Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 3321 Homes Creek

Submitted by
SES, Inc.

To
Missouri Department of Natural Resources
Water Protection Program

On
May 28, 2008

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A – Water Body Identification

I. Water Body Information (for water body being surveyed)

Water Body Name (from USGS 7.5' quad): Holmes Creek
Missouri Water Body Identification (WBID) Number: 3321
8-digit HUC: 10300101
County(ies), Listed Upstream to Downstream: Clay
Upstream Legal Description (from Table H): 52N 31W Sec15
Downstream Legal Description (from Table H): 52N 30W Sec17
Number of sites evaluated: 3
List all site numbers, consecutively upstream to downstream: 1, 2, 3
Include a Site Location Map(s). The map must include all requirements detailed in the *Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol* (Section IV.D.8.a).

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

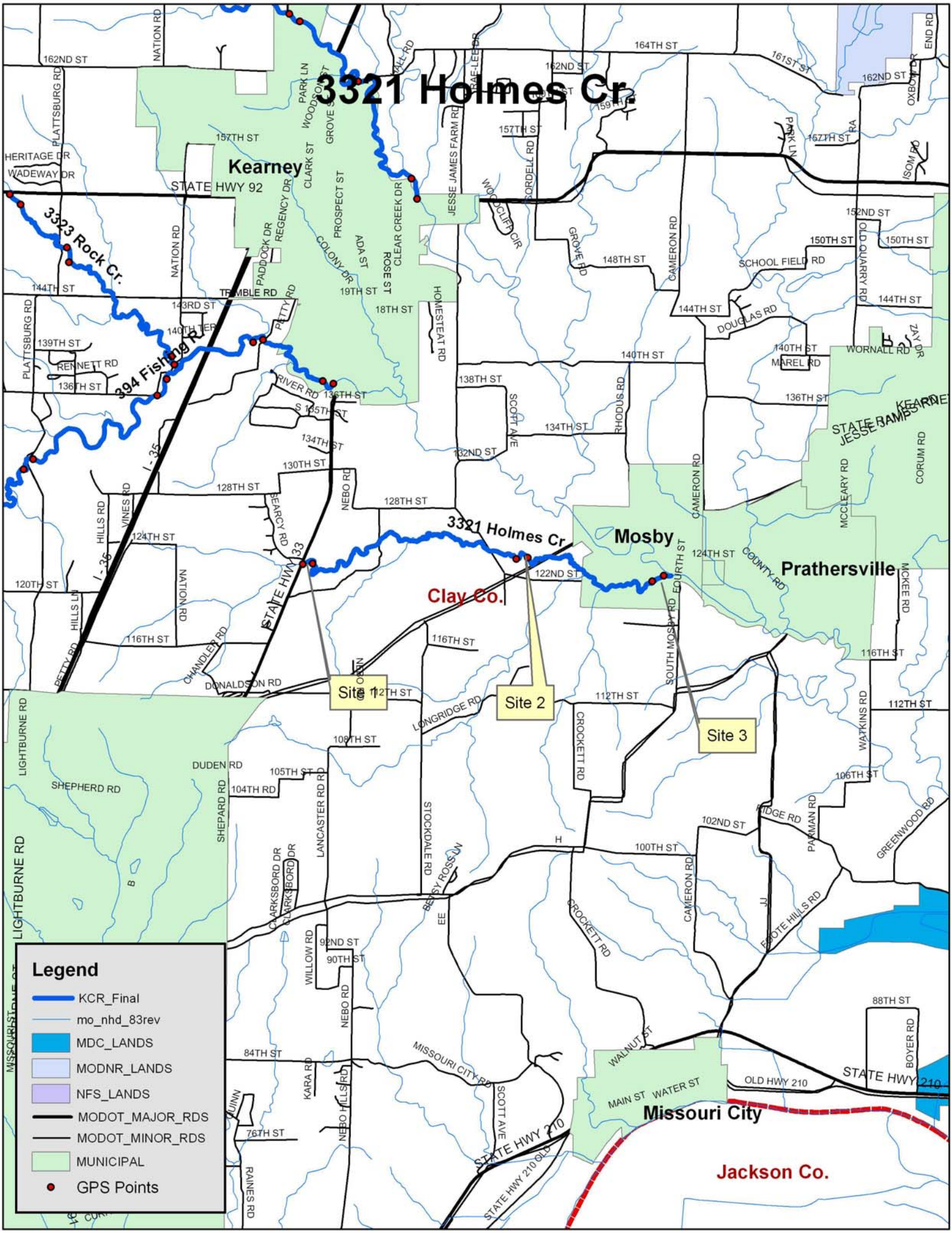
Facility Name(s) and Permit Number(s): Berkshire Glen Subdivision **MO 0128511**

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

Name of Surveyor: Aaron Ball	Telephone Number: 913.307.0046 Ext.14
Organization/Employer: SES, Inc.	

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

Signed: Aaron Ball Date: 4.23.08


3321 Holmes Cr.
Kearney
Mosby
Prathersville
Missouri City
Clay Co.
Jackson Co.
3323 Rock Cr.
394 Fishing R.
3321 Holmes Cr
Site 1
Site 2
Site 3
STATE HWY 92
STATE HWY 33
STATE HWY 210
OLD HWY 210
I - 35
Legend
KCR_Final
mo_nhd_83rev
MDC_LANDS
MODNR_LANDS
NFS_LANDS
MODOT_MAJOR_RDS
MODOT_MINOR_RDS
MUNICIPAL
GPS Points

WBID #3321

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: 4.16.08 14:00	Location Description (e.g., road crossing):
Stream Name: Holmes Creek	Highway 33
Current Weather Conditions: clear	Facility Name(s): Berkshire Glen Subdivision
Weather Conditions for Past 10 days: 3.37 inches	Permit Number(s): MO0128511
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0382238	Northing (UTM Y): 4352561	Horizontal Accuracy: (EPE / FOM / PDOP)	4 Meters
Site 11	Easting (UTM X): 0382398	Northing (UTM Y): 4352585	Horizontal Accuracy: (EPE / FOM / PDOP)	5 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
53	downstream, T1	54	upstream, T11		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☑ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* 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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☑ Urban areas	☐ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☐ Steep slopes	☑ Other:
Comments: new housing/subdivision				

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

☐ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
☑ None of the above	Comments / Other:			

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

10% Cobble	20% Gravel	10% Sand	% Silt	50% Mud/Clay	10% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

algae covers 60% of substrate.

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☑ None	☐ Other:
Color:	☐ Clear	☑ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☑ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☑ None	☐ 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.)

none

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

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

Surveyor's Signature: Aaron Ball Date of Survey: 4.16.08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: Holmes Creek Waterbody ID: 3321 Site #: 1

Estimated Channel Incision: 1.5 (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: 0382238	UTM Y: 4352561	+/-	4 (meters)
11	UTM X: 0382398	UTM Y: 4352585	+/-	5 (meters)

Average Stream Width: 5 (meters) (To determne Length of Reach)

Length of Survey Segment: 150 (meters) (20x average stream width)

Field Staff: Gilisa Gould and Aaron Ball

Dissolved Oxygen

Date: 4.16.08 Time: 14:00

Dissolved Oxygen: 8.6 (mg/L)

Dissolved Oxygen: _____ (% sat)

Specific Cond: _____ (µS/cm)

Water Temperature: 15.9 (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	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	0.60	0.15	0.60	0.10	0.60	0.20	0.70	0.10	0.70	0.20	0.20	0.30	0.20	0.30	0.20	0.20	0.40	0.20	0.40	0.15	0.50	0.20
2	1.20	0.20	1.20	0.20	1.20	0.30	1.40	0.20	1.40	0.50	0.40	0.35	0.40	0.30	0.40	0.25	0.80	0.40	0.80	0.20	1.00	0.35
3	1.80	0.30	1.80	0.35	1.80	0.30	2.10	0.45	2.10	0.60	0.60	0.25	0.60	0.30	0.60	0.25	1.20	0.50	1.20	0.20	1.50	0.00
4	2.40	0.30	2.40	0.50	2.40	0.30	2.80	0.65	2.80	0.60	0.80	0.30	0.80	0.30	0.80	0.30	1.60	0.55	1.60	0.20	2.00	0.05
5	3.00	0.30	3.00	0.70	3.00	0.40	3.50	0.65	3.50	0.40	1.00	0.30	1.00	0.30	1.00	0.25	2.00	0.55	2.00	0.10	2.50	0.10
6	3.60	0.40	3.60	0.50	3.60	0.40	4.20	0.60	4.20	0.45	1.20	0.20	1.20	0.30	1.20	0.30	2.40	0.55	2.40	0.10	3.00	0.25
7	4.20	0.35	4.20	0.45	4.20	0.35	4.90	0.60	4.90	0.40	1.40	0.25	1.40	0.25	1.40	0.25	2.80	0.50	2.80	0.20	3.50	0.50
8	4.80	0.40	4.80	0.30	4.80	0.30	5.60	0.40	5.60	0.30	1.60	0.20	1.60	0.15	1.60	0.30	3.20	0.45	3.20	0.20	4.00	0.40
9	5.40	0.30	5.40	0.20	5.40	0.20	6.30	0.35	6.30	0.20	1.80	0.15	1.80	0.15	1.80	0.20	3.60	0.35	3.60	0.10	4.50	0.40
Right Bank	6.00	0.10	6.00	0.15	6.00	0.10	7.00	0.25	7.00	0.15	2.00	0.10	2.00	0.10	2.00	0.25	4.00	0.35	4.00	0.05	5.00	0.25
Feature Type (riffle, run, or pool)	pool		pool		run		pool		pool		run		run		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 bv dividing wetted width by ten)

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

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Aaron Ball Date: 4.23.08

WBID #3321

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: 4.16.08 12:00	Location Description (e.g., road crossing):
Stream Name: Holmes Creek	Highway 69
Current Weather Conditions: clear	Facility Name(s): Berkshire Glen Subdivision
Weather Conditions for Past 10 days: 3.37 inches	Permit Number(s): MO0128511
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0385692	Northing (UTM Y): 4352645	Horizontal Accuracy: (EPE / FOM / PDOP)	5 Meters
Site 11	Easting (UTM X): 0385879	Northing (UTM Y): 4352664	Horizontal Accuracy: (EPE / FOM / PDOP)	5 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
48	upstream, T11	49	log jam	50	downsteam
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.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☑ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* 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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☑ Urban areas	☐ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☐ Steep slopes	☑ Other:

Comments:

Segment lays between Highway 69 (downstream end) and construction on Summersette Road bridge (upstream end).

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

☐ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
☑ None of the above	Comments / Other:			

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

10% Cobble	10% Gravel	10% Sand	% Silt	70% Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

none in water, banks are vegetated

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☑ None	☐ Other:
Color:	☐ Clear	☑ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☑ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☑ None	☐ 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.)

Log-jam is located where Transect 3 would have been, at equidistance between Transect 2 and Transect 4, so therefore Transect 3 measurements were taken 10 meters upstream from the log-jam. The deep measurements at the measured Transect 3 location could be caused by the log-jam.

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

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

Surveyor's Signature: Aaron Ball Date of Survey: 4.16.08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: Holmes Creek Waterbody ID: 3321 Site #: 2

Estimated Channel Incision: 1.5 (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: 0385692 UTM Y: 4352645 +/- 5 (meters)

11 UTM X: 0385879 UTM Y: 4352664 +/- 5 (meters)

Average Stream Width: 3 (meters) (To determne Length of Reach)

Length of Survey Segment: 150 (meters) (20x average stream width)

Field Staff: Gilisa Gould and Aaron Ball

Dissolved Oxygen

Date: 4.16.08 Time: 12:00

Dissolved Oxygen: 4.1 (mg/L)

Dissolved Oxygen: _____ (% sat)

Specific Cond: _____ (µS/cm)

Water Temperature: 12.4 (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	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	0.60	0.25	0.50	0.25	0.50	0.30	0.40	0.10	0.40	0.10	0.40	0.10	0.40	0.10	0.40	0.10	0.40	0.15	0.30	0.25	0.20	0.20
2	1.20	0.40	1.00	0.40	1.00	0.60	0.80	0.15	0.80	0.15	0.80	0.20	0.80	0.25	0.80	0.10	0.80	0.20	0.60	0.35	0.40	0.25
3	1.80	0.60	1.50	0.50	1.50	1.00	1.20	0.20	1.20	0.20	1.20	0.40	1.20	0.20	1.20	0.15	1.20	0.30	0.90	0.40	0.60	0.35
4	2.40	0.60	2.00	0.60	2.00	1.00	1.60	0.20	1.60	0.20	1.60	0.45	1.60	0.20	1.60	0.20	1.60	0.30	1.20	0.45	0.80	0.40
5	3.00	0.55	2.50	0.65	2.50	1.00	2.00	0.20	2.00	0.25	2.00	0.30	2.00	0.30	2.00	0.25	2.00	0.25	1.50	0.45	1.00	0.50
6	3.60	0.50	3.00	0.70	3.00	1.00	2.40	0.20	2.40	0.25	2.40	0.30	2.40	0.35	2.40	0.30	2.40	0.20	1.80	0.50	1.20	0.50
7	4.20	0.45	3.50	0.70	3.50	1.00	2.80	0.15	2.80	0.25	2.80	0.05	2.80	0.40	2.80	0.30	2.80	0.20	2.10	0.45	1.40	0.50
8	4.80	0.50	4.00	0.60	4.00	1.00	3.20	0.15	3.20	0.20	3.20	0.10	3.20	0.40	3.20	0.30	3.20	0.15	2.40	0.40	1.60	0.40
9	5.40	0.40	4.50	0.45	4.50	0.85	3.60	0.10	3.60	0.15	3.60	0.10	3.60	0.30	3.60	0.20	3.60	0.10	2.70	0.30	1.80	0.20
Right Bank	6.00	0.20	5.00	0.20	5.00	0.80	4.00	0.10	4.00	0.10	4.00	0.10	4.00	0.15	4.00	0.10	4.00	0.10	3.00	0.20	2.00	0.15
Feature Type (riffle, run, or pool)	pool		pool		pool		riffle		run		run		run		run		run		run		run	

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

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

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

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

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Aaron Ball Date: 4.23.08

WBID #3321

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: 4.16.08 12:50	Location Description (e.g., road crossing):
Stream Name: Holmes Creek	122nd
Current Weather Conditions: clear	Facility Name(s): Berkshire Glen Subdivision
Weather Conditions for Past 10 days: 3.37 inches	Permit Number(s): MO0128511
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0387892	Northing (UTM Y): 4352289	Horizontal Accuracy: (EPE / FOM / PDOP)	6 Meters
Site 11	Easting (UTM X): 0388074	Northing (UTM Y): 4352373	Horizontal Accuracy: (EPE / FOM / PDOP)	5 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
51	upstream, T11	52	downstream, T1		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☑ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* 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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☑ Urban areas	☐ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☐ Steep slopes	☐ Other:
Comments:				

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

☐ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
☑ None of the above	Comments / Other:			

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

% Cobble	% Gravel	% Sand	% Silt	100% Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

none in water, banks are vegetated

Water Characteristics*: (Mark all that apply.)

Odor:	☑ Sewage	☐ Musky	☐ Chemical	☐ None	☐ Other:
Color:	☐ Clear	☑ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☑ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☑ None	☐ 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.)

the substrate was mud, but could this be a "fine sediment" deposit from recent occurance since this location is so close to the mouth and its convergence with Fishing River. This "mud" was 1-2 feet deep and was fluffy (nice vocabulary) like it hadn't been there for long. Underneath this "mud" seemed to be a gravel from what I could sense by feel from my feet.

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

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

Surveyor's Signature: Aaron Ball Date of Survey: 4.16.08

Organization: SES, Inc. Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: Holmes Creek Waterbody ID: 3321 Site #: 3

Estimated Channel Incision: 3 (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: 0387892	UTM Y: 4352289	+/- 6 (meters)
11	UTM X: 0387892	UTM Y: 4352373	+/- 5 (meters)

Average Stream Width: 3 (meters) (To determne Length of Reach)

Length of Survey Segment: 150 (meters) (20x average stream width)

Field Staff: Gilisa Gould and Aaron Ball

Dissolved Oxygen

Date: 4.16.08 Time: 12:50

Dissolved Oxygen: 2.7 (mg/L)

Dissolved Oxygen: _____ (% sat)

Specific Cond: _____ (µS/cm)

Water Temperature: 14.4 (°C)

Transect Cross-Section

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

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

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

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

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

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Aaron Ball Date: 4.23.08

WBID# 3321 Holmes Creek

Site# 1 Photo ID# 53, Downstream, T1

Site# 1 Photo ID# 54, Upstream, T11

Site# 2 Photo ID# 50, Downstream, T1

Site# 2 Photo ID# 48, Upstream, T11

WBID# 3321 Holmes Creek

Site# 2 Photo ID# 49, Log Jam

Site# 3 Photo ID# 51, Upstream, T11

Site# 3 Photo ID# 52, Downstream, T1