



Use Attainability Analysis

for

WBID 3825 Black 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): Black Creek
Missouri Water Body Identification (WBID) Number: unclassified
8-digit HUC: 7140101
County(ies), Listed Upstream to Downstream: St. Louis City
Upstream Legal Description (from Table H): T45N, R6E, Sec. 21
Downstream Legal Description (from Table H): T45N, R6E, Sec. 27
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : 1, 2, 3
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): No domestic/municipal WWTF

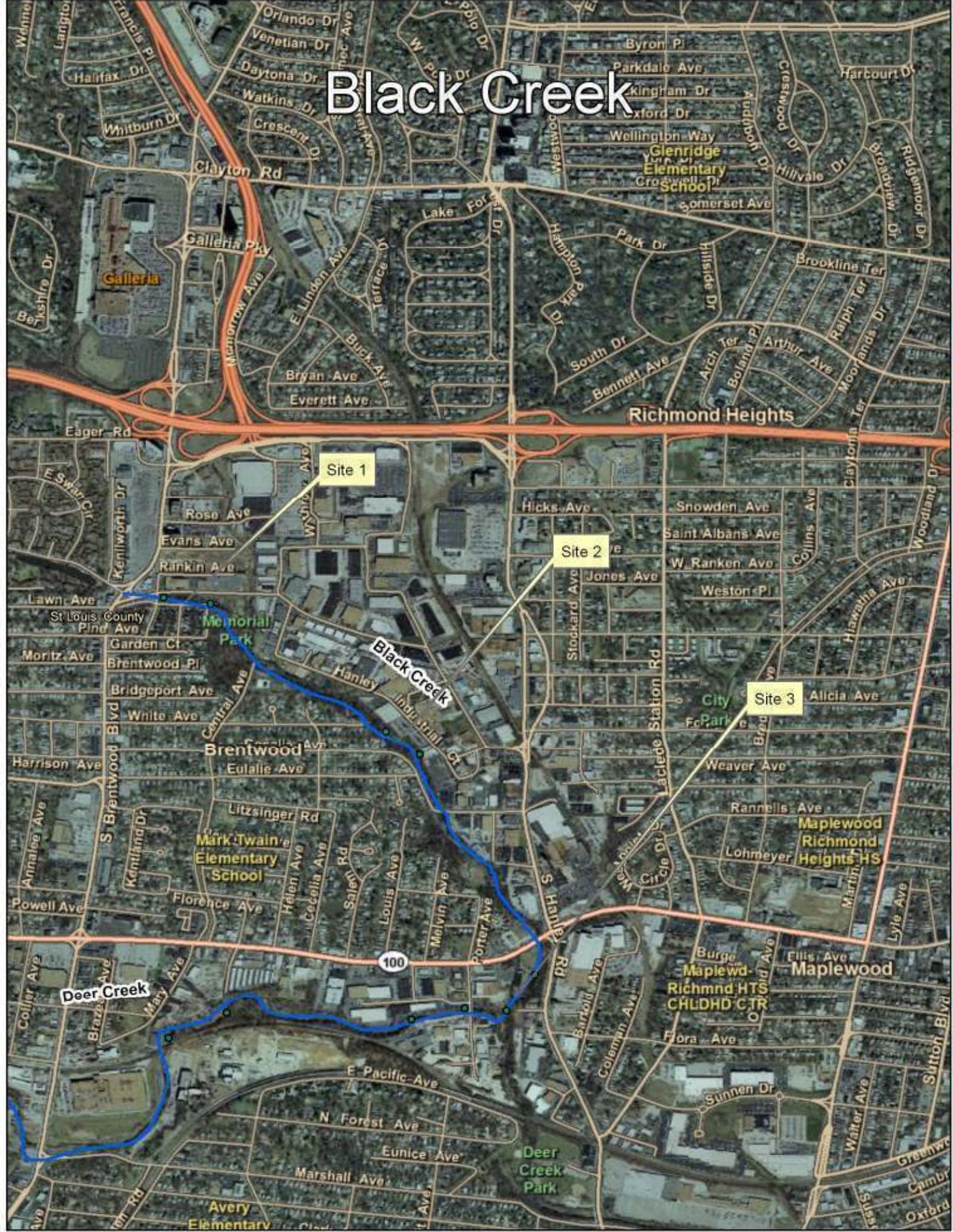
III. UAA Surveyor (please **PRINT** legibly)

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

Black Creek



Site 1

Site 2

Site 3

Black Creek

Deer Creek

100

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: 10.15.08 8:05	Location Description (e.g., road crossing): Urban Drive
Stream Name: Black Creek	
Current Weather Conditions: clear	Facility Name(s): No domestic/municipal WWTF
Weather Conditions for Past 10 days: 0.91 cm	Permit Number(s): NA
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): 0731002	Northing (UTM Y): 4278388	Horizontal Accuracy: (EPE / FOM / PDOP) 8 Meters
Site 11	Easting (UTM X): 0731127	Northing (UTM Y): 4278370	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
49	Downstream	50	upstream		

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 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 checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Playground is a school.				

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%.)

75% Cobble	% Gravel	25% Sand	% Silt	% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

none

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: sour
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 checked="" type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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: Gilisa Gould and Bryan Deimeke

Surveyor’s Signature: Gilisa Gould Date of Survey: 10.15.08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Black Creek</u> Waterbody ID: <u>N/A</u> Site #: <u>1</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>0731002</u> UTM Y: <u>4278388</u> +/- <u>8</u> (meters) 11 UTM X: <u>0731127</u> UTM Y: <u>4278370</u> +/- <u>7</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 Bryan Deimeke</u>	Dissolved Oxygen Date: <u>10.15.08</u> Time: <u>8:05</u> Dissolved Oxygen: <u>6.9</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>20.0</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	0.30	0.60	0.10	0.40	0.30	0.30	0.01	0.40	0.10	0.20	0.15	0.20	0.01	0.10	0.01	0.40	0.05	0.20	0.05	0.40	0.10
	2	0.80	0.40	1.20	0.10	0.80	0.25	0.60	0.05	0.80	0.20	0.40	0.15	0.40	0.01	0.20	0.01	0.80	0.05	0.40	0.05	0.80	0.10
	3	1.20	0.40	1.80	0.05	1.20	0.25	0.90	0.10	1.20	0.25	0.60	0.10	0.60	0.05	0.30	0.01	1.20	0.05	0.60	0.05	1.20	0.05
	4	1.60	0.45	2.40	0.20	1.60	0.10	1.20	0.15	1.60	0.25	0.80	0.10	0.80	0.05	0.40	0.01	1.60	0.10	0.80	0.05	1.60	0.05
	5	2.00	0.50	3.00	0.30	2.00	0.10	1.50	0.10	2.00	0.30	1.00	0.10	1.00	0.01	0.50	0.01	2.00	0.10	1.00	0.01	2.00	0.01
	6	2.40	0.50	3.60	0.55	2.40	0.15	1.80	0.10	2.40	0.30	1.20	0.10	1.20	0.01	0.60	0.05	2.40	0.10	1.20	0.05	2.40	0.05
	7	2.80	0.20	4.20	0.50	2.80	0.10	2.10	0.15	2.80	0.25	1.40	0.05	1.40	0.05	0.70	0.05	2.80	0.10	1.40	0.05	2.80	0.01
	8	3.20	0.15	4.80	0.30	3.20	0.10	2.40	0.10	3.20	0.25	1.60	0.01	1.60	0.05	0.80	0.05	3.20	0.01	1.60	0.05	3.20	0.01
	9	3.60	0.10	5.40	0.10	3.60	0.05	2.70	0.10	3.60	0.30	1.80	0.01	1.80	0.05	0.90	0.05	3.60	0.05	1.80	0.01	3.60	0.01
Right Bank		4.00	0.00	6.00	0.00	4.00	0.00	3.00	0.00	4.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	4.00	0.00	2.00	0.00	4.00	0.00
Feature Type		pool		pool		run		run		pool		run		riffle		run		run		riffle		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)

Date & Time: 10.15.08 18:15	Location Description (e.g., road crossing): White Ave
Stream Name: Black Creek	
Current Weather Conditions: cloudy	Facility Name(s): No domestic/municipal WWTF
Weather Conditions for Past 10 days: 0.91 cm	Permit Number(s): NA
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): 0731660	Northing (UTM Y): 4277915	Horizontal Accuracy: (EPE / FOM / PDOP) 5 Meters
Site 11	Easting (UTM X): 0731760	Northing (UTM Y): 4277810	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
45	Downstream	46	Debris Jam	47	Upstream
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
48	Sewage Overflow Sign				
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 #:

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 checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Nature trail is paved.				

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%.)

40% Cobble	30% Gravel	20% Sand	% Silt	10% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

none

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 type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input checked="" type="checkbox"/> Foam	<input 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 #:

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.)

Debris jam (tree and trash) started at T8 and continued until T10, making T9 impossible to measure any water depths or designate a width.

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>Black Creek</u> Waterbody ID: <u>NA</u> Site #: <u>2</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>0731660</u> UTM Y: <u>4277915</u> +/- <u>5</u> (meters) 11 UTM X: <u>0731760</u> UTM Y: <u>4277810</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 Bryan Deimeke</u>	Dissolved Oxygen Date: <u>10.14.08</u> Time: <u>18:15</u> Dissolved Oxygen: <u>6.4</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>20.0</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	0.50	0.20	0.80	0.05	0.50	0.01	0.70	0.05	0.30	0.05	0.40	0.01	0.50	0.05	0.30	0.30	#####		0.60	0.90	0.40	0.10
	2	1.00	0.25	1.60	0.05	1.00	0.01	1.40	0.20	0.60	0.15	0.80	0.10	1.00	0.10	0.60	0.30	#####		1.20	0.80	0.80	0.10
	3	1.50	0.25	2.40	0.25	1.50	0.01	2.10	0.15	0.90	0.15	1.20	0.10	1.50	0.15	0.90	0.40	#####		1.80	0.75	1.20	0.10
	4	2.00	0.20	3.20	0.20	2.00	0.01	2.80	0.25	1.20	0.10	1.60	0.10	2.00	0.15	1.20	0.50	#####		2.40	0.40	1.60	0.10
	5	2.50	0.20	4.00	0.15	2.50	0.01	3.50	0.25	1.50	0.10	2.00	0.15	2.50	0.10	1.50	0.50	#####		3.00	0.20	2.00	0.10
	6	3.00	0.10	4.80	0.10	3.00	0.01	4.20	0.40	1.80	0.10	2.40	0.20	3.00	0.05	1.80	0.40	#####		3.60	0.10	2.40	0.10
	7	3.50	0.10	5.60	0.05	3.50	0.10	4.90	0.50	2.10	0.10	2.80	0.25	3.50	0.01	2.10	0.40	#####		4.20	0.01	2.80	0.10
	8	4.00	0.05	6.40	0.01	4.00	0.10	5.60	0.15	2.40	0.05	3.20	0.25	4.00	0.05	2.40	0.40	#####		4.80	0.01	3.20	0.05
	9	4.50	0.01	7.20	0.01	4.50	0.10	6.30	0.10	2.70	0.01	3.60	0.15	4.50	0.10	2.70	0.20	#####		5.40	0.05	3.60	0.01
Right Bank		5.00	0.00	8.00	0.00	5.00	0.00	7.00	0.00	3.00	0.00	4.00	0.00	5.00	0.00	3.00	0.00	NA	0.00	6.00	0.00	4.00	0.00
Feature Type <small>(riffle, run, or pool)</small>		run		run		riffle		pool		run		run		riffle		NA		NA		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)

Date & Time: 10.14.08 17:30	Location Description (e.g., road crossing): South of Hwy 100
Stream Name: Black Creek	
Current Weather Conditions: cloudy	Facility Name(s): No domestic/municipal WWTF
Weather Conditions for Past 10 days: 0.91 cm	Permit Number(s): NA
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): 0732120	Northing (UTM Y): 4277022	Horizontal Accuracy: (EPE / FOM / PDOP) 8 Meters
Site 11	Easting (UTM X): 0732041	Northing (UTM Y): 4276881	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
43	Downstream	44	Upstream		

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 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 checked="" 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 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	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

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 type="checkbox"/> Other:
Bottom Deposit:	<input checked="" type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input 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 #: 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>Black Creek</u> Waterbody ID: <u>NA</u> Site #: <u>3</u> Estimated Channel Incision: <u>9</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>0732120</u> UTM Y: <u>4277022</u> +/- <u>8</u> (meters) 11 UTM X: <u>0732041</u> UTM Y: <u>4276881</u> +/- <u>7</u> (meters) Average Stream Width: <u>4</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>	Dissolved Oxygen Date: <u>10.14.08</u> Time: <u>17:30</u> Dissolved Oxygen: <u>5.3</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>20.2</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	0.30	0.05	0.40	0.10	0.50	0.05	0.50	0.05	0.40	0.10	0.20	0.01	0.70	0.01	0.70	0.20	0.50	0.20	0.60	0.01	0.30	0.10
	2	0.60	0.15	0.80	0.15	1.00	0.10	1.00	0.15	0.80	0.20	0.40	0.10	1.40	0.01	1.40	0.20	1.00	0.15	1.20	0.05	0.60	0.15
	3	0.90	0.05	1.20	0.15	1.50	0.20	1.50	0.20	1.20	0.25	0.60	0.20	2.10	0.05	2.10	0.15	1.50	0.15	1.80	0.10	0.90	0.15
	4	1.20	0.01	1.60	0.15	2.00	0.25	2.00	0.25	1.60	0.30	0.80	0.20	2.80	0.05	2.80	0.05	2.00	0.10	2.40	0.15	1.20	0.15
	5	1.50	0.01	2.00	0.15	2.50	0.40	2.50	0.25	2.00	0.40	1.00	0.45	3.50	0.10	3.50	0.15	2.50	0.15	3.00	0.25	1.50	0.25
	6	1.80	0.35	2.40	0.15	3.00	0.40	3.00	0.25	2.40	0.45	1.20	0.50	4.20	0.10	4.20	0.25	3.00	0.25	3.60	0.30	1.80	0.20
	7	2.10	0.25	2.80	0.10	3.50	0.30	3.50	0.25	2.80	0.50	1.40	0.65	4.90	0.05	4.90	0.45	3.50	0.45	4.20	0.30	2.10	0.35
	8	2.40	0.20	3.20	0.05	4.00	0.30	4.00	0.20	3.20	0.50	1.60	0.30	5.60	0.01	5.60	0.50	4.00	0.50	4.80	0.25	2.40	0.35
	9	2.70	0.05	3.60	0.01	4.50	0.15	4.50	0.10	3.60	0.35	1.80	0.10	6.30	0.01	6.30	0.50	4.50	0.30	5.40	0.10	2.70	0.35
Right Bank		3.00	0.00	4.00	0.00	5.00	0.00	5.00	0.00	4.00	0.00	2.00	0.00	7.00	0.00	7.00	0.00	5.00	0.00	6.00	0.00	3.00	0.00
Feature Type <small>(riffle, run, or pool)</small>		run		run		run		run		pool		riffle		run		run		run		run		riffle	

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

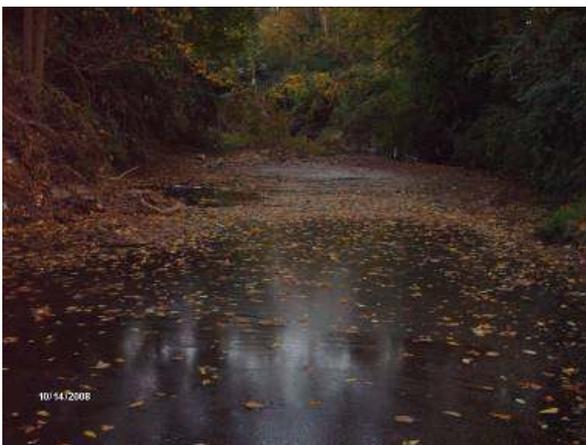
WBID# Black Creek



Site#1 Photo ID#49



Site#1 Photo ID#50



Site#2 Photo ID#45



Site#2 Photo ID#46

WBID# Black Creek



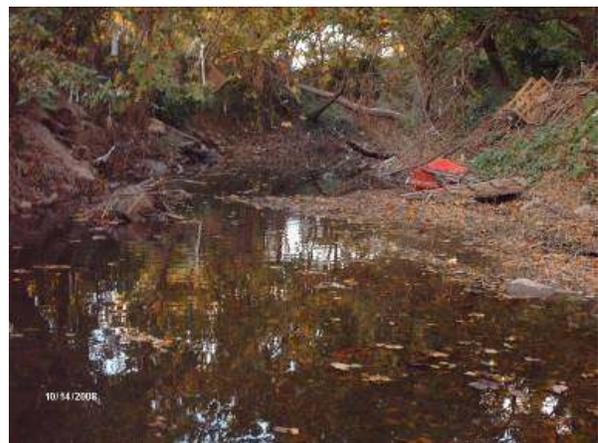
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Site#2 Photo ID#48



Site#3 Photo ID#43



Site#3 Photo ID#44