

Use Attainability Analysis

for

WBID 3239 Clear Creek

Submitted by
SES Inc.

to

Missouri Department of Natural Resources
Water Protection Program

Date received: October 26, 2007

Field Data Sheets for Recreation 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): Clear Creek	
Missouri Water Body Identification (WBID) Number: 3239	
8 digit HUC code: 11070207	County: Lawrence
Upstream Legal Description (from Table H): T26N R28W 36	
Downstream Legal Description (from Table H): T26N R28W 28	
Number of sites evaluated: 3	
List all site numbers, listed consequently upstream to downstream: 1,2,3	

Site Locations Map(s): Attach a map of the entire segment with assessment sites clearly labeled. Mark any other items that may be of interest.

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

Facility Name(s) and Permit Number(s): Dairy Farmers of America MO 0128241
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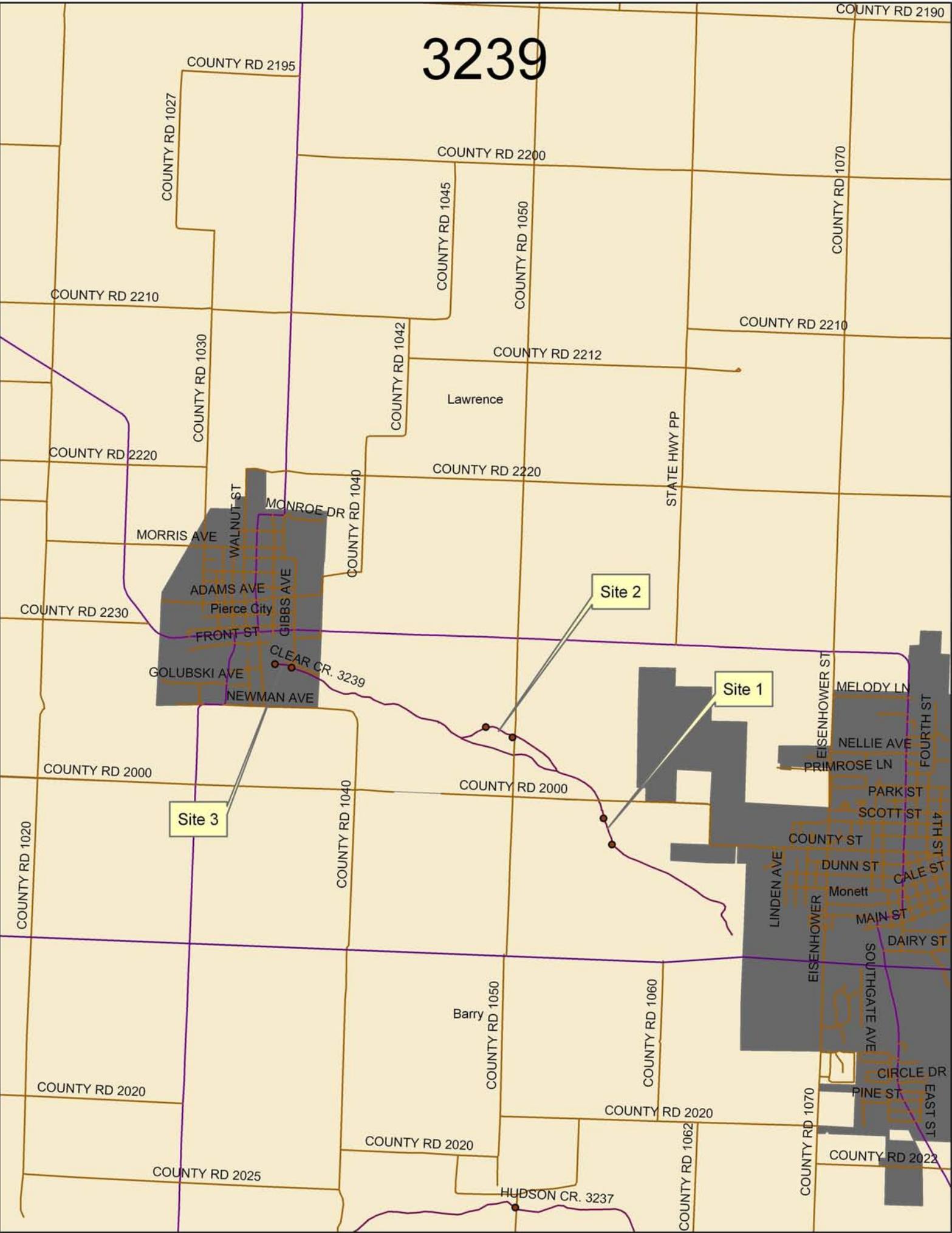
III. UAA Surveyor (please print legibly)

Name of Surveyor: Aaron Ball	Telephone Number: (913)307-0046
Organization/Employer: SES, Inc.	

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

Signed: Aaron Ball **Date:** 10/23/2007

3239



WBID # 3239
 Site # 1

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time:	10/9/07	13:24	Site Location Description (e.g. road crossing):
Personnel:	Aaron Ball, Drew Dodson		Off 2040
Current Weather Conditions:	clear	Facility Name:	Dairy Farmers of America
Weather conditions for the past 10 days:	.098 inches	Permit Number:	MO 0128241
Drought conditions?: 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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0414423	4087047	5.7
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0414337	4087313	5.1

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
24	Downstream	25	Upstream		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<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:				

WBID # 3239
 Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<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: Railroad next to stream

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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

comments/other: trash

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
40	50				10

Aquatic Vegetation:

none

Water Characteristics:

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:

WBID # 3239
Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

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.)

none

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

Surveyor's Signature: Aaron Ball Date of Survey: 10/9/2007

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3239</u> Site #: <u>1</u> Estimated Channel Incision: <u>3.0</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>0414423</u> UTM Y: <u>4087047</u> +/- <u>5.7</u> (meters) 11 UTM X: <u>0414337</u> UTM Y: <u>4087313</u> +/- <u>5.1</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>Aaron Ball, Drew Dodson</u>	Dissolved Oxygen Date: <u>10/9/07</u> Time: <u>13:55</u> Dissolved Oxygen: <u>10.9</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>25.4</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	0
1	0.3	0.05	0.5	0.05	0.4	0.20	0.4	0.05	0.4	0.10	0.3	0.05	0.4	0.15	0.6	0.05	0.6	0.10	0.7	0.45	0.3	0.10	
2	0.6	0.10	1.0	0.10	0.8	0.20	0.8	0.05	0.8	0.15	0.6	0.10	0.8	0.10	1.2	0.10	1.2	0.10	1.4	0.90	0.6	0.20	
3	0.9	0.15	1.5	0.05	1.2	0.35	1.2	0.10	1.2	0.20	0.9	0.10	1.2	0.20	1.8	0.10	1.8	0.10	2.1	1.00	0.9	0.30	
4	1.2	0.20	2.0	0.00	1.6	0.30	1.6	0.10	1.6	0.20	1.2	0.10	1.6	0.20	2.4	0.10	2.4	0.10	2.8	1.00	1.2	0.30	
5	1.5	0.25	2.5	0.05	2.0	0.30	2.0	0.10	2.0	0.30	1.5	0.15	2.0	0.25	3.0	0.10	3	0.15	3.5	1.00	1.5	0.30	
6	1.8	0.30	3.0	0.05	2.4	0.30	2.4	0.10	2.4	0.10	1.8	0.10	2.4	0.30	3.6	0.05	3.6	0.20	4.2	1.00	1.8	0.10	
7	2.1	0.35	3.5	0.05	2.8	0.20	2.8	0.10	2.8	0.10	2.1	0.10	2.8	0.35	4.2	0.05	4.2	0.20	4.9	0.80	2.1	0.10	
8	2.4	0.40	4.0	0.20	3.2	0.15	3.2	0.10	3.2	0.10	2.4	0.10	3.2	0.30	4.8	0.05	4.8	0.20	5.6	0.40	2.4	0.10	
9	2.7	0.35	4.5	0.30	3.6	0.10	3.6	0.10	3.6	0.10	2.7	0.10	3.6	0.20	5.4	0.05	5.4	0.20	6.3	0.20	2.7	0.10	
Right Bank	3.0	0.00	5.0	0.00	4.0	0.00	4.0	0.00	4.0	0.00	3.0	0.00	4.0	0.00	6.0	0.00	6	0.00	7.0	0.00	3.0	0.00	
Feature Type <small>(riffle, run, or pool)</small>	pool		run		pool		pool		pool		riffle		pool		riffle		pool		pool		run		

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

Signed: Aaron Ball Date: 10/9/07

WBID # 3239
 Site # 2

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 10/9/07 14:12	Site Location Description (e.g. road crossing):
Personnel: Aaron Ball, Drew Dodson	CR 1050
Current Weather Conditions: clear	Facility Name: Dairy Farmers of America
Weather conditions for the past 10 days: 0.98 inches	Permit Number: MO 0128241
Drought conditions?: 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):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0413409	4088139		4.8	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0413140	4088242		5.4	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
26	Upstream	27	Downstream		
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:

<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:				

WBID # 3239
 Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:

Comments: Railroad next to stream

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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

comments/other: none

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
30	70				

Aquatic Vegetation:

none

Water Characteristics:

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:

WBID # 3239
Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

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.)

none

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

Surveyor's Signature: Aaron Ball Date of Survey: 10/9/2007

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3239</u> Site #: <u>2</u> Estimated Channel Incision: <u>2.0</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>0413409</u> UTM Y: <u>4088139</u> +/- <u>4.8</u> (meters) 11 UTM X: <u>0413140</u> UTM Y: <u>4088242</u> +/- <u>5.4</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>Drew Dodson, Aaron Ball</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/9/07</u> Time: <u>14:15</u> Dissolved Oxygen: <u>8.9</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.8</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	0.5	0.15	0.4	0.10	0.4	0.25	0.3	0.10	0.6	0.20	0.4	0.20	0.6	0.20	0.7	0.20	0.6	0.30	0.6	0.25	0.7	0.20	
2	1.0	0.30	0.8	0.30	0.8	0.55	0.6	0.15	1.2	0.30	0.8	0.20	1.2	0.30	1.4	0.20	1.2	0.40	1.2	0.20	1.4	0.15	
3	1.5	0.35	1.2	0.40	1.2	1.00	0.9	0.15	1.8	0.35	1.2	0.20	1.8	0.40	2.1	0.30	1.8	0.60	1.8	0.20	2.1	0.20	
4	2.0	0.35	1.6	0.45	1.6	1.00	1.2	0.15	2.4	0.35	1.6	0.25	2.4	0.50	2.8	0.45	2.4	0.70	2.4	0.30	2.8	0.25	
5	2.5	0.40	2.0	0.60	2.0	1.00	1.5	0.20	3.0	0.40	2.0	0.20	3.0	0.60	3.5	0.50	3	0.70	3.0	0.30	3.5	0.30	
6	3.0	0.20	2.4	0.50	2.4	1.00	1.8	0.30	3.6	0.30	2.4	0.15	3.6	0.50	4.2	0.40	3.6	0.65	3.6	0.40	4.2	0.30	
7	3.5	0.10	2.8	0.15	2.8	1.00	2.1	0.30	4.2	0.20	2.8	0.10	4.2	0.40	4.9	0.30	4.2	0.60	4.2	0.40	4.9	0.30	
8	4.0	0.20	3.2	0.20	3.2	0.50	2.4	0.20	4.8	0.10	3.2	0.10	4.8	0.20	5.6	0.30	4.8	0.40	4.8	0.30	5.6	0.35	
9	4.5	0.20	3.6	0.10	3.6	0.30	2.7	0.15	5.4	0.10	3.6	0.05	5.4	0.20	6.3	0.20	5.4	0.40	5.4	0.25	6.3	0.35	
Right Bank	5.0	0.00	4.0	0.00	4.0	0.00	3.0	0.00	6.0	0.00	4.0	0.00	6.0	0.00	7.0	0.00	6	0.00	6.0	0.00	7.0	0.00	
Feature Type <small>(riffle, run, or pool)</small>	pool		pool		pool		pool		pool		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: Aaron Ball Date: 10/9/07

WBID # 3239
 Site # 3

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time:	10/9/07	15:26	Site Location Description (e.g. road crossing):
Personnel:	Aaron Ball, Drew Dodson		Pierce City Park
Current Weather Conditions:	clear	Facility Name:	Dairy Farmers of America
Weather conditions for the past 10 days:	0.98 inches	Permit Number:	MO 0128241
Drought conditions?: 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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0411161	4088848	5.4
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0410990	408885	5.1

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
28	Upstream	29	Downstream		
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:

<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:				

WBID # 3239
 Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input checked="" type="checkbox"/> City/County parks	<input checked="" type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<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:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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

comments/other: Stream goes through park

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
50	50				

Aquatic Vegetation:

none

Water Characteristics:

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:

WBID # 3239
Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

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.)

none

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

Surveyor's Signature: Aaron Ball Date of Survey: 10/9/2007

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3239</u> Site #: <u>3</u> Estimated Channel Incision: <u>1.0</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>0411161</u> UTM Y: <u>4088848</u> +/- <u>5.4</u> (meters) 11 UTM X: <u>0410990</u> UTM Y: <u>408885</u> +/- <u>5.1</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>Aaron Ball, Drew Dodson</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/9/07</u> Time: <u>15:26</u> Dissolved Oxygen: <u>10.1</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>19.7</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	0.7	0.05	0.4	0.05	0.4	0.10	0.5	0.15	0.7	0.10	0.6	0.10	0.4	0.05	0.5	0.20	0.6	0.10	0.3	0.05	0.4	0.10	
2	1.4	0.05	0.8	0.10	0.8	0.10	1.0	0.20	1.4	0.10	1.2	0.05	0.8	0.10	1.0	0.20	1.2	0.15	0.6	0.10	0.8	0.10	
3	2.1	0.10	1.2	0.10	1.2	0.15	1.5	0.20	2.1	0.10	1.8	0.10	1.2	0.10	1.5	0.20	1.8	0.15	0.9	0.20	1.2	0.15	
4	2.8	0.20	1.6	0.20	1.6	0.15	2.0	0.30	2.8	0.15	2.4	0.10	1.6	0.10	2.0	0.30	2.4	0.10	1.2	0.20	1.6	0.15	
5	3.5	0.20	2.0	0.25	2.0	0.20	2.5	0.30	3.5	0.10	3.0	0.20	2.0	0.15	2.5	0.50	3	0.10	1.5	0.25	2.0	0.20	
6	4.2	0.20	2.4	0.30	2.4	0.20	3.0	0.30	4.2	0.20	3.6	0.20	2.4	0.15	3.0	0.60	3.6	0.10	1.8	0.25	2.4	0.20	
7	4.9	0.20	2.8	0.30	2.8	0.20	3.5	0.30	4.9	0.20	4.2	0.15	2.8	0.15	3.5	0.60	4.2	0.15	2.1	0.25	2.8	0.15	
8	5.6	0.30	3.2	0.20	3.2	0.20	4.0	0.30	5.6	0.25	4.8	0.10	3.2	0.10	4.0	0.50	4.8	0.15	2.4	0.20	3.2	0.10	
9	6.3	0.20	3.6	0.10	3.6	0.15	4.5	0.30	6.3	0.40	5.4	0.10	3.6	0.10	4.5	0.30	5.4	0.10	2.7	0.20	3.6	0.10	
Right Bank	7.0	0.00	4.0	0.00	4.0	0.00	5.0	0.00	7.0	0.00	6.0	0.00	4.0	0.00	5.0	0.00	6	0.00	3.0	0.00	4.0	0.00	
Feature Type <small>(riffle, run, or pool)</small>	pool		pool		riffle		pool		pool		pool		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: Aaron Ball Date: 10/9/07

WBID# 3239



Site# 1 Photo ID# 24, Downstream



Site# 1 Photo ID# 25, Upstream



Site# 2 Photo ID# 26, Upstream



Site# 2 Photo ID# 27, Downstream

WBID# 3239



Site# 3 Photo ID# 28, Upstream



Site# 3 Photo ID# 29, Downstream