



Use Attainability Analysis

for

WBID 1709 Maline Creek

Submitted by  
SES, Inc.

To  
Missouri Department of Natural Resources  
Water Protection Program

On

November 4, 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): Maline Creek
Missouri Water Body Identification (WBID) Number: 1709
8-digit HUC: 7140101
County(ies), Listed Upstream to Downstream: St. Louis County, St. Louis City
Upstream Legal Description (from Table H): T46N, R7E, Sec. 9
Downstream Legal Description (from Table H): not defined
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : 1, 2, 3
<b>Include a Site Location Map(s).</b> 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): University of Missouri St L MOG760089
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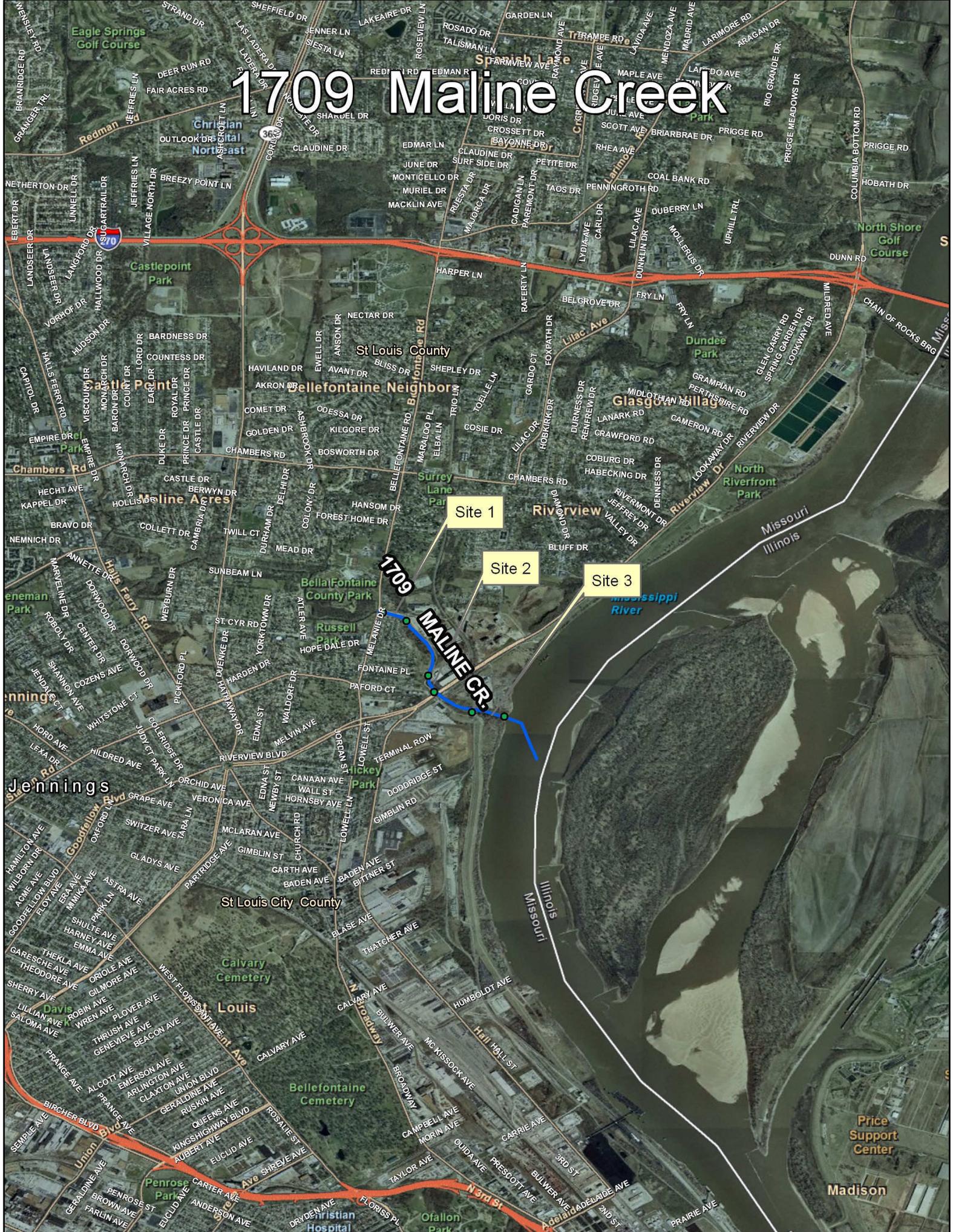
**III. UAA Surveyor** (please **PRINT** legibly)

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:** 10.16.08

# 1709 Maline Creek



Site 1

Site 2

Site 3

1709 MALINE CR.

Price Support Center

Madison

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization** (Page 1 of 3)

(must be completed for each site)

<b>Date &amp; Time:</b> 10.14.08 13:45	Location Description (e.g., road crossing): Bellefontaine Road
<b>Stream Name:</b> Maline Creek	
Current Weather Conditions: cloudy	Facility Name(s): University of Missouri St. L.
Weather Conditions for Past 10 days: 0.91 cm	Permit Number(s): MOG760089
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): 0741121	Northing (UTM Y): 4291199	Horizontal Accuracy: (EPE / FOM / PDOP) 3 Meters
Site 11	Easting (UTM X): 0741312	Northing (UTM Y): 4291120	Horizontal Accuracy: (EPE / FOM / PDOP) 8 Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
31	Downstream	32	Footprints	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.)				

Site #: 1

**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 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 checked="" type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Trail is paved.				

**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 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%.)

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

Algae on 100% of cement substrate.

**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 checked="" type="checkbox"/> Clear	<input checked="" 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.)

Substrate is 80% man-made cement tiles. This cement is the substrate for Transects 1-8.

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

Printed Names of Personnel Collecting Data:  Gilisa Gould and Bryan Deimeke

Surveyor’s Signature:  Gilisa Gould  Date of Survey:  10.14.08

Organization:  SES, Inc.  Position:  Field Team Leader

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Maline Creek</u> Waterbody ID: <u>1709</u> Site #: <u>1</u>  Estimated Channel Incision: <u>10</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0741121</u> UTM Y: <u>4291199</u> +/- <u>3</u> (meters) <b>11</b> UTM X: <u>0741312</u> UTM Y: <u>4291120</u> +/- <u>8</u> (meters)  Average Stream Width: <u>9</u> (meters)      Length of Survey Segment: <u>180</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Gilisa Gould and Bryan Deimeke</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10.14.08</u> Time: <u>13:45</u>  Dissolved Oxygen: <u>5.7</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>20.6</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)																				
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.90	0.10	0.90	0.05	0.90	0.10	0.90	0.05	0.90	0.10	0.90	0.10	0.90	0.10	0.90	0.10	0.90	0.10	0.90	1.00	0.90	1.00
2	1.80	0.10	1.80	0.10	1.80	0.10	1.80	0.10	1.80	0.10	1.80	0.10	1.80	0.10	1.80	0.10	1.80	0.10	1.80	1.00	1.80	1.00
3	2.70	0.10	2.70	0.10	2.70	0.05	2.70	0.10	2.70	0.05	2.70	0.10	2.70	0.10	2.70	0.10	2.70	0.10	2.70	1.00	2.70	1.00
4	3.60	0.05	3.60	0.10	3.60	0.05	3.60	0.10	3.60	0.05	3.60	0.10	3.60	0.10	3.60	0.10	3.60	0.30	3.60	1.00	3.60	1.00
5	4.50	0.10	4.50	0.05	4.50	0.10	4.50	0.05	4.50	0.10	4.50	0.10	4.50	0.10	4.50	0.10	4.50	0.20	4.50	1.00	4.50	1.00
6	5.40	0.05	5.40	0.05	5.40	0.10	5.40	0.05	5.40	0.10	5.40	0.10	5.40	0.10	5.40	0.10	5.40	0.01	5.40	1.00	5.40	1.00
7	6.30	0.10	6.30	0.10	6.30	0.10	6.30	0.05	6.30	0.10	6.30	0.10	6.30	0.10	6.30	0.10	6.30	0.05	6.30	0.70	6.30	1.00
8	7.20	0.10	7.20	0.10	7.20	0.05	7.20	0.10	7.20	0.10	7.20	0.10	7.20	0.10	7.20	0.10	7.20	0.00	7.20	0.60	7.20	1.00
9	8.10	0.05	8.10	0.10	8.10	0.05	8.10	0.10	8.10	0.10	8.10	0.10	8.10	0.10	8.10	0.10	8.10	0.05	8.10	0.30	8.10	0.35
<b>Right Bank</b>	9.00	0.00	9.00	0.00	9.00	0.00	9.00	0.00	9.00	0.00	9.00	0.00	9.00	0.00	9.00	0.00	9.00	0.00	9.00	0.00	9.00	0.00
<b>Feature Type</b> <small>(riffle, run, or pool)</small>	riffle		run		riffle		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: 10.16.08

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization** (Page 1 of 3)

(must be completed for each site)

<b>Date &amp; Time:</b> 10.14.08                      14:50	Location Description (e.g., road crossing): Riverview Dr.
<b>Stream Name:</b> Maline Creek	
Current Weather Conditions: cloudy	Facility Name(s): University of Missouri St. L.
Weather Conditions for Past 10 days: 0.91 cm	Permit Number(s): MOG760089
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): 0741503	Northing (UTM Y): 4290567	Horizontal Accuracy: (EPE / FOM / PDOP) 9 Meters
Site 11	Easting (UTM X): 0741555	Northing (UTM Y): 4290395	Horizontal Accuracy: (EPE / FOM / PDOP) 9 Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
34	Upstream	35	Graffiti	36	Man-made dam
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
37	Downstream				
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.)				

Site #: 2

**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 type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input checked="" 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: Graffiti on cement banks			

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

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

Algae on 100% of cement substrate.
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**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 checked="" type="checkbox"/> Clear	<input checked="" 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 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.

Site #: 2

**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.)

Transects 4-11 have 100% man-made cement substrate. This site has 80% of the cement substrate.

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

Printed Names of Personnel Collecting Data:     Gilisa Gould and Bryan Deimeke    

Surveyor’s Signature:     Gilisa Gould     Date of Survey:     10.14.08    

Organization:     SES, Inc.     Position:     Field Team Leader

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Maline Creek</u> Waterbody ID: <u>1709</u> Site #: <u>2</u>  Estimated Channel Incision: <u>6</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0741503</u> UTM Y: <u>4290567</u> +/- <u>9</u> (meters) <b>11</b> UTM X: <u>0741555</u> UTM Y: <u>4290395</u> +/- <u>9</u> (meters)  Average Stream Width: <u>7</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 Bryan Deimeke</u>	<b>Dissolved Oxygen</b>
	Date: <u>10.14.08</u> Time: <u>14:50</u>  Dissolved Oxygen: <u>10.5</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>22.0</u> (°C)

#### Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.70	1.00	0.90	0.30	1.00	0.30	0.70	0.35	0.60	0.01	0.60	0.01	0.50	0.01	0.60	0.01	0.70	0.01	0.70	0.01	0.80	0.01
	2	1.40	1.00	1.80	0.45	2.00	0.35	1.40	0.60	1.20	0.05	1.20	0.01	1.00	0.05	1.20	0.05	1.40	0.05	1.40	0.01	1.60	0.01
	3	2.10	1.00	2.70	0.50	3.00	0.40	2.10	0.60	1.80	0.05	1.80	0.05	1.50	0.10	1.80	0.05	2.10	0.05	2.10	0.05	2.40	0.01
	4	2.80	0.85	3.60	0.70	4.00	0.75	2.80	0.75	2.40	0.05	2.40	0.05	2.00	0.10	2.40	0.05	2.80	0.10	2.80	0.05	3.20	0.05
	5	3.50	0.70	4.50	0.55	5.00	0.60	3.50	1.00	3.00	0.05	3.00	0.05	2.50	0.05	3.00	0.10	3.50	0.10	3.50	0.05	4.00	0.10
	6	4.20	0.45	5.40	0.90	6.00	0.40	4.20	1.00	3.60	0.05	3.60	0.05	3.00	0.05	3.60	0.05	4.20	0.10	4.20	0.05	4.80	0.10
	7	4.90	0.30	6.30	0.75	7.00	0.55	4.90	1.00	4.20	0.05	4.20	0.05	3.50	0.05	4.20	0.05	4.90	0.05	4.90	0.01	5.60	0.05
	8	5.60	0.20	7.20	0.70	8.00	0.40	5.60	0.80	4.80	0.01	4.80	0.01	4.00	0.01	4.80	0.01	5.60	0.05	5.60	0.01	6.40	0.05
	9	6.30	0.10	8.10	0.45	9.00	0.25	6.30	0.40	5.40	0.01	5.40	0.01	4.50	0.01	5.40	0.01	6.30	0.01	6.30	0.01	7.20	0.01
<b>Right Bank</b>		7.00	0.00	9.00	0.00	10.00	0.00	7.00	0.00	6.00	0.00	6.00	0.00	5.00	0.00	6.00	0.00	7.00	0.00	7.00	0.00	8.00	0.00
<b>Feature Type</b>		run		run		run		pool		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: 10.16.08

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization** (Page 1 of 3)

(must be completed for each site)

<b>Date &amp; Time:</b> 10.14.08      15:00	Location Description (e.g., road crossing): Train crossing
<b>Stream Name:</b> Maline Creek	
Current Weather Conditions: cloudy	Facility Name(s): University of Missouri St. L.
Weather Conditions for Past 10 days: 0.91 cm	Permit Number(s): MOG760089
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): 0741864	Northing (UTM Y): 4290200	Horizontal Accuracy: (EPE / FOM / PDOP)    4 Meters
Site 11	Easting (UTM X): 0742121	Northing (UTM Y): 4290170	Horizontal Accuracy: (EPE / FOM / PDOP)    6 Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
38	Footprint	39	Downstream	40	Dam under RR bridge
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
41	dam (same)	42	Upstream		
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.)				

Site #: 3

**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 type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input checked="" 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: trail is the "Riverfront Trail" and is paved for pedestrians and bicycles.				

**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 type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other: footpath leads from "Riverfront Trail" through woods and to beach at mouth of creek.			

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

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

none
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**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input checked="" type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input 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 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 #: 3

**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:  Gilisa Gould and Bryan Deimeke

Surveyor’s Signature:  Gilisa Gould  Date of Survey:  10.14.08

Organization:  SES, Inc.  Position:  Field Team Leader

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Maline Creek</u> Waterbody ID: <u>1709</u> Site #: <u>3</u>  Estimated Channel Incision: <u>10</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0741864</u> UTM Y: <u>4290200</u> +/- <u>4</u> (meters) <b>11</b> UTM X: <u>0742121</u> UTM Y: <u>4290170</u> +/- <u>6</u> (meters)  Average Stream Width: <u>9</u> (meters)      Length of Survey Segment: <u>180</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Gilisa Gould and Bryan Deimeke</u>	<b>Dissolved Oxygen</b>
	Date: <u>10.14.08</u> Time: <u>15:00</u>
	Dissolved Oxygen: <u>8.5</u> (mg/L)
	Dissolved Oxygen: _____ (% sat)
	Specific Cond: _____ (µS/cm)
	Water Temperature: <u>21.1</u> (°C)

#### Transect Cross-Section

	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
<b>Station</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Left Bank</b>																						
1	0.60	0.05	1.00	0.05	1.00	0.90	1.00	0.40	1.00	0.80	0.80	0.45	1.20	1.00	0.80	0.65	1.00	0.70	1.20	1.00	1.50	1.00
2	1.20	0.01	2.00	0.01	2.00	0.85	2.00	0.95	2.00	0.80	1.60	0.80	2.40	1.00	1.60	1.00	2.00	0.95	2.40	1.00	3.00	1.00
3	1.80	0.05	3.00	0.01	3.00	1.00	3.00	1.00	3.00	0.95	2.40	1.00	3.60	1.00	2.40	1.00	3.00	1.00	3.60	1.00	4.50	1.00
4	2.40	0.05	4.00	0.05	4.00	0.75	4.00	1.00	4.00	1.00	3.20	1.00	4.80	1.00	3.20	1.00	4.00	1.00	4.80	1.00	6.00	1.00
5	3.00	0.05	5.00	0.05	5.00	1.00	5.00	1.00	5.00	1.00	4.00	1.00	6.00	1.00	4.00	1.00	5.00	1.00	6.00	1.00	7.50	1.00
6	3.60	0.05	6.00	0.05	6.00	1.00	6.00	1.00	6.00	1.00	4.80	1.00	7.20	0.70	4.80	1.00	6.00	1.00	7.20	1.00	9.00	1.00
7	4.20	0.05	7.00	0.05	7.00	0.01	7.00	1.00	7.00	1.00	5.60	1.00	8.40	0.45	5.60	0.75	7.00	0.85	8.40	1.00	10.50	1.00
8	4.80	0.65	8.00	0.05	8.00	0.15	8.00	0.60	8.00	0.75	6.40	1.00	9.60	0.50	6.40	0.40	8.00	0.80	9.60	1.00	12.00	1.00
9	5.40	0.50	9.00	1.00	9.00	0.05	9.00	0.35	9.00	0.25	7.20	0.30	10.80	0.25	7.20	0.35	9.00	0.65	10.80	1.00	13.50	1.00
<b>Right Bank</b>	6.00	0.00	10.00	0.00	10.00	0.00	10.00	0.00	10.00	0.00	8.00	0.00	12.00	0.00	8.00	0.00	10.00	0.00	12.00	0.00	15.00	0.00
<b>Feature Type</b>	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: 10.16.08

**WBID# 1709**



**Site#1 Photo ID#31**



**Site#1 Photo ID#32**



**Site#1 Photo ID#33**



**Site#2 Photo ID#34**

**WBID# 1709**



**Site#2 Photo ID#35**



**Site#2 Photo ID#36**



**Site#2 Photo ID#37**



**Site#3 Photo ID#38**

**WBID# 1709**



**Site#3 Photo ID#39**



**Site#3 Photo ID#40**



**Site#3 Photo ID#41**



**Site#3 Photo ID#42**