

**CANE CREEK
WBID 2833**

Recreational Use Attainability Analysis

May 2007

PREPARED FOR:
RFP No: B3Z07134
Water Quality Monitoring & Assessment Section
Water Protection Program
Division of Environmental Quality
MISSOURI DEPARTMENT OF NATURAL RESOURCES
301 West High Street
Jefferson City, MO 65102

PREPARED BY:
MEC WATER RESOURCES, INC.
1123 Wilkes Blvd., Ste. 400
Columbia, MO 65201

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):	Cane Creek
Missouri Water Body Identification (WBID) Number:	2833
8-digit HUC:	11010007
County:	Butler
Upstream Legal Description (from Table H):	36, 23N, 5E
Downstream Legal Description (from Table H):	26, 22N, 5E
Number of sites evaluated	3
List all sites numbers, listed cnsquently upstream to downstream:	Site 1, 2, 3

II. Subsegmentation (fill this section out only in cases where subsegmentation is being proposed)

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Upstream Coordinates:		Downstream Coordinates:	
UTM X	Y	UTM X	Y
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 Processing			
HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	± _____ Feet or ± _____ Meters	± _____ Feet or ± _____ Meters	
PDOP			

III. Discharger Facility Information (list all permitted dischargers on the stream)

Discharger Facility Name(s):	Noolyville WWTF
Discharger Permit Number(s):	MO 010 5627

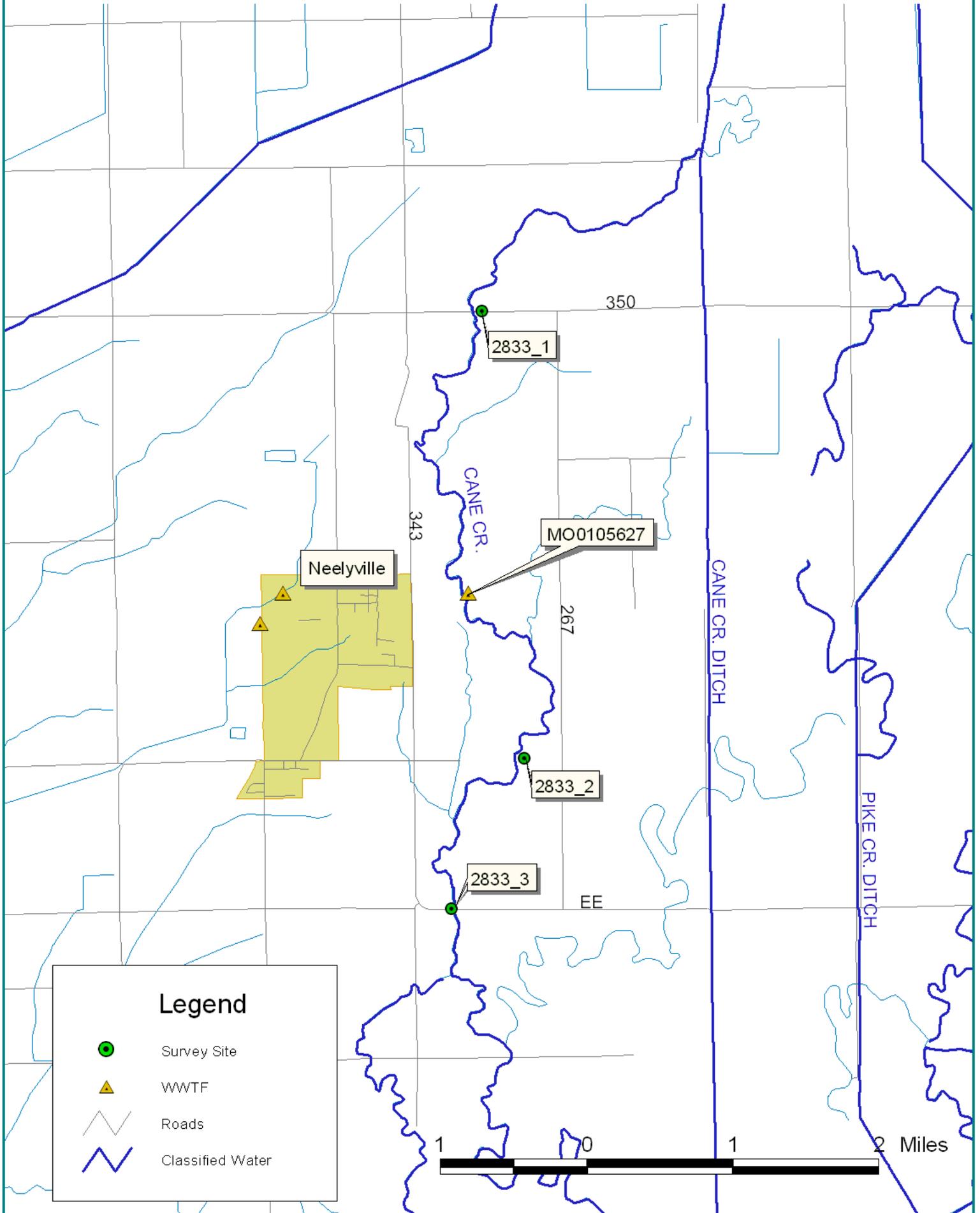
IV. UAA Surveyor (please print legibly)

Name of Surveyor	Jerrold Roberts	Telephone Number:	(573) 785-9621
Organization/Employer:	Smith & Co		
Position:	Field Technician		

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

Signed: Jerry Roberts for Jerry Roberts Date: 5-29-07

Cane Cr. (2833), Length = 6.0 mi., Permit # MO0105627



WBID# 2233
 Site# 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: <u>5/25/07 3:15</u>	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): <u>JR / RM</u>	<u>Co. Rd. 350 crossing</u>
Current Weather Conditions: <u>partly cloudy</u>	Facility Name: <u>Neelyville WWTF</u>
Weather Conditions for Past 10 days:	Permit Number: <u>MO 0105627</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 Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)	
Site GPS Coordinates: UTM X: <u>0724254</u>	Y: <u>4082424</u>
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the location data.)	
Global Positioning System (GPS)	
Static Mode	Interpolation
Dynamic Mode (Kinematic)	Topographic Map or DRG
Precise Positioning Service	Aerial Photograph or DOQQ
Signal Averaging	Satellite Imagery
Real Time Differential Processing	Interpolation Other
HORIZONTAL ACCURACY ESTIMATE	
GPS Data Quality	
FOM	± _____ Meters
EPE	± <u>20</u> Feet or ± _____ Meters
PDOP	
Interpolation Data Quality	
Source Map Scale: 1:24,000 1:100,000 Other _____	
± _____ Feet or ± _____ Meters	

Photos:

Photo ID# (WBID Site# ##)	Photo Purpose and Direction (upstream, downstream, other)	Photo ID# (WBID Site# ##)	Photo Purpose and Direction (upstream, downstream, other)
<u>2233-1-231</u>	<u>Down Stream</u>		
<u>11 " 232</u>	<u>up "</u>		
<u>photos taken @ trans #2</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 <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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Comments:				

WBID# 2833
 Site# 1

Field Data Sheets for Recreational Use Stream Surveys

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

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 type="checkbox"/> Other:	
Comments: <p style="text-align: center;">none</p>					

Stream Morphology:

Upstream View's Physical Descriptions: 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	Transect (#)	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFPLE						
RUN	8	120 m	3.60 m	15 m	0.17	0.21 m
POOL	1	0 m	4.50 m	5 m	0.36	0.48 m

Downstream View's Physical Descriptions: 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)
RIFPLE					
RUN					
POOL					

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

<input type="checkbox"/> % Cobble	<input type="checkbox"/> 10 % Gravel	<input type="checkbox"/> % Sand	<input type="checkbox"/> 40 % Silt	<input type="checkbox"/> 50 % Mud/Clay	<input type="checkbox"/> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

algae (moderate)

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 type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
WATER SURFACE DEPOSITION:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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 affect another use.

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

Surveyor's Signature: Jessie Reddy Date of Survey: 5-25-07

Organization: SH Smith & Co. Position: Field member

MEC Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 2833 Site #: 1 (WBID Site#)

Estimated Channel Incision: 0.1 (m) (height between low bank width and water)
 GPS Location (taken at transect 1):
 UTM X: 0724254 UTM Y: 4052424
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 20 (feet)

Average Stream Width: 41 (meters) Length of Survey Segment: 150 (meters)
 (20x average stream width)

Field Staff: Severed Roberts Ray McNamee

Dissolved Oxygen

Dissolved Oxygen: 10.92 (mg/L)
 Dissolved Oxygen: 152.2 (% sat)
 Specific Cond: _____ (µS/cm)
 Water Temperature: 26.8 (°C)

Transect Cross-Section

Measurement	01		02		03		04		05		06		07		08		09		10		11					
	Distance (m)	Depth (m)																								
1	1.30	.11	.410	.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2	.70	.30	.72	.21	.36	.1	.39	1	.41	1	.37	1	.44	1	.44	1	.61	.15	.81	.10	.30	.11	.40	.10		
3	1.10	.41	1.04	.31	.72	1	.78	1	.82	1	.74	1	.88	1	.88	1	.92	.21	1.02	.10	1.00	.10	.65	.13	.68	.14
4	1.50	.45	1.36	.40	1.08	1	1.17	1	1.23	1	1.11	1	1.32	1	1.32	1	1.23	.18	1.23	.10	1.35	.12	1.24	.15	1.5	
5	1.90	.45	1.68	.40	1.44	1	1.56	1	1.64	1	1.48	1	1.76	1	1.76	1	1.54	.20	1.44	.10	1.70	.10	1.52	.16	1.5	
6	2.30	.48	2.00	.45	1.80	1	1.95	1	2.05	1	1.85	1	2.20	1	2.20	1	1.85	.20	1.65	.10	2.05	<.01	1.80	.15	1.5	
7	2.70	.45	2.32	.42	2.16	1	2.34	1	2.46	1	2.22	1	2.44	1	2.44	1	1.85	.20	1.85	.10	2.40	.12	2.05	.15	1.5	
8	3.10	.44	2.64	.40	2.52	1	2.73	1	2.87	1	2.59	1	3.08	1	3.08	1	2.47	.21	2.07	.10	2.75	.11	2.36	.13	1.3	
9	3.50	.41	2.96	.37	2.88	1	3.12	1	3.28	1	2.96	1	3.52	1	3.52	1	2.78	.16	2.28	.10	3.10	.16	2.64	.13	1.3	
10	3.90	.30	3.28	.26	3.24	1	3.51	1	3.69	1	3.33	1	3.96	1	3.96	1	3.09	.13	2.49	.10	3.45	.16	2.92	.11	1.1	
11	4.30	.12	3.60	.14	3.60	1	3.90	1	4.10	1	3.70	1	4.40	1	4.40	1	3.40	.10	2.70	.10	3.80	.10	3.20	.12	1.2	
12	4.50	0	3.70	0	3.60	1	3.90	1	4.10	1	3.70	1	4.40	1	4.40	1	3.60	0	3.10	0	4.10	0	3.40	0	0	

Feature Type (fill in n/a, or pool)

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.
 Transects in order of up to downstream.
 Mark dry depth measurements as 0; measurements less than 0.1m as <0.1; and greater than 1m as >1
 Measurement 1 depth = 0.1m (unless depth is insufficient); Measurement 11 depth = 0.1m (unless depth is insufficient); Measurement 12 distance = entire wetted width distance and depth = 0m.

Signed: Severed Roberts Date: 5-25-07

ANC 5-29-07

WBID# 2833
 Site# 2

Field Data Sheets for Recreational Use Stream Surveys

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

Date & Time: <u>5/25/07 4:40</u>	Site Location Description (e.g., road crossing): <u>Co. Rd. 268 crossing</u>
Personnel (Data Collectors): <u>JR/AM</u>	
Current Weather Conditions: <u>partly cloudy</u>	Facility Name: <u>Neelyville WWTF</u>
Weather Conditions for Past 10 days:	Permit Number: <u>MO 0105627</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 Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)	
Site GPS Coordinates: UTM X: <u>0724719</u>	Y: <u>4047507</u>
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the location data.)	
Global Positioning System (GPS)	
Static Mode	Interpolation
Dynamic Mode (Kinematic)	Topographic Map or DRG
Precise Positioning Service	Aerial Photograph or DOQQ
Signal Averaging	Satellite Imagery
Real Time Differential Processing	Interpolation Other
HORIZONTAL ACCURACY ESTIMATE	
GPS Data Quality	
FOM	± _____ Meters
EPE	± <u>38.0</u> Feet or ± _____ Meters
PDOP	
Interpolation Data Quality	
Source Map Scale: 1:24,000 1:100,000 Other _____	
± _____ Feet or ± _____ Meters	

Photos:

Photo ID# (WBID Site# ##)	Photo Purpose and Direction (upstream, downstream, other)	Photo ID# (WBID Site# ##)	Photo Purpose and Direction (upstream, downstream, other)
<u>2833-2-233</u>	<u>Down stream</u>		
<u>" " 234</u>	<u>Up "</u>		
<u>Photos taken @ trans. # 4</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 <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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Comments:				

WBID# 2833
 Site# 2

Field Data Sheets for Recreational Use Stream Surveys

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

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 type="checkbox"/> Other:
Comments: <p style="text-align: center;">none</p>					

Stream Morphology:

Upstream View's Physical Descriptions: 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	Transect (#)	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE	4	60 m	4.00 m	15 m	<0.1 m	<0.1 m
RUN	6	90 m	5.80 m	15 m	0.16 m	0.23 m
POOL	1	0 m	7.60 m	10 m	0.78 m	>1 m

Downstream View's Physical Descriptions: 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					

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

0	% Cobble	10	% Gravel	20	% Sand	30	% Silt	40	% Mud/Clay	0	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

algae (moderate)

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 checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
WATER SURFACE DEPOSITION:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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 affect another use.

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

Surveyor's Signature: Jessie Nelson Date of Survey: 5-25-07

Organization: St. Smith & Co. Position: Field member

MEC Recreational Use Attainability Analysis Field Survey Sheet

Dissolved Oxygen

Waterbody ID: 283 Site #: 2 (WBID_Site#)

Estimated Channel Incision: 0.22 (m) (height between low bank width and water)

GPS Location (taken at transect 1):

UTM X: 0722990 UTM Y: 4047507

Horizontal Accuracy Estimate (GPS Data Quality): +/- 38.0 (feet)

Average Stream Width: 8 (meters) Length of Survey Segment: 160 (meters)
(20x average stream width)

Field Staff: Jason Roberts, Eric Moore

Dissolved Oxygen: 7.84 (mg/L)

Dissolved Oxygen: 119.2 (% sat)

Specific Cond: _____ (µS/cm)

Water Temperature: 28.6 (°C)

Transect Cross-Section

Measurement	01		02		03		04		05		06		07		08		09		10		11			
	Distance (m)	Depth (m)																						
1	1.10	.18	1.10	.13	1.10	.10	0	<0.1	.20	.16	.40	.10	.50	.10	.30	.10	1.00	.10	1.40	.12	.80	.10	.40	.10
2	.83	.62	1.30	.59	.76	.39	.40	1	.66	.16	.91	.14	.99	.15	.75	.13	1.40	.12	1.40	.12	.80	.10	.92	.22
3	1.56	>1	2.50	>1	1.42	.56	.20	1	1.12	.20	1.42	.18	1.48	1	1.26	.15	1.30	.20	1.20	.19	1.20	.19	1.44	.25
4	2.29	1	3.70	1	2.08	.88	1.20	1	1.58	.21	1.93	.20	1.97	1	1.65	.18	2.20	.22	1.60	.20	1.60	.20	1.96	.25
5	3.02	1	4.90	1	2.74	>1	1.60	1	2.04	.20	2.44	.21	2.46	1	2.10	.17	2.60	.25	2.00	.20	2.00	.20	1.48	.22
6	3.75	1	6.10	1	3.40	1	2.00	1	2.50	.22	2.95	.23	2.95	1	2.55	.20	3.00	.26	2.40	.21	2.00	.20	2.00	.23
7	4.48	1	7.30	1	4.06	1	2.40	1	2.96	.19	3.46	.17	3.44	1	3.00	.20	3.40	.22	2.40	.20	2.80	.20	2.52	.26
8	5.21	1	8.50	1	4.72	1	2.80	1	3.42	.17	3.97	.17	3.93	1	3.45	.21	3.80	.18	3.40	.22	2.80	.20	3.04	.29
9	5.94	↓	9.70	↓	5.38	.62	3.20	1	3.88	.13	4.48	.14	4.42	1	3.90	.17	4.10	.15	4.10	.18	3.60	.19	3.56	.28
10	6.67	.68	10.40	.59	6.04	.31	3.60	1	4.34	.11	4.99	.12	4.91	↓	4.35	.15	4.10	.12	4.10	.12	4.00	.16	4.08	.24
11	7.40	.15	12.10	.12	6.70	.11	4.00	↓	4.80	.11	5.50	.10	5.40	.12	4.80	.10	5.00	.10	5.00	.10	4.40	.12	4.60	.12
12	7.60	0	12.20	0	6.90	0	5.10	0	5.10	0	5.80	0	5.80	0	5.10	0	6.60	0	6.60	0	4.90	0	5.00	0

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.

Transects in order of up to downstream.

Mark dry depth measurements as 0; measurements less than 0.1m as <0.1; and greater than 1m as >1

Measurement 1 depth = 0.1m (unless depth is insufficient); Measurement 11 depth = 0.1m (unless depth is insufficient); Measurement 12 distance = entire width distance and depth = 0m.

Signed: Jason Roberts Date: 5-25-07

AUC 5-29-07

WBID# 2833
 Site# 3

Field Data Sheets for Recreational Use Stream Surveys

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

Date & Time: <u>5/25/07 5:35</u>	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): <u>JR/RM</u>	<u>Bridge @ Hwy EE</u>
Current Weather Conditions: <u>partly cloudy</u>	Facility Name: <u>Neelyville WWTF</u>
	Permit Number: <u>MO 0105627</u>
Weather Conditions for Past 10 days:	
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: <u>0723931</u>	Y: <u>4045848</u>
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the location data.)	
Global Positioning System (GPS)	
Static Mode	Interpolation
Dynamic Mode (Kinematic)	Topographic Map or DRG
Precise Positioning Service	Aerial Photograph or DOQQ
Signal Averaging	Satellite Imagery
Real Time Differential Processing	Interpolation Other
HORIZONTAL ACCURACY ESTIMATE	
GPS Data Quality	
FOM	± _____ Meters
EPE	± <u>40</u> Feet or ± _____ Meters
PDOP	
Interpolation Data Quality	
Source Map Scale: 1:24,000 1:100,000 Other _____	
± _____ Feet or ± _____ Meters	

Photos:

Photo ID# (WBID Site# #)	Photo Purpose and Direction (upstream, downstream, other)	Photo ID# (WBID Site# #)	Photo Purpose and Direction (upstream, downstream, other)
<u>2833-3-235</u>	<u>UP stream</u>		
<u>" " 236</u>	<u>Down "</u>		
<u>Photos taken @ trans. # 1</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.)				

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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Comments:				

WBID# 2833
 Site# 3

Field Data Sheets for Recreational Use Stream Surveys

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

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 type="checkbox"/> Other:	
Comments: <p style="text-align: center;">None</p>					

Stream Morphology:

Upstream View's Physical Descriptions: 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	Transect (#)	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE						
RUN	<u>4</u>	<u>60 m</u>	<u>15.20</u>	<u>15m</u>	<u>0.79 m</u>	<u>>1 m</u>
POOL						

Downstream View's Physical Descriptions: 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					

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

<input type="checkbox"/> % Cobble	<input type="checkbox"/> % Gravel	<u>10</u> % Sand	<u>40</u> % Silt	<u>50</u> % Mud/Clay	<input type="checkbox"/> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

algae (some)

Water Characteristics*: (Mark all that apply.)

ODOR:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
COLOR:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>brown</u>
BOTTOM DEPOSIT:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
WATER SURFACE DEPOSITION:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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 affect another use.

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

Surveyor's Signature: [Signature] Date of Survey: 5-25-07

Organization: SH Smith & Co. Position: Field member

AWC 5-29-07

MEC Recreational Use Attainability Analysis Field Survey Sheet

Dissolved Oxygen

Waterbody ID: 2833 Site #: 3 (WBID_Site#)

Estimated Channel Incision: 20 (m) (height between low bank width and water)

GPS Location (taken at transect 1): UTM X: 0723931 UTM Y: 41045948

Horizontal Accuracy Estimate (GPS Data Quality): +/- 40 (feet)

Average Stream Width: 15 (meters) Length of Survey Segment: 300 (meters)
(20x average stream width)

Field Staff: David Roberts Ray McCreary

Dissolved Oxygen: 6.15 (mg/L)

Dissolved Oxygen: 92.4 (% sat)

Specific Cond: _____ (µS/cm)

Water Temperature: 21.9 (°C)

Transect Cross-Section

Measurement	01		02		03		04		05		06		07		08		09		10		11		
	Distance (m)	Depth (m)																					
1	1.10	.21	1.10	.18	1.10	.22	1.10	.20	1.19	.19	1.10	.28	1.10	.21	1.10	.16	1.10	.15	1.10	.14	1.10	.10	.19
2	1.55	.69	1.47	.61	1.51	.53	1.60	.71	1.52	.36	1.39	.44	1.44	.33	1.52	.61	1.55	.39	1.73	.43	1.68	.36	.36
3	3.00	>1	2.84	>1	2.92	.88	3.10	>1	2.94	.59	2.68	.78	2.78	.51	2.94	>1	3.00	.80	3.36	.67	3.26	.72	.72
4	4.45	1	4.21	1	4.33	>1	4.160	1	4.36	.81	3.97	>1	4.12	.52	4.36	1	4.45	>1	4.99	>1	4.84	>1	>1
5	5.90	1	5.58	1	5.74	1	6.10	1	5.78	>1	5.26	1	5.46	.73	5.78	1	5.90	1	6.62	1	6.42	1	1
6	7.35	1	6.95	1	7.15	1	7.10	1	7.20	1	6.55	1	6.80	>1	7.20	1	7.35	1	8.25	1	8.06	1	1
7	8.80	1	8.32	1	8.36	1	9.10	1	8.63	1	8.81	1	8.14	>1	8.162	1	8.80	1	9.88	1	9.58	1	1
8	10.25	1	9.69	1	9.97	1	10.60	1	10.24	.76	9.13	1	9.48	.70	10.24	1	10.25	1	11.51	1	11.16	1	1
9	11.70	1	11.06	1	11.38	1	12.10	1	11.46	.66	10.42	1	10.82	.61	11.46	.71	11.70	.82	13.14	.69	12.74	1	1
10	13.15	.58	12.43	.63	12.79	.58	13.66	.66	12.88	.39	11.71	.51	12.16	.52	12.88	.38	13.15	.44	14.77	.39	14.32	.44	.44
11	14.60	.20	13.80	.16	14.20	.21	15.10	.14	14.30	.16	13.00	.15	13.50	.18	14.30	.14	14.60	.16	16.40	.12	15.90	.13	.13
12	14.70	0	14.00	0	14.40	0	15.20	0	14.60	0	13.10	0	13.70	0	14.50	0	14.70	0	16.50	0	16.00	0	0

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.
Transects in order of up to downstream.
Mark dry depth measurements as 0; measurements less than 0.1m as <0.1; and greater than 1m as >1
Measurement 1 depth = 0.1m (unless depth is insufficient); Measurement 11 depth = 0.1m (unless depth is insufficient); Measurement 12 distance = entire wetted width distance and depth = 0m.

Signed: David Roberts Date: 5-25-07

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QMC 5-29-07

WBID# 2833 Cane Creek



Site# 1 Photo ID# 231, Downstream, T2



Site# 1 Photo ID# 232, Upstream, T2



Site# 2 Photo ID# 233, Downstream, T4



Site# 2 Photo ID# 234, Upstream, T4

WBID# 2833 Cane Creek



Site# 3 Photo ID# 236, Downstream, T1



Site# 3 Photo ID# 235, Upstream, T1