photograph)



See Field notebook.

STREAM CHARACTERIZATION

Stream Subsystem
☑ Perennial ☐ Intermittent ☐ Tidal

Stream Type
☐ Coldwater ☑ Warmwater

Stream Origin
☐ Glacial ☐ Spring-fed
☐ Non-glacial montane ☑ Mixture of origins
☐ Swamp and bog ☐ Other _____

Catchment Area _____ km²

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSHED FEATURES

Predominant Surrounding Landuse
☐ Forest ☐ Commercial
☐ Field/Pasture ☐ Industrial
☐ Agricultural ☐ Other _____
☑ Residential

Local Watershed NPS Pollution
☐ No evidence ☑ Some potential sources
☐ Obvious sources

Local Watershed Erosion
☑ None ☐ Moderate ☐ Heavy

RIPARIAN VEGETATION (18 meter buffer)

Indicate the dominant type and record the dominant species present
☐ Trees ☐ Shrubs ☐ Grasses ☑ Herbaceous
dominant species present clover

INSTREAM FEATURES

Estimated Reach Length _____ m
Estimated Stream Width 5 m
Sampling Reach Area 100 m²
Area in km² (m²x1000) _____ km²
Estimated Stream Depth 0.25 m
Surface Velocity (at thalweg) < 0.5 m/sec

Canopy Cover
☐ Partly open ☑ Partly shaded ☐ Shaded
High Water Mark 2.5 m from creek bottom
Proportion of Reach Represented by Stream Morphology Types
☐ Riffle _____ % ☑ Run 100 %
☐ Pool _____ %
Channelized ☑ Yes ☐ No
Dam Present ☐ Yes ☑ No

LARGE WOODY DEBRIS

LWD _____ m² N/A
Density of LWD _____ m²/km² (LWD/ reach area)

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
☑ Rooted emergent ☐ Rooted submergent ☐ Rooted floating ☐ Free floating
☐ Floating Algae ☐ Attached Algae
dominant species present Alligator weed
Portion of the reach with aquatic vegetation 35 %

WATER QUALITY

See field notebook

Temperature _____ ° C
Specific Conductance _____
Dissolved Oxygen _____
pH _____
Turbidity _____
WQ Instrument Used _____

Water Odors
☐ Normal/None ☐ Sewage
☐ Petroleum ☐ Chemical
☐ Fishy ☐ Other _____

Water Surface Oils
☐ Slick ☐ Sheen ☐ Globs ☐ Flecks
☐ None ☐ Other _____

Turbidity (if not measured)
☐ Clear ☐ Slightly turbid ☐ Turbid
☐ Opaque ☐ Stained ☐ Other _____

SEDIMENT/ SUBSTRATE

Odors
☑ Normal ☐ Sewage ☐ Petroleum
☐ Chemical ☐ Anaerobic ☐ None
☐ Other _____

Oils
☑ Absent ☐ Slight ☐ Moderate ☐ Profuse

Deposits
☐ Sludge ☐ Sawdust ☐ Paper fiber ☐ Sand
☐ Relict shells ☐ Other _____

Looking at stones which are not deeply embedded, are the undersides black in color?
☐ Yes ☐ No

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	**Diameter**	**% Composition in Sampling Reach**	**Substrate Type**	**Characteristic**	**% Composition in Sampling Area**
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	-0-
Gravel	2-64 mm (0.1"-2.5")	30			
Sand	0.06-2mm (gritty)	60	Marl	grey, shell fragments	-0-
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME Snow Creek	LOCATION SC-STA1	
STATION # _____ RIVERMILE _____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		
FORM COMPLETED BY SML/JKS/SPT	DATE 06/12/05 TIME 14:50 AM (PM)	REASON FOR SURVEY

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE 8	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0
2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE 14	20 19 18 17 16	15 (14) 13 12 11	10 9 8 7 6	5 4 3 2 1 0
3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
SCORE 3	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 (3) 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 14	20 19 18 17 16	15 (14) 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 17	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

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HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	**Suboptimal**	**Marginal**	**Poor**
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE 14	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE 5	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE 9 (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE 9 (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE 8 (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE 8 (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE 6 (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE 6 (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Total Score 56+66 (=122)

Snow Creek Station 2

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

TOP: 33°39'08.5 85°50'13.3
BOTTOM: 33 39 07.5 85° 50' 10.4

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME SNOW CREEK	LOCATION SC-STA 2	
STATION # _____ RIVERMILE _____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		LOT NUMBER
FORM COMPLETED BY SMC/JRS/SPT	DATE 6/10/05 TIME _____ AM PM	REASON FOR SURVEY

HABITAT TYPES	**Indicate the percentage of each habitat type present** ☑ Cobble 50 % ☐ Snags ____ % ☐ Vegetated Banks ____ % ☑ Sand 50 % ☐ Submerged Macrophytes ____ % ☐ Other ( ) ____ %
SAMPLE COLLECTION	**Gear used** ☐ D-frame ☑ kick-net ☐ Other _____ **How were the samples collected?** ☑ wading ☐ from bank ☐ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ☐ Cobble 10 ☐ Snags ____ ☐ Vegetated Banks ____ ☐ Sand 10 ☐ Submerged Macrophytes ____ ☐ Other ( ) ____
GENERAL COMMENTS	50% IN RUN: SAND/ROCK MIX 50% IN RIFFLE: ROCK/COBBLE BOULDER SEE FIELD NOTEBOOK FOR BMI/PMI RESULTS

QUALITATIVE LISTING OF AQUATIC BIOTA

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	0	1	2	3	4	Slimes	0	1	2	3	4
Filamentous Algae	0	1	2	3	4	Macroinvertebrates	0	1	2	3	4
Macrophytes	0	1	2	3	4	Fish	0	1	2	3	4

FIELD OBSERVATIONS OF MACROBENTHOS

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	1	2	3	4	Chironomidae	0	1	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	1	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	3	4	Other	0	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
Oligochaeta	0	1	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME SNOW CREEK		SITE NAME ANNISTON PCB SITE - OU-1/OU-2 AREA	
STATION # SC-STA-2		LOCATION ANNISTON, AL	
RIVER BASIN		UPPER LIMIT LATITUDE/LONGITUDE: 33°39'08.5"/85°50'13.3"	
AGENCY		LOWER LIMIT LATITUDE/LONGITUDE: 33°39'07.5"/85°50'10.4"	
INVESTIGATORS SPT, SML, JKS			LOT NUMBER
FORM COMPLETED BY SPT	DATE 6/10/2005 TIME 1206 AM (PM)		REASON FOR SURVEY BMI COMMUNITY ASSESSMENT

HABITAT TYPES	**Indicate the percentage of each habitat type present** ☒ Cobble 50 % ❑ Snags_____% ❑ Vegetated Banks_____% ☒ Sand 50 % ❑ Submerged Macrophytes_____% ❑ Other ( )_____%
SAMPLE COLLECTION	**Gear used** ❑ D-frame ☒ kick-net ❑ Other _____ **How were the samples collected?** ☒ wading ❑ from bank ❑ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ☒ Cobble 10 ❑ Snags_____ ❑ Vegetated Banks_____ ☒ Sand 10 ❑ Submerged Macrophytes_____ ❑ Other ( )_____
GENERAL COMMENTS	

QUALITATIVE LISTING OF AQUATIC BIOTA
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	(0)	1	2	3	4	Slimes	(0)	1	2	3	4
Filamentous Algae	0	(1)	2	3	4	Macroinvertebrates	0	1	(2)	3	4
Macrophytes	(0)	1	2	3	4	Fish	0	1	(2)	3	4

FIELD OBSERVATIONS OF MACROBENTHOS
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	1	(2)	3	4	Chironomidae	0	1	2	(3)	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	1	2	(3)	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	(1)	2	3	4	Other	0	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
Oligochaeta	0	(1)	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	(1)	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

Benthic Macroinvertebrates Collected by BBL Science for Project Number 10213.001.

Sample Location:	**Station SC-2**		
Sample Date:	10-Jun-05		
Sample Type:	Kick Net		
Taxon:	Common Name	Number	Percent
Tubificida			
Tubificidae			
Bothrioneurum vejdovskyanum	tubeworm	3	2.8%
Limnodrilus sp.	tubeworm	1	0.9%
Arhyncobdellida			
Erpobdellidae			
Mooreobdella sp.	leech	1	0.9%
Basommatophora			
Physidae			
Physa sp.	pouch snail	1	0.9%
Planorbidae			
poss. *Planorbella sp.* (tent.)	orb snail	1	0.9%
Ephemeroptera			
Baetidae			
Baetis sp.	mayfly	27	25.5%
Odonata			
Coenagrionidae			
Ischnura sp.	damselfly	1	0.9%
Trichoptera			
Hydropsychidae			
Cheumatopsyche sp.	caddisfly	17	16.0%
Coleoptera			
Elmidae			
Stenelmis crenata gr.	riffle beetle	6	5.7%
Diptera			
Ceratopogonidae			
Atrichopogon sp.	biting midge	1	0.9%
Chironomidae			
Cryptochironomus fulvus gr.	midge	1	0.9%
Thienemannimyia gr.	midge	45	42.5%
Empididae			
Hemerodromia sp.	dance fly	1	0.9%
Total Number of Specimens		**106**	100.0%
Total Number of Taxa		**13**	

FISH SAMPLING FIELD DATA SHEET

STREAM NAME Snow Creek	SITE NAME Anniston PCB Site - OU-1/OU-2 Area
STATION # SC-STA-2	LOCATION Anniston, AL
RIVER BASIN	UPPER LIMIT LATITUDE/LONGITUDE: 33°39'08.5"/85°50'13.3"
AGENCY	LOWER LIMIT LATITUDE/LONGITUDE: 33°39'07.5"/85°50'10.4"
GEAR Smith-Root LR24 Electro-shocker	INVESTIGATORS SML, SPT, JKS
FORM COMPLETED BY SPT	DATE 6/11/05 TIME 0730 (AM) PM — REASON FOR SURVEY: fish community study

SAMPLE COLLECTION	**How were the fish captured?** ☒ back pack ❑ tote barge ❑ other _____ **Block nets used?** ☒ YES ❑ NO **Sampling Duration** Start time _____ End time _____ Duration 2,146 seconds **Stream width (in meters)** Max_____ Mean_____
HABITAT TYPES	**Indicate the percentage of each habitat type present** ☒ Riffles 30 % ❑ Pools_____% ☒ Runs 70 % ❑ Snags_____% ❑ Submerged Macrophytes_____% ❑ Other ( )_____%
GENERAL COMMENTS	

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)					ANOMALIES*							
							D	E	F	L	M	S	T	Z
Largescale Stoneroller	21	72/3.8	115/14	79/6.4	75/4.9	96/10.1								
(Campostoma oligolepis)		86/7.8	75/4.4	81/5.6	98/12.1	88/7.7								
		121/21.9	114/18.2	116/21.8	106/12.5	121/22.4								
		136/30.7	122/22.4	102/12.8	151/46.3	116/19.2								
		122/20.3												
Bluespotted Sunfish	18	193/150.2	76/7.9	84/15.1	92/16	171/110.5								
(Enneacanthus gloriosus)		132/46.3	72/9.4	81/13.4	109/24.1	89/15.2								
		77/7.8	92/17.6	123/38.4	87/13	132/54.7								
		172/96.7	212/185.8	206/200+										
Unknown Cyprinid #1	12	51/2.0	92/9.6	137/37	122/25	92/9.6								
(Notropis spp.)		120/23	111/20	99/12.5	81/5.2	93/11.3								
		102/11.6	101/12.4											
Unknown Cyprinid #2	5	41/0.7	35/0.5	52/1.4	37/0.5	32/0.5								
(Notropis spp.)														

* ANOMALY CODES: D = deformities; E = eroded fins; F = fungus; L = lesions; M = multiple DELT anomalies; S = emaciated; Z = other

FISH SAMPLING FIELD DATA SHEET

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)					ANOMALIES*							
							D	E	F	L	M	S	T	Z
Eastern Mosquitofish	2	51/2.7	44/1.6											
(Gambusia holbrooki)														

* ANOMALY CODES: D = deformities; E = eroded fins; F = fungus; L = lesions; M = multiple DELT anomalies; S = emaciated; Z = other

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

STREAM NAME SNOW CREEK	LOCATION SC-STA2	
STATION # _____ RIVERMILE _____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		
FORM COMPLETED BY JVS / SAM C / SPT	DATE 06/12/05 TIME 14:50 AM (PM)	REASON FOR SURVEY

WEATHER CONDITIONS

Now		Past 24 hours
☐	storm (heavy rain)	☐
☐	rain (steady rain)	☐
☐	showers (intermittent)	☐
70 % ☑	%cloud cover	☐ ____ %
☐	clear/sunny	☐

Has there been a heavy rain in the last 7 days? ☑ Yes ☐ No

Air Temperature 85 °C

Other _____

SITE LOCATION/MAP

Draw a map of the site and indicate the areas sampled (or attach a photograph)

See Field Notebook

STREAM CHARACTERIZATION

Stream Subsystem
☑ Perennial ☐ Intermittent ☐ Tidal

Stream Type
☐ Coldwater ☑ Warmwater

Stream Origin
☐ Glacial
☐ Non-glacial montane
☐ Swamp and bog
☐ Spring-fed
☑ Mixture of origins
☐ Other _____

Catchment Area _____ km²

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSHED FEATURES

Predominant Surrounding Landuse
☐ Forest ☐ Commercial
☐ Field/Pasture ☐ Industrial
☐ Agricultural ☐ Other _____
☑ Residential

Local Watershed NPS Pollution
☐ No evidence ☐ Some potential sources
☑ Obvious sources

Local Watershed Erosion
☐ None ☐ Moderate ☐ Heavy

RIPARIAN VEGETATION (18 meter buffer)

Indicate the dominant type and record the dominant species present
☐ Trees ☐ Shrubs ☑ Grasses ☐ Herbaceous

dominant species present _____

INSTREAM FEATURES

Estimated Reach Length _____ m

Estimated Stream Width _____ m

Sampling Reach Area 100 m²

Area in km² (m²x1000) _____ km²

Estimated Stream Depth 0.5 m

Surface Velocity 0.5 m/sec
(at thalweg)

Canopy Cover
☐ Partly open ☑ Partly shaded ☐ Shaded

High Water Mark _____ m

Proportion of Reach Represented by Stream Morphology Types
☑ Riffle 10 % ☑ Run 90 %
☐ Pool _____ %

Channelized ☐ Yes ☐ No

Dam Present ☐ Yes ☑ No

LARGE WOODY DEBRIS

LWD _____ m² NA

Density of LWD _____ m²/km² **(LWD/ reach area)**

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
☐ Rooted emergent ☐ Rooted submergent ☐ Rooted floating ☐ Free floating
☐ Floating Algae ☐ Attached Algae

dominant species present NA

Portion of the reach with aquatic vegetation _____ %

WATER QUALITY

See Field notebook

Temperature _____ °C

Specific Conductance _____

Dissolved Oxygen _____

pH _____

Turbidity _____

WQ Instrument Used _____

Water Odors
☐ Normal/None ☐ Sewage
☐ Petroleum ☐ Chemical
☐ Fishy ☐ Other _____

Water Surface Oils
☐ Slick ☐ Sheen ☐ Globs ☐ Flecks
☐ None ☐ Other _____

Turbidity (if not measured)
☐ Clear ☐ Slightly turbid ☐ Turbid
☐ Opaque ☐ Stained ☐ Other _____

SEDIMENT/ SUBSTRATE

Odors
☑ Normal ☐ Sewage ☐ Petroleum
☐ Chemical ☐ Anaerobic ☐ None
☐ Other _____

Oils
☑ Absent ☐ Slight ☐ Moderate ☐ Profuse

Deposits NA
☐ Sludge ☐ Sawdust ☐ Paper fiber ☐ Sand
☐ Relict shells ☐ Other _____

Looking at stones which are not deeply embedded, are the undersides black in color?
☐ Yes ☐ No NA

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	**Diameter**	**% Composition in Sampling Reach**	**Substrate Type**	**Characteristic**	**% Composition in Sampling Area**
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	75
Boulder	> 256 mm (10")	5			
Cobble	64-256 mm (2.5"-10")	15	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	30			
Sand	0.06-2mm (gritty)	50	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME SNOW CREEK	LOCATION SC - STA 2
STATION # _____ RIVERMILE _____	STREAM CLASS
LAT _____ LONG _____	RIVER BASIN
STORET #	AGENCY
INVESTIGATORS	
FORM COMPLETED BY JKS/SMC/SPS	DATE 06/12/05 TIME 14:50 AM (PM) — REASON FOR SURVEY

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE 11	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1 0
2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE 8	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0
3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
SCORE 4	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	(5) 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 12	20 19 18 17 16	15 14 13 (12) 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 17	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

52

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	**Suboptimal**	**Marginal**	**Poor**
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE 17	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 2 to 3 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE 6	20 19 18 17 16	15 14 13 12 11	10 9 8 7 (6)	5 4 3 2 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE 9 (LB)	Left Bank 10 (9)	8 7 6	5 4 3	2 1 0
SCORE 9 (RB)	Right Bank 10 (9)	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE 8 (LB)	Left Bank 10 9 (8) 7 6		5 4 3	2 1 0
SCORE 9 (RB)	Right Bank 10 9 (8) 7 6		5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE 5 (LB)	Left Bank 10 9	8 7 (6)	(5) 4 3	2 1 0
SCORE 6 (RB)	Right Bank 10 9	8 7 (6)	5 4 3	2 1 0

Total Score 52+6 ~~=112~~ 121

Snow Creek Station 3

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME SNOW CREEK	LOCATION SC-STA 3	
STATION # _____ RIVERMILE _____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		LOT NUMBER
FORM COMPLETED BY SML/JKS/QPT	DATE 6/10/05 TIME _____ AM PM	REASON FOR SURVEY

HABITAT TYPES	**Indicate the percentage of each habitat type present** ❑ Cobble 50 % ❑ Snags ____ % ❑ Vegetated Banks ____ % ❑ Sand 50 % ❑ Submerged Macrophytes ____ % ❑ Other ( ) ____ %
SAMPLE COLLECTION	**Gear used** ❑ D-frame ☑ kick-net ❑ Other _____ **How were the samples collected?** ☑ wading ❑ from bank ❑ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ❑ Cobble 10 ❑ Snags ____ ❑ Vegetated Banks ____ ❑ Sand 10 ❑ Submerged Macrophytes ____ ❑ Other ( ) ____
GENERAL COMMENTS	• Bits of metal in kicks; just downstream of channelized ditch • Kicks broken up by 5, 5, 5, 5 (2 riffles; 2 runs present)

QUALITATIVE LISTING OF AQUATIC BIOTA
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	(0)	1	2	3	4	Slimes	0	(1)	2	3	4
Filamentous Algae	(0)	1	2	3	4	Macroinvertebrates	0	(1)	2	3	4
Macrophytes	(0)	1	2	3	4	Fish	0	(1)	2	3	4

FIELD OBSERVATIONS OF MACROBENTHOS
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	(1)	2	3	4	Chironomidae	0	1	(2)	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	(1)	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	3	4	Other	(0)	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4	(acarina spp.)					
Oligochaeta	0	(1)	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME SNOW CREEK		SITE NAME ANNISTON PCB SITE - OU-1/OU-2 AREA	
STATION # SC-STA-3		LOCATION ANNISTON, AL	
RIVER BASIN		UPPER LIMIT LATITUDE/LONGITUDE: 33°38'26.2"/85°49'46.5"	
AGENCY		LOWER LIMIT LATITUDE/LONGITUDE: 33°38'23.4"/85°49'46.0"	
INVESTIGATORS SPT, SML, JKS			LOT NUMBER
FORM COMPLETED BY SPT	DATE 6/10/2005 TIME 0142 AM (PM)		REASON FOR SURVEY BMI COMMUNITY ASSESSMENT

HABITAT TYPES	**Indicate the percentage of each habitat type present** ☒ Cobble 50 % ❑ Snags_____% ❑ Vegetated Banks_____% ☒ Sand 50 % ❑ Submerged Macrophytes_____% ❑ Other ( )_____%
SAMPLE COLLECTION	**Gear used** ❑ D-frame ☒ kick-net ❑ Other _____ **How were the samples collected?** ☒ wading ❑ from bank ❑ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ☒ Cobble 10 ❑ Snags_____ ❑ Vegetated Banks_____ ☒ Sand 10 ❑ Submerged Macrophytes_____ ❑ Other ( )_____
GENERAL COMMENTS	

QUALITATIVE LISTING OF AQUATIC BIOTA
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	(0)	1	2	3	4	Slimes	0	(1)	2	3	4
Filamentous Algae	(0)	1	2	3	4	Macroinvertebrates	0	(1)	2	3	4
Macrophytes	(0)	1	2	3	4	Fish	0	(1)	2	3	4

FIELD OBSERVATIONS OF MACROBENTHOS
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	(1)	2	3	4	Chironomidae	0	1	(2)	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	(1)	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	3	4	Other	0	(1)	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4	*(Acarina sp.)*					
Oligochaeta	0	(1)	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

Benthic Macroinvertebrates Collected by BBL Science for Project Number 10213.001.

	Sample Location:	**Station SC-3**		
	Sample Date:	10-Jun-05		
	Sample Type:	Kick Net		
Taxon:		Common Name	Number	Percent
Lumbricina				
	Lumbricidae			
	Eiseniella tetraeidra	earthworm	1	6.3%
Basommatophora				
	Physidae			
	Physa sp.	pouch snail	1	6.3%
Ephemeroptera				
	Baetidae			
	Baetis sp.	mayfly	3	18.8%
Diptera				
	Chironomidae			
	Orthocladius sp.	midge	4	25.0%
	Thienemannimyia gr.	midge	7	43.8%
	Total Number of Specimens		**16**	100.0%
	Total Number of Taxa		**5**	

FISH SAMPLING FIELD DATA SHEET

STREAM NAME Snow Creek	SITE NAME Anniston PCB Site - OU-1/OU-2 Area	
STATION # SC-STA-3	LOCATION Anniston, AL	
RIVER BASIN	UPPER LIMIT LATITUDE/LONGITUDE: 33°38'26.2"/85°49'46.5"	
AGENCY	LOWER LIMIT LATITUDE/LONGITUDE: 33°38'23.4"/85°49'46.0"	
GEAR Smith-Root LR24 Electro-shocker	INVESTIGATORS SML, SPT, JKS	
FORM COMPLETED BY SPT	DATE 6/11/05 TIME 0930 (AM) PM	REASON FOR SURVEY fish community study

SAMPLE COLLECTION	**How were the fish captured?** ☒ back pack ❑ tote barge ❑ other _____ **Block nets used?** ☒ YES ❑ NO **Sampling Duration** Start time _____ End time _____ Duration 1,468 seconds **Stream width (in meters)** Max_____ Mean_____
HABITAT TYPES	**Indicate the percentage of each habitat type present** ☒ Riffles 50 % ☒ Pools 50 % ❑ Runs_____% ❑ Snags_____% ❑ Submerged Macrophytes_____% ❑ Other ( )_____%
GENERAL COMMENTS	

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)					ANOMALIES*							
							D	E	F	L	M	S	T	Z
Unknown Cyprinid #2	8	42/0.8	41/0.7	53/1.6	41/0.7	42/1.1								
(Notropis spp.)		43/0.9	45/0.9	36/0.5										
Unknown Cyprinid #3	7	37/0.6	27/0.3	31/0.3	27/0.3	29/0.3								
(Notropis spp.)		29/0.3	25/0.1											
Unknown Cyprinid #1	3	78/6.2	94/10.9	81/7.5										
(Notropis spp.)														
Largescale Stoneroller	2	85/8.2	7.5/4.2											
(Campostoma oligolepis)														

* ANOMALY CODES: D = deformities; E = eroded fins; F = fungus; L = lesions; M = multiple DELT anomalies; S = emaciated; Z = other

FISH SAMPLING FIELD DATA SHEET

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)					ANOMALIES*							
							D	E	F	L	M	S	T	Z
Creek Chub	1	39/0.4												
(Semotilus atromaculatus)														
Bluespotted Sunfish	1	193/125.3												
(Enneacanthus gloriosus)														

* ANOMALY CODES: D = deformities; E = eroded fins; F = fungus; L = lesions; M = multiple DELT anomalies; S = emaciated; Z = other

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

STREAM NAME Snow Creek	LOCATION SC-SM3	
STATION # _____ RIVERMILE _____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		
FORM COMPLETED BY JKS/SML/SPT	DATE 15:30 TIME 06/12/05 AM (PM)	REASON FOR SURVEY

WEATHER CONDITIONS

Now		Past 24 hours
☐	storm (heavy rain)	☐
☐	rain (steady rain)	☐
☐	showers (intermittent)	☐
70 % ☑	%cloud cover	☐ ___ %
☐	clear/sunny	☐

Has there been a heavy rain in the last 7 days? ☑ Yes ☐ No

Air Temperature 28 °C

Other _____

SITE LOCATION/MAP

Draw a map of the site and indicate the areas sampled (or attach a photograph)

See Field notebook

STREAM CHARACTERIZATION

Stream Subsystem
☑ Perennial ☐ Intermittent ☐ Tidal

Stream Type
☐ Coldwater ☑ Warmwater

Stream Origin
☐ Glacial
☐ Non-glacial montane
☐ Swamp and bog
☑ Spring-fed
☑ Mixture of origins
☐ Other _____

Catchment Area _____ km²

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSHED FEATURES

Predominant Surrounding Landuse
☐ Forest ☑ Commercial
☐ Field/Pasture ☑ Industrial
☐ Agricultural ☐ Other _____
☐ Residential

Local Watershed NPS Pollution
☐ No evidence ☑ Some potential sources
☐ Obvious sources

Local Watershed Erosion
☐ None ☑ Moderate ☐ Heavy

RIPARIAN VEGETATION (18 meter buffer)

Indicate the dominant type and record the dominant species present
☐ Trees ☐ Shrubs ☑ Grasses ☐ Herbaceous

dominant species present _____

INSTREAM FEATURES

Estimated Reach Length _____m

Estimated Stream Width _____m

Sampling Reach Area 100 m²

Area in km² (m²x1000) _____km²

Estimated Stream Depth >0.5 m

Surface Velocity (at thalweg) 70.5 m/sec

Canopy Cover
☑ Partly open ☐ Partly shaded ☐ Shaded

High Water Mark 3 m off left

Proportion of Reach Represented by Stream Morphology Types
☑ Riffle 50 % ☑ Run 50 %
☐ Pool _____%

Channelized ☑ Yes ☐ No

Dam Present ☐ Yes ☑ No

LARGE WOODY DEBRIS

LWD _____m² NA

Density of LWD _____m²/km² **(LWD/ reach area)**

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
☐ Rooted emergent ☐ Rooted submergent ☐ Rooted floating ☐ Free floating
☐ Floating Algae ☐ Attached Algae

dominant species present NA

Portion of the reach with aquatic vegetation ____%

WATER QUALITY

see field notebook

Temperature_____°C

Specific Conductance_____

Dissolved Oxygen _____

pH _____

Turbidity _____

WQ Instrument Used _____

Water Odors
☑ Normal/None ☐ Sewage
☐ Petroleum ☐ Chemical
☐ Fishy ☐ Other_____

Water Surface Oils
☐ Slick ☐ Sheen ☐ Globs ☐ Flecks
☑ None ☐ Other_____

Turbidity (if not measured)
☐ Clear ☐ Slightly turbid ☐ Turbid
☐ Opaque ☐ Stained ☐ Other_____

SEDIMENT/ SUBSTRATE

Odors
☑ Normal ☐ Sewage ☐ Petroleum
☐ Chemical ☐ Anaerobic ☐ None
☐ Other _____

Oils
☑ Absent ☐ Slight ☐ Moderate ☐ Profuse

Deposits
☐ Sludge ☐ Sawdust ☐ Paper fiber ☐ Sand
☐ Relict shells NA ☐ Other_____

Looking at stones which are not deeply embedded, are the undersides black in color?
☐ Yes ☐ No

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	**Diameter**	**% Composition in Sampling Reach**	**Substrate Type**	**Characteristic**	**% Composition in Sampling Area**
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	>5
Boulder	> 256 mm (10")	40			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)	30	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME Snow Creek	LOCATION SC-STA 3
STATION # ________ RIVERMILE ________	STREAM CLASS
LAT ________ LONG ________	RIVER BASIN
STORET #	AGENCY
INVESTIGATORS	
FORM COMPLETED BY JKS/SML/SPT	DATE 15:20 TIME 04/12/05 AM (PM) — REASON FOR SURVEY

Parameters to be evaluated in sampling reach

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE 17	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE 7	20 19 18 17 16	15 14 13 12 11	10 9 8 (7) 6	5 4 3 2 1 0
3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
SCORE 8	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 17	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 17	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

66

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	**Suboptimal**	**Marginal**	**Poor**
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE 18	20 19 (18) 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE 3	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 (3) 2 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE 10 (LB)	Left Bank (10) 9	8 7 6	5 4 3	2 1 0
SCORE 7 (RB)	Right Bank 10 9	8 (7) 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE 10 (LB)	Left Bank (10) 9	8 7 6	5 4 3	2 1 0
SCORE 7 (RB)	Right Bank 10 9	8 (7) 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE 2 (LB)	Left Bank 10 9	8 7 6	5 4 3	(2) 1 0
SCORE 1 (RB)	Right Bank 10 9	8 7 6	5 4 3	2 (1) 0

Total Score $\frac{66+58}{50} = 124$

4

Snow Creek Station 4

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME SNOW CREEK	LOCATION SC - STA 4	
STATION # _____ RIVERMILE _____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		LOT NUMBER
FORM COMPLETED BY SMC/JKS/SDT	DATE 6/10/05 TIME _____ AM PM	REASON FOR SURVEY

HABITAT TYPES	**Indicate the percentage of each habitat type present** ☑ Cobble 60 % ☐ Snags ____ % ☐ Vegetated Banks ____ % ☑ Sand 40 % ☐ Submerged Macrophytes ____ % ☐ Other ( ) ____ %
SAMPLE COLLECTION	**Gear used** ☐ D-frame ☑ kick-net ☐ Other _____ **How were the samples collected?** ☑ wading ☐ from bank ☐ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ☑ Cobble 10 ☐ Snags ____ ☐ Vegetated Banks ____ ☑ Sand 10 ☐ Submerged Macrophytes ____ ☐ Other ( ) ____
GENERAL COMMENTS	• 20 foot box culvert, low flow

QUALITATIVE LISTING OF AQUATIC BIOTA
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	0	1	2	3	4	Slimes	0	1	2	3	4
Filamentous Algae	0	1	2	3	4	Macroinvertebrates	0	1	2	3	4
Macrophytes	0	1	2	3	4	Fish	0	1	2	3	4

FIELD OBSERVATIONS OF MACROBENTHOS
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	1	2	3	4	Chironomidae	0	1	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	1	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	3	4	Other	0	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
Oligochaeta	0	1	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME	SNOW CREEK	SITE NAME	ANNISTON PCB SITE - OU-1/OU-2 AREA
STATION #	SC-STA-4	LOCATION	ANNISTON, AL
RIVER BASIN		UPPER LIMIT LATITUDE/LONGITUDE:	33°37'41.8"/85°49'42.3"
AGENCY		LOWER LIMIT LATITUDE/LONGITUDE:	33°37'39.3"/85°49'41.5"
INVESTIGATORS	SPT, SML, JKS	LOT NUMBER	
FORM COMPLETED BY	SPT	DATE 6/10/2005 TIME 0254 AM (PM)	REASON FOR SURVEY BMI COMMUNITY ASSESSMENT

HABITAT TYPES	**Indicate the percentage of each habitat type present** ☒ Cobble 60 % ❑ Snags_____% ❑ Vegetated Banks_____% ☒ Sand 40 % ❑ Submerged Macrophytes_____% ❑ Other ( )_____%
SAMPLE COLLECTION	**Gear used** ❑ D-frame ☒ kick-net ❑ Other _____ **How were the samples collected?** ☒ wading ❑ from bank ❑ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ☒ Cobble 10 ❑ Snags_____ ❑ Vegetated Banks_____ ☒ Sand 10 ❑ Submerged Macrophytes_____ ❑ Other ( )_____
GENERAL COMMENTS	

QUALITATIVE LISTING OF AQUATIC BIOTA
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	(0)	1	2	3	4	Slimes	(0)	1	2	3	4
Filamentous Algae	(0)	1	2	3	4	Macroinvertebrates	0	(1)	2	3	4
Macrophytes	(0)	1	2	3	4	Fish	0	1	(2)	3	4

FIELD OBSERVATIONS OF MACROBENTHOS
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	1	2	3	4	Chironomidae	0	(1)	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	(1)	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	(1)	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	(1)	2	3	4	Other	0	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
Oligochaeta	0	1	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	(1)	2	3	4	Simuliidae	0	1	(2)	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

Benthic Macroinvertebrates Collected by BBL Science for Project Number 10213.001.

	Sample Location:	**Station SC-4**		
	Sample Date:	10-Jun-05		
	Sample Type:	Kick Net		
Taxon:		Common Name	Number	Percent
Basommatophora				
	Physidae			
	Physa sp.	pouch snail	1	3.6%
Ephemeroptera				
	Baetidae			
	Baetis sp.	mayfly	3	10.7%
Trichoptera				
	Hydropsychidae			
	Cheumatopsyche sp.	caddisfly	1	3.6%
Diptera				0.0%
	Chironomidae			
	Ablabesmyia mallochi	midge	1	3.6%
	Orthocladius nigritus	midge	1	3.6%
	Orthocladius sp.	midge	4	14.3%
	Thienemannimyia gr.	midge	17	60.7%
	Total Number of Specimens		**28**	100.0%
	Total Number of Taxa		**7**	

FISH SAMPLING FIELD DATA SHEET

STREAM NAME Snow Creek	SITE NAME Anniston PCB Site - OU-1/OU-2 Area
STATION # SC-STA-4	LOCATION Anniston, AL
RIVER BASIN	UPPER LIMIT LATITUDE/LONGITUDE: 33°37'41.8"/85°49'42.3"
AGENCY	LOWER LIMIT LATITUDE/LONGITUDE: 33°37'39.3"/85°49'41.5"
GEAR Smith-Root LR24 Electro-shocker	INVESTIGATORS SML, SPT, JKS
FORM COMPLETED BY SPT	DATE 6/11/05 TIME 1115 (AM) PM — REASON FOR SURVEY: fish community study

SAMPLE COLLECTION	**How were the fish captured?** ☒ back pack ❑ tote barge ❑ other _____ **Block nets used?** ☒ YES ❑ NO **Sampling Duration** Start time _____ End time _____ Duration 1,678 seconds **Stream width (in meters)** Max_____ Mean_____
HABITAT TYPES	**Indicate the percentage of each habitat type present** ☒ Riffles 30 % ☒ Pools 20 % ☒ Runs 50 % ❑ Snags_____% ❑ Submerged Macrophytes_____% ❑ Other ( )_____%
GENERAL COMMENTS	

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)					ANOMALIES*							
							D	E	F	L	M	S	T	Z
Largescale Stoneroller	70	83/5.7	90/8.0	92/8.7	93/8.1	91/7.9								
(Campostoma oligolepis)		106/10.9	79/5.6	86/7.3	92/8.0	91/7.7								
		91/8.1	87/6.4	119/17.4	85/7.3	84/6.4								
		89/8.7	94/8.6	85/7.0	90/7.5	73/4.2								
		86/5.5	80/5.4	97/8.8	91/8.0	76/4.8								
Unknown Cyprinid #2	62	51/1.3	45/0.7	42/0.8	37/0.4	40/0.6								
(Notropis spp.)		47/1.0	56/1.9	43/0.8	41/0.7	48/1.1								
		40/0.5	41/0.6	43/0.9	41/0.6	42/0.8								
		41/0.5	37/0.5	41/0.6	45/0.8	49/1.2								
		41/0.6	41/0.7	40/0.6	41/0.8	43/0.7								
Unknown Cyprinid #1	23	91/10.2	135/30.3	105/13.6	88/7.3	93/11.4								
(Notropis spp.)		102/13.0	94/10.7	119/22.6	86/7.6	85/8.1								
		94/9.5	86/8.1	77/6.4	89/9.0	118/22.6								
		128/30.9	119/21.4	84/7.2	109/15.7	84/6.7								
		99/11.7	86/8.1	89/8.5										
Eastern Mosquitofish	7	51/3.1	50/1.9	49/1.5	47/1.4	53/2.2								
(Gambusia holbrooki)		47/1.3	45/1.2											

* ANOMALY CODES: D = deformities; E = eroded fins; F = fungus; L = lesions; M = multiple DELT anomalies; S = emaciated; Z = other

FISH SAMPLING FIELD DATA SHEET

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)					ANOMALIES*							
							D	E	F	L	M	S	T	Z
Bluegill	6	37/0.6	27/0.3	31/0.3	27/0.3	29/0.3								
(Lepomis macrochirus)		39/0.4												
Bluespotted Sunfish	5	37/0.6	27/0.3	31/0.3	27/0.3	29/0.3								
(Enneacanthus gloriosus)														
Unknown Cyprinid	3	78/6.2	94/10.9	81/7.5										
(Cyprinella sp.) either a Blacktail or Altamaha Shiner														

* ANOMALY CODES: D = deformities; E = eroded fins; F = fungus; L = lesions; M = multiple DELT anomalies; S = emaciated; Z = other

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

STREAM NAME SNOW CREEK	LOCATION SC - STA 4
STATION #_____ RIVERMILE_____	STREAM CLASS
LAT _____ LONG _____	RIVER BASIN
STORET #	AGENCY
INVESTIGATORS	
FORM COMPLETED BY JCS / SPH / SMC	DATE 06/12/05 TIME 1600 AM (PM) — REASON FOR SURVEY

WEATHER CONDITIONS

Now		Past 24 hours
☐	storm (heavy rain)	☐
☐	rain (steady rain)	☐
☐	showers (intermittent)	☐
40 % ☑	%cloud cover	☐ ____%
☐	clear/sunny	☐

Has there been a heavy rain in the last 7 days? ☑ Yes ☐ No

Air Temperature____ ° C

Other_____

SITE LOCATION/MAP

Draw a map of the site and indicate the areas sampled (or attach a photograph)

See Field notebook

STREAM CHARACTERIZATION

Stream Subsystem
☑ Perennial ☐ Intermittent ☐ Tidal

Stream Type
☐ Coldwater ☑ Warmwater

Stream Origin
☐ Glacial
☐ Non-glacial montane
☐ Swamp and bog
☐ Spring-fed
☑ Mixture of origins
☐ Other_____

Catchment Area_____km²

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSHED FEATURES

Predominant Surrounding Landuse
☐ Forest ☑ Commercial
☐ Field/Pasture ☑ Industrial
☐ Agricultural ☐ Other _____
☐ Residential

Local Watershed NPS Pollution
☐ No evidence ☐ Some potential sources
☑ Obvious sources

Local Watershed Erosion
☑ None ☐ Moderate ☐ Heavy

RIPARIAN VEGETATION (18 meter buffer)

Indicate the dominant type and record the dominant species present
☑ Trees ☐ Shrubs ☐ Grasses ☐ Herbaceous
dominant species present sycamore, willow, privet

INSTREAM FEATURES

Estimated Reach Length _____m
Estimated Stream Width _____m
Sampling Reach Area 1000 m²
Area in km² (m²x1000) _____km²
Estimated Stream Depth 1.0 m
Surface Velocity 0.5 - 1.0 m/sec **(at thalweg)**

Canopy Cover
☐ Partly open ☑ Partly shaded ☐ Shaded

High Water Mark 3 m off bottom

Proportion of Reach Represented by Stream Morphology Types
☐ Riffle 50 % ☐ Run 50 %
☐ Pool _____%

Channelized ☐ Yes ☑ No
Dam Present ☐ Yes ☑ No

LARGE WOODY DEBRIS

LWD _____m² (N/A)
Density of LWD _____m²/km² **(LWD/ reach area)**

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
☐ Rooted emergent ☐ Rooted submergent ☐ Rooted floating ☐ Free floating
☐ Floating Algae ☐ Attached Algae
dominant species present N/A
Portion of the reach with aquatic vegetation _____%

WATER QUALITY

Temperature_____°C
Specific Conductance_____
Dissolved Oxygen _____
pH _____
Turbidity _____
WQ Instrument Used _____

Water Odors
☐ Normal/None ☐ Sewage
☐ Petroleum ☐ Chemical
☐ Fishy ☐ Other_____

Water Surface Oils
☐ Slick ☐ Sheen ☐ Globs ☐ Flecks
☐ None ☐ Other_____

Turbidity (if not measured)
☐ Clear ☐ Slightly turbid ☐ Turbid
☐ Opaque ☐ Stained ☐ Other_____

SEDIMENT/ SUBSTRATE

Odors
☑ Normal ☐ Sewage ☐ Petroleum
☐ Chemical ☐ Anaerobic ☐ None
☐ Other_____

Oils
☑ Absent ☐ Slight ☐ Moderate ☐ Profuse

Deposits
☐ Sludge ☐ Sawdust ☐ Paper fiber ☐ Sand
☐ Relict shells N/A ☐ Other_____

Looking at stones which are not deeply embedded, are the undersides black in color?
☐ Yes ☐ No

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	**Diameter**	**% Composition in Sampling Reach**	**Substrate Type**	**Characteristic**	**% Composition in Sampling Area**
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	— 0 —
Boulder	> 256 mm (10")	5			
Cobble	64-256 mm (2.5"-10")	35	Muck-Mud	black, very fine organic (FPOM)	— 0 —
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	40	Marl	grey, shell fragments	— 0 —
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME Straw creek	LOCATION SC-STA 4
STATION #_____ RIVERMILE_____	STREAM CLASS
LAT _____ LONG _____	RIVER BASIN
STORET #	AGENCY
INVESTIGATORS	
FORM COMPLETED BY JKS/SML/SPT	DATE 06/12/05 TIME 1600 AM (PM) — REASON FOR SURVEY

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE 12	20 19 18 17 16	15 14 13 (12) 11	10 9 8 7 6	5 4 3 2 1 0
2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE 8	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0
3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
SCORE 11	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 14	20 19 18 17 16	15 (14) 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 17	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

(62)+

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	**Suboptimal**	**Marginal**	**Poor**
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE 18	20 19 (18) 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE 4	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 (4) 3 2 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE 10 (LB)	Left Bank (10) 9	8 7 6	5 4 3	2 1 0
SCORE 10 (RB)	Right Bank (10) 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE 9 (LB)	Left Bank 10 (9)	8 7 6	5 4 3	2 1 0
SCORE 10 (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE 2 (LB)	Left Bank 10 9	8 7 6	5 4 3	(2) 1 0
SCORE 5 (RB)	Right Bank 10 9	8 7 6	(5) 4 3	2 1 0

Total Score 62+68 = 130

Snow Creek Station 5

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME SAND CREEK	LOCATION SC-STA 5	
STATION # _____ RIVERMILE _____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		LOT NUMBER
FORM COMPLETED BY SML/JCG/SPT	DATE 6/10/05 TIME _____ AM PM	REASON FOR SURVEY

HABITAT TYPES	**Indicate the percentage of each habitat type present** ☐ Cobble 35 % ☐ Snags 15 % ☐ Vegetated Banks ____ % ☐ Sand 35 % ☐ Submerged Macrophytes ____ % ☐ Other (Bedrock outcrops 15 %
SAMPLE COLLECTION	**Gear used** ☐ D-frame ☑ kick-net ☐ Other _____ **How were the samples collected?** ☑ wading ☐ from bank ☑ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ☐ Cobble 8 ☐ Snags 3 ☐ Vegetated Banks 2 ☐ Sand 9 ☐ Submerged Macrophytes ____ ☑ Other (2) ____ NITRITUS ALGAE BLACK
GENERAL COMMENTS	• LIMESTONE ROCK OUTCROPPING 2 ALGAE / SLIME ON LEDGE

QUALITATIVE LISTING OF AQUATIC BIOTA

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	(0)	1	2	3	4	Slimes	0	1	(2)	3	4
Filamentous Algae	(0)	1	2	3	4	Macroinvertebrates	0	(1)	2	3	4
Macrophytes	(0)	1	2	3	4	Fish	0	1	2	(3)	4

FIELD OBSERVATIONS OF MACROBENTHOS

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	1	2	3	4	Chironomidae	0	(1)	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	(1)	(2)	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	(1)	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	3	4	Other	0	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
Oligochaeta	0	(1)	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	(1)	2	3	4	Simuliidae	0	(1)	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME	SNOW CREEK	SITE NAME	ANNISTON PCB SITE - OU-1/OU-2 AREA
STATION #	SC-STA-5	LOCATION	ANNISTON, AL
RIVER BASIN		UPPER LIMIT LATITUDE/LONGITUDE:	33°37'00.9"/85°49'32.1"
AGENCY		LOWER LIMIT LATITUDE/LONGITUDE:	33°36'58.9"/85°49'31.8"
INVESTIGATORS	SPT, SML, JKS	LOT NUMBER	
FORM COMPLETED BY	SPT	DATE 6/10/2005 TIME 1614 AM (PM)	REASON FOR SURVEY BMI COMMUNITY ASSESSMENT

HABITAT TYPES	**Indicate the percentage of each habitat type present** ☒ Cobble 35 % ☒ Snags 15 % ❑ Vegetated Banks ____ % ☒ Sand 35 % ❑ Submerged Macrophytes ____ % ☒ Other (bedrock outcropping) 15 %
SAMPLE COLLECTION	**Gear used** ❑ D-frame ☒ kick-net ❑ Other _____ **How were the samples collected?** ☒ wading ❑ from bank ❑ from boat **Indicate the number of jabs/kicks taken in each habitat type.** ☒ Cobble 8 ☒ Snags 3 ☒ Vegetated Banks 2 ☒ Sand 10 ❑ Submerged Macrophytes ____ ☒ Other (detritus) 2 Other (limestone rock outcropping) 2
GENERAL COMMENTS	

QUALITATIVE LISTING OF AQUATIC BIOTA
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

Periphyton	(0)	1	2	3	4	Slimes	0	1	(2)	3	4
Filamentous Algae	(0)	1	2	3	4	Macroinvertebrates	0	(1)	2	3	4
Macrophytes	(0)	1	2	3	4	Fish	0	1	2	(3)	4

FIELD OBSERVATIONS OF MACROBENTHOS
Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	1	2	3	4	Chironomidae	0	(1)	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	1	(2)	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	(1)	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	3	4	Other	0	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
Oligochaeta	0	(1)	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	(1)	2	3	4	Simuliidae	0	(1)	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

Benthic Macroinvertebrates Collected by BBL Science for Project Number 10213.001.

	Sample Location:	**Station SC-5**				
	Sample Date:	10-Jun-05				
	Sample Type:	Kick Net				
			SC-5A		**SC-5B**	
Taxon:		Common Name	Number	Percent	Number	Percent
Lumbricina						
	Lumbricidae	earthworm			1	1.9%
Tubificida						
	Tubificidae					
	Limnodrilus sp.	tubeworm	1	6.3%		0.0%
Mesogastropoda						
	Hydrobiidae					
	poss. *Fontigens sp.* (tent.)	dusky snail			1	1.9%
Basommatophora						
	Lymnaeidae					
	Stagnicola sp.	pond snail			1	1.9%
	Physidae					
	Physa sp.	pouch snail			7	13.2%
	Planorbidae					
	poss. *Planorbella sp.* (tent.)	orb snail			2	3.8%
Ephemeroptera						
	Baetidae					
	Baetis sp.	mayfly	9	56.3%	1	1.9%
Trichoptera						
	Hydropsychidae					
	Cheumatopsyche sp.	caddisfly	1	6.3%	1	1.9%
Coleoptera						
Diptera						
	Chironomidae					
	Ablabesmyia mallochi	midge			7	13.2%
	Chironomus sp.	midge			1	1.9%
	Cricotopus bicinctus	midge			1	1.9%
	Cricotopus/Orthocladius sp.	midge			1	1.9%
	Dicrotendipes sp.	midge			1	1.9%
	Orthocladius sp.	midge			2	3.8%
	Phaenopsectra obedians gr.	midge			6	11.3%
	Polypedilum tritum	midge			4	7.5%
	Thienemannimyia gr.	midge	5	31.3%	14	26.4%
	Tipulidae					
	Limonia sp.	crane fly			1	1.9%
	Limonia canadensis	crane fly			1	1.9%
	Total Number of Specimens		**16**	100.0%	**53**	100.0%
	Total Number of Taxa		**4**		**18**	

FISH SAMPLING FIELD DATA SHEET

STREAM NAME Snow Creek	SITE NAME Anniston PCB Site - OU-1/OU-2 Area
STATION # SC-STA-5	LOCATION Anniston, AL
RIVER BASIN	UPPER LIMIT LATITUDE/LONGITUDE: 33°37'00.9"/85°49'32.1"
AGENCY	LOWER LIMIT LATITUDE/LONGITUDE: 33°36'58.9"/85°49'31.8"
GEAR Smith-Root LR24 Electro-shocker	INVESTIGATORS SML, SPT, JKS
FORM COMPLETED BY SPT	DATE 6/11/05 TIME 1310 AM (PM) — REASON FOR SURVEY: fish community study

SAMPLE COLLECTION	**How were the fish captured?** ☒ back pack ❑ tote barge ❑ other _____ **Block nets used?** ☒ YES ❑ NO **Sampling Duration** Start time _____ End time _____ Duration 2,322 seconds **Stream width (in meters)** Max_____ Mean_____
HABITAT TYPES	**Indicate the percentage of each habitat type present** ☒ Riffles 30 % ☒ Pools 20 % ☒ Runs 50 % ❑ Snags_____% ❑ Submerged Macrophytes_____% ❑ Other ( )_____%
GENERAL COMMENTS	

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)					ANOMALIES*							
							D	E	F	L	M	S	T	Z
Largescale Stoneroller	91	86/7.0	111/14.3	85/6.0	99/9.3	79/4.7								
(Campostoma oligolepis)		88/7.4	77/5.3	84/6.7	94/8.	113/15.6								
		71/3.4	113/10.5	109/11.5	124/19.4	69/3.4								
		107/10.3	92/7.4	89/7.6	107/10.4	115/15.3								
		83/5.1	61/2.6	89/7.0	104/14.9	97/9.6								
Unknown Cyprinid #1	4	112/17.6	117/19.3	90/8.3	84/6.0									
(Notropis spp.)														
Unknown Cyprinid #2	3	42/0.7	41/0.7	38/0.5										
(Notropis spp.)														
Longear Sunfish	1	170/88.8												
(Lepomis megalotis)														

* ANOMALY CODES: D = deformities; E = eroded fins; F = fungus; L = lesions; M = multiple DELT anomalies; S = emaciated; Z = other

FISH SAMPLING FIELD DATA SHEET

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)					ANOMALIES*							
							D	E	F	L	M	S	T	Z
Black Redhorse	1	111/12.9												
(Moxostoma duquesnei)														
Bluespotted Sunfish	1	88/12.2												
(Enneacanthus gloriosus)														
Yellow Bullhead	1	88/8.5												
(Ameiurus natalis)														
Unknown Cyprinid	1	120/15.3												
(Cyprinella spp.) either a Blacktail or Altamaha Shiner														

* ANOMALY CODES: D = deformities; E = eroded fins; F = fungus; L = lesions; M = multiple DELT anomalies; S = emaciated; Z = other

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

STREAM NAME Snow CREEK	LOCATION SC-STA5
STATION #_____ RIVERMILE_____	STREAM CLASS
LAT_____ LONG_____	RIVER BASIN
STORET #	AGENCY
INVESTIGATORS	
FORM COMPLETED BY JWS/SPT/SMC	DATE 06/12/05 TIME 16:50 AM PM — REASON FOR SURVEY

WEATHER CONDITIONS

Now		Past 24 hours
☐	storm (heavy rain)	☐
☐	rain (steady rain)	☐
☐	showers (intermittent)	☐
40% ☑	%cloud cover	☐ ___%
☐	clear/sunny	☐

Has there been a heavy rain in the last 7 days? ☑ Yes ☐ No

Air Temperature 85 °C

Other_____

SITE LOCATION/MAP

Draw a map of the site and indicate the areas sampled (or attach a photograph)

Sampled both sides of creek.

STREAM CHARACTERIZATION

Stream Subsystem
☑ Perennial ☐ Intermittent ☐ Tidal

Stream Type
☐ Coldwater ☑ Warmwater

Stream Origin
☐ Glacial
☐ Non-glacial montane
☐ Swamp and bog
☐ Spring-fed
☑ Mixture of origins
☐ Other_____

Catchment Area_____km²

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSHED FEATURES

Predominant Surrounding Landuse
☐ Forest ☑ Commercial
☐ Field/Pasture ☐ Industrial
☐ Agricultural ☐ Other _____
☐ Residential

Local Watershed NPS Pollution
☐ No evidence ☑ Some potential sources
☐ Obvious sources

Local Watershed Erosion
☑ None ☐ Moderate ☐ Heavy

RIPARIAN VEGETATION (18 meter buffer)

Indicate the dominant type and record the dominant species present
☑ Trees ☐ Shrubs ☐ Grasses ☐ Herbaceous

dominant species present SYCAMORE MIMOSA WILLOW

INSTREAM FEATURES

Estimated Reach Length _____m

Estimated Stream Width _____m

Sampling Reach Area 100 m²

Area in km² (m²x1000) _____km²

Estimated Stream Depth _____m

Surface Velocity (at thalweg) 0.5-1.0 m/sec

Canopy Cover
☐ Partly open ☐ Partly shaded ☐ Shaded

High Water Mark _____m

Proportion of Reach Represented by Stream Morphology Types
☐ Riffle 25 % ☐ Run 50 %
☐ Pool 25 %

Channelized ☐ Yes ☐ No

Dam Present ☐ Yes ☐ No

LARGE WOODY DEBRIS

LWD _____m² NA

Density of LWD _____m²/km² **(LWD/ reach area)**

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
☐ Rooted emergent ☐ Rooted submergent ☐ Rooted floating ☐ Free floating
☐ Floating Algae ☐ Attached Algae NA

dominant species present _____

Portion of the reach with aquatic vegetation _____%

WATER QUALITY

See Field Notebook

Temperature_____°C

Specific Conductance_____

Dissolved Oxygen _____

pH _____

Turbidity _____

WQ Instrument Used _____

Water Odors
☐ Normal/None ☐ Sewage
☐ Petroleum ☐ Chemical
☐ Fishy ☐ Other_____

Water Surface Oils
☐ Slick ☐ Sheen ☐ Globs ☐ Flecks
☐ None ☐ Other_____

Turbidity (if not measured)
☐ Clear ☐ Slightly turbid ☐ Turbid
☐ Opaque ☐ Stained ☐ Other_____

SEDIMENT/ SUBSTRATE

Odors
☑ Normal ☐ Sewage ☐ Petroleum
☐ Chemical ☐ Anaerobic ☐ None
☐ Other_____

Oils
☑ Absent ☐ Slight ☐ Moderate ☐ Profuse

Deposits
☐ Sludge ☐ Sawdust ☐ Paper fiber ☐ Sand
☐ Relict shells ☐ Other_____

Looking at stones which are not deeply embedded, are the undersides black in color?
☐ Yes ☐ No

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	**Diameter**	**% Composition in Sampling Reach**	**Substrate Type**	**Characteristic**	**% Composition in Sampling Area**
Bedrock	limestone	80	Detritus	sticks, wood, coarse plant materials (CPOM)	0 (trace)
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	0
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME SNAW CREEK	LOCATION JC - STA 5
STATION # _____ RIVERMILE _____	STREAM CLASS
LAT _____ LONG _____	RIVER BASIN
STORET #	AGENCY
INVESTIGATORS	
FORM COMPLETED BY VKS/SMC/SPT	DATE 06/12/05 TIME 16:50 AM (PM) — REASON FOR SURVEY

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE 17	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE 4	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 (4) 3 2 1 0
3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
SCORE 15	20 19 18 17 16	(15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 17	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 18	20 19 (18) 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

(71)

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	**Suboptimal**	**Marginal**	**Poor**
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE 9	20 19 18 17 16	15 14 13 12 11	10 (9) 8 7 6	5 4 3 2 1 0
7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE 6	20 19 18 17 16	15 14 13 12 11	10 9 8 7 (6)	5 4 3 2 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE 10 (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE 10 (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE 7 (LB)	Left Bank 10 9	8 (7) 6	5 4 3	2 1 0
SCORE 9 (RB)	Right Bank (10) 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE 1 (LB)	Left Bank 10 9	8 7 6	5 4 3	2 (1) 0
SCORE 2 (RB)	Right Bank 10 9	8 7 6	5 4 3	(2) 1 0

Total Score $\frac{71+54}{54} = 125$

125

Benthic Macroinvertebrates Collected by BBL Science for Project Number 10213.001 (Alabama).

Sample Date:	10,13 June 2005	"Master List"						
Sample Type:	Kick Net							
		Sample Station						
Taxon:	Common Name	RP-01	SC-1	SC-2	SC-3	SC-4	SC-5A	SC-5B
Lumbricina								
Lumbricidae	earthworm							1
Eiseniella tetraeidra	earthworm				1			
Tubificida								
Tubificidae								
Bothrioneurum vejdovskyanum	tubeworm		1	3				
Branchiura sowerbyi	tubeworm		3					
Ilydrilus templetoni	tubeworm		1					
Limnodrilus sp.	tubeworm		23	1			1	
Arhyncobdellida								
Erpobdellidae								
Mooreobdella sp.	leech			1				
Rhyncobdellida								
Glossiphoniidae								
Helobdella papillata	leech	2						
Mesogastropoda								
Hydrobiidae								
poss. *Fontigens sp.* (tent.)	dusky snail							1
Basommatophora								
Ancylidae								
Ferrissia rivularis	limpet snail		3					
Lymnaeidae								
Stagnicola sp.	pond snail							1
Fossaria sp.	pond snail		3					
Physidae								
Physa sp.	pouch snail		9	1	1	1		7
Planorbidae								
poss. *Planorbella sp.* (tent.)	orb snail			1				2
Veneroida								
Sphaeriidae								
Pisidium sp.	pill clam		3					
Hydrachnidia								
Limnesiidae								
Limnesia sp.	mite	13						
Decapoda								
Cambaridae								
Orconectes sp.	crayfish		1					
Ephemeroptera								
Baetidae							9	
Baetis sp.	mayfly			27	3	3		1
Callibaetis sp.	mayfly	120						
Caenidae								
Caenis sp.	mayfly	3						
Odonata								
Aschnidae								
Aeschna sp.	dragonfly	8	6					
Anax sp.	dragonfly	1						
Coenagrionidae								
Enallagma sp.	damselfly	54	7					
Ischnura sp.	damselfly		14	1				
Libellulidae (early instar)	dragonfly	1						
Erythemis simplicollis	dragonfly	3						
Hemiptera								
Belostomatidae								
Belostoma sp.	giant water bug	4						
Corixidae								
Hesperocorixa sp.	water boatman	1						
Sigara sp.	water boatman	2						
Gerridae								
Gerris sp.	water strider	2						

Benthic Macroinvertebrates Collected by BBL Science for Project Number 10213.001 (Alabama).

Sample Date:	10,13 June 2005	"Master List"						
Sample Type:	Kick Net							
		Sample Station						
Taxon:	Common Name	RP-01	SC-1	SC-2	SC-3	SC-4	SC-5A	SC-5B
Mesoveliidae								
Mesovelia mulsanti	water treader	6						
Naucoridae								
Pelocoris femoratus	creeping water bug	9						
Notonectidae								
Notonecta indica	back swimmer	36						
Trichoptera								
Hydropsychidae								
Cheumatopsyche sp.	caddisfly			17		1	1	1
Coleoptera								
Dytiscidae								
Ilybius sp.	diving beetle	5						
Haliplidae								
Haliplus sp.	crawling water beetle	2						
Peltodytes sp.	crawling water beetle	1	1					
Hydrophilidae								
Berosus sp.	scavenger beetle	1						
Tropisternus sp.	scavenger beetle	22						
Elmidae								
Stenelmis crenata gr.	riffle beetle			6				
Noteridae								
Hydrocanthus sp.	burrowing water beetle	1						
Diptera								
Ceratopogonidae								
Atrichopogon sp.	biting midge			1				
Palpomyia gr.	biting midge	4						
Chaoboridae								
Chaoborus punctipennis	phantom midge	1						
Chironomidae								
Ablabesmyia mallochi	midge					1		7
Chironomus sp.	midge		1					1
Cricotopus bicinctus	midge	1						1
Cricotopus/Orthocladius sp.	midge							1
Cryptochironomus fulvus gr.	midge			1				
Dicrotendipes sp.	midge							1
Endochironomus nigricans	midge	6						
Larsia sp.	midge	10						
Natarsia sp.	midge		3					
Orthocladius nigritus	midge					1		
Orthocladius sp.	midge				4	4		2
Parachironomus chaetoalus	midge	5						
Paratanytarsus sp.	midge	1						
Phaenopsectra obedians gr.	midge		3					6
Polypedilum tritum	midge							4
Stictochironomus sp.	midge		2					
Tanypus sp.	midge		1					
Thienemannimyia gr.	midge		12	45	7	17	5	14
Culicidae								
Culex sp.	mosquito	5						
Empididae								
Hemerodromia sp.	dance fly			1				
Stratiomyiidae								
Odontomyia sp.	soldier fly	1						
Tipulidae								
Limonia sp.	crane fly							1
Limonia canadensis	crane fly							1
Total Number of Specimens		**331**	**97**	**106**	**16**	**28**	**16**	**53**
Total Number of Taxa		**31**	**19**	**13**	**5**	**7**	**4**	**18**

Field Notes

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

Wildlife codes
CA = calling FL = flight
FG = foraging FE = feeding
RS = resting or perching

SC = scat SL = slide
DHB = den, hut, burrow
TR = tracks DB = day bed
CA = call NE = nest
FG = browse/forage

EPA oversight
harry horris
RAC
[illegible] Martin

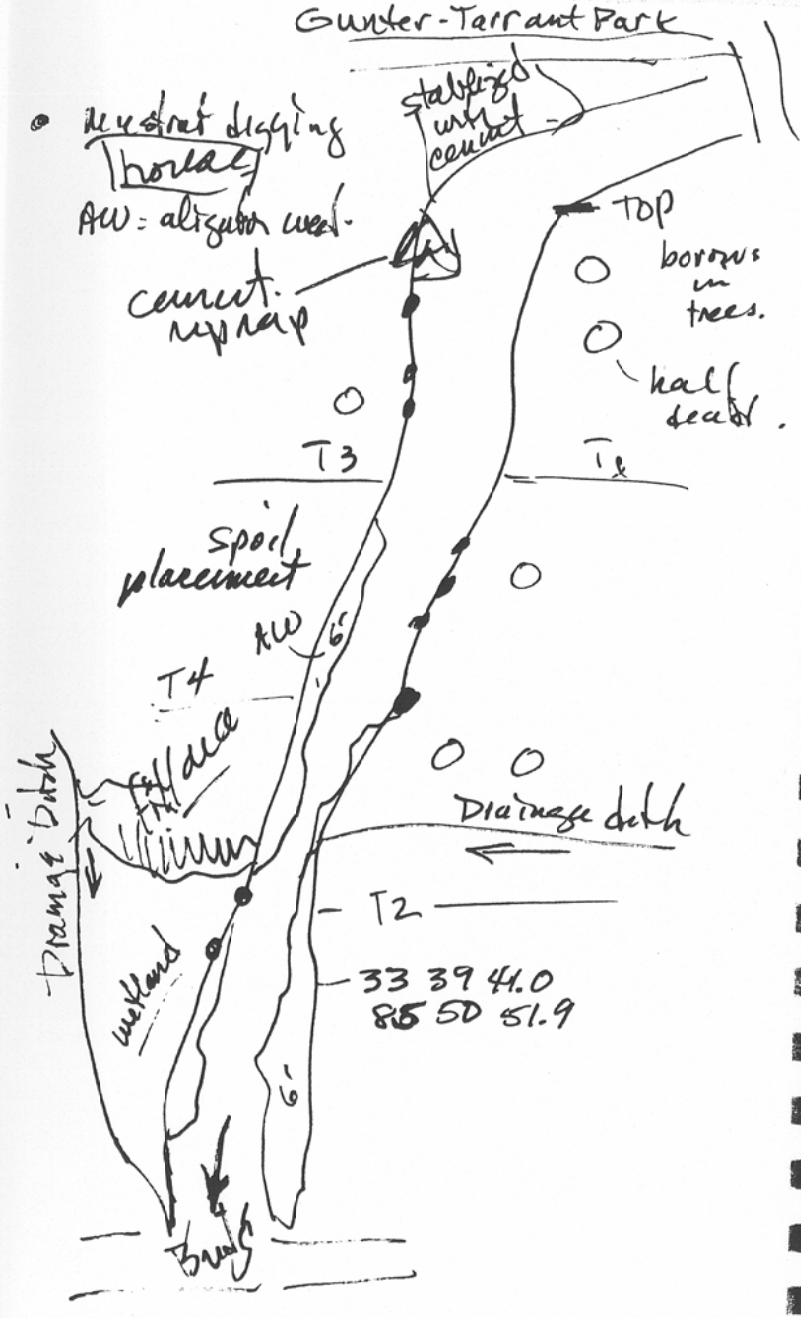
① CONFIRM
TOTAL OBSERVATION TIME
200 MIN TOTAL OR JUST ON TRANSECTION ?
② SEND DAVE BENTHIC SHEETS

Reach #1 9:40AM 6/10/05 JKS
Snow Creek
Barn Swallows flying over
RW Blackbird singing on veg along creek.
mockingbird singing in tree over creek.
Tree swallow flying over area just above grass
The east bank the veg has been recently cut back to 10 ft of water.

Several trees in 50' transect from bank edge in upper section of reach (pecan)

Sycamore and mimosa tree seedlings coming in on bank.

Channelized stream with spoil placed on west bank



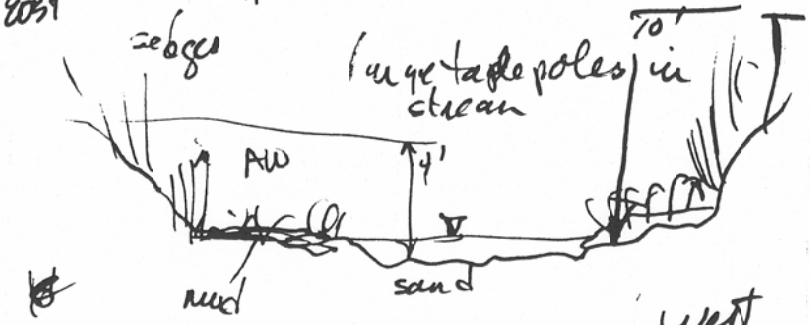
Alligator weed extends out from edge varies distances into creek. mostly 0-6' out from sides

crayfish borows

flock of 5 starlings feeding in cut grass on east side

yellow flicker FH FG
robin - RS CA FH
grackle. FE

a number of muskrat runs through AW



barn swallows nesting under both bridges

flood ~ 6' over creek bottom

chimney swift flying over creek
between trees.

— american toad in grass

Barbara's Buttons - Marshallia trinervia
2 Daisy fleabane
2 Brazilian verbena
2 Soft rush
Spike rush
Broad-leaved Cattail
Buttercup Primrose
2 Giant Ragweed.
2 Red Clover.
Fox Sedge
2 Bitter dock
2 Common Plantain

2 ground nut
2 w. either
2 E. Primrose
2 GG over ground
Path Rush
2 water penny
2 sweet white clover

GA lace
Box Elder
Syc.
cow vetch
oats
privet
Joe Pye weed

↓#2

2 Hedge Bindweed
Veld leaf.
Virg. Button

Snow Creek 2 - 12.06
Rock Dove FL
E. House Sparrow RS
Mockingbird CA

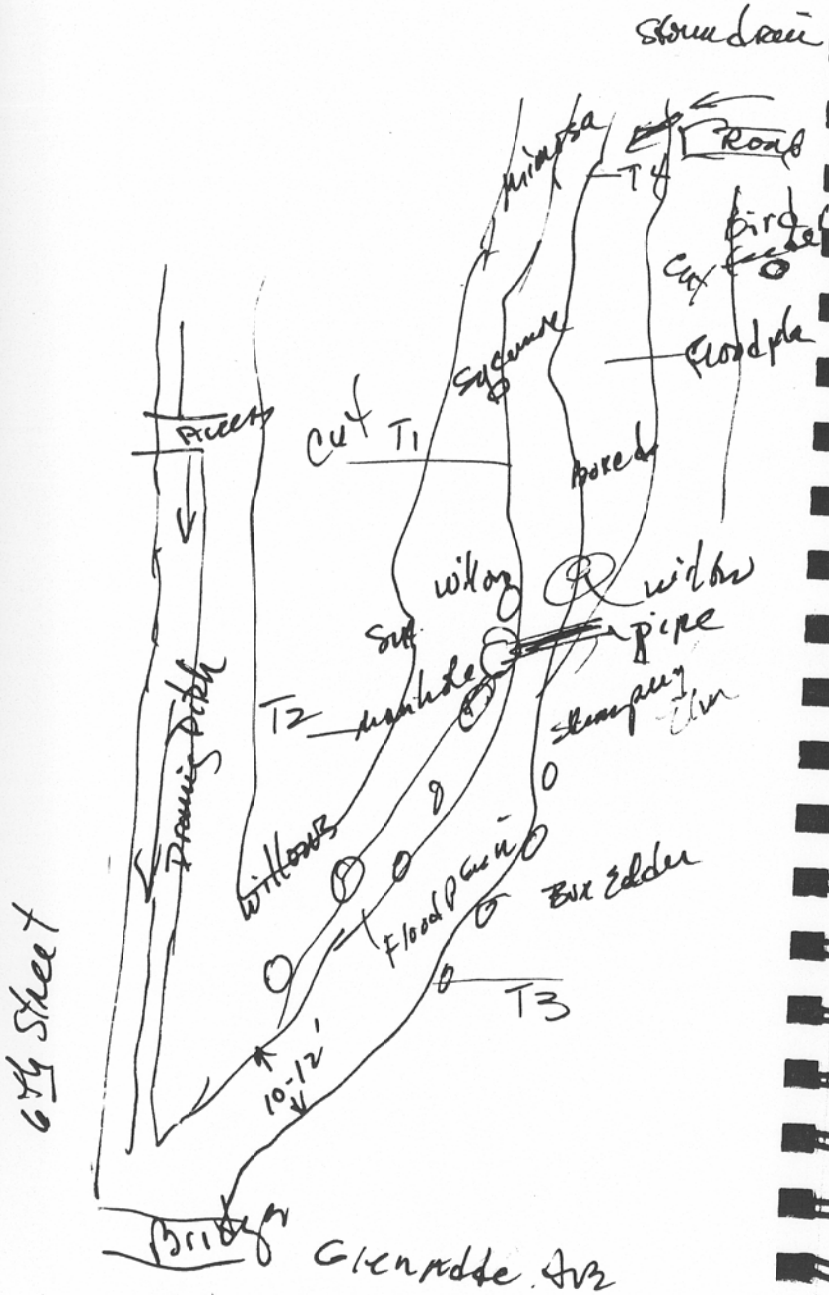
upper limit 33°39'08.5" 85°50'13.3
lower limit 33°39'07.5 85° 50' 10.5"

Robin CA FL
Starling FL

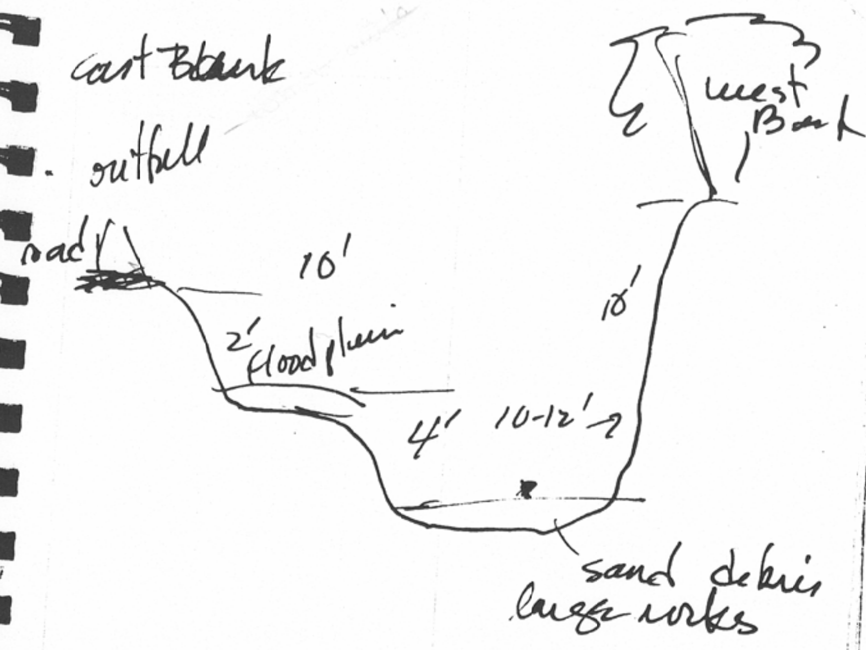
cat dog TR
rat TR around man hole
catbird CA
grackle CA FG

muskrat burrows around man-hole

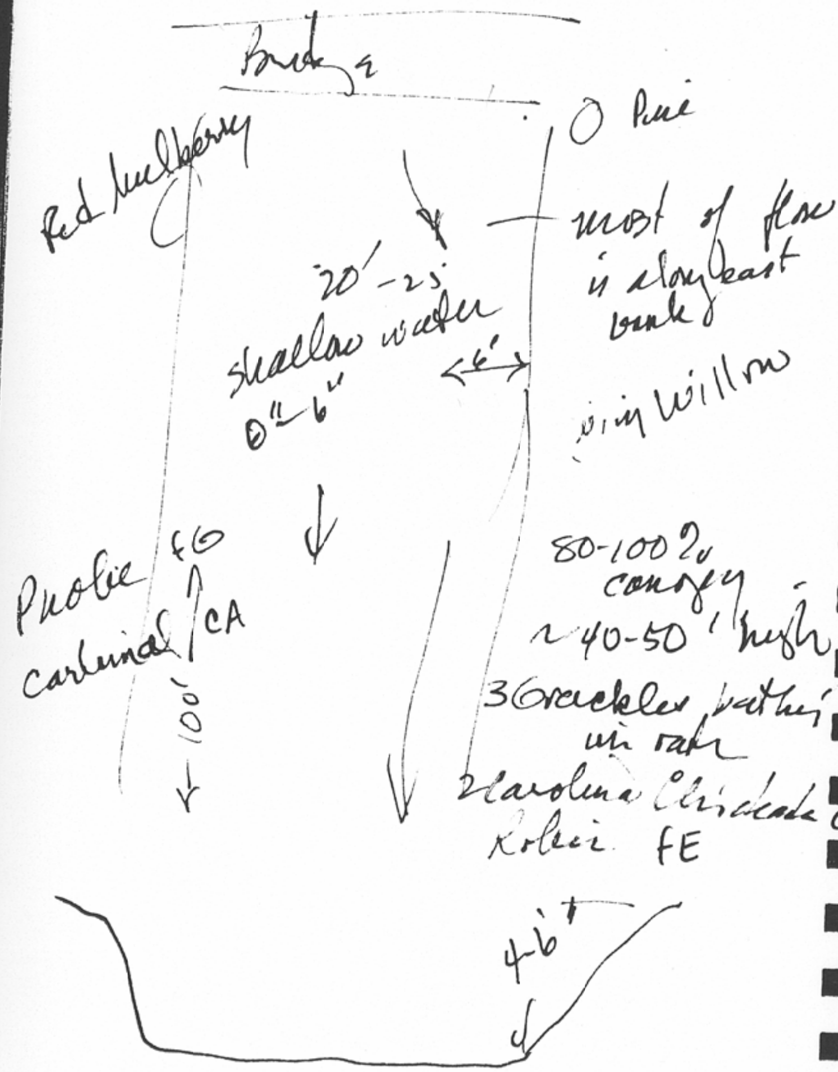
Mourning Dove RS



storm drain
mimosa
Road
T4
bird feeder
Floodpla
sycamore
cut
T1
willow
willow
pipe
manhole
T2
willows
Floodplain
Box Elder
T3
10-12'
Bridge
Glendale AZ
6th Street



east Bank
outfall
road
10'
2'
Floodplain
4'
10-12'
10'
west Bank
sand debris
large rocks



Station 3 13:40

up 33 38 26.2
down 85 49 46.6

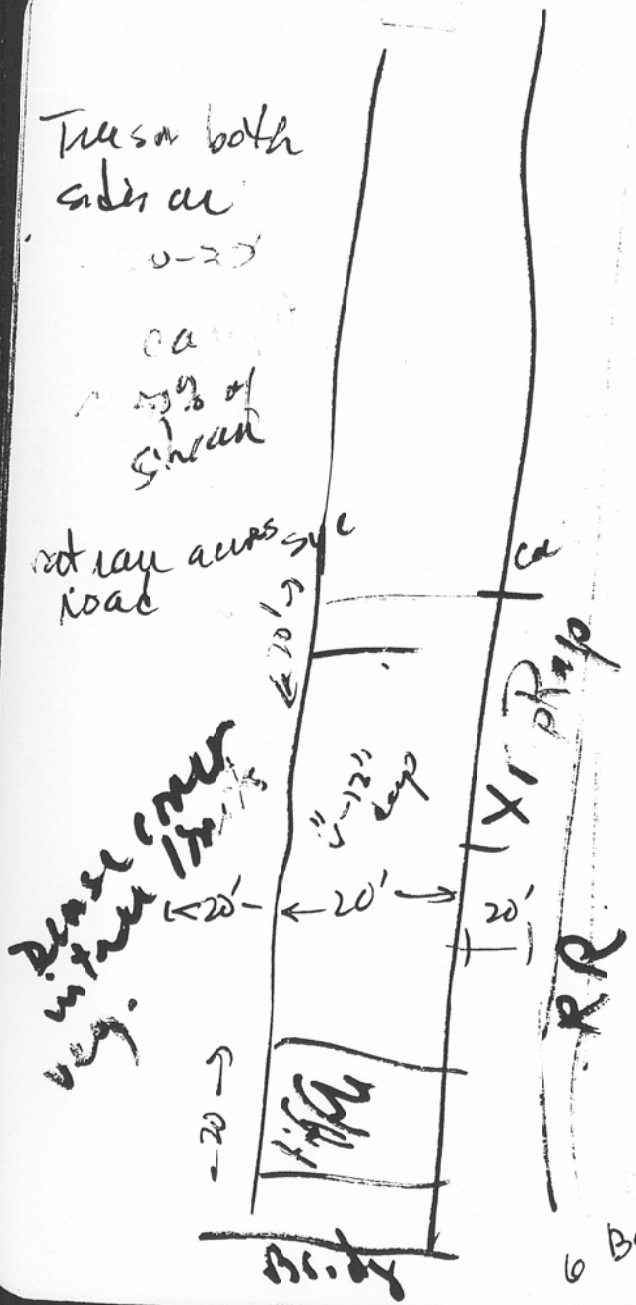
33 38 26.1"
85 49 46.0

rain - on and off -

mockingbird CA
starling RS
cathird CA
cardinal CA

rat - TR

- a long concrete lined channel
empties into the station



edge have been treated with Herbicide

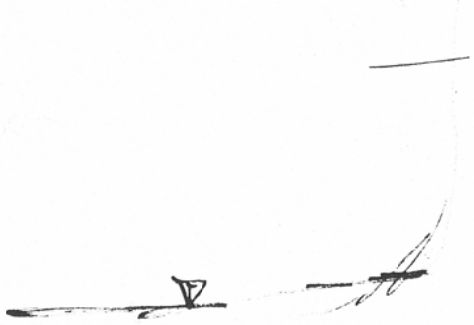
Trees / shrubs.

Box Elder
Sycamore
Catalpa
Mulberry
Slippery Elm
Silver Maple
Trumpet Creeper
Mimosa
Tree of Heaven
Privet
Magnolia
Southern Hackberry
Common Elderberry
Buckthorn Burnelia
Hawthorn
Eastern Red Cedar

no veg ground waters edge due to dense canopy

west

east



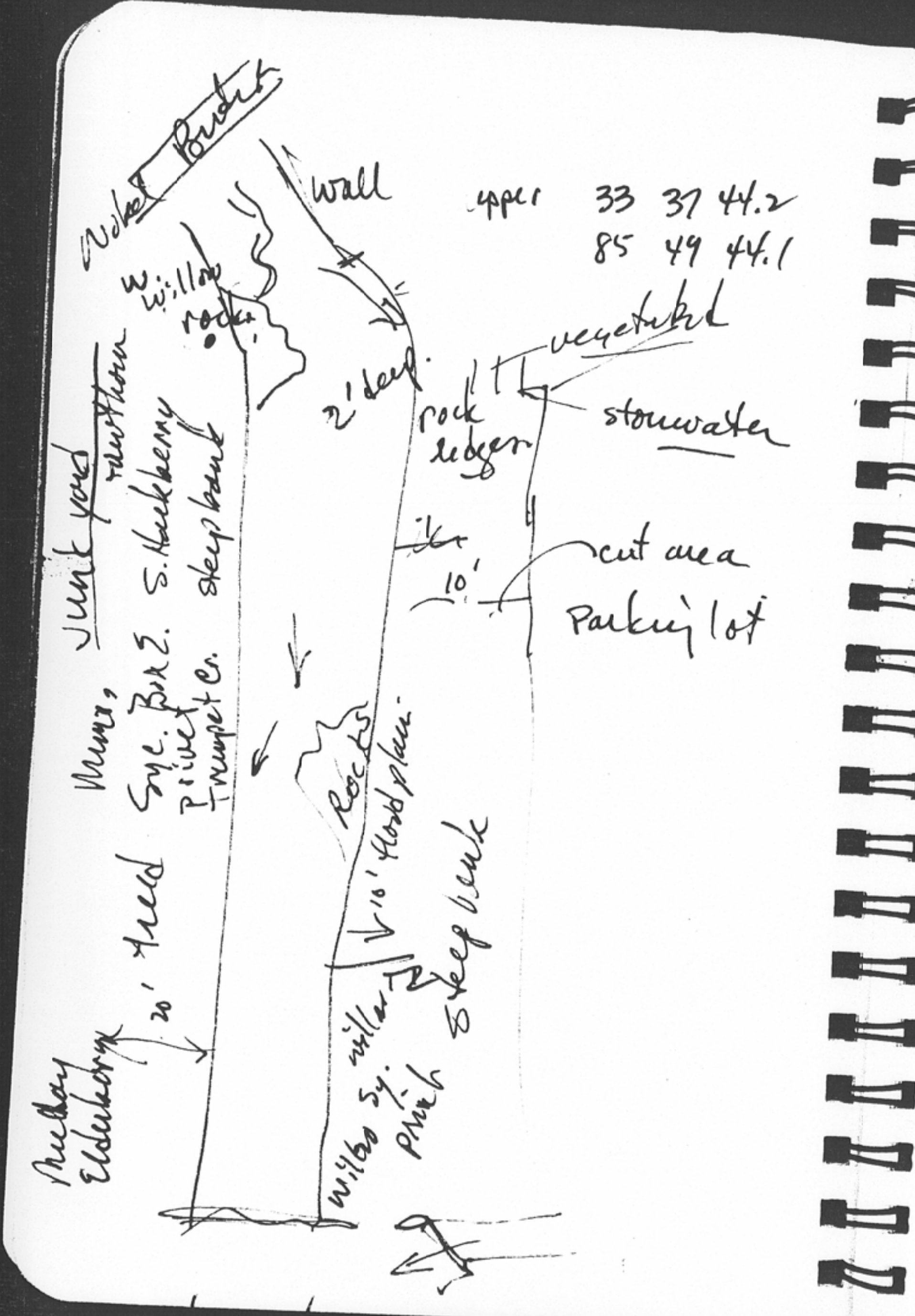
up stream is concrete lined stream corridor. both sides and bottom

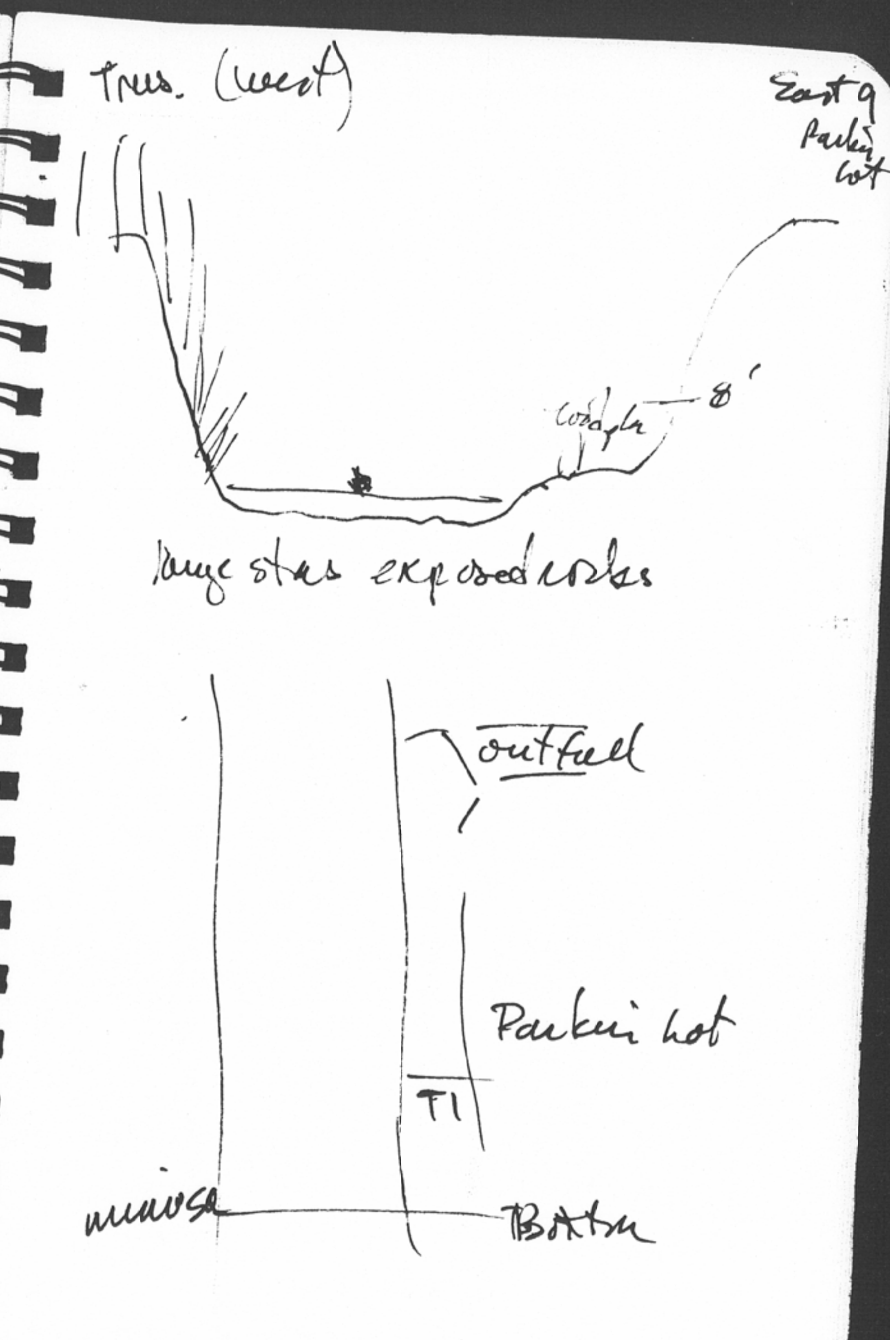
A metal salvage yard is just upstream.

OC ST-4 14:54

Kingfisher - was sitting in tree when we arrived
Grackle FL
Starling FG
Rock Dove FL

rat TR
muskrat TR


wall
upper 33 37 44.2
85 49 44.1
vegetated
stormwater
rock ledges
2' deep
cut area
Parking lot
10'
Rocks
10' floodplain
steep bank
junk yard
willow
rocks


Trees (west)
East of Parking lot
8'
large stones exposed rocks
outfall
Parking lot
T1
mimosa
Bottom

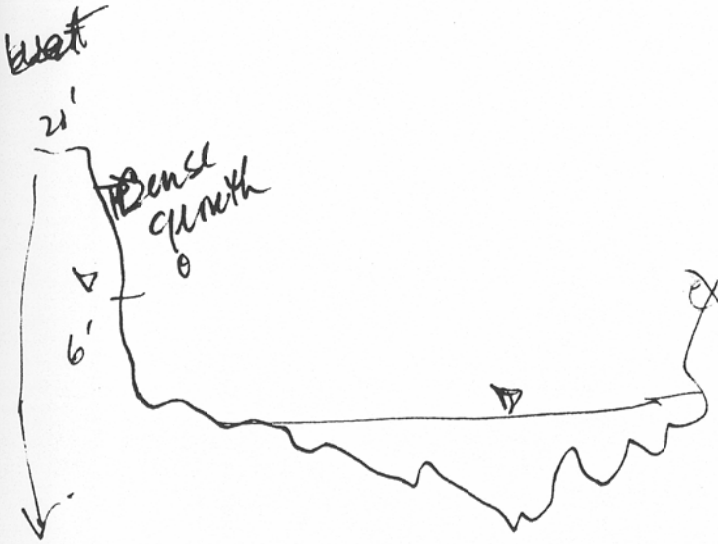
fox grape
J. H.
red mulberry.

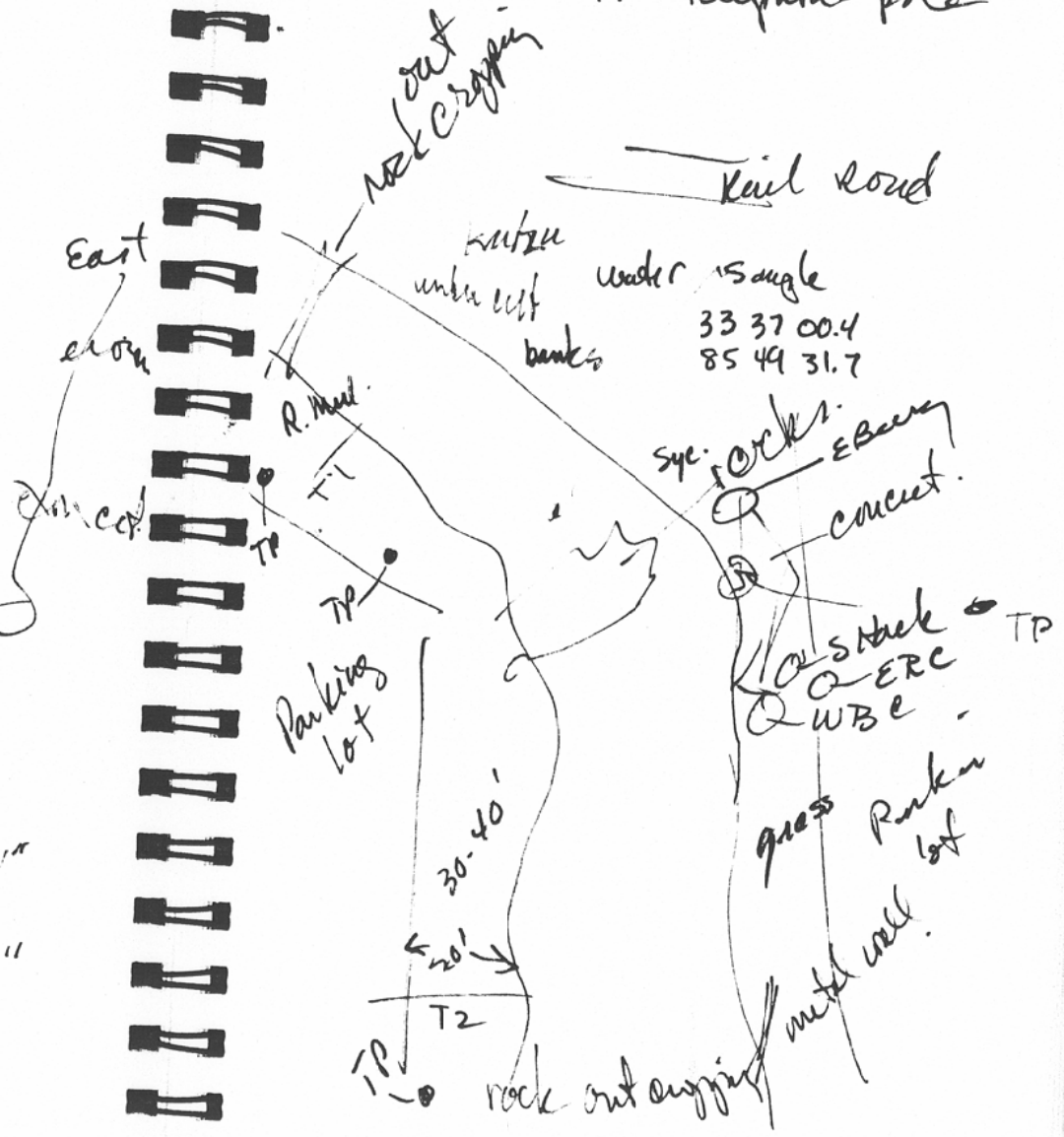
frost grape
goldenrods
B. verden
Jap. honeysuckle
Comm. Plantain
bin weed
red top grass

kudzu
g. ragweed
cow vetch
wild lettuce
bitter dock
clearweed
oaks.
ragweed.
soft rush
evening primrose
buttercup primrose O. speciosa
FOX
wild lettuce
Virgin-bower - Clematis virginiana
red top-grass
oaks.
mimosa
silver maple
Pecan
E Primrose

TP = telephone pole

ST-5 16:14
mockingbird CA
starling FL
Robin CA
Barn Swallows FE





upper 33° 37' 00.9" 85° 49' 32.1"

lower 33° 36' 59.3" 85° 49' 30.9"

frost grape
G. ash
Willow ?
Silver Maple
Elderberry
Box Elder
Syc.
Sumac
Privet
Ked Mulberry
T. Creeper
B. Vervain
Red top grass
J. Honeysuckle

SCFST-1.
green frogs
Crayfish
cooter
cotton mouth
mud turtle
Leopard frog
during ~~night~~ even fish sampler

bull frogs singing while doing fish.

bat flying over creek when pulling nets at upper stream end.

muskrat swimming in creek while sorting fish samples.

rain light wind.
SC ST-2 7:23
Tree Swallows feeding over creek
Eastern Kingbird
Barn Swallows feeding over creek
Cardinal
Robin feeding young
and nest building

fish shocking

SC ST-3 9:[illegible]6 - 11:00

6 barn swallows nests
under bridge

fish shocking.

SC ST-4 11:30.
fishing shocking -
cloudy. light breeze.
starling, mockingbird, barn swallow
FL CA FG

gulf coast soft shell turtle
4 x 4.5" carpace
2 line salamander
copperhead snake ~12"

SC ST-5 13:05 - 15:0[illegible]
cloudy light rain light wind
gulf coast soft shell ~12"
copperhead ~18.
kingfisher - FG

SC Station 1 13:43 6-12-05
- cloudy - 10-20 mph wind

Blue Jay in trees.

Transect 1 E. Bank. 33° 39' 41.1"
85° 50' 52.4"

15' open water
6' A weed.
4' sedge - ~ 4' high
40' clover dominated field
6-12'

Transect 2 E Bank 33 39 42.3
85 50 54.1

20' open water
steep bank 4' high
2' wide sedge/G. Rod, dock
40' clover dominated field
6-12" high
canopy 50'-60' high from
one tree

Transect 3 West Bank 33 39 41.8
with 85 50 53.9
20' open water 16" deep
10' steep slope up to 10' high
slope not cut dominated
by grass. Mimosa seedlings
red clover. B. vernon
40' cut clover field 6-12" high
with 100% canopy cover
from pecan 36" dbh
50-60' high.

Transect 4 West Bank 33 39 40.0
85 50 52.6
with
10' open wash - 6" deep
6' A weed.
10' steep slope 10' high
40' cut clover field

SC station 2 14:48

Transect 1 west side
width 33 39 08.1 85 50 12.6
20' open water
5' transit 10' up from water
uncut dominated by grasses
40 cut field
grasses clover

Transect 2 west
33 39 07.5 85 50 11.2
with
20' open Water
10' floodplain 4' above water
~~30~~ uncut
few sapplin BW
shrubs MER
30' cut field
10' drainage ditch
wall
6th Street.

Transect 3 east. 33 39 08.0
width 85 50 11.1
20' Open Water
10' ~~steep~~ slope up to 10'
Box Edge. Slmin Elm
VP weed
30' mowed lawn not well
kept.
house

Transect 4 east 33 39 08.8
85 50 13.1
15' open water
20' floodplain 4' up from water
dominate by herb.
10 steep slope 4' up to cut lawn
40' lawn cut
house

SC ST-3 15:30
Brown Thrasher FG
Transect 1 west 33 38 25.6
85 49 46.4

30' open water
10' wide flood plain that rises up 6' from water.
30' high canopy which extends across stream
maj. - Syc. Box elder - magnolia
hawthorn
6' large rock rip rap for stabilization RR.
6' to rail road tracks.
3 sets of tracks.

Transect 2 west 33 38 24.3
85 49 46.2

30' open water
6' treed wind 10'
30' high trees canopy across water.
dominate Syc. Boxelder
ERC cattail prevalent VH
10' treated with herbicide for RR.
3 sets of RR.

East side is a building and struck yard
20' wide tree area 30-40' high
steep
T { boxelder Syc. TOH Common hackberry
negundo S. Hackberry

S. privit elderberry -
trumpet creeper

SC ST-4 — 15:54
clear sunny- 10-15 mph wind
new lower end pt 33 37 39.3
85 49 41.5
~~new~~ open water 33 37 41.8
new upper 85 49 42.3
Transect EAST- 33 37 40.2
85 49 41.8

40' open water
10' steep rises 20'
been cut sapling
coming in.
Syc TOH Mimosa S. Elm -
MF mixed grasses
12' top- in mowed
Asplat parking lot.
Transect 2 East
33 37 41.5
85 49 42.3

40' open water
10' flood plain- rises to 4'
Syc black willow
10' rises steeply ~~??~~ up 15'
12' mowed area to asplat
parking lot.

west side was not accessible
steepest of slope and
- junk yard.
mature hedge row habitat on
steep slope up 25 ft
~~???~~ 40' 60' high trees.
Syc Boxelder - Black willows
Hackberry, S Elm, Pecan
privet
extends out approximately
10' over water

SC ST5 16:45
clear sunny 10-15 mph
new tower and 33 36 58.9 85 49 31.8
Transect 1 W 33 37 00.5
85 49. 32.3

90% canopy of stream
just below falls.
30' open water
10' vertical up-20'
tree have been cut telephone
wires.
40-50' high
SE Mimosa Box elder.
privet seedling sapling.
trumpet creeper frost grape

20' old field that is periodically
cut.
parking lot

Transect 2 W 33 36 59.5
85 49 31.7

30' open water with big
rocks.
20' comes up to 30' in height
vegetated with trees
50'-60' that have been
cut for telephone wires
silver maples mimosa BoxE.
privet TOH
bush equisetum.
Asphalt parking lot.

East Side
half of the side has been removed
of trees - reforced with
concrete fill and wall
forest area has been treated
on Railroad with herbicide
20 ft wide
same veg and height

6-13-05

Training — 11:02

Mourning Dove FL

4 ## Tree Swallows: FO

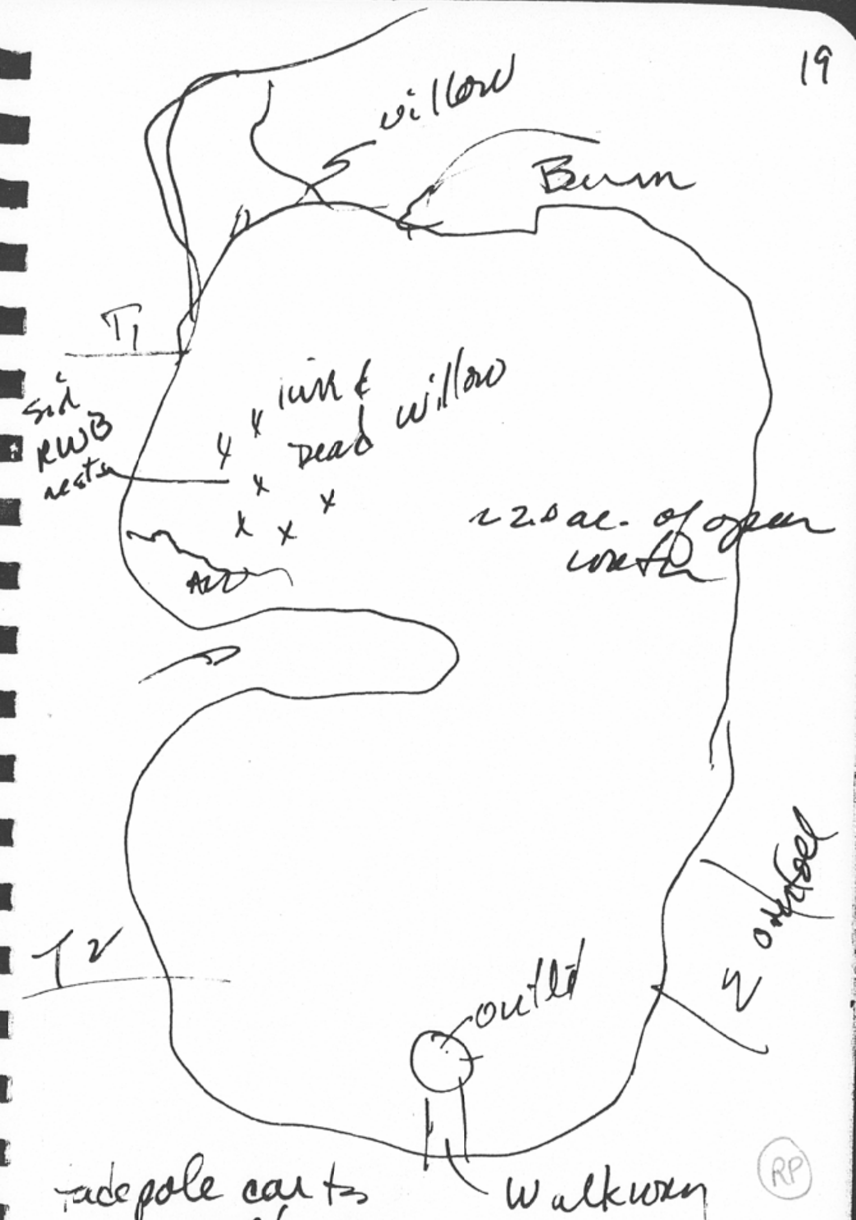
14 Cliff Swallow getting water

Bull frog calling

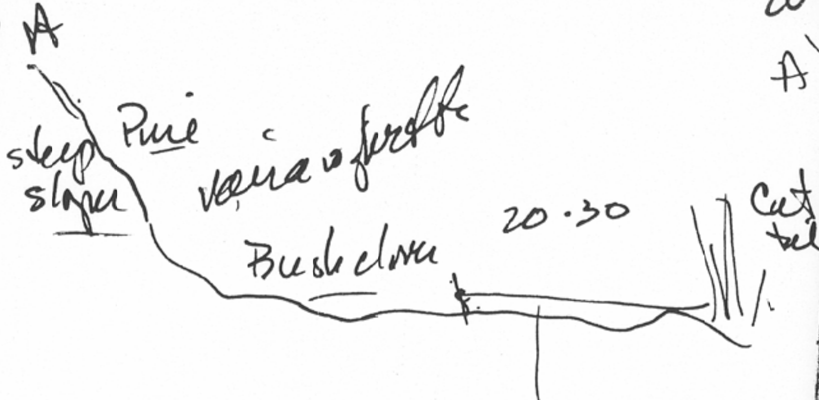
~40 RW Blackbird nest.
~9 pm on tree.

2 Barn Swallow

- Area is fenced — 8 ft high chain link



tadpole carts on walkway
could be from egrets or herons

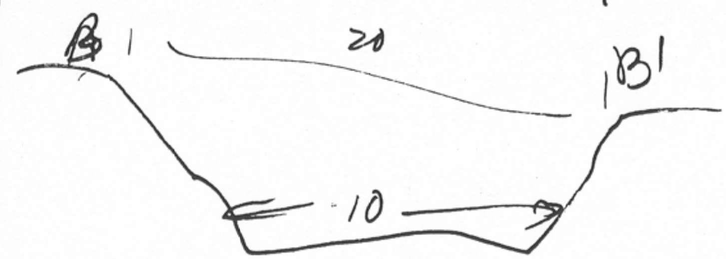


Flooded during storm
with rush
Bare areas - 30%
Pennsy smartweed
softstem bul!

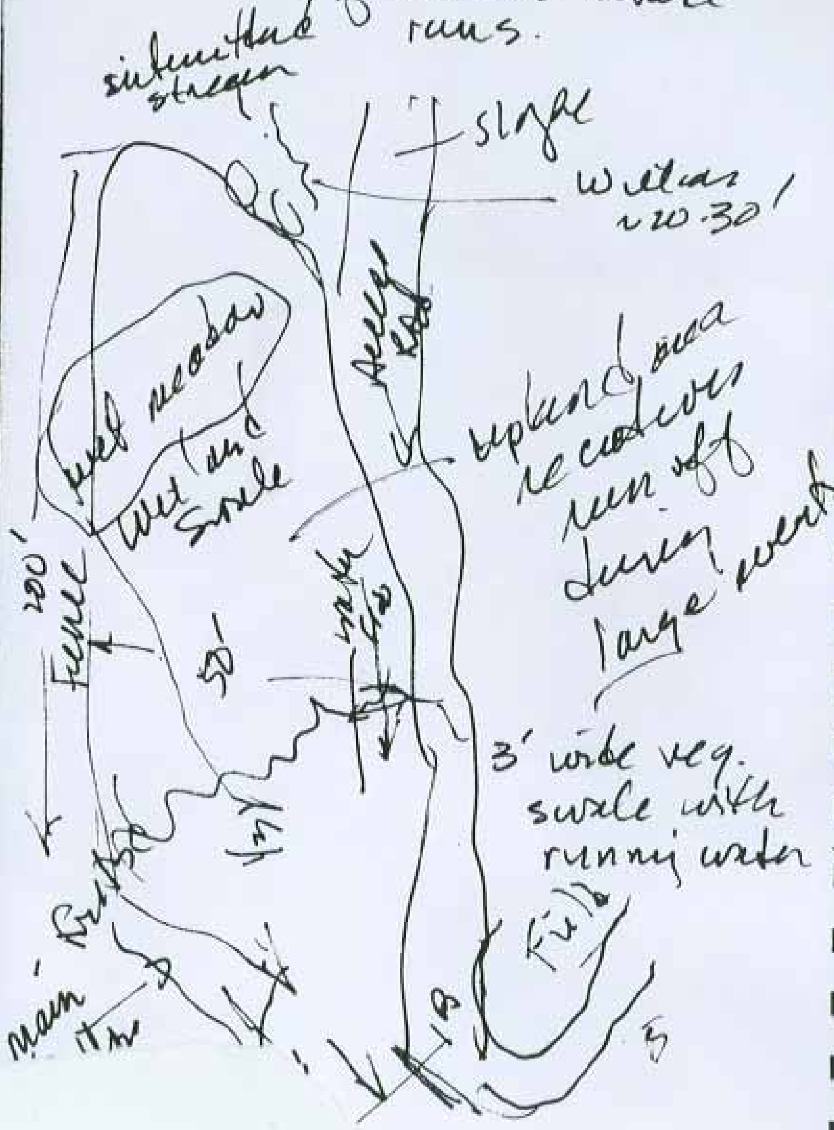
small leaf - bushclover
B. [illegible]
LB Stem.

56 seedling
[illegible] bulrush
wool grass

Concrete lined



alot of meadow mouse runs.



Road is mowed

Swale.
Fox Sedge. S.R. JPW
Blue. Vervain
[illegible]
wet remnants of h BS.
G. Rag. Cattail. B Willow
St. sp.

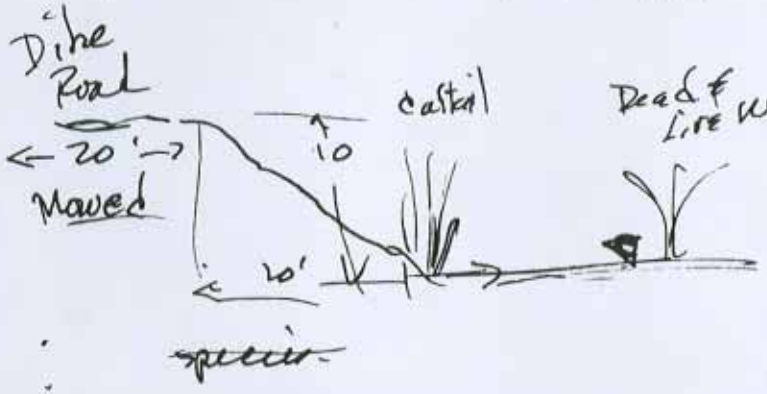
C. yellowthroat calling

Pokeberry. Box elder.
Bindweed
Virg. Bower.
Daisy fleabane
QA lace
Cow vetch
[illegible]
Red Clover

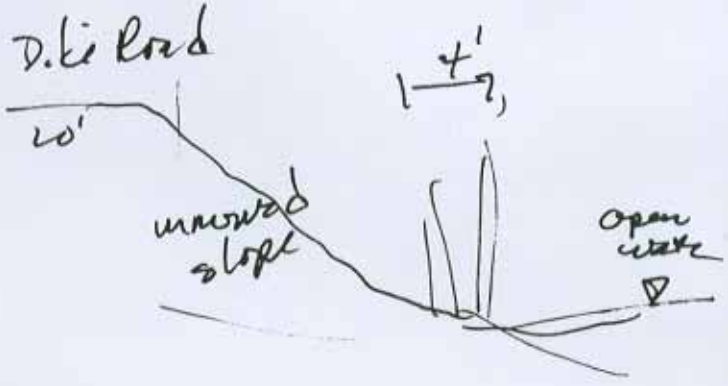
B. Blackberry
Boneset

red tail hawk flew over streamside fac.

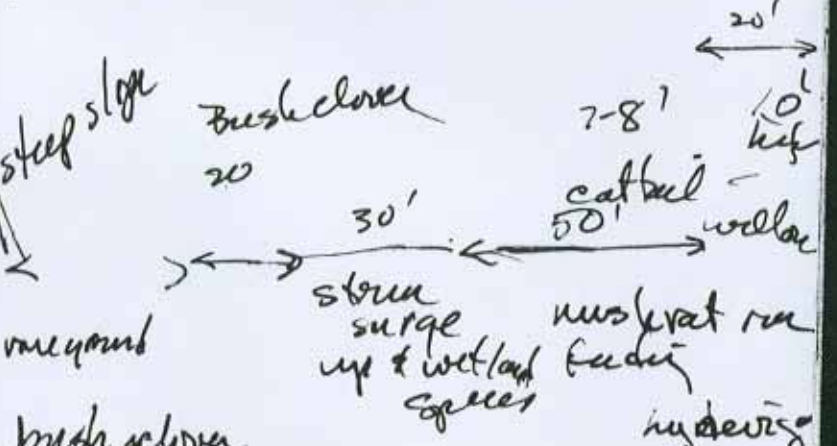
T1- 33 39 10.5 85 50 53.7

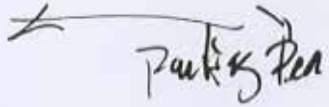


T2 33 39 11.7 85 50 56.1



T3- 33 39 08.3 85 50 54.5





slope - pine stumps. S. elm.

Big. Vacuum has been clear cut in several locations no tracks

Drys down several times
a year
eliminates fish pops
control merchant
and turtle pop.
area is difficult to
colonize because of
water corridor to the
stormwater facility is
separated by dry swale
and water control
structure.

South Landfill
2 Morning Doves on wires
1 Mocking bird on wire
3 Blue Jay on wire
1 Indigo Bunting on fence
1 Immature RT Hawk
deer tracks in lev. rd.
puffle

South Landfill 7:30 6/14/05
clear - sunny 80 going to 90°F

Barn swallows FG over
fields.

RT Hawk immature being chased by
mockingbird outside fence
summer tanager in trees
outside fence
Indigo Bunting fly across
fields
cardinal flying across

Start End

TA 33 38 56.2 33 38 57.6
85 51 00.5 85 50 55.9

TB 33 38 56.6 33 38 57.9
85 51 00.6 85 50 56.1

TC 33 38 56.9 33 38 58.0
85 51 00.5 85 50 56.1

transect ~13 m apart

mowed
clover/grass field ~2" high
Red & white clover
dog bane Dangflea[illegible]
mimosa - Chinese silk tree
equisetum

no signs of wildlife
[illegible] runs, tracks

3 [illegible] blackbirds flew into mimosa trees
2 Blue Jay flew into forest edge
1 Starling
1 BW Black [illegible] flying over
1 Indigo bunting in forest edge in area
1 Sparrowhawk flew across
2 Red Tail adult flying over on termal

855

Wildlife Transect - tall grass ~3'-4'
Transect A 33 38 54.0 33 38 54.9
85 51 02.0 85 50 58.5

T-B 33 38 53.7 33 38 54.1
85 51 01.9 85 50 58.4

T-C 33 38 53.3 33 38 53.8
85 51 01.9 85 50 58.4

nothing

species in tall field
grass Oat
trumpet creeper
Poke weed Dock
cat brier

9:23
- cardinal flew across
RW Blackbird flew across
Mourning Dove flew across
1 Sparrow Hawk picked off possible grass hopper and flew
Summer Tanager ♀ flew across
1 RW Blackbird flew across
0 RW " " "

10:07

10:10
Herb. veg. field 2-3' high

TA	33 38 49.6	33 38 55.5
	85 51 05.0	85 51 07.1
TB	33 38 49.9	50.0
	85 51 05.0	07.3
TC	33 38 50.1	49.1
	85 51 05.1	07.8

herb vir.
95% some bare area

wavy raspberry
Shrubby Cinquefoil
Curled Dock

Br headed Cowbird in field
Chimney swift flew over
Sparrow Hawk feeding from telephone pole.
Should be the same one
RW Blackbird feeding in Le. veg.
RT Hawk flying over with something the claws - looking for place to rest and feed.
Barn swallow flying over field

10:57

Open Area

12:15 -

	Start	End.
TA	33 39 02.6 85 51 09.5	33 39 00.4 85 51 09.1
TB	33 39 02.2 85 51 09.0	33 39 00.3 85 51 08.7
TC	33 39 03.1 85 51 08.5	33 .39 .00.4 85 .51 07.9

burrow?

2" dia borow in intermittent stream corridor
on nest in tree possible squirrel
Armadillo borrowing near

Ground is covered with filter fabric which will limit (?) and borrowing animals

2" dia borows along fence in smooth material.

90% -
40'-50' canopy - of a number of trees. no shrub 10% -

SG sweetgum Pecan Willow Oak SBC
Turkey Oak tree of heaven
VC, JH, Bunkara PI
intermittent corridor then use as a park for employees.
TrC

50% coverage of herbs/grass.

privet, V. silk grass
crabe myrtle.

clarify

Clover yard — PMG-2
white clover - mowed to
~2-4" . 100% coverage
C. dandelion - crabgrass
Bermuda grass
Morning Doves on wires

FG 3

TRA

TB

TC

W. clover - C. Plantain
C dandelion grass
2-4" high Bermuda Grass
100% coverage

no wildlife

sunny partly cloudy 90+ no wind 27

west landfill 14:10
Mixed mowed field - 1-2' high

Red Clover QAL.
Sweet White Clover Sweet Y. clover
Daisy fleabane
LBS . Goldenrods ?
com plantain
Mimosa Lez. vir. Lez vir.
WBK seedling) dogbane?
EPR
T. cripple
Uppland Bonset

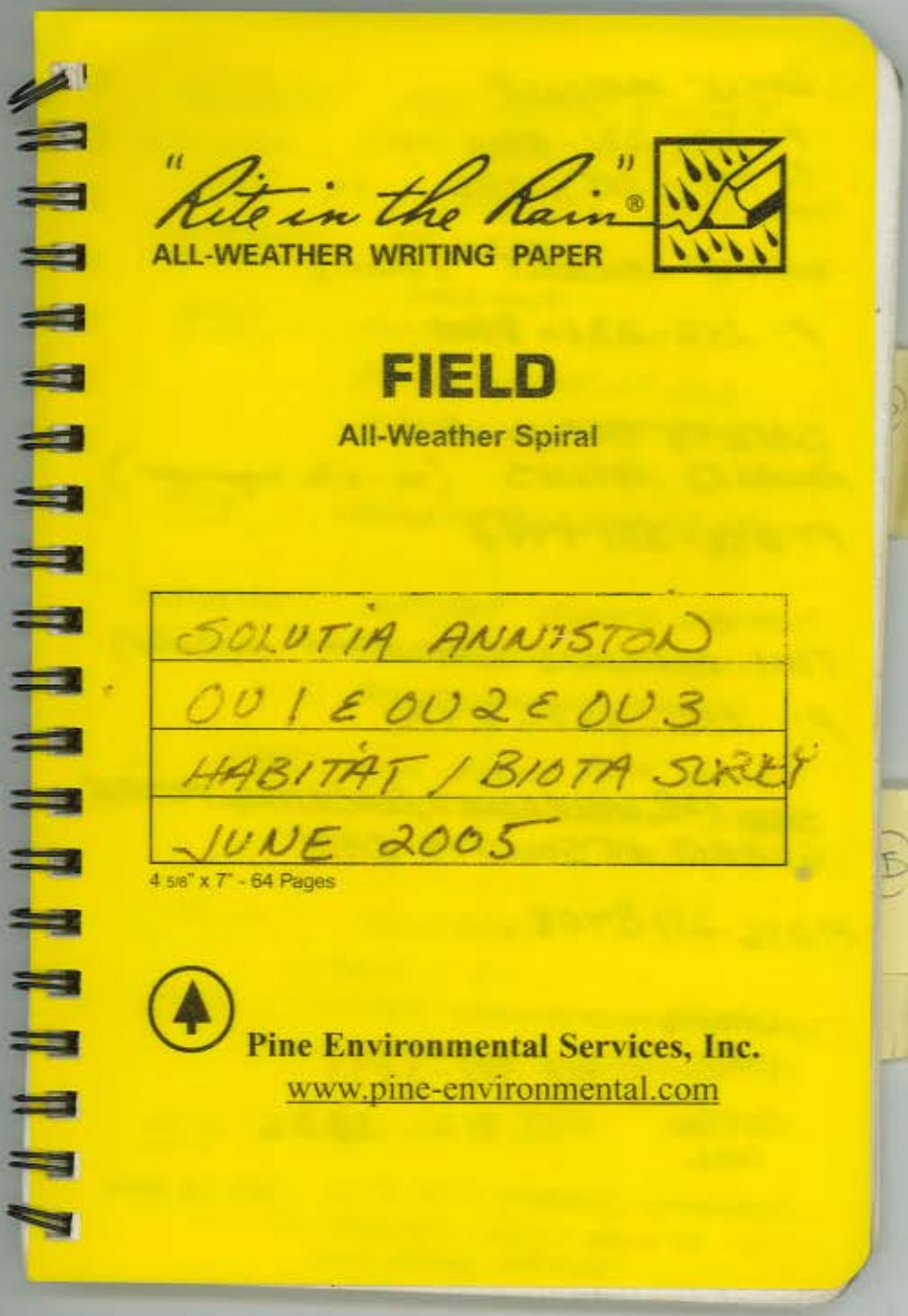
Meadowlark sitting on
electric stabilizing post
Impertance Meadowlark in
field

X major
✓ minor

Trees	1	2	3	4	5	R
Box Elder.	✓	X	X	X	X	✓
Syc.	✓	X	X	X	X	✓
Mimosa	✓	✓	✓	✓	✓	✓
Pecan	✓		✓	✓		
S. Elm		✓	✓	✓	X	
B. Willow		X	✓	/	✓	X
R. Mulberry		✓	✓	✓	✓	
Pine		✓				
S. Hackberry		✓	X	X	✓	
Cat			✓			
Silver Maple			✓	✓	✓	
E. Red Cedar			✓		✓	
Tree of Heaven			✓			
Magnolia			✓			
Chinaberry			✓			
Buckhorn Bumelia			✓			
Green Ash					✓	✓

shrubs

	1	2	3	4	5	R
Elderberry						
Hawthorn						
Privit	✓					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C: 770-355-1526

WAYNE LAMBERT (USACE)
P: 256-231-8400

SAFETY TRAINING
RONALD HAYNES (on-site supervisor)
P: 256-231-8497

TOM COLLINS (env. plant coordinator)
P: 256-231-8490

~~SAF~~ FOR EMERGENCY/LOCATING PEOPLE
GUARD AT SOUTIA GATE
P: 256-231-8408

LUDWIG
HOME. 410 381-3035
PERSON CELL 443 812-8836

(1)

06/09/05 PRE RECON SURVEY
5:08 PM CREW: SML, JKS, SPT
TEMP: 90; BLUE SKY, 80% CLOUD
LOCATION SC-STA 1
HABITAT
BMI: ALLIGATOR WEED (1)
SAND/COBBLE 6" (2)
SAND ≤24" (3)

FISH OBSERVED SHINERS/SUNS

WILDLIFE LFT/RT BANKS HASTILY ASSESSED; MUSKRAT, BN. SWALLOWS, SWIFT

∴ START 20M BELOW 14TH STREET
END @ START OF ALLIGATOR WEED (AW)

5:38 PM SC-STA 2
>100M
BMI (1) RIFFLE DOWNSTREAM OF BRIDGE
(2) RUN/POOLS UPSTREAM

FISH PRESENT: SUN

WILDLIFE LFT/RT BANKS/HARDER ACCESS; ONLY ACCESS IS UP FROM BRIDGE

MFES WT-1 93 96

06/09/05
6:00 pm SC - STA 3

BMI (1) RIFFLE / RUN ; MIXED POOLS
(2) SHADED / UNSHADED
SANDY / ROCK (POOL)
ROCK (RIFFLE)

FISH PRESENT

WILDLIFE GOOD ACCESS FOR TRANSECT ON WEST BANK ; POOR ACCESS ON EAST BANK.
GRACKLE, MKBIRD

6:3?pm

BMI (1) NICE RIFFLE / SMALL SHALLOW POOL REACH
DEEPER POOL NEAR NOBLE ST. BRIDGE
(2) SHADED EARLY PM → SUN IN AM

FISH PRESENT

WILDLIFE ROCK DOVE, BN SWALLOW

06/09/05
7:00pm SC - STA 5

BMI LIMITED; SAND BETWEEN LEDGE; GOOD POOLS, SMALL RIFFLES; BOULDERS.

FISH PRESENT / ABUNDANT

WILDLIFE : POSSIBLE TO DO BOTH BANKS; ACCESS IS STEEP ↑ RIPARIAN COVER
GRACKLE; KINGFISHER

7:20 pm END OF DAY

Stephen [signature]

(5) MFES WT-1 +03 06

(4)

06/10/05
FRIDAY
MOBILIZATION
8:00 -

WEATHER: CLOUDY, 79°F, LIGHT E-SE WINDS. HURRICANE APPROACHING SHOULD BE HERE TOMORROW PM.

CREW: SML, JKS, SPT

TASK: (1) BIORECON, (2) BMI, (NA) WILDLIFE SURVEY (post hurricane)

TASK 1 BIORECON — STATION SC-STA1

4 JABS: 1 SAV
2 SAND
1 COBBLE
(RECON)

BMI/PMI: 3-4 ODONATA (ZYGOPTERA (COENAGRION))
1 CHIRONOMID
1 SIMULIIDAE (blk fly)
1 Coleopteran
3-4 Fry
5+ GASTROPOD

(5)

06/10/05

Reach #1
9:40 middle of reach
pH 8.18
cond 0.332
turb. 0.0
DO. 10.36
temp. 23.5
ORP 277
wadn vel. 1.13 ft average of 5 to, readings.
SAMPLE
20 jabs:

ODONATA (ZYGOPTERA (COENAGRION))
GASTROPODS
SIMULIIDAE (DIXA?)
CHIRONOMID
FISH FRY
NEMATODE
OLIGOCHAETA

SAMPLE SC-STA1 PRESERVED 70% ETHANOL; 4ml GLYCEROL

1115 MEET LARRY LYONS @ SOLUTIA
OFF TO STA1 FOR HES/DEBRIEF

MFES WT-1 03 06

06/10/05 (6)

SC-~~SD~~ ST 2 12:06 arrived

water sample in middle of section
33° 39' 08.0 65' 50' 12.1"

flow ft/sec 2.29

pH 8.30
cond. 0.328
Turb. 4.3
DO 7.97
temp. 24.5
ROP 230

12:30 4 KICK/ JABSS (BIORECON)
2 SAND/ROCK (RUN)
2 COBBLE (RIFFLE)

BMI / PMI
3-4 ODONATA (COEN) Z460 EARLY INSTAR
2 SIMULIDAE
2 TANYPODINAE
1 OLIGOCHAETA
1 MAYFLY EARLY INSTAR

preserved 75% EtOH
4 ml glycerol →

06/10/05 (7)

12:50 20 KICK/ JABS
- 10 in SAND ROCK (RUN)
- 10 in COBBLE (RIFFLE)

1 COLEOPTERA (?)
10+ EPHEMEROPTERA ALL EARLY INSTAR
1 LEECH
10+ TANYPODINAE Preserved
5 SIMULIDAE

06/10/05 (8)

13:42 SC-ST3

33° 38' 25.5 85° 44' 46.2"

vel: 2.79 ft/sec
pH 9.31
cond 0.257
turb 3.2
temp. 25.9
DO 9.28
TOP 193

1400: 4 KICKS/ 4 JABS (BIORECON)
1 RIFFLE UP
1 POOL UP
1 RIFFLE DN
1 RIFFLE-POOL DN

BMI: 15 + SIMULIDAE
15 + TANYPODINAE

KICKS/
20 JABS

1 WATER MITE — PRESERVED
5 TANYPODINAE — 75% ETOH
1 OLIGOCHAETA — 4 ml glycerol
1 EPHEMEROPTERA
1 ODONATA EXOSKELETON ANISOPTERA

6/10/05 (9)

14:45 END OF STATION

ARRIVED
SC-ST4 14:54
top 33 37 44.2 85 44 44.1
bottom 33° 37 41.3 85° 44' 42.1

water sample at bottom of reach

vel 4.83 ft/sec
pH 8.64
cond. 0.256
turb 5.1
temp 25.1
DO 9.13
TOP 192

4 KICKS/JABS (BIORECON)
2 RUN
2 RIFFLE

NOTE: LARGE STORMWATER OUTFALL PRESENT, EVERYTHING UPSTREAM RIFFLE (100M TO NOBLE STREET BRIDGE)

MFES UT-1 03 06

06/10/05 (10)

EVERYTHING DOWNSTREAM RUN HABITAT (FOR 50 M UNTIL CHANGE TO RIFFLE).

BMI
- 1 COLEOPTERA
- 2 TANYPODINAE
- 2 SIMULIDAE
- 1 EPHEMEROPTERA

20 KICKS

BMI
- 5 SIMULIDAE
- 2 TANYPODINAE
- 1 EPHEMEROPTER
- 1 TRICHOPTERA
- 1 GASTROPODA

VARIOUS EXOSKELETON

3:50 END STATION

06/10/05 (11)

SC ST-5 16:14

flow	2.82 ft/sec
pH	8.03
cnd	0.266
turb.	21.7
DO	8.45
temp	24.4
ROP	256

4 KICKS
- 1 MAYFLY (EPHEM)
- 1 TANYPOD

20 KICKS 2 ROOT MATTS UNDERCUT
- 9 SAND
- 3 LWD
- 8 COBBLE
- 4 ALGAE. (4 EPHEM)
- 2 DETRITUS (DIDERCE)

OBSERVED MUD TUBES (OLIGOCHAETE?)

06/10/05 (12)

BMI
- 7 EPHEMEROPTERA
- 2 TANYPODINAE
- 2 SIMULIIDAE
- 1 GASTROPOD
- 1 TRICHOPTERAN
- 1 OLIGOCHAETA

SENDING TO LAB BMI SAMPLES

SC-STA 5A (MAJOR HABITATS)
SAND (ROCK) ALGAE
SC-STA 5B (SMALL DETRITUS AND UNDER CUT BANKS)

18:40 END OF STATION.

06/10/05 (13)

1500: ELECTROSHOCKING
WEATHER: CLOUDING UP; SAME CREW

SC-STA 1

APPROACH: SET BLOCK NETS
SHOCK DOWN → UP.
LIVEWELL CATCH
WORK UP CATCH

START TIME: 1900
END TIME: 20.10

WATER QUALITY MEASUREMENTS

FLOW	pH	COND	TURB	DO	ORP	TEMP
0.52	8.28	0.324	0.7	8.27	222	25.1

TOTAL SHOCK TIME 23.86
AVE. AMP 3.0
VOLTS 200↑

CATCH: 10 TADPOLES CAUGHT
(64+ OBSERVED)
3 CRAYFISH
(55+ OBSERVED)
1 SOUTHERN LEOPARD FROG

VOUCHER 1: SC-STA 1

	WT	LGT (INCH)				
1	9.4 7.8	3 13/16 97	BLUESPOTTED SUW			
2	14.6 15.1+	4 7/16 113	1	65.3	6" 152	
3	9.5	3 3/4 95	2	4.6	2 1/2" 64	
4	12.5	3 15/16 100				
5	10.8	3 7/8 98				
6	9.4	3 3/4 95				
7	6.4	3 1/4 83				
8	7.1	3 1/4 83				
9	5.8	3 1/8 79				
10	8.2	3 1/2 89				
11	6.8	3 1/2 89				
12	7.6	3 5/8 92				
13	6.3	3 1/4 82				
14	7.6	3 7/16 87				
15	5.4	3 1/8 79				

GAMBUSIA SPP?

	WT	LGTH (mm)		WT	LGT
1.	0.5	34	21	0.3	34
2	1.2	47	22	0.8	40
3	0.9	40	23	0.5	38
4	0.9	43	24	1.0	45
5	0.9	41	25	0.8	41
6	1.1	44			
7	0.9	45			
8	1.0	46			
9	1.0	46			
10	1.3	47			
11	1.6	50			
12	0.8	39			
13	1.0	42			
14	1.0	44			
15	0.6	37			
16	0.4	34			
17	0.7	42			
18	0.8	42			
19	1.0	46			
20	1.6	49			

N = 85 COUNT
+ 25
110

TOTAL CATCH GAMBUSIA (110)

06/11/05 FISH SURVEY (16)

ARRIVED SC STA 2 7:23

CREW: SMC, JKS, SPT / LARRY LYONS OVERSIGHT

WEATHER: ARLENE APPROACHING FAST FIRST RAIN BANDS HERE - 2" EXPECTED TODAY

	temp	before	after
pH 7	19.9	7.16	7.00
pH 10	20.3	10.21	10.08
pH 4	20.4	4.16	4.08
turb 0	20.4	2.4	0.0
turb 100	20.5	72.3	75.0 (won't calibrate) higher
cond	20.7	1.59	1.41

WATER QUALITY

FLOW	2.58 f/s
temp	22.6
pH	7.70
cond	0.288
turb	0.0
d.o.	6.96
orp	242

06/11/05 (17)

FINISHED SHOCK 9:09

TOTAL SHOCK TIME 21.46

CATCH OBSERVATIONS RECORDED LATER; AND

RUN: 2 CRAYFISH, 13 TADPOLES

RIFFLE: 3 CRAYFISH, 1 TADPOLE, 0 FISH

RECORD CATCH LATER IN THE DAY WHEN HEAVY RAIN.

9:30 ARRIVED SC - STA 3

WATER QUALITY

SPT ~~pH 7~~	Flow:	5.41
~~pH 10~~	temp:	~~7.99~~ 22.4
~~pH 4~~	pH:	SPT ~~[illegible]~~ 7.99
~~turbo 0~~	cond:	0.131
~~turbo 100~~	turb:	9.3
~~cond~~	d.o.:	7.94
	orp:	248

MFES WT-1 6/03 ... 6/05 6/06

FINISH SHOCK 10:55 ; SHOCK TIME 1468
OBSERVED 6 crawfish
5 tadpoles

RECORD CATCH LATER IN THE DAY
WHEN HEAVY RAIN

11:15 ARRIVED SC - STA 4.
WATER QUALITY

Flow	8 sec for 10 ft	
temp	22.6	OBSERVED
pH	8.01	10 tadpoles
cond	.2152	4 crayfish
turb	0.7	
d.o	8.21	FINISH SHOCK 1678
orp	237	END 12:55

ARRIVED SC - STA 5
13:09

pH	7.89
temp	~~0.147~~ 22.5
cond	0.147
turb.	15.3
DO	7.68
ORP	251

OBSERVED 2 CRAWFISH
1 TADPOLE

END EFFORT 3:06
SHOCK TIME 23.22

* WORKUP OF CATCH
Station 5
17:21

		wt. (g)	L mm
1	Longear Sunfish	88.8	170
1	Bluespotted Sunfish	12.2	88
91	Stoneroller (Large Scale)		

25 subset:

wt	L	wt	L	wt	L	wt	L
7.8	86	5.3	77	11.5	109	15.3	115
14.3	111	6.7	84	14.4	124	5.1	83
6.0	85	8.8	94	3.4	69	2.6	61
9.3	99	15.6	113	10.3	107	7.0	89
4.7	79	3.4	71	7.4	92	14.9	104
7.4	88	10.5	113	7.6	89	9.6	97
				10.4	107	5.2	81

MFES WT-1 03 96

Station 5 - fish work up.

1 Black Redhorse	12.9	111
1 Yellow bullhead	8.5	88
4 Unknown Shiner #1	17.6	112
	19.3	117
	8.3	90
	6.0	84
3 Unknown Shiner #2	0.7	42
	0.7	41
	0.5	38
1 Cyprinella (sp) Blacktail or Peteamaha	15.3	120

Station 4 - fish

70 ~~69~~ Stonerollers

25 Subset -

L	wt.	L	wt	L	wt	L	wt	L	wt
83	5.7	106	10.9	91	8.1	89	8.7	86	5.5
90	8.0	79	5.6	87	6.4	94	8.6	80	5.4
92	8.7	86	7.3	119	17.4	85	7.0	97	8.8
93	8.1	92	8.0	85	7.3	90	7.5	91	8.0
91	7.9	91	7.7	84	6.4	73	4.2	76	4.8

23 Unknown Shiner #1

L	wt	L	wt	L	wt	L	wt
91	10.2	94	10.7	77	6.4	109	15.7
135	30.3	119	22.6	89	9.0	84	6.7
105	13.6	86	7.6	118	22.6	99	11.7
88	7.3	85	8.1	128	30.9	86	8.1
93	11.4	94	9.5	119	21.4	89	8.5
102	13.0	86	8.1	84	7.2		

5 Blue Spotted Sunfish

L	W	L	W	L	W
73	6.6	94	16.5	86	13.3
125	35.5	121	32.6		

6 Blue Gill Sunfish

L	wt	L	W
105	21.9	110	26.3
131	45.9	86	11.3
132	47.9	80	9.4

3 Cyprinella sp?

L	W	L	W
114	15.9	134	21.9
109	10.7		

7 Gambusia

51	3.1	50	1.9
49	1.5	47	1.4
53	2.2	47	1.3
45	1.2		

Station 4 fish work up.

62 Unknown Shiners #2

L	Wt	L	Wt.	L	Wt.	L	Wt	
51	1.3	47	1.0	40	0.5	41	0.5	41 · 0.6
45	0.7	56	1.9	41	0.6	37	0.5	41 · 0.7
42	0.8	43	0.8	43	0.9	41	0.6	40 · 0.6
37	0.4	41	0.7	41	0.6	45	0.8	41 · 0.8
40	0.6	48	1.1	42	0.8	49	1.2	43 · 0.7

		L	Wt
1	Sucker mouth Minnow	93	6.3

Station 3 - fish work up.

2 Stonerollers

85 · 8.2 75 · 4.2

1	Blue spotted Sunfish	193	125.3	
3	Unknown Shiners #1			
	78 · 6.2	94 · 10.9	81 · 7.5	
8	Unknown Shiners #2			
	42 · 0.8	53 · 1.6	42 · 1.1	45 · 0.9
	41 · 0.7	41 · 0.7	43 · 0.9	36 · 0.5

Length in mm Wt in gm

		L	Wt
1	Creek Chub	39	0.4

7 Unknown Shiners #3

37 · 0.6 29 · 0.3 29 · 0.3
27 · 0.3 27 · 0.3 35 · 0.1
31 · 0.3

Station #2

12 Unknown Shiner #1

51 · 2.0 92 · 9.6 137 · 37.0
122 · 25 92 · 9.6 120 · 23.0
111 · 20 99 12.5 101 · 12.4
81 · 5.2 93 11.3 102 · 11.6

2 Gambusia

51 · 2.7 44 · 1.6

21 Stonerollers half ham black spots

72 · 3.8 115 · 14.0 114 · 18.2
116 · 21.8 79 · 6.4 106 · 12.5
75 · 4.9 96 · 10.1 121 · 22.4
86 · 7.8 75 · 4.4 136 · 30.7
81 · 5.6 98 · 12.1 121 · 21.9
122 · 22.4 102 12.8 151 · 46.3
122 · 20.3 116 19.2 88 · 7.7

24

5 Unknown Shiner #2

41 · 0.7   35 · 0.5   52 · 1.4
37 0.5   32 · 0.5

18 Blue Spotted Sunfish

193 · 150.2	76 · 7.9	84 · 15.1
171 · 110.5	92 · 16.0	132 · 46.3
109 · 24.1	72 · 9.4	81 · 13.4
89 · 15.2	123 · 38.4	77 · 7.8
132 · 54.7	92 · 17.6	87 · 13.0
172 · 96.7	212 · 185.8	206 · 200+

06/12/05

HABITAT RECORDING SHEETS & WILDLIFE TRANSECTS

weather: cloudy 5-10 mph breeze, 80°

crew: SML, JKS, SPT & Larry Lyons (Reste oversight)

A 4-5

A MFES WT-1 103 9 6

04/13/05

FISH & BMI sampling in RP-1
weather: 80°, sunny; low wind
crew: JKS, SMC, SPT, Larry Lyons.
John Schell,
water: Hot, humid near 90°

WATER QUALITY CALIBRATION

	temp	before	after
pH 7	26.3	7.22	7.05
pH 4	26.7	4.07	—
pH 10	27.0	10.08	—
cond.	26.7	1.60	1.41
turb	26.9		

BIORECON 12:02
4 kicks

4 zygoptera
10+ hemiptera
1 ephemeroptera
5+ coleoptera
1 hirudinea

MFES
WT-1
#3
06

20 birds
1000+ daphnia
25+↑ coleoptera
25+ hemiptera
25+ zygoptera
10 5 anisoptera
2 leeches

water quality location 13:41
33 39 10.5/ 85 50 54.6

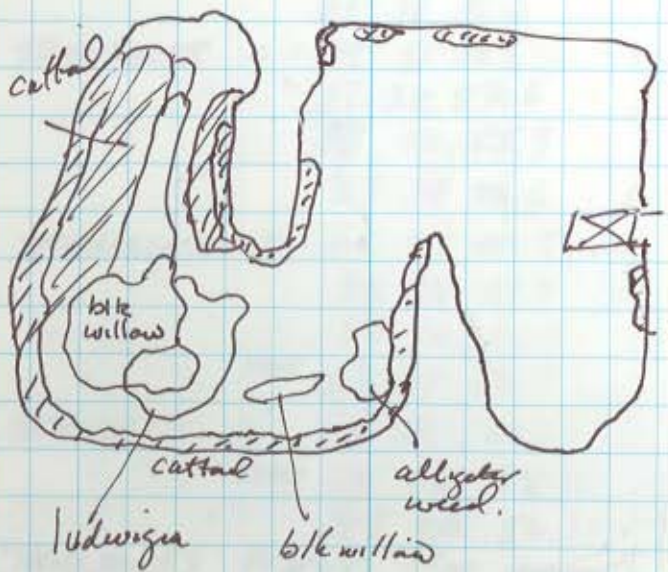
temp 32
ORP 155
pH 6.78
cond 0.107
turb 79
DO 6.87

RETENTION POND
HABITAT ASSESSMENT

SUBSTRATE: ↑ silt, sand - coarse material > than these absent.

BANK: vegetation predominately cattail, grasses, forbs - stable. willow present in backwater.

EMERGENT veg - alligator weed.
SUBMERGENT veg - Ludwigia



06/14/05

SOUTH LANDFILL

7:20 ARRIVED OU-3 SOUTH LANDFILLS

CREW: SML, JKS, SPT, VS, & LARRY LYONS

WEATHER: HOT, HUMID, ↑ 90

TASK: WILDLIFE SURVEYS; SWEEP NETS & SOIL SAMPLES AS NEEDED

7:30: 3 BAND TRANSECTS - CLOVER FIELD

TRANSECTS A		33.'38 56.2
		85' 51 00.5
		33.38 57.6
		85. 50. 55.9
TRANSECT B		33 38 56.6
		85 51 00.5
		33 38 57.9
		85 50. 56.1
TRANSECT C	START	33. 38. 56.9
		85 51. 005
	END	33. 38. 58.0
		85 50. 56.1

TRANSECTS PLACED 13M APART

D
MFCS
WT-1
403
D

OBSERVATIONS: several large wolf spiders, old fire ant nests
50% live; 50% abandoned

8:15 SL-01 sweep (1 minute)
33.38 57.6
85 50 59.8

Init. obs. various grasshoppers

8.24 SL-02 sweep (1 minute)
33.38.57.4
85.50.57.8

Init obs. leaf hoppers

8:30 Dog bane sweep (1 minute)
33 38 57.2
85 50. 58.0

SL-03 (core)
8:40 soil grab 33.38.57.4
85.50.57.8

9:00 3 band transects
tall grass habitat

Transect A start 33 38 54.0
85 51 02.0
end 33.38 54.8
85 50 58.5

Transect B start 33 38 53.7
85 51 01.9
end 33 38 54.1
85 50 .58.4

Transect C start 33 38 53.3
85 51 01.9
end 33 38 53.8
85 50. 58.4

observations: vehicle tracks
tall grass habitats

9:27 SL-04 (sweep)
33 38 53.9
85 51 00.6

9:40 SL-05 (sweep) 33.38 53.6
85 50 59.0
SL-06 (core)

10:11 3 BAND TRANSECTS.
LESBEDEZA HABITAT

	START	END
TRANSECT A	33 38 49.5 85 51 05.0	33 38 49.1 85 51 07.8
TRANSECT B	33 38 49.9 85 51 05.0	33 38 50.0 85 51 07.3
TRANSECT C	33 38 50.1 85 51 05.0	33 38 50.5 85 51 07.1

SPARROW HAWK FEEDING PERCH ON UTIL POLES EATING GRASSHOPPERS

10:40 SL-07 (sweep)
33 38 50.3
85 51 05.2

10:50 SL-08 (sweep)
33 38 50.2
85 51 07.1

observations: spiders, sep. beetles grasshoppers

SL-09 (core)

12:10 FACILITY

OPEN AREA: 3 WILDLIFE TRANSECTS

	start	
TRANS A	33 39 02.6 85 51 09.5	33 39 00.4 85 51 09.1
TRANS B	33 39 02.2 85 51 09.0	33 39 00.3 85 51 08.7
TRANS C	33 39 03.1 85 51 08.5	33 39 00.4 85 51 07.9

armadillo excavation; chipmunk

12:35 OPEN AREA 01

33 39 02.1

OA-01 (swoop) 85 51 08.6

12:40

MF6-01 (core) 33 39 01.4

85 51 10.0

12:55 33 39 ~~02.1~~ 03.8

MF6-02 (core) 85 51 ~~08.~~ 13.8

MAINTAINED FACILITY WILDLIFE OBSERVATIONS

TRANSECT A start 33 39 08.1

33 39 11.0 85 51 12.0

85 51 11.6

TRANSECT B start 33 39 08.2

end 33 39 11.0 85 51 11.3

85 51 11.2

TRANSECT C start 33 39 08.2

33 39 11.1 and 85 51 10.7

85 51 10.7 observations

fire ants

MF6-03 (core)

33 39 09.7

85 51 11.6

MF6-04 (core)

33 39 08.7

85 51 10.1

MF6-04 (core)

33 39 07.4

85 51 12.5

1:30 leaving MF6

2:10 WEST LANDFILL
WILDLIFE SURVEY

TRANS A	33 38 54.8	33 38 56.2
	85 51 30.7	85 51 27.0
TRANS B	33 38 55.2	33 38 56.8
	85 51 31.0	85 51 27.4
TRANS C	33 38 55.6	33 38. 57.5
	85 51 30.9	85 51. 27.9

2:40 WESTLAND FILL

WLF -01 sweep

33 38 55.4
85 51 29.8

WLF -02 (core)

WLF -03 (sweep)

33 38 54.9
85 51 29.0

WLF -04 (core)

end effort

Appendix B

Fish Sampling Photograph Log

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

Fish Sampling Photograph Log

OU-1/OU-2 Anniston PCB Site

Anniston, Alabama

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Crayfish from SC-STA1

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Mosquitofish from SC-STA1

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Stonerollers from SC-STA1

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Sunfish from SC-STA1

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Tadpoles from SC-STA1

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Unknown fish from SC-STA5

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: *Notropis sp* from SC-STA5

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

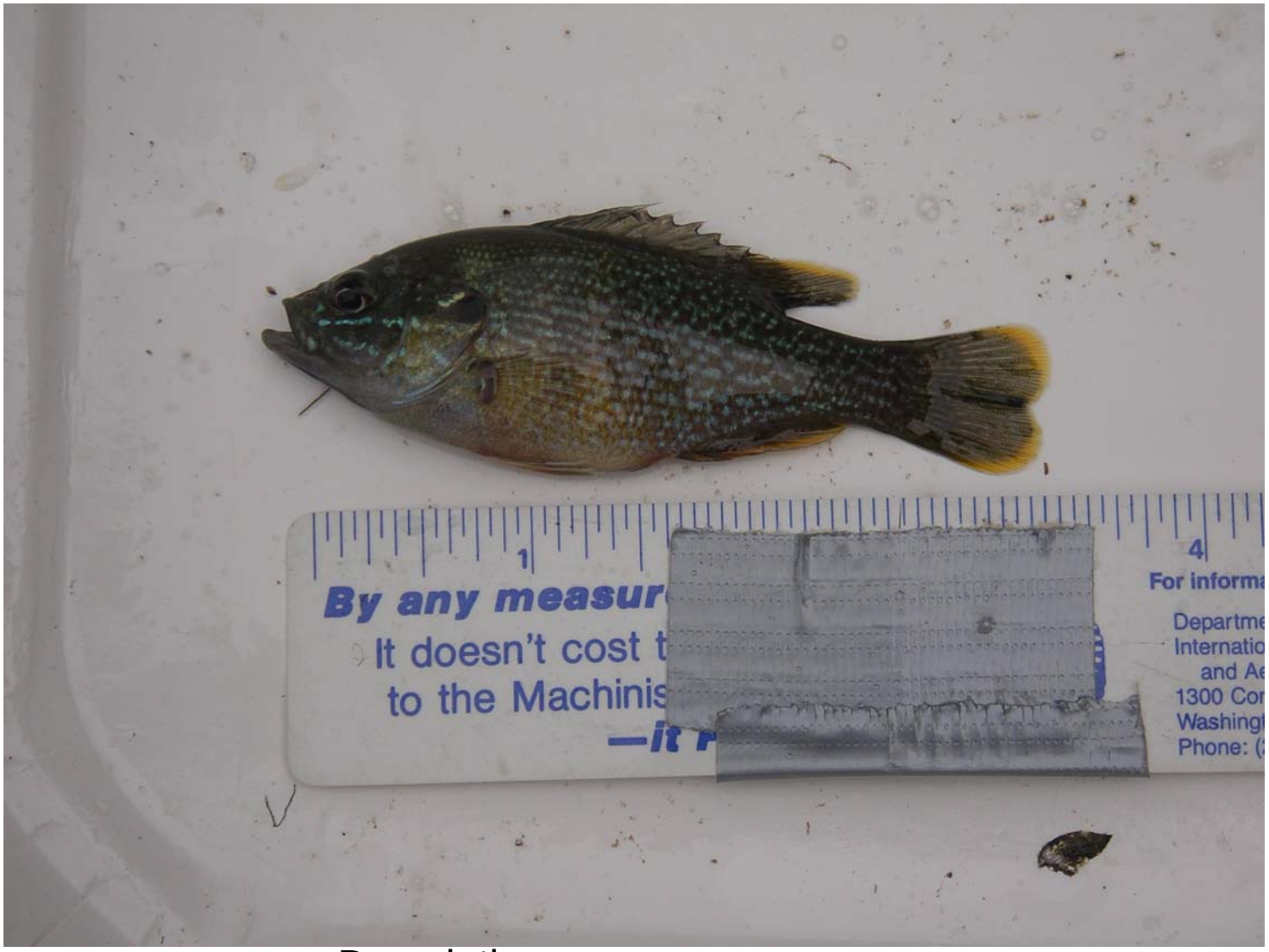
Anniston, Alabama

Description: Shiner and catfish from SC-STA5

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama



Description: Sunfish from SC-STA5

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Sunfish from SC-STA5

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Assorted fish samples from SC-STA5

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Assorted fish samples from SC-STA5

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Fish catch from SC-STA5

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Stonerollers from SC-STA5

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Stoneroller count from SC-STA5

Fish Sampling Photograph Log

OU-1/OU-2 – Anniston PCB Site

Anniston, Alabama

Description: Processing fish samples from SC-STA5

Appendix C

Scientific Collector Permits

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

STATE OF ALABAMA
DEPT. OF CONSERVATION AND
NATURAL RESOURCES

This Permit Authorizes **STEVE P TRUCHON**

Of BBL INC — BEVERLY, MA
COMPANY — CITY STATE

to take and possess species indicated for SCIENTIFIC purposes under the rules and regulations of this department.

3322
Number

Joeanne St. John, Issuing Agent For
Commissioner of Conservation

- ☐ Amphibians
- ☐ Birds
- ☑ Fish
- ☐ Other Species as Listed Below
- ☐ Invertebrates
- ☐ Mammals
- ☐ Reptiles

Issued: 6/8/2005 Expires: 6/7/2006

Report MUST be received by Jun 06
before renewal permit can be issued

STATE OF ALABAMA
DEPT. OF CONSERVATION AND
NATURAL RESOURCES

This Permit Authorizes **JOSEPH SHISLER**

Of BBL INC — CRANBURY, NJ
COMPANY — CITY STATE

to take and possess species indicated for SCIENTIFIC purposes under the rules and regulations of this department.

3323
Number

Joeanne St. John, Issuing Agent For
Commissioner of Conservation

- ☐ Amphibians
- ☐ Birds
- ☑ Fish
- ☐ Other Species as Listed Below
- ☐ Invertebrates
- ☐ Mammals
- ☐ Reptiles

Issued: 6/8/2005 Expires: 6/7/2006

Report MUST be received by Jun 06
before renewal permit can be issued

STATE OF ALABAMA
DEPT. OF CONSERVATION AND
NATURAL RESOURCES

This Permit Authorizes **SCOTT M LAREW**

Of BBL INC — CRANBURY, NJ
COMPANY — CITY STATE

to take and possess species indicated for SCIENTIFIC purposes under the rules and regulations of this department.

3324
Number

Joeanne St. John, Issuing Agent For
Commissioner of Conservation

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- ☑ Fish
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