



Missouri  
Department of  
Natural Resources

Use Attainability Analysis

for

WBID 0187 Coon 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): Coon Creek
Missouri Water Body Identification (WBID) Number: 187
8-digit HUC: 7110008
County(ies), Listed Upstream to Downstream: Montgomery
Upstream Legal Description (from Table H): T50N, R6W, Sec. 10
Downstream Legal Description (from Table H): T50N, R4W, Sec. 8
Number of sites evaluated: 8
List all site numbers, <u>consecutively upstream to downstream</u> : 1, 2, 3, 4, 5, 6, 7, 8
<b>Include a Site Location Map(s).</b> 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): Middletown City Lagoon MO0055387
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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

# 187 Coon Creek



WBID # 187

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)

<b>Date &amp; Time:</b> 9/20/2008 14:00	Location Description (e.g., road crossing):
<b>Stream Name:</b> Coon Cr.	State Hwy AA
Current Weather Conditions: partly cloudy	Facility Name(s): Middletown City Lagoon
Weather Conditions for Past 10 days: no precipitation	Permit Number(s): MO0055387
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): 0623974	Northing (UTM Y): 4330766	Horizontal Accuracy: (EPE / FOM / PDOP)	5 Meters
Site 11	Easting (UTM X): 0624147	Northing (UTM Y): 4330840	Horizontal Accuracy: (EPE / FOM / PDOP)	6 Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
66	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
67	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 # 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	% Gravel	70% Sand	% Silt	30% 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 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 # 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>Coon Cr</u> Waterbody ID: <u>187</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) <b>01</b> UTM X: <u>0623974</u> UTM Y: <u>4330766</u> +/- <u>5</u> (meters) <b>11</b> UTM X: <u>0624147</u> UTM Y: <u>4330840</u> +/- <u>6</u> (meters)  Average Stream Width: <u>5</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>David Bender, Chris Schueler</u>	<b>Dissolved Oxygen</b>  Date: <u>9/20/2008</u> Time: <u>14:00</u>  Dissolved Oxygen: <u>5.7</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>19.7</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)																				
<b>Left Bank</b>		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	0.20	0.50	0.25	0.50	0.20	0.50	0.30	0.50	0.35	0.40	0.20	0.30	0.50	0.40	0.35	0.20	0.10	0.40	0.25	0.40	0.15
	2	1.00	0.40	1.00	0.40	1.00	0.40	1.00	0.60	1.00	0.55	0.80	0.25	0.60	0.65	0.80	0.80	0.40	0.25	0.80	0.35	0.80	0.25
	3	1.50	0.55	1.50	0.55	1.50	0.70	1.50	0.65	1.50	0.35	1.20	0.25	0.90	0.70	1.20	0.85	0.60	0.55	1.20	0.50	1.20	0.35
	4	2.00	0.55	2.00	0.80	2.00	0.70	2.00	0.65	2.00	0.01	1.60	0.25	1.20	0.60	1.60	0.75	0.80	0.85	1.60	0.55	1.60	0.45
	5	2.50	0.70	2.50	0.90	2.50	0.45	2.50	0.75	2.50	0.00	2.00	0.10	1.50	0.50	2.00	0.65	1.00	0.65	2.00	0.55	2.00	0.50
	6	3.00	0.75	3.00	0.85	3.00	0.45	3.00	0.55	3.00	0.05	2.40	0.15	1.80	0.65	2.40	0.55	1.20	0.60	2.40	0.40	2.40	0.55
	7	3.50	0.75	3.50	0.70	3.50	0.40	3.50	0.40	3.50	0.15	2.80	0.15	2.10	0.30	2.80	0.40	1.40	0.35	2.80	0.30	2.80	0.50
	8	4.00	0.40	4.00	0.45	4.00	0.35	4.00	0.30	4.00	0.20	3.20	0.20	2.40	0.25	3.20	0.25	1.60	0.20	3.20	0.25	3.20	0.40
	9	4.50	0.30	4.50	0.30	4.50	0.20	4.50	0.20	4.50	0.10	3.60	0.10	2.70	0.15	3.60	0.10	1.80	0.05	3.60	0.10	3.60	0.30
<b>Right Bank</b>		5.00	0.00	5.00	0.00	5.00	0.00	5.00	0.00	5.00	0.00	4.00	0.00	3.00	0.00	4.00	0.00	2.00	0.00	4.00	0.00	4.00	0.00
<b>Feature Type</b> <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 0.1 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 # 187

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)

<b>Date &amp; Time:</b> 9/20/2008	14:50	Location Description (e.g., road crossing):
<b>Stream Name:</b> Coon Cr.		C.R. 38
Current Weather Conditions: partly cloudy		Facility Name(s): Middletown City Lagoon
Weather Conditions for Past 10 days: no precipitation		Permit Number(s): MO0055387
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): 0626374	Northing (UTM Y): 4330003	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters
Site 11	Easting (UTM X): 0626482	Northing (UTM Y): 4338109	Horizontal Accuracy: (EPE / FOM / PDOP) 6 Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
68	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
69	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 # 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	% Gravel	100% 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 type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

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

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.)

Very little flow, standing water throughout site

**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>Coon Cr</u> Waterbody ID: <u>187</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) <b>01</b> UTM X: <u>0626374</u> UTM Y: <u>4330003</u> +/- <u>7</u> (meters) <b>11</b> UTM X: <u>0626482</u> UTM Y: <u>4338109</u> +/- <u>6</u> (meters)  Average Stream Width: <u>5</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>David Bender, Chris Schuler</u>	<b>Dissolved Oxygen</b>  Date: <u>9/20/2008</u> Time: <u>14:50</u>  Dissolved Oxygen: <u>8.2</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>18.8</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)																				
<b>Left Bank</b>		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	0.25	0.50	0.75	0.60	0.10	0.60	0.50	0.30	0.20	0.60	0.20	0.50	0.15	0.60	0.15	0.50	0.10	0.60	0.20	0.60	0.15
	2	0.80	0.40	1.00	0.85	1.20	0.20	1.20	0.75	0.60	0.40	1.20	0.70	1.00	0.40	1.20	0.30	1.00	0.85	1.20	0.60	1.20	0.20
	3	1.20	0.45	1.50	0.90	1.80	0.40	1.80	0.90	0.90	0.45	1.80	0.95	1.50	0.60	1.80	0.75	1.50	0.95	1.80	0.85	1.80	0.50
	4	1.60	0.70	2.00	1.00	2.40	0.65	2.40	0.90	1.20	0.45	2.40	1.00	2.00	0.80	2.40	0.80	2.00	1.00	2.40	0.75	2.40	0.40
	5	2.00	0.85	2.50	1.00	3.00	0.60	3.00	0.90	1.50	0.30	3.00	0.90	2.50	1.00	3.00	0.75	2.50	1.00	3.00	0.65	3.00	0.35
	6	2.40	0.95	3.00	0.85	3.60	0.40	3.60	0.85	1.80	0.25	3.60	0.70	3.00	0.85	3.60	0.55	3.00	1.00	3.60	0.55	3.60	0.30
	7	2.80	0.75	3.50	0.55	4.20	0.30	4.20	0.80	2.10	0.20	4.20	0.50	3.50	0.60	4.20	0.45	3.50	0.75	4.20	0.35	4.20	0.30
	8	3.20	0.60	4.00	0.40	4.80	0.25	4.80	0.70	2.40	0.05	4.80	0.45	4.00	0.35	4.80	0.25	4.00	0.20	4.80	0.35	4.80	0.25
	9	3.60	0.30	4.50	0.20	5.40	0.20	5.40	0.40	2.70	0.05	5.40	0.20	4.50	0.10	5.40	0.15	4.50	0.05	5.40	0.15	5.40	0.20
<b>Right Bank</b>		4.00	0.00	5.00	0.00	6.00	0.00	6.00	0.00	3.00	0.00	6.00	0.00	5.00	0.00	6.00	0.00	5.00	0.00	6.00	0.00	6.00	0.00
<b>Feature Type</b> <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 0.1 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: Davic Bender

Date: 9/20/2008

WBID # 187

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)

<b>Date &amp; Time:</b> 9/20/2008	15:20	Location Description (e.g., road crossing):
<b>Stream Name:</b> Coon Cr.		C.R. 42
Current Weather Conditions: clear		Facility Name(s): Middletown City Lagoon
Weather Conditions for Past 10 days: no precipitation		Permit Number(s): MO0055387
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): 0628303	Northing (UTM Y): 4330424	Horizontal Accuracy: (EPE / FOM / PDOP)	3 Meters
Site 11	Easting (UTM X): 0628485	Northing (UTM Y): 4330469	Horizontal Accuracy: (EPE / FOM / PDOP)	6 Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
70	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
71	upstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
72	Log jam				

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

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

Site # 3

**Field Data Sheets for Recreational Use Stream Surveys**

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

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

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

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

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

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

% Cobble	% Gravel	100% Sand	% Silt	% Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

Algae on 75% 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 type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input 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.)

Log jam at transect 11  
 Landowner (David Whitehead) wanted copies of final report for his creek?

**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>Coon Cr</u> Waterbody ID: <u>187</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) <b>01</b> UTM X: <u>0628303</u> UTM Y: <u>4330424</u> +/- <u>3</u> (meters) <b>11</b> UTM X: <u>0628485</u> UTM Y: <u>4330469</u> +/- <u>6</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 Schuler</u>	<b>Dissolved Oxygen</b>  Date: <u>9/20/2008</u> Time: <u>15:20</u>  Dissolved Oxygen: <u>6.2</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>20.1</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)																				
<b>Left Bank</b>		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	0.10	0.60	0.05	1.20	0.40	0.80	0.15	0.60	0.40	0.40	0.05	0.60	0.15	0.20	0.05	0.20	0.05	0.60	0.05	0.80	0.15
	2	0.60	0.15	1.20	0.20	2.40	0.55	1.60	0.20	1.20	0.45	0.80	0.05	1.20	0.05	0.40	0.05	0.40	0.10	1.20	0.10	1.60	0.40
	3	0.90	0.10	1.80	0.35	3.60	0.45	2.40	0.50	1.80	0.70	1.20	0.05	1.80	0.05	0.60	0.05	0.60	0.10	1.80	0.10	2.40	0.50
	4	1.20	0.10	2.40	0.65	4.80	0.50	3.20	0.75	2.40	0.85	1.60	0.05	2.40	0.05	0.80	0.10	0.80	0.05	2.40	0.05	3.20	0.55
	5	1.50	0.05	3.00	0.80	6.00	0.65	4.00	0.80	3.00	0.85	2.00	0.05	3.00	0.01	1.00	0.10	1.00	0.10	3.00	0.10	4.00	0.60
	6	1.80	0.05	3.60	0.90	7.20	0.80	4.80	0.90	3.60	0.80	2.40	0.10	3.60	0.01	1.20	0.05	1.20	0.05	3.60	0.10	4.80	0.55
	7	2.10	0.05	4.20	0.85	8.40	0.85	5.60	1.00	4.20	0.80	2.80	0.20	4.20	0.01	1.40	0.10	1.40	0.05	4.20	0.15	5.60	0.50
	8	2.40	0.05	4.80	0.80	9.60	0.80	6.40	0.95	4.80	0.80	3.20	0.25	4.80	0.05	1.60	0.05	1.60	0.05	4.80	0.10	6.40	0.50
	9	2.70	0.05	5.40	0.55	10.80	0.65	7.20	0.30	5.40	0.35	3.60	0.20	5.40	0.01	1.80	0.01	1.80	0.01	5.40	0.15	7.20	0.60
<b>Right Bank</b>		3.00	0.00	6.00	0.00	12.00	0.00	8.00	0.00	6.00	0.00	4.00	0.00	6.00	0.00	2.00	0.00	2.00	0.00	6.00	0.00	8.00	0.00
<b>Feature Type</b> <small>(riffle, run, or pool)</small>		riffle		pool		pool		pool		pool		riffle		riffle		riffle		riffle		pool		pool	

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

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

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

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

All measurements to be taken to the nearest 0.01 meter.

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

WBID # 187

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)

<b>Date &amp; Time:</b> 9/20/2008                      16:45	Location Description (e.g., road crossing):
<b>Stream Name:</b> Coon Cr.	C.R. 24
Current Weather Conditions: partly cloudy	Facility Name(s): Middletown City Lagoon
Weather Conditions for Past 10 days: no precipitation	Permit Number(s): MO0055387
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): 0629047	Northing (UTM Y): 4330674	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters
Site 11	Easting (UTM X): 0630009	Northing (UTM Y): 4330511	Horizontal Accuracy: (EPE / FOM / PDOP) 10 Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
73	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
74	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 # 4

**Field Data Sheets for Recreational Use Stream Surveys**

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

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

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input 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%.)

10% Cobble	20% Gravel	70% 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 checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

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

Site # 4

**Field Data Sheets for Recreational Use Stream Surveys**

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

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

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

**Comments:** (Please record any additional comments here.)

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

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

Surveyor's Signature: David Bender Date of Survey: 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>Coon Cr</u> Waterbody ID: <u>187</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) <b>01</b> UTM X: <u>0629047</u> UTM Y: <u>4330674</u> +/- <u>7</u> (meters) <b>11</b> UTM X: <u>0630009</u> UTM Y: <u>4330511</u> +/- <u>10</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>	<b>Dissolved Oxygen</b> Date: <u>9/20/2008</u> Time: <u>16:45</u> Dissolved Oxygen: <u>7</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>20.6</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)																				
<b>Left Bank</b>		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	0.05	0.70	0.20	0.50	0.15	0.60	0.30	0.50	0.05	0.60	0.15	0.70	0.50	0.70	0.30	0.40	0.05	0.30	0.05	0.50	0.05
	2	1.40	3.50	1.40	0.60	1.00	0.25	1.20	0.35	1.00	0.10	1.20	0.20	1.40	0.60	1.40	0.30	0.80	0.15	0.60	0.10	1.00	0.15
	3	2.10	5.50	2.10	0.65	1.50	0.25	1.80	0.35	1.50	0.25	1.80	0.35	2.10	0.55	2.10	0.35	1.20	0.15	0.90	0.10	1.50	0.20
	4	2.80	0.40	2.80	0.80	2.00	0.25	2.40	0.40	2.00	0.25	2.40	0.40	2.80	0.55	2.80	0.35	1.60	0.50	1.20	0.10	2.00	0.30
	5	3.50	0.30	3.50	0.85	2.50	0.20	3.00	0.45	2.50	0.30	3.00	0.40	3.50	0.50	3.50	0.40	2.00	0.20	1.50	0.15	2.50	0.40
	6	4.20	0.20	4.20	0.85	3.00	0.20	3.60	0.50	3.00	0.30	3.60	0.40	4.20	0.50	4.20	0.40	2.40	0.20	1.80	0.50	3.00	0.45
	7	4.90	0.20	4.90	0.70	3.50	0.25	4.20	0.45	3.50	0.25	4.20	0.50	4.90	0.45	4.90	0.40	2.80	0.25	2.10	0.20	3.50	0.45
	8	5.60	0.25	5.60	0.55	4.00	0.20	4.80	0.40	4.00	0.40	4.80	0.40	5.60	0.35	5.60	0.40	3.20	0.25	2.40	0.20	4.00	0.45
	9	6.30	0.10	6.30	0.15	4.50	0.10	5.40	0.30	4.50	0.40	5.40	3.00	6.30	0.30	6.30	0.30	3.60	0.20	2.70	0.25	4.50	0.10
<b>Right Bank</b>		7.00	0.00	7.00	0.00	5.00	0.00	6.00	0.00	5.00	0.00	6.00	0.00	7.00	0.00	7.00	0.00	4.00	0.00	3.00	0.00	5.00	0.00
<b>Feature Type</b> (riffle, run, or pool)		pool		pool		pool		pool		pool		pool		pool		pool		run		pool			

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

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

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

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

All measurements to be taken to the nearest 0.01 meter.

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

WBID # 187

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)

<b>Date &amp; Time:</b> 9/21/2008                      8:00	Location Description (e.g., road crossing):  C.R. 67
<b>Stream Name:</b> Coon Cr.	
Current Weather Conditions: clear	Facility Name(s): Middletown City Lagoon
Weather Conditions for Past 10 days: no precipitation	Permit Number(s): MO0055387
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): 0633586	Northing (UTM Y): 4331475	Horizontal Accuracy: (EPE / FOM / PDOP)    3 Meters
Site 11	Easting (UTM X): 0633830	Northing (UTM Y): 4331461	Horizontal Accuracy: (EPE / FOM / PDOP)    4 Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
75	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
76	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 checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

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

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input 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 40% 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 checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

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

Site # 5

**Field Data Sheets for Recreational Use Stream Surveys**

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

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

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

**Comments:** (Please record any additional comments here.)

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

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

Surveyor’s Signature: David Bender Date of Survey: 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>Coon Cr</u> Waterbody ID: <u>187</u> Site #: <u>5</u>  Estimated Channel Incision: <u>2</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0633586</u> UTM Y: <u>4331475</u> +/- <u>3</u> (meters) <b>11</b> UTM X: <u>0633830</u> UTM Y: <u>4331461</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 Schuler</u>	<b>Dissolved Oxygen</b>  Date: <u>9/21/2008</u> Time: <u>8:00</u>  Dissolved Oxygen: <u>7.9</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>18.6</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)																				
<b>Left Bank</b>		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	0.10	0.60	0.35	0.20	0.01	0.40	0.20	0.20	0.05	0.30	0.01	0.50	0.15	0.50	0.20	0.70	0.30	0.70	0.15	0.60	0.01
	2	1.00	0.05	1.20	0.65	0.40	0.05	0.80	0.15	0.40	0.05	0.60	0.05	1.00	0.15	1.00	0.25	1.40	0.50	1.40	0.20	1.20	0.05
	3	1.50	0.05	1.80	0.85	0.60	0.05	1.20	0.25	0.60	0.10	0.90	0.05	1.50	0.30	1.50	0.30	2.10	0.40	2.10	0.25	1.80	0.05
	4	2.00	0.01	2.40	0.95	0.80	0.10	1.60	0.30	0.80	0.10	1.20	0.05	2.00	0.35	2.00	0.40	2.80	0.25	2.80	0.20	2.40	0.10
	5	2.50	0.05	3.00	0.85	1.00	0.05	2.00	0.30	1.00	0.10	1.50	0.10	2.50	0.35	2.50	0.40	3.50	0.05	3.50	0.15	3.00	0.10
	6	3.00	0.05	3.60	0.75	1.20	0.10	2.40	0.25	1.20	0.10	1.80	0.15	3.00	0.20	3.00	0.35	4.20	0.10	4.20	0.10	3.60	0.10
	7	3.50	0.10	4.20	0.65	1.40	0.05	2.80	0.30	1.40	0.15	2.10	0.15	3.50	0.05	3.50	0.35	4.90	0.15	4.90	0.10	4.20	0.10
	8	4.00	0.10	4.80	0.50	1.60	0.10	3.20	0.30	1.60	0.10	2.40	0.15	4.00	0.05	4.00	0.25	5.60	0.15	5.60	0.10	4.80	0.15
	9	4.50	0.05	5.40	0.20	1.80	0.05	3.60	0.15	1.80	0.10	2.70	0.10	4.50	0.05	4.50	0.15	6.30	0.05	6.30	0.40	5.40	0.20
<b>Right Bank</b>		5.00	0.00	6.00	0.00	2.00	0.00	4.00	0.00	2.00	0.00	3.00	0.00	5.00	0.00	5.00	0.00	7.00	0.00	7.00	0.00	6.00	0.00
<b>Feature Type</b> <small>(riffle, run, or pool)</small>		riffle		pool		riffle		pool		riffle		riffle		pool		pool		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: David Bender

Date: 9/21/2008

WBID # 187

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)

<b>Date &amp; Time:</b> 9/21/2008                      9:20	Location Description (e.g., road crossing):
<b>Stream Name:</b> Coon Cr.	State Hwy A
Current Weather Conditions: clear	Facility Name(s): Middletown City Lagoon
Weather Conditions for Past 10 days: no precipitation	Permit Number(s): MO0055387
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): 0636107	Northing (UTM Y): 4331743	Horizontal Accuracy: (EPE / FOM / PDOP)	3 Meters
Site 11	Easting (UTM X): 0636338	Northing (UTM Y): 4331850	Horizontal Accuracy: (EPE / FOM / PDOP)	6 Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
77	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
78	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 # 6

**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%.)

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.)

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 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 # 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.)

**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>Coon Cr</u> Waterbody ID: <u>187</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) <b>01</b> UTM X: <u>0636107</u> UTM Y: <u>4331743</u> +/- <u>3</u> (meters) <b>11</b> UTM X: <u>0636338</u> UTM Y: <u>4331850</u> +/- <u>6</u> (meters)  Average Stream Width: <u>8</u> (meters)      Length of Survey Segment: <u>160</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>David Bender, Chris Schuler</u>	<b>Dissolved Oxygen</b>  Date: <u>9/21/2008</u> Time: <u>9:20</u>  Dissolved Oxygen: <u>8.5</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>18.8</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)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.50	0.05	0.60	0.05	0.70	0.45	0.40	0.05	0.60	0.05	0.80	0.30	0.90	0.30	0.80	0.30	0.80	0.70	0.80	0.40	0.90	0.75
	2	1.00	0.10	1.20	0.15	1.40	0.85	0.80	0.05	1.20	0.15	1.60	0.35	1.80	0.45	1.60	0.45	1.60	0.65	1.60	0.65	1.80	0.80
	3	1.50	0.10	1.80	0.20	2.10	1.00	1.20	0.10	1.80	0.25	2.40	0.45	2.70	0.30	2.40	0.55	2.40	0.65	2.40	0.60	2.70	0.95
	4	2.00	0.15	2.40	0.25	2.80	1.00	1.60	0.15	2.40	0.20	3.20	0.40	3.60	0.35	3.20	0.45	3.20	0.70	3.20	0.60	3.60	1.00
	5	2.50	0.15	3.00	0.30	3.50	0.95	2.00	0.20	3.00	0.20	4.00	0.45	4.50	0.25	4.00	0.45	4.00	0.70	4.00	0.55	4.50	1.00
	6	3.00	0.30	3.60	0.30	4.20	0.90	2.40	0.20	3.60	0.20	4.80	0.35	5.40	0.30	4.80	0.40	4.80	0.55	4.80	0.40	5.40	0.90
	7	3.50	0.40	4.20	0.25	4.90	0.75	2.80	0.20	4.20	0.20	5.60	0.25	6.30	0.25	5.60	0.50	5.60	0.45	5.60	0.35	6.30	0.80
	8	4.00	0.35	4.80	0.20	5.60	0.40	3.20	0.15	4.80	0.25	6.40	0.20	7.20	0.20	6.40	0.45	6.40	0.30	6.40	0.30	7.20	0.55
	9	4.50	0.15	5.40	0.15	6.30	0.10	3.60	0.10	5.40	0.35	7.20	0.15	8.10	0.15	7.20	0.25	7.20	0.25	7.20	0.15	8.10	0.50
<b>Right Bank</b>		5.00	0.00	6.00	0.00	7.00	0.00	4.00	0.00	6.00	0.00	8.00	0.00	9.00	0.00	8.00	0.00	8.00	0.00	8.00	0.00	9.00	0.00
<b>Feature Type</b> <small>(riffle, run, or pool)</small>		riffle		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: David Bender      Date: 9/21/2008

WBID # 187

Site # 7

**Field Data Sheets for Recreational Use Stream Surveys**

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

(must be completed for each site)

<b>Date &amp; Time:</b> 9/21/2008	10:10	Location Description (e.g., road crossing):
<b>Stream Name:</b> Coon Cr.		C.R. 59
Current Weather Conditions: cloudy		Facility Name(s): Middletown City Lagoon
Weather Conditions for Past 10 days: no precipitation		Permit Number(s): MO0055387
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): 0637308	Northing (UTM Y): 4331497	Horizontal Accuracy: (EPE / FOM / PDOP) 2 Meters
Site 11	Easting (UTM X): 0637492	Northing (UTM Y): 4331413	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
79	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
80	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 # 7

**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: Sewer treatment plant				

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

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

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

20% Cobble	30% Gravel	40% Sand	% Silt	10% Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

Algae on 50% 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 type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input 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 # 7

**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>Coon Cr</u> Waterbody ID: <u>187</u> Site #: <u>7</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) <b>01</b> UTM X: <u>0637308</u> UTM Y: <u>4331497</u> +/- <u>2</u> (meters) <b>11</b> UTM X: <u>0637492</u> UTM Y: <u>4331413</u> +/- <u>7</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>	<b>Dissolved Oxygen</b>  Date: <u>9/21/2008</u> Time: <u>10:10</u>  Dissolved Oxygen: <u>9.4</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>19.6</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)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.60	0.10	0.50	0.01	0.70	0.05	0.90	0.05	0.70	0.10	0.40	0.60	0.60	0.45	0.70	0.35	0.70	0.10	0.40	0.10	0.60	0.10
	2	1.20	0.15	1.00	0.10	1.40	0.15	1.80	0.25	1.40	0.30	0.80	0.60	1.20	0.60	1.40	0.55	1.40	0.85	0.80	0.15	1.20	0.35
	3	1.80	0.30	1.50	0.15	2.10	0.30	2.70	0.45	2.10	0.50	1.20	0.50	1.80	0.40	2.10	0.80	2.10	0.55	1.20	0.25	1.80	0.85
	4	2.40	0.40	2.00	0.15	2.80	0.60	3.60	0.95	2.80	0.80	1.60	0.40	2.40	0.75	2.80	1.00	2.80	0.30	1.60	0.30	2.40	1.00
	5	3.00	0.45	2.50	0.20	3.50	0.95	4.50	1.00	3.50	1.00	2.00	0.35	3.00	0.70	3.50	1.00	3.50	0.40	2.00	0.30	3.00	1.00
	6	3.60	0.65	3.00	0.20	4.20	0.95	5.40	0.70	4.20	1.00	2.40	0.30	3.60	0.70	4.20	0.95	4.20	0.30	2.40	0.30	3.60	0.90
	7	4.20	0.60	3.50	0.20	4.90	0.95	6.30	0.55	4.90	1.00	2.80	0.20	4.20	0.55	4.90	0.85	4.90	0.25	2.80	0.30	4.20	0.60
	8	4.80	0.75	4.00	0.15	5.60	0.65	7.20	0.75	5.60	0.55	3.20	0.10	4.80	0.25	5.60	0.35	5.60	0.25	3.20	0.25	4.80	0.30
	9	5.40	0.70	4.50	0.10	6.30	0.25	8.10	0.30	6.30	0.45	3.60	0.05	5.40	0.10	6.30	0.05	6.30	0.15	3.60	0.15	5.40	0.10
<b>Right Bank</b>		6.00	0.00	5.00	0.00	7.00	0.00	9.00	0.00	7.00	0.00	4.00	0.00	6.00	0.00	7.00	0.00	7.00	0.00	4.00	0.00	6.00	0.00
Feature Type		pool		riffle		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: David Bender

Date: 9/21/2008

WBID # 187

Site # 8

**Field Data Sheets for Recreational Use Stream Surveys**

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

(must be completed for each site)

<b>Date &amp; Time:</b> 9/21/2008                      11:10	Location Description (e.g., road crossing):
<b>Stream Name:</b> Coon Cr.	State Hwy A
Current Weather Conditions: partly cloudy	Facility Name(s): Middletown City Lagoon
Weather Conditions for Past 10 days: no precipitation	Permit Number(s): MO0055387
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): 0639808	Northing (UTM Y): 4331277	Horizontal Accuracy: (EPE / FOM / PDOP) 6 Meters
Site 11	Easting (UTM X): 0640022	Northing (UTM Y): 4331256	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
81	downstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
82	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 # 8

**Field Data Sheets for Recreational Use Stream Surveys**

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

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

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

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

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input 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 20% 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 # 8

**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>Coon Cr</u> Waterbody ID: <u>187</u> Site #: <u>8</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) <b>01</b> UTM X: <u>0639808</u> UTM Y: <u>4331277</u> +/- <u>6</u> (meters) <b>11</b> UTM X: <u>0640022</u> UTM Y: <u>4331256</u> +/- <u>7</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 Schueler</u>	<b>Dissolved Oxygen</b>  Date: <u>9/21/2008</u> Time: <u>11:10</u>  Dissolved Oxygen: <u>8.9</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>19.0</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)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.80	0.05	0.30	0.15	0.30	0.20	0.60	0.65	0.40	0.25	0.50	0.25	0.70	0.05	0.70	0.15	0.80	0.15	0.80	0.15	0.40	0.05
	2	1.60	0.15	0.60	0.35	0.60	0.25	1.20	0.90	0.80	0.50	1.00	0.75	1.40	0.20	1.40	0.10	1.60	0.45	1.60	0.50	0.80	0.10
	3	2.40	0.20	0.90	0.20	0.90	0.20	1.80	0.80	1.20	0.40	1.50	0.60	2.10	0.25	2.10	0.20	2.40	0.55	2.40	0.55	1.20	0.20
	4	3.20	0.25	1.20	0.15	1.20	0.25	2.40	0.60	1.60	0.40	2.00	0.60	2.80	0.15	2.80	0.35	3.20	0.55	3.20	0.60	1.60	0.35
	5	4.00	0.25	1.50	0.05	1.50	0.25	3.00	0.50	2.00	0.40	2.50	0.60	3.50	0.20	3.50	0.40	4.00	0.60	4.00	0.60	2.00	0.40
	6	4.80	0.30	1.80	0.01	1.80	0.15	3.60	0.55	2.40	0.30	3.00	0.50	4.20	0.25	4.20	0.45	4.80	0.65	4.80	0.60	2.40	0.55
	7	5.60	0.25	2.10	0.05	2.10	0.15	4.20	0.40	2.80	0.25	3.50	0.35	4.90	0.20	4.90	0.50	5.60	0.55	5.60	0.55	2.80	0.50
	8	6.40	0.20	2.40	0.05	2.40	0.10	4.80	0.15	3.20	0.20	4.00	0.20	5.60	0.20	5.60	0.40	6.40	0.45	6.40	0.45	3.20	0.20
	9	7.20	0.05	2.70	0.05	2.70	0.05	5.40	0.05	3.60	0.05	4.50	0.05	6.30	0.05	6.30	0.15	7.20	0.10	7.20	0.15	3.60	0.10
<b>Right Bank</b>		8.00	0.00	3.00	0.00	3.00	0.00	6.00	0.00	4.00	0.00	5.00	0.00	7.00	0.00	7.00	0.00	8.00	0.00	8.00	0.00	4.00	0.00
<b>Feature Type</b> <small>(riffle, run, or pool)</small>		pool		riffle		riffle		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 0.1 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: 9/21/2008

**WBID# 187**



**Site#1 Photo ID#66**



**Site#1 Photo ID#67**



**Site#2 Photo ID#68**



**Site#2 Photo ID# 69**

**WBID# 187**



**Site#3 Photo ID#70**



**Site#3 Photo ID#71**



**Site#3 Photo ID#72**



**Site#4 Photo ID#73**

**WBID# 187**



**Site#4 Photo ID#74**



**Site#5 Photo ID#75**



**Site#5 Photo ID#76**



**Site#6 Photo ID#77**

**WBID# 187**



**Site#6 Photo ID#78**



**Site#7 Photo ID#79**



**Site#7 Photo ID#80**



**Site#8 Photo ID#81**

**WBID# 187**



**Site#8 Photo ID#82**