

Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 1849 Pump Hollow

Submitted by

Pickett Ray and Silver

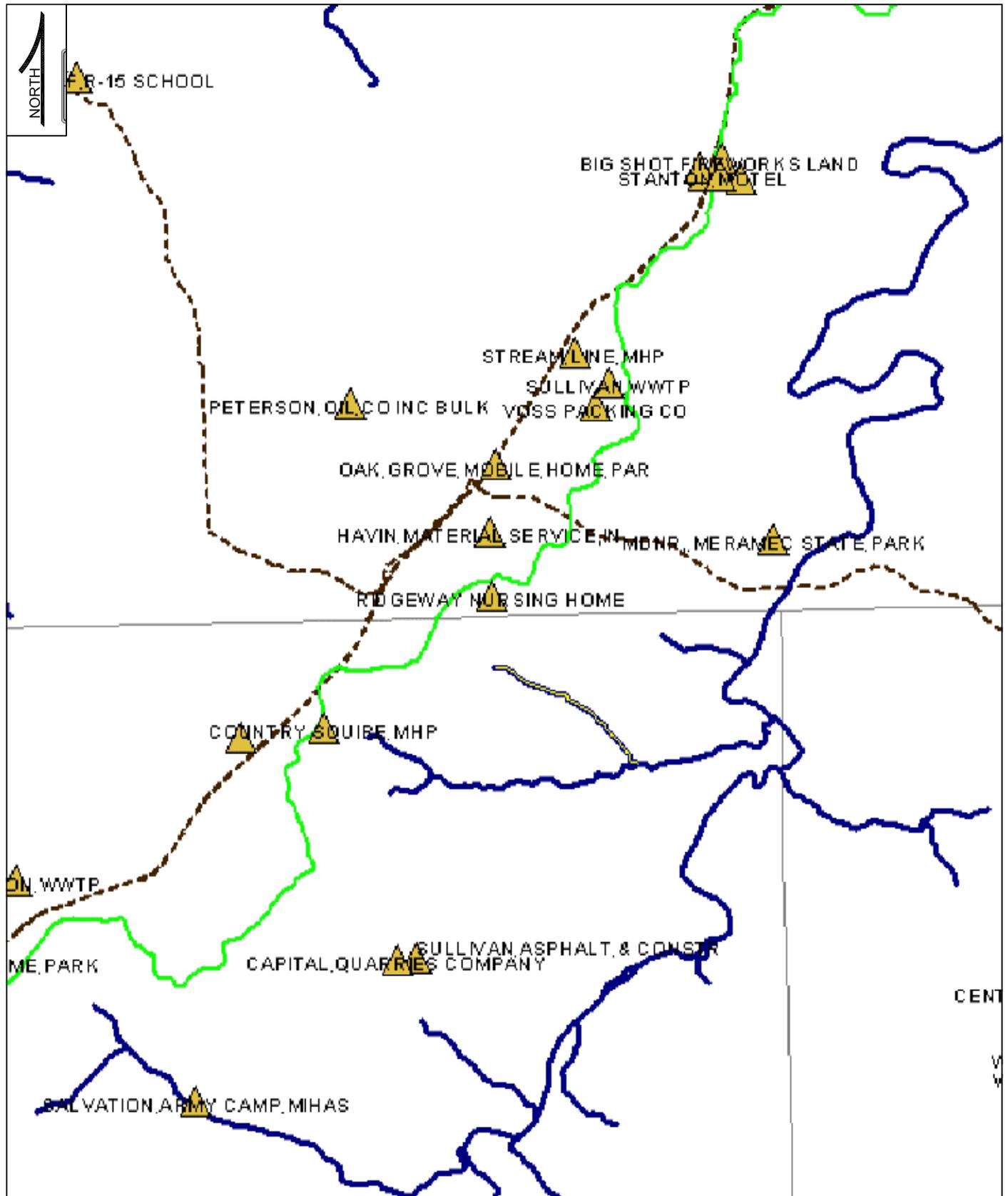
To

Missouri Department of Natural Resources

Water Protection Program

Date Received: June 5, 2007

\\\\3serverpr\Projects\07031\dwg\Task 29 PumpHollow 1849.dwg, 5/29/2007 2:54:32 PM, 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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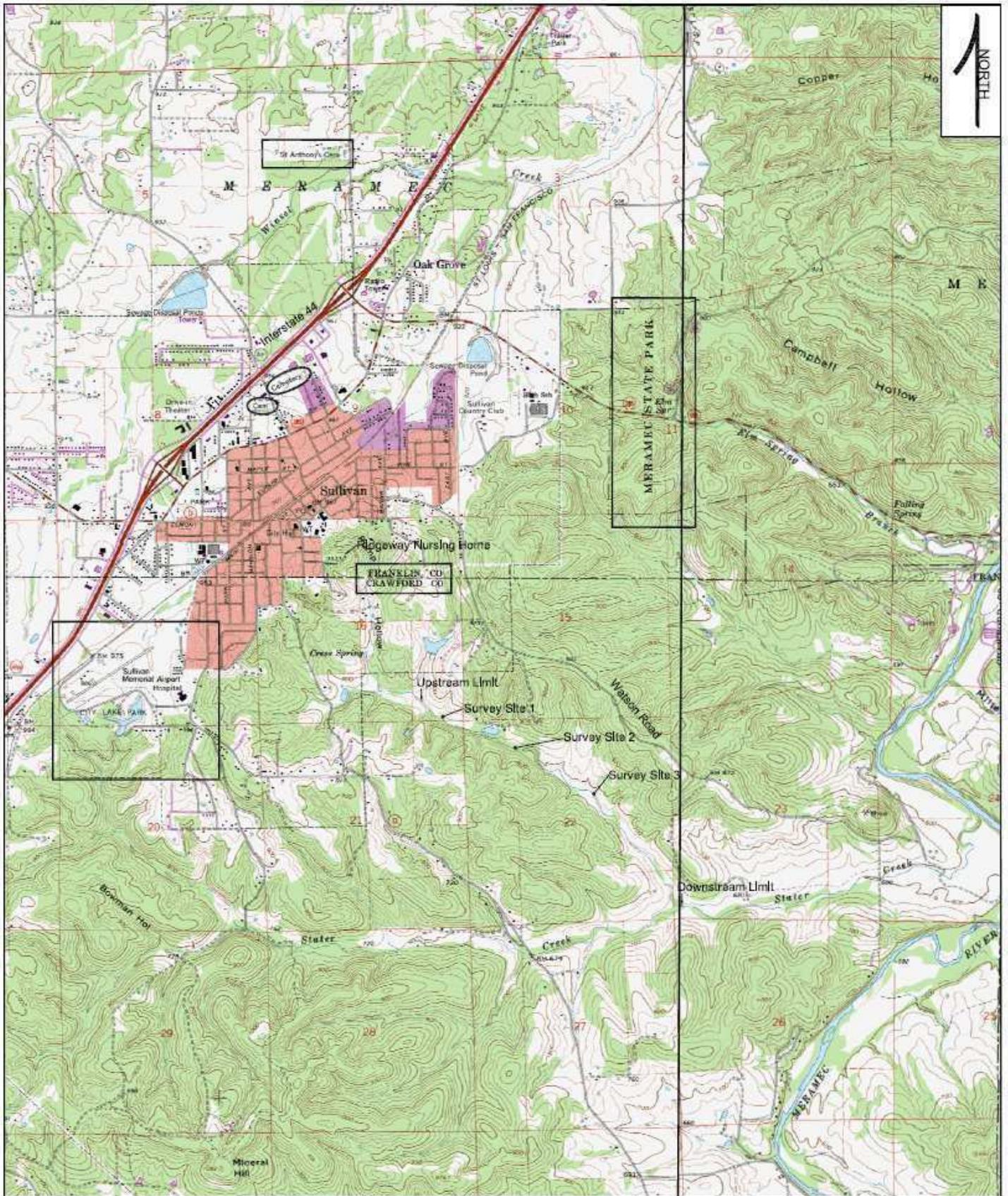
WBID #: 1849
 Name: Pump Hollow
 GIS MAP



NOT TO SCALE

PRS Job Number: 07031.MODN.00E
 Drawn By: M.C. Date: 05-29-07
 Checked By: J.V. Date: 05-29-07

\\serverps\Projects\07031\Task 29 PumpHollow 1849.dwg, 5/29/2007 3:15:47 PM, 1:2000, MATT COSBY



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WBID #: 1849
 Name: Pump Hollow
 County: Franklin/Crawford
 USGS Location Map

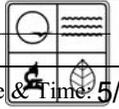


PRJ Job Number: 07031.MODN.00E
 Drawn By: MC Date: 05-29-07
 Checked By: JCV Date: 05-29-07

WBID# 1849

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: 5/1/2014	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): PRS - RR/MC	Between adjacent lake and discharge confluence
Current Weather Conditions: sunny 58°F	Facility Name: Ridgeway Nursing hOme
Weather Conditions for Past 10 days: sun	Permit Number: MO 0107271
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: 662606.366m		Y: 4228850.866m	
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	5.7		

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 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 checked="" 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 checked="" type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input checked="" type="checkbox"/> Foot paths/prints	<input checked="" 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 checked="" type="checkbox"/> Other: digging areas	
Comments:					

* Page Two – Data Sheet B for WBID # 1849-1 :

Stream Morphology:



Upstream View: 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					
RUN 75%					
POOL 25%					

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

25	% Cobble	25	% Gravel		% Sand	5	% Silt	5	% Mud/Clay	40	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

moderate algae/moss on rock substrate

Water Characteristics*: (Mark all that apply.)

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

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

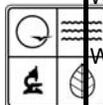
*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that 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: 5/17/07

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

Recreational Use Attainability Analysis Field Survey Sheet



Waterbody ID: 1849 Site #: 1
 Missouri sunny 58°F
 Department of Natural Resources
 GPS Location: 662606.366m UTM X: 4228850.866m UTM Y:
 Horizontal Accuracy Estimate (GPS Data Quality): +/- N/A (feet) PDOP: 5.7
 Average Stream Width: 3.8 (meters) Length of Survey Segment: 150 (meters)
 Field Staff: PRS- RR/MC

Dissolved Oxygen	
Dissolved Oxygen:	<u>9.52</u> (mg/L)
Dissolved Oxygen:	_____ (% sat)
Specific Cond:	_____ (µS/cm)
Water Temperature:	<u>13.6</u> (°C)

Transect Cross-Section

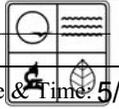
	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)										
1	0	.10	0	.16	0	.05	1.3	.10	1.0	.10	0.3	.11	0	.01	0	.03	0	.15	0	.10	0	.10
2	1.0	.11	.5	.14	.45	.05	1.4	.14	1.15	.10	.5	.10	.5	.03	.4	.02	0.2	.20	2.5	.12	.15	.10
3	1.5	.05	1.0	.31	.90	.00	1.5	.20	1.3	.15	.7	.10	.75	.05	.8	.01	.4	.20	.50	.15	.3	.10
4	2.0	.10	1.5	.40	1.35	.00	1.6	.22	1.45	.15	.9	.10	1.0	.05	1.2	.00	.6	.23	.75	.15	.45	.10
5	2.5	.06	2.0	.25	1.8	.00	1.7	.20	1.6	.16	1.1	.15	1.25	.05	1.6	.02	.8	.23	1.0	.24	.6	.11
6	3.0	.03	2.5	.10	2.5	.01	1.9	.20	1.75	.13	1.3	.15	1.5	.02	2.0	.05	1.0	.20	1.25	.35	.75	.12
7	3.5	.06	3.0	.02	3.0	.05	2.0	.25	1.9	.15	1.5	.13	1.75	.06	2.4	.08	1.2	.07	1.5	.43	.9	.10
8	4.0	.05	3.5	.03	3.5	.10	2.1	.15	2.05	.14	1.7	.10	2.0	.05	2.8	.06	1.4	.12	1.75	.44	1.05	.12
9	4.25	.05	4.0	.06	4.0	.09	2.2	.11	2.2	.12	2.0	.10	2.25	.06	3.5	.08	1.6	.11	2.0	.30	1.2	.12
10	4.6	.03	4.5	.10	4.5	.05	2.25	.10	2.35	.11	2.4	.12	2.5	.05	4.0	.03	1.8	.10	2.25	.21	1.35	.11
11			5.0	.10			2.3	.10	2.5	.10	2.7	.10					2.0	.10	2.6	.10	1.5	.10
Width/Median Depth	4.6	.06	5.0	.10	4.5	.05	2.6	.15	4.0	.13	3.0	.10	2.5	.05	4.0	.03	2.0	.15	2.6	.21	4.5	.10
Feature Type (riffle, run, or pool)	Run		Riffle		Riffle		Run		Run		Riffle											

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: 5/17/07

WBID# 1849

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: 5/15/14	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): PRS - RR/MC	Downstream of adjacent lake
Current Weather Conditions: sunny 58°F	Facility Name: Ridgeway Nursing hOme
Weather Conditions for Past 10 days: sun	Permit Number: MO 0107271
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: 662731.848m	Y: 4228824.787m
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 <input type="checkbox"/> 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 3.1	

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 checked="" 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 checked="" 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 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:					

* Page Two – Data Sheet B for WBID # 1849-2 :

Stream Morphology:



Upstream View: 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 33%					
RUN 34%					
POOL 33%					

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

20 % Cobble	25 % Gravel	% Sand	5 % Silt	% Mud/Clay	50 % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

moderate algae/moss growth on rock substrate

Water Characteristics*: (Mark all that apply.)

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

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

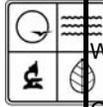
*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that 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: 5/17/07

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

Recreational Use Attainability Analysis Field Survey Sheet



Waterbody ID: 1849 Site #: 2
 Missouri sunny 58° F
 Department of Natural Resources
 GPS Location: 662731.848m UTM X: 4228824.787m UTM Y:
 Horizontal Accuracy Estimate (GPS Data Quality): +/- N/A (feet) PDOP: 3.1
 Average Stream Width: 3.3 (meters) Length of Survey Segment: 150 (meters)
 Field Staff: PRS - RR/MC

Dissolved Oxygen	
Dissolved Oxygen:	<u>9.21</u> (mg/L)
Dissolved Oxygen:	_____ (% sat)
Specific Cond:	_____ (µS/cm)
Water Temperature:	<u>13.1</u> (°C)

Transect Cross-Section

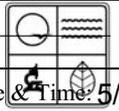
	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
1	.03	.10	0.3	.10	0	.10	0	.20	0	.09	1.0	.10	0	.06	0	.10	0.6	.10	0	.01	.03	.10
2	.05	.14	0.45	.11	.25	.10	.4	.20	.4	.10	1.05	.10	.25	.09	.35	.18	0.9	.13	.4	.04	.06	.13
3	.07	.14	0.6	.12	.5	.10	.8	.15	.8	.07	1.1	.11	.5	.09	.7	.22	1.2	.14	.8	.03	.09	.14
4	.09	.14	0.75	.15	.75	.10	1.2	.16	1.2	.05	1.15	.14	.75	.06	1.05	.21	1.5	.19	1.2	.05	1.2	.23
5	1.1	.13	0.9	.18	1.0	.19	1.6	.10	1.6	.04	1.2	.13	1.0	.12	1.4	.16	1.8	.18	1.6	.10	1.5	.31
6	1.3	.13	1.05	.19	1.25	.22	2.0	.01	2.0	.06	1.25	.12	1.25	.08	1.75	.21	2.1	.17	2.0	.09	1.8	.39
7	1.5	.12	1.2	.21	1.5	.20	2.4	.01	2.4	.07	1.3	.11	1.5	.03	2.1	.19	2.4	.14	2.4	.01	2.1	.25
8	1.7	.10	1.35	.20	1.75	.18	2.8	.16	2.8	.04	1.35	.10	1.9	.01	2.45	.16	2.7	.10	2.8	.02	2.4	.25
9	1.9	.11	1.5	.15	2.0	.18	3.2	.14	3.5	.10	1.4	.13	2.5	.02	2.8	.17	3.0	.10	3.5	.03	2.7	.22
10	2.1	.10	1.65	.14	2.25	.21	3.6	.20	4.0	.10	1.45	.13	2.8	.01	3.15	.12	3.3	.11	4.0	.02	3.0	.13
11	2.3	.10	1.7	.14	2.5	.21	4.0	.10			1.5	.14			3.5	.10	3.6	.12			3.6	.10
Width/Median Depth	2.5	.12	2.0	.15	2.5	.18	4.0	.16	4.0	.09	2.5	.13	2.8	.06	3.5	.17	5.0	.14	4.0	.03	4.0	.22
Feature Type (riffle, run, or pool)	Run		Riffle		Riffle		Run		Run		Riffle		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: 5/17/07

WBID# 1849

Site# 3



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: 5/1/2014 10:04 AM	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): PRS - RR/MC	Upstream of confluence with Stater Creek
Current Weather Conditions: sunny 58°F	Facility Name: Ridgeway Nursing home
Weather Conditions for Past 10 days: sun	Permit Number: MO 0107271
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: 662877.750m	Y: 4228744.662m
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 <input type="checkbox"/> 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 4.7	

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 checked="" 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 checked="" 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 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:					

* Page Two – Data Sheet B for WBID # 1849-3 :

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 40%					
POOL 30%					

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

30 % Cobble	30 % Gravel	% Sand	5 % Silt	% Mud/Clay	35 % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

moderate algae/moss on rock substrate

Water Characteristics*: (Mark all that apply.)

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

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

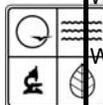
*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that 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: 5/17/07

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

Recreational Use Attainability Analysis Field Survey Sheet



Waterbody ID: 1849 Site #: 3
 Missouri sunny 58°F
 Department of Natural Resources
 GPS Location: 662877.750m UTM X: 4228744.662m UTM Y:
 Horizontal Accuracy Estimate (GPS Data Quality): +/- N/A (feet) PDOP: 4.7
 Average Stream Width: 3.8 (meters) Length of Survey Segment: 150 (meters)
 Field Staff: PRS - RR/MC

Dissolved Oxygen	
Dissolved Oxygen:	<u>9.51</u> (mg/L)
Dissolved Oxygen:	_____ (% sat)
Specific Cond:	_____ (µS/cm)
Water Temperature:	<u>13.8</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	0.5	.10	0	.05	0	.10	0	.06	.05	.10	0	.01	0.2	.10	0	.31	0	.26	0.3	.10	0.2	.10
2	.65	.11	0.5	.09	0.5	.10	1.0	.05	0.75	.16	.35	.00	.50	.29	0.5	.43	.2	.45	.6	.13	0.4	.40
3	.80	.14	1.0	.08	1.0	.05	2.0	.07	1.0	.24	.7	.02	.75	.51	1.0	.36	.4	.60	.9	.13	0.6	.45
4	.95	.15	1.5	.09	1.5	.06	2.5	.04	1.25	.26	1.05	.04	1.0	.62	1.5	.26	.6	.61	1.2	.11	0.8	.50
5	1.1	.15	2.0	.06	2.0	.05	3.0	.04	1.5	.24	1.4	.03	1.25	.60	2.0	.00	.8	.64	1.5	.12	1.0	.45
6	1.25	.15	2.5	.03	2.5	.04	3.5	.05	1.75	.22	1.75	.02	1.5	.55	2.5	.06	1.0	.53	1.8	.10	1.2	.40
7	1.4	.20	3.0	.00	3.0	.04	4.0	.05	2.0	.19	2.1	.02	1.75	.45	3.0	.12	1.2	.40	2.1	.10	1.4	.32
8	1.55	.19	3.5	.02	3.5	.03	4.5	.03	2.25	.15	2.45	.01	2.0	.41	3.5	.10	1.4	.32	2.5	.10	1.6	.23
9	1.7	.20	4.0	.05	4.4	.03	5.0	.02	2.4	.10	2.8	.09	2.25	.36	4.0	.15	1.6	.25	2.65	.10	1.8	.15
10	1.85	.10	4.6	.05	5.0	.06	5.2	.01	2.5	.10	3.5	.01	2.5	.21	4.5	.22	1.9	.20	2.9	.12	1.9	.10
11	2.0	.10											2.8	.10	4.8	.26	2.2	.10	3.0	.10	2.0	.10
Width/Median Depth	3.0	.15	4.6	.06	5.0	0.6	5.2	.05	3.0	.19	3.5	.02	2.8	.41	4.8	.26	2.5	.40	4.5	.10	2.5	.32
Feature Type (riffle, run, or pool)	Run		Run		Riffle		Riffle		Run		Riffle		Pool		Pool		Run		Run		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.

Signed: Robin Reymond Date: 5/17/07

WBID# 1849



WBID 1849 – Site 1 – Transect 1 – facing upstream.



WBID 1849 – Site 1 – Transect 1 – facing downstream.



WBID 1849 – near Site 2, Transect 1, human trail.



WBID 1849 – Evidence of human use.

WBID# 1849



WBID 1849 – Site 2 – Transect 1 – facing upstream.



WBID 1849 – Site 2 – Transect 1 – facing downstream.



WBID 1849 – Site 3 – Transect 1 – facing upstream.



WBID 1849 – Site 3 – Transect 1 – facing downstream.