



Use Attainability Analysis

for

WBID 0395 Brushy Creek

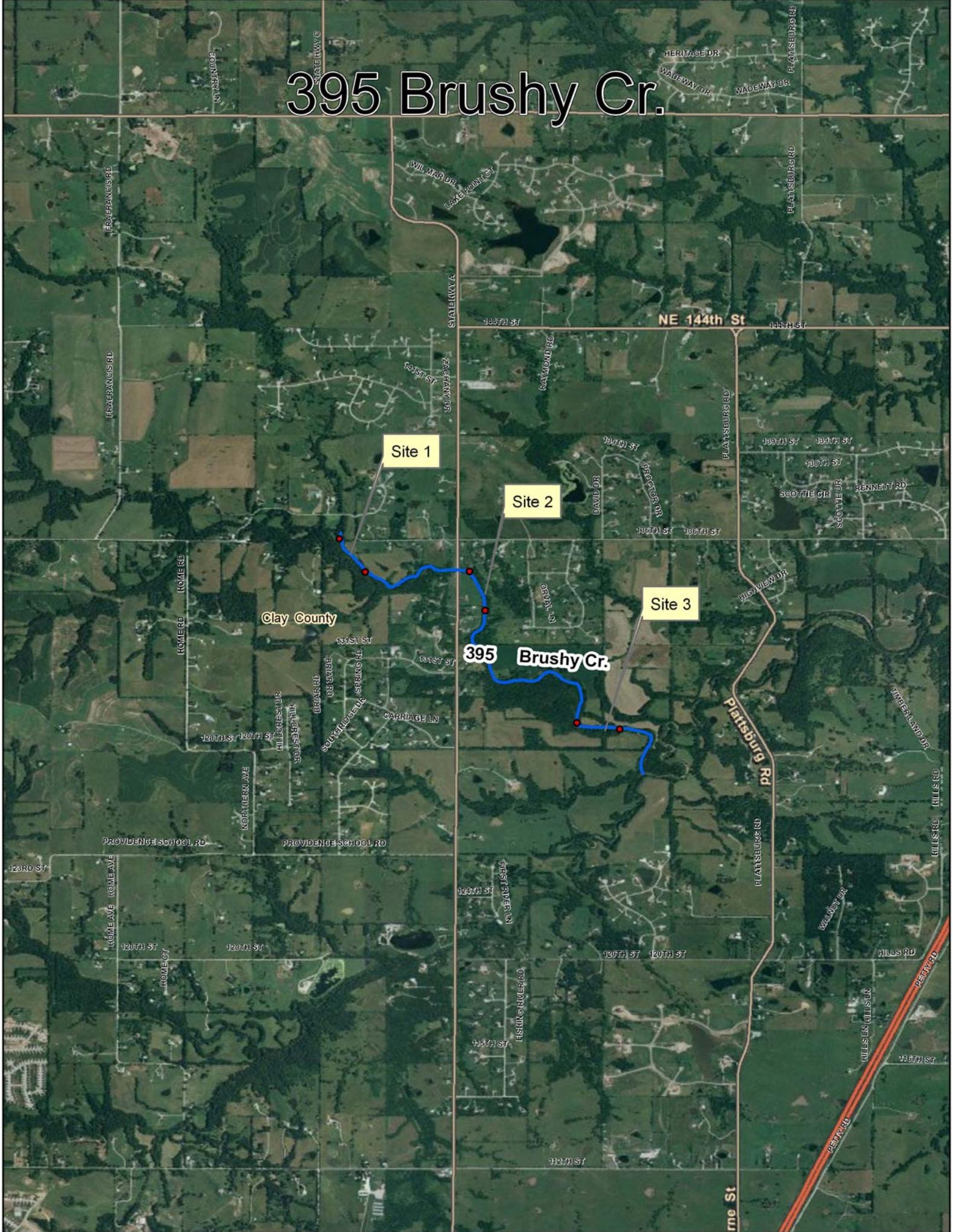
Submitted by
SES, Inc.

To
Missouri Department of Natural Resources
Water Protection Program

On

October 14, 2008

395 Brushy Cr.



Site 1

Site 2

Site 3

Clay County

395 Brushy Cr.

Plattsburg Rd

FRANCISCO RD

FRANCISCO RD

HOME RD

PROVIDENCE SCHOOL RD

HOME AVE

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: 8.18.08 12:45	Location Description (e.g., road crossing): Just South of 137 th Street
Stream Name: Brushy Creek	
Current Weather Conditions: clear	Facility Name(s): Johnson Ridge WWTP
Weather Conditions for Past 10 days: 0.40 cm	Permit Number(s): MO0132110
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): 0375555	Northing (UTM Y): 4355365	Horizontal Accuracy: (EPE / FOM / PDOP) 5 Meters
Site 11	Easting (UTM X): 0375701	Northing (UTM Y): 4355108	Horizontal Accuracy: (EPE / FOM / PDOP) 4 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
13	Downstream	14	road	15	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 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 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:			

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

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

15% algae on 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 type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" 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 checked="" 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.

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: 8-18-08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Brushy Cr.</u> Waterbody ID: <u>395</u> Site #: <u>1</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>0375555</u> UTM Y: <u>4355365</u> +/- <u>5</u> (meters) 11 UTM X: <u>0375701</u> UTM Y: <u>4355108</u> +/- <u>4</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>	Dissolved Oxygen
	Date: <u>8/18/2008</u> Time: <u>12:45</u> Dissolved Oxygen: <u>9.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21</u> (°C)

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	0.10	0.60	0.10	0.50	0.01	0.80	0.05	0.90	0.20	0.80	0.15	0.70	0.20	0.70	0.10	0.60	0.10	0.70	0.15
	2	1.20	0.20	1.60	0.35	1.20	0.10	1.00	0.15	1.60	0.55	1.80	0.90	1.60	0.60	1.40	0.50	1.40	0.25	1.20	0.40	1.40	0.45
	3	1.80	0.35	2.40	0.45	1.80	0.15	1.50	0.25	2.40	1.00	2.70	1.00	2.40	0.90	2.10	0.50	2.10	0.35	1.80	0.55	2.10	0.65
	4	2.40	0.45	3.20	0.60	2.40	0.20	2.00	0.15	3.20	0.95	3.60	0.90	3.20	0.90	2.80	0.50	2.80	0.40	2.40	0.55	2.80	0.60
	5	3.00	0.65	4.00	0.65	3.00	0.15	2.50	0.15	4.00	0.80	4.50	0.80	4.00	0.85	3.50	0.50	3.50	0.50	3.00	0.50	3.50	0.50
	6	3.60	0.80	4.80	0.75	3.60	0.15	3.00	0.15	4.80	0.70	5.40	0.65	4.80	0.75	4.20	0.55	4.20	0.60	3.60	0.50	4.20	0.45
	7	4.20	0.90	5.60	0.85	4.20	0.20	3.50	0.25	5.60	0.70	6.30	0.45	5.60	0.65	4.90	0.60	4.90	0.70	4.20	0.55	4.90	0.45
	8	4.80	0.90	6.40	0.70	4.80	0.25	4.00	0.40	6.40	0.65	7.20	0.30	6.40	0.50	5.60	0.50	5.60	0.65	4.80	0.60	5.60	0.40
	9	5.40	0.40	7.20	0.20	5.40	0.15	4.50	0.15	7.20	0.25	8.10	0.20	7.20	0.30	6.30	0.20	6.30	0.20	5.40	0.10	6.30	0.10
Right Bank		6.00	0.00	8.00	0.00	6.00	0.00	5.00	0.00	8.00	0.00	9.00	0.00	8.00	0.00	7.00	0.00	7.00	0.00	6.00	0.00	7.00	0.00
Feature Type <small>(riffle, run, or pool)</small>		pool		pool		pool		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: 9.02.08





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: 8.18.08 1:45	Location Description (e.g., road crossing): Along state HWY 4
Stream Name: Brushy Creek	
Current Weather Conditions: clear	Facility Name(s): Johnson Ridge WWTP
Weather Conditions for Past 10 days: 0.40 cm	Permit Number(s): MO0132110
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): 0376320	Northing (UTM Y): 4355103	Horizontal Accuracy: (EPE / FOM / PDOP) 5 Meters
Site 11	Easting (UTM X): 0376408	Northing (UTM Y): 4354803	Horizontal Accuracy: (EPE / FOM / PDOP) 4 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
16	Downstream	17	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%.)

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

Aquatic vegetation above water level

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 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 checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

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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: 8-18-08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Brushy Cr.</u> Waterbody ID: <u>395</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>0376320</u> UTM Y: <u>4355103</u> +/- <u>5</u> (meters) 11 UTM X: <u>0376408</u> UTM Y: <u>4354803</u> +/- <u>4</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>8/18/2008</u> Time: <u>1:45</u> Dissolved Oxygen: <u>9.5</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>23.2</u> (°C)

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	0.20	0.50	0.25	0.50	0.10	0.60	0.15	0.60	0.20	0.70	0.20	0.60	0.15	0.70	0.15	0.20	0.01	0.40	0.05	0.40	0.05
	2	1.20	0.60	1.00	0.65	1.00	0.40	1.20	0.30	1.20	0.30	1.40	0.60	1.20	0.60	1.40	0.70	0.40	0.10	0.80	0.10	0.80	0.30
	3	1.80	0.70	1.50	0.60	1.50	0.60	1.80	0.65	1.80	0.40	2.10	0.90	1.80	0.75	2.10	0.65	0.60	0.10	1.20	0.25	1.20	0.40
	4	2.40	0.55	2.00	0.50	2.00	0.70	2.40	0.55	2.40	0.45	2.80	0.90	2.40	0.65	2.80	0.65	0.80	0.01	1.60	0.25	1.60	0.40
	5	3.00	0.45	2.50	0.40	2.50	0.45	3.00	0.70	3.00	0.50	3.50	0.85	3.00	0.50	3.50	0.55	1.00	0.01	2.00	0.40	2.00	0.40
	6	3.60	0.45	3.00	0.30	3.00	0.30	3.60	0.70	3.60	0.60	4.20	0.70	3.60	0.45	4.20	0.45	1.20	0.01	2.40	0.45	2.40	0.40
	7	4.20	0.40	3.50	0.20	3.50	0.15	4.20	0.40	4.20	0.50	4.90	0.55	4.20	0.40	4.90	0.30	1.40	0.05	2.80	0.45	2.80	0.30
	8	4.80	0.30	4.00	0.20	4.00	0.05	4.80	0.20	4.80	0.20	5.60	0.40	4.80	0.35	5.60	0.30	1.60	0.00	3.20	0.40	3.20	0.20
	9	5.40	0.20	4.50	0.10	4.50	1.00	5.40	0.05	5.40	0.15	6.30	0.15	5.40	0.15	6.30	0.15	1.80	0.05	3.60	0.35	3.60	0.10
Right Bank		6.00	0.00	5.00	0.00	5.00	0.00	6.00	0.00	6.00	0.00	7.00	0.00	6.00	0.00	7.00	0.00	2.00	0.00	4.00	0.00	4.00	0.00
Feature Type <small>(riffle, run, or pool)</small>		pool		pool		pool		pool		run		pool		pool		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: 9/2/2008



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: 8.18.08 8:05	Location Description (e.g., road crossing): East of Hwy A
Stream Name: Brushy Creek	
Current Weather Conditions: clear	Facility Name(s): Johnson Ridge WWTP
Weather Conditions for Past 10 days: 0.40 cm	Permit Number(s): MO0132110
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): 0376939	Northing (UTM Y): 4353939	Horizontal Accuracy: (EPE / FOM / PDOP) 5 Meters
Site 11	Easting (UTM X): 0377191	Northing (UTM Y): 4353885	Horizontal Accuracy: (EPE / FOM / PDOP) 6 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
41	Downstream	42	Road on E. Bank	43	Road on W. bank
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
44	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.)				

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: pasture/hay ground
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:			

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

5% Cobble	5% Gravel	20% Sand	% Silt	% Mud/Clay	70% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Substrate is covered 60% with algae.

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 checked="" 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: Gilisa Gould and Bryan Deimeke

Surveyor's Signature: Gilisa Gould Date of Survey: 8-18-08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Brushy Cr.</u> Waterbody ID: <u>395</u> Site #: <u>3</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>0376939</u> UTM Y: <u>4353939</u> +/- <u>5</u> (meters) 11 UTM X: <u>0377191</u> UTM Y: <u>4353885</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 Bryan Deimeke</u>	Dissolved Oxygen Date: <u>8/18/2008</u> Time: <u>8:05</u> Dissolved Oxygen: <u>8.5</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>15.9</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	0.01	0.80	0.05	0.70	0.01	0.90	0.01	0.80	0.01	0.90	0.10	0.70	0.15	0.30	0.05	0.40	0.15	0.60	0.05	0.90	0.25
	2	1.60	0.05	1.60	0.15	1.40	0.10	1.80	0.05	1.60	0.10	1.80	0.10	1.40	0.30	0.60	0.05	0.80	0.35	1.20	0.25	1.80	0.55
	3	2.40	0.05	2.40	0.15	2.10	0.10	2.70	0.05	2.40	0.15	2.70	0.10	2.10	0.01	0.90	0.15	1.20	0.40	1.80	0.30	2.70	0.65
	4	3.20	0.01	3.20	0.15	2.80	0.10	3.60	0.05	3.20	0.15	3.60	0.10	2.80	0.15	1.20	0.20	1.60	0.40	2.40	0.35	3.60	0.75
	5	4.00	0.05	4.00	0.15	3.50	0.15	4.50	0.01	4.00	0.15	4.50	0.00	3.50	0.10	1.50	0.15	2.00	0.45	3.00	0.40	4.50	0.70
	6	4.80	0.05	4.80	0.10	4.20	0.10	5.40	0.01	4.80	0.10	5.40	0.35	4.20	0.10	1.80	0.05	2.40	0.35	3.60	0.35	5.40	0.60
	7	5.60	0.05	5.60	0.10	4.90	0.10	6.30	0.05	5.60	0.10	6.30	0.30	4.90	0.10	2.10	0.05	2.80	0.20	4.20	0.35	6.30	0.40
	8	6.40	0.05	6.40	0.05	5.60	0.15	7.20	0.10	6.40	0.05	7.20	0.25	5.60	0.10	2.40	0.10	3.20	0.10	4.80	0.35	7.20	0.30
	9	7.20	0.05	7.20	0.05	6.30	0.20	8.10	0.10	7.20	0.01	8.10	0.15	6.30	0.10	2.70	0.05	3.60	0.01	5.40	0.25	8.10	0.15
Right Bank		8.00	0.00	8.00	0.00	7.00	0.00	9.00	0.00	8.00	0.00	9.00	0.00	7.00	0.00	3.00	0.00	4.00	0.00	6.00	0.00	9.00	0.00
Feature Type <small>(riffle, run, or pool)</small>		riffle		run		run		riffle		run		run		riffle		run		pool		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: 9.02.08

