Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 3572 Owl 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):	OWL CREEK
Missouri Water Body Identification (WBID) Number:	3572
8-digit HUC: 10240011	County: PLATTE
Upstream Legal Description (from Table H):	Bridge Crossing @ old Pike Rd.
Downstream Legal Description(from Table H):	Bridge Crossing @ Hwy U (Downstream)
Number of sites evaluated	3
List all sites numbers, listed consequently upstream to downstream:	Site 1- Upstream Site-2 Mid-Section Site 3- Downstream

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

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 [redacted] Y [redacted]	Downstream Coordinates: UTM X [redacted] Y [redacted]

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)

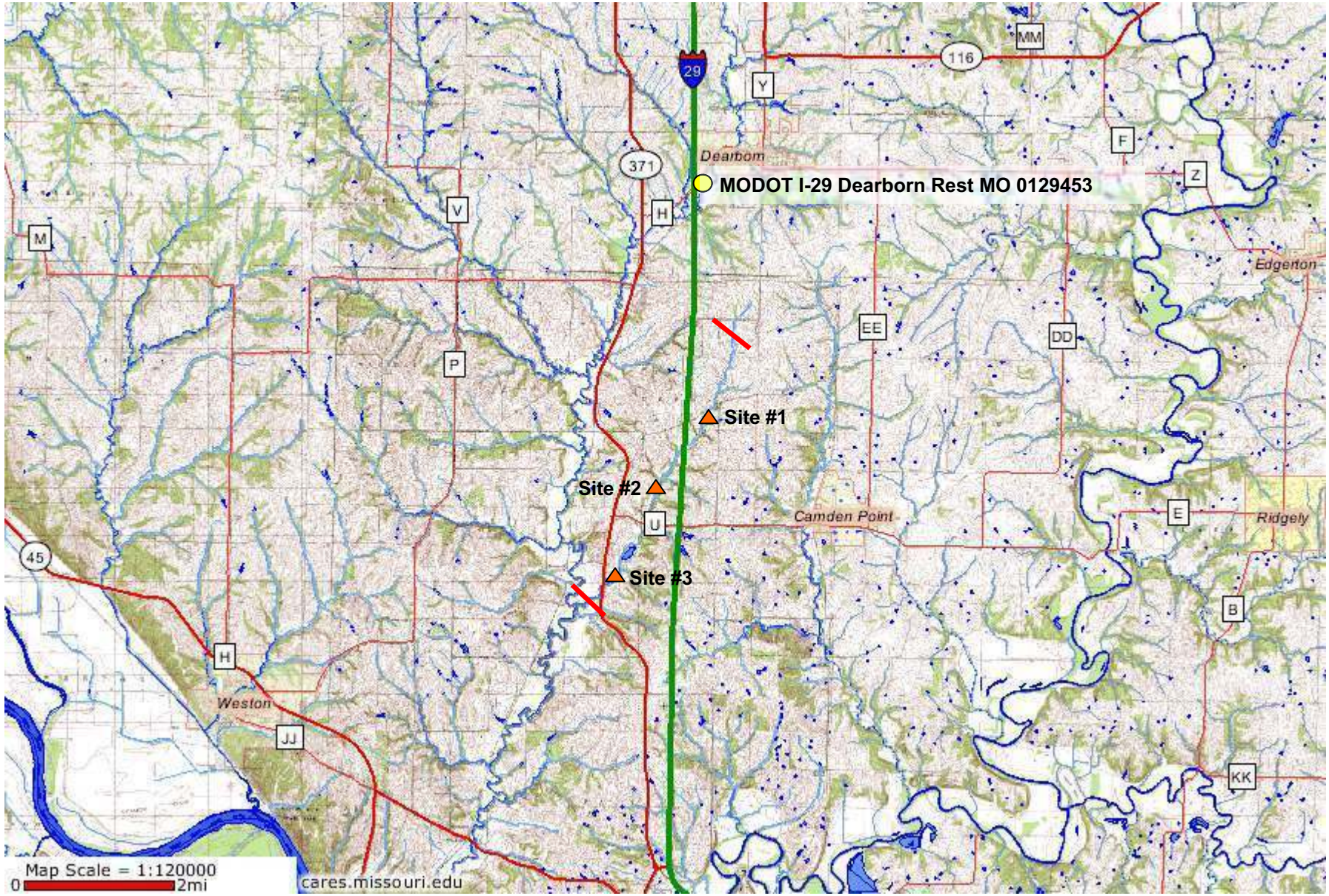
Discharger Facility Name(s):	I-29 Dearborn Rest (MoDot)
Discharger Permit Number(s):	MO0129453

IV. UAA Surveyor (please print legibly)

Name of Surveyor Ryan Lunt	Telephone Number: [redacted]
Organization/Employer: SETI	(620)-474-2494
Position: Environmental Scientist	

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

Signed: Ryan M. Lunt **Date:** 05-29-07



BWR

Owl Creek

WBID #3572

N

WBID# 3572
Site# 1

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

Date & Time: 05-29-07 11:15	Site Location Description (e.g., road crossing): BRIDGE CROSSING @ OLD PIKE RD.
Personnel (Data Collectors): LUNT & BARTLETT	
Current Weather Conditions: SUNNY 75-80°F	Facility Name: I-29 Dearborn Rest (MoDOT)
Weather Conditions for Past 10 days: SUNNY / RAIN	Permit Number: MO0129453

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: 39.47395 Y: 094.78214

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
3572-1,2	Transect J-K	3572-3,4	Transect B-A		

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: Hwy E, I-29, Old Pike Rd

% Channel Feature
RUN: 60
RIFFLE: 10
POOL: 30

*** Page Two – Data Sheet B for WBID #** 3572 : 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%.)

20 % Cobble	15 % Gravel	30 % Sand	30 % Silt	% Mud/Clay	5 % Bedrock

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

limited aquatic vegetation, algal growth (periphyton) on substrate

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: Ryan M. Lunt Date of Survey: 05-29-07

Organization: Seagull Environmental Technologies Inc Position: Environmental Scientist

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

WBID # 3512 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	0.1				
2	3.8 m	0.3			1 Channel Feature:	
3		0.2			2 RUN 100%	
4	measurements	0.3			3	
5	0.38 m	0.3			4 Dissolved Oxygen	
6	apart	0.3			5	
7		0.2			6 9.17	ppm
8		0.2			7 98.0	%
9		0.2			8	
10		0.1			9	
					10	
Transect B 1	wetted width	0.1			11	
2	3.5 m	0.2			12 Channel Feature:	
3		0.3			13 POOL 100%	
4	measurements	0.4			14	
5	0.35 m	0.4			15 Dissolved Oxygen:	
6	apart	0.4			16	
7		0.3			17 9.55	ppm
8		0.3			18 99.3	%
9		0.2			19	
10		0.2			20	
					21	
Transect C 1	wetted width	0.1			22	
2	2.6 m	0.1			23 Channel Feature:	
3		0.2			24 RUN 100%	
4	measurements	0.2			25	
5	0.260 m	0.4			26 Dissolved Oxygen	
6	apart	0.4			.	
7		0.3			. 9.06	ppm
8		0.3			. 96.6	%
9		0.3			n	
10		0.2				

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: Ryan M. Lunt **Date:** 05-29-07

Organization: SSTI **Position:** Environmental Scientist

February 5, 2007

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

WBID # 3572 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 1	wetted width	0.3			1 Channel Feature:	
2	2.5 m	0.4			2 Run 100%	
3		0.6			3	
4	measurements	0.5			4 Dissolved Oxygen	
5	0.25 m	0.4			5	
6	apart	0.3			6 9.09	ppm
7		0.3			7 96.7	%
8		0.2			8	
9		0.2			9	
10		0.1			10	
					11	
Transect E 1	wetted width	0.1			12 Channel Feature:	
2	1.5 m	0.1			13 Riffle	50%
3		0.1			14 Run	50%
4	measurements	0.2			15 Dissolved Oxygen:	
5	0.15 m	0.1			16	
6	apart	0.1			17 9.15	ppm
7		<0.1			18 97.2	%
8		<0.1			19	
9		0.1			20	
10		<0.1			21	
					22	
Transect F 1	wetted width	0.2			23 Channel Feature:	
2	3.0 m	0.3			24 Pool 100%	
3		0.4			25	
4	measurements	0.4			26 Dissolved Oxygen	
5	0.3 m	0.4			.	
6	apart	0.5			. 8.91	ppm
7		0.5			. 94.0	%
8		0.4				
9		0.3			n	
10		0.2				

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: Ryan M Lust **Date:** 05-29-07

Organization: SETI **Position:** Environmental Scientist

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

WBID # 3572 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	0.1				
2	3.0 m	0.1			1 Channel Feature:	
3		0.2			2 Run 100%	
4	measurements	0.2			3	
5	0.5 m	0.2			4 Dissolved Oxygen	
6	apart	0.2			5	
7		0.2			6 8.70	ppm
8		0.2			7 91.8	%
9		0.2			8	
10		0.1			9	
					10	
Transect H 1	wetted width	<0.1			11	
2	2.0 m	0.1			12 Channel Feature:	
3		0.1			13 Run 100%	
4	measurements	0.2			14	
5	0.20 m	0.2			15 Dissolved Oxygen:	
6	apart	0.2			16	
7		0.2			17 9.06	ppm
8		0.2			18 95.5	%
9		0.2			19	
10		0.1			20	
					21	
Transect I 1	wetted width	0.1			22	
2	2.0 m	0.1			23 Channel Feature:	
3		0.1			24 Run 100%	
4	measurements	0.2			25	
5	0.20 m	0.2			26 Dissolved Oxygen	
6	apart	0.1			.	
7		0.1			. 8.96	ppm
8		0.1			. 94.2	%
9		0.2			n	
10		0.1				

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: Ryan M. Lunt **Date:** 05-29-07

Organization: SETI **Position:** Environmental Scientist

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

WBID # 3572 Site # 1

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	1	wetted width	0.1			1 Channel Feature:	
	2	2.5 m	0.1			2 Run 100%	
	3		0.2			3	
	4	measurements	0.2			4 Dissolved Oxygen	
	5	0.25 m	0.1			5	
	6	apart	0.2			6 8.74	ppm
	7		0.1			7 92.0	%
	8		0.1			8	
	9		<0.1			9	
	10		<0.1			10	
						11	
Transect 2	1	wetted width	0.1			12 Channel Feature:	
	2	2.0 m	0.1			13 Run 100%	
	3		0.1			14	
	4	measurements	0.1			15 Dissolved Oxygen:	
	5	0.2 m	0.1			16	
	6	apart	0.1			17 8.92	ppm
	7		<0.1			18 92.2	%
	8		<0.1			19	
	9		<0.1			20	
	10		<0.1			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 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: Ryan M. [illegible] **Date:** 05-29-07

Organization: SETI **Position:** Environmental Scientist

WBID# 3572
Site# 2

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

Date & Time: 5/29/07 12:00	Site Location Description (e.g., road crossing): TRANS. A; 5m UPSTREAM BRIDGE CROSSING @ HWY U, WEST OF I-29
Personnel (Data Collectors):	
Current Weather Conditions: OVERCAST, 80°F	Facility Name: I-29 Northbound Rest (Moist)
Weather Conditions for Past 10 days: WARM, CLEAR	Permit Number: MO 0129453

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: 39.45176 Y: 0°4.79667

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
3572-5,6	Transect A-B	3572-7,8	Transect J-I		

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: Farm land

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: I-29, HWY U

% Channel Feature
RUN: 60
RIFFLE:
POOL: 40

*** Page Two – Data Sheet B for WBID #** 3512 : 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%.)

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

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

No aquatic Vegetation present. No algal growth

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: Ryan M. Lu Date of Survey: 05-29-07

Organization: SETI Position: Environmental Scientist

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

WBID # 3572 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	0.2				
2	1.80 m	0.2			1 Channel Feature:	
3		0.2			2 RUN 100%	
4	measurements	0.2			3	
5	0.18 m	0.2			4 Dissolved Oxygen	
6	apart	0.2			5	
7		0.2			6 9.38	ppm
8		0.2			7 101.5	%
9		0.1			8	
10		0.1			9	
					10	
Transect B 1	wetted width	0.1			11	
2	2.0 m	0.1			12 Channel Feature:	
3		0.1			13 RUN 100%	
4	measurements	0.1			14	
5	0.20 m	0.1			15 Dissolved Oxygen:	
6	apart	0.1			16	
7		0.1			17 9.16	ppm
8		0.1			18 101.5	%
9		0.1			19	
10		0.1			20	
					21	
Transect C 1	wetted width	0.2			22	
2	1.0 m	0.2			23 Channel Feature:	
3		0.2			24 RUN 100%	
4	measurements	0.2			25	
5	0.16 m	0.2			26 Dissolved Oxygen	
6	apart	0.2			.	
7		0.2			. 8.98	ppm
8		0.2			. 99.7	%
9		0.2			n	
10		0.2				

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: Ryan M Lunt **Date:** 05-29-07

Organization: SETI Position: Environmental Scientist

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

WBID # 3512 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 1	wetted width	0.1			1 Channel Feature:	
2	1.5 m	0.1			2 Run 70%	
3		0.1			3	
4	measurements	0.1			4 Dissolved Oxygen	
5	0.15 m	0.1			5	
6	apart	0.1			6 [illegible]	ppm
7		0.1			7 [illegible]	%
8		0.1			8	
9		0.1			9	
10		0.1			10	
					11	
Transect E 1	wetted width	0.1			12 Channel Feature:	
2	1.8 m	0.1			13 Run 70%	
3		0.1			14 Pool 30%	
4	measurements	0.1			15 Dissolved Oxygen:	
5	0.18 m	0.2			16	
6	apart	0.2			17 8.61	ppm
7		0.3			18 91.8	%
8		0.3			19	
9		0.3			20	
10		0.3			21	
		0.3			22	
Transect F 1	wetted width	0.1			23 Channel Feature:	
2	3.0 m	0.1			24 Riffle 30%	
3		0.2			25 Run 70%	
4	measurements	0.3			26 Dissolved Oxygen	
5	0.3 m	0.3			.	
6	apart	0.3			. 8.21	ppm
7		0.2			. 92.5	%
8		0.2				
9		0.2			n	
10		0.1				

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: Ryan M. Lunt **Date:** 05-29-07

Organization: SETI Position: Environmental Scientist

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

WBID # 3572 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	<0.1				
2	1.4 m	<0.1			1 Channel Feature:	
3		0.1			2 RUN 100%	
4	measurements	0.2			3	
5	0.14 m	0.2			4 Dissolved Oxygen	
6	apart	0.2			5	
7		0.2			6 9.03	ppm
8		0.1			7 100%	%
9		0.1			8	
10		<0.1			9	
					10	
Transect H 1	wetted width	<0.1			11	
2	1.6 m	0.1			12 Channel Feature:	
3		0.1			13 RUN 100%	
4	measurements	0.1			14	
5	0.16 m	0.1			15 Dissolved Oxygen:	
6	apart	0.2			16	
7		0.2			17 8.91	ppm
8		0.1			18 98.8	%
9		0.1			19	
10		<0.1			20	
					21	
Transect I 1	wetted width	0.1			22	
2	2.0 m	0.1			23 Channel Feature:	
3		0.1			24 RUN 100%	
4	measurements	<0.1			25	
5	0.2 m	<0.1			26 Dissolved Oxygen	
6	apart	<0.1			.	
7		<0.1			. 8.99	ppm
8		0.1			. 99.4	%
9		0.1			n	
10		<0.1				

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: Ryan M. Lunt **Date:** 05-29-07

Organization: SETI Position: Environmental Scientist

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

WBID # 3592 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	wetted width	0.1			1 Channel Feature:	
2	1.6 m	0.2			2 RUN 100%	
3		0.2			3	
4	measurements	0.2			4 Dissolved Oxygen	
5	0.16 m	0.3			5	
6	apart	0.3			6 8.78	ppm
7		0.2			7 99.4	%
8		0.2			8	
9		0.2			9	
10		<0.1			10	
					11	
Transect 2 1	wetted width	<0.1			12 Channel Feature:	
2	2.5 m	0.1			13 RUN 100%	
3		0.1			14	
4	measurements	0.1			15 Dissolved Oxygen:	
5	0.25 m	0.1			16	
6	apart	0.1			17 7.08	ppm
7		0.1			18 90.2	%
8		0.1			19	
9		0.1			20	
10		0.1			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 t the middle rank is the median depth.
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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ryan M. Lunt **Date:** 05-29-07

Organization: SOTF **Position:** Environmental Scientist

WBID# 3572
Site# 3

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

Date & Time: 5/29/07 13:00	Site Location Description (e.g., road crossing): [illegible] U (Downstream)
Personnel (Data Collectors): [illegible]	
Current Weather Conditions: [illegible]	Facility Name: I-29 Dearborn Rest (MoDot)
Weather Conditions for Past 10 days: [illegible]	Permit Number: MO 0129453
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: 39.44960 Y: 094.79780

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: *Clip Board IN all site 3 photos. [illegible] Sites 2

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
3572-9,10	Transect 3-U	3572-11,12	Transect 3-D		

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: I-29 & Hwy U OTHER: TIRES, MICROWAVE & MISC. SCRAP

% Channel Feature
RUN: 85
RIFFLE: 5
POOL: 10

*** Page Two – Data Sheet B for WBID #** 3572 : 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%.)

% Cobble	5 % Gravel	30 % Sand	60 % Silt	5 % Mud/Clay	% Bedrock

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

None; small amounts [illegible]
[illegible]

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: Ryan M. Lunt Date of Survey: 05-29-07

Organization: SETI Position: Environmental Scientist

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

WBID # 3592 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	<0.1			1 Channel Feature:	
2	1.0 m	<0.1			2 RUN 100%	
3		0.1			3	
4	measurements	0.1			4 Dissolved Oxygen	
5	0.10 m	0.1			5	
6	apart	0.1			6 8.28	ppm
7		0.1			7 93.9	%
8		0.1			8	
9		0.1			9	
10		<0.1			10	
					11	
Transect B 1	wetted width	<0.1			12 Channel Feature:	
2	2.3 m	0.1			13 RUN 100%	
3		0.1			14	
4	measurements	0.1			15 Dissolved Oxygen:	
5	0.23 m	0.1			16	
6	apart	0.1			17 8.43	ppm
7		0.1			18 94.8	%
8		0.1			19	
9		0.1			20	
10		<0.1			21	
					22	
Transect C 1	wetted width	<0.1			23 Channel Feature:	
2	1.6 m	0.1			24 RUN 100%	
3		0.1			25	
4	measurements	0.1			26 Dissolved Oxygen	
5	0.16 m	0.1			.	
6	apart	0.1			. 8.26	ppm
7		0.2			. 92.7	%
8		0.2				
9		0.1			n	
10		0.1				

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: Ryan M. Lunt **Date:** 05-29-07

Organization: SETE **Position:** Environmental Scientist

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

WBID # 3512 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 1	wetted width	<0.1			1 Channel Feature:	
2	2.5 m	0.1			2 RUN 100%	
3		0.1			3	
4	measurements	0.1			4 Dissolved Oxygen	
5	0.25 m	0.1			5	
6	apart	0.1			6 5.58	ppm
7		0.1			7 [illegible]	%
8		0.1			8	
9		0.1			9	
10		0.1			10	
					11	
Transect E 1	wetted width	0.1			12 Channel Feature:	
2	2.2 m	0.1			13 RUN 90%	
3		0.1			14 RIFFLE 10%	
4	measurements	0.2			15 Dissolved Oxygen:	
5	0.22 m	0.2			16	
6	apart	0.2			17 8.06	ppm
7		0.2			18 [illegible]	%
8		0.2			19	
9		0.2			20	
10		0.1			21	
					22	
Transect F 1	wetted width	0.1			23 Channel Feature:	
2	3.0 m	0.2			24 RUN 60%	
3		0.5			25 RIFFLE 40%	
4	measurements	0.2			26 Dissolved Oxygen	
5	0.3 m	0.2			.	
6	apart	0.2			. 5.91	ppm
7		0.2			. [illegible]	%
8		0.2				
9		0.2			n	
10		0.2				

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

Signed: Ryan M. Lunt **Date:** 05-29-07

Organization: SETI **Position:** Environmental Scientist

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

WBID # 3572 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	0.1			1 Channel Feature:	
2	1.5 m	0.2			2 Run 100%	
3		0.2			3	
4	measurements	0.1			4 Dissolved Oxygen	
5	0.15 m	0.1			5	
6	apart	0.1			6 8.53	ppm
7		0.3			7 92.8	%
8		0.1			8	
9		0.1			9	
10		0.1			10	
Transect H 1	wetted width	<0.1			11	
2	3.0 m	0.1			12 Channel Feature:	
3		0.1			13 Run 100%	
4	measurements	0.1			14	
5	0.30 m	0.1			15 Dissolved Oxygen:	
6	apart	0.2			16	
7		0.2			17 8.19	ppm
8		0.2			18 91.6	%
9		0.2			19	
10		0.1			20	
Transect I 1	wetted width	0.1			21	
2	3.5 m	0.1			22	
3		0.1			23 Channel Feature:	
4	measurements	0.1			24 Run 100%	
5	0.35 m	0.1			25	
6	apart	0.1			26 Dissolved Oxygen	
7		0.1			.	
8		0.1			. 8.53	ppm
9		0.1			. 92.9	%
10		0.1			n	
		<0.1				

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

Signed: Ryan M. Lunt **Date:** 05-29-07

Organization: SETI Position: Environmental Specialist

February 5, 2007

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

WBID # 3572 Site # 3

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	1	wetted width	0.3			1 Channel Feature:	
	2	1.0 m	0.4			2 Run 100%	
	3		0.4			3	
	4	measurements	0.3			4 Dissolved Oxygen	
	5	0.10 m	0.3			5	
	6	apart	0.2			6 8.49	ppm
	7		0.1			7 98.5	%
	8		0.1			8	
	9		<0.1			9	
	10		<0.1			10	
						11	
Transect 2	1	wetted width	0.1			12 Channel Feature:	
	2	1.0 m	0.2			13 Run 100%	
	3		0.1			14	
	4	measurements	0.3			15 Dissolved Oxygen:	
	5	0.10 m	0.3			16	
	6	apart	0.3			17 8.54	ppm
	7		0.2			18 95.6	%
	8		0.2			19	
	9		0.2			20	
	10		0.1			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 to the middle rank is the median depth.
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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ryan M. Lunt **Date:** 05-29-07

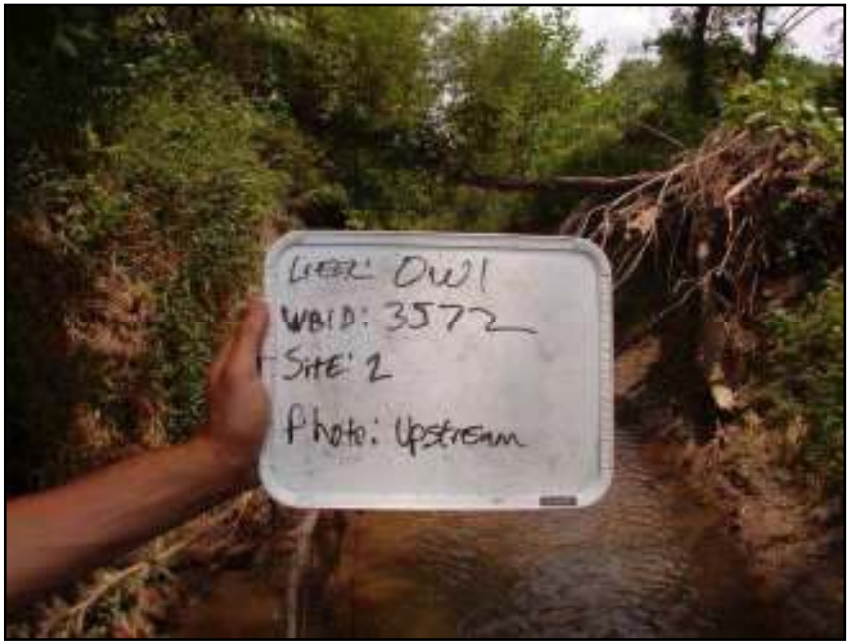
Organization: SETI Position: Environmental Scientist

Upstream (Site #1) of Owl Creek.

Upstream (Site #1) of Owl Creek.

Downstream (Site #1) of Owl Creek.

Downstream (Site #1) of Owl Creek.

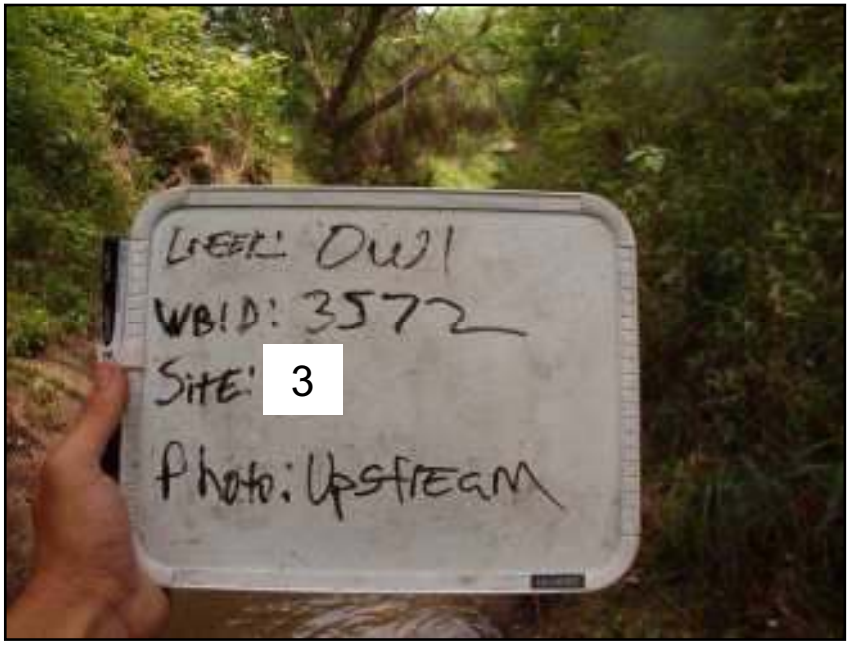


Upstream (Site #2) of Owl Creek.

Upstream (Site #2) of Owl Creek.

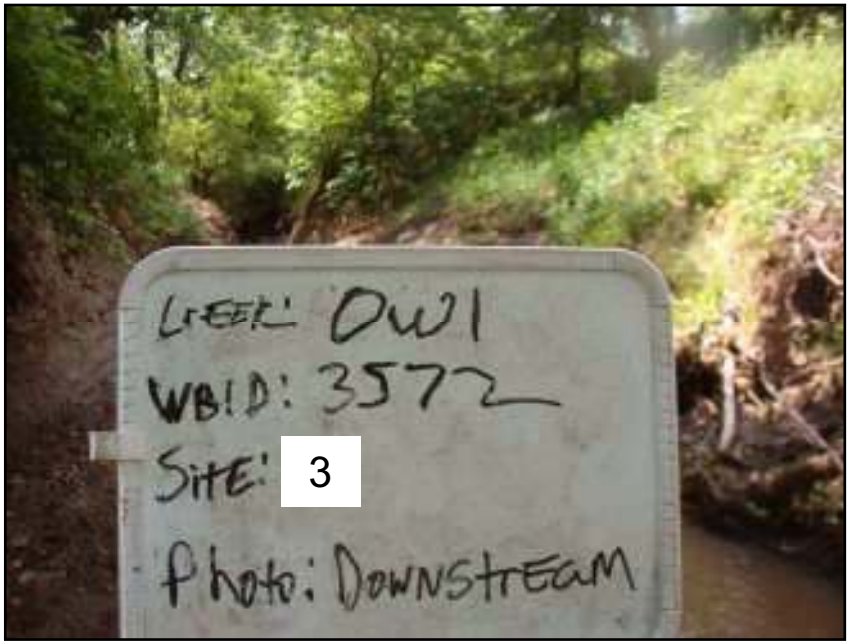
Downstream (Site #2) of Owl Creek.

Downstream (Site #2) of Owl Creek.



Upstream (Site #3) of Owl Creek.

Upstream (Site #3) of Owl Creek.



Downstream (Site #3) of Owl Creek.

Downstream (Site #3) of Owl Creek.