Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 0320 Dick's 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):	DICK'S CREEK
Missouri Water Body Identification (WBID) Number:	# 320
8-digit HUC: 10240012	County: PLATTE
Upstream Legal Description (from Table H):	Mouth
Downstream Legal Description(from Table H):	33, 54N, 33W
Number of sites evaluated	4
List all sites numbers, listed consequently upstream to downstream: Cross section #4, Cross section #3, Cross section #2, CS-#1	

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 MAP

II. Subegmentation (fill this section out only in cases where subesgmentation is being proposed) N/A

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Upstream Coordinates: UTM X Y		Downstream Coordinates: 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)

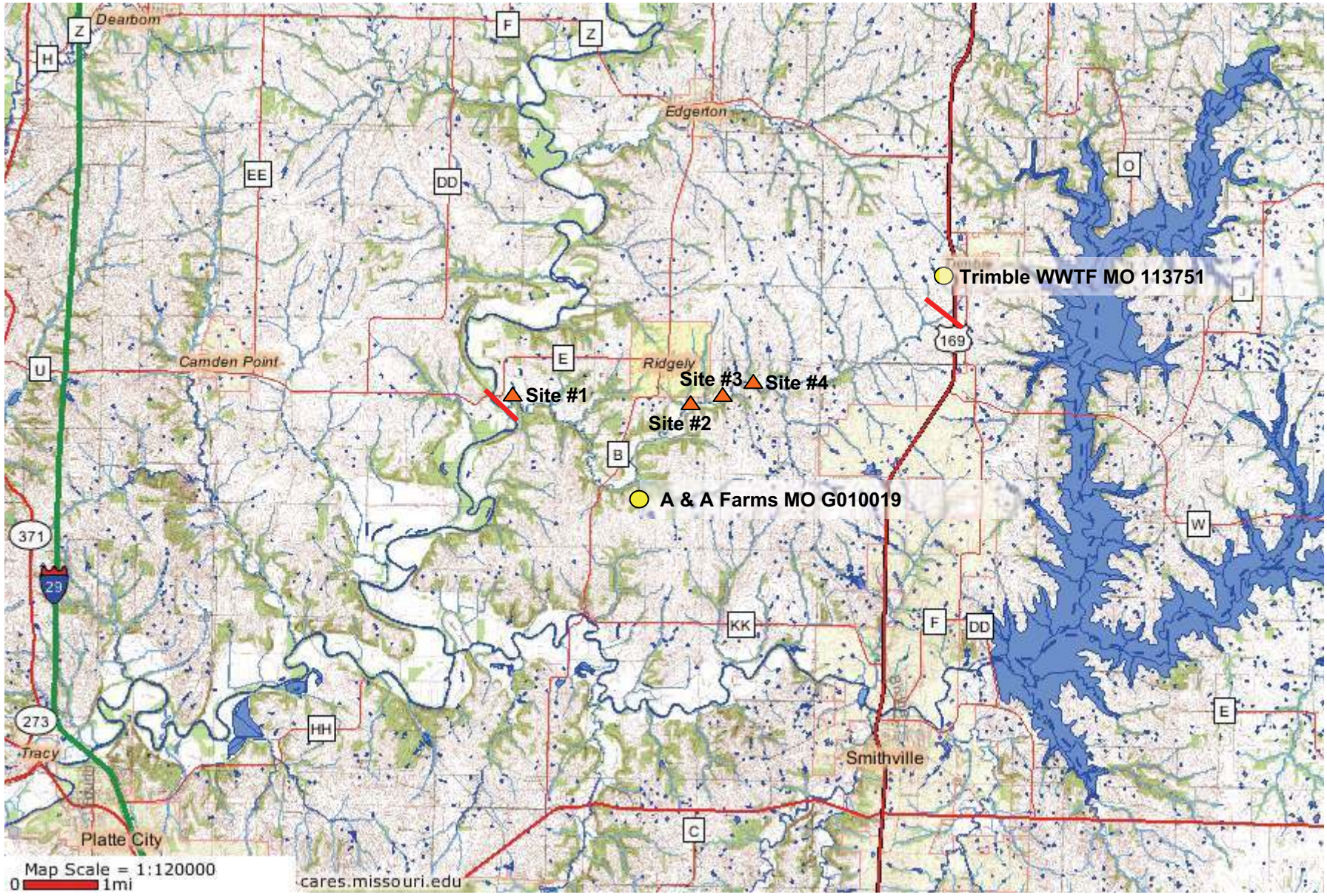
Discharger Facility Name(s):	Trimble WWTF A&A Farms
Discharger Permit Number(s):	MO 113751 MOG 010019

IV. UAA Surveyor (please print legibly)

Name of Surveyor Kerry Snethen	Telephone Number: 816.363.2696
Organization/Employer: BWR	
Position: Environmental Scientist	

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

Signed: Kerry Snethen **Date:** 5/24/07



BWR

Dick's Creek

WBID #320

N

WBID# 320
Site# 1

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

Date & Time: May 24th 2007 1230	Site Location Description (e.g., road crossing): Off Dicks Cr. Rd
Personnel (Data Collectors): Kerry Snethen/John Casey	
Current Weather Conditions: Cloudy, rainy	Facility Name: Trimble WWTF A&A Farms
Weather Conditions for Past 10 days: Cloudy	Permit Number: Mo113751, MoG010019

Drought Conditions?: No drought ☐; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: N Y: W

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:

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

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ 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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☒ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments:

% Channel Feature
RUN: 80
RIFFLE: 10
POOL: 10

*** Page Two – Data Sheet B for WBID #** 320 : SITE # 1
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%.)

10 % Cobble	0 % Gravel	20 % Sand	70 % Silt	— % Mud/Clay	— % Bedrock

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

Macrophytes on bank

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☒ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☒ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ 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: Kerry Smith Date of Survey: 5/24/07

Organization: BWR Position: Env. Scientist

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

WBID # 320 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	<0.1 m			1 Channel Feature : RUN	
2	4.1 m	0.2 m			2	
3		0.2 m			3	
4	measurements	0.3 m			4 Dissolved Oxygen	
5	0.41 m	0.3 m			5	
6	apart	0.4 m			6 7.53	ppm
7		0.3 m			7 75	%
8		0.3 m			8	
9		0.2 m			9	
10		0.1 m			10	
					11	
Transect B 1	wetted width	0.1 m			12 Channel Feature : RUN	
2	4.0 m	0.2 m			13	
3		0.2 m			14	
4	measurements	0.3 m			15 Dissolved Oxygen :	
5	0.40 m	0.3 m			16	
6	apart	0.4 m			17 7.61	ppm
7		0.4 m			18 76	%
8		0.3 m			19	
9		0.2 m			20	
10		0.1 m			21	
					22	
Transect C 1	wetted width	0.1 m			23 Channel Feature : RUN	
2	3.8 m	0.1 m			24	
3		0.2 m			25	
4	measurements	0.3 m			26 Dissolved Oxygen	
5	0.38 m	0.4 m			.	
6	apart	0.4 m			. 7.43	ppm
7		0.4 m			. 74	%
8		0.3 m			n	
9		0.2 m				
10		0.2 m				

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: Kerry Snethen **Date:** 5/24/07

Organization: BWR Position: Env. Scientist

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

WBID # 320 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 1	wetted width	<0.1 m			1 Channel Feature : RUN	
2	4.2 m	0.1 m			2	
3		0.2 m			3	
4	measurements	0.3 m			4 Dissolved Oxygen	
5	0.42 m	0.3 m			5	
6	apart	0.4 m			6 7.40	ppm
7		0.4 m			7 74	%
8		0.4 m			8	
9		0.3 m			9	
10		0.1 m			10	
					11	
Transect E 1	wetted width	<0.1 m			12 Channel Feature :	
2	4.1 m	0.2 m			13	
3		0.2 m			14	
4	measurements	0.2 m			15 Dissolved Oxygen : RUN	
5	0.41 m	0.3 m			16	
6	apart	0.4 m			17 7.41	ppm
7		0.3 m			18 74	%
8		0.3 m			19	
9		0.2 m			20	
10		<0.1 m			21	
					22	
Transect F 1	wetted width	<0.1 m			23 Channel Feature : RUN	
2	4.0 m	0.2 m			24	
3		0.2 m			25	
4	measurements	0.3 m			26 Dissolved Oxygen	
5	0.4 m	0.4 m			.	
6	apart	0.4 m			. 7.62	ppm
7		0.3 m			. 76	%
8		0.3 m			n	
9		0.2 m				
10		0.1 m				

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: Kerry Snether **Date:** 5/24/07

Organization: BWR Position: Env. Scientist

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

WBID # 320 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	<0.1 m			1 Channel Feature : RUN	
2	4.1 m	0.1 m			2	
3		0.2 m			3	
4	measurements	0.2 m			4 Dissolved Oxygen	
5	0.41 m	0.2 m			5	
6	apart	0.3 m			6 7.03	ppm
7		0.3 m			7 70	%
8		0.3 m			8	
9		0.2 m			9	
10		<0.1 m			10	
					11	
Transect H 1	wetted width	<0.1 m			12 Channel Feature : RIFFLE	
2	3.1 m	<0.1 m			13	
3		<0.1 m			14	
4	measurements	<0.1 m			15 Dissolved Oxygen :	
5	0.31 m	<0.1 m			16	
6	apart	<0.1 m			17 7.96	ppm
7		<0.1 m			18 79	%
8		<0.1 m			19	
9		0.2 m			20	
10		0.2 m			21	
					22	
Transect I 1	wetted width	<0.1 m			23 Channel Feature : RUN	
2	3.7 m	0.2 m			24	
3		0.2 m			25	
4	measurements	0.3 m			26 Dissolved Oxygen	
5	0.37 m	0.2 m			.	
6	apart	0.2 m			. 7.70	ppm
7		0.3 m			. 77	%
8		0.3 m			n	
9		0.2 m				
10		0.1 m				

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.

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Signed: Kerry Sutherland **Date:** 5/24/07

Organization: BWR Position: Env. Scientist

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

WBID # 320 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	wetted width	<0.1 m			1 Channel Feature: RUN	
2	4.10 m	0.2 m			2	
3		0.3 m			3	
4	measurements	0.4 m			4 Dissolved Oxygen	
5	0.41 m	0.3 m			5	
6	apart	0.4 m			6 7.97	ppm
7		0.4 m			7 79	%
8		0.3 m			8	
9		0.2 m			9	
10		<0.1 m			10	
					11	
Transect 2 1	wetted width	<0.1 m			12 Channel Feature: RUN	
2	3.2 m	0.2 m			13	
3		0.3 m			14	
4	measurements	0.3 m			15 Dissolved Oxygen:	
5	0.32 m	0.1 m			16	
6	apart	0.2 m			17 8.60	ppm
7		0.3 m			18 86	%
8		0.3 m			19	
9		0.1 m			20	
10		<0.1 m			21	
					22	
Transect 1	wetted width				23 Channel Feature:	
2	m				24	
3					25	
4	measurements				26 Dissolved Oxygen	
5	m				.	
6	apart				.	ppm
7					.	%
8					n	
9						
10						

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: Kerry Snethen **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

WBID# 320
Site# 2

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

Date & Time: 5/24/07 1615	Site Location Description (e.g., road crossing): off bridge at B Highway
Personnel (Data Collectors): Kisnethen / J. Casey	
Current Weather Conditions: Cloudy, rainy	Facility Name: Trimble WWTF, A & A Farms
Weather Conditions for Past 10 days: Cloudy, rainy	Permit Number: MO113751, MO6010019

Drought Conditions?: No drought ☐; Phase I ☑; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 39.44696 N Y: 094.63285 W

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:

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

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ 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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☒ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments:

% CHANNEL FEATURES
RUN – 70
RIFFLE – 10
POOL – 20

*** Page Two – Data Sheet B for WBID #** 320 : SITE #2
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	20 % Gravel	0 % Sand	40 % Silt	0 % Mud/Clay	0 % Bedrock

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

Algae on rocks.
Macrophytes on bank.

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☒ Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☒ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ 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: Kerry Snethen Date of Survey: 5/24/07

Organization: BWR Position: Env. Scientist

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

WBID # 320 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	0.1 m			1 Channel Feature : RIFFLE	
2	4.0 m	0.1 m			2	
3		0.1 m			3	
4	measurements	<0.1 m			4 Dissolved Oxygen	
5	0.4 m	<0.1 m			5	
6	apart	<0.1 m			6 8.85	ppm
7		<0.1 m			7 88	%
8		<0.1 m			8	
9		0.1 m			9	
10		0.1 m			10	
					11	
Transect B 1	wetted width	<0.1 m			12 Channel Feature : RUN	
2	2.2 m	0.2 m			13	
3		0.3 m			14	
4	measurements	0.3 m			15 Dissolved Oxygen :	
5	0.22 m	0.3 m			16	
6	apart	0.3 m			17 8.82	ppm
7		0.2 m			18 88	%
8		0.1 m			19	
9		<0.1 m			20	
10		<0.1 m			21	
					22	
Transect C 1	wetted width	<0.1 m			23 Channel Feature : RUN	
2	3.4 m	0.4 m			24	
3		0.5 m			25	
4	measurements	0.5 m			26 Dissolved Oxygen	
5	0.34 m	0.4 m			.	
6	apart	0.2 m			. 8.79	ppm
7		0.2 m			. 87	%
8		0.1 m			n	
9		0.1 m				
10		<0.1 m				

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: Kerry Snetker **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

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

WBID # 320 Site # 2

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D	1	wetted width	<0.1 m			1 Channel Feature: RIFFLE	
	2	2.3 m	<0.1 m			2	
	3		<0.1 m			3	
	4	measurements	0.1 m			4 Dissolved Oxygen	
	5	0.23 m	0.1 m			5	
	6	apart	0.1 m			6 9.03 ppm	
	7		0.1 m			7 90 %	
	8		0.1 m			8	
	9		0.1 m			9	
	10		<0.1 m			10	
Transect E	1	wetted width	<0.1 m			11	
	2	2.7 m	<0.1 m			12 Channel Feature: RIFFLE	
	3		0.1 m			13	
	4	measurements	0.1 m			14	
	5	0.27 m	0.1 m			15 Dissolved Oxygen:	
	6	apart	0.1 m			16	
	7		0.2 m			17 9.15 ppm	
	8		0.1 m			18 91 %	
	9		<0.1 m			19	
	10		<0.1 m			20	
Transect F	1	wetted width	<0.1 m			21	
	2	2.4 m	<0.1 m			22	
	3		0.1 m			23 Channel Feature: RUN	
	4	measurements	0.2 m			24	
	5	0.24 m	0.2 m			25	
	6	apart	0.2 m			26 Dissolved Oxygen	
	7		0.2 m			.	
	8		0.1 m			. 9.01 ppm	
	9		0.1 m			. 90 %	
	10		<0.1 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: Kerry Snothen **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

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

WBID # 320 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	0.1 m			1 Channel Feature : RIFFLE	
2	4.0 m	0.1 m			2	
3		0.1 m			3	
4	measurements	0.1 m			4 Dissolved Oxygen	
5	0.40 m	0.1 m			5	
6	apart	0.1 m			6 9.05	ppm
7		0.1 m			7 90	%
8		0.1 m			8	
9		0.1 m			9	
10		0.2 m			10	
Transect H 1	wetted width	0.1 m			11	
2	4.2 m	0.2 m			12 Channel Feature : RUN	
3		0.3 m			13	
4	measurements	0.3 m			14	
5	0.42 m	0.3 m			15 Dissolved Oxygen :	
6	apart	0.3 m			16	
7		0.5 m			17 9.10	ppm
8		0.5 m			18 91	%
9		0.4 m			19	
10		0.2 m			20	
Transect I 1	wetted width	<0.1 m			21	
2	5.0 m	0.1 m			22	
3		0.1 m			23 Channel Feature : RUN	
4	measurements	0.1 m			24	
5	0.50 m	<0.1 m			25	
6	apart	<0.1 m			26 Dissolved Oxygen	
7		<0.1 m			.	
8		0.1 m			. 8.93	ppm
9		0.2 m			. 89	%
10		0.1 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: Kerry Snotham **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

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

WBID # 320 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	1 wetted width	<0.1 m			1 Channel Feature: RUN	
	2 4.2 m	0.1 m			2	
	3	0.1 m			3	
	4 measurements	0.2 m			4 Dissolved Oxygen	
	5 0.42 m	0.2 m			5	
	6 apart	0.2 m			6 8.80	ppm
	7	0.2 m			7 88	%
	8	0.2 m			8	
	9	0.1 m			9	
	10	<0.1 m			10	
					11	
Transect 2	1 wetted width	<0.1 m			12 Channel Feature: RIFFLE	
	2 5.2 m	0.1 m			13	
	3	0.1 m			14	
	4 measurements	0.1 m			15 Dissolved Oxygen:	
	5 0.52 m	<0.1 m			16	
	6 apart	<0.1 m			17 8.87	ppm
	7	0.1 m			18 88	%
	8	0.1 m			19	
	9	0.1 m			20	
	10	<0.1 m			21	
					22	
Transect	1 wetted width				23 Channel Feature:	
	2 m				24	
	3				25	
	4 measurements				26 Dissolved Oxygen	
	5 m				.	
	6 apart				.	ppm
	7				.	%
	8				n	
	9					
	10					

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: Kerry Snethen **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

WBID# 320
Site# 3

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

Date & Time: 5/24/07 1500	Site Location Description (e.g., road crossing): S. Ridgely Rd bridge crossing
Personnel (Data Collectors): K. Snether/J. Casey	
Current Weather Conditions: Cloudy, rainy	Facility Name: Trimble WWTF, A&A Farms
Weather Conditions for Past 10 days: Cloudy, rainy	Permit Number: MO113751, MO6016019

Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 39.44594 N Y: 094.63439 W

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:

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

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ 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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☒ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments:

% CHANNEL FEATURES

RUN - 50
RIFFLE - 40
Pool - 10

*** Page Two – Data Sheet B for WBID #** 320 : SITE # 3
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%.)

30 % Cobble	30 % Gravel	0 % Sand	40 % Silt	0 % Mud/Clay	0 % Bedrock

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

Macrophytes along bank.

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: Cloudy
Bottom Deposit:	☐ Sludge	☒ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ 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: Kerry Snethen Date of Survey: 5/24/07

Organization: BWR Position: Env. Scientist

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

WBID # 320 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	0.1 m			1 Channel Feature: RUN	
2	5.7 m	0.1 m			2	
3		0.2 m			3	
4	measurements	0.2 m			4 Dissolved Oxygen	
5	0.57 m	0.3 m			5	
6	apart	0.3 m			6 9.01	ppm
7		0.3 m			7 90	%
8		0.3 m			8	
9		0.2 m			9	
10		<0.1 m			10	
					11	
Transect B 1	wetted width	<0.1 m			12 Channel Feature: RUN	
2	2.0 m	0.1 m			13	
3		0.1 m			14	
4	measurements	0.2 m			15 Dissolved Oxygen:	
5	0.20 m	0.2 m			16	
6	apart	0.2 m			17 8.60	ppm
7		0.1 m			18 86	%
8		0.1 m			19	
9		0.1 m			20	
10		<0.1 m			21	
					22	
Transect C 1	wetted width	<0.1 m			23 Channel Feature: RUN	
2	2.5 m	0.2 m			24	
3		0.2 m			25	
4	measurements	0.2 m			26 Dissolved Oxygen	
5	0.25 m	0.2 m			.	
6	apart	0.1 m			. 8.61	ppm
7		0.1 m			. 86	%
8		0.1 m			n	
9		<0.1 m				
10		<0.1 m				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t 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: Kerry Snethen **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

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

WBID # 320 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 1	wetted width	<0.1 m			1 Channel Feature : RUN	
2	4.5 m	<0.1 m			2	
3		<0.1 m			3	
4	measurements	0.1 m			4 Dissolved Oxygen	
5	0.45 m	0.1 m			5	
6	apart	0.1 m			6 8.56	ppm
7		0.2 m			7 85	%
8		0.1 m			8	
9		<0.1 m			9	
10		<0.1 m			10	
					11	
Transect E 1	wetted width	<0.1 m			12 Channel Feature : RIFFLE	
2	3.1 m	<0.1 m			13	
3		0.1 m			14	
4	measurements	0.1 m			15 Dissolved Oxygen:	
5	0.31 m	0.1 m			16	
6	apart	0.1 m			17 8.61	ppm
7		0.1 m			18 86	%
8		0.1 m			19	
9		0.1 m			20	
10		<0.1 m			21	
					22	
Transect F 1	wetted width	<0.1 m			23 Channel Feature : RIFFLE	
2	3.2 m	<0.1 m			24	
3		<0.1 m			25	
4	measurements	<0.1 m			26 Dissolved Oxygen	
5	0.32 m	<0.1 m			.	
6	apart	<0.1 m			. 9.03	ppm
7		<0.1 m			. 90	%
8		<0.1 m			n	
9		0.1 m				
10		0.2 m				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t 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: Kerry Snethen **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

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

WBID # 320 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	0.1 m			1 Channel Feature : RUN	
2	5.20 m	0.2 m			2	
3		0.3 m			3	
4	measurements	0.4 m			4 Dissolved Oxygen	
5	0.52 m	0.4 m			5	
6	apart	0.4 m			6 8.60 ppm	
7		0.4m			7 86 %	
8		0.3 m			8	
9		0.2m			9	
10		0.1 m			10	
					11	
Transect H 1	wetted width	<0.1 m			12 Channel Feature : RUN	
2	4.0 m	0.1 m			13	
3		0.1 m			14	
4	measurements	0.2 m			15 Dissolved Oxygen:	
5	0.40 m	0.2 m			16	
6	apart	0.2 m			17 8.70 ppm	
7		0.2 m			18 87 %	
8		0.2 m			19	
9		0.1 m			20	
10		<0.1 m			21	
					22	
Transect I 1	wetted width	0.1 m			23 Channel Feature : RUN	
2	5.0 m	0.1 m			24	
3		0.2 m			25	
4	measurements	0.3 m			26 Dissolved Oxygen	
5	0.50 m	0.4 m			.	
6	apart	0.4 m			. 8.48 ppm	
7		0.5 m			. 84 %	
8		0.4m			n	
9		0.2 m				
10		<0.1 m				

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: Kerry Snuthen **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

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

WBID # 320 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	1 wetted width	0.1 m			1 Channel Feature : POOL	
	2 6.90 m	0.5 m			2	
	3	0.7 m			3	
	4 measurements	0.8 m			4 Dissolved Oxygen	
	5 0.69 m	0.7 m			5	
	6 apart	0.5 m			6 8.80	ppm
	7	0.4 m			7 88	%
	8	0.3 m			8	
	9	0.1 m			9	
	10	<0.1 m			10	
					11	
Transect 2	1 wetted width	0.1 m			12 Channel Feature : RUN	
	2 7.70 m	0.3 m			13	
	3	0.3 m			14	
	4 measurements	0.3 m			15 Dissolved Oxygen:	
	5 0.77 m	0.3 m			16	
	6 apart	0.2 m			17 8.53	ppm
	7	0.2 m			18 85	%
	8	0.4 m			19	
	9	0.3 m			20	
	10	0.1 m			21	
					22	
Transect	1 wetted width				23 Channel Feature:	
	2 m				24	
	3				25	
	4 measurements				26 Dissolved Oxygen	
	5 m				.	
	6 apart				.	
	7				.	ppm
	8				.	%
	9				n	
	10					

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t 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: Kerry Snotha **Date:** 5/24/07

Organization: BWR Position: Env. Scientist

February 5, 2007

WBID# 320
Site# 4

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

Date & Time: 5/24/07 1630	Site Location Description (e.g., road crossing): upstream from Site #3
Personnel (Data Collectors): K. Snethen / J. Casey	
Current Weather Conditions: Cloudy, rainy	Facility Name: Trimble WWTF, Ag Farms
Weather Conditions for Past 10 days: Cloudy, rainy	Permit Number: MO113751, MO0100019
Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: Y:

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± _____ Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

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

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ 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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☒ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments:

% CHANNEL FEATURES

RUN - 50
RIFFLE - 30
POOL - 20

*** Page Two – Data Sheet B for WBID #** 320 : 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%.)

30 % Cobble	20 % Gravel	10 % Sand	40 % Silt	0 % Mud/Clay	0 % Bedrock

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

Macrophytes on bank.

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: Cloudy
Bottom Deposit:	☐ Sludge	☒ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ 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: Kerry Arthur Date of Survey: 5/24/07

Organization: BWR Position: Env Scientist

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

WBID # 320 Site # 4

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	<0.1			1 Channel Feature: RIFFLE	
2	4.9 m	<0.1			2	
3		0.1			3	
4	measurements	0.1			4 Dissolved Oxygen	
5	0.49 m	0.2			5	
6	apart	0.1			6 9.01	ppm
7		0.1			7 90	%
8		<0.1			8	
9		<0.1			9	
10		<0.1			10	
					11	
Transect B 1	wetted width	0.1 m			12 Channel Feature: RUN	
2	5.9 m	0.1 m			13	
3		0.2 m			14	
4	measurements	0.3 m			15 Dissolved Oxygen:	
5	0.59 m	0.5 m			16	
6	apart	0.4 m			17 8.91	ppm
7		0.4 m			18 89	%
8		0.3 m			19	
9		0.2 m			20	
10		<0.1 m			21	
					22	
Transect C 1	wetted width	<0.1 m			23 Channel Feature: RUN	
2	5.5 m	0.1 m			24	
3		0.3 m			25	
4	measurements	0.3 m			26 Dissolved Oxygen	
5	0.55 m	0.3 m			.	
6	apart	0.4 m			. 8.64	ppm
7		0.3 m			. 86	%
8		0.3 m			n	
9		0.2 m				
10		0.1 m				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t 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 UA datasheet is true and accurate.

Signed: Kerry Anetha **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

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

WBID # 320 Site # 4

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 1	wetted width	0.1 m			1 Channel Feature : RUN	
2	6.2 m	0.1 m			2	
3		0.2 m			3	
4	measurements	0.3 m			4 Dissolved Oxygen	
5	0.62 m	0.4 m			5	
6	apart	0.4 m			6 8.73	ppm
7		0.3 m			7 87	%
8		0.2 m			8	
9		0.2 m			9	
10		0.1 m			10	
					11	
Transect E 1	wetted width	<0.1 m			12 Channel Feature : RIFFLE	
2	4.7 m	<0.1 m			13	
3		<0.1 m			14	
4	measurements	0.1 m			15 Dissolved Oxygen :	
5	0.47 m	0.1 m			16	
6	apart	<0.1 m			17 8.59	ppm
7		<0.1 m			18 85	%
9		<0.1 m			19	
9		<0.1 m			20	
10		<0.1 m			21	
					22	
Transect F 1	wetted width	<0.1 m			23 Channel Feature : RUN	
2	4.9 m	0.2 m			24	
3		0.2 m			25	
4	measurements	0.3 m			26 Dissolved Oxygen	
5	0.49 m	0.2 m			.	
6	apart	0.3 m			. 8.63	ppm
7		0.3 m			. 86	%
8		0.2 m			n	
9		0.2 m				
10		0.1 m				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth i 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 UA datasheet is true and accurate.

Signed: Kerry Grothen **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

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

WBID # 320 Site # 4

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	0.1 m			1 Channel Feature : RUN	
2	5.2 m	0.1 m			2	
3		0.2 m			3	
4	measurements	0.2 m			4 Dissolved Oxygen	
5	0.52 m	0.2 m			5	
6	apart	0.3 m			6 8.81	ppm
7		0.4 m			7 88	%
8		0.3 m			8	
9		0.2 m			9	
10		0.1 m			10	
Transect H 1	wetted width	<0.1 m			11	
2	6.1 m	0.2 m			12 Channel Feature : RUN	
3		0.2 m			13	
4	measurements	0.3 m			14	
5	0.61 m	0.3 m			15 Dissolved Oxygen :	
6	apart	0.3 m			16	
7		0.4 m			17 9.01	ppm
8		0.3 m			18 90	%
9		0.2 m			19	
10		0.1 m			20	
Transect I 1	wetted width	0.1 m			21	
2	5.3 m	0.2 m			22	
3		0.2 m			23 Channel Feature : RUN	
4	measurements	0.4 m			24	
5	0.5 m	0.4 m			25	
6	apart	0.3 m			26 Dissolved Oxygen	
7		0.3 m			.	
8		0.1 m			. 8.91	ppm
9		0.1 m			. 89	%
10		<0.1 m			n	

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t 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: Kerry Anether **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

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

WBID # 320 Site # 4

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	wetted width	<0.1 m			1 Channel Feature: RIFFLE	
2	5.8 m	0.1 m			2	
3		0.1 m			3	
4	measurements	0.2 m			4 Dissolved Oxygen	
5	0.58 m	0.2 m			5	
6	apart	0.3 m			6 8.73	ppm
7		0.2 m			7 87	%
8		0.2 m			8	
9		0.1 m			9	
10		<0.1 m			10	
Transect 2	wetted width	0.1 m			11	
2	9.3 m	0.2 m			12 Channel Feature: POOL	
3		0.5 m			13	
4	measurements	0.7 m			14	
5	0.93 m	0.7 m			15 Dissolved Oxygen:	
6	apart	0.7 m			16	
7		0.5 m			17 8.67	ppm
8		0.5 m			18 86	%
9		0.2 m			19	
10		0.1 m			20	
Transect	wetted width				21	
2	m				22	
3					23 Channel Feature:	
4	measurements				24	
5	m				25	
6	apart				26 Dissolved Oxygen	
7					.	
8					. ____	ppm
9					. ____	%
10					n	

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t 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: Kerry Snothen **Date:** 5/24/07

Organization: BWR **Position:** Env. Scientist

Upstream (Site #1) of Dick's Creek.

Upstream (Site #1) of Dick's Creek.

Downstream (Site #1) of Dick's Creek.

Downstream (Site #1) of Dick's Creek.

Upstream (Site #2) of Dick's Creek.

Upstream (Site #2) of Dick's Creek.

Downstream (Site #3) of Dick's Creek.

Downstream (Site #3) of Dick's Creek.

Upstream (Site #3) of Dick's Creek.

Upstream (Site #3) of Dick's Creek.

Upstream (Site #4) of Dick's Creek.

Upstream (Site #4) of Dick's Creek.