



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 1632 Little Loutre 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): Little Loutre Creek
Missouri Water Body Identification (WBID) Number: 1632
8-digit HUC: 10300200
County(ies), Listed Upstream to Downstream: Montgomery
Upstream Legal Description (from Table H): T49N, R6W, Sec. 5
Downstream Legal Description (from Table H): T48N, R6W, Sec. 6
Number of sites evaluated: 6
List all site numbers, <u>consecutively upstream to downstream</u> : 1, 2, 3, 4, 5, 6
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): Wellsville SW Lagoon MO0041050
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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:** 9-20-08

WBID # 1632

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 9/20/2008 9:00	Location Description (e.g., road crossing):
Stream Name: L. Loutre Cr.	Hwy 22
Current Weather Conditions: clear	Facility Name(s): Wellsville SW Lagoon
Weather Conditions for Past 10 days: 5 in	Permit Number(s): MO0041050
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): 0620362	Northing (UTM Y): 4323544	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters
Site 11	Easting (UTM X): 0620539	Northing (UTM Y): 4323427	Horizontal Accuracy: (EPE / FOM / PDOP) 2 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
50	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
51	upstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
52	Cattle trail				

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 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%.)

5% Cobble	20% Gravel	75% 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 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 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 # 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: 9/20/2008

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>L.Loutre Cr</u> Waterbody ID: <u>1632</u> Site #: <u>1</u> Estimated Channel Incision: <u>2.5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0620362</u> UTM Y: <u>4323544</u> +/- <u>7</u> (meters) 11 UTM X: <u>0620539</u> UTM Y: <u>4323427</u> +/- <u>2</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>David Bender, Chris Schueler</u>	Dissolved Oxygen
	Date: <u>9/20/2008</u> Time: <u>9:00</u>
	Dissolved Oxygen: <u>7.3</u> (mg/L)
	Dissolved Oxygen: _____ (% sat)
	Specific Cond: _____ (µS/cm)
	Water Temperature: <u>18.5</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	0.70	0.75	0.70	0.50	0.70	0.65	0.70	0.45	0.70	0.55	0.70	0.35	0.60	0.40	0.70	0.50	0.30	0.10	0.40	0.01	0.20	0.35
2	1.40	0.80	1.40	0.65	1.40	1.00	1.40	0.65	1.40	0.60	1.40	0.40	1.20	0.35	1.40	0.50	0.60	0.10	0.80	0.05	0.40	0.70
3	2.10	0.80	2.10	1.00	2.10	1.00	2.10	0.85	2.10	0.50	2.10	0.40	1.80	0.40	2.10	0.50	0.90	0.10	1.20	0.10	0.60	0.60
4	2.80	0.70	2.80	1.00	2.80	1.00	2.80	0.90	2.80	0.50	2.80	0.40	2.40	0.40	2.80	0.45	1.20	0.05	1.60	0.15	0.80	0.40
5	3.50	0.70	3.50	1.00	3.50	0.95	3.50	0.85	3.50	0.45	3.50	0.40	3.00	0.45	3.50	0.40	1.50	0.05	2.00	0.15	1.00	0.30
6	4.20	0.70	4.20	1.00	4.20	1.00	4.20	0.85	4.20	0.45	4.20	0.40	3.60	0.55	4.20	0.25	1.80	0.10	2.40	0.20	1.20	0.20
7	4.90	0.75	4.90	1.00	4.90	1.00	4.90	0.80	4.90	0.55	4.90	0.30	4.20	0.60	4.90	0.15	2.10	0.05	2.80	0.25	1.40	0.15
8	5.60	0.75	5.60	0.80	5.60	0.90	5.60	0.75	5.60	0.70	5.60	0.35	4.80	0.60	5.60	0.15	2.40	0.05	3.20	0.35	1.60	0.10
9	6.30	0.55	6.30	0.50	6.30	0.45	6.30	0.65	6.30	0.55	6.30	0.30	5.40	0.35	6.30	0.20	2.70	0.01	3.60	0.40	1.80	0.05
Right Bank	7.00	0.00	7.00	0.00	7.00	0.00	7.00	0.00	7.00	0.00	7.00	0.00	6.00	0.00	7.00	0.00	3.00	0.00	4.00	0.00	2.00	0.00
Feature Type <small>(riffle, run, or pool)</small>	Pool		Riffle		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: David Bender Date: 9/20/2008



WBID # 1632

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 9/20/2008 9:45	Location Description (e.g., road crossing):
Stream Name: L. Loutre Cr.	County Road 191
Current Weather Conditions: clear	Facility Name(s): Wellsville SW Lagoon
Weather Conditions for Past 10 days: 5 in	Permit Number(s): MO0041050
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): 0621610	Northing (UTM Y): 4322331	Horizontal Accuracy: (EPE / FOM / PDOP)	3 Meters
Site 11	Easting (UTM X): 0621662	Northing (UTM Y): 4322123	Horizontal Accuracy: (EPE / FOM / PDOP)	6 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
53	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
54	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 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%.)

90% Cobble	10% Gravel	% 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 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 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.

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 and Chris Schuler

Surveyor's Signature: David Bender Date of Survey: 9/20/2008

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>L. Loutre Cr</u> Waterbody ID: <u>1632</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>0621610</u> UTM Y: <u>4322331</u> +/- <u>3</u> (meters) 11 UTM X: <u>0621662</u> UTM Y: <u>4322123</u> +/- <u>6</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>David Bender and Chris Schueler</u>	Dissolved Oxygen
	Date: <u>9/20/2008</u> Time: <u>9:45</u> Dissolved Oxygen: <u>7.3</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>19.2</u> (°C)

Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.40	0.15	0.40	0.25	0.40	0.15	0.50	0.15	0.60	0.20	0.90	0.20	0.90	0.35	0.60	0.30	0.80	0.35	0.70	0.50	0.70	0.35
	2	0.80	0.40	0.80	0.30	0.80	0.25	1.00	0.30	1.20	0.25	1.80	0.70	1.80	0.35	1.20	0.65	1.60	0.65	1.40	0.60	1.40	0.40
	3	1.20	0.50	1.20	0.25	1.20	0.30	1.50	0.40	1.80	0.35	2.70	0.70	2.70	1.00	1.80	0.70	2.40	0.65	2.10	0.65	2.10	0.40
	4	1.60	0.50	1.60	0.40	1.60	0.20	2.00	0.40	2.40	0.35	3.60	0.85	3.60	1.00	2.40	0.75	3.20	0.70	2.80	0.65	2.80	0.55
	5	2.00	0.50	2.00	0.40	2.00	0.15	2.50	0.40	3.00	0.55	4.50	0.90	4.50	1.00	3.00	0.70	4.00	0.65	3.50	0.70	3.50	0.70
	6	2.40	0.55	2.40	0.40	2.40	0.15	3.00	0.45	3.60	0.60	5.40	0.95	5.40	1.00	3.60	0.75	4.80	0.65	4.20	0.70	4.20	0.80
	7	2.80	0.45	2.80	0.35	2.80	0.15	3.50	0.45	4.20	0.60	6.30	0.95	6.30	1.00	4.20	0.75	5.60	0.75	4.90	0.75	4.90	1.00
	8	3.20	0.40	3.20	0.25	3.20	0.15	4.00	0.40	4.80	0.55	7.20	0.95	7.20	0.80	4.80	0.75	6.40	0.90	5.60	0.80	5.60	1.00
	9	3.60	0.30	3.60	0.20	3.60	0.05	4.50	0.35	5.40	0.25	8.10	0.50	8.10	0.65	5.40	0.35	7.20	0.65	6.30	0.70	6.30	1.00
Right Bank		4.00	0.00	4.00	0.00	4.00	0.00	5.00	0.00	6.00	0.00	9.00	0.00	9.00	0.00	6.00	0.00	8.00	0.00	7.00	0.00	7.00	0.00
Feature Type		pool		run		riffle		run		run		pool											

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

Surveyor's Signature: David Bender Date: 9/20/2008



WBID # 1632

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 9/20/2008 10:30	Location Description (e.g., road crossing):
Stream Name: L. Loutre Cr.	C.R. 182
Current Weather Conditions: clear	Facility Name(s): Wellsville SW Lagoon
Weather Conditions for Past 10 days: 5 in	Permit Number(s): MO0041050
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): 0622714	Northing (UTM Y): 4319932	Horizontal Accuracy: (EPE / FOM / PDOP) 5 Meters
Site 11	Easting (UTM X): 0622539	Northing (UTM Y): 4319781	Horizontal Accuracy: (EPE / FOM / PDOP) 6 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
55	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
56	foot print				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
57	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 type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: None				

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

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

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

20% Cobble	30% Gravel	40% Sand	% Silt	% Mud/Clay	10% 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 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 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.

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.)

Foot prints on sand bar

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: 9/20/2008

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>L.Loutre Cr</u> Waterbody ID: <u>1632</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>0622714</u> UTM Y: <u>4319932</u> +/- <u>5</u> (meters) 11 UTM X: <u>0622539</u> UTM Y: <u>4319781</u> +/- <u>6</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>David Bender, Chris Schuler</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/20/2008</u> Time: <u>10:30</u> Dissolved Oxygen: <u>7.5</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>19.2</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	0.40	0.05	0.20	0.10	0.70	0.10	0.30	0.05	0.50	0.15	0.50	0.05	0.60	0.15	0.60	0.20	0.60	0.30	0.30	0.15	0.60	0.01
2	0.80	0.20	0.40	0.10	1.40	0.05	0.60	0.20	1.00	0.15	1.00	0.30	1.20	0.25	1.20	0.35	1.20	0.35	0.60	0.15	1.20	0.15
3	1.20	0.05	0.60	0.15	2.10	0.05	0.90	0.30	1.50	0.15	1.50	0.35	1.80	0.30	1.80	0.60	1.80	0.60	0.90	0.40	1.80	0.10
4	1.60	0.10	0.80	0.20	2.80	0.10	1.20	0.35	2.00	0.15	2.00	0.35	2.40	0.30	2.40	0.50	2.40	0.50	1.20	0.50	2.40	0.25
5	2.00	0.10	1.00	0.30	3.50	0.05	1.50	0.40	2.50	0.15	2.50	0.30	3.00	0.35	3.00	0.45	3.00	0.45	1.50	0.40	3.00	0.15
6	2.40	0.10	1.20	0.30	4.20	0.05	1.80	0.40	3.00	0.15	3.00	0.25	3.60	0.20	3.60	0.45	3.60	0.45	1.80	0.25	3.60	0.15
7	2.80	0.10	1.40	0.30	4.90	0.05	2.10	0.20	3.50	0.20	3.50	0.20	4.20	0.15	4.20	0.50	4.20	0.50	2.10	0.25	4.20	0.15
8	3.20	0.15	1.60	0.25	5.60	0.10	2.40	0.20	4.00	0.15	4.00	0.10	4.80	0.15	4.80	0.40	4.80	0.40	2.40	0.15	4.80	0.20
9	3.60	0.10	1.80	0.25	6.30	0.01	2.70	0.10	4.50	0.05	4.50	0.01	5.40	0.10	5.40	0.30	5.40	0.30	2.70	0.05	5.40	0.15
Right Bank	4.00	0.00	2.00	0.00	7.00	0.00	3.00	0.00	5.00	0.00	5.00	0.00	6.00	0.00	6.00	0.00	6.00	0.00	3.00	0.00	6.00	0.00
Feature Type <small>(riffle, run, or pool)</small>	riffle		riffle		riffle		run		riffle		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: David Bender Date: 9/20/2008



WBID # 1632

Site # 4

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 9/20/2008	11:10	Location Description (e.g., road crossing):
Stream Name: L. Loutre Cr		C.R. 188
Current Weather Conditions: clear		Facility Name(s): Wellsville SW Lagoon
Weather Conditions for Past 10 days: 5 in		Permit Number(s): MO0041050
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): 0620391	Northing (UTM Y): 4317722	Horizontal Accuracy: (EPE / FOM / PDOP) 4 Meters
Site 11	Easting (UTM X): 0620354	Northing (UTM Y): 4317426	Horizontal Accuracy: (EPE / FOM / PDOP) 2 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
58	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
59	Upstream/tree				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
60	Upstream before tree				

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 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: None				

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	60% Gravel	% 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 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 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.)

At transect, large tree split the stream, creating an island immediately downstream.

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: 9/20/2008

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>L. Loutre Creek</u> Waterbody ID: <u>1632</u> Site #: <u>4</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>0620391</u> UTM Y: <u>4317722</u> +/- <u>4</u> (meters) 11 UTM X: <u>0620354</u> UTM Y: <u>4317426</u> +/- <u>2</u> (meters) Average Stream Width: <u>10</u> (meters) Length of Survey Segment: <u>200</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>David Bender, Chris Schuler</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/20/2008</u> Time: <u>11:10</u> Dissolved Oxygen: <u>7.4</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>19.4</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1.00	0.05	0.80	0.01	0.90	0.20	0.60	0.05	0.50	0.40	0.90	0.20	0.70	0.10	0.20	0.10	0.30	0.20	0.50	0.10	1.00	0.20
2	2.00	0.20	1.60	0.10	1.80	0.25	1.20	0.10	1.00	0.95	1.80	0.70	1.40	0.20	0.40	0.25	0.60	0.30	1.00	0.20	2.00	0.45
3	3.00	0.40	2.40	0.10	2.70	0.25	1.80	0.20	1.50	1.00	2.70	0.55	2.10	0.25	0.60	0.25	0.90	0.30	1.50	0.20	3.00	0.50
4	4.00	0.50	3.20	0.10	3.60	0.35	2.40	0.25	2.00	1.00	3.60	0.20	2.80	0.30	0.80	0.15	1.20	0.35	2.00	0.10	4.00	0.10
5	5.00	0.55	4.00	0.10	4.50	0.45	3.00	0.25	2.50	1.00	4.50	0.25	3.50	0.30	1.00	0.20	1.50	0.35	2.50	0.15	5.00	0.00
6	6.00	0.50	4.80	0.05	5.40	0.55	3.60	0.20	3.00	1.00	5.40	0.60	4.20	0.30	1.20	0.20	1.80	0.30	3.00	0.15	6.00	0.20
7	7.00	0.55	5.60	0.05	6.30	0.65	4.20	0.25	3.50	1.00	6.30	0.70	4.90	0.55	1.40	0.10	2.10	0.35	3.50	0.15	7.00	0.35
8	8.00	0.65	6.40	0.05	7.20	0.45	4.80	0.30	4.00	1.00	7.20	1.00	5.60	0.45	1.60	0.05	2.40	0.55	4.00	0.10	8.00	0.35
9	9.00	0.75	7.20	0.10	8.10	0.30	5.40	0.35	4.50	0.95	8.10	1.00	6.30	0.30	1.80	0.05	2.70	0.70	4.50	0.10	9.00	0.25
Right Bank	10.00	0.00	8.00	0.00	9.00	0.00	6.00	0.00	5.00	0.00	9.00	0.00	7.00	0.00	2.00	0.00	3.00	0.00	5.00	0.00	10.00	0.00
Feature Type <small>(riffle, run, or pool)</small>	pool		riffle		pool		run		pool		pool		run		riffle		run		run		run	

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

Surveyor's Signature: David Bender Date: 9/20/2008



WBID # 1632

Site # 5

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 9/20/2008	Location Description (e.g., road crossing): CR 191
Stream Name: L. Loutre Cr.	
Current Weather Conditions: clear	Facility Name(s): Wellsville SW Lagoon
Weather Conditions for Past 10 days: 5 in	Permit Number(s): MO 0041050
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): 0619762	Northing (UTM Y): 4315929	Horizontal Accuracy: (EPE / FOM / PDOP) 4 Meters
Site 11	Easting (UTM X): 0619380	Northing (UTM Y): 4315729	Horizontal Accuracy: (EPE / FOM / PDOP) 4 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
61	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
62	upstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

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

Site # 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 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:
Comments: Construction at the bridge				

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

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

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

10% Cobble	40% Gravel	50% Sand	% Silt	% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Algae on 3% 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 checked="" 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: 9/20/2008

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>L. Loutre Cr</u> Waterbody ID: <u>1632</u> Site #: <u>5</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>06919762</u> UTM Y: <u>4315929</u> +/- <u>4</u> (meters) 11 UTM X: <u>06919580</u> UTM Y: <u>4315729</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>David Bender, Chris Schueler</u>	Dissolved Oxygen Date: <u>9/20/2008</u> Time: <u>12:00</u> Dissolved Oxygen: <u>8.0</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>19.9</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	0.30	0.20	0.80	0.01	0.60	0.05	1.00	0.50	0.90	0.15	0.90	0.15	1.00	0.30	1.00	0.30	1.00	0.30	0.60	0.15	0.70	0.20
2	0.60	0.20	1.60	0.05	1.20	0.10	2.00	0.50	1.80	0.35	1.80	0.20	2.00	0.30	2.00	0.40	2.00	0.15	1.20	0.35	1.40	0.30
3	0.90	0.20	2.40	0.10	1.80	0.15	3.00	0.40	2.70	0.40	2.70	0.30	3.00	0.45	3.00	0.45	3.00	0.30	1.80	0.30	2.10	0.45
4	1.20	0.20	3.20	0.10	2.40	0.20	4.00	0.45	3.60	0.40	3.60	0.40	4.00	0.45	4.00	0.45	4.00	0.40	2.40	0.30	2.80	0.40
5	1.50	0.20	4.00	0.15	3.00	0.40	5.00	0.55	4.50	0.45	4.50	0.50	5.00	0.50	5.00	0.55	5.00	0.50	3.00	0.30	3.50	0.35
6	1.80	0.25	4.80	0.25	3.60	0.30	6.00	0.50	5.40	0.50	5.40	0.50	6.00	0.60	6.00	0.65	6.00	0.45	3.60	0.15	4.20	0.15
7	2.10	0.15	5.60	0.10	4.20	0.35	7.00	0.40	6.30	0.60	6.30	0.45	7.00	0.75	7.00	0.60	7.00	0.40	4.20	0.10	4.90	0.10
8	2.40	0.20	6.40	0.25	4.80	0.40	8.00	0.45	7.20	0.50	7.20	0.60	8.00	1.00	8.00	0.35	8.00	0.25	4.80	0.20	5.60	0.55
9	2.70	0.05	7.20	0.25	5.40	0.20	9.00	0.25	8.10	0.40	8.10	0.25	9.00	0.55	9.00	0.20	9.00	0.20	5.40	0.10	6.30	0.35
Right Bank	3.00	0.00	8.00	0.00	6.00	0.00	10.00	0.00	9.00	0.00	9.00	0.00	10.00	0.00	10.00	0.00	10.00	0.00	6.00	0.00	7.00	0.00
Feature Type <small>(riffle, run, or pool)</small>	run		pool		run		run		run		run											

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

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

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

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

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: David Bender Date: 9/20/2008



WBID # 1632

Site # 6

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 9/20/2008	12:40	Location Description (e.g., road crossing):
Stream Name: L. Loutre Cr.		C.R. 190
Current Weather Conditions: clear		Facility Name(s): Wellsville SW Lagoon
Weather Conditions for Past 10 days: 5 in		Permit Number(s): MO0041050
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): 0618950	Northing (UTM Y): 4314575	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters
Site 11	Easting (UTM X): 0618972	Northing (UTM Y): 4314339	Horizontal Accuracy: (EPE / FOM / PDOP) 2 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
63	upstream				
64	Log jam				
65	downstream				

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 checked="" 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%.)

% Cobble	80% Gravel	20% 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 checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input 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 # 6

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.)

Log jam downstream of Transect 11.

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: 9/20/2008

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>L. Loutre</u> Waterbody ID: <u>1632</u> Site #: <u>6</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>0618950</u> UTM Y: <u>4314575</u> +/- <u>7</u> (meters) 11 UTM X: <u>0618972</u> UTM Y: <u>4314339</u> +/- <u>2</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>9/20/2008</u> Time: <u>12:40</u> Dissolved Oxygen: <u>7.5</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>20.8</u> (°C)
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Transect Cross-Section

	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left Bank																						
1	0.60	0.15	0.70	0.15	0.60	0.10	0.60	0.05	0.30	0.05	0.50	0.15	0.50	0.05	0.30	0.10	0.15	0.01	0.50	0.30	0.60	0.30
2	1.20	0.30	1.40	0.40	1.20	0.30	1.20	0.25	0.60	0.20	1.00	0.20	1.00	0.10	0.60	0.15	0.30	0.05	1.00	0.35	1.20	0.60
3	1.80	0.25	2.10	0.55	1.80	0.50	1.80	0.35	0.90	0.45	1.50	0.30	1.50	0.20	0.90	0.20	0.45	0.10	1.50	0.30	1.80	1.00
4	2.40	0.30	2.80	0.70	2.40	0.75	2.40	0.45	1.20	0.55	2.00	0.45	2.00	0.35	1.20	0.25	0.60	0.15	2.00	0.25	2.40	1.00
5	3.00	0.55	3.50	0.75	3.00	0.90	3.00	0.50	1.50	0.55	2.50	0.40	2.50	0.25	1.50	0.25	0.75	0.20	2.50	0.25	3.00	1.00
6	3.60	0.65	4.20	0.80	3.60	0.80	3.60	0.65	1.80	0.60	3.00	0.30	3.00	0.25	1.80	0.20	0.90	0.25	3.00	0.25	3.60	0.95
7	4.20	0.85	4.90	0.70	4.20	0.80	4.20	0.65	2.10	0.60	3.50	0.20	3.50	0.40	2.10	0.25	1.05	0.25	3.50	0.20	4.20	0.60
8	4.80	0.70	5.60	0.55	4.80	0.65	4.80	0.60	2.40	0.50	4.00	0.55	4.00	0.35	2.40	0.30	1.20	0.25	4.00	0.15	4.80	0.40
9	5.40	0.40	6.30	0.25	5.40	0.25	5.40	0.35	2.70	0.40	4.50	0.20	4.50	0.25	2.70	0.30	1.35	0.05	4.50	0.05	5.40	0.15
Right Bank	6.00	0.00	7.00	0.00	6.00	0.00	6.00	0.00	3.00	0.00	5.00	0.00	5.00	0.00	3.00	0.00	1.50	0.00	5.00	0.00	6.00	0.00
Feature Type	run		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: David Bender Date: 9/20/2008

