



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 0652 Sandy Creek

Submitted by

Pickett Ray & Silver Inc.

to

Missouri Department of Natural Resources
Water Protection Program

Date received: October 31, 2007

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):	Sandy Creek		
Missouri Water Body Identification (WBID) Number:	652		
8-digit HUC:	10280201	County:	Putnam
Upstream Legal Description (from Table H):	19.66N, 17W		
Downstream Legal Description (from Table H):	Mouth		
Number of sites evaluated:	3		
List all sites numbers, listed consequently upstream to downstream:	652-1*; 652-2; 652-3 * See note on data sheet B, Site 1.		

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

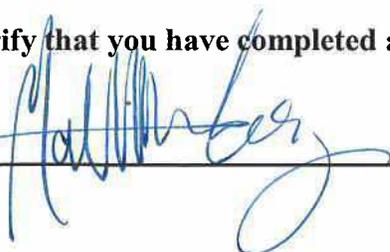
II. Facility Information (list all permitted discharges to the water body segment)

Facility Name(s) and Permit Number(s):	PSF Whitetail Finishing - MO 0117421
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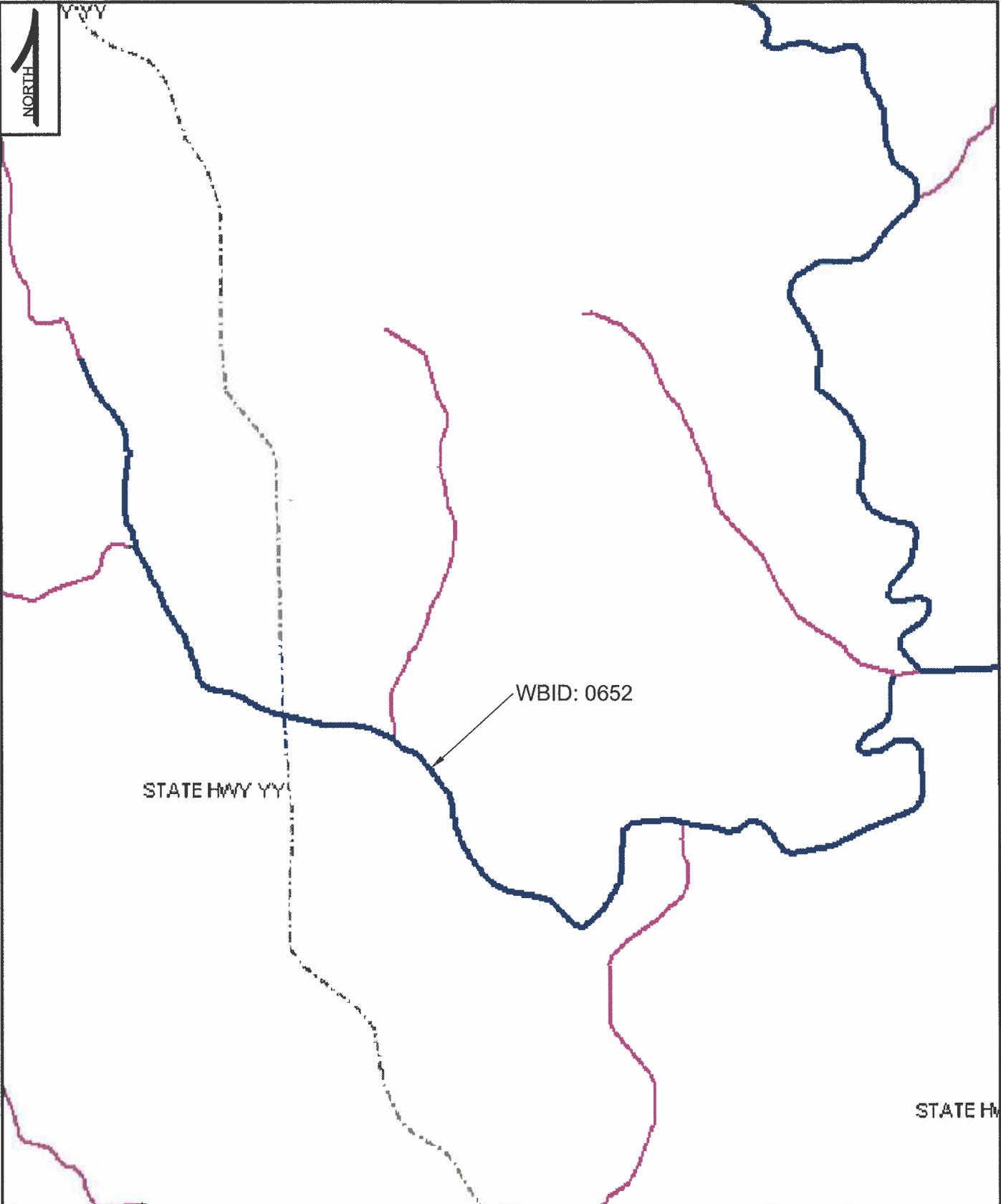
III. UAA Surveyor (please print legibly)

Name of Surveyor	Matt Cosby	Telephone Number:	636 3971211
Organization/Employer:	PRS		

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

Signed:  Date: 9/13/07

\\3serverpr\Projects\07031\dwg\07031_MODN_01E\0652 Sandy Creek.dwg, 10/26/2007 10:09:47 AM, BLSTOESZ



PICKETT RAY & SILVER
 Civil Engineers Land Surveyors Natural Resources
 Address: 333 Mid Rivers Mall Drive Phone: (636)397-1211
 St. Peters, Missouri 63376 Fax: (636)397-1104
 Website: www.prs3.com

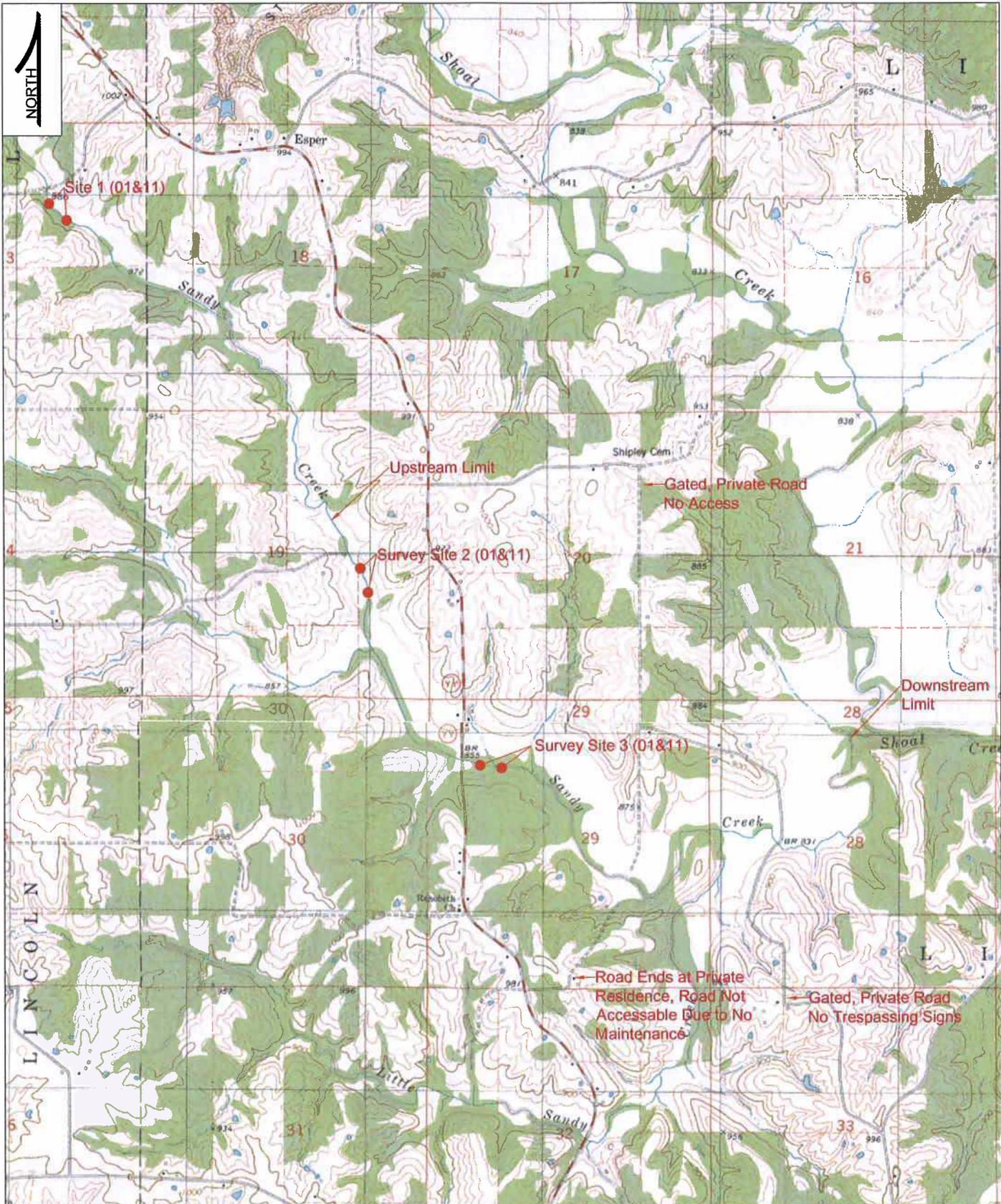
WBID #: 0652
 Name: Sandy Creek
 County: Putnam
 GIS Location Map

PRs Job Number: 07031.MODN.01E
 Drawn By: BLS Date: 10-15-07
 Checked By: JCV Date: 10-15-07

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Sheet 1 of 1

\\3serverprts\Projects\07031\MODN_01E\0652 Sandy Creek.dwg, 10/26/2007 8:41:29 AM, 1:2000, MATT COSBY



PICKETT RAY & SILVER
 Civil Engineers Land Surveyors Natural Resources
 Address: 333 Mid Rivers Mall Drive St. Peters, Missouri 63376
 Phone: (636)397-1211 Fax: (636)397-1104 Website: www.prs3.com

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WBID #: 0652
 Name: Sandy Creek
 County: Putnam
 USGS Location Map

Sheet 1 of 1

0 1000 2000 4000
GRAPHIC SCALE
 1 inch = 2000ft.

PRS Job Number: 07031.MODN.01E
 Drawn By: BLS Date: 09-25-07
 Checked By: JCV Date: 09-25-07

WBID # 1052
 Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization
 (must be completed for each site)

Date & Time: <u>9/13/07</u> <u>4:30 PM</u>	Site Location Description (e.g., road crossing): <u>Downstream of Road crossing at Cottonwood trail</u>
Personnel (Data Collectors): <u>LS & MC</u>	
Current Weather Conditions: <u>Sunny 70°</u>	Facility Name: <u>PSF Whitetail Finishing</u>
Weather Conditions for Past 10 days: <u>1.08 in Rain</u>	Permit Number: <u>MO 0117421</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>511134m</u>	Northing (UTM Y): <u>4480776</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>0.3</u> Meters
Site 11	Easting (UTM X): <u>511242m</u>	Northing (UTM Y): <u>448605m</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>0.4</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>See attached photos and descriptions</u>					

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 Data Sheet D- Recreational Use Interview when conducting interviews.)				

WBID # 652

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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 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
Comments / Other:				

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

<u>30</u> % Cobble	% Gravel	<u>60</u> % Sand	% Silt	% Mud/Clay	<u>10</u> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

arrowleaf, banyand grass, algae covering 90%

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 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 effect another use.

WBID # 652

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

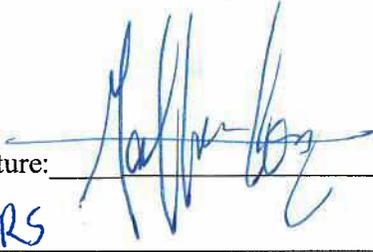
Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

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

Comments: (Please record any additional comments here.)

Survey sites were started downstream and were continued consecutively upstream. Site 3 was performed as close to the downstream limit as access would allow. Site 2 was performed at the next available access point (road crossing). Likewise with site 1, performed at next access point. Unfortunately, after the fact, Site 1 was found to be upstream of the upstream limit. It is anticipated that, because of site access, an additional survey site would be adjacent to either Site 2 or Site 3.

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

Surveyor's Signature: 

Date of Survey: 9/13/07

Organization: PRS

Position: Field Team Leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>652</u> Site #: <u>1</u> Estimated Channel Incision: <u>0.2</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>511134m</u> UTM Y: <u>4486176m</u> +/- <u>0.3</u> (meters) 11 UTM X: <u>511242m</u> UTM Y: _____ +/- <u>0.4</u> (meters) Average Stream Width: <u>3</u> (meters) Length of Survey Segment: _____ (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>LSMC</u>	<h3 style="text-align: center; margin: 0;">Dissolved Oxygen</h3> Date: <u>9/13/07</u> Time: <u>4:30 PM</u> Dissolved Oxygen: <u>8.05</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>16.7</u> (°C)
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Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)	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	
1		.31	.03	.20	.73	.25	.32	.34	.46	.42	.3	.45	.25	.44	.15	.35	.01	.05	.02	0	0	.08	.01
2		.62	.1	.40	.1	.50	.45	.68	.49	.84	.4	.90	.29	.88	.15	.70	.05	.10	.02			.16	.01
3		.93	.15	.60	.08	.75	.43	1.0	.46	1.3	.45	1.4	.25	1.3	.22	1.1	.02	.15	.02			.24	.01
4		1.2	.21	.80	.05	1.0	.42	1.3	.45	1.7	.40	1.8	.23	1.8	.22	1.4	.05	.20	.02			.32	.01
5		1.6	.2	1.0	.13	1.3	.42	1.7	.44	2.1	.46	2.3	.22	2.2	.23	1.8	.03	.25	.02			.40	.01
6		1.9	.15	1.2	.13	1.5	.38	2.0	.42	2.5	.35	2.7	.15	2.6	.24	2.1	.14	.30	.02			.48	.01
7		2.2	.18	1.4	.11	1.8	.35	2.4	.35	2.9	.52	3.2	.05	3.1	.21	2.5	.16	.35	.02			.56	.01
8		2.5	.21	1.6	.1	2.0	.3	2.7	.25	3.4	.43	3.6	.03	3.5	.31	2.8	.2	.40	.02			.64	.01
9		2.8	.15	1.8	.12	2.3	.3	3.1	.19	3.8	.45	4.1	.05	4.0	.26	3.2	.22	.45	.02			.72	.01
Right Bank		3.1	0	2.0	0	2.5	0	3.4	0	4.2	0	4.5	0	4.4	0	3.5	0	0.5	0	0	0	0.80	0
Feature Type <small>(riffle, run, or pool)</small>		Run		Run		Run		Run		Pool		Run		Run		Run		Lossy partition		Lossy partition		run	

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

Signed: _____

Date: _____

WBID # 652
 Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization
 (must be completed for each site)

Date & Time: <u>9/13/07 3:00pm</u>	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): <u>LS + MC</u>	<u>Down stream of road crossing</u>
Current Weather Conditions: <u>Sunny, 75°F</u>	Facility Name: <u>PSF Whitetail Finishing</u>
Weather Conditions for Past 10 days: <u>1.68 in Rain</u>	Permit Number: <u>MO 0117421</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>512906m</u>	Northing (UTM Y): <u>44840101m</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>0.3</u> Meters
Site 11	Easting (UTM X): <u>512982</u>	Northing (UTM Y): <u>4483995</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>0.3</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>See attached photos & descriptions.</u>					
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 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.)				

WBID # 652

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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 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

Comments / Other:

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

% Cobble	<u>45</u>	% Gravel	<u>45</u>	% Sand	% Silt	<u>10</u>	% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

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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 checked="" 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 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 effect another use.

WBID # 652

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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

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

Comments: (Please record any additional comments here.)

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

Surveyor's Signature: J. Valles for Matt Corby Date of Survey: 9/2/09

Organization: TRIS Position: FTL

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>652</u> Site #: <u>2</u> Estimated Channel Incision: <u>0.1</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>512906 m</u> UTM Y: <u>4484101 m</u> +/- <u>0.3</u> (meters) 11 UTM X: <u>512982 m</u> UTM Y: <u>4483995 m</u> +/- <u>0.3</u> (meters) Average Stream Width: <u>3</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>LS + MC</u>	<h3 style="text-align: center; margin: 0;">Dissolved Oxygen</h3> Date: <u>9/13/07</u> Time: <u>3:00 pm</u> Dissolved Oxygen: <u>9.73</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>23.2</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		.26	.18	.14	.12	.19	.02	.20	.05	.24	.19	.09	.02	.21	.19	.32	.05	.18	.02	.11	.01	.42	.64
2		.52	.35	.28	.13	.38	.05	.40	.01	.48	.2	.18	.02	.42	.19	.64	.05	.36	.05	.22	.02	.84	.60
3		.78	.2	.42	.14	.57	.04	.60	.05	.72	.19	.27	.03	.63	.15	.96	.05	.54	.02	.33	.05	1.3	.60
4		1.0	.25	.56	.14	.76	.03	.80	.10	.96	.20	.36	.05	.84	.2	1.3	.06	.72	.06	.44	.05	1.7	.55
5		1.3	.2	.70	.14	.95	.05	1.0	.10	1.2	.10	.45	.10	1.1	.09	1.6	.05	.90	.03	.55	.10	2.1	.50
6		1.6	.18	.84	.13	1.1	.05	1.2	.10	1.4	.07	.54	.10	1.3	.05	1.9	.05	1.1	.04	.66	.10	2.5	.40
7		1.8	.13	1.0	.12	1.3	.04	1.4	.03	1.7	.10	.63	.10	1.5	.05	2.2	.02	1.3	.05	.77	.05	3.0	.34
8		2.1	.1	1.2	.05	1.5	.05	1.6	.02	1.9	.05	.72	.10	1.7	.04	2.4	.01	1.4	.05	.88	.02	3.4	.20
9		2.3	.02	1.3	.02	1.7	.02	1.8	.01	2.2	.06	.81	.10	1.9	.05	2.7	.05	1.6	.02	.99	.01	3.8	.10
Right Bank		2.6	0	1.4	0	1.9	0	2.0	0	2.4	0	0.9	0	2.1	0	3.2	0	1.8	0	1.1	0	4.2	0
Feature Type <small>(riffle, run, or pool)</small>		pool		Run		Run		Pool		Run		Riffle		Run		Run		Riffle		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

WBID # 652

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(must be completed for each site)

Date & Time: <u>9/13/07 10:15 AM</u>	Site Location Description (e.g., road crossing): <u>Downstream of Rd crossing (YY)</u>
Personnel (Data Collectors): <u>LS+Mc</u>	
Current Weather Conditions: <u>Sunny 80°F</u>	Facility Name: <u>PSF Whitetail Finishing</u>
Weather Conditions for Past 10 days: <u>1.08 in Rain</u>	Permit Number: <u>MO 0117421</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>513587m</u>	Northing (UTM Y): <u>4483042m</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>0.6</u> Meters
Site 11	Easting (UTM X): <u>513752m</u>	Northing (UTM Y): <u>4483203m</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>5.3</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>See attached photos and descriptions</u>					

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 Data Sheet D- Recreational Use Interview when conducting interviews.)				

WBID # 652

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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 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
Comments / Other:				

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

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

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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 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 effect another use.

WBID # 652

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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

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

Comments: (Please record any additional comments here.)

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

Surveyor's Signature: J. Valles for Matt Casberg Date of Survey: 9/13/07

Organization: PRS Position: FTL

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>652</u> Site #: <u>3</u> Estimated Channel Incision: <u>0.2</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>513987m</u> UTM Y: <u>4483642m</u> +/- <u>0.6</u> (meters) 11 UTM X: <u>513752m</u> UTM Y: <u>4483203m</u> +/- <u>5.5</u> (meters) Average Stream Width: <u>83</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>MCPLS</u>	<h3 style="text-align: center; margin: 0;">Dissolved Oxygen</h3> Date: <u>9/13/07</u> Time: <u>10:15 AM</u> Dissolved Oxygen: <u>9.22</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.1</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)	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	0
	1	.15	.01	.14	.05	.14	.02	.38	.02	.40	.05	.44	.02	.29	.02	.63	.10	0.50	.15	.16	.01	.19	.01
	2	.30	.01	.28	.05	.28	.01	.76	.04	.80	.05	.88	.01	.60	.02	1.3	.10	.10	.10	.32	.02	.38	.02
	3	.5	.02	.40	.06	.40	.02	1.1	.10	1.2	.05	1.3	.01	.90	.05	1.9	.06	.15	.10	.48	.02	.60	.05
	4	.6	.05	.60	.05	.60	.03	1.5	.13	1.6	.03	1.8	.03	1.2	.05	2.5	.05	2.0	.10	.64	.03	.80	.06
	5	.8	.06	.70	.05	.70	.04	2.0	.14	2.0	.10	2.2	.02	1.5	.05	3.2	.03	25.0	.11	.80	.05	1.0	.05
	6	.9	.10	.80	.05	.80	.04	2.3	.23	2.4	.13	2.6	.05	1.7	.05	3.8	.02	3.0	.06	1.0	.05	1.1	.04
	7	1.1	.06	1.0	.04	1.0	.09	2.7	.13	2.8	.19	3.1	.02	2.0	.09	4.4	.03	3.5	.05	1.1	.03	1.3	.03
	8	1.2	.05	1.1	.03	1.1	.01	3.0	.10	3.2	.19	3.5	.05	2.3	.04	5.0	.10	.40	.03	1.3	.01	1.5	.02
9	1.4	.02	1.3	.01	1.3	.01	3.4	.00	3.6	.05	4.0	.02	2.6	.03	5.7	.15	.45	.02	1.4	.02	1.7	.01	
Right Bank	1.5	0	1.4	0	1.4	0	3.8	0	4.0	0	4.4	0	2.9	0	6.3	0	5.0	0	1.6	0	1.9	0	
Feature Type (riffle, run, or pool)	Run		Run		Run		Run		Run		Run		Run		Run		Run		Riffle		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

WBID# 0652



Site# 1 Photo ID# Downstream T-1



Site# 1 Photo ID# Loosing



Site# 1 Photo ID# Upstream T-1



Site# 1 Photo ID# Downstream T-11

WBID# 0652



Site# 1 Photo ID# Upstream T-11



Site# 2 Photo ID# Downstream T-1



Site# 2 Photo ID# Upstream T-1



Site# 2 Photo ID# Downstream T-11

WBID# 0652



Site# 2 Photo ID# Upstream T-11



Site# 3 Photo ID# Downstream T-1



Site# 3 Photo ID# Upstream T-1



Site# 3 Photo ID# Downstream T-11

WBID# 0652



Site# 3 Photo ID# Upstream T-11