



Missouri  
Department of  
Natural Resources

Use Attainability Analysis

for

WBID 1339 Walnut Creek

Submitted by

MEC Water Resources

To

Missouri Department of Natural Resources

Water Protection Program

On

December 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):	Walnut Creek		
Missouri Water Body Identification (WBID) Number:	1339		
8-digit HUC:	10290105	County:	Cedar
Upstream Legal Description (from Table H):	17, 36 N, 28 W		
Downstream Legal Description (from Table H):	Mouth		
Number of sites evaluated:	3		
List all sites numbers, listed consequently upstream to downstream:	1, 2, 3		

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

**II. Facility Information** (list all permitted discharges to the water body segment)

Facility Name(s) and Permit Number(s):
EL Dorado Springs MO 0040002

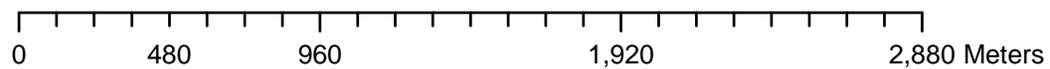
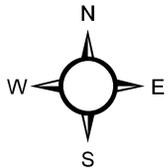
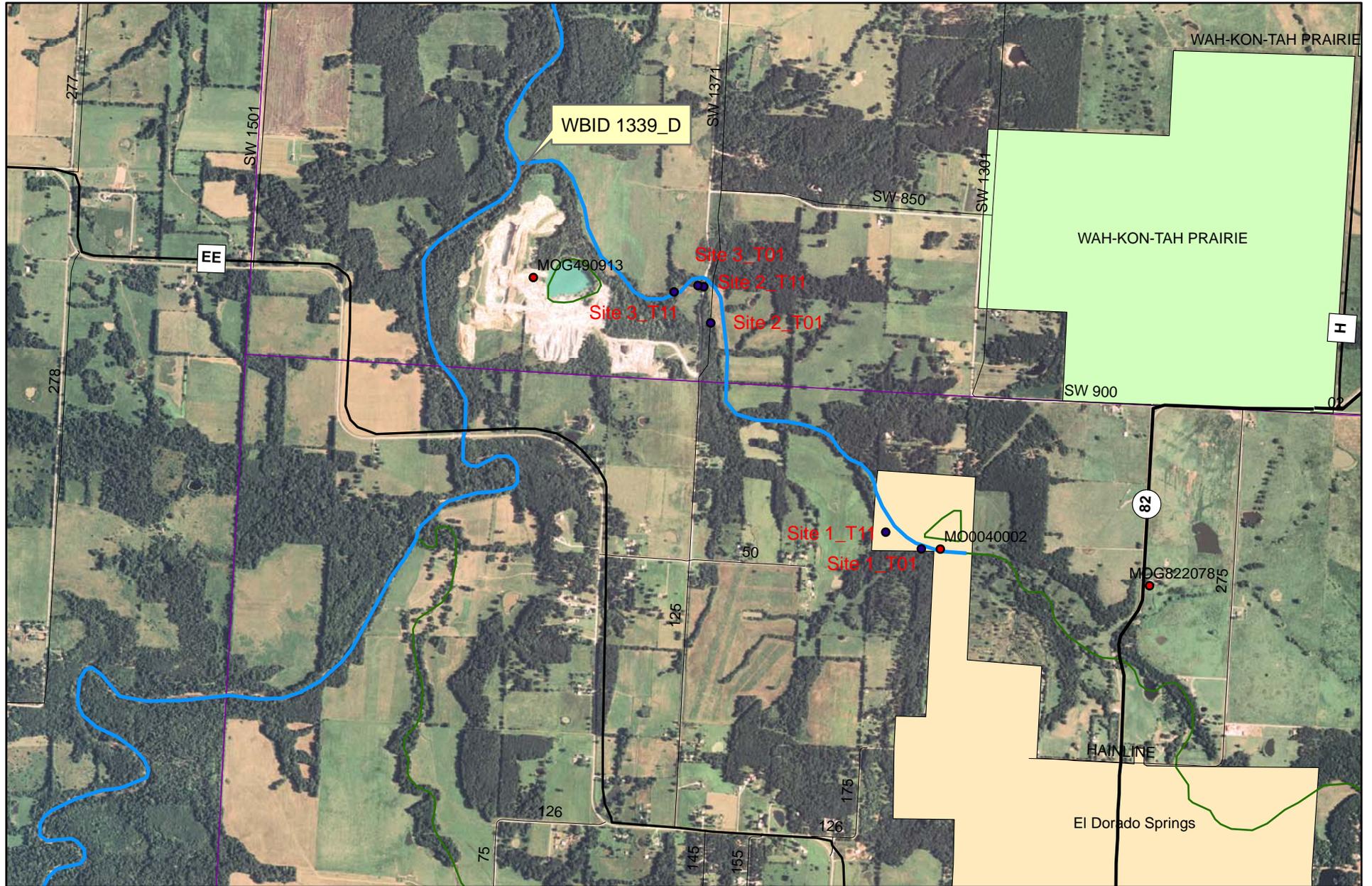
**III. UAA Surveyor** (please print legibly)

Name of Surveyor	Abigail L Welschmeyer	Telephone Number:	(573) 634-7078
Organization/Employer:	ERC		

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

Signed: Abigail L Welschmeyer Date: 10/16/07

# WBID 1339 Walnut Creek - Cedar and St. Clair Counties



## Weather Conditions

Weather conditions ten days previous to stream assessment are listed in the tables below. The date(s) that the stream was assessed are shaded.

Data from the Midwest Regional Climate Center  
Nevada\_Water\_Plant, Missouri - Station ID: 235987

<b>Date</b>	<b>Precipitation (Inches)</b>	<b>Min. Temp (°F)</b>	<b>Max. Temp (°F)</b>	<b>Avg. Temp (°F)</b>
10/6/2007	0.00	71	88	80
10/7/2007	0.00	71	87	79
10/8/2007	0.14	71	80	76
10/9/2007	0.12	51	72	62
10/10/2007	0.00	51	83	67
10/11/2007	0.00	41	70	56
10/12/2007	0.00	42	66	54
10/13/2007	0.00	47	73	60
10/14/2007	-	55	77	66
10/15/2007	-	56	66	61
10/16/2007	0.00	47	66	57

## **WBID 1339: Walnut Creek**

### **Notes:**

Our waypoints for the assessment did not match up well with the USGS National Hydrography Dataset (NHD) coverage. To evaluate if we had inaccurate waypoints data or if the NHD was off we compared our waypoints to the 2007 USDA National Agricultural Imagery Program (NAIP) data. The result was that we found that the NHD does not follow the stream very well for this reach (see attached map that includes the NHD coverage, the NAIP imagery and our waypoints).

WBID # 1339

Site # 1

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>15:09 10/16/07</u>	Site Location Description (e.g., road crossing): <u>Road to WWTP off bridge downstream</u>
Personnel (Data Collectors): <u>AW+TH</u>	Facility Name: <u>El Dorado Springs</u>
Current Weather Conditions: <u>78° sunny</u>	Permit Number: <u>MO0040002</u>
Weather Conditions for Past 10 days:	
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)					
Site 01	Easting (UTM X): <u>1950409325</u>	Northing (UTM Y): <u>4194481</u>	Horizontal Accuracy: <u>(EPE) FOM / PDOP</u>	Meters	<u>7</u>
Site 11	Easting (UTM X): <u>1950409144</u>	Northing (UTM Y): <u>4194556</u>	Horizontal Accuracy: <u>(EPE) FOM / PDOP</u>	Meters	<u>7</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>K-008</u>	<u>downstream T-1</u>	<u>K-009</u>	<u>upstream T-11</u>		
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 time of survey.)

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

WBID # 1339

Site # 1

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**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:

*wooded, pasture, WWTF ponds*

**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 type="checkbox"/> Livestock Watering

Comments / Other:

*NONE*

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

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

*30% cover some long filamentous algae growth*

**Water Characteristics\*:** (Mark all that apply.)

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

WBID # 1339  
Site # 1

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**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.**

Surveyor's Signature: *Alvin Z. Walker* Date of Survey: 10/16/07  
Organization: ERC Position: Field Manager

8 dn  
9 up

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Waterbody ID: <u>1339</u> Site #: <u>1</u> Estimated Channel Incision: <u>30</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>155 0409325</u> UTM Y: <u>4194481</u> +/- <u>7</u> (meters) <u>86</u> 11 UTM X: <u>550409164</u> UTM Y: <u>4194556</u> +/- <u>7</u> (meters) Average Stream Width: <u>4.0</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>AWS &amp; T14</u>	<b>Dissolved Oxygen</b> Date: <u>10/16/07</u> Time: <u>15:05</u> Dissolved Oxygen: <u>5.52</u> (mg/L) Dissolved Oxygen: <u>59.4</u> (% sat) Specific Cond: <u>492</u> (µS/cm) Water Temperature: <u>18.99</u> (°C)
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#### Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station	Distance (m)	Depth (m)																					
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	36	.04	21	.04	42	.05	48	.05	83	.14	25	.01	33	.04	16	.01	49	.04	23	.06	3	.02	
2	72	.04	42	.06	84	.09	96	.15	166	.35	3	.01	66	.07	32	.03	98	.09	46	.09	16	.04	
3	1.08	.09	.63	.04	1.26	.08	1.44	.18	2.49	.40	.75	.01	.99	.13	.48	.07	1.47	.09	1.69	.08	.9	.09	
4	1.44	.06	.84	.07	1.68	.10	1.92	.23	3.32	.41	1.0	.01	1.32	.18	.64	.08	1.96	.08	.92	.06	1.2	.09	
5	1.8	.09	1.05	.08	2.1	.20	2.4	.24	4.15	.35	1.25	.03	1.65	.20	.8	.08	2.45	.08	1.15	.08	1.5	.08	
6	2.16	.09	1.26	.03	2.52	.20	2.88	.25	4.98	.36	1.5	.09	1.98	.23	.96	.05	2.94	.10	1.38	.40	1.8	.03	
7	2.52	.09	1.47	.02	2.94	.11	3.36	.23	5.81	.25	1.75	.16	2.31	.26	1.12	.02	3.43	.12	1.61	.07	2.1	.06	
8	2.88	.11	1.68	.03	3.36	.13	3.84	.25	6.64	.13	2.0	.18	2.64	.24	1.28	.03	3.92	.10	1.84	.08	2.4	.05	
9	3.24	.09	1.89	.01	3.76	.09	4.32	.24	7.47	.14	2.25	.15	2.97	.14	1.44	.01	4.41	.06	2.07	.04	2.7	.03	
<b>Right Bank</b>	3.6	0	2.1	0	4.2	0	4.8	0	8.3	0	2.5	0	3.3	0	1.6	0	4.9	0	2.3	0	3.0	0	
<b>Feature Type</b> (riffle, run, or pool)	run		riffle		riffle		run		pool		run		run		riffle		riffle		riffle		run		

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 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: [Signature]      Date: 10/16/07

WBID # 1339

Site # 2

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>10/16/07</u>	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): <u>AW + TH</u>	<u>CR 125 upstream @ bridge</u>
Current Weather Conditions: <u>77° sunny &amp; clear</u>	Facility Name: <u>El Dorado Springs</u>
Weather Conditions for Past 10 days:	Permit Number: <u>MO0040002</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)					
Site 01	Easting (UTM X): <u>1950408318</u>	Northing (UTM Y): <u>4195496</u>	Horizontal Accuracy: (EPE) FOM / PDOP	Meters	<u>10</u>
Site 11	Easting (UTM X): <u>1950408347</u>	Northing (UTM Y): <u>4195629</u>	Horizontal Accuracy: (EPE) FOM / PDOP	Meters	<u>10</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>K-010</u>	<u>Upstream T-11</u>	<u>K-011</u>	<u>Downstream T-1</u>		

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

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

WBID # 1339

Site # 2

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:

Comments:

Pasture, wooded

**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 type="checkbox"/> Livestock Watering

Comments / Other:

NONE

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

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

less than 10%
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**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input checked="" type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear <sup>to turbid</sup>	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>lightly turbid</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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 effect another use.

WBID # 1339  
Site # 2

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**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.**

Surveyor's Signature: *Allyn Z Wilby* Date of Survey: *10/10/07*  
Organization: *ERC* Position: *Field Manager*

Up 10 K T 11  
dn 11

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

<p>Waterbody ID: <u>1339</u>      Site #: <u>2</u></p> <p>Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water)</p> <p>GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE) (PDOP / FOM)</p> <p>01 UTM X: <u>1550408328</u>      UTM Y: <u>4195496</u>      +/- <u>10</u> (meters) <u>89</u></p> <p>11 UTM X: <u>1550408347</u>      UTM Y: <u>4195659</u>      +/- <u>10</u> (meters) <u>88</u></p> <p>Average Stream Width: <u>4.0</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)</p> <p>Field Staff: <u>AW &amp; TH</u></p>	<p style="text-align: center;"><b>Dissolved Oxygen</b></p> <p>Date: <u>10/10/07</u>      Time: <u>16:00</u></p> <p>Dissolved Oxygen: <u>3.85</u> (mg/L)</p> <p>Dissolved Oxygen: <u>41.9</u> (% sat)</p> <p>Specific Cond: <u>361</u> (µS/cm)</p> <p>Water Temperature: <u>19.26</u> (°C)</p>
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#### Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		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		.28	.06	.57	.48	.5	.39	.17	.20	.32	.10	.26	.08	.27	.05	.34	.04	.39	.04	.28	.02	.34	.02
2		.56	.10	1.14	.43	1.0	.39	.34	.22	.64	.26	.52	.08	.54	.06	.68	.10	.78	.07	.56	.04	.68	.04
3		.84	.15	1.71	.63	1.5	.41	.51	.23	.96	.30	.78	.09	.81	.09	1.02	.15	1.17	.12	.84	.06	1.02	.08
4		1.12	.21	2.28	.26	2.0	.44	.68	.22	1.28	.33	1.04	.09	1.08	.13	1.34	.20	1.56	.18	1.12	.09	1.36	.13
5		1.4	.21	2.85	.29	2.5	.42	.85	.21	1.6	.25	1.3	.09	1.35	.14	1.7	.25	1.95	.27	1.4	.13	1.7	.16
6		1.68	.22	3.42	.34	3.0	.36	1.02	.19	1.92	.14	1.56	.11	1.62	.16	2.04	.27	2.34	.35	1.68	.16	2.04	.16
7		1.96	.19	3.99	.26	3.6	.30	1.19	.13	2.24	.15	1.82	.11	1.89	.15	2.38	.28	2.73	.40	1.96	.15	2.38	.21
8		2.24	.19	4.56	.13	4.0	.18	1.36	.08	2.56	.14	2.08	.10	2.16	.14	2.72	.28	3.12	.25	2.24	.15	2.72	.26
9		2.52	.16	5.13	.08	4.5	.10	1.53	.02	2.88	.11	2.34	.10	2.43	.09	3.06	.25	3.51	.11	2.52	.09	3.06	.14
	Right Bank	2.8	0	5.7	0	5.0	0	1.7	0	3.2	0	2.6	0	2.7	0	3.4	0	3.9	0	2.8	0	3.4	0
	Feature Type (riffle, run, or pool)	run		pool		pool		run		pool		run											

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 0.01 meter unless depth is too deep to measure (then record as > 1)  
All measurements to be taken to the nearest 0.01 meter.

Signed: *Angela L. Williams*      Date: 10/10/07

WBID # 1339  
 Site # 3

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>10/16/07 16:35</u>	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): <u>AW + TH</u>	<u>CR 125 downstream @ bridge</u>
Current Weather Conditions: <u>77° sunny &amp; clear</u>	Facility Name: <u>El Dorado Springs</u>
Weather Conditions for Past 10 days:	Permit Number: <u>MO 004 0002</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>1550408321</u>	Northing (UTM Y): <u>4195664</u>	Horizontal Accuracy: (EPE) / FOM / PDOP Meters
Site 11	Easting (UTM X): <u>1550408214</u>	Northing (UTM Y): <u>4195635</u>	Horizontal Accuracy: (EPE) / FOM / PDOP Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>K-012</u>	<u>downstream T-1</u>	<u>K-013</u>	<u>deep spot T-10</u>	<u>K-014</u>	<u>Upstream T-11</u>
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 time of survey.)

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

WBID # 1339

Site # 3

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:

Comments: pasture + wooded areas

**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 type="checkbox"/> Livestock Watering

Comments / Other: NONE

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

<u>5</u> % Cobble	<u>40</u> % Gravel	<u>5</u> % Sand	% Silt	<u>50</u> % Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

less than 10%

**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 checked="" type="checkbox"/> Other: <u>lightly turbid</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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 effect another use.

WBID # 1339

Site # 3

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**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)
pool	115	9	15	1m	> 1.3 m

**Comments:** (Please record any additional comments here.)

- pool described above picture T-10 along bedrock side of stream  
- field staff unable to make it all the way across the stream @ T-10

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

Surveyor's Signature: Megan Z. Delinger Date of Survey: 10/16/07

Organization: ERC Position: Field Manager

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

dn 120  
13-T-10  
14 ↗

Waterbody ID: <u>1339</u> Site #: <u>3</u>  Estimated Channel Incision: <u>4</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>1550408321</u> UTM Y: <u>4195664</u> +/- <u>13</u> (meters) <u>90</u> 11 UTM X: <u>1550408214</u> UTM Y: <u>4195635</u> +/- <u>10</u> (meters) <u>91</u>  Average Stream Width: <u>6.0</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>AW &amp; TH</u>	<h3 style="text-align: center; margin: 0;">Dissolved Oxygen</h3> Date: <u>10-16-07</u> Time: <u>16:35</u>  Dissolved Oxygen: <u>3.83</u> (mg/L)  Dissolved Oxygen: <u>40</u> (% sat)  Specific Cond: <u>410</u> (µS/cm)  Water Temperature: <u>17.34</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)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		.41	.66	.5	.04	.63	.17	.77	.13	.41	.07	.4	.09	.19	.07	.37	.01	.35	.20	.9	.09	.56	.07
2		.82	.80	1.0	.13	1.26	.33	1.54	.32	.82	.15	.8	.12	.38	.14	.74	0	.7	.20	1.8	.41	1.12	.09
3		1.23	.77	1.5	.17	1.89	.43	2.31	.27	1.23	.20	1.2	.14	.57	.36	1.11	.02	1.05	.19	2.7	.63	1.68	.10
4		1.64	.66	2.0	.23	2.52	.62	3.08	.36	1.64	.25	1.6	.21	.76	.32	1.48	.05	1.4	.24	3.6	.81	2.24	.10
5		2.05	.64	2.5	.30	3.15	.85	3.85	.40	2.05	.19	2.0	.48	.95	.41	1.85	.04	1.75	.30	4.5	.71	2.8	.10
6		2.46	.58	3.0	.36	3.78	.94	4.62	.51	2.46	.21	2.4	.45	1.14	.49	2.22	.06	2.1	.12	5.4	.71	3.36	.10
7		2.87	.52	3.5	.40	4.41	.86	5.39	.54	2.87	.14	2.8	.31	1.33	.48	2.59	.11	2.45	.07	6.3	.71	3.92	.06
8		3.28	.50	4.0	.36	5.04	.69	6.16	.49	3.28	.10	3.2	.44	1.52	.38	2.96	.16	2.8	.06	7.2	.71	4.48	.03
9		3.69	.30	4.5	.22	5.67	.53	6.93	.22	3.69	.04	3.6	.30	1.71	.22	3.33	.11	3.15	.07	8.1	.71	5.04	.02
<b>Right Bank</b>		4.1	0	5.0	0	6.3	0	7.7	0	4.1	0	4.0	0	1.9	0	3.7	0	3.5	0	9.0	0	5.6	0
<b>Feature Type</b> <small>(riffle, run, or pool)</small>		run		run		pool		pool		run		pool		run									

**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 0.01 meter unless depth is too deep to measure (then record as > 1)  
 All measurements to be taken to the nearest 0.01 meter.

Signed: Alison L. Wulfe      Date: 10/16/07

**WBID# 1339 Walnut Creek**



**Site# 1 Photo ID# K-008, Downstream T-1**



**Site# 1 Photo ID# K-009, Upstream T-11**



**Site# 2 Photo ID# K-010, Upstream T-11**



**Site# 2 Photo ID# K011, Downstream T-1**

**WBID# 1339 Walnut Creek**



**Site# 3 Photo ID# K-012, Downstream T-1**



**Site# 3 Photo ID# K-013, "Deep Spot" T-10**



**Site# 3 Photo ID# K-014, Upstream T-11**