

Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 2190 Saline Creek

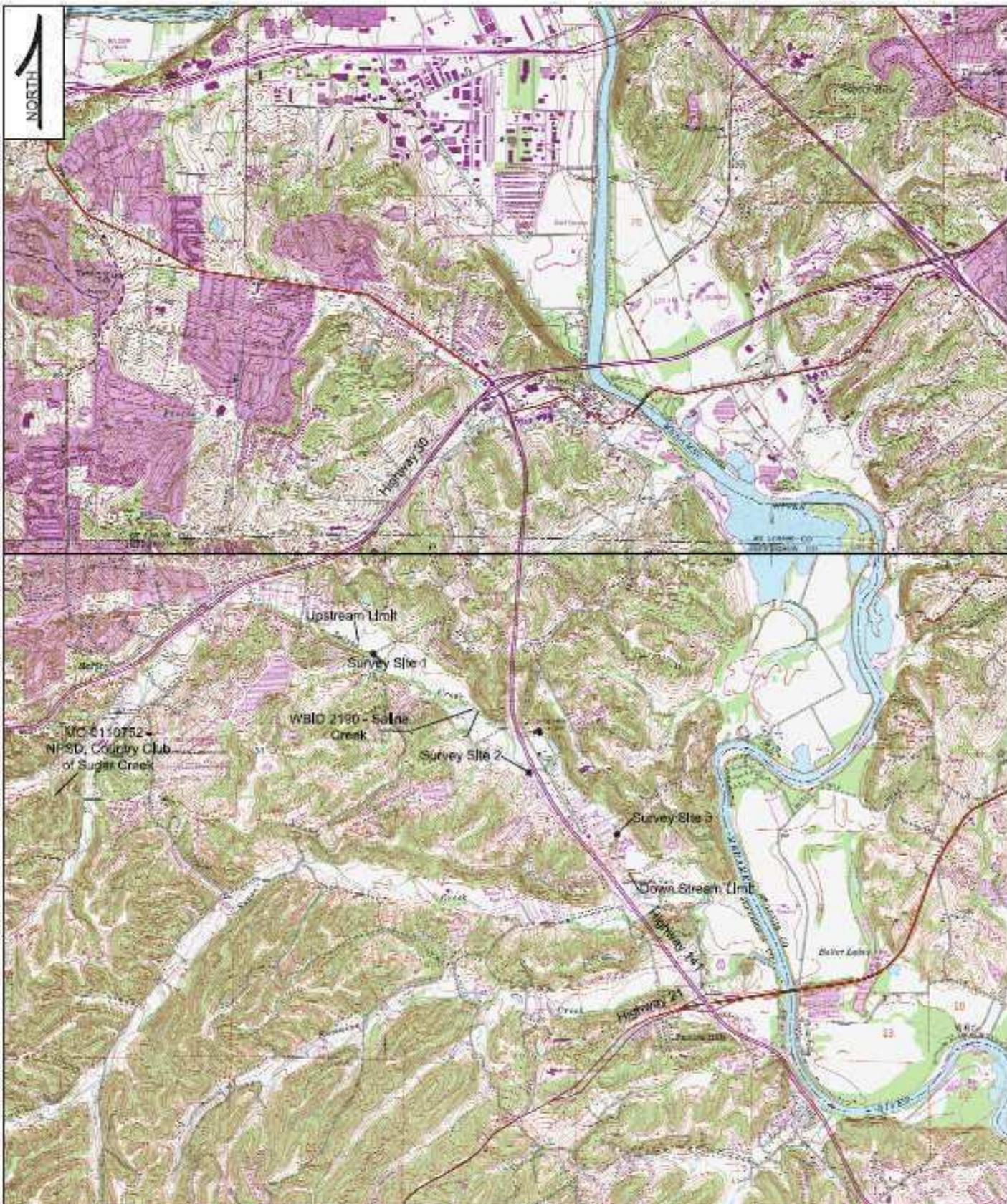
Submitted by

Pickett Ray and Silver

to

Missouri Department of Natural Resources
Water Protection Program

Date received: June 5, 2007



PICKETT RAY & SILVER

Civil Engineers Land Surveyors Natural Resources

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WBID #: 2190
Name: Saline Creek
County: Jefferson
USGS Location Map



GRAPHIC SCALE
Not to Scale

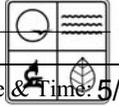
PRS Job Number: 07031.MODN.00E
Drawn By: RLR Date: 05-24-07
Checked By: JCV Date: 05-24-07

\\3server\prj\Projects\07031.dwg\Task 33.wfd\2190.saline_creek.dwg, 5/29/2007 5:01:39 PM, ROBIN REYMOND

WBID# 2190

Field Data Sheets for Recreational Use Stream Surveys

Site# 1



Missouri
Department of
Natural Resources

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: 4/5/2013	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): PRS - RR/MC	Just upstream of Saline Road Bridge
Current Weather Conditions: Sunny 70 degrees	Facility Name: NPSD, Country Club of Sugar Creek
Weather Conditions for Past 10 days: rain/sun	Permit Number: MO 0110752
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site GPS Coordinates: UTM X: 721342.046m		Y: 4263484.340m	
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other Real Time Differential Correction with	x
Real Time Differential Processing		Post Processing	
HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____ ± _____ Feet or ± _____ Meters	
EPE	± _____ Feet or ± _____ Meters		
PDOP	5.9		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
See Attached Photos					

Uses Observed*: (Uses actually observed at 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.)				

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Comments:				

Indications of Human Use*: (attach photos)

<input type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Other:	
Comments: Trash - both rubble and yard waste					

* Page Two – Data Sheet B for WBID # 2190-1 :

Stream Morphology:



Upstream View Department of Natural Resources: Is there any water present at this view? Yes No
 If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? Yes No

Approximate percentage of channel features for entire segment site If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE 15%					
RUN 75%					
POOL 10%					

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

40 % Cobble	50 % Gravel	% Sand	% Silt	5 % Mud/Clay	5 % 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 type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments () to this form.

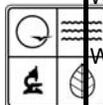
*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions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

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

Surveyor's Signature: Robin Reymond Date of Survey: 5/15/07

Organization: Pickett, Ray & Silver, Inc. Position: _____

Recreational Use Attainability Analysis Field Survey Sheet



Waterbody ID: 2190 Site #: 1
 Missouri Sunny 70° F
 Department of Natural Resources
 GPS Location: _____
 UTM X: 721342.046m UTM Y: 4263484.340m
 Horizontal Accuracy Estimate (GPS Data Quality): +/- N/A (feet) PDOP: 5.9
 Average Stream Width: 4.4 (meters) Length of Survey Segment: 150 (meters)
 Field Staff: Pickett, Ray & Silver, Inc. - RR/MC

Dissolved Oxygen	
Dissolved Oxygen:	<u>8.16</u> (mg/L)
Dissolved Oxygen:	_____ (% sat)
Specific Cond:	_____ (µS/cm)
Water Temperature:	<u>18.0</u> (°C)

Transect Cross-Section

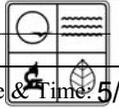
	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
1	0.3	.10	1.5	.10	.8	.01	.67	.02	0.3	.10	0.5	.10	0	.04	0.5	.10	0	.05	0.7	.10	1.0	.10
2	0.8	.16	1.75	.13	1.6	.05	1.34	.04	0.5	.16	0.55	.12	0.5	.01	0.65	.15	0.3	.09	0.9	.10	1.2	.13
3	1.3	.20	2.0	.14	2.4	.07	2.01	.03	0.7	.29	0.6	.13	1.0	.10	0.7	.23	0.6	.09	1.1	.10	1.4	.18
4	1.8	.20	2.25	.16	3.2	.10	2.68	.05	0.9	.39	0.65	.14	1.5	.09	0.85	.25	0.9	.10	1.3	.11	1.6	.20
5	2.3	.25	2.5	.23	4.0	.04	3.35	.07	1.1	.36	0.7	.14	2.0	.09	1.0	.24	1.2	.03	1.5	.12	1.8	.18
6	2.8	.30	2.75	.23	4.8	.06	4.02	.03	1.3	.29	0.75	.13	2.5	.08	1.15	.24	1.5	.08	1.7	.10	2.0	.16
7	3.3	.28	3.0	.14	5.6	.06	4.69	.00	1.5	.21	0.8	.12	3.0	.04	1.3	.25	1.8	.06	1.9	.10	2.2	.15
8	3.8	.15	3.25	.13	6.4	.03	5.36	.03	1.7	.14	0.85	.12	3.5	.05	1.45	.20	2.1	.05	2.1	.10	2.4	.12
9	4.3	.15	3.5	.10	7.2	.01	6.03	.13	1.9	.11	0.9	.10	4.0	.03	1.6	.13	2.4	.03	2.3	.10	2.6	.10
10	4.8	.29	3.75	.10	8.0	.05	6.7	.05	2.1	.11	0.95	.10	4.5	.01	1.75	.11	3.0	.02	2.5	.10	2.8	.10
11	5.3	.24	4.0	.11					2.3	.10	1.0	.10			2.0	.10			2.7	.10	3.0	.10
Width/Median Depth	5.3	0.20	4.8	0.13	8.0	<0.10	6.7	<0.10	4.0	0.16	1.5	0.12	4.5	<0.10	3.0	0.20	3.0	<0.10	3.0	0.10	4.25	0.15
Feature Type (riffle, run, or pool)	Run		Run		Run		Riffle		Pool		Run		Run		Pool		Run		Run		Run	

Notes: Transects will be measured beginning on left descending bank and finishing on right descending bank.
 GPS location corresponds to Transect 01. Transects ordered in upstream to downstream order.

Signed: Robin Reymond Date: 5/15/07

WBID# 2190

Site# 2



Missouri
Department of
Natural Resources

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: 4/5/2013 1:30	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): PRS - RR/MC	Downstream of 13th St. Bridge
Current Weather Conditions: Sunny 72°	Facility Name: NPSD, Country Club of Sugar Creek
Weather Conditions for Past 10 days: rain/sun	Permit Number: MO 0110752
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site GPS Coordinates: UTM X: 722899.614m		Y: 4262627.551m	
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other Real Time Differential Correction with	x
Real Time Differential Processing		Post Processing	
HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____ ± _____ Feet or ± _____ Meters	
EPE	± _____ Feet or ± _____ Meters		
PDOP	3.2		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
See Attached Photos					

Uses Observed*: (Uses actually observed at 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.)				

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Comments:				

Indications of Human Use*: (attach photos)

<input type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Other:	
Comments: Trash - ATV tracks					

* Page Two – Data Sheet B for WBID # 2190-2 :

Stream Morphology:



Upstream View Department of Natural Resources: Is there any water present at this view? Yes No
 If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? Yes No

Approximate percentage of channel features for entire segment site If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE 30%					
RUN 50%					
POOL 20%					

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

40 % Cobble	40 % Gravel	% Sand	% Silt	5 % Mud/Clay	15 % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

Little moss and algae growth on rock 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 type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments () to this form.

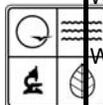
*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions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

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

Surveyor's Signature: Robin Reymond Date of Survey: 5/15/07

Organization: Pickett, Ray & Silver, Inc. Position: _____

Recreational Use Attainability Analysis Field Survey Sheet



Waterbody ID: 2190 Site #: 2
 Missouri Sunny 75°F
 Department of Natural Resources
 GPS Location: 722899.614m UTM X: 4262627.551m UTM Y:
 Horizontal Accuracy Estimate (GPS Data Quality): +/- N/A (feet) PDOP: 3.2
 Average Stream Width: 5.5 (meters) Length of Survey Segment: 150 (meters)
 Field Staff: Pickett, Ray & Silver, Inc. - RR/MC

Dissolved Oxygen	
Dissolved Oxygen:	<u>8.12</u> (mg/L)
Dissolved Oxygen:	_____ (% sat)
Specific Cond:	_____ (µS/cm)
Water Temperature:	<u>19.1</u> (°C)

Transect Cross-Section

	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)
1	1.0	.06	0.3	.10	0.3	.10	1.0	.10	0.8	.10	0	.30	0.3	.10	0	.10	0.5	.10	1.8	.10	1.2	.10
2	1.5	.02	0.6	.20	0.6	.15	1.5	.14	1.2	.10	.8	.44	0.7	.13	.45	.12	1.25	.18	2.3	.10	1.48	.10
3	2.0	.05	0.9	.32	0.9	.13	2.0	.23	1.6	.11	1.6	.33	1.1	.15	.90	.10	2.0	.23	2.8	.13	1.76	.13
4	2.5	.06	1.2	.35	1.2	.13	2.5	.32	2.0	.11	2.4	.20	1.5	.20	1.35	.06	2.25	.25	3.3	.15	2.04	.20
5	3.0	.04	1.5	.34	1.5	.14	3.0	.35	2.4	.12	3.2	.31	1.9	.22	1.8	.05	3.25	.24	3.8	.15	2.32	.20
6	3.5	.05	1.8	.25	1.8	.14	3.5	.34	2.8	.10	4.0	.45	2.3	.25	2.25	.05	4.0	.20	4.3	.15	2.6	.21
7	4.0	.02	2.1	.18	2.1	.13	4.0	.30	3.2	.12	4.8	.60	2.7	.28	2.7	.07	4.75	.15	4.8	.15	2.88	.15
8	4.5	.06	2.4	.15	2.4	.12	4.5	.40	3.6	.11	5.6	.60	3.1	.25	3.15	.05	5.75	.14	5.3	.15	3.16	.12
9	5.0	.02	2.7	.15	2.7	.11	5.0	.23	4.0	.10	6.4	.50	3.5	.20	3.6	.05	6.5	.13	5.5	.15	3.44	.12
10	5.5	.01	2.85	.10	2.85	.10	5.1	.35	4.4	.10	7.2	.56	3.75	.12	4.5	.05	7.25	.10	5.7	.10	3.72	.10
11			3.0	.10	3.0	.10	5.2	.44	4.8	.13	8.0	.74	4.0	.10			8.0	.10	5.8	.10	4.0	.10
Width/Median Depth	5.5	<0.10	3.5	0.20	4.5	0.13	5.2	0.30	4.8	0.11	8.0	0.45	4.3	0.20	4.5	<0.10	8.4	0.15	7.0	0.15	4.5	0.12
Feature Type (riffle, run, or pool)	Riffle		Pool		Run		Pool		Run		Pool		Run		Riffle		Run		Run		Run	

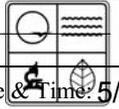
Notes: Transects will be measured beginning on left descending bank and finishing on right descending bank.
 GPS location corresponds to Transect 01. Transects ordered in upstream to downstream order.

Signed: Robin Reymond Date: 5/15/07

WBID# 2190

Site# 3

Field Data Sheets for Recreational Use Stream Surveys



Missouri
Department of
Natural Resources

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: 5/15/07	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): PRS	Downstream of Cool Valley Bridge
Current Weather Conditions: Sunny 75°	Facility Name: NPSD, Country Club of Sugar Creek
Weather Conditions for Past 10 days: rain/sun	Permit Number: MO 0110752
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)	
Site GPS Coordinates: UTM X: 723876.627m	Y: 4261931.6111m
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)	
Global Positioning System (GPS)	Interpolation
Static Mode	Topographic Map or DRG
Dynamic Mode (Kinematic)	Aerial Photograph or DOQQ
Precise Positioning Service	Satellite Imagery
Signal Averaging	Interpolation Other Real Time Differential Correction with
Real Time Differential Processing	Post Processing
HORIZONTAL ACCURACY ESTIMATE	
GPS Data Quality	Interpolation Data Quality
FOM ± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____ ± _____ Feet or ± _____ Meters
EPE ± _____ Feet or ± _____ Meters	
PDOP 2.6	

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
See Attached Photos					

Uses Observed*: (Uses actually observed at 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.)				

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Comments:				

Indications of Human Use*: (attach photos)

<input type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input checked="" type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input checked="" type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Other:	
Comments: RV Park along west bank					

* Page Two – Data Sheet B for WBID # 2190-3 :

Stream Morphology:



Upstream View Department of Natural Resources: Is there any water present at this view? Yes No
 If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? Yes No

Approximate percentage of channel features for entire segment site If so, is there an obvious current? Yes No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE 30%					
RUN 70%					
POOL					

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

40 % Cobble	40 % Gravel	10 % Sand	% Silt	5 % Mud/Clay	5 % 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"/> Mostly Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments () to this form.

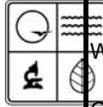
*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions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

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

Surveyor's Signature: Robin Reymond Date of Survey: 5/15/07

Organization: Pickett, Ray & Silver, Inc. Position: _____

Recreational Use Attainability Analysis Field Survey Sheet



Waterbody ID: 2190 Site #: 3
 Missouri Sunny 75°
 Department of Natural Resources
 GPS Location: 723876.627m UTM X: 4261931.611m UTM Y:
 Horizontal Accuracy Estimate (GPS Data Quality): +/- N/A (feet) PDOP: 2.9
 Average Stream Width: 5.6 (meters) Length of Survey Segment: 150 (meters)
 Field Staff: PRS - RR/MC

Dissolved Oxygen	
Dissolved Oxygen:	<u>10.50</u> (mg/L)
Dissolved Oxygen:	_____ (% sat)
Specific Cond:	_____ (µS/cm)
Water Temperature:	<u>18.3</u> (°C)

Transect Cross-Section

	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)							
1	0.6	.11	2.2	.10	0.7	.10	0	.10		>1	0	.13	0	.10		>1	0	.15	0.3	.10	0.3	.11	
2	0.8	.10	2.65	.10	1.3	.11	.67	.13		>1	.8	.40	.8	.20		>1	.67	.21	0.5	.25	0.4	.15	
3	.96	.15	3.1	.13	1.9	.16	1.34	.15		>1	1.6	.34	1.6	.21		>1	1.34	.10	0.7	.30	0.5	.20	
4	1.44	.20	3.55	.25	2.5	.09	2.01	.14		>1	2.4	.20	2.4	.21		>1	2.01	.05	0.9	.50	0.6	.23	
5	1.92	.24	4.0	.28	3.1	.10	2.68	.14		>1	3.2	.15	3.2	.21		>1	2.68	.06	1.1	.42	0.7	.23	
6	2.4	.30	4.45	.30	3.7	.10	3.35	.13		>1	4.0	.00	4.0	.23		>1	3.35	.25	1.3	.33	0.8	.22	
7	2.88	.35	4.9	.40	4.3	.10	4.02	.20		>1	4.8	.00	4.8	.18		>1	4.02	.45	1.5	.20	0.9	.20	
8	3.36	.34	5.35	.44	4.9	.10	4.69	.14		>1	5.6	.00	5.6	.20		>1	4.69	.49	1.7	.20	1.0	.20	
9	3.84	.35	5.8	.31	5.5	.10	5.36	.14		>1	6.4	.10	6.4	.26		>1	5.36	.40	1.9	.18	1.1	.18	
10	4.32	.32	6.25	.20	6.1	.15	6.03	.10		>1	7.2	.08	7.2	.25		>1	6.03	.20	2.1	.10	1.2	.17	
11	4.8	.20	6.7	.10	6.7	.24	6.7	.10			8.0	.13	8.0	.18	5.5		6.7	.18	2.3	.11	1.3	.13	
Width/Median Depth	4.8	0.24	6.7	0.25	6.7	0.10	7.0	0.14	3.7	-	8.0	0.13	8.0	0.21	-	6.7	0.20	3.0	0.20	2.0	0.20	2.0	0.20
Feature Type (riffle, run, or pool)	Run		Pool		Run		Run		Pool		Pool		Run		Pool		Run		Run		Run		

Notes: Transects will be measured beginning on left descending bank and finishing on right descending bank.
 GPS location corresponds to Transect 01. Transects ordered in upstream to downstream order.

Signed: Robin Reymond Date: 5/15/07

WBID# 2190



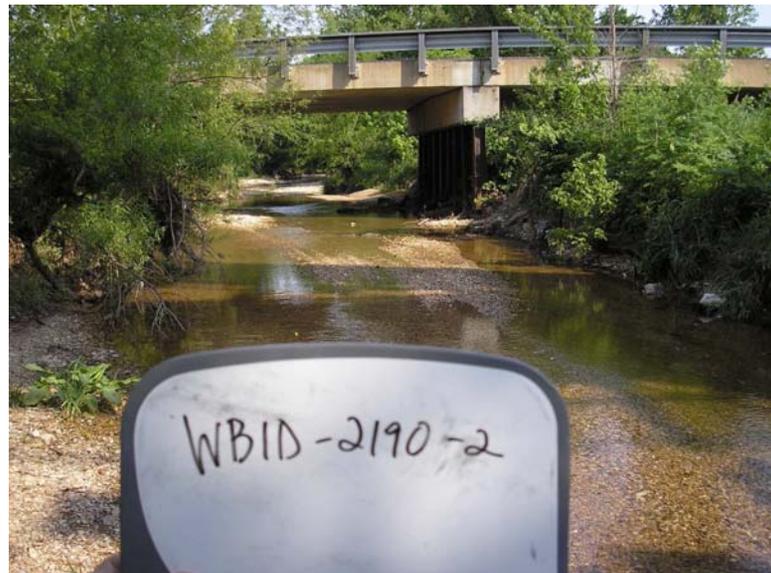
WBID 2190 – Site 1 – Transect 1 – facing upstream.



WBID 2190 – Site 1 – Transect 1 – facing downstream.



WBID 2190 – Site 1 – Transect 11 – Trash and yard waste along right descending bank. Microwave in background.

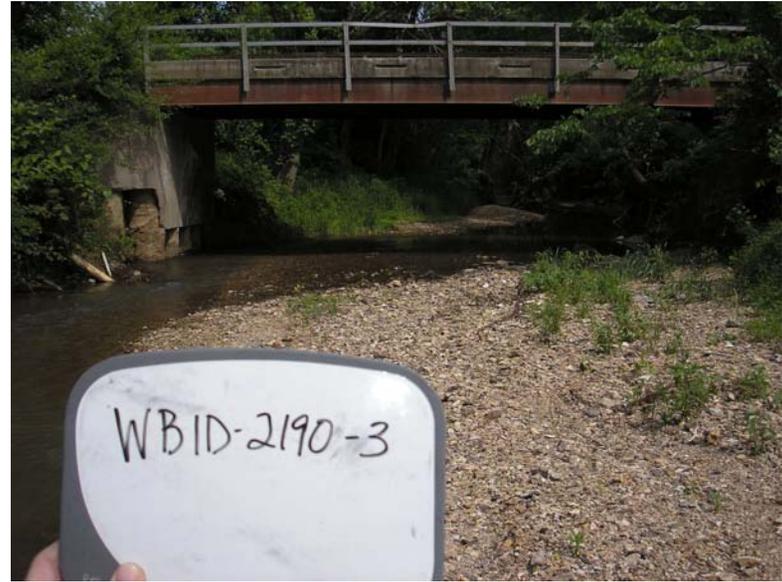


WBID 2190 – Site 2 – Transect 1 – facing upstream.

WBID# 2190



WBID 2190 – Site 2 – Transect 9 – ATV tracks, facing downstream.



WBID 2190 – Site 3 – Transect 1 – facing upstream.



WBID 2190 – Site 3 – Transect 1 – facing downstream.



WBID 2190 – Site 3 – Transect 11 – Trash and yard waste along right descending bank.