



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 3303 Cole Camp Creek

Submitted by
BWR

to

Missouri Department of Natural Resources
Water Protection Program

Date received: June 1, 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):	Cole Camp Creek		
Missouri Water Body Identification (WBID) Number:	3303		
8-digit HUC:	10290109	County:	Benton
Upstream Legal Description (from Table H):	07, 42N, 21W		
Downstream Legal Description (from Table H):	Mouth		
Number of sites evaluated	6		
List all sites numbers, listed consequently upstream to downstream:	1, 2, 3, 4, 5, 6		

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

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		
PDOP		± _____ Feet or ± _____ Meters	

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

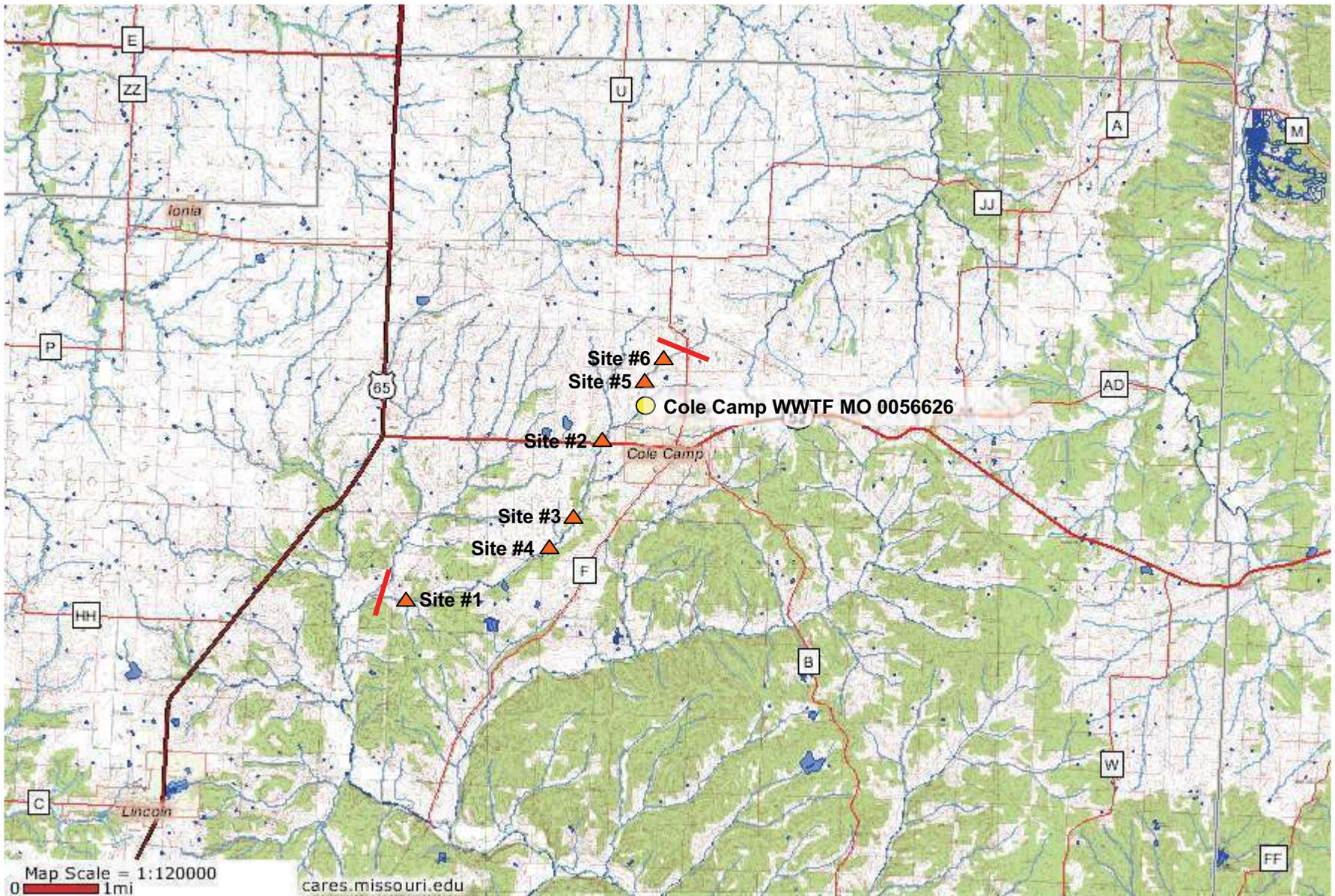
Discharger Facility Name(s):	Cole Camp WWTF
Discharger Permit Number(s):	MO 0056626

IV. UAA Surveyor (please print legibly)

Name of Surveyor	Amy M. Prusalski	Telephone Number:	(816) 313-2090
Organization/Employer:	BVNR		
Position:	Field Team Leader		

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

Signed: *Jodie Robb* *Amy M. Prusalski* Date: 5/16/07
 February 5, 2007 Page 22



Cole Camp Creek
WBID #3303



COLE CREEK CAMP

WBID# ~~###~~ 3307

Site# 1

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
 (must be completed for each site)

Date & Time: 5/10/07 11:45	Site Location Description (c.g., road crossing): Road Crossing
Personnel (Data Collectors): Amy Dziadoski, Samie Rabb	Facility Name: COLE CAMP WWTF
Current Weather Conditions: sunny/warm	Permit Number: MO 0056626
Weather Conditions for Past 10 days: rainy	
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: 093.21182°W	Y: 38.47170°N
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational 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	Interpolation Data Quality
FOM ± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____ ± _____ Feet or ± _____ Meters
EPE ± <u>19</u> Feet or ± _____ Meters	
PDOP	

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
	upstream vegetation		downstream vegetation		

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

Comments: pasture

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: none

Run = 50%
 Riffle = 20%
 Pool = 30%

3303

* Page Two – Data Sheet B for WBID # ~~1114~~ : site #

Stream Morphology:
Upstream View's Physical Dimensions: 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
 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%.)

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

macrophytes, algae

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: Andie Robb Date of Survey: 5/16/07
 Organization: BWR Position: Field crew

S CC SI

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

TA	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth	
1	< 1m	< .1		1	DD = 9.0%, 9.2 ppm	
2		< .1		2		
3	WW	< .1		3		
4		< .1		4		Run
5		< .1		5		
6		< .1		6		
7		< .1		7		
8		< .1		8		
9		< .1		9		
10		< .1		10		
<hr/>						
		< .1		11	DD = 8.1 ppm 8.1%	
2	WW =	.1		12		
3	Zm	.2		13		Run
4		.2		14		
5		.2		15		
6		.2		16		
7		.2		17		
8		.2		18		
9		.1		19		
10		< .1		20		
<hr/>						
		< .1		21	Riffle	
2	< 1m	< .1		22		
3	WW	< .1		23		DD = 8.1%, 8.3 ppm
4		< .1		24		
5		< .1		25		
6		< .1		26		
7		< .1		.		
8		< .1		.		
9		< .1		.		
10		< .1		n		

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Andie Robdo Date: 5/10/07

Organization: BWR Position: Field crew

S C-51

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
T _D	1m	< .1 m		1	DD = 7.7 ppm, 80%
	WVW	.1 m		2	
		.1 m		3	
		.1 m		4	
		.1 m		5	POOL
		.1 m		6	
		.1 m		7	POOL
		.1 m		8	
		< .1 m		9	
		< .1 m		10	
T _E		< .1 m		11	
	WVW = 2m	.1 m		12	Run
		.1 m		13	
		.2 m		14	DD = 7.7 ppm, 7.5 ppm
		.2 m		15	
		.2 m		16	
		.2 m		17	
		.2 m		18	
		.1 m		19	
		.1 m		20	
T _F		.1 m		21	DD = 6.7 ppm, 6.7%
	WVW = 4m	.3 m		22	
		.5 m		23	POOL
		.6 m		24	
		.6 m		25	
		.6 m		26	
		.4 m		.	
		.3 m		.	
		.1 m		.	
		.1 m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Rodie Rabb Date: 5/11/07

Organization: BWR Position: Field crew

S CC S2

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
TG		<.1 m		1	DD = 7.5 ppm 78%
	2m	.1 m		2	
	VVV	.2 m		3	
		.2 m		4	
		.1 m		5	
		.1 m		6	
		.1 m		7	
		.1 m		8	
		<.1 m		9	
		<.1 m		10	
TH		<.1 m		11	DD = 10.7% 10.48 ppm
	VVV = 4m	.1 m		12	
		.1 m		13	
		.2 m		14	
		.2 m		15	
		.2 m		16	
		.3 m		17	
		.3 m		18	
		.3 m		19	
		.2 m		20	
TI		<.1 m		21	DD = 9.4 ppm, 88%
	VVV = 1m	.1 m		22	
		.1 m		23	
		.2 m		24	
		<.1 m		25	
		<.1 m		26	
		.1 m		.	
		.1 m		.	
		<.1 m		.	
		<.1 m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Radie Robb Date: 5/16/07
 Organization: BWR Position: Field Crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

FJ

TK

Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
			1	
3.5m	<.1 m		2	
	.1 m		3	POOL
WW	<.1 m		4	
	<.1 m		5	
	.1 m		6	DO = 7.8%, 7.7ppm
	.1 m		7	
	.2 m		8	
	.1 m		9	
	.1 m		10	
	<.1 m		11	
<.1 m	<.1 m		12	
WW	<.1 m		13	RIFFLE
	<.1 m		14	
	.1 m		15	
	.1 m		16	DO 8.0%, 7.8ppm
	.1 m		17	
	<.1 m		18	
	<.1 m		19	
	<.1 m		20	
			21	
			22	
			23	
			24	
			25	
			26	
			.	
			.	
			.	
			n	
			.	
			.	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Patie Robb Date: 5/11/07

Organization: BWR Position: Field crew

WBID# ~~7709~~ 333
 Site# 2

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
 (must be completed for each site)

Date & Time: 5/15/07 18:00	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): Amy Dzialowski, Spacie, Korb	road crossing
Current Weather Conditions: cloudy	Facility Name: COLE CAMP WWTF
Weather Conditions for Past 10 days: rainy	Permit Number: MD 0056620
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: 093-221639W	Y: 38-4613750N
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 _____ ± _____ Feet or ± _____ Meters
EPE ± 21 Feet or ± _____ Meters	
PDOP	

Photos: see photo log

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
60	downstream	59	upstream		

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 checked="" 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 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: NONE

Run = 60%
 Riffle = 35%
 Pool = 5%

* Page Two – Data Sheet B for WBID # 3303 ~~1100A~~ : site #

Stream Morphology:
 Upstream View's Physical Dimensions: 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
 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%.)

<u>70</u> % Cobble	<u>10</u> % Gravel	<u>0</u> % Sand	<u>0</u> % Silt	<u>0</u> % Mud/Clay	<u>60</u> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

lots of macrophytes algae

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: Indie Robb Date of Survey: 5/15/07
 Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ~~1021~~ ³³⁰³ site #2

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
TA 1	5m wetted width	<.1m		1	DO: 8.7% ; 8.2 ppm
2		<.1m		2	RUN
3		<.1m		3	
4		<.1m		4	
5		<.1m		5	
6		.1m		6	
7		.1m		7	
8		.2m		8	
9		.1m		9	
10		.1m		10	
TB 1	5m wetted width	<.1m		11	DO 7.7 ppm 8.0%
2		.1m		12	POOL
3		.1m		13	
4		.1m		14	
5		.1m		15	
6		.2m		16	
7		.3m		17	
8		.2m		18	
9		.2m		19	
10		.1m		20	
TC 1	5m wetted width	<.1m		21	DO 8.1% , 8.5%
2		.1m		22	RUN
3		.1m		23	
4		.1m		24	
5		.4m		25	
6		.3m		26	
7		.2m		.	
8		.1m		.	
9		.1m		.	
10		<.1m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Radie Pabb Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
TD	Wet. width =	< .1 m		1	RIFFLE
	3.7m	< .1 m		2	
		.1m		3	DO = 8.6ppm, 90%
		.1m		4	
		.1m		5	
		.2m		6	
		.2m		7	
		< .1m		8	
		< .1m		9	
		< .1m		10	
TE	Wet. width:	.1m		11	RIFFLE
	3m	.1m		12	
		.1m		13	DO = 8.2ppm, 87%
		.1m		14	
		.1m		15	
		.1m		16	
		.1m		17	
		< .1m		18	
		< .1m		19	
		< .1m		20	
TF	Wet. width:	.1m		21	RUN
	4.5m	.2m		22	DO = 7.7ppm, 81%
		.3m		23	
		.3m		24	
		.3m		25	
		.2m		26	
		.2m		.	
		.3m		.	
		.1m		.	
		.1m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Nadie Rebb Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ~~172~~ ³³³ site #2

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
T _B	4m	.1m		1	RUN
	wet. width	<.1m		2	
		.1m		3	DD = 7.1 ppm, 80%
		.1m		4	
		.2m		5	
		.1m		6	
		.1m		7	
		<.1m		8	
		<.1m		9	
		<.1m		10	
T _H	4m	<.1m		11	RIFFLE
	wet. width	.1m		12	
		.1m		13	DD = 7.9 ppm, 83%
		.1m		14	
		.1m		15	
		<.1m		16	
		<.1m		17	
		.1m		18	
		.1m		19	
		.1m		20	
T _I	wet. width =	<.1m		21	
	5m	<.1m		22	RIFFLE
		<.1m		23	
		.1m		24	7.7 ppm 82%
		.1m		25	
		.1m		26	
		.2m		.	
		.1m		.	
		.1m		.	
		<.1m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Indie Robb Date: 5/15/07
 Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ~~1629~~ 2303 Site # 2

TJ

TK

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
1	Net, width:	<.1m		1	RUN
2	4m	.1m		2	DO: 8.0 ppm, 85%
3		.1m		3	
4		.1m		4	
5		.1m		5	
6		.1m		6	
7		.1m		7	
8		.1m		8	
9		.1m		9	
10		.1m		10	
<hr/>					
1	7m wet, width	<.1m		11	RUN
2		.1m		12	
3		.1m		13	DO: 7.7 ppm, 82%
4		.2m		14	
5		.2m		15	
6		.3m		16	
7		.3m		17	
8		.3m		18	
9		.2m		19	
10		<.1m		20	
				21	
				22	
				23	
				24	
				25	
				26	
				.	
				.	
				.	
				n	
				.	
				.	

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Patie Robb

Date: 5/15/07

Organization: BWR

Position: Field crew

cole camp creek

WBID# ~~##~~ 3303
Site# 3

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: 5/15/07 12:55	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): Amy Dziadoski	road crossing
Current Weather Conditions: rainy, cloudy	Facility Name: Cole Camp WWTF
Weather Conditions for Past 10 days: rainy	Permit Number: MO0056626
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: 093.22745°W	Y: 38.4471°N
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 _____ ± _____ Feet or ± _____ Meters
EPE ± _____ Feet or ± _____ Meters	
PDOP	

Photos: See photo log.

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
52	upstream	51	downstream		

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

Comments: pasture

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: none

* Page Two – Data Sheet B for WBID # 3303 ~~1102~~ : Site # 3
Stream Morphology:

70% RVI
 20% riffle
 10% pool

Upstream View's Physical Dimensions: 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
 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%.)

<u>40</u> % Cobble	<u>60</u> % Gravel	<u>0</u> % Sand	<u>0</u> % Silt	<u>0</u> % Mud/Clay	<u>0</u> % Bedrock
--------------------	--------------------	-----------------	-----------------	---------------------	--------------------

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

macrophyte, algae

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: Jodie Robb Date of Survey: 5/15/07
 Organization: BWR Position: Field Crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

CS 3

20.5°C

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
A	2m	<.1m		1	
		.1m		2	
	[.10m apart]	.2m		3	
		.2m	7.7 ppm [DO]	4	
	6m apart	.2m	84.5% []	5	
		.2m	[Run]	6	
		.2m		7	
		.2m		8	
		.1m		9	
		<.1m		10	
B	Wetted width	<.1m		11	
		.1m		12	
	5m	.3m		13	
	[.5m apart]	.4m	8.3 ppm [DO]	14	
		.4m	87.5% []	15	
		.4m	[Run]	16	
		.2m		17	
		.1m		18	
		<.1m		19	
		<.1m		20	
C	Wetted w =	.1m		21	
		.2m	86% [DO]	22	
	5m	.3m	7.7 ppm [DO]	23	
	[.5m apart]	.3m		24	
		.4m	[Run]	25	
		.5m		26	
		.4m		.	
		.3m		.	
		.2m		.	
		<.1m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Radie Robb Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WB10: ~~H04~~ ³³⁸³ site #3

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
a		<.1m	[small riffle]	1	
b	5.5m	.1m		2	
c	wet. width	<.1m		3	
d		.1m		4	
e	[.5m apart]	.1m	94.5% [DO]	5	
f		<.1m	8.4 ppm	6	
g		.1m		7	
h		.1m		8	
i		.1m		9	
j		.1m		10	
k		<.1m	[Run]	11	
l	5m	.1m		12	
m	wetted width	.3m		13	
n		.3m		14	
o	[.5m apart]	.4m	91.5% [DO]	15	
p		.3m	8.0 ppm	16	
q		.3m		17	
r		.2m		18	
s		<.1m		19	
t		<.1m		20	
u	7m WW	<.1m	[Run]	21	
v		.2m		22	
w	(.7m apart)	.3m		23	
x		.3m	89% [DO]	24	
y		.2m	8.0 ppm	25	
z		.2m		26	
aa		.2m		.	
ab		.1m		.	
ac		<.1m		.	
ad		<.1m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ladie Robb Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ~~107~~ ²³³ Site # 3

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Distance from Stream edge	Depth	Rank 21°C	Assigned Rank	Sorted depth
	<.1m		1	
7m	.3m		2	
Net:	.4m	100%	3	
width	.4m	9.4ppm	4	
(.7m apart)	.3m		5	
	.3m	[2m]	6	
	.2m		7	
	.1m		8	
	.1m		9	
	.1m		10	
	<.1m	[riffle]	11	
6m	.1m		12	
wetted	.2m	99.6% [DO]	13	
width	.1m	8.8ppm	14	
(.4m apart)	.1m		15	
	.1m		16	
	.1m		17	
	.1m		18	
	<.1m		19	
	.1m		20	
	<.1m		21	
7m	.1m	pool [DO]	22	
	.9m	87%	23	
7w	>.1m	7.7ppm	24	
	.9m		25	
	.8m		26	
	.6m		.	
	.4m		.	
	.4m		.	
	.2m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Indie Robb Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ~~7122~~ ³³⁰³ Site #3

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
a		.2m	Run	1	
b	10m	.4m	do: 90%	2	
c	wetted width	.4m	8.0 ppm	3	
d	10m	.3m		4	
e		.3m		5	
f		.3m		6	
g		.2m		7	
h		<.1m		8	
i		<.1m		9	
j		1m, 1m		10	
k		<.1m		11	
				12	
a		.1m	Run	13	
b	13.5m	<.1m	do: 70%	14	
c	wetted width	<.1m	9.3 ppm	15	
d		<.1m		16	
e		<.1m		17	
f		<.1m		18	
g		<.1m		19	
h		.1m		20	
i		.2m		21	
j		.1m		22	
k		<.1m		23	
				24	
				25	
				26	
				.	
				.	
				.	
				n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Andre Robb Date: 2/15/07

Organization: BWR Position: Field crew

COLE CREEK CAMP

WBID# ~~118~~ 3303

Site# 4

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: 5/15/07 14:15	Site Location Description (e.g., road crossing): Road Crossing
Personnel (Data Collectors): Amy Dzialowski, Sadie Rabb	
Current Weather Conditions: windy, cloudy	Facility Name: Cole Camp WWTF
Weather Conditions for Past 10 days: rainy	Permit Number: MD005602U
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: 093,22779°W	Y: 38,44616°N
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	

Photos: see photo log

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
53	upstream	52	downstream	54	please delete

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

Comments: pasture

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: NONE

Riffle = 50%
 Run = 50%
 Pool = 0%

* Page Two – Data Sheet B for WBID # 3303 ~~11001~~ : site # 4
Stream Morphology:

Upstream View's Physical Dimensions: 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
 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%.)

<u>35</u> % Cobble	<u>25</u> % Gravel	<u>0</u> % Sand	<u>0</u> % Silt	<u>0</u> % Mud/Clay	<u>40</u> % Bedrock
--------------------	--------------------	-----------------	-----------------	---------------------	---------------------

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

macrophytes, algae

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: Mike Robb Date of Survey: 5/15/07
 Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ~~3363~~ Site #4

TA

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
1	1m	<.1m		1	
2	wetted width	.1m		2	RIFPLE
3		<.1m		3	
4	.5m	.1m		4	DO = 9.8 ppm, 100%
5	apex	<.1m		5	(21.3°C)
6		.1m		6	
7		.1m		7	
8		<.1m		8	
9		<.1m		9	
10		.1m		10	
<hr/>					
1		<.1m		11	RIFPLE
2	1m	.1m		12	
3	wetted width	.1m		13	RUN
4		.1m		14	
5	.6m	<.1m		15	DO = 9.0 ppm, 100%
6	apex	.1m		16	
7		.2m		17	
8		.1m		18	
9		<.1m		19	
10		<.1m		20	
<hr/>					
1		<.1m		21	
2	7m	.1m		22	RIFPLE
3	wetted width	<.1m		23	
4	width	<.1m		24	9.59 ppm, 100%
5		<.1m		25	
6		.1m		26	
7		<.1m		.	
8		.1m		.	
9		.1m		.	
10		.1m		n	

TB

Tc

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Dodie Robb Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ³³⁰³ ~~H009~~ Site # 4

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
D	5.5m	<.1m		1	
	wetted width	<.1m		2	RIFPLE
		.1m		3	
	5m apart	<.1m		4	9.70 ppm, 100%
		.1m		5	
		.1m		6	
		.1m		7	
		.1m		8	
		.1m		9	
		.1m		10	
E				11	
	3.5m	.2m		12	RIFPLE
	wetted width	.2m		13	
		.1m		14	
	3m apart	.1m		15	9.04 ppm, 100%
		.1m		16	
		.1m		17	
		.1m		18	
		.1m		19	
		.1m		20	
F		.1m		21	
		<.1m		22	
	7.3m	<.1m		23	RUN
		1m .1m		24	
	.7m	.1m		25	9.1 ppm, 100%
		.1m		26	
		.1m		.	
		.2m		.	
		.2m		.	
		.2m		n	
		.2m			
	.1m				

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Adie Robb Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ~~1607~~ ²⁷⁸⁵ Site # 4

G
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Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
5m wetted width	<.1m		1	RUN
.5	.2m		2	
	.2m		3	
	.1m		4	9.1ppm, 100%
	.1m		5	
	<.1m		6	
	<.1m		7	
	<.1m		8	
	.1m		9	
	<.1m		10	
	<.1m		11	
5.5 wetted width	<.1m		12	RUN
	.1m		13	
	.2m		14	
	.2m		15	9.1ppm, 100%
	.2m		16	
	.3m		17	
	.2m		18	
	.2m		19	
	.2m		20	
	.1m		21	
	.1m		22	
4.5 wetted width	.1m		23	RIPPLE
	.1m		24	
	.1m		25	
	.1m		26	9.3ppm, 100%
	<.1m		.	
	<.1m		.	
	<.1m		.	
	<.1m		n	
	<.1m			

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Radie Robb Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ~~402~~ ³³⁰³ Site # 4

J
K

Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
	<.1m		1 RUN	
7m wetted width	<.1m		2	
	.1m		3 9.0 ppm	100%
	.1m		4	
	.2m		5	
	.1m		6	
	.2m		7	
	.1m		8	
	.1m		9	
	.1m		10	
	<.1m		11 RUN	
4.3m wetted width	.1m		12	
	.1m		13	
	.2m		14 9.2 ppm	100%
	.2m		15	
	.2m		16	
	.2m		17	
	.1m		18	
	.1m		19	
	<.1m		20	
			21	
			22	
			23	
			24	
			25	
			26	
			.	
			.	
			.	
			n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Indie Robb Date: 5/15/07

Organization: BWR Position: Field crew

WBID# #09 3303
 Site# 5

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
 (must be completed for each site)

Date & Time: <u>5/15/07 10:00</u>	Site Location Description (e.g., road crossing): <u>Road crossing</u>
Personnel (Data Collectors): <u>Amy Dziuranski</u>	
Current Weather Conditions: <u>cloudy, windy</u>	Facility Name: <u>COLE CAMP WWTF</u>
Weather Conditions for Past 10 days: <u>rainy</u>	Permit Number: <u>MD 005062U</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>093.22694° W</u>	Y: <u>38.44794° N</u>
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 _____ ± _____ Feet or ± _____ Meters
EPE ± _____ Feet or ± _____ Meters	
PDOP	

Photos: See photo log

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>50</u>	<u>upstream landscape</u>	<u>55</u>	<u>downstream landscape</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 checked="" 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.) <u>Tractor pulled into pasture</u>				

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: <u>pasture</u>				

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: <u>None</u>					

* Page Two – Data Sheet B for WBID # 3303 ~~1109~~ : ~~site#~~

Run = 70%
Riffle = 20%
Pool = 10%

Upstream View's Physical Dimensions: 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
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%.)

<u>35</u> % Cobble	<u>15</u> % Gravel	% Sand	% Silt	% Mud/Clay	<u>50</u> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

algal growth on rocks
macrophytes

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: [Signature] Date of Survey: 5/15/07
Organization: BWR Position: Field Crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ³³⁰³~~1504~~ Site #5

TA

TB

TC

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
1	4m	< .1m		1 RUN	
2	wetted width	.1m		2	
3		.1m		3	8.4ppm, 95%
4		.1m		4	
5		.2m		5	
6		.2m		6	
7		.2m		7	
8		.1m		8	
9		.1m		9	
10		.1m		10	
<hr/>					
1	2.5m	.1m		11 RIFFLE	
2	wetted width	< .1m		12	
3		.2m		13	8.3ppm, 94%
4		.2m		14	
5		.1m		15	
6		.1m		16	
7		.1m		17	
8		.1m		18	
9		.1m		19	
10		< .1m		20	
<hr/>					
1	6.7m	.5m		21 POOL	
2	wetted width	.5m		22	
3		.6m		23	7.9ppm, 87%
4		.6m		24	
5		.6m		25	
6		.7m		26	
7		.7m		.	
8		.5m		.	
9		.5m		.	
10		.2m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Dadic Robb Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C -- Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ~~#509~~ ³³⁰³ Site #5

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
TD 1	10.5m	<.1m		1 RUN	
2	wetted width	.1m		2	
3		.3m		3	7.5ppm, 81%
4		.5m		4	
5		.4m		5	
6		.3m		6	
7		.4m		7	
8		.5m		8	
9		.5m		9	
10		.4m		10	
TE 1	5.5m	<.1m		11 RUN	
2	wetted width	.2m		12	
3		.3m		13	
4		.5m		14	7.4ppm, 81%
5		.5m		15	
6		.5m		16	
7		.4m		17	
8		.4m		18	
9		.3m		19	
10		.2m		20	
TF 1	5.3m	.1m		21 RUN	
2	wetted width	.2m		22	
3		.2m		23	
4		.2m		24	
5		.1m		25	7.4ppm, 82%
6		.1m		26	
7		<.1m		.	
8		.1m		.	
9		<.1m		.	
10		<.1m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Jodie Robb Date: 5/15/07
 Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ²³⁰⁹~~1109~~ Site #5

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
T ₁	5m	.1m		1 RUN	
	wetted width	.2m		2	
		.2m		3	
		.2m		4 10.9 ppm, 70%	
		.2m		5	
		.3m		6	
		.3m		7	
		.3m		8	
		.2m		9	
		.1m		10	
T ₂	4m	.1m		11	
	wetted width	.1m		12 RIFFLE	
		.1m		13	
		.1m		14	
		.1m		15 7.7 ppm, 85%	
		.1m		16	
		.1m		17	
		.1m		18	
		.1m		19	
		.1m		20	
T ₃	3m	<.1m		21	
	wetted width	<.1m		22	
		<.1m		23	
		.1m		24 RUN	
		.1m		25	
		.1m		26 7.7 ppm, 85%	
		.1m		.	
		.1m		.	
		.1m		.	
		<.1m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Radic Roldo Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ~~1157~~ ³³⁰³ Site #5

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
TS	5.5	.1m		1 RUN	
	wetted width	.1m		2	
		.1m		3	
		.1m		4	7.5 ppm, 83%
		.1m		5	
		.1m		6	
		.1m		7	
		.1m		8	
		.1m		9	
		.1m		10	
TK	9m	.1m		11 RUN	
	wetted width	.3m		12	
		.3m		13	
		.4m		14	7.7 ppm, 80%
		.4m		15	
		.4m		16	
		.4m		17	
		.3m		18	
		.3m		19	
		.3m		20	
	.1m		21		
			22		
			23		
			24		
			25		
			26		
			.		
			.		
			.		
			n		

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: John Robb Date: 5/15/07

Organization: BWR Position: Field crew

WBID# 3363
 Site# 10

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
 (must be completed for each site)

Date & Time: <u>5/15/07 10:00</u>	Site Location Description (e.g., road crossing): <u>Road crossing</u>
Personnel (Data Collectors): <u>Amy Działowski, Sadie Davis</u>	Facility Name: <u>Cole Camp WWTF</u>
Current Weather Conditions: <u>Sunny, Warm</u>	Permit Number: <u>MD0056626</u>
Weather Conditions for Past 10 days: <u>Rainy</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>093.27219° W</u>	Y: <u>38.43081° N</u>
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 _____ ± _____ Feet or ± _____ Meters
EPE ± _____ Feet or ± _____ Meters	
PDOP	

Photos: see photo log

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>58</u>	<u>upstream landscape</u>	<u>57</u>	<u>downstream landscape</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 checked="" type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Comments: pasture

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: None

RUN = 60%
 Riffle = 30%
 POOL = 10%

* Page Two - Data Sheet B for WBID # 3303 H021 : site #

Stream Morphology:

Upstream View's Physical Dimensions: 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

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%.)

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

few macrophytes
 algae on rocks

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: Mike Robb Date of Survey: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID# ³³³³ ~~1109~~ Site #6

FA

TB

TC

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
1	5.5m west	.1m		1	Riffle =
2	width	.2m		2	
3		.2m		3	8.2ppm, 88%
4		.2m		4	
5		.2m		5	
6		.1m		6	
7		.1m		7	
8		.1m		8	
9		<.1m		9	
10		<.1m		10	
1	8m	.6m		11	
2	west width	.8m		12	POO / riffle
3		.8m		13	
4		.7m		14	DO = 7.1 ppm, 78%
5		.5m		15	
6		.3m		16	
7		.1m		17	
8		<.1m		18	
9		.1m		19	
10		<.1m		20	
1	corn	.1m		21	
2	west width	.3m		22	RUN
3		.4m		23	
4		.5m		24	DO = 7.0 ppm, 71%
5		.5m		25	
6		.5m		26	
7		.4m		.	
8		.3m		.	
9		.2m		.	
10		.1m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Adie Roldo Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ³³⁰³1109 Site #6

T_D

T_E

T_F

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
1	9.5m	.3m		1	
2	wet. width	.6m		2	RUN
3		.6m		3	
4		.5m		4	DO = 7.0 ppm, 77%
5		.5m		5	
6		.4m		6	
7		.4m		7	
8		.4m		8	
9		.3m		9	
10		.3m		10	
<hr/>					
1	8m wet. width	.2m		11	
2		.3m		12	RUN/POOL
3		.4m		13	
4		.3m		14	DO = 7.2 ppm, 79%
5		.3m		15	
6		.2m		16	
7		.4m		17	
8		.5m		18	
9		.5m		19	
10		.4m		20	
<hr/>					
1	10m wet. width	.3m		21	
2		.3m		22	
3		.3m		23	RUN
4		.3m		24	
5		.3m		25	DO = 7.4 ppm, 81%
6		.4m		26	
7		.3m		.	
8		.1m		.	
9		.1m		.	
10		<.1m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.

If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Adie Robb Date: 5/15/07

Organization: BWR Position: Field crew

Data Sheet C - Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ~~1209~~ ³⁷⁸⁷ Site #6

TG

TH

TF

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
1	4m wet.	<.1m		1	RIFFLE
2	width	<.1m		2	
3		<.1m		3	DO = 7.8 ppm, 85%
4		.1m		4	
5		.1m		5	
6		.1m		6	
7		.1m		7	
8		<.1m		8	
9		<.1m		9	
10		<.1m		10	
1	7.5 m	<.1m		11	
2	wet. width	.1m		12	RUN
3		.1m		13	
4		.1m		14	DO = 7.4 ppm, 81%
5		.1m		15	
6		.1m		16	
7		.2m		17	
8		.3m		18	
9		.2m		19	
10		.2m		20	
1	com	.2m		21	
2	wet. width	.3m		22	RUN
3		.3m		23	
4		.3m		24	DO = 7.2 ppm, 80%
5		.3m		25	
6		.2m		26	
7		.2m		.	
8		.2m		.	
9		.1m		.	
10		<.1m		n	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Andie Roth Date: 5/15/07
 Organization: BWR Position: Field crew

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID: ³³⁰³~~1109~~ Site #6

TJ

TK

	Distance from Stream edge	Depth	Rank	Assigned Rank	Sorted depth
1	5m	<.1m		1	
2	wet.	<.1m		2	RUN
3	width	<.1m		3	
4		<.1m		4	DO: 7.0 ppm, 77%
5		<.1m		5	
6		.1m		6	
7		.3m		7	
8		.3m		8	
9		.2m		9	
10		.1m		10	
1	5.7m	<.1m		11	
2	wet. width	<.1m		12	
3		<.1m		13	RIFFLE
4		.1m		14	
5		<.1m		15	DO: 7.2 ppm, 79%
6		.1m		16	
7		.1m		17	
8		<.1m		18	
9		.1m		19	
10		<.1m		20	
				21	
				22	
				23	
				24	
				25	
				26	
				.	
				.	
				.	
				n	
				.	
				.	

If there is an odd number of entries find middle rank $[(n+1)/2]$. The corresponding sorted value depth to the middle rank is the median depth.
 If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

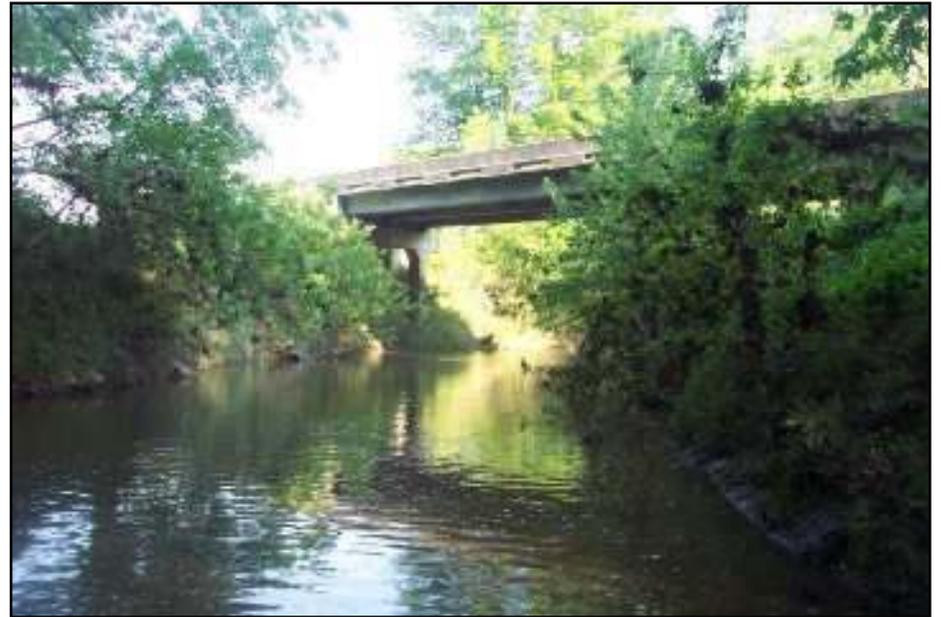
I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Adie Robb Date: 5/15/07

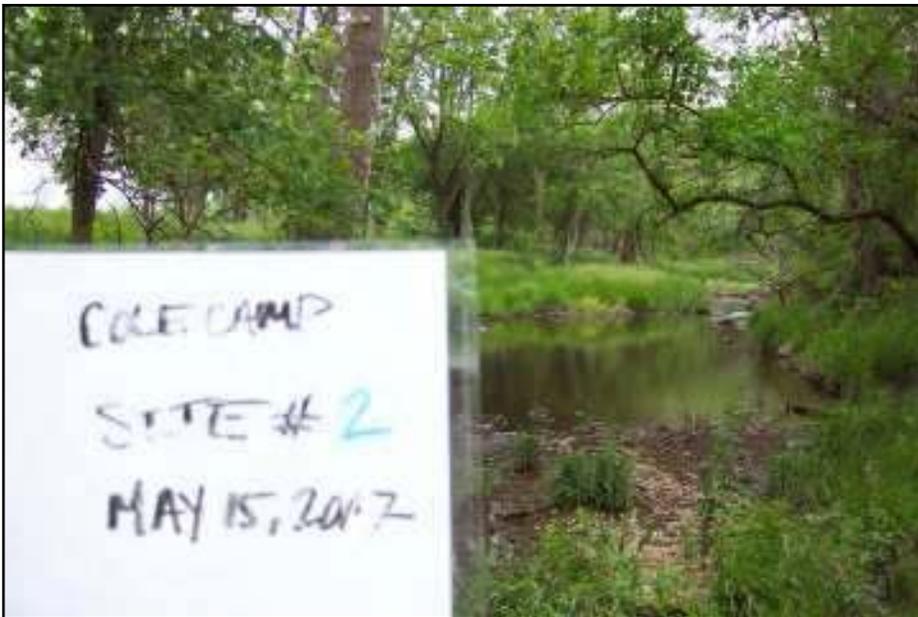
Organization: BWR Position: Field crew



Upstream (Site 1) of Cole Camp Creek



Downstream (Site 1) of Cole Camp Creek



Upstream (Site 2) of Cole Camp Creek



Downstream (Site 2) of Cole Camp Creek



Upstream (Site 3) of Cole Camp Creek



Downstream (Site 3) of Cole Camp Creek



Upstream (Site 4) of Cole Camp Creek



Downstream (Site 4) of Cole Camp Creek



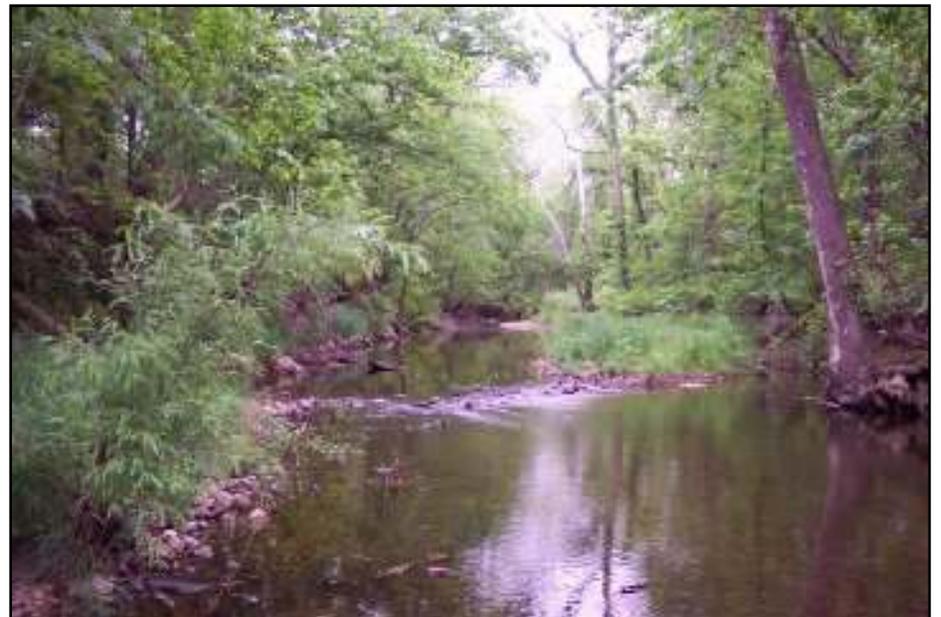
Upstream (Site 5) of Cole Camp Creek



Downstream (Site 5) of Cole Camp Creek



Upstream (Site 6) of Cole Camp Creek



Downstream (Site 6) of Cole Camp Creek

Field Data Sheet for Recreational Use Stream Survey

Data Sheet D—Recreational Use Interview

Stream Name _____ (WBID # _____)

I. Introduction

Date & Time (include AM or PM): 05-02-07

Interviewed: In person By phone By mail

(NOTE: If you are an Interviewee filling out this form to mail back to DNR, proceed to Question #1.)

Interviewee selected because (e.g., house next to stream; standing by stream, etc.)
House next to stream

Interviewer introduction to Interviewee: "My name is _____, I work for _____ (name of your employer), and I am collecting information on how people use _____ (name of the stream)."

ASK:

1.) Are you willing to respond to a survey about this stream? (It will just take a few minutes.)
 Yes No If yes, list contact information for the interviewee below:

Legal name: Justin Robert Kyle
Current mailing address: P.O. Box 57 Cole Camp, MO 65325
Daytime phone number: _____
E-mail address (optional): _____

2.a.) Do you live in this area? Yes No
If yes, how many years? 35 years plus

2.b.) If you don't live nearby, are you still familiar with this stream? Yes No
If yes, how many years?
If no, thank the individual for taking the time to talk to you and conclude the interview.

3.) Are you familiar with this particular stretch of the stream? (show them the map, pointing out local landmarks such as roads, bridges, property lines) Yes No
If yes, proceed to "II. Personal Use?".
If no, proceed to Section V.

II. Personal Use?

1.) Have you or your family personally used the stream for recreation since November 28, 1975?
 Yes No
If yes, proceed to #3.
If no, proceed to #2.

2.a.) List reasons stream not used.
B/c of the waste disposal plant along the stream.

2.b.) Proceed to "III. Witnessed Use?".

3.) How do you use the stream?

<i>Whole Body Contact Recreation</i>			
Swimming <input type="checkbox"/>	Tubing <input type="checkbox"/>	Snorkeling/Skin Diving <input type="checkbox"/>	Water Skiing <input type="checkbox"/>

If Interviewee (or family) used the stream for WBCR since Nov. 28, 1975, ask:

4.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)? _____

4.b.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol). _____

<i>Secondary Contact Recreation</i>				
Fishing <input type="checkbox"/>	Wading <input type="checkbox"/>	Boating <input type="checkbox"/>	Trapping <input type="checkbox"/>	Other: <input type="checkbox"/> List: _____

If Interviewee (or family) used the stream for SCR since Nov. 28, 1975, ask:

4.c.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)? _____

4.d.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol). _____

III. Witnessed Use?

1.) Have you observed others using this stream for recreation since Nov. 28, 1975? Yes No

If yes, proceed to #2.

If no, proceed to, "IV. Anecdotal Use?".

2.) What kinds of uses have you witnessed?

<i>Whole Body Contact Recreation</i>			
Swimming <input type="checkbox"/>	Tubing <input type="checkbox"/>	Snorkeling/Skin Diving <input type="checkbox"/>	Water Skiing <input type="checkbox"/>

If Interviewee witnessed WBCR use since Nov. 28, 1975, ask the following questions:

2.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)? _____

2.b.) Where, exactly? Describe specific location *and mark on the map* (Seemap requirements in the protocol). _____

Secondary Contact Recreation

Fishing Wading Boating Trapping Other: List:

If Interviewee witnessed SCR use since Nov. 28, 1975, ask the following questions:

2.c.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)? _____

2.d.) Where, exactly? Describe specific location *and mark on the map* (Seemap requirements in the protocol). _____

IV. Anecdotal Use?

1.) Have you heard about anyone using this stream since Nov. 28, 1975 for recreation – not seen or done yourself, but just heard about it? Yes No

If yes, proceed to #2.

If no, thank the individual for taking the time to talk to you and conclude the interview.

2.) What kind of uses have you heard about?

Whole Body Contact Recreation

Swimming Tubing Snorkeling/Skin Diving Water Skiing

If Interviewee heard of WBCR use since Nov. 28, 1975, ask the following questions:

2.a.) When did these uses take place (e.g., year(s)?; season?; only after a rain?) and how often (times/year)? _____

2.b.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol). _____

Secondary Contact Recreation

Fishing Wading Boating Trapping Other: List:

If Interviewee heard of SCR use since Nov. 28, 1975, ask the following questions:

2.c.) When did these uses take place (e.g., year(s)?; season?; only after a rain?) and how often (times/year)? _____

2.d.) Where, exactly? Describe specific location *and mark on the* (See map requirements in the protocol). _____

V. Others to Contact?

Can you recommend someone else we could contact that knows the stream? Yes No
If yes, that person's contact info (name, address, phone, directions?) _____

If no, thank the individual for taking the time to talk to you and conclude the interview.

VI. Additional Comments

1.) From the Interviewee: _____

2.) From the Interviewer: _____

VII. Information on Interviewer

Has interviewer been trained by Missouri DNR to conduct UAA Interviews?

Yes No If yes, how (check all that apply):

Workshop? (if so, enter date): _____

On-line training seminar? _____

Followed Interview Instruction Sheets? _____

Other _____

Interviewer Information:

Signature: _____

Printed Name: _____

Employer (where applicable): _____

Interviewer's phone #: _____ E-mail: _____



**Donna
Menown/WPCP/DEQ/MODNR**

01/04/2008 12:37 PM

To "Cindy DiStefano" <Cindy.DiStefano@mdc.mo.gov>
cc "Karen Bataille" <Karen.Bataille@mdc.mo.gov>, John.Hoke@dnr.mo.gov
Eric Hempel/WPCP/DEQ/MODNR@MODNR; All Message Store@MODNR; All Message Store@MODNR; All Message Store@MODNR

Subject Re: Info Request/ Cole Camp Ck/ Flat Crk Trib 2 

The information provided in your e-mail below answers my remaining questions (from my 12/12/07 e-mail below) regarding Cole Camp Ck (WBID 3303) and Trib to Flat Ck 2 (WBID 3509).

Along with the information you provided on Trib to West Fork of Lost Creek 2 (WBID 500) in your 12/20/07 e-mail to me, we now have the confirmation we needed to document existing Whole Body Contact and Secondary Contact Use (since Nov. 28, 1975) on these three water bodies.

Thanks so much to you (and all others involved) in your department's continued efforts and cooperation on this important issue.

Donna Menown
Total Maximum Daily Load (TMDL) Developer
Div. of Env. Quality/Water Protection Program
MO Dept. of Natural Resources, Jeff. City
(573) 526-1595; FAX [522-9920]
e-mail: donna.menown@dnr.mo.gov
"Cindy DiStefano" <Cindy.DiStefano@mdc.mo.gov>



"Cindy DiStefano"
<Cindy.DiStefano@mdc.mo.gov>

01/04/2008 10:03 AM

To "Donna Menown" <donna.menown@dnr.mo.gov>
cc "Karen Bataille" <Karen.Bataille@mdc.mo.gov>
Subject Re: Info Request/ Cole Camp Ck/ Flat Crk Trib 2 - 1/10 deadline

Donna,

Here is the response that I received on Cole Camp Creek and Flat Creek Trib 2:

"The biologist and/or agent that reported this information was using observations from the past 15 years."

I hope this information answers all of your questions.

Cindy

Cindy DiStefano
Resource Scientist - Environmental Health
Missouri Department of Conservation
1110 S. College Ave.
Columbia, MO 65201
(573) 882-9909 x3297

FAX - (573) 882-4517
Cindy.DiStefano@mdc.mo.gov

>>> "Donna Menown" <donna.menown@dnr.mo.gov> 01/03/08 1:10 PM >>>
Thanks again for info below. I left you a voice mail message around noon today. We are on a rulemaking schedule for the WBCR/SCR rule changes and must get our recommendations done by end of next week, so really need any info on the remaining water bodies by next Thursday, 1/10, at the latest.

Otherwise, they will have to wait until the next time the department pushes more rule changes on this issue. I'm told it could be years.

Donna Menown
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e-mail: donna.menown@dnr.mo.gov

"Cindy DiStefano" <Cindy.DiStefano@mdc.mo.gov>
12/20/2007 10:43 AM

To
"Donna Menown" <donna.menown@dnr.mo.gov>
cc
John.Hoke@dnr.mo.gov, "Karen Bataille" <Karen.Bataille@mdc.mo.gov>,
"Robert Lawrence" <Robert.Lawrence@mdc.mo.gov>
Subject
Re: Info Request/ Cole Camp Ck/ Lost Crk Trib 2/ Flat Crk Trib 2

Donna,

Here is the information that I have received so far.

TRIB TO WEST FORK OF LOST CK 2 (DeKalb Co.):

MDC Fisheries staff have observed kids fishing and wading/swimming in this stream at sites 137 & 138 on the south edge of Maysville. These observations were made since 2000, and may have been made in the last year or two.

I'll send more information as I receive it.

Cindy

>>> "Donna Menown" <donna.menown@dnr.mo.gov> 12/12/07 2:11 PM >>>
Thanks so much for sending your 12/6 e-mail and attachments (below). We had two questions regarding info MDC provided in the 8/24/05 John Hoskins letter to DNR, specifically on three creeks:

Cole Camp Creek (WBID 3303) - "MDC staff observed the public swimming and wade fishing..."

Trib. to Flat Creek 2 (WBID 3509) - "MDC staff observed the public swimming and wade fishing..."
Trib. to West Fork of Lost Creek 2 (WBID 500) -
"MDC staff observed the public swimming in this stream..."

QUESTION 1: LOCATIONS OF REPORTED USE?

The first question was about a more specific location of reported use (whole body recreation/secondary contact recreation). Since the 8/05 MDC letter included a spreadsheet with only the creeks' names, and did not specify a specific stretch, we needed to pin down that the use was reported within the classified segment (i.e., listed in Table H of the Water Quality Standards). And, in the case of Cole Camp Creek - which of the two classified segments water body identification number (WBID) 3303-the upper segment, or WBID 1113-the lower segment) was the use observed?

In your first attachment below ("Draft UAA comment e-mail.doc"), I found part of the answer to our first question. In the 3rd paragraph of this note to field staff, Karen directs staff to access DNR's UAA Web page and writes, "...you'll need to open the UAA to determine what segment of stream the UAA was conducted on and base your comments on that section of the stream only." Also, under the 4th paragraph's second bullet, "If you have seen people swimming in the stream segment specified in the UAA..."

So I pulled the 2005 UAAs from our central file and determined if the entire UAA was done on the segment in question. We have more time and better mapping capability than we did during the 2005 UAA crunch, so are now better able to determine if the UAA included sites on an unclassified portion of the stream, or on the wrong segment (WBID) of the stream, or if they were actually done on the wrong stream altogether. I also checked our Web site (http://www.dnr.mo.gov/env/wpp/wqstandards/uaa/uaa_county.htm) to see which 2005 UAAs were posted, so would know which ones MDC staff reviewed.

QUESTION 2: TIME FRAME OF REPORTED USE?

In what time frame was the use observed? The rules for this topic only apply to uses observed on or after Nov. 28, 1975. Even if you could just report a general time frame -- something like, "The conservation agent [or MDC staffer] who witnessed these activities worked this area throughout the 1980s." or "The biologist who witnessed these activities worked on this creek from 1990-1993." Just so we have something in the record that confirms the use was observed on or after Nov. 28, 1975.

COLE CAMP CK (Benton Co.):

Q#1: Yes, the UAA posted on DNR's UAA Web site was conducted on the correct upper segment (WBID 3303 - as opposed to the downstream WBID 1113 (which was

assigned WBCR in 2005). So Question #1 is answered for this creek. But....

Q#2: we still need a time frame before we can use the info.

TRIB TO FLAT CK 2 (Pettis Co.):

Q#1: Since the only 2005 UAA posted on DNR's Web site was one with all the sites on the correct classified segment. So Question #1 is answered for this creek. But....

Q#2: we still need a time frame before we can use the info.

TRIB TO WEST FORK OF LOST CK 2 (Platte Co.):

Q#1: This is more complicated. The maps provided to us in the 2005 UAAs did not include the existence of Willow Brook Lake (constructed in 1996 on Trib to West Fork of Lost Creek 2; stocked by MDC in 2000). We just created a new map using the 2005 UAA sites' coordinates and got the map attached below. As you can see, some of the sites were actually upstream of the dam. Since all classified lakes are assigned WBCR, what we need information on is the stream itself downstream of the dam. So, since the MDC comments mention the lake and the stream, we need to confirm that the uses observed were witnessed downstream of where the current dam is located. That's what we need from you all.

Q#2: And still need a time frame.

Sorry this has taken a while, Cindy. I was out of the office Friday, the building was closed due to power outage Monday, and our network was down from yesterday afternoon until about an hour ago.

Since I am aware how much MDC's e-mail server changes our e-mails' font type and size, making it harder to read, I will also fax this to you.

Ideally we'd like this information by Dec. 21. Thank you all so much for your help.

Donna Menown
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----- Forwarded by Donna Menown/WPCP/DEQ/MODNR on 12/11/2007 01:22 PM

"Cindy DiStefano" <Cindy.DiStefano@mdc.mo.gov>
12/06/2007 10:25 AM

To
"Donna Menown" <donna.menown@dnr.mo.gov>
cc
"Karen Bataille" <Karen.Bataille@mdc.mo.gov>, "Robert Lawrence"

<Robert.Lawrence@mdc.mo.gov>
Subject
Information Request

Donna,

I have attached four files that contain the information that you requested. The ?Draft UAA comment email.doc? contains the instructions that Karen Bataille sent to staff. The ?KC region comments.doc? contains e-mail exchanges between Karen Bataille and Joe Bonneau with instructions and verification of the information. The ?UAACommentsKCRegion.xls? contains all of the information for the streams in the MDC Kansas City Region and the ?UAACommentsNWRRegion.xls? contains all of the information for the streams in the MDC Northwest Region.

Please look over these documents and let me know what information is missing for each stream segment. I want to be able to ask the proper questions to get the answers that you need.

Thanks,
Cindy

Cindy DiStefano
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