



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 0386 East Fork Fishing River

Submitted by
SES, Inc.

To
Missouri Department of Natural Resources
Water Protection Program

On

October 14, 2008

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A – Water Body Identification

I. Water Body Information (for water body being surveyed)

Water Body Name (from USGS 7.5' quad): E. Fk. Fishing R.
Missouri Water Body Identification (WBID) Number: 386
8-digit HUC: 10300101
County(ies), Listed Upstream to Downstream: Ray, Clay
Upstream Legal Description (from Table H): T53N R29W Sec 29
Downstream Legal Description (from Table H): T52N R30W Sec 26
Number of sites evaluated: 8
List all site numbers, <u>consecutively upstream to downstream</u> : 1, 2, 3, 4, 5, 6, 7, 8
Include a Site Location Map(s). The map must include all requirements detailed in the <i>Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol</i> (Section IV.D.8.a).

II. Facility Information (list all permitted discharges to this water body segment)

Facility Name(s) and Permit Number(s): Excelsior Estates WWTF MO0108511
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III. UAA Surveyor (please **PRINT** legibly)

Name of Surveyor: Gilisa Gould	Telephone Number: 913-307-0046
Organization/Employer: SES, Inc.	

Please verify that you have completed all sections of all data sheets, checked all applicable boxes, provided a map (that includes all requirements listed in the *Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol*) and that this form is complete.

Signed: _____ Gilisa Gould _____ **Date:** 10-07-08 _____

WBID # 386

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 9-17-08 10:50	Location Description (e.g., road crossing): Fred Evan Rd.
Stream Name: E. Fk. Fishing R.	
Current Weather Conditions: Clear	Facility Name(s): Excelsior Estates WWTF
Weather Conditions for Past 10 days: 12.33 cm	Permit Number(s): MO0108511
Official Drought Conditions at time of this survey (search DNR home page for “drought”): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0398648	Northing (UTM Y): 4359748	Horizontal Accuracy: (EPE / FOM / PDOP) 2 Meters
Site 11	Easting (UTM X): 0398547	Northing (UTM Y): 4359549	Horizontal Accuracy: (EPE / FOM / PDOP) 5 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
17	Downstream	18	Upstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use*: (Attach photos and reference in “Photos” section.)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input checked="" type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other: fishing line, to be exact			

Substrate*: (These values should add up to 100%.)

40% Cobble	30% Gravel	15% Sand	5% Silt	% Mud/Clay	10% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Willow on substrate that is above water level in 20% of stream channel.

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: Chris Schuler and Gilisa Gould

Surveyor’s Signature: Gilisa Gould Date of Survey: 9-17-08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>E. Fk. Fishing R.</u> Waterbody ID: <u>386</u> Site #: <u>1</u> Estimated Channel Incision: <u>2</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0398648</u> UTM Y: <u>4359748</u> +/- <u>2</u> (meters) 11 UTM X: <u>0398547</u> UTM Y: <u>4359549</u> +/- <u>5</u> (meters) Average Stream Width: <u>10</u> (meters) Length of Survey Segment: <u>200</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Chris Schuler</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/17/2008</u> Time: <u>10:50</u> Dissolved Oxygen: <u>7.7</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>15.4</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1		1.20	0.10	1.00	0.25	0.80	0.10	0.20	0.15	0.40	0.15	0.30	0.15	0.50	0.10	0.60	0.20	0.70	0.15	0.60	0.10	0.80	0.20
2		2.40	0.15	2.00	0.30	1.60	0.10	0.40	0.20	0.80	0.20	0.60	0.20	1.00	0.15	1.20	0.10	1.40	0.20	1.20	0.20	1.60	0.25
3		3.60	0.20	3.00	0.20	2.40	0.30	0.60	0.05	1.20	0.40	0.90	0.20	1.50	0.20	1.80	0.15	2.10	0.20	1.80	0.20	2.40	0.40
4		4.80	0.05	4.00	0.20	3.20	0.35	0.80	0.10	1.60	0.40	1.20	0.30	2.00	0.20	2.40	0.10	2.80	0.15	2.40	0.15	3.20	0.40
5		6.00	0.05	5.00	0.30	4.00	0.55	1.00	0.10	2.00	0.45	1.50	0.15	2.50	0.20	3.00	0.20	3.50	0.30	3.00	0.15	4.00	0.45
6		7.20	0.00	6.00	0.40	4.80	0.60	1.20	0.15	2.40	0.55	1.80	0.30	3.00	0.15	3.60	0.20	4.20	0.20	3.60	0.20	4.80	0.40
7		8.40	0.05	7.00	0.45	5.60	0.30	1.40	0.20	2.80	0.30	2.10	0.05	3.50	0.10	4.20	0.05	4.90	0.25	4.20	0.15	5.60	0.35
8		9.60	0.05	8.00	0.50	6.40	0.20	1.60	0.10	3.20	0.25	2.40	0.05	4.00	0.20	4.80	0.01	5.60	0.25	4.80	0.15	6.40	0.40
9		10.80	0.15	9.00	0.40	7.20	0.05	1.80	0.05	3.60	0.25	2.70	0.05	4.50	0.10	5.40	0.05	6.30	0.15	5.40	0.20	7.20	0.45
Right Bank		12.00	0.00	10.00	0.00	8.00	0.00	2.00	0.00	4.00	0.00	3.00	0.00	5.00	0.00	6.00	0.00	7.00	0.00	6.00	0.00	8.00	0.00
Feature Type		riffle		pool		pool		riffle		pool		run		riffle		riffle		run		run		pool	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

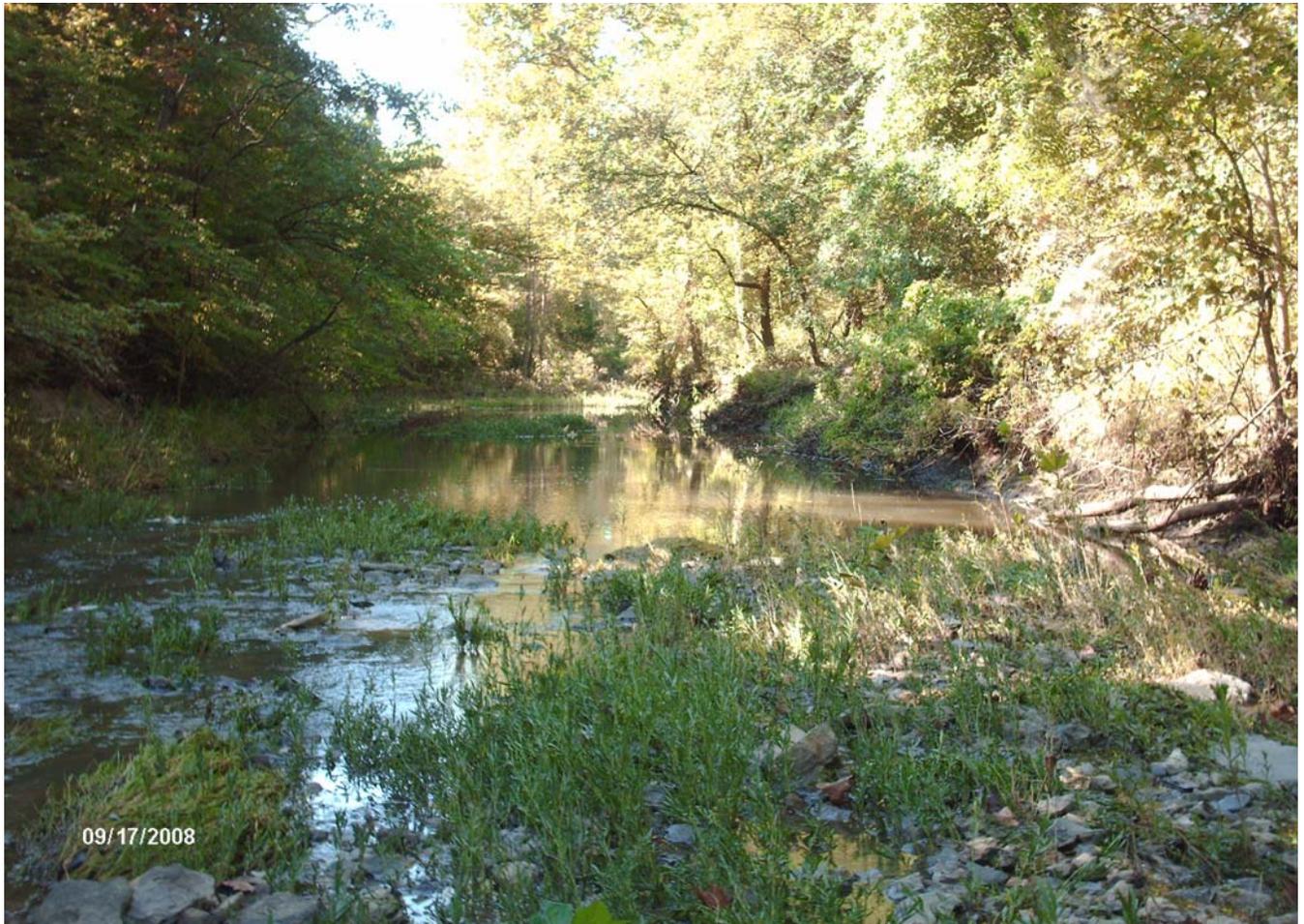
Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Gilisa Gould Date: 10.07.08



09/17/2008



09/17/2008

WBID # 386

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 9-17-08 11:21	Location Description (e.g., road crossing): N. side of Crystal Lake
Stream Name: E. Fk. Fishing R.	
Current Weather Conditions: Clear	Facility Name(s): Excelsior Estates WWTF
Weather Conditions for Past 10 days: 12.33 cm	Permit Number(s): MO0108511
Official Drought Conditions at time of this survey (search DNR home page for “drought”): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0398213	Northing (UTM Y): 4358795	Horizontal Accuracy: (EPE / FOM / PDOP) 8 Meters
Site 11	Easting (UTM X): 0398088	Northing (UTM Y): 4358635	Horizontal Accuracy: (EPE / FOM / PDOP) 3 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
19	upstream	20	downstream	22	Foot trail from road crossing
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
21	ATV trail				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input type="checkbox"/> Roads	<input checked="" type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input checked="" type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

Substrate*: (These values should add up to 100%.)

40% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	60% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Algae on 1-5% of substrate.

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: Chris Schuler and Gilisa Gould

Surveyor’s Signature: Gilisa Gould Date of Survey: 9-17-08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>E. Fk. Fishing R.</u> Waterbody ID: <u>386</u> Site #: <u>2</u> Estimated Channel Incision: <u>2</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0398213</u> UTM Y: <u>4358795</u> +/- <u>8</u> (meters) 11 UTM X: <u>0398088</u> UTM Y: <u>4358635</u> +/- <u>3</u> (meters) Average Stream Width: <u>6</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Chris Schuler</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/19/2008</u> Time: <u>11:21</u> Dissolved Oxygen: <u>7.8</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>18.2</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.80	0.15	0.50	0.10	0.60	0.05	0.70	0.10	0.40	0.15	0.40	0.05	0.50	0.05	0.60	0.20	0.70	0.10	0.60	0.10	0.70	0.15
	2	1.60	0.15	1.00	0.05	1.20	0.05	1.40	0.05	0.80	0.15	0.80	0.10	1.00	0.15	1.20	0.20	1.40	0.05	1.20	0.20	1.40	0.30
	3	2.40	0.20	1.50	0.10	1.80	0.10	2.10	0.05	1.20	0.10	1.20	0.10	1.50	0.15	1.80	0.30	2.10	0.01	1.80	0.30	2.10	0.30
	4	3.20	0.15	2.00	0.15	2.40	0.20	2.80	0.15	1.60	0.15	1.60	0.10	2.00	0.05	2.40	0.35	2.80	0.01	2.40	0.25	2.80	0.30
	5	4.00	0.15	2.50	0.10	3.00	0.20	3.50	0.20	2.00	0.15	2.00	0.10	2.50	0.10	3.00	0.35	3.50	0.10	3.00	0.25	3.50	0.30
	6	4.80	0.15	3.00	0.05	3.60	0.15	4.20	0.20	2.40	0.15	2.40	0.10	3.00	0.05	3.60	0.30	4.20	0.30	3.60	0.20	4.20	0.25
	7	5.60	0.20	3.50	0.10	4.20	0.05	4.90	0.20	2.80	0.20	2.80	0.10	3.50	0.10	4.20	0.30	4.90	0.25	4.20	0.20	4.90	0.35
	8	6.40	0.10	4.00	0.10	4.80	0.10	5.60	0.15	3.20	0.20	3.20	0.01	4.00	0.10	4.80	0.30	5.60	0.15	4.80	0.15	5.60	0.30
	9	7.20	0.10	4.50	0.15	5.40	0.15	6.30	0.05	3.60	0.10	3.60	0.10	4.50	0.01	5.40	0.25	6.30	0.05	5.40	0.20	6.30	0.20
Right Bank		8.00	0.00	5.00	0.00	6.00	0.00	7.00	0.00	4.00	0.00	4.00	0.00	5.00	0.00	6.00	0.00	7.00	0.00	6.00	0.00	7.00	0.00
Feature Type		run		riffle		riffle		run		run		riffle		riffle		pool		riffle		run		pool	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Gilisa Gould Date: 10.07.08





WBID # 386

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 9-17-08 12:10	Location Description (e.g., road crossing): W. 146 th
Stream Name: E. Fk. Fishing R.	
Current Weather Conditions: Clear	Facility Name(s): Excelsior Estates WWTF
Weather Conditions for Past 10 days: 12.33 cm	Permit Number(s): MO0108511
Official Drought Conditions at time of this survey (search DNR home page for “drought”): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0396698	Northing (UTM Y): 4356643	Horizontal Accuracy: (EPE / FOM / PDOP)	3 Meters
Site 11	Easting (UTM X): 0396626	Northing (UTM Y): 4356397	Horizontal Accuracy: (EPE / FOM / PDOP)	9 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
23	Downstream	24	Upstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input checked="" type="checkbox"/> None of the above	Comments / Other:			

Substrate*: (These values should add up to 100%.)

50% Cobble	30% Gravel	% Sand	% Silt	% Mud/Clay	20% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

None in water, banks are vegetated

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: Chris Schuler and Gilisa Gould

Surveyor’s Signature: Gilisa Gould Date of Survey: 9-17-08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

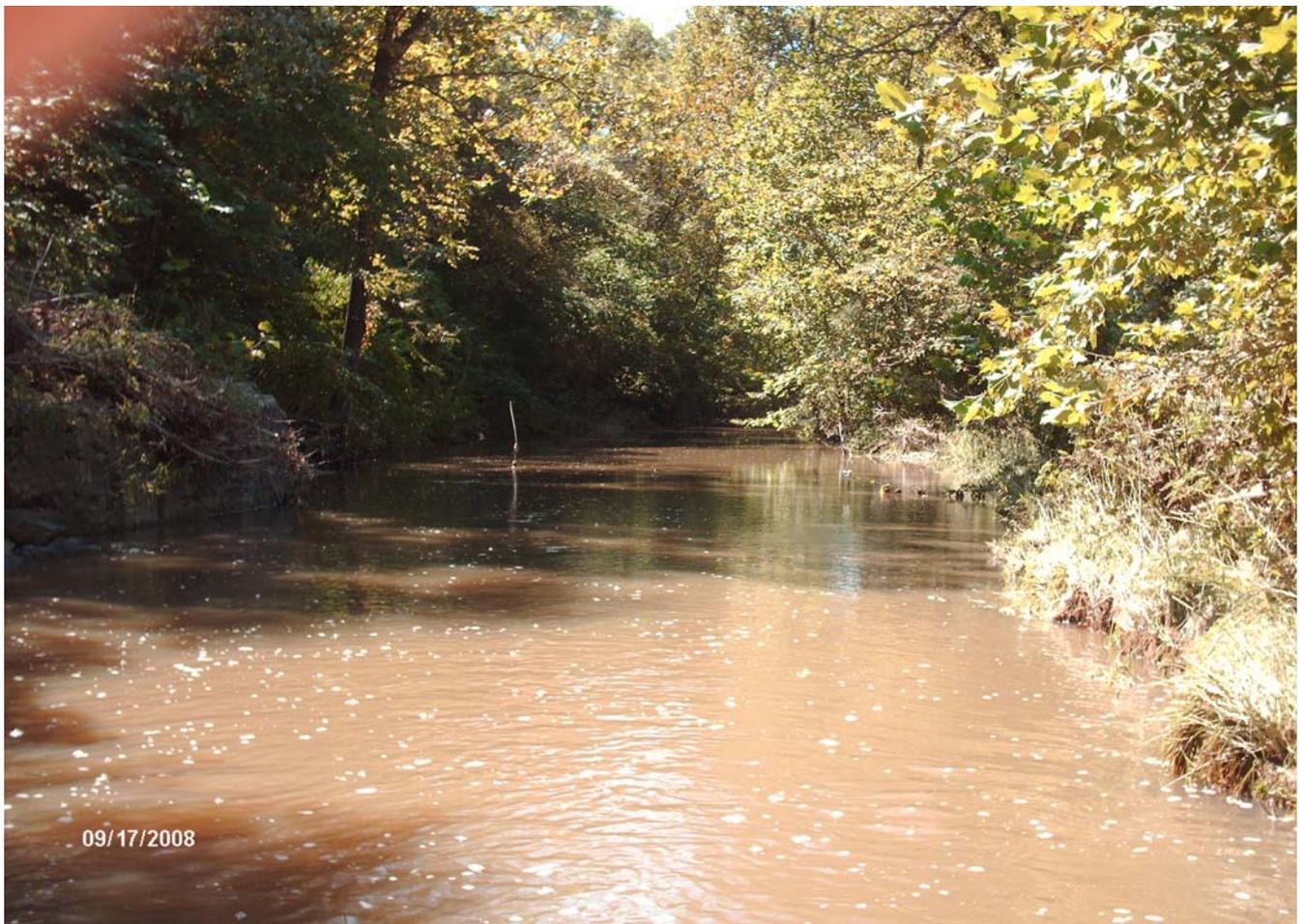
Stream Name: <u>E. Fk. Fishing R.</u> Waterbody ID: <u>386</u> Site #: <u>3</u> Estimated Channel Incision: <u>2</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>03966998</u> UTM Y: <u>4356643</u> +/- <u>3</u> (meters) 11 UTM X: <u>0396626</u> UTM Y: <u>4356397</u> +/- <u>9</u> (meters) Average Stream Width: <u>8</u> (meters) Length of Survey Segment: <u>160</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Chris Schuler</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/17/2008</u> Time: <u>12:10</u> Dissolved Oxygen: <u>7.1</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.1</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.60	0.05	0.80	0.25	0.90	0.15	0.80	0.30	1.00	0.45	0.70	0.05	0.70	0.05	1.20	0.20	0.50	0.10	0.90	0.10	0.60	0.20
2	1.20	0.30	1.60	0.55	1.80	0.40	1.60	0.40	2.00	0.65	1.40	0.10	1.40	0.10	2.40	0.15	1.00	0.25	1.80	0.15	1.20	0.40
3	1.80	0.35	2.40	0.50	2.70	0.50	2.40	0.65	3.00	0.65	2.10	0.15	2.10	0.15	3.60	0.20	1.50	0.55	2.70	0.25	1.80	0.65
4	2.40	0.30	3.20	0.40	3.60	0.65	3.20	0.55	4.00	0.50	2.80	0.10	2.80	0.20	4.80	0.20	2.00	0.75	3.60	0.45	2.40	0.70
5	3.00	0.30	4.00	0.35	4.50	0.70	4.00	0.40	5.00	0.40	3.50	0.15	3.50	0.20	6.00	0.10	2.50	0.85	4.50	0.60	3.00	0.60
6	3.60	0.35	4.80	0.25	5.40	0.60	4.80	0.30	6.00	0.35	4.20	0.15	4.20	0.30	7.20	0.05	3.00	1.00	5.40	0.60	3.60	0.50
7	4.20	0.35	5.60	0.20	6.30	0.50	5.60	0.20	7.00	0.30	4.90	0.10	4.90	0.30	8.40	0.15	3.50	1.00	6.30	0.60	4.20	0.50
8	4.80	0.30	6.40	0.15	7.20	0.40	6.40	0.20	8.00	0.25	5.60	0.10	5.60	0.20	9.60	0.55	4.00	0.70	7.20	0.40	4.80	0.30
9	5.40	0.15	7.20	0.10	8.10	0.15	7.20	0.25	9.00	0.20	6.30	0.05	6.30	0.15	10.80	0.30	4.50	0.30	8.10	0.40	5.40	0.15
Right Bank	6.00	0.00	8.00	0.00	9.00	0.00	8.00	0.00	10.00	0.00	7.00	0.00	7.00	0.00	12.00	0.00	5.00	0.00	9.00	0.00	6.00	0.00
Feature Type <small>(riffle, run, or pool)</small>	pool		run		pool		run		pool		riffle		run		riffle		pool		pool		pool	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Gilisa Gould Date: 10.07.08



WBID # 386

Site # 4

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 9-17-08 13:42	Location Description (e.g., road crossing): Hwy 10
Stream Name: E. Fk. Fishing R.	
Current Weather Conditions: Clear	Facility Name(s): Excelsior Estates WWTF
Weather Conditions for Past 10 days: 12.33 cm	Permit Number(s): MO0108511
Official Drought Conditions at time of this survey (search DNR home page for “drought”): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0394741	Northing (UTM Y): 4355318	Horizontal Accuracy: (EPE / FOM / PDOP) 5 Meters
Site 11	Easting (UTM X): 0394556	Northing (UTM Y): 4355211	Horizontal Accuracy: (EPE / FOM / PDOP) 6 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
25	Footprint	26	Downstream	27	upstream
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input checked="" type="checkbox"/> City/county parks	<input checked="" type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use*: (Attach photos and reference in “Photos” section.)

<input type="checkbox"/> Roads	<input checked="" type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input checked="" type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other: fishing pole			

Substrate*: (These values should add up to 100%.)

40% Cobble	40% Gravel	20% Sand	% Silt	% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Willow on 20% of substrate where it is above the water level and in the channel; banks vegetated.

Water Characteristics*: (Mark all that apply.)

Odor:	<input checked="" type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: Chris Schuler and Gilisa Gould

Surveyor’s Signature: Gilisa Gould Date of Survey: 9-17-08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>E. Fk. Fishing R.</u> Waterbody ID: <u>386</u> Site #: <u>4</u> Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0394741</u> UTM Y: <u>4355318</u> +/- <u>5</u> (meters) 11 UTM X: <u>394556</u> UTM Y: <u>4355211</u> +/- <u>6</u> (meters) Average Stream Width: <u>8</u> (meters) Length of Survey Segment: <u>160</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Chris Schuler</u>	Dissolved Oxygen
	Date: <u>9/17/2008</u> Time: <u>13:45</u> Dissolved Oxygen: <u>8.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>18.5</u> (°C)

Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.60	0.20	0.80	0.55	0.70	0.15	1.00	0.15	0.80	0.05	0.60	0.25	1.00	0.05	0.40	0.10	0.50	0.15	0.90	0.15	0.80	0.15
	2	1.20	0.25	1.60	0.50	1.40	0.10	2.00	0.40	1.60	0.01	1.20	0.05	2.00	0.35	0.80	0.05	1.00	0.45	1.80	0.15	1.60	0.25
	3	1.80	0.40	2.40	0.35	2.10	0.35	3.00	0.55	2.40	0.01	1.80	0.40	3.00	0.40	1.20	0.20	1.50	0.45	2.70	0.20	2.40	0.30
	4	2.40	0.35	3.20	0.35	2.80	0.55	4.00	0.80	3.20	0.15	2.40	0.45	4.00	0.45	1.60	0.25	2.00	0.40	3.60	0.25	3.20	0.20
	5	3.00	0.30	4.00	0.25	3.50	0.75	5.00	0.80	4.00	0.35	3.00	0.80	5.00	0.30	2.00	0.25	2.50	0.30	4.50	0.30	4.00	0.30
	6	3.60	0.25	4.80	0.15	4.20	1.00	6.00	0.75	4.80	0.30	3.60	0.80	6.00	0.40	2.40	0.20	3.00	0.20	5.40	0.30	4.80	0.25
	7	4.20	0.30	5.60	0.05	4.90	1.00	7.00	0.60	5.60	0.20	4.20	0.60	7.00	0.50	2.80	0.15	3.50	0.20	6.30	0.30	5.60	0.20
	8	4.80	0.25	6.40	0.05	5.60	0.40	8.00	0.40	6.40	0.01	4.80	0.50	8.00	0.35	3.20	0.05	4.00	0.20	7.20	0.20	6.40	0.15
	9	5.40	0.20	7.20	0.01	6.30	0.25	9.00	0.20	7.20	0.05	5.40	0.40	9.00	0.15	3.60	0.01	4.50	0.10	8.10	0.05	7.20	0.05
Right Bank		6.00	0.00	8.00	0.00	7.00	0.00	10.00	0.00	8.00	0.00	6.00	0.00	10.00	0.00	4.00	0.00	5.00	0.00	9.00	0.00	8.00	0.00
Feature Type		pool		run		pool		pool		run		pool		pool		riffle		pool		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Gilisa Gould Date: 10.07.08





09/17/2008

WBID # 386

Site # 5

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 9-17-08 14:40	Location Description (e.g., road crossing): Marietta Road
Stream Name: E. Fk. Fishing R.	
Current Weather Conditions: Clear	Facility Name(s): Excelsior Estates WWTF
Weather Conditions for Past 10 days: 12.33 cm	Permit Number(s): MO0108511
Official Drought Conditions at time of this survey (search DNR home page for “drought”): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0394298	Northing (UTM Y): 4353456	Horizontal Accuracy: (EPE / FOM / PDOP)	6 Meters
Site 11	Easting (UTM X): 0394412	Northing (UTM Y): 4353330	Horizontal Accuracy: (EPE / FOM / PDOP)	3 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
28	Upstream	29	Downstream	30	road
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
31	Disturbance near creek bank @ access point				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use*: (Attach photos and reference in “Photos” section.)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other: Road leads from Marietta Rd., goes along creek, includes a garden plot (mustard greens) along creek and disturbance (pic. 31).			

Substrate*: (These values should add up to 100%.)

% Cobble	20% Gravel	60% Sand	% Silt	20% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

None in water; banks are vegetated.

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: Chris Schuler and Gilisa Gould

Surveyor’s Signature: Gilisa Gould Date of Survey: 9-17-08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>E. Fk. Fishing R.</u> Waterbody ID: <u>386</u> Site #: <u>5</u> Estimated Channel Incision: <u>5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0394298</u> UTM Y: <u>4353456</u> +/- <u>6</u> (meters) 11 UTM X: <u>0394412</u> UTM Y: <u>4353330</u> +/- <u>3</u> (meters) Average Stream Width: <u>6</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Chris Schuler</u>	Dissolved Oxygen
	Date: <u>9/17/2008</u> Time: <u>14:40</u> Dissolved Oxygen: <u>8.4</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>19.4</u> (°C)

Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	0.70	0.20	0.60	0.25	0.60	0.10	0.60	0.10	0.60	0.05	0.70	0.05	0.50	0.05	0.60	0.15	0.50	0.20	0.60	0.20	0.50	0.30
	2	1.40	0.25	1.20	0.30	1.20	0.20	1.20	0.15	1.20	0.10	1.40	0.15	1.00	0.15	1.20	0.15	1.00	0.10	1.20	0.25	1.00	0.30
	3	2.10	0.35	1.80	0.25	1.80	0.30	1.80	0.20	1.80	0.20	2.10	0.20	1.50	0.15	1.80	0.25	1.50	0.15	1.80	0.30	1.50	0.20
	4	2.80	0.45	2.40	0.25	2.40	0.45	2.40	0.30	2.40	0.25	2.80	0.20	2.00	0.25	2.40	0.25	2.00	0.25	2.40	0.30	2.00	0.25
	5	3.50	0.40	3.00	0.25	3.00	0.45	3.00	0.25	3.00	0.30	3.50	0.20	2.50	0.20	3.00	0.30	2.50	0.30	3.00	0.25	2.50	0.20
	6	4.20	0.40	3.60	0.30	3.60	0.45	3.60	0.20	3.60	0.45	4.20	0.20	3.00	0.25	3.60	0.30	3.00	0.25	3.60	0.20	3.00	0.15
	7	4.90	0.50	4.20	0.35	4.20	0.40	4.20	0.25	4.20	0.45	4.90	0.25	3.50	0.15	4.20	0.25	3.50	0.20	4.20	0.15	3.50	0.20
	8	5.60	0.30	4.80	0.40	4.80	0.30	4.80	0.15	4.80	0.45	5.60	0.30	4.00	0.10	4.80	0.05	4.00	0.15	4.80	0.20	4.00	0.35
	9	6.30	0.25	5.40	0.40	5.40	0.35	5.40	0.20	5.40	0.45	6.30	0.15	4.50	0.15	5.40	0.05	4.50	0.05	5.40	0.25	4.50	0.30
Right Bank		7.00	0.00	6.00	0.00	6.00	0.00	6.00	0.00	6.00	0.00	7.00	0.00	5.00	0.00	6.00	0.00	5.00	0.00	6.00	0.00	5.00	0.00
Feature Type		pool		pool		pool		run		pool		pool		run		pool		run		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Gilisa Gould Date: 10.07.08





WBID # 386

Site # 6

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 9-17-08 15:25	Location Description (e.g., road crossing): Seybold Rd.
Stream Name: E. Fk. Fishing R.	
Current Weather Conditions: Clear	Facility Name(s): Excelsior Springs WWTF
Weather Conditions for Past 10 days: 12.33	Permit Number(s): MO0108511
Official Drought Conditions at time of this survey (search DNR home page for “drought”): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0393118	Northing (UTM Y): 4353032	Horizontal Accuracy: (EPE / FOM / PDOP) 5 Meters
Site 11	Easting (UTM X): 0392953	Northing (UTM Y): 4353090	Horizontal Accuracy: (EPE / FOM / PDOP) 6 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
32	downstream	33	Upstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input checked="" type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

Substrate*: (These values should add up to 100%.)

% Cobble	10% Gravel	60% Sand	10% Silt	20% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

None in water; banks are vegetated.

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: orange
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: Chris Schuler and Gilisa Gould

Surveyor’s Signature: Gilisa Gould Date of Survey: 9-17-08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>E. Fk. Fishing R.</u> Waterbody ID: <u>386</u> Site #: <u>6</u> Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0393118</u> UTM Y: <u>4353032</u> +/- <u>5</u> (meters) 11 UTM X: <u>0392953</u> UTM Y: <u>4353090</u> +/- <u>6</u> (meters) Average Stream Width: <u>6</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Chris Schuler</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/17/2008</u> Time: <u>15:25</u> Dissolved Oxygen: <u>7.3</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>19.4</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.50	0.15	0.60	0.25	0.50	0.30	0.60	0.40	0.60	0.10	0.50	0.20	0.60	0.15	0.60	0.30	0.50	0.20	0.60	0.25	0.50	0.25
2	1.00	0.20	1.20	0.35	1.00	0.45	1.20	0.65	1.20	0.20	1.00	0.40	1.20	0.20	1.20	0.65	1.00	0.45	1.20	0.55	1.00	0.50
3	1.50	0.25	1.80	0.40	1.50	0.50	1.80	0.90	1.80	0.15	1.50	0.40	1.80	0.35	1.80	0.70	1.50	0.75	1.80	0.85	1.50	0.70
4	2.00	0.30	2.40	0.40	2.00	0.65	2.40	0.95	2.40	0.15	2.00	0.45	2.40	0.35	2.40	0.70	2.00	1.00	2.40	1.00	2.00	0.80
5	2.50	0.20	3.00	0.40	2.50	0.80	3.00	0.95	3.00	0.20	2.50	0.65	3.00	0.20	3.00	0.90	2.50	1.00	3.00	1.00	2.50	0.95
6	3.00	0.20	3.60	0.40	3.00	0.70	3.60	0.95	3.60	0.85	3.00	0.70	3.60	0.20	3.60	0.95	3.00	1.00	3.60	1.00	3.00	1.00
7	3.50	0.15	4.20	0.35	3.50	0.45	4.20	0.95	4.20	0.90	3.50	0.65	4.20	0.25	4.20	1.00	3.50	0.95	4.20	0.70	3.50	1.00
8	4.00	0.20	4.80	0.25	4.00	0.40	4.80	0.80	4.80	0.90	4.00	0.55	4.80	0.15	4.80	0.80	4.00	0.85	4.80	0.55	4.00	0.90
9	4.50	0.05	5.40	0.20	4.50	0.30	5.40	0.40	5.40	0.50	4.50	0.20	5.40	0.05	5.40	0.35	4.50	0.50	5.40	0.40	4.50	0.30
Right Bank	5.00	0.00	6.00	0.00	5.00	0.00	6.00	0.00	6.00	0.00	5.00	0.00	6.00	0.00	6.00	0.00	5.00	0.00	6.00	0.00	5.00	0.00
Feature Type <small>(riffle, run, or pool)</small>	run	pool	pool	pool	pool	pool	pool	pool	run	pool	pool	pool										

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

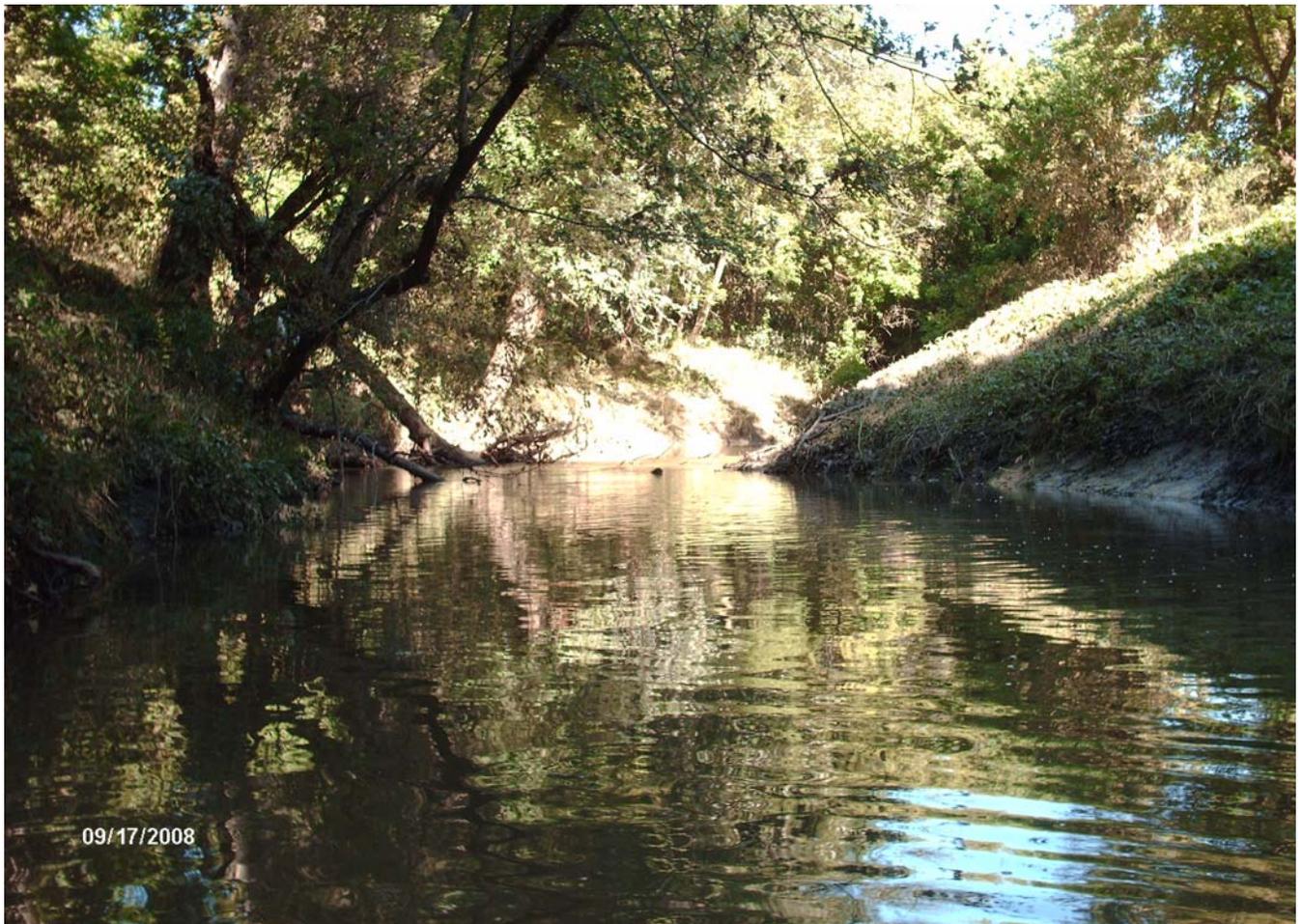
GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Gilisa Gould Date: 10.07.08



WBID # 386

Site # 7

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 9-17-08 16:40	Location Description (e.g., road crossing): East of McKee
Stream Name: E. Fk. Fishing R.	
Current Weather Conditions: Clear	Facility Name(s): Excelsior Springs WWTF
Weather Conditions for Past 10 days: 12.33 cm	Permit Number(s): MO0108511
Official Drought Conditions at time of this survey (search DNR home page for “drought”): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0392280	Northing (UTM Y): 4351483	Horizontal Accuracy: (EPE / FOM / PDOP) 9 Meters
Site 11	Easting (UTM X): 0392220	Northing (UTM Y): 4351321	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
34	upstream	35	Pipes at T1, on west bank	36	downstream
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: Crop fields
Comments:				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input checked="" type="checkbox"/> None of the above	Comments / Other:			

Substrate*: (These values should add up to 100%.)

10% Cobble	20% Gravel	20% Sand	% Silt	50% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

None in water; banks are vegetated

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: Chris Schuler and Gilisa Gould

Surveyor’s Signature: Gilisa Gould Date of Survey: 9-17-08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>E. Fk. Fishing R.</u> Waterbody ID: <u>386</u> Site #: <u>7</u> Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0392280</u> UTM Y: <u>4351483</u> +/- <u>9</u> (meters) 11 UTM X: <u>0392220</u> UTM Y: <u>4351321</u> +/- <u>7</u> (meters) Average Stream Width: <u>5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Chris Schuler</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/17/2008</u> Time: <u>16:40</u> Dissolved Oxygen: <u>5.8</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>19.1</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.60	0.20	0.50	0.20	0.70	0.20	0.50	0.15	0.60	0.10	0.50	0.15	0.60	0.20	0.40	0.20	0.60	0.30	0.40	0.25	0.50	0.60
	2	1.20	0.25	1.00	0.25	1.40	0.15	1.00	0.25	1.20	0.25	1.00	0.20	1.20	0.15	0.80	0.35	1.20	0.45	0.80	0.50	1.00	0.70
	3	1.80	0.30	1.50	0.10	2.10	0.30	1.50	0.30	1.80	0.30	1.50	0.35	1.80	0.15	1.20	0.30	1.80	0.40	1.20	0.60	1.50	0.75
	4	2.40	0.35	2.00	0.30	2.80	0.25	2.00	0.30	2.40	0.35	2.00	0.20	2.40	0.25	1.60	0.40	2.40	0.60	1.60	0.55	2.00	0.65
	5	3.00	0.20	2.50	0.15	3.50	0.30	2.50	0.30	3.00	0.30	2.50	0.25	3.00	0.25	2.00	0.40	3.00	0.60	2.00	0.55	2.50	0.75
	6	3.60	0.25	3.00	0.20	4.20	0.20	3.00	0.30	3.60	0.35	3.00	0.35	3.60	0.15	2.40	0.25	3.60	0.65	2.40	0.50	3.00	0.65
	7	4.20	0.15	3.50	0.25	4.90	0.20	3.50	0.25	4.20	0.30	3.50	0.20	4.20	0.20	2.80	0.15	4.20	0.65	2.80	0.40	3.50	0.60
	8	4.80	0.20	4.00	0.30	5.60	0.45	4.00	0.10	4.80	0.20	4.00	0.30	4.80	0.25	3.20	0.20	4.80	0.60	3.20	0.35	4.00	0.40
	9	5.40	0.35	4.50	0.30	6.30	0.40	4.50	0.15	5.40	0.15	4.50	0.20	5.40	0.20	3.60	0.25	5.40	0.20	3.60	0.20	4.50	0.30
Right Bank		6.00	0.00	5.00	0.00	7.00	0.00	5.00	0.00	6.00	0.00	5.00	0.00	6.00	0.00	4.00	0.00	6.00	0.00	4.00	0.00	5.00	0.00
Feature Type <small>(riffle, run, or pool)</small>		run		run		pool		run		run		run		run		pool		pool		pool		pool	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

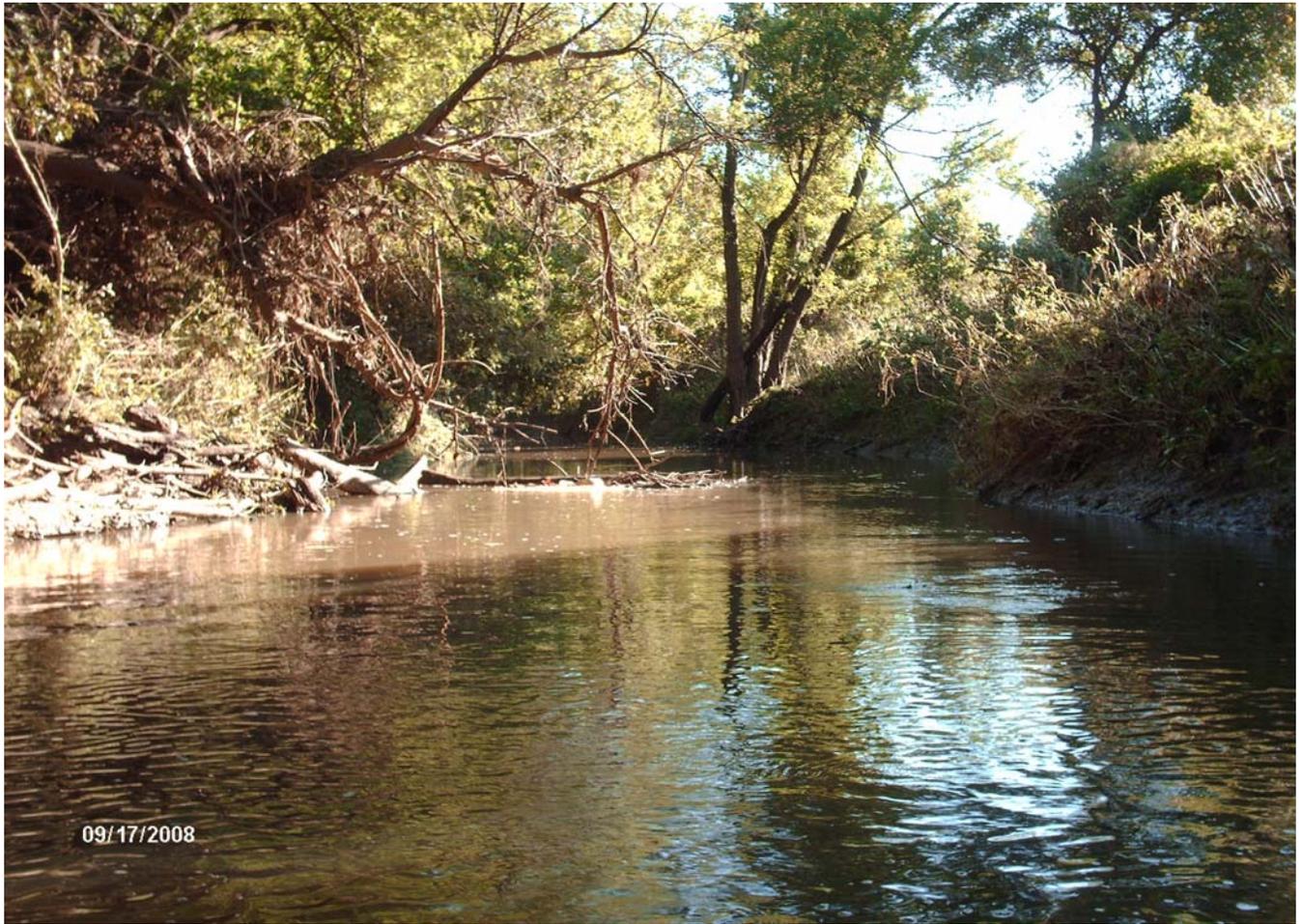
Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Gilisa Gould

Date: 10.07.08





09/17/2008

WBID # 386

Site # 8

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 9-17-08 17:55	Location Description (e.g., road crossing): Greenwood Road
Stream Name: E. Fk. Fishing R.	
Current Weather Conditions: Clear	Facility Name(s): Excelsior Springs WWTF
Weather Conditions for Past 10 days: 12.33 cm	Permit Number(s): MO0108511
Official Drought Conditions at time of this survey (search DNR home page for “drought”): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0392476	Northing (UTM Y): 4349097	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters
Site 11	Easting (UTM X): 0392577	Northing (UTM Y): 4348997	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
39	Downstream	40	Upstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at the time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: crop fields
Comments:				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input checked="" type="checkbox"/> None of the above	Comments / Other:			

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	10% Sand	10% Silt	80% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

None in water; banks are 50% vegetated
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Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Printed Names of Personnel Collecting Data: Chris Schuler and Gilisa Gould

Surveyor’s Signature: Gilisa Gould Date of Survey: 9-17-08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>E. Fk. Fishing R.</u> Waterbody ID: <u>386</u> Site #: <u>8</u> Estimated Channel Incision: <u>5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0392476</u> UTM Y: <u>4349097</u> +/- <u>7</u> (meters) 11 UTM X: <u>0392577</u> UTM Y: <u>4348997</u> +/- <u>7</u> (meters) Average Stream Width: <u>5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Chris Schuler</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/17/2008</u> Time: <u>17:55</u> Dissolved Oxygen: <u>8.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>19.4</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.40	0.05	0.50	0.15	0.40	0.15	0.40	0.10	0.50	0.15	0.40	0.05	0.50	0.20	0.40	0.25	0.50	0.25	0.60	0.50	0.50	0.25
	2	0.80	0.15	1.00	0.40	0.80	0.20	0.80	0.20	1.00	0.30	0.80	0.20	1.00	0.60	0.80	0.75	1.00	0.55	1.20	0.75	1.00	0.40
	3	1.20	0.20	1.50	0.70	1.20	0.25	1.20	0.30	1.50	0.25	1.20	0.30	1.50	0.80	1.20	0.85	1.50	0.70	1.80	0.95	1.50	0.65
	4	1.60	0.25	2.00	0.25	1.60	0.35	1.60	0.25	2.00	0.20	1.60	0.30	2.00	0.85	1.60	0.90	2.00	0.75	2.40	0.90	2.00	0.80
	5	2.00	0.30	2.50	0.25	2.00	0.35	2.00	0.20	2.50	0.25	2.00	0.25	2.50	0.80	2.00	0.65	2.50	0.85	3.00	0.75	2.50	0.95
	6	2.40	0.20	3.00	0.25	2.40	0.40	2.40	0.30	3.00	0.20	2.40	0.20	3.00	0.70	2.40	0.69	3.00	0.75	3.60	0.65	3.00	0.80
	7	2.80	0.15	3.50	0.20	2.80	0.40	2.80	0.35	3.50	0.35	2.80	0.25	3.50	0.50	2.80	0.50	3.50	0.65	4.20	0.45	3.50	0.60
	8	3.20	0.20	4.00	0.15	3.20	0.20	3.20	0.20	4.00	0.35	3.20	0.15	4.00	0.40	3.20	0.40	4.00	0.45	4.80	0.30	4.00	0.40
	9	3.60	0.05	4.50	0.05	3.60	0.15	3.60	0.15	4.50	0.20	3.60	0.20	4.50	0.20	3.60	0.25	4.50	0.20	5.40	0.15	4.50	0.20
Right Bank		4.00	0.00	5.00	0.00	4.00	0.00	4.00	0.00	5.00	0.00	4.00	0.00	5.00	0.00	4.00	0.00	5.00	0.00	6.00	0.00	5.00	0.00
Feature Type		run		pool		pool		run		run		run		pool									

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Gilisa Gould Date: 10.07.08

