



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 0208 Coon Creek

Submitted by

MEC Water Resources

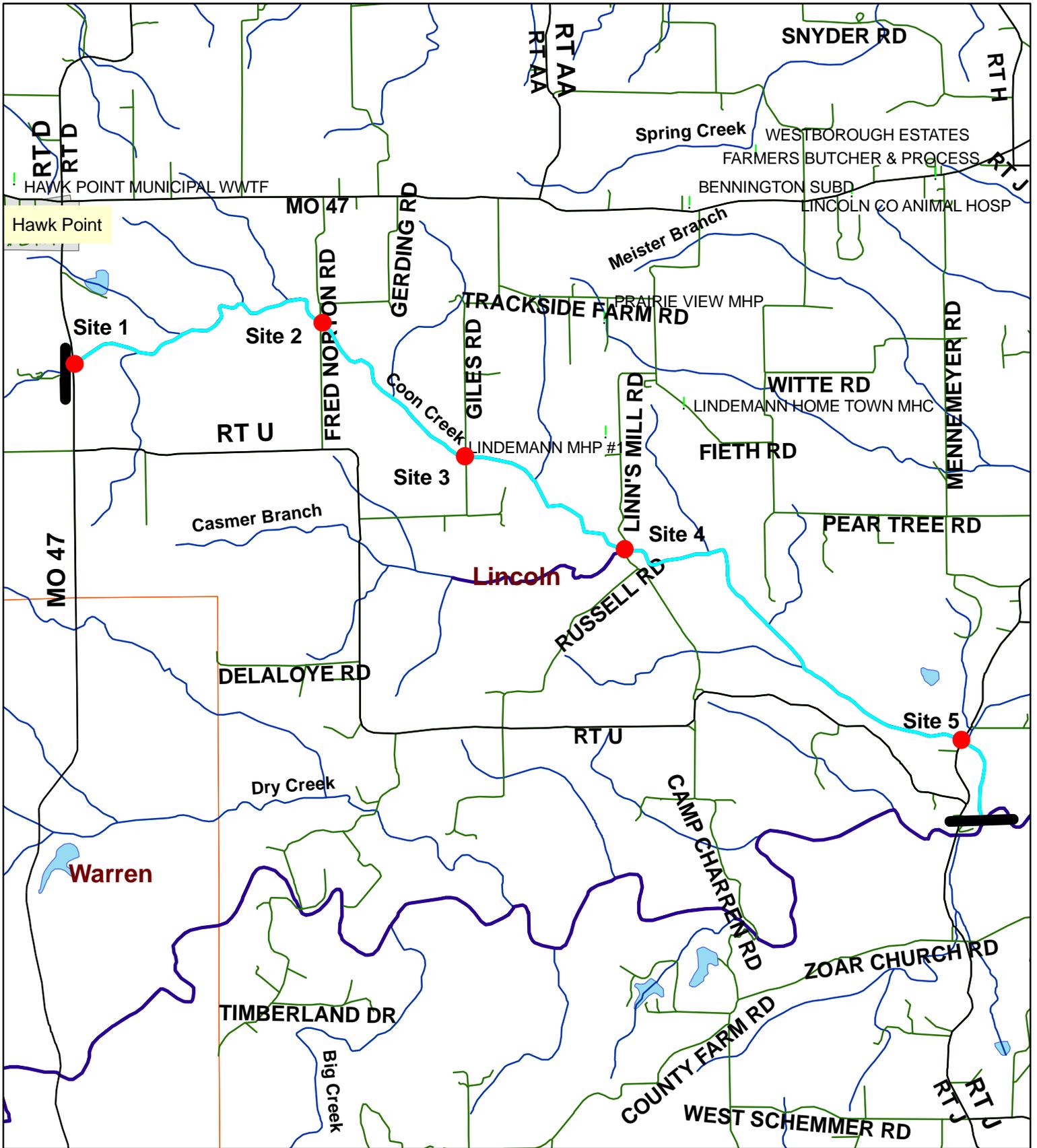
To

Missouri Department of Natural Resources

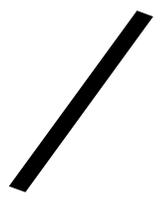
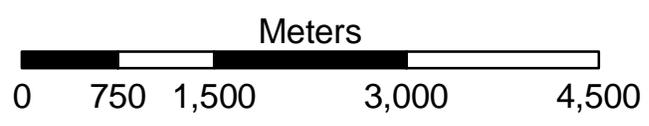
Water Protection Program

On

May 29, 2008



**Coon Creek
WBID 0208
Lincoln County**



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: 4/14/2008 10:30	Location Description (e.g., road crossing):
Stream Name: Coon Creek	Hwy 47 Crossing
Current Weather Conditions: Sunny & Clear	Facility Name(s): Norton Woods Sewage Treat.
Weather Conditions for Past 10 days: 1.42" precipitation	Permit Number(s): MO 0128775
Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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 Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0662154	Northing (UTM Y): 4313625	Horizontal Accuracy: (EPE / FOM / PDOP) 13 Feet
Site 11	Easting (UTM X): 0662275	Northing (UTM Y): 4313742	Horizontal Accuracy: (EPE / FOM / PDOP) 18 Feet

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2898	Upstream Site 1 Cattle Fence, Hwy Bridge	2899	Downstream Site 1		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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 checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Cow Pasture. Fence at Trns 1 & 11				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

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

% Cobble	10% Gravel	% Sand	% Silt	10% Mud/Clay	80% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Sparse benthic Algae & Grasses

Water Characteristics*: (Mark all that apply.)

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

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

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Had to get land owner permission for access

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

Printed Names of Personnel Collecting Data: _____ Jennifer Hrabik & Renee Martin _____

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Coon Creek</u> Waterbody ID: <u>0208</u> Site #: <u>0208_01</u> Estimated Channel Incision: <u>0.1</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>662154</u> UTM Y: <u>4313625</u> +/- <u>13</u> (feet) 11 UTM X: <u>662275</u> UTM Y: <u>4313742</u> +/- <u>18</u> (feet) Average Stream Width: <u>6</u> (meters) Length of Survey Segment: <u>15</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>J. Hrabik & R. Martin</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>4/14/2008</u> Time: <u>10:30</u> Dissolved Oxygen: <u>11.37</u> (mg/L) Dissolved Oxygen: <u>93</u> (% sat) Specific Cond: <u>206.7</u> (µS/cm) Water Temperature: <u>7.4</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.66	0.16	0.85	0.07	0.56	0.03	0.52	0.04	0.57	0.13	0.85	0.22	0.48	0.02	0.31	0.06	0.55	0.17	0.70	0.38	0.85	0.26
2	1.32	0.26	1.70	0.04	1.12	0.03	1.04	0.07	1.14	0.18	1.70	0.32	0.96	0.02	0.62	0.13	1.10	0.24	1.40	0.31	1.70	0.34
3	1.98	0.40	2.55	0.00	1.68	0.06	1.56	0.02	1.71	0.20	2.55	0.26	1.44	0.01	0.93	0.15	1.65	0.33	2.10	0.36	2.55	0.34
4	2.64	0.44	3.40	0.00	2.24	0.06	2.08	2.00	2.28	0.24	3.40	0.40	1.92	0.07	1.24	0.14	2.20	0.32	2.80	0.37	3.40	0.60
5	3.30	0.40	4.25	0.00	2.80	0.08	2.60	0.06	2.85	0.26	4.25	0.38	2.40	0.06	1.55	0.06	2.75	0.20	3.50	0.38	4.25	0.30
6	3.96	0.42	5.10	0.00	3.36	0.13	3.12	0.06	3.42	0.31	5.10	0.42	2.88	0.09	1.86	0.21	3.30	0.04	4.20	0.26	5.10	0.31
7	4.62	0.43	5.95	0.00	3.92	0.10	3.64	0.08	3.99	0.31	5.95	0.31	3.36	0.07	2.17	0.03	3.85	0.01	4.90	0.14	5.95	0.27
8	5.28	0.44	6.80	0.02	4.48	0.01	4.16	0.08	4.56	0.20	6.80	0.16	3.84	0.04	2.48	0.10	4.40	0.03	5.60	0.10	6.80	0.31
9	5.94	0.39	7.65	0.04	5.04	0.03	4.68	0.04	5.13	0.06	7.65	0.13	4.32	0.02	2.79	0.08	4.95	0.03	6.30	0.03	7.65	0.27
Right Bank	6.60	0.00	8.50	0.00	5.60	0.00	5.20	0.00	5.70	0.00	8.50	0.00	4.80	0.00	3.10	0.00	5.50	0.00	7.00	0.00	8.50	0.00
Feature Type <small>(riffle, run, or pool)</small>	Pool		Riffle		Run		Riffle		Run		Run		Riffle		Riffle		Run		Pool		Pool	

TWC

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: 4/14/2008 11:20	Location Description (e.g., road crossing):
Stream Name: Coon Creek	Fred Norton Rd.
Current Weather Conditions: Sunny & few clouds	Facility Name(s): Norton Woods Sewage Treat.
Weather Conditions for Past 10 days: 1.42" precipitation	Permit Number(s): MO 0128775
Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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 Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0664987	Northing (UTM Y): 4314104	Horizontal Accuracy: (EPE / FOM / PDOP) 18 Feet
Site 11	Easting (UTM X): 0665137	Northing (UTM Y): 4313947	Horizontal Accuracy: (EPE / FOM / PDOP) 19 Feet

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2900	Upstream Site 2	2901	Dnstream Site 2		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Private Property				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

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

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

Benthic 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 checked="" type="checkbox"/> Fine sediments	<input 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:

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

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

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

Printed Names of Personnel Collecting Data: _____

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Coon Creek</u> Waterbody ID: <u>0208</u> Site #: <u>0208_02</u> Estimated Channel Incision: <u>0.05</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>664987</u> UTM Y: <u>4314104</u> +/- <u>18</u> (feet) 11 UTM X: <u>665137</u> UTM Y: <u>4313947</u> +/- <u>19</u> (feet) Average Stream Width: <u>8.5</u> (meters) Length of Survey Segment: <u>170</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>J. Hrabik & R. Martin</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>4/14/2008</u> Time: <u>11:20</u> Dissolved Oxygen: <u>11.4</u> (mg/L) Dissolved Oxygen: <u>98.3</u> (% sat) Specific Cond: <u>212.2</u> (µS/cm) Water Temperature: <u>8.8</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.50	0.24	0.85	0.19	0.95	0.23	0.99	0.06	0.96	0.13	1.10	0.01	0.68	0.06	0.57	0.04	0.65	0.10	0.70	0.18	1.05	0.10
2	1.00	0.20	1.70	0.33	1.90	0.27	1.98	0.15	1.92	0.19	2.20	0.12	1.36	0.07	1.14	0.15	1.30	0.15	1.40	0.26	2.10	0.13
3	1.50	0.18	2.55	0.33	2.85	0.34	2.97	0.18	2.88	0.04	3.30	0.16	2.04	0.08	1.71	0.06	1.95	0.10	2.10	0.25	3.15	0.08
4	2.00	0.10	3.40	0.32	3.80	0.18	3.96	0.34	3.84	0.09	4.40	0.12	2.72	0.09	2.28	0.12	2.60	0.12	2.80	0.24	4.20	0.04
5	2.50	0.12	4.25	0.33	4.75	0.18	4.95	0.24	4.80	0.10	5.50	0.24	3.40	0.15	2.85	0.10	3.25	0.09	3.50	0.20	5.25	0.03
6	3.00	0.17	5.10	0.25	5.70	0.27	5.94	0.21	5.76	0.16	6.60	0.26	4.08	0.03	3.42	0.18	3.90	0.12	4.20	0.15	6.30	0.04
7	3.50	0.13	5.95	0.22	6.65	0.18	6.93	0.13	6.72	0.20	7.70	0.18	4.76	0.01	3.99	0.16	4.55	0.14	4.90	0.10	7.35	0.05
8	4.00	0.06	6.80	0.17	7.60	0.17	7.92	0.08	7.68	0.23	8.80	0.24	5.44	0.10	4.56	0.18	5.20	0.12	5.60	0.04	8.40	0.06
9	4.50	0.06	7.65	0.10	8.55	0.20	8.91	0.13	8.64	0.24	9.90	0.12	6.12	0.02	5.13	0.16	5.85	0.03	6.30	0.01	9.45	0.10
Right Bank	5.00	0.00	8.50	0.00	9.50	0.00	9.90	0.00	9.60	0.00	11.00	0.00	6.80	0.00	5.70	0.00	6.50	0.00	7.00	0.00	10.50	0.00
Feature Type <small>(riffle, run, or pool)</small>	Riffle		Run		Riffle		Riffle		Run		Run		Riffle									

TWC

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 4/14/2008 10:30	Location Description (e.g., road crossing):
Stream Name: Coon Creek	Giles Rd. Crossing
Current Weather Conditions: Sunny & few clouds	Facility Name(s): Norton Woods Sewage Treat.
Weather Conditions for Past 10 days: 1.42" Precipitation	Permit Number(s): MO 0128775
Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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 Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0666680	Northing (UTM Y): 4312545	Horizontal Accuracy: (EPE / FOM / PDOP) 15 Feet
Site 11	Easting (UTM X): 0666886	Northing (UTM Y): 4312551	Horizontal Accuracy: (EPE / FOM / PDOP) 14 Feet

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2902	Upstream Site 3 Low H2O crossing	2903	Dnstream Site 3		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Private Property				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			
Low H2O crossing at Trans. 1				

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

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

Benthic 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 checked="" type="checkbox"/> Fine sediments	<input 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:

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

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

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

Printed Names of Personnel Collecting Data: _____

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Coon Creek</u> Waterbody ID: <u>0208</u> Site #: <u>0208_03</u> Estimated Channel Incision: <u>0.05</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>666680</u> UTM Y: <u>4312545</u> +/- <u>15</u> (feet) 11 UTM X: <u>666886</u> UTM Y: <u>4312551</u> +/- <u>14</u> (feet) Average Stream Width: <u>8.5</u> (meters) Length of Survey Segment: <u>170</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>J. Hrabik & R. Martin</u>	Dissolved Oxygen Date: <u>4/14/2008</u> Time: <u>12:10</u> Dissolved Oxygen: <u>10.97</u> (mg/L) Dissolved Oxygen: <u>97.9</u> (% sat) Specific Cond: <u>226.8</u> (µS/cm) Water Temperature: <u>10.1</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.90	0.35	0.55	0.20	0.90	0.15	0.83	0.20	0.80	0.25	0.75	0.07	0.50	0.15	0.90	0.10	1.10	0.15	1.17	0.06	0.72	0.04
2	1.80	0.44	1.10	0.29	1.80	0.16	1.66	0.42	1.60	0.40	1.50	0.08	1.00	0.25	1.80	0.21	2.20	0.28	2.34	0.04	1.44	0.03
3	2.70	0.56	1.65	0.31	2.70	0.16	2.49	0.42	2.40	0.58	2.25	0.12	1.50	0.38	2.70	0.38	3.30	0.23	3.51	0.04	2.16	0.08
4	3.60	0.90	2.20	0.34	3.60	0.24	3.32	0.38	3.20	0.81	3.00	0.12	2.00	0.46	3.60	0.61	4.40	0.15	4.68	0.07	2.88	0.19
5	4.50	0.85	2.75	0.37	4.50	0.20	4.15	0.28	4.00	>1	3.75	0.15	2.50	0.52	4.50	0.73	5.50	0.03	5.85	0.27	3.60	0.22
6	5.40	0.58	3.30	0.31	5.40	0.19	4.98	0.24	4.80	>1	4.50	0.16	3.00	0.56	5.40	0.81	6.60	0.07	7.02	0.55	4.32	0.24
7	6.30	0.32	3.85	0.26	6.30	0.18	5.81	0.24	5.60	0.94	5.25	0.15	3.50	0.58	6.30	0.74	7.70	0.15	8.19	>1	5.04	0.21
8	7.20	0.33	4.40	0.17	7.20	0.21	6.64	0.16	6.40	0.61	6.00	0.21	4.00	0.55	7.20	0.60	8.80	0.17	9.36	0.87	5.76	0.18
9	8.10	0.12	4.95	0.08	8.10	0.04	7.47	0.12	7.20	0.52	6.75	0.27	4.50	0.50	8.10	0.32	9.90	0.13	10.53	0.35	6.48	0.08
Right Bank	9.00	0.00	5.50	0.00	9.00	0.00	8.30	0.00	8.00	0.38	7.50	0.00	5.00	0.20	9.00	0.20	11.00	0.00	11.70	0.00	7.20	0.00
Feature Type <small>(riffle, run, or pool)</small>	Run		Run		Run		Run		Pool		Run		Run		Run		Run		Riffle		Run	

TWC

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 4/14/2008 10:30	Location Description (e.g., road crossing):
Stream Name: Coon Creek	Linn’s Mill Rd Crossing
Current Weather Conditions: Sunny & few clouds	Facility Name(s): Norton Woods Sewage Treat.
Weather Conditions for Past 10 days: 1.42” Precipitation	Permit Number(s): MO 0128775
Official Drought Conditions at time of this survey (search DNR home page for “drought”): 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 Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0668539	Northing (UTM Y): 4311479	Horizontal Accuracy: (EPE / FOM / PDOP) 15 Feet
Site 11	Easting (UTM X): 0668760	Northing (UTM Y): 4311410	Horizontal Accuracy: (EPE / FOM / PDOP) 15 Feet

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2904	Upstream Site 4 Low H2O Crossing	2905	Dnstream Site 4	2906	Tracks & logging at Trans.9
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Evidence of logging at Trns 9 & tire tracks				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input checked="" type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other: Low h2O crossing at Trns 1 Tire tracks near logging sites at Trans 9			

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

5% Cobble	80% Gravel	15% Sand	% Silt	% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Sparse benthic 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 checked="" type="checkbox"/> Fine sediments	<input 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:

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

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

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

Printed Names of Personnel Collecting Data: _____

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Coon Creek</u> Waterbody ID: <u>0208</u> Site #: <u>0208_04</u> Estimated Channel Incision: <u>0.05</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>668539</u> UTM Y: <u>4311479</u> +/- <u>15</u> (feet) 11 UTM X: <u>668760</u> UTM Y: <u>4311410</u> +/- <u>15</u> (feet) Average Stream Width: <u>9.5</u> (meters) Length of Survey Segment: <u>190</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>J. Hrabik & R. Martin</u>	Dissolved Oxygen Date: <u>4/14/2008</u> Time: <u>13:00</u> Dissolved Oxygen: <u>10.11</u> (mg/L) Dissolved Oxygen: <u>91.2</u> (% sat) Specific Cond: <u>241</u> (µS/cm) Water Temperature: <u>11</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1.20	0.27	1.20	0.07	1.05	0.16	1.04	0.46	0.68	0.72	1.11	0.10	1.04	0.06	1.15	0.10	0.55	0.51	0.50	0.38	0.70	0.24
2	2.40	0.38	2.40	0.00	2.10	0.20	2.08	0.39	1.36	0.69	2.22	0.08	2.08	0.03	2.30	0.12	1.10	0.61	1.00	0.48	1.40	0.34
3	3.60	0.50	3.60	0.00	3.15	0.05	3.12	0.19	2.04	0.59	3.33	0.12	3.12	0.00	3.45	0.13	1.65	0.64	1.50	0.58	2.10	0.56
4	4.80	0.59	4.80	0.00	4.20	0.00	4.16	0.18	2.72	0.55	4.44	0.10	4.16	0.00	4.60	0.13	2.20	0.60	2.00	0.68	2.80	0.85
5	6.00	0.71	6.00	0.13	5.25	0.00	5.20	0.18	3.40	0.58	5.55	0.19	5.20	0.00	5.75	0.05	2.75	0.43	2.50	0.94	3.50	>1
6	7.20	0.75	7.20	0.00	6.30	0.00	6.24	0.31	4.08	0.48	6.66	0.20	6.24	0.34	6.90	0.12	3.30	0.30	3.00	0.78	4.20	>1
7	8.40	0.62	8.40	0.16	7.35	0.01	7.28	0.19	4.76	0.44	7.77	0.26	7.28	0.54	8.05	0.27	3.85	0.30	3.50	0.50	4.90	>1
8	9.60	0.50	9.60	0.04	8.40	0.12	8.32	0.16	5.44	0.36	8.88	0.43	8.32	0.59	9.20	0.44	4.40	0.18	4.00	0.44	5.60	0.49
9	10.80	0.40	10.80	0.16	9.45	0.19	9.36	0.15	6.12	0.15	9.99	0.54	9.36	0.44	10.35	0.34	4.95	0.10	4.50	0.02	6.30	0.31
Right Bank	12.00	0.00	12.00	0.00	10.50	0.00	10.40	0.00	6.80	0.00	11.10	0.00	10.40	0.00	11.50	0.00	5.50	0.00	5.00	0.00	7.00	0.00
Feature Type <small>(riffle, run, or pool)</small>	Run		Riffle		Riffle		Run		Riffle		Run		Run									

rwc

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

Date & Time: 4/14/2008 14:00	Location Description (e.g., road crossing):
Stream Name: Coon Creek	R + J Crossing
Current Weather Conditions: Sunny & few clouds	Facility Name(s): Norton Woods Sewage Treat.
Weather Conditions for Past 10 days: 1.42" Precipitation	Permit Number(s): MO 0128775
Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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 Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0672452	Northing (UTM Y): 4309240	Horizontal Accuracy: (EPE / FOM / PDOP)	15 Feet
Site 11	Easting (UTM X): 0672602	Northing (UTM Y): 4609121	Horizontal Accuracy: (EPE / FOM / PDOP)	15 Feet

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2907	Livestock xing Upstream site 5 Electric fence	2908	Dnstream site 5 Livestock xing		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Cow Pasture.				

Evidence of Human Use*: (Attach photos and reference in "Photos" section.)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

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

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

Sparse benthic Algae & Grasses

Water Characteristics*: (Mark all that apply.)

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

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

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Had to get land owner permission for access – all entrances to stream blocked by electric fence

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

Printed Names of Personnel Collecting Data: _____ Jennifer Hrabik & Renee Martin _____

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Coon Creek</u> Waterbody ID: <u>0208</u> Site #: <u>0208_05</u> Estimated Channel Incision: <u>0.1</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>672452</u> UTM Y: <u>4309240</u> +/- <u>15</u> (feet) 11 UTM X: <u>672602</u> UTM Y: <u>4309121</u> +/- <u>15</u> (feet) Average Stream Width: <u>11</u> (meters) Length of Survey Segment: <u>220</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>J. Hrabik & R. Martin</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>4/14/2008</u> Time: <u>14:00</u> Dissolved Oxygen: <u>10.93</u> (mg/L) Dissolved Oxygen: <u>103.2</u> (% sat) Specific Cond: <u>258.4</u> (µS/cm) Water Temperature: <u>12.8</u> (°C)
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Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	1.32	0.25	0.55	0.31	0.80	0.38	1.03	0.43	0.85	0.21	1.25	0.16	1.18	0.13	1.03	0.36	1.21	0.40	1.35	0.08	1.36	0.23
	2	2.64	0.15	1.10	0.36	1.60	0.36	2.06	0.52	1.70	0.32	2.50	0.23	2.36	0.10	2.06	0.42	2.42	0.46	2.70	0.09	2.72	0.25
	3	3.96	0.03	1.65	0.40	2.40	0.34	3.09	0.51	2.55	0.27	3.75	0.27	3.54	0.07	3.09	0.42	3.63	0.48	4.05	0.15	4.08	0.33
	4	5.28	0.04	2.20	0.36	3.20	0.34	4.12	0.43	3.40	0.25	5.00	0.31	4.72	0.15	4.12	0.40	4.84	0.52	5.40	0.36	5.44	0.44
	5	6.60	0.03	2.75	0.27	4.00	0.30	5.15	0.34	4.25	0.26	6.25	0.37	5.90	0.27	5.15	0.40	6.05	0.46	6.75	0.40	6.80	0.50
	6	7.92	0.05	3.30	0.15	4.80	0.30	6.18	0.31	5.10	0.26	7.50	0.31	7.08	0.27	6.18	0.41	7.26	0.38	8.10	0.45	8.16	0.55
	7	9.24	0.04	3.85	0.02	5.60	0.28	7.21	0.27	5.95	0.25	8.75	0.17	8.26	0.27	7.21	0.38	8.47	0.31	9.45	0.38	9.52	0.61
	8	10.56	0.05	4.40	0.00	6.40	0.26	8.24	0.23	6.80	0.18	10.00	0.28	9.44	0.27	8.24	0.41	9.68	0.26	10.80	0.46	10.88	0.58
	9	11.88	0.04	4.95	0.06	7.20	0.24	9.27	0.05	7.65	0.07	11.25	0.20	10.62	0.32	9.27	0.41	10.89	0.24	12.15	0.54	12.24	0.40
Right Bank		13.20	0.00	5.50	0.00	8.00	0.00	10.30	0.00	8.50	0.00	12.50	0.00	11.80	0.00	10.30	0.00	12.10	0.00	13.50	0.00	13.60	0.00
Feature Type		Riffle		Run																			

rwc

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

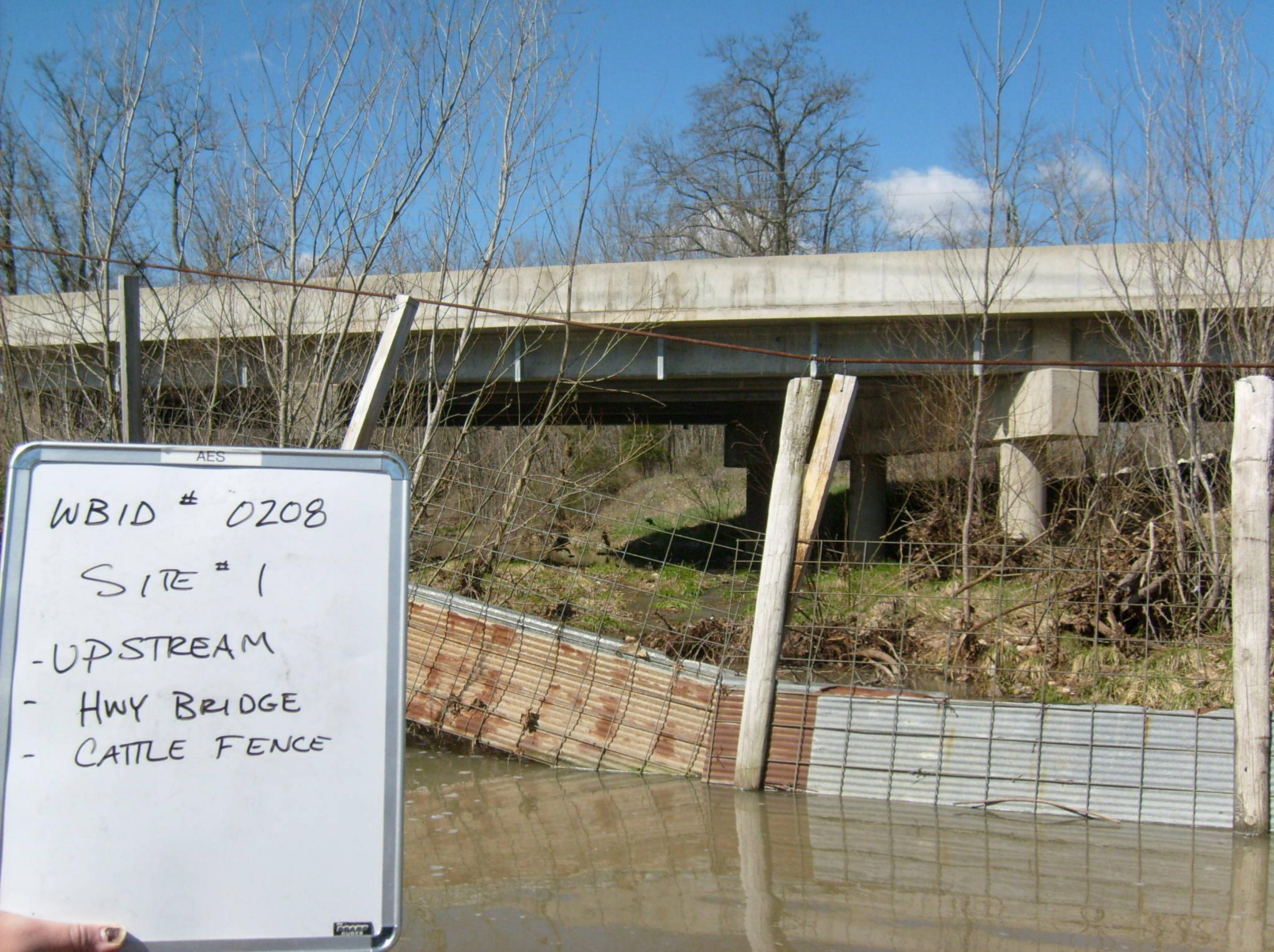
Surveyor's Signature: _____ Date: _____

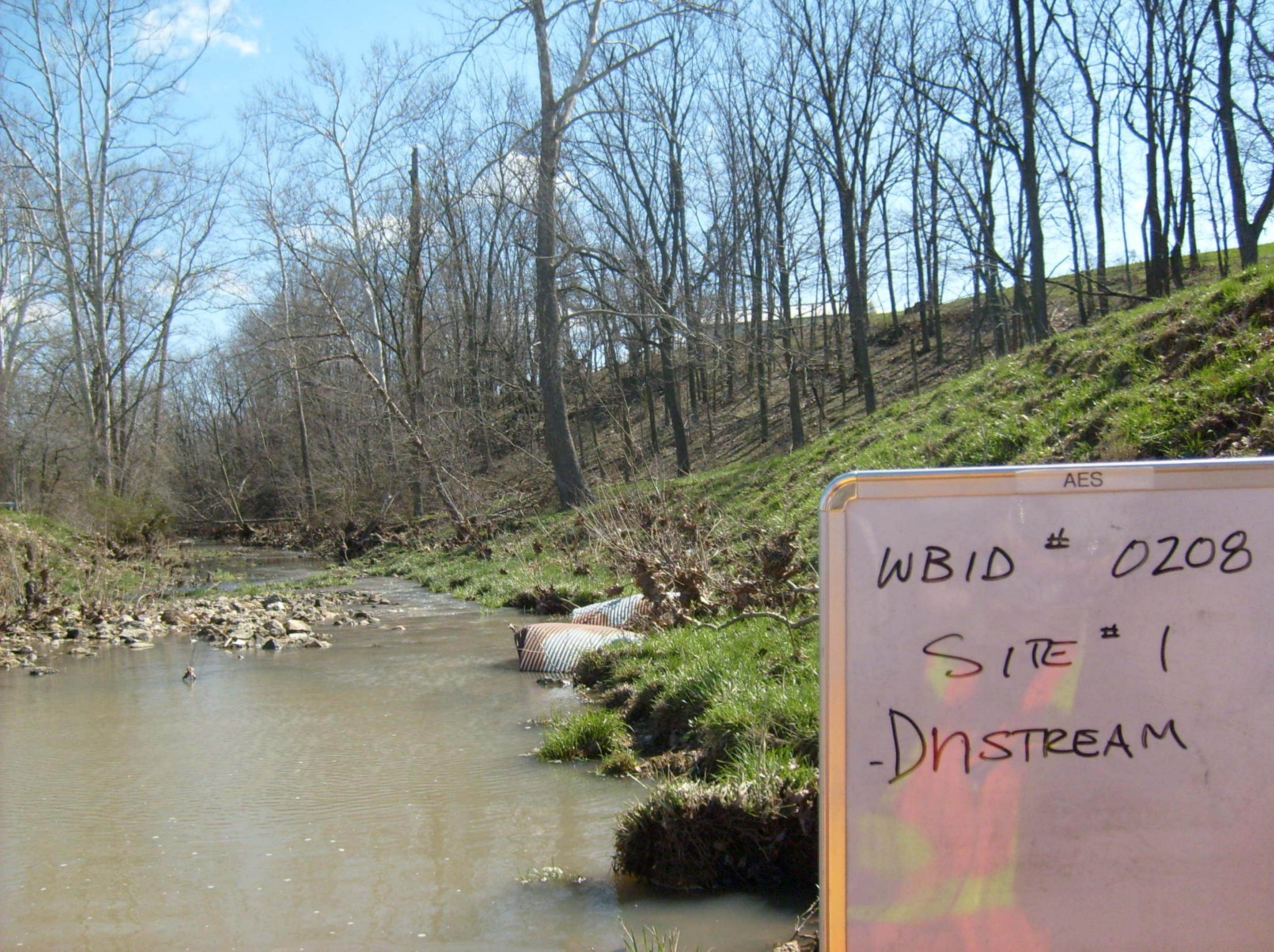
WBID # 0208

SITE # 1

- UPSTREAM
- HWY BRIDGE
- CATTLE FENCE

AES



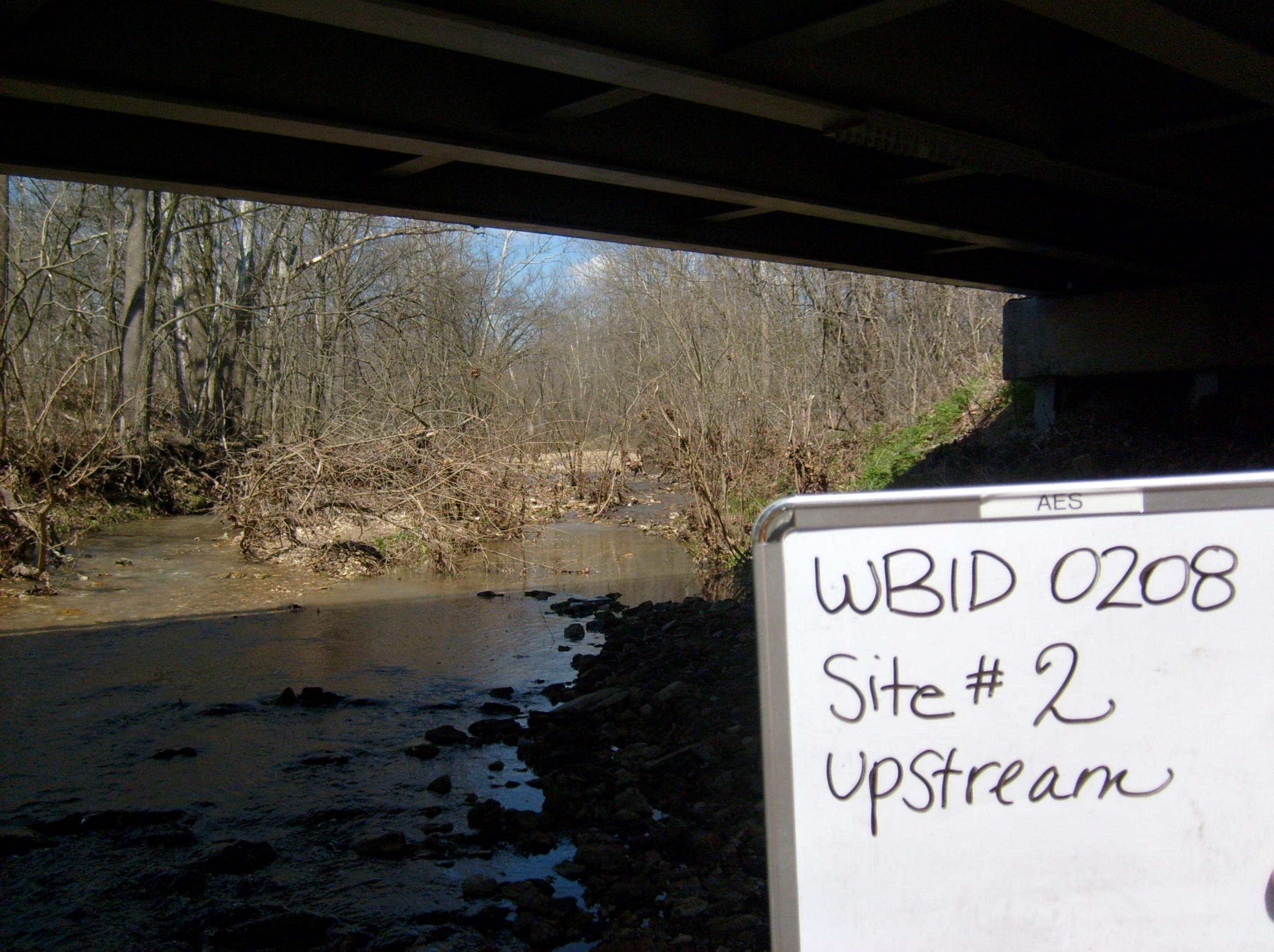


AES

WBID # 0208

SITE # 1

-DNSTREAM



AES

WBID 0208

Site # 2

Upstream

AES

WBID 0208

Site # 2

DnStream



AES

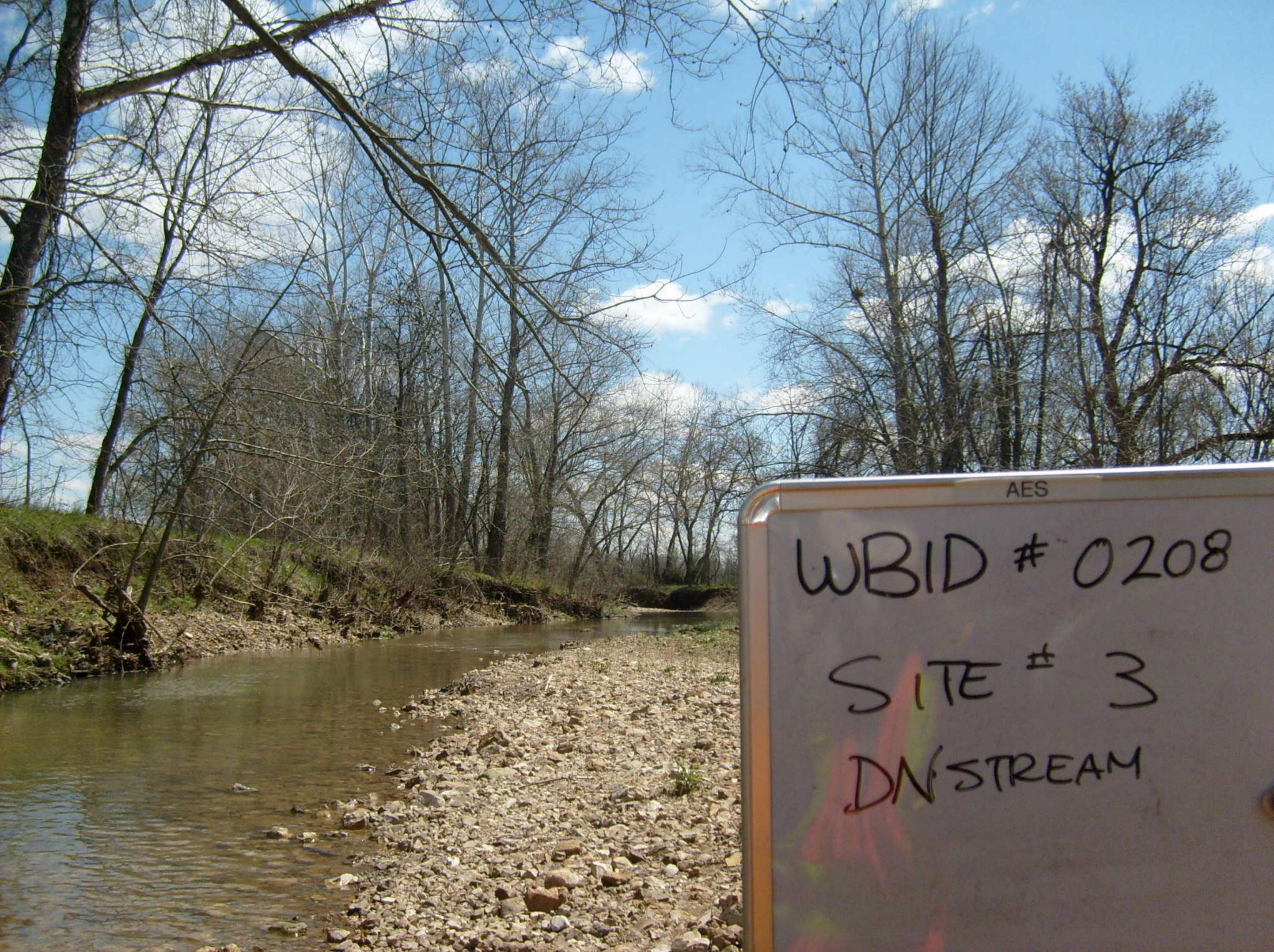
WBID # 0208

SITE # 3

- UPSTREAM

- Low H₂O XING





AES

WBID # 0208

SITE # 3

DN STREAM



AES

WBID # 0208

SITE # 4

-UPSTREAM

LOW H₂O XING

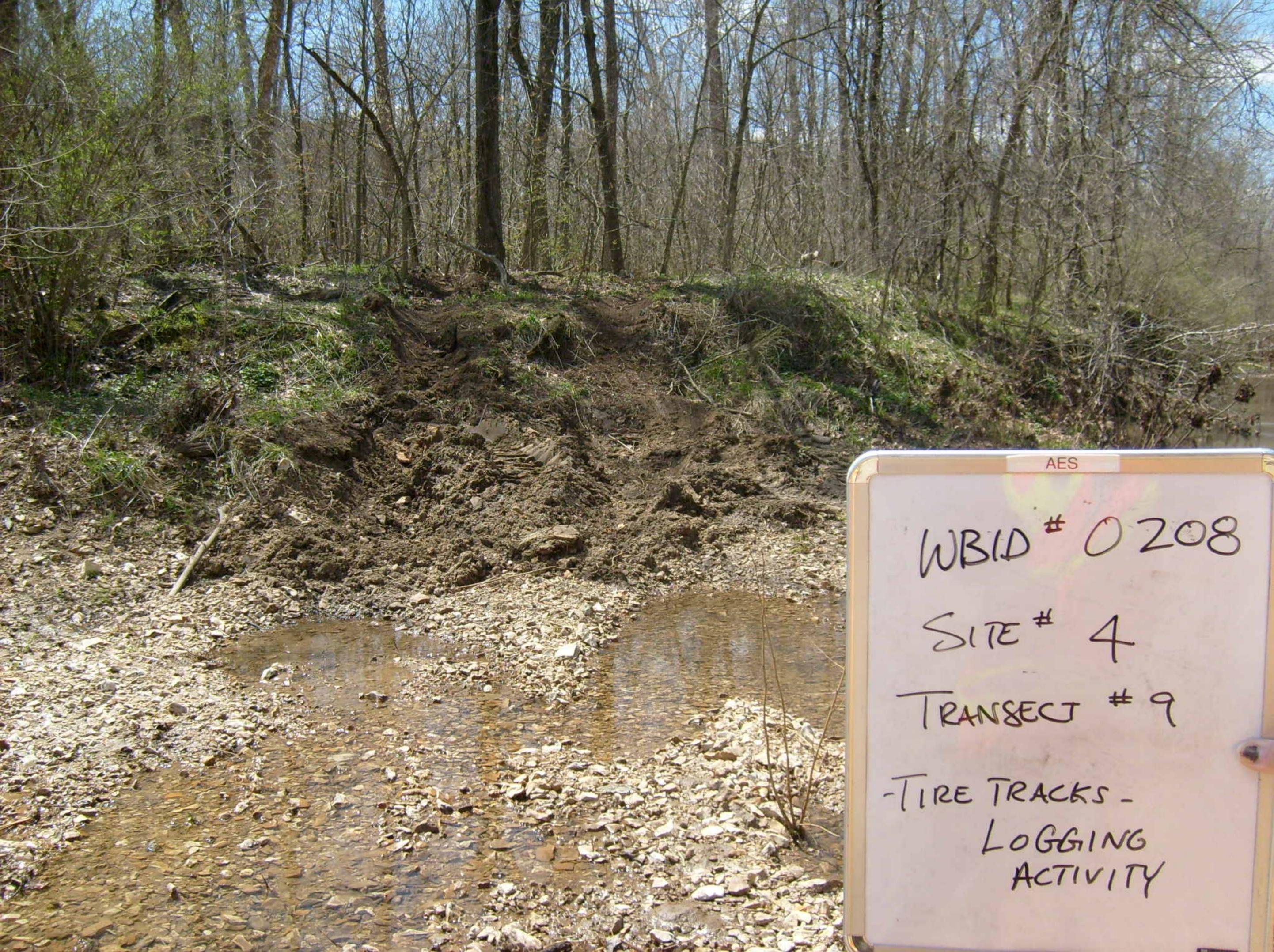


AES

WBID # 0208

SITE # 4

Dn STREAM



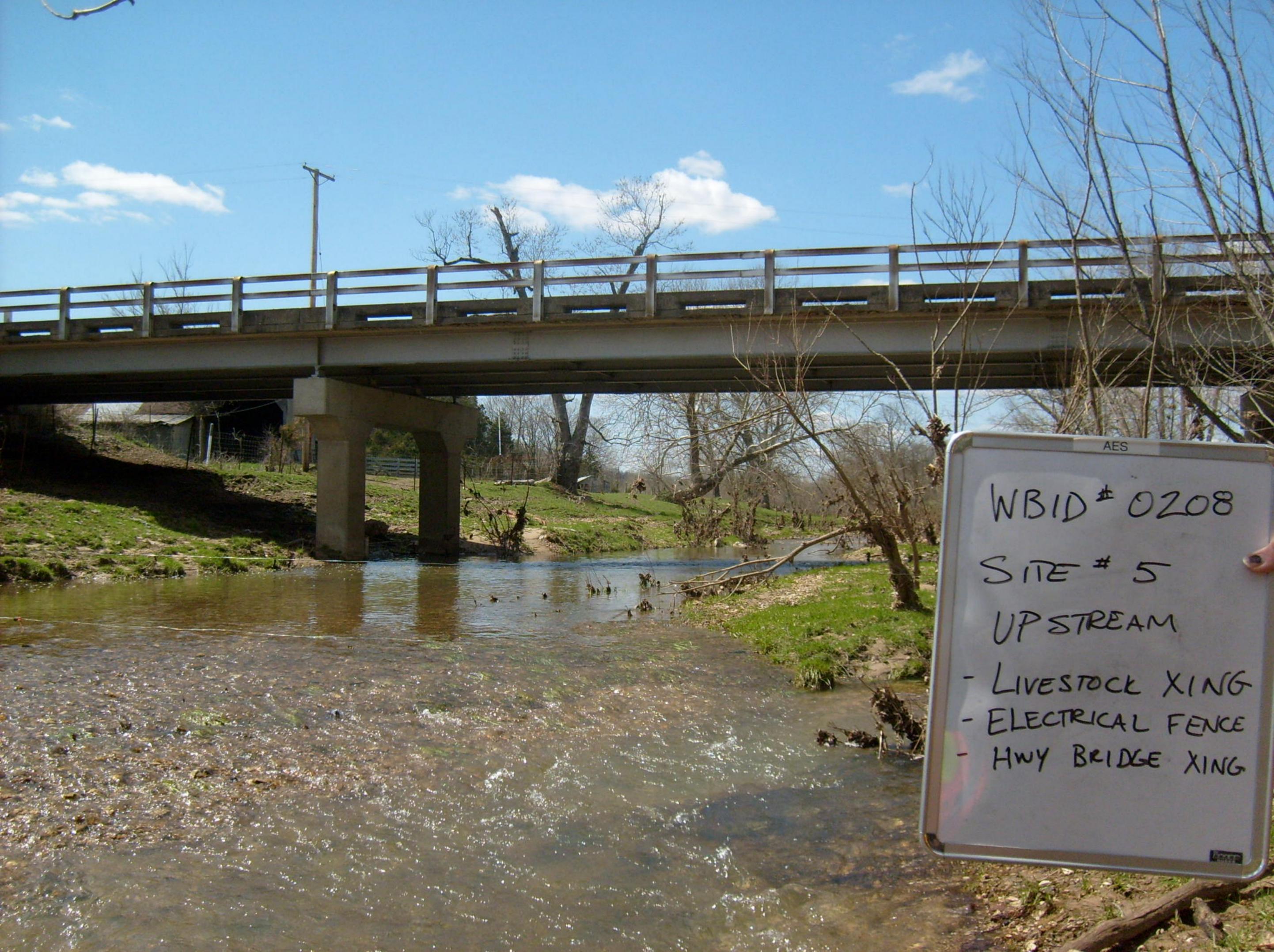
AES

WBID # 0208

SITE # 4

TRANSECT # 9

-TIRE TRACKS -
LOGGING
ACTIVITY



AES

WBID # 0208

SITE # 5

UPSTREAM

- LIVESTOCK XING
- ELECTRICAL FENCE
- HWY BRIDGE XING

AES
WBID # 0208
SITE # 5
DOWNSTREAM
- LIVESTOCK XING

