



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 1691 Dunn Spring 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): Dunn Spring Cr.
Missouri Water Body Identification (WBID) Number: 1691
8-digit HUC: 10300200
County(ies), Listed Upstream to Downstream: Franklin
Upstream Legal Description (from Table H): T44N R1E Sec. 34
Downstream Legal Description (from Table H): T44N R1E Sec. 26
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : 1, 2, 3
Include a Site Location Map(s). The map must include all requirements detailed in the <i>Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol</i> (Section IV.D.8.a).

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

Facility Name(s) and Permit Number(s): Hake-Lewis Building MO0111562

III. UAA Surveyor (please PRINT legibly)

Name of Surveyor: David Bender	Telephone Number: 913-307-0046
Organization/Employer: SES, Inc.	

Please verify that you have completed all sections of all data sheets, checked all applicable boxes, provided a map (that includes all requirements listed in the *Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol*) and that this form is complete.

Signed: David Bender **Date:** 10-05-08

1691 Dunn Spring Creek



AUGUSTA BOTTOM RD AUGUSTA BOTTOM RD

St Charles County

St. Charles County
Franklin County

Site 3

BOLES RD BOLES RD

Site 2

Site 1

1691 DUNN SPR. CR.

Franklin County

DOWN SPRING RD

DOWN SPRING RD

STATE HWY T

STATE HWY 100 OLD

STATE HWY 100 OLD

STATE HWY T

STATE HWY 100 OLD

STATE HWY V

ELDER RD

ELDER RD

WBID # 1691

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 10/05/08 8:55	Location Description (e.g., road crossing): Down Spring Rd.
Stream Name: Dunn Spring Cr.	
Current Weather Conditions: Clear	Facility Name(s): Hake-Lewis Building
Weather Conditions for Past 10 days: 0.06 in	Permit Number(s): MO 0111562
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): 0683019	Northing (UTM Y): 4265341	Horizontal Accuracy: (EPE / FOM / PDOP) 5 Meters
Site 11	Easting (UTM X): 0683072	Northing (UTM Y): 4265478	Horizontal Accuracy: (EPE / FOM / PDOP) 11 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
86	Downstream	87	Old road crossing	88	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*: (Uses actually observed at the time of survey.)

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

Field Data Sheets for Recreational Use Stream Surveys

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

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

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

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

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

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

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

None

Water Characteristics*: (Mark all that apply.)

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

Field Data Sheets for Recreational Use Stream Surveys

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

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

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

Comments: (Please record any additional comments here.)

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

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

Surveyor’s Signature: David Bender

Date of Survey: 10/05/08

Organization: SES, Inc.

Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Dunn Spring Cr.</u> Waterbody ID: <u>1691</u> Site #: <u>1</u> Estimated Channel Incision: <u>2</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0683019</u> UTM Y: <u>4265341</u> +/- <u>5</u> (meters) 11 UTM X: <u>0683072</u> UTM Y: <u>4265478</u> +/- <u>11</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>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/5/2008</u> Time: <u>8:55</u> Dissolved Oxygen: <u>5.0</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>14.9</u> (°C)
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Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.15	0.05	0.50	0.10	0.20	0.01	0.50	0.05	0.40	0.50	0.40	0.20	0.10	0.01	0.20	0.05	0.40	0.10	0.10	0.01	0.20	0.01
	2	0.30	0.15	1.00	0.45	0.40	0.05	1.00	0.15	0.80	0.10	0.80	0.20	0.20	0.01	0.40	0.05	0.80	0.15	0.20	0.01	0.40	0.10
	3	0.45	0.15	1.50	0.95	0.60	0.05	1.50	0.35	1.20	0.20	1.20	0.25	0.30	0.01	0.60	0.10	1.20	0.20	0.30	0.05	0.60	0.20
	4	0.60	0.15	2.00	0.85	0.80	0.05	2.00	0.40	1.60	0.40	1.60	0.30	0.40	0.01	0.80	0.10	1.60	0.30	0.40	0.05	0.80	0.25
	5	0.75	0.15	2.50	0.60	1.00	0.10	2.50	0.25	2.00	0.50	2.00	0.25	0.50	0.01	1.00	0.10	2.00	0.40	0.50	0.05	1.00	0.25
	6	0.90	0.10	3.00	0.45	1.20	0.10	3.00	0.25	2.40	0.55	2.40	0.25	0.60	0.01	1.20	0.02	2.40	0.35	0.60	0.05	1.20	0.20
	7	1.05	0.05	3.50	0.20	1.40	0.05	3.50	0.20	2.80	0.45	2.80	0.20	0.70	0.01	1.40	0.02	2.80	0.35	0.70	0.05	1.40	0.20
	8	1.20	0.05	4.00	0.10	1.60	0.05	4.00	0.30	3.20	0.30	3.20	0.05	0.80	0.01	1.60	0.10	3.20	0.20	0.80	0.01	1.60	0.10
	9	1.35	0.01	4.50	0.05	1.80	0.05	4.50	0.35	3.60	0.15	3.60	0.05	0.90	0.01	1.80	0.05	3.60	0.10	0.90	0.01	1.80	0.05
Right Bank		1.50	0.00	5.00	0.00	2.00	0.00	5.00	0.00	4.00	0.00	4.00	0.00	1.00	0.00	2.00	0.00	4.00	0.00	1.00	0.00	2.00	0.00
Feature Type		pool		pool		pool		pool		pool		pool		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: 10/5/2008



WBID # 1691

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 10/05/08 9:25	Location Description (e.g., road crossing): Boles Rd.
Stream Name: Dunn Spring Cr.	
Current Weather Conditions: Clear	Facility Name(s): Hake-Lewis Building
Weather Conditions for Past 10 days: 0.06 in	Permit Number(s): MO 0111562
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): 0683877	Northing (UTM Y): 4266369	Horizontal Accuracy: (EPE / FOM / PDOP)	3 Meters
Site 11	Easting (UTM X): 0688856	Northing (UTM Y): 4266568	Horizontal Accuracy: (EPE / FOM / PDOP)	5 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
89	Downstream	90	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*: (Uses actually observed at the time of survey.)

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

Field Data Sheets for Recreational Use Stream Surveys

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

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

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input checked="" 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	60% Gravel	20% Sand	% Silt	20% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

None

Water Characteristics*: (Mark all that apply.)

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

Field Data Sheets for Recreational Use Stream Surveys

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

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

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

Comments: (Please record any additional comments here.)

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

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

Surveyor's Signature: David Bender

Date of Survey: 10/05/08

Organization: SES, Inc.

Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Dunn Spring Cr.</u> Waterbody ID: <u>1691</u> Site #: <u>2</u> Estimated Channel Incision: <u>2</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0683877</u> UTM Y: <u>4266369</u> +/- <u>3</u> (meters) 11 UTM X: <u>0688856</u> UTM Y: <u>4266568</u> +/- <u>5</u> (meters) Average Stream Width: <u>4</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>David Bender, Chris Schuler</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/5/2008</u> Time: <u>9:25</u> Dissolved Oxygen: <u>7.3</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>13.4</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.10	0.05	0.50	0.05	0.30	0.05	0.25	0.05	0.50	0.20	0.50	0.15	0.50	0.05	0.50	0.05	0.40	0.05	0.50	0.10	0.80	0.05
	2	0.20	0.05	1.00	0.10	0.60	0.05	0.50	0.10	1.00	0.45	1.00	0.25	1.00	0.15	1.00	0.15	0.80	0.15	1.00	0.20	1.60	0.05
	3	0.30	0.10	1.50	0.15	0.90	0.05	0.75	0.35	1.50	1.00	1.50	0.30	1.50	0.30	1.50	0.40	1.20	0.30	1.50	0.45	2.40	0.05
	4	0.40	0.10	2.00	0.35	1.20	0.05	1.00	0.35	2.00	1.00	2.00	0.40	2.00	0.30	2.00	0.45	1.60	0.40	2.00	0.40	3.20	0.05
	5	0.50	0.15	2.50	0.40	1.50	0.05	1.25	0.35	2.50	1.00	2.50	0.65	2.50	0.30	2.50	0.50	2.00	0.35	2.50	0.40	4.00	0.05
	6	0.60	0.15	3.00	0.30	1.80	0.05	1.50	0.35	3.00	1.00	3.00	0.70	3.00	0.30	3.00	0.45	2.40	0.20	3.00	0.35	4.80	0.05
	7	0.70	0.10	3.50	0.25	2.10	0.05	1.75	0.30	3.50	0.80	3.50	0.35	3.50	0.30	3.50	0.30	2.80	0.15	3.50	0.25	5.60	0.05
	8	0.80	0.10	4.00	0.15	2.40	0.05	2.00	0.15	4.00	0.45	4.00	0.30	4.00	0.25	4.00	0.15	3.20	0.10	4.00	0.10	6.40	0.05
	9	0.90	0.05	4.50	0.10	2.70	0.05	2.25	0.05	4.50	0.10	4.50	0.10	4.50	0.10	4.50	0.05	3.60	0.05	4.50	0.05	7.20	0.05
Right Bank		1.00	0.00	5.00	0.00	3.00	0.00	2.50	0.00	5.00	0.00	5.00	0.00	5.00	0.00	5.00	0.00	4.00	0.00	5.00	0.00	8.00	0.00
Feature Type		riffle		pool		riffle		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: 10/5/2008



WBID # 1691

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 10/05/08 10:00	Location Description (e.g., road crossing): Bole Rd.
Stream Name: Dunn Spring Cr.	
Current Weather Conditions: Clear	Facility Name(s): Hake-Lewis Building
Weather Conditions for Past 10 days: 0.06 in	Permit Number(s): MO 0111562
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): 0684297	Northing (UTM Y): 4267746	Horizontal Accuracy: (EPE / FOM / PDOP) 7 Meters
Site 11	Easting (UTM X): 0684380	Northing (UTM Y): 4267887	Horizontal Accuracy: (EPE / FOM / PDOP) 8 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
91	Downstream	92	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*: (Uses actually observed at the time of survey.)

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

Field Data Sheets for Recreational Use Stream Surveys

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

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

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other:
Comments: None				

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

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

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

% Cobble	% Gravel	% Sand	% Silt	100% 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 checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input 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.

Field Data Sheets for Recreational Use Stream Surveys

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

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

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

Comments: (Please record any additional comments here.)

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

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

Surveyor’s Signature: David Bender

Date of Survey: 10/05/08

Organization: SES, Inc.

Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Dunn Spring Cr.</u> Waterbody ID: <u>1691</u> Site #: <u>3</u> Estimated Channel Incision: <u>5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0684297</u> UTM Y: <u>4267746</u> +/- <u>7</u> (meters) 11 UTM X: <u>0684380</u> UTM Y: <u>4267887</u> +/- <u>8</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>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/5/2008</u> Time: <u>10:00</u> Dissolved Oxygen: <u>7.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>14.7</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)																				
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	0.10	0.15	0.40	0.10	0.50	0.10	0.50	0.10	0.50	0.10	0.60	0.10	0.50	0.10	0.50	0.15	0.50	0.10	0.60	0.10		
	2	0.20	0.15	0.80	0.25	1.00	0.35	1.00	0.35	1.00	0.30	1.00	0.30	1.20	0.20	1.00	0.30	1.00	0.35	1.00	0.30	1.20	0.30
	3	0.30	0.15	1.20	0.40	1.50	0.75	1.50	0.40	1.50	0.30	1.50	0.45	1.80	0.45	1.50	0.45	1.50	0.40	1.50	0.55	1.80	0.40
	4	0.40	0.20	1.60	0.45	2.00	0.75	2.00	0.40	2.00	0.35	2.00	0.40	2.40	0.60	2.00	0.40	2.00	0.45	2.00	0.70	2.40	0.60
	5	0.50	0.15	2.00	0.20	2.50	0.75	2.50	0.30	2.50	0.35	2.50	0.35	3.00	0.65	2.50	0.30	2.50	0.35	2.50	0.70	3.00	0.55
	6	0.60	0.15	2.40	0.10	3.00	0.75	3.00	0.25	3.00	0.30	3.00	0.25	3.60	0.45	3.00	0.25	3.00	0.30	3.00	0.40	3.60	0.35
	7	0.70	0.15	2.80	0.15	3.50	0.50	3.50	0.15	3.50	0.25	3.50	0.25	4.20	0.40	3.50	0.20	3.50	0.25	3.50	0.30	4.20	0.30
	8	0.80	0.20	3.20	0.10	4.00	0.40	4.00	0.10	4.00	0.20	4.00	0.25	4.80	0.30	4.00	0.20	4.00	0.25	4.00	0.25	4.80	0.25
	9	0.90	0.15	3.60	0.05	4.50	0.10	4.50	0.05	4.50	0.10	4.50	0.15	5.40	0.15	4.50	0.15	4.50	0.10	4.50	0.15	5.40	0.15
Right Bank		1.00	0.00	4.00	0.00	5.00	0.00	5.00	0.00	5.00	0.00	5.00	0.00	6.00	0.00	5.00	0.00	5.00	0.00	5.00	0.00	6.00	0.00
Feature Type		rifle		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: 10/5/2008

