



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 1277 Little Deer Creek

Submitted by
SES, Inc.

To
Missouri Department of Natural Resources
Water Protection Program

On
May 28, 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 Deer Creek
Missouri Water Body Identification (WBID) Number: 1277
8-digit HUC: 10290108
County(ies), Listed Upstream to Downstream: Bates
Upstream Legal Description (from Table H): 42N 30W section31
Downstream Legal Description (from Table H): 42N 31W section24
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : 1, 2, 3
Include a Site Location Map(s). The map must include all requirements detailed in the <i>Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol</i> (Section IV.D.8.a).

II. Facility Information (list all permitted discharges to this water body segment)

Facility Name(s) and Permit Number(s): West Central Agriservices MOR240133

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

Name of Surveyor: Aaron Ball	Telephone Number: 913.307.0046 Ext.14
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: Aaron Ball **Date:** 5.23.08

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 5.12.08 9:00	Location Description (e.g., road crossing): 13004 Road
Stream Name: L. Deer Cr.	
Current Weather Conditions: clear	Facility Name(s): West Central Agriservices
Weather Conditions for Past 10 days: 2.69 inches	Permit Number(s): MOR240133
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): 0388380	Northing (UTM Y): 4251829	Horizontal Accuracy: (EPE / FOM / PDOP) 4 Meters
Site 11	Easting (UTM X): 0388485	Northing (UTM Y): 4251951	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1	downstream, T1	2	upstream, T11		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

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

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input 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%.)

% Cobble	30% Gravel	60% Sand	% Silt	10% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

none in water; banks are vegetated

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" 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 checked="" type="checkbox"/> Scum	<input checked="" type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Site # 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.)

Log jam between T8 and T9 causing deeper measurements nearby.

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

Printed Names of Personnel Collecting Data: Gilisa Gould and Aaron Ball

Surveyor’s Signature: Aaron Ball Date of Survey: 5.12.08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>L. Deer Cr.</u> Waterbody ID: <u>1277</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>0388380</u> UTM Y: <u>4251829</u> +/- <u>4</u> (meters) 11 UTM X: <u>0388485</u> UTM Y: <u>4251951</u> +/- <u>7</u> (meters) Average Stream Width: <u>4</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Aaron Ball</u>	Dissolved Oxygen Date: <u>5.12.08</u> Time: <u>9:00</u> Dissolved Oxygen: <u>9.6</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>11.4</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	0.20	0.30	0.35	0.20	0.10	0.40	0.25	0.30	0.10	0.40	0.10	0.40	0.60	0.50	0.30	0.50	0.35	0.30	0.10	0.40	0.15
	2	0.40	0.20	0.60	0.40	0.40	0.20	0.80	0.25	0.60	0.20	0.80	0.10	0.80	0.80	1.00	0.40	1.00	0.70	0.60	0.10	0.80	0.30
	3	0.60	0.20	0.90	0.50	0.60	0.20	1.20	0.20	0.90	0.20	1.20	0.10	1.20	1.00	1.50	0.40	1.50	0.70	0.90	0.15	1.20	0.30
	4	0.80	0.15	1.20	0.50	0.80	0.30	1.60	0.25	1.20	0.20	1.60	0.05	1.60	1.00	2.00	0.50	2.00	0.75	1.20	0.20	1.60	0.30
	5	1.00	0.15	1.50	0.60	1.00	0.25	2.00	0.25	1.50	0.25	2.00	0.05	2.00	1.00	2.50	0.40	2.50	0.65	1.50	0.25	2.00	0.30
	6	1.20	0.15	1.80	0.55	1.20	0.30	2.40	0.20	1.80	0.20	2.40	0.05	2.40	0.85	3.00	0.40	3.00	0.50	1.80	0.20	2.40	0.30
	7	1.40	0.15	2.10	0.45	1.40	0.20	2.80	0.20	2.10	0.10	2.80	0.10	2.80	0.70	3.50	0.25	3.50	0.45	2.10	0.20	2.80	0.25
	8	1.60	0.15	2.40	0.20	1.60	0.20	3.20	0.10	2.40	0.01	3.20	0.10	3.20	0.70	4.00	0.25	4.00	0.45	2.40	0.10	3.20	0.20
	9	1.80	0.10	2.70	0.10	1.80	0.15	3.60	0.10	2.70	0.05	3.60	0.05	3.60	0.65	4.50	0.10	4.50	0.25	2.70	0.05	3.60	0.10
Right Bank		2.00	0.00	3.00	0.00	2.00	0.00	4.00	0.00	3.00	0.00	4.00	0.00	4.00	0.00	5.00	0.00	5.00	0.00	3.00	0.00	4.00	0.00
Feature Type		riffle		pool		run		riffle		riffle		riffle		pool		pool		pool		riffle		run	

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

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

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

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

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Aaron Ball Date: 5.23.08

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 5.12.08 9:45	Location Description (e.g., road crossing): 14004 Road
Stream Name: L. Deer Cr.	
Current Weather Conditions: clear	Facility Name(s): West Central Agriservices
Weather Conditions for Past 10 days: 2.69 inches	Permit Number(s): MOR240133
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): 0388368	Northing (UTM Y): 4253456	Horizontal Accuracy: (EPE / FOM / PDOP) 4 Meters
Site 11	Easting (UTM X): 0388172	Northing (UTM Y): 4253488	Horizontal Accuracy: (EPE / FOM / PDOP) 4 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
3	downstream, T1	4	upstream, T11		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

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

Site #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 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%.)

% Cobble	30% Gravel	60% Sand	% Silt	10% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

moss covers 20% above water level substrate and debris in channel

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" 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 #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: Gilisa Gould and Aaron Ball

Surveyor’s Signature: Aaron Ball Date of Survey: 5.12.08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>L. Deer Cr.</u> Waterbody ID: <u>1277</u> Site #: <u>2</u> Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0388368</u> UTM Y: <u>4253456</u> +/- <u>4</u> (meters) 11 UTM X: <u>0388172</u> UTM Y: <u>4253488</u> +/- <u>4</u> (meters) Average Stream Width: <u>5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Aaron Ball</u>	Dissolved Oxygen
	Date: <u>5.12.08</u> Time: <u>9:45</u>
	Dissolved Oxygen: <u>7.1</u> (mg/L)
	Dissolved Oxygen: _____ (% sat)
	Specific Cond: _____ (µS/cm)
	Water Temperature: <u>12</u> (°C)

Transect Cross-Section

	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	0.15	0.40	0.10	0.20	0.20	0.20	0.10	0.40	0.20	0.40	0.15	0.60	0.20	0.40	0.10	0.50	0.15	0.50	0.20	0.50	0.10
2	1.00	0.20	0.80	0.15	0.40	0.25	0.40	0.10	0.80	0.25	0.80	0.20	1.20	0.25	0.80	0.10	1.00	0.25	1.00	0.25	1.00	0.10
3	1.50	0.25	1.20	0.10	0.60	0.30	0.60	0.20	1.20	0.25	1.20	0.25	1.80	0.25	1.20	0.15	1.50	0.30	1.50	0.35	1.50	0.10
4	2.00	0.40	1.60	0.05	0.80	0.30	0.80	0.25	1.60	0.25	1.60	0.20	2.40	0.20	1.60	0.15	2.00	0.35	2.00	0.40	2.00	0.15
5	2.50	0.40	2.00	0.15	1.00	0.30	1.00	0.20	2.00	0.20	2.00	0.20	3.00	0.15	2.00	0.15	2.50	0.30	2.50	0.35	2.50	0.15
6	3.00	0.35	2.40	0.20	1.20	0.25	1.20	0.20	2.40	0.20	2.40	0.25	3.60	0.10	2.40	0.20	3.00	0.30	3.00	0.30	3.00	0.20
7	3.50	0.35	2.80	0.20	1.40	0.20	1.40	0.20	2.80	0.15	2.80	0.20	4.20	0.10	2.80	0.20	3.50	0.25	3.50	0.25	3.50	0.15
8	4.00	0.30	3.20	0.20	1.60	0.20	1.60	0.15	3.20	0.20	3.20	0.15	4.80	0.10	3.20	0.20	4.00	0.20	4.00	0.20	4.00	0.10
9	4.50	0.20	3.60	0.15	1.80	0.15	1.80	0.10	3.60	0.10	3.60	0.10	5.40	0.10	3.60	0.10	4.50	0.10	4.50	0.10	4.50	0.10
Right Bank	5.00	0.00	4.00	0.00	2.00	0.00	2.00	0.00	4.00	0.00	4.00	0.00	6.00	0.00	4.00	0.00	5.00	0.00	5.00	0.00	5.00	0.00
Feature Type	pool		riffle		run		pool		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: Aaron Ball Date: 5.23.08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 5.12.08 10:20	Location Description (e.g., road crossing): upstream confluence with Big Deer Creek
Stream Name: L. Deer Cr.	
Current Weather Conditions: clear	Facility Name(s): West Central Agriservices
Weather Conditions for Past 10 days: 2.69	Permit Number(s): MOR240133
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): 0387510	Northing (UTM Y): 4254869	Horizontal Accuracy: (EPE / FOM / PDOP) 6 Meters
Site 11	Easting (UTM X): 0387339	Northing (UTM Y): 4255014	Horizontal Accuracy: (EPE / FOM / PDOP) 4 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
5	upstream, T11	6	atv tracks cross the creek	7	downstream, T1
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

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

Site # 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 type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: pasture
Comments: Pasture				

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%.)

% Cobble	% Gravel	80% Sand	% Silt	20% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

none in water; banks are vegetated

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

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

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

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

Printed Names of Personnel Collecting Data: Gilisa Gould and Aaron Ball

Surveyor’s Signature: Aaron Ball Date of Survey: 5.12.08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>L. Deer Cr.</u> Waterbody ID: <u>1277</u> Site #: <u>3</u> Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0387510</u> UTM Y: <u>4254869</u> +/- <u>6</u> (meters) 11 UTM X: <u>0387339</u> UTM Y: <u>4255014</u> +/- <u>4</u> (meters) Average Stream Width: <u>6</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Aaron Ball</u>	Dissolved Oxygen Date: <u>5.12.08</u> Time: <u>10:20</u> Dissolved Oxygen: <u>6.1</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>12.2</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.70	0.30	0.50	0.30	0.60	0.15	0.60	0.40	0.60	0.30	0.30	0.10	0.60	0.30	0.50	0.20	0.50	0.10	0.70	0.20	0.50	0.05
	2	1.40	0.50	1.00	0.35	1.20	0.30	1.20	0.60	1.20	0.40	0.60	0.15	1.20	0.40	1.00	0.30	1.00	0.10	1.40	0.30	1.00	0.25
	3	2.10	0.55	1.50	0.30	1.80	0.50	1.80	0.80	1.80	0.65	0.90	0.15	1.80	0.60	1.50	0.45	1.50	0.15	2.10	0.35	1.50	0.30
	4	2.80	0.80	2.00	0.40	2.40	0.70	2.40	0.95	2.40	0.70	1.20	0.15	2.40	0.65	2.00	0.45	2.00	0.40	2.80	0.40	2.00	0.30
	5	3.50	0.65	2.50	0.40	3.00	0.75	3.00	0.70	3.00	0.70	1.50	0.10	3.00	0.65	2.50	0.40	2.50	0.40	3.50	0.40	2.50	0.40
	6	4.20	0.55	3.00	0.50	3.60	0.65	3.60	0.65	3.60	0.65	1.80	0.15	3.60	0.50	3.00	0.40	3.00	0.50	4.20	0.40	3.00	0.40
	7	4.90	0.45	3.50	0.45	4.20	0.50	4.20	0.50	4.20	0.45	2.10	0.10	4.20	0.40	3.50	0.30	3.50	0.55	4.90	0.40	3.50	0.40
	8	5.60	0.40	4.00	0.35	4.80	0.30	4.80	0.40	4.80	0.25	2.40	0.10	4.80	0.30	4.00	0.30	4.00	0.20	5.60	0.25	4.00	0.35
	9	6.30	0.20	4.50	0.30	5.40	0.15	5.40	0.20	5.40	0.15	2.70	0.10	5.40	0.20	4.50	0.15	4.50	0.15	6.30	0.10	4.50	0.20
Right Bank		7.00	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	5.00	0.00	5.00	0.00	7.00	0.00	5.00	0.00
Feature Type <small>(riffle, run, or pool)</small>		pool		pool		pool		pool		pool		riffle		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: Aaron Ball Date: 5.23.08

WBID# 1277 Little Deer Creek



Site# 1 Photo ID# 1, Downstream, T1



Site# 1 Photo ID# 2, Upstream, T11



Site# 2 Photo ID# 3, Downstream, T1

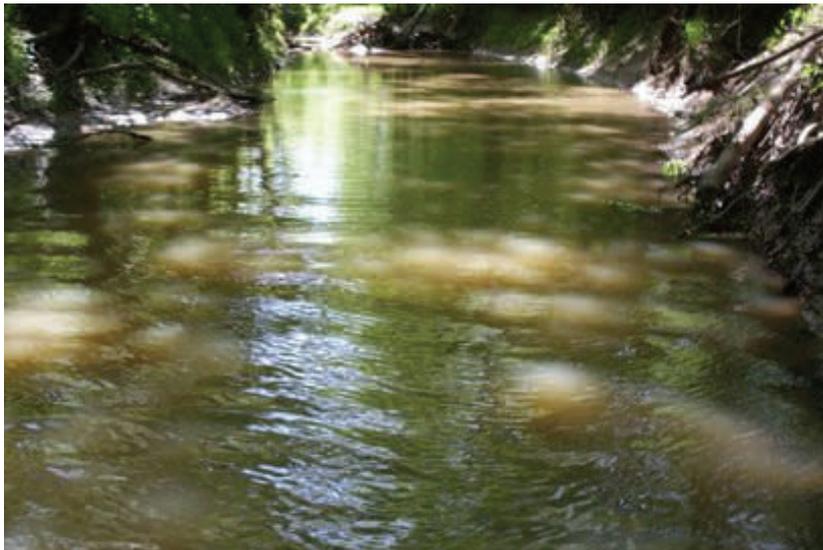


Site# 2 Photo ID# 4, Upstream, T11

WBID# 1277 Little Deer Creek



Site# 3 Photo ID# 7, Downstream, T1



Site# 3 Photo ID# 5, Upstream, T11



Site# 3 Photo ID# 6, ATV tracks cross creek