



Use Attainability Analysis

for

WBID 0831 Loose 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): Loose Creek
Missouri Water Body Identification (WBID) Number: 831
8-digit HUC: 10300102
County(ies), Listed Upstream to Downstream: Osage
Upstream Legal Description (from Table H): T44N R9W Sec. 16
Downstream Legal Description (from Table H): T43N R9W Sec. 10
Number of sites evaluated: 5
List all site numbers, <u>consecutively upstream to downstream</u> : 1, 2, 3, 4, 5
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): Herbert Backes Poultry C MO0090182
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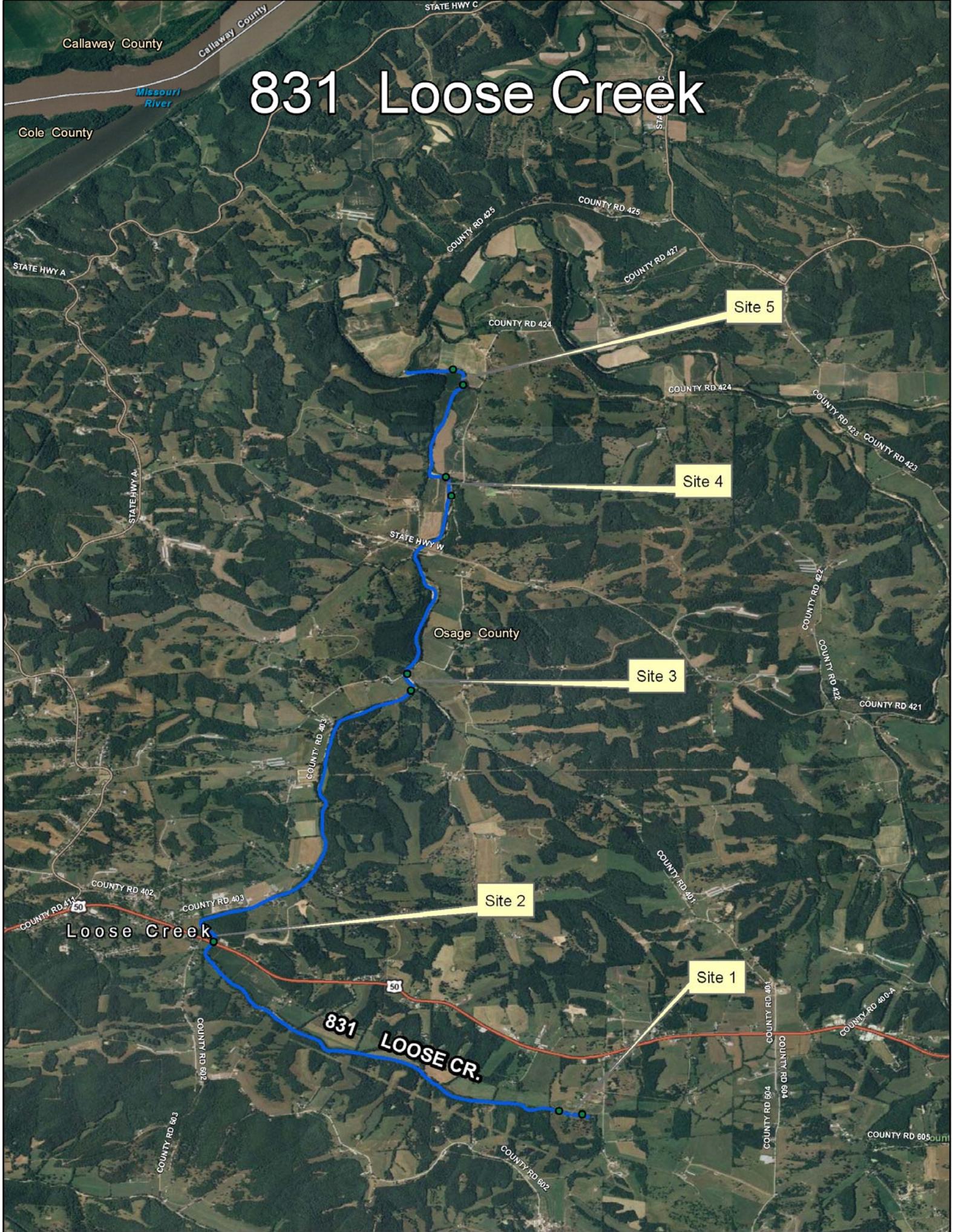
III. UAA Surveyor (please **PRINT** legibly)

Name of Surveyor: David Bender	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: David Bender **Date:** 10-02-08

831 Loose Creek



Callaway County

Missouri River

Cole County

STATE HWY C

STATE HWY A

STATE HWY A

COUNTY RD 425

COUNTY RD 425

COUNTY RD 427

COUNTY RD 424

COUNTY RD 424

COUNTY RD 423

COUNTY RD 423

Site 4

STATE HWY W

Osage County

Site 3

COUNTY RD 422

COUNTY RD 422

COUNTY RD 421

COUNTY RD 402

COUNTY RD 403

Site 2

COUNTY RD 401

Loose Creek

50

831

LOOSE CR.

Site 1

COUNTY RD 401

COUNTY RD 400A

COUNTY RD 502

COUNTY RD 503

COUNTY RD 502

COUNTY RD 504

COUNTY RD 505

COUNTY RD 505

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: 10/02/2008 9:00	Location Description (e.g., road crossing): State Hwy 50
Stream Name: Loose Cr.	
Current Weather Conditions: clear	Facility Name(s): Herbert Backes Poultry C
Weather Conditions for Past 10 days: 0.62 in.	Permit Number(s): MO 0090182
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): 0595635	Northing (UTM Y): 4260434	Horizontal Accuracy: (EPE / FOM / PDOP)	3 Meters
Site 11	Easting (UTM X): 0595422	Northing (UTM Y): 4260466	Horizontal Accuracy: (EPE / FOM / PDOP)	6 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
10	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
11	Cattle tracks				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
12	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 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 checked="" type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

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

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

Algae on 100% 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 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 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: David Bender, Chris Schuler

Surveyor's Signature: David Bender Date of Survey: 10/02/2008

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Loose Cr.</u> Waterbody ID: <u>831</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>0595635</u> UTM Y: <u>4260434</u> +/- <u>3</u> (meters) 11 UTM X: <u>0595422</u> UTM Y: <u>4260466</u> +/- <u>6</u> (meters) Average Stream Width: <u>3</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>David Bender, Chris Schuler</u>	Dissolved Oxygen Date: <u>10/2/2008</u> Time: <u>9:00</u> Dissolved Oxygen: <u>7.8</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>12.3</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station	Feature Type	Distance (m)	Depth (m)																				
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1		0.20	0.05	0.50	0.10	0.50	0.05	0.40	0.01	0.40	0.05	0.20	0.01	0.50	0.10	0.40	0.05	0.10	0.05	0.30	0.01	0.40	0.05
2		0.40	0.05	1.00	0.15	1.00	0.20	0.80	0.01	0.80	0.05	0.40	0.05	1.00	0.10	0.80	0.10	0.20	0.05	0.60	0.01	0.80	0.05
3		0.60	0.05	1.50	0.20	1.50	0.20	1.20	0.01	1.20	0.05	0.60	0.05	1.50	0.10	1.20	0.15	0.30	0.05	0.90	0.05	1.20	0.10
4		0.80	0.01	2.00	0.05	2.00	0.15	1.60	0.05	1.60	0.10	0.80	0.10	2.00	0.15	1.60	0.15	0.40	0.05	1.20	0.01	1.60	0.10
5		1.00	0.01	2.50	0.05	2.50	0.15	2.00	0.05	2.00	0.05	1.00	0.10	2.50	0.15	2.00	0.10	0.50	0.05	1.50	0.01	2.00	0.05
6		1.20	0.05	3.00	0.05	3.00	0.15	2.40	0.05	2.40	0.15	1.20	0.10	3.00	0.20	2.40	0.05	0.60	0.01	1.80	0.01	2.40	0.10
7		1.40	0.01	3.50	0.05	3.50	0.20	2.80	0.05	2.80	0.05	1.40	0.10	3.50	0.10	2.80	0.05	0.70	0.01	2.10	0.01	2.80	0.05
8		1.60	0.01	4.00	0.05	4.00	0.15	3.20	0.10	3.20	0.01	1.60	0.05	4.00	0.10	3.20	0.05	0.80	0.01	2.40	0.01	3.20	0.05
9		1.80	0.01	4.50	0.01	4.50	0.05	3.60	0.10	3.60	0.01	1.80	0.05	4.50	0.05	3.60	0.05	0.90	0.01	2.70	0.01	3.60	0.05
		2.00	0.00	5.00	0.00	5.00	0.00	4.00	0.00	4.00	0.00	2.00	0.00	5.00	0.00	4.00	0.00	1.00	0.00	3.00	0.00	4.00	0.00
		rifle		pool		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.

MAXIMUM 0.20

MEDIAN 0.05

Surveyor's Signature: David Bender Date: 10/2/2008

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: 10/02/2008 9:40	Location Description (e.g., road crossing): State Hwy 50
Stream Name: Loose Cr.	
Current Weather Conditions: clear	Facility Name(s): Herbert Backes Poultry C
Weather Conditions for Past 10 days: 0.62 in.	Permit Number(s): MO 0090182
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): 0592245	Northing (UTM Y): 4262403	Horizontal Accuracy: (EPE / FOM / PDOP)	5 Meters
Site 11	Easting (UTM X): 0592167	Northing (UTM Y): 4262561	Horizontal Accuracy: (EPE / FOM / PDOP)	7 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
13	downstream	16	Road		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
14	Electric fence	17	cattle		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
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 #: 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 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 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 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 checked="" type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

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

10% Cobble	70% Gravel	% Sand	% Silt	% Mud/Clay	20% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Algae on 100% 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 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 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.)

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

Printed Names of Personnel Collecting Data: David Bender, Chris Schuler

Surveyor’s Signature: David Bender Date of Survey: 10/02/2008

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Loose Cr.</u> Waterbody ID: <u>831</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>0592245</u> UTM Y: <u>4262403</u> +/- <u>5</u> (meters) 11 UTM X: <u>0592167</u> UTM Y: <u>4262561</u> +/- <u>7</u> (meters) Average Stream Width: <u>3</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>David Bender, Chris Schuler</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/2/2008</u> Time: <u>9:40</u> Dissolved Oxygen: <u>9.3</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>13</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	
	1	0.30	0.01	0.15	0.01	0.20	0.05	0.40	0.05	0.30	0.05	0.40	0.01	0.10	0.05	0.40	0.01	0.10	0.01	0.20	0.05	0.20	0.01
	2	0.60	0.01	0.30	0.01	0.40	0.05	0.80	0.10	0.60	0.10	0.80	0.05	0.20	0.05	0.80	0.05	0.20	0.01	0.40	0.05	0.40	0.05
	3	0.90	0.05	0.45	0.05	0.60	0.10	1.20	0.10	0.90	0.05	1.20	0.05	0.30	0.10	1.20	0.10	0.30	0.01	0.60	0.05	0.60	0.05
	4	1.20	0.05	0.60	0.05	0.80	0.15	1.60	0.10	1.20	0.05	1.60	0.01	0.40	0.15	1.60	0.15	0.40	0.05	0.80	0.05	0.80	0.05
	5	1.50	0.05	0.75	0.10	1.00	0.15	2.00	0.05	1.50	0.05	2.00	0.05	0.50	0.15	2.00	0.25	0.50	0.01	1.00	0.05	1.00	0.05
	6	1.80	0.10	0.90	0.05	1.20	0.15	2.40	0.10	1.80	0.05	2.40	0.10	0.60	0.15	2.40	0.30	0.60	0.01	1.20	0.05	1.20	0.05
	7	2.10	0.10	1.05	0.10	1.40	0.10	2.80	0.05	2.10	0.05	2.80	0.10	0.70	0.15	2.80	0.20	0.70	0.01	1.40	0.05	1.40	0.05
	8	2.40	0.05	1.20	0.10	1.60	0.05	3.20	0.05	2.40	0.05	3.20	0.15	0.80	0.15	3.20	0.20	0.80	0.01	1.60	0.05	1.60	0.05
	9	2.70	0.01	1.35	0.05	1.80	0.05	3.60	0.01	2.70	0.01	3.60	0.10	0.90	0.20	3.60	0.10	0.90	0.01	1.80	0.05	1.80	0.05
Right Bank		3.00	0.00	1.50	0.00	2.00	0.00	4.00	0.00	3.00	0.00	4.00	0.00	1.00	0.00	4.00	0.00	1.00	0.00	2.00	0.00	2.00	0.00
Feature Type <small>(riffle, run, or pool)</small>		pool		riffle		pool		riffle		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.

MAXIMUM 0.30

MEDIAN 0.05

Surveyor's Signature: David Bender Date: 10/2/2008

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: 10/02/2008 10:30	Location Description (e.g., road crossing): C.R. 403
Stream Name: Loose Cr.	
Current Weather Conditions: clear	Facility Name(s): Herbert Backes Poultry C
Weather Conditions for Past 10 days: 0.62 in.	Permit Number(s): MO 0090182
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): 0594011	Northing (UTM Y): 4265354	Horizontal Accuracy: (EPE / FOM / PDOP) 8 Meters
Site 11	Easting (UTM X): 0593975	Northing (UTM Y): 4265547	Horizontal Accuracy: (EPE / FOM / PDOP) 2 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
18	upstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
19	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 #: 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 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 checked="" 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 checked="" type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

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

% Cobble	90 % Gravel	% Sand	% Silt	% Mud/Clay	10% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Algae on 100% 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 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.)

Moved site downstream due to access.

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

Printed Names of Personnel Collecting Data: David Bender, Chris Schuler

Surveyor's Signature: David Bender Date of Survey: 10/02/2008

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Loose Cr.</u> Waterbody ID: <u>831</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>0594011</u> UTM Y: <u>4265354</u> +/- <u>8</u> (meters) 11 UTM X: <u>0593975</u> UTM Y: <u>4265547</u> +/- <u>2</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>David Bender, Chris Schuler</u>	Dissolved Oxygen Date: <u>10/2/2008</u> Time: <u>10:30</u> Dissolved Oxygen: <u>14.8</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>17.9</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		0.20	0.05	0.20	0.01	0.10	0.01	1.00	0.25	0.80	0.05	0.50	0.05	0.50	0.05	0.40	0.05	0.40	0.05	0.60	0.05	0.60	0.05
2		0.40	0.05	0.40	0.25	0.20	0.05	2.00	0.75	1.60	0.20	1.00	0.10	1.00	0.20	0.80	0.15	0.80	0.10	1.20	0.05	1.20	0.10
3		0.60	0.05	0.60	0.10	0.30	0.05	3.00	1.00	2.40	0.30	1.50	0.20	1.50	0.25	1.20	0.15	1.20	0.05	1.80	0.05	1.80	0.15
4		0.80	0.05	0.80	0.05	0.40	0.05	4.00	1.00	3.20	0.25	2.00	0.20	2.00	0.30	1.60	0.15	1.60	0.10	2.40	0.10	2.40	0.10
5		1.00	0.05	1.00	0.20	0.50	0.05	5.00	1.00	4.00	0.30	2.50	0.25	2.50	0.30	2.00	0.20	2.00	0.05	3.00	0.10	3.00	0.10
6		1.20	0.05	1.20	0.15	0.60	0.05	6.00	1.00	4.80	0.25	3.00	0.25	3.00	0.35	2.40	0.15	2.40	0.05	3.60	0.15	3.60	0.05
7		1.40	0.05	1.40	0.10	0.70	0.05	7.00	1.00	5.60	0.50	3.50	0.20	3.50	0.30	2.80	0.10	2.80	0.10	4.20	0.20	4.20	0.15
8		1.60	0.05	1.60	0.05	0.80	0.05	8.00	0.60	6.40	0.50	4.00	0.10	4.00	0.20	3.20	0.05	3.20	0.05	4.80	0.10	4.80	0.05
9		1.80	0.05	1.80	0.05	0.90	0.05	9.00	0.15	7.20	0.20	4.50	0.10	4.50	0.20	3.60	0.10	3.60	0.05	5.40	0.05	5.40	0.50
	Right Bank	2.00	0.00	2.00	0.00	1.00	0.00	10.00	0.00	8.00	0.00	5.00	0.00	5.00	0.00	4.00	0.00	4.00	0.00	6.00	0.00	6.00	0.00
	Feature Type <small>(riffle, run, or pool)</small>	riffle		run		riffle		pool		run		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.

MAXIMUM 1.00

MEDIAN 0.10

Surveyor's Signature: David Bender Date: 10/2/2008

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: 10/02/2008 11:15	Location Description (e.g., road crossing): C.R. 424
Stream Name: Loose Cr.	
Current Weather Conditions: clear	Facility Name(s): Herbert Backes Poultry C
Weather Conditions for Past 10 days: 0.62 in.	Permit Number(s): MO 0090182
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): 0594352	Northing (UTM Y): 4267626	Horizontal Accuracy: (EPE / FOM / PDOP) 5 Meters
Site 11	Easting (UTM X): 0594302	Northing (UTM Y): 4267848	Horizontal Accuracy: (EPE / FOM / PDOP) 4 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
20	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
21	upstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
22	road				

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 #: 4

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 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%.)

% Cobble	100 % Gravel	% 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 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 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 #: 4

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: David Bender, Chris Schuler

Surveyor's Signature: David Bender Date of Survey: 10/02/2008

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Loose Cr.</u> Waterbody ID: <u>831</u> Site #: <u>4</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>0594352</u> UTM Y: <u>4267626</u> +/- <u>5</u> (meters) 11 UTM X: <u>0594302</u> UTM Y: <u>4267848</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>David Bender, Chris Schuler</u>	Dissolved Oxygen Date: <u>10/2/2008</u> Time: <u>11:15</u> Dissolved Oxygen: <u>7.6</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>15.0</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	0.05	0.60	0.05	0.60	0.05	0.80	0.10	0.10	0.05	0.30	0.05	0.50	0.05	1.00	0.05	1.00	0.01	0.80	0.01	0.80	0.05
2	1.00	0.10	1.20	0.20	1.20	0.10	1.60	0.40	0.20	0.05	0.60	0.05	1.00	0.10	2.00	0.25	2.00	0.15	1.60	0.25	1.60	0.25
3	1.50	0.15	1.80	0.25	1.80	0.05	2.40	0.40	0.30	0.05	0.90	0.10	1.50	0.05	3.00	0.35	3.00	0.25	2.40	0.60	2.40	0.45
4	2.00	0.15	2.40	0.25	2.40	0.20	3.20	0.35	0.40	0.05	1.20	0.10	2.00	0.05	4.00	0.35	4.00	0.30	3.20	0.95	3.20	0.80
5	2.50	0.20	3.00	0.30	3.00	0.30	4.00	0.35	0.50	0.05	1.50	0.10	2.50	0.01	5.00	0.30	5.00	0.40	4.00	1.00	4.00	1.00
6	3.00	0.35	3.60	0.25	3.60	0.25	4.80	0.45	0.60	0.05	1.80	0.10	3.00	0.00	6.00	0.40	6.00	0.55	4.80	1.00	4.80	1.00
7	3.50	0.45	4.20	0.20	4.20	0.25	5.60	0.40	0.70	0.05	2.10	0.05	3.50	0.05	7.00	0.40	7.00	0.65	5.60	0.75	5.60	0.95
8	4.00	0.45	4.80	0.15	4.80	0.20	6.40	0.25	0.80	0.05	2.40	0.05	4.00	0.01	8.00	0.55	8.00	0.70	6.40	0.40	6.40	0.75
9	4.50	0.45	5.40	0.15	5.40	0.05	7.20	0.05	0.90	0.05	2.70	0.05	4.50	0.01	9.00	0.35	9.00	0.50	7.20	0.10	7.20	0.40
Right Bank	5.00	0.00	6.00	0.00	6.00	0.00	8.00	0.00	1.00	0.00	3.00	0.00	5.00	0.00	10.00	0.00	10.00	0.00	8.00	0.00	8.00	0.00
Feature Type <small>(riffle, run, or pool)</small>	pool		pool		pool		pool		riffle		run		riffle		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.

MAXIMUM 1.00

MEDIAN 0.20

Surveyor's Signature: David Bender Date: 10/2/2008

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: 10/02/2008 11:45	Location Description (e.g., road crossing): C.R. 424
Stream Name: Loose Cr.	
Current Weather Conditions: clear	Facility Name(s): Herbert Backes Poultry C
Weather Conditions for Past 10 days: 0.62 in.	Permit Number(s): MO 0090182
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): 0594444	Northing (UTM Y): 4268922	Horizontal Accuracy: (EPE / FOM / PDOP)	5 Meters	
Site 11	Easting (UTM X): 0594345	Northing (UTM Y): 4269092	Horizontal Accuracy: (EPE / FOM / PDOP)	5 Meters	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
23	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
24	ATV tracks				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
25	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 #: 5

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 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%.)

0 % Cobble	75% Gravel	20 % Sand	0 % Silt	5 % Mud/Clay	0 % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Algae on 80% 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 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.

Site #: 5

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: David Bender, Chris Schuler

Surveyor's Signature: David Bender Date of Survey: 10/02/2008

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Loose Cr.</u> Waterbody ID: <u>831</u> Site #: <u>5</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>0594444</u> UTM Y: <u>4268922</u> +/- <u>5</u> (meters) 11 UTM X: <u>0594345</u> UTM Y: <u>4269096</u> +/- <u>5</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>David Bender, Chris Schuler</u>	Dissolved Oxygen Date: <u>10/2/2008</u> Time: <u>11:45</u> Dissolved Oxygen: <u>10.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>18.1</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	0.20	0.01	0.50	0.05	0.70	0.05	1.00	0.05	0.70	0.05	0.20	0.05	0.20	0.01	0.20	0.01	1.00	0.01	0.60	0.10	0.60	0.05
2	0.40	0.05	1.00	0.15	1.40	0.20	2.00	0.15	1.40	0.20	0.40	0.10	0.40	0.01	0.40	0.01	2.00	0.10	1.20	0.35	1.20	0.25
3	0.60	0.10	1.50	0.20	2.10	0.35	3.00	0.40	2.10	0.60	0.60	0.15	0.60	0.10	0.60	0.05	3.00	0.25	1.80	0.75	1.80	0.30
4	0.80	0.10	2.00	0.25	2.80	0.55	4.00	1.00	2.80	0.90	0.80	0.15	0.80	0.10	0.80	0.05	4.00	0.50	2.40	0.90	2.40	0.40
5	1.00	0.15	2.50	0.30	3.50	1.00	5.00	1.00	3.50	0.90	1.00	0.10	1.00	0.10	1.00	0.05	5.00	0.50	3.00	0.70	3.00	0.70
6	1.20	0.10	3.00	0.25	4.20	1.00	6.00	1.00	4.20	0.70	1.20	0.05	1.20	0.05	1.20	0.05	6.00	0.55	3.60	0.40	3.60	0.90
7	1.40	0.15	3.50	0.25	4.90	1.00	7.00	0.85	4.90	0.50	1.40	0.05	1.40	0.05	1.40	0.05	7.00	0.50	4.20	0.40	4.20	1.00
8	1.60	0.10	4.00	0.20	5.60	1.00	8.00	0.60	5.60	0.35	1.60	0.05	1.60	0.05	1.60	0.05	8.00	0.55	4.80	0.25	4.80	0.70
9	1.80	0.05	4.50	0.10	6.30	0.20	9.00	0.15	6.30	0.25	1.80	0.01	1.80	0.01	1.80	0.05	9.00	0.25	5.40	0.10	5.40	0.40
Right Bank	2.00	0.00	5.00	0.00	7.00	0.00	10.00	0.00	7.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	10.00	0.00	6.00	0.00	6.00	0.00
Feature Type <small>(riffle, run, or pool)</small>	run	run	run	run	pool	pool	pool	pool	pool	pool	riffle	riffle	riffle	riffle	riffle	riffle	pool	pool	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.

MAXIMUM 1.00

MEDIAN 0.20

Surveyor's Signature: David Bender Date: 10/2/2008

WBID# 0831 Loose Creek



Site# 1 Photo ID# 10, Downstream



Site# 1 Photo ID# 11, “Cattle Tracks”



Site# 1 Photo ID# 12, Upstream



Site# 2 Photo ID# 13, Downstream

WBID# 0831 Loose Creek



Site# 2 Photo ID# 14 “Electric Fence”



Site# 2 Photo ID# 15, Upstream



Site# 2 Photo ID# 16 “Road ”



Site# 2 Photo ID# 17, Cattle Tracks”

WBID# 0831 Loose Creek



Site# 3 Photo ID# 18, Upstream



Site# 3 Photo ID# 19, Downstream



Site# 4 Photo ID# 20, Downstream



Site# 4 Photo ID# 21, Upstream

WBID# 0831 Loose Creek



Site# 4 Photo ID# 22, "Road"



Site# 5 Photo ID# 23, Downstream



Site# 5 Photo ID# 24, "ATV Tracks"



Site# 5 Photo ID# 25, Upstream