



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 1591 Indian Creek

Submitted by

Missouri Department of Natural Resources

to

Missouri Department of Natural Resources
Water Protection Program

Date received: October 18, 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):	Indian Creek
Missouri Water Body Identification (WBID) Number:	1591
8-digit HUC:	10290202
County:	Texas
Upstream Legal Description (from Table H):	27.30 N, 9W
Downstream Legal Description (from Table H):	30, 30N, 9W
Number of sites evaluated	2
List all sites numbers, listed cnsquantly upstream to downstream:	US → DS 2, 1

II. Subsegmentation (fill this section out only in cases where subsegmentation is being proposed)

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Upstream Coordinates:		Downstream Coordinates:	
UTM X	Y	UTM X	Y
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DDOG	
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			

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

Discharger Facility Name(s):
Discharger Permit Number(s):

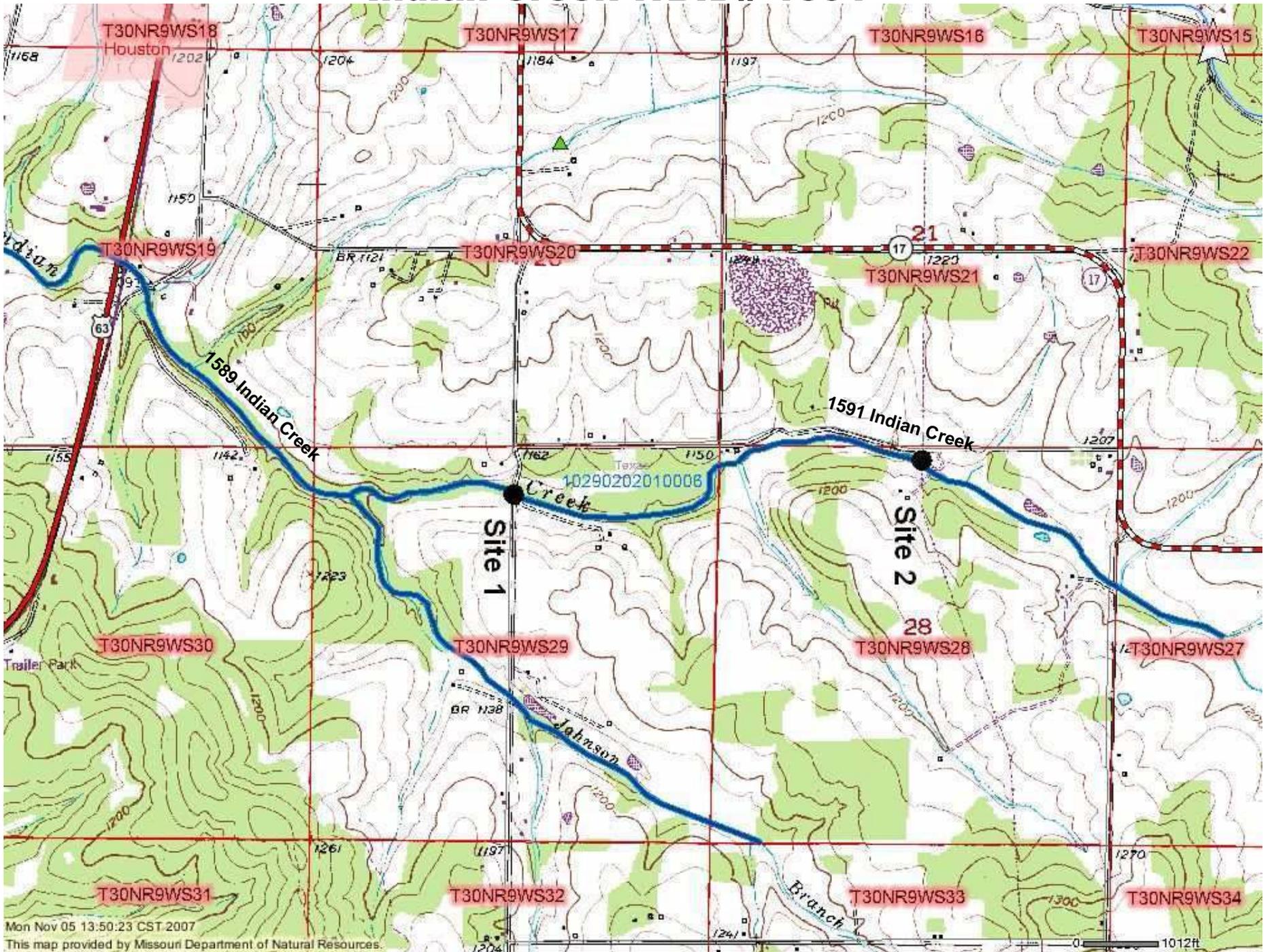
IV. UAA Surveyor (please print legibly)

Name of Surveyor	Scott Goodin & Rich Burdige	Telephone Number:	573-526-1582
Organization/Employer:	Mo DNR		
Position:	ES III		

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

Signed: Scott Goodin Date: 10/19/2007

Indian Creek WBID# 1591



WBID# 1591
 Site# ALL
 (sites 1 + 2)

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

(pg 1 of 2)

Date & Time: <u>10/18/07</u>	Site Location Description (e.g., road crossing): <u>Indian Cr</u>
Personnel (Data Collectors): <u>Scott Goodin, Rich Burdge</u>	
Current Weather Conditions:	Facility Name:
	Permit Number:
Weather Conditions for Past 10 days:	
Drought Conditions?: No drought <input type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input checked="" type="checkbox"/>	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site GPS Coordinates: UTM X:		Y:	
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			
HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	± _____ Feet or ± _____ Meters	± _____ Feet or ± _____ Meters	
PDOP			

Photos:

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

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

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Comments:

WBID# 1591
 Site# ALL
 (Sites 1+2)

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization
 (must be completed for each site) (pg 2 of 2)

Indications of Human Use*: (attach photos)

<input type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Other:	
Comments: <p style="text-align: center;">none</p>					

Stream Morphology:

Upstream View's Physical Descriptions: Is there any water present at this view? Yes No

Site 1

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 Descriptions: Is there any water present at this view? Yes No

Site 2

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					

DRY

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

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

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:
WATER SURFACE DEPOSITION:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments to this form.

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

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

Surveyor's Signature: [Signature] Date of Survey: 10/18/2007

Organization: MO DNR Position: ES III

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Site Max

0.76

Median

0.18

Waterbody ID: <u>1591</u>	Site #: <u>1 - Lily Road</u>	Dissolved Oxygen	
Estimated Channel Incision: _____ (m) (height between low bank width and water)		Date: <u>10/18/07</u>	Time: _____
GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM)			
01 UTM X: _____	UTM Y: _____	+/- _____	(meters)
11 UTM X: _____	UTM Y: _____	+/- _____	(meters)
Average Stream Width: _____ (meters)		Length of Survey Segment: _____ (meters)	
(To determine Length of Reach)		(20x average stream width)	
Field Staff: <u>Scott Goodlin & Rich Burdge</u>			

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		.37		.30		.27		.06		.06		.37		.34		.03		.03		.11		.21
2		.70		.46		.37		.09		.21		.34		.34		.09		.03		.15		.21
3		.76		.58		.40		.06		.12		.27		.24		.09		.03		.21		.15
4		.70		.64		.37		.09		.12		.27		.18		.12		.06		.26		.12
5		.58		.64		.37		.09		.18		.30		.15		.15		.09		.30		.12
6		.40		.58		.24		.03		.21		.27		.15		.15		.09		.37		.06
7		.24		.61		.15		.03		.18		.21		.21		.17		.18		.40		.06
8		.15		.49		.12		.06		.18		.18		.30		.21		.21		.40		.08
9		.06		.40		.06		.09		.12		.21		.34		.24		.18		.40		.05
Right Bank		.06		.30		.06		.09		.12		.12		.30		.21		.12		.15		.03
Feature Type																						
(riffle, run, or pool)																						

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 correspond 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.

Scott Goodlin

10/18/2007

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>1591</u> Site #: <u>2 - Hawkeye Road</u> Estimated Channel Incision: _____ (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: _____ UTM Y: _____ +/- _____ (meters) 11 UTM X: _____ UTM Y: _____ +/- _____ (meters) Average Stream Width: _____ (meters) Length of Survey Segment: _____ (meters) (To determine Length of Reach) (20x average stream width) Field Staff: _____	<h3 style="text-align: center; margin: 0;">Dissolved Oxygen</h3> Date: <u>10/18/07</u> Time: _____ Dissolved Oxygen: _____ (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ ($\mu S/cm$) Water Temperature: _____ ($^{\circ}C$)
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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	
	1		0		0		0		0		0		0		0		0		0		0		0
	2																						
	3																						
	4																						
	5																						
	6																						
	7																						
	8																						
	9		DRY																				
Right Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Feature Type																							

(riffle, run, or pool)

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 correspond 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 9).

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.

Surveyor:  Date: 10/18/2007

WBID# 1591



Site# 1 Photo ID# DNR-1



Site# 1 Photo ID# DNR-2, Transects 1-5



Site# 2 Photo ID# DNR-3, Dry streambed



Site# 2 Photo ID# DNR-4, Dry streambed