

Capture of Missouri Archaeology Surveys and Sites Using GIS Technologies

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Missouri Resource Assessment Partnership



Project Goal

- Populate the SDE database of archaeological surveys and sites for the state of Missouri



Photo by Keith Chan



Photo by John Steinberg

SQL Server Database

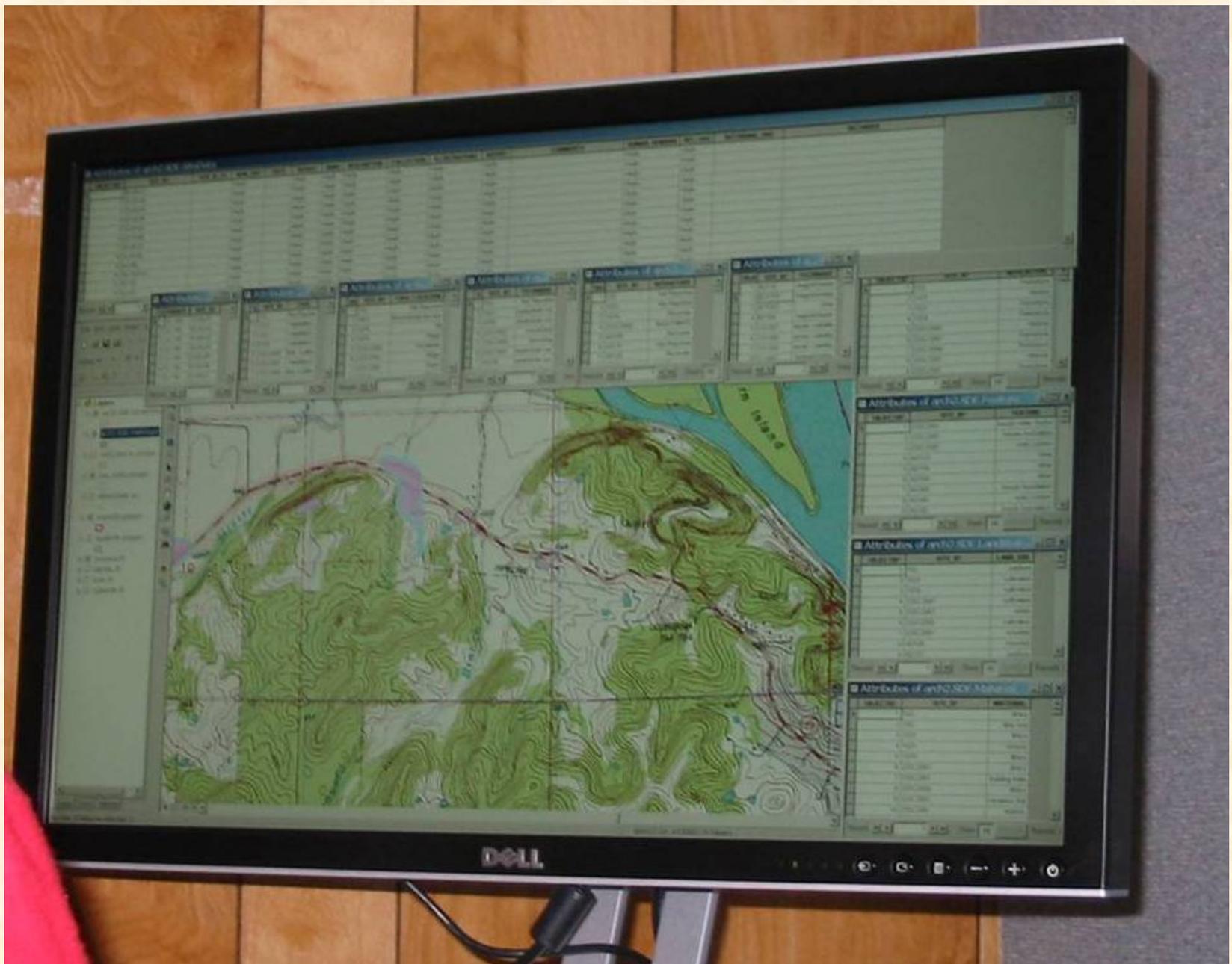
Web-based Form for attribute data

- Efficiency (increased input by 50%)
- Security (data can be entered off-site via web)

Eliminates data loss

- Does not allow null values in certain fields







About MoRAP

- Staff
- Partners
- Affiliates
- Steering Committee
- Technical Committee
- Committee Reports
- Current Projects
- Maps & Posters
- Publications And Reports
- Five-Year Plan

Recently Updated Projects

- Aquatic GAP Pilot Project
- Developing Synoptic Human Stressor Indicators for Assessing the Ecological Integrity of Freshwater Ecosystems in EPA Region 7
- Vertebrate Modeling



[Switch to the Survey form]

Site ID CO5 found, enter data to modify this site.

Site ID CO5 <input type="button" value="Get Site Info"/>	Forest Service Site ID <input type="text"/>	Date of Site Visit 1989-03	<input checked="" type="checkbox"/> Associated Report
Recording Organization Not Reported	Recorder Terrell L. Martin	NRHP Status unevaluated	<input checked="" type="checkbox"/> Illustrations
New Edit New	Human Remains Not Reported	Collection Yes	<input checked="" type="checkbox"/> Re-visit?
<input checked="" type="checkbox"/> Site Description	Cultural Affiliation 01 Prehistoric	Site Type habitation (historic)	
02 Pre-Clovis		habitation (prehistoric)	
03 Paleo-Indian		historic scatter	
04 Dalton		lithic scatter	
Material Reported building materials		Repository Fischer-Stein Assoc.	
ceramics (historic)		HPP/DPHP/DNR	
ceramics (prehistoric)		Landowner Lincoln University	
faunal		Sampling Techniques auger tests	
Current Land Use cemetery		Not Reported	
cultivated		other	
Not Reported		pedestrian survey	
other		Features Present activity foci	
Topographic Location Not Reported		basins	
Other		bell-shaped pits	
Ridge		burial pit	
River/stream terrace		Comments	
Remote Sensing Techniques aerial / satellite photography			
ground penetrating radar			
infrared photography			
magnetometer			

Associated Surveys

BO-031
CO-033

If you have any problems, suggestions, or comments about our website please notify morapwebmaster@missouri.edu

SDE Database

Disconnected editing

- 5 checkouts (including 2 partners data checking)

Simultaneous multi-user editing

- 3 directly editing the database

Allows for cross-platform data delivery

- Oracle (MoDOT),
DB2 (DNR),
SQL Server (MoRAP)



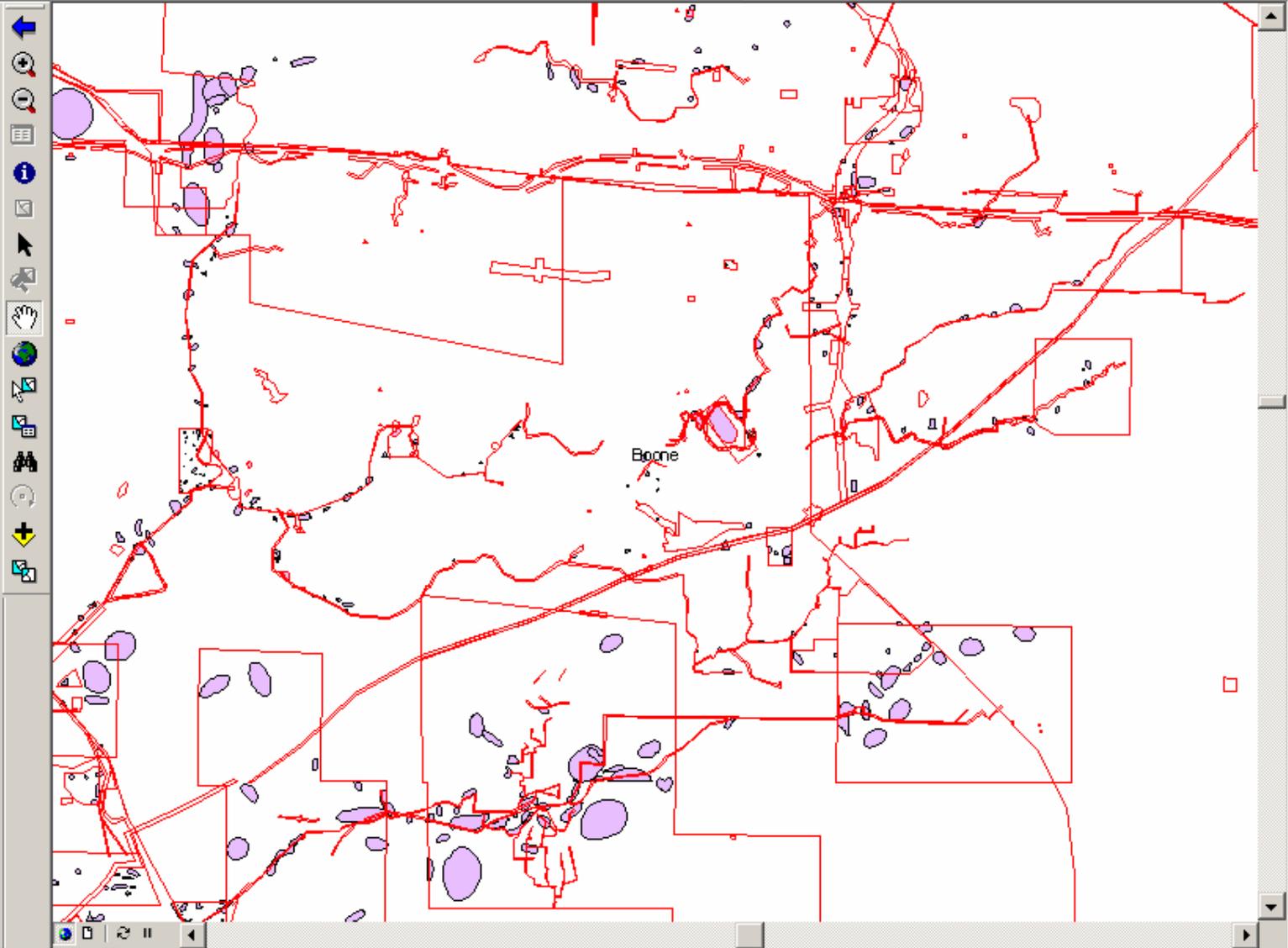
File Edit View Insert Selection Tools Window Help

Topology: [Dropdown]

Editor [Dropdown] 1:100,000 Task: Create New Feature Target: [Dropdown]

[Toolbar icons]

- Layers
 - mtnf_distrcts polygon
 - SurveyPolygons
 - SitePolygons
 - plss_mo83 polygon
 - statvst3mdc arc
 - county00 polygon
 - quads24k polygon



Display Source Selection

Data

- Cultural Resource Management Reports
 - Housed at the State Historic Preservation Office (SHPO)
- Private Collections
 - Individual Archaeologist Collections

Project Obstacles

- No standardization of survey reports

– Hand written

4 May 1982

Dear Mike:

The site is located on private property. I have not been to this cave and the information presented represents only that which the pot hunter, Bobby Quisenberry, has told to me. The cave is located approximately $\frac{3}{4}$ of the way up the bluff line on the west side of Rouldeux Creek. It was a dry cave with some wetness from ceiling drip near its mouth. It faces south. Quisenberry and others started working in the rear of the cave, dug to clay and/or bedrock, and worked across the cave from wall to wall. As they dug towards the mouth, they built cribbing out of roof fall and shovelled all their backdirt behind the cribbing. Quisenberry says that he has been digging there off and on for the past 19 years.

The pot hunters cleaned out the entire 15' of deposit from the back to the mouth except for 3 burials which, after being stripped of grave goods, were left in the cave. 90% of the collection, approximately 400 whole points and complete drills, etc, was

Project Obstacles

- Incomplete forms

REGION 9 CULTURAL RESOURCE INVENTORY FORM		<input type="checkbox"/> HISTORIC	<input checked="" type="checkbox"/> PREHISTORIC
1 FS SITE NO: 09-05-06-3 RIM: SITE NAME: TYPE OF SITE: village or camp DATE OR CULTURAL PERIOD:		2 STATE: Missouri COUNTY: Pulaski STATE SITE NO: 23PU3 MAP REF: Big Piney SEC. 6 T 34, R 10 /TRACT: UTM: ZONE: E: N:	
3 LOCATION DESCRIPTION: Below Miller Cave Site			
4 SITE DESCRIPTION: Flat plain 200ft. from spring, indicative of camp.			
5 OWNERSHIP: <input type="checkbox"/> FS <input checked="" type="checkbox"/> OTHER: Don Miller, Bloodland, Mo.		14 TOPOGRAPHY:	
6 INVESTIGATIONS AT SITE: TYPE YEAR BY SURVEY/RECON. TESTING EXCAVATION		LANDFORM/ELT: TYPE OF SOIL: NEAREST WATER: Miller Spring DISTANCE, BEARING: 200ft.	
7 REPORTS, REFERENCES:		VEGETATION IN VICINITY: VEGETATION ON SITE: ELEVATION: SLOPE: ASPECT:	
8 LOCATION OF COLLECTIONS: projectile points and pottery, Jack Miller (son of owner)		15 CONDITION OF SITE: ARCHAEOLOG: <input type="checkbox"/> UNDISTURBED <input type="checkbox"/> DISTURBED STRUCTURAL: <input type="checkbox"/> SOUND <input type="checkbox"/> DETERIORATED <input type="checkbox"/> COLLAPSED/RUINS SOURCE OF DISTURBANCE:	
9 OBSERVED/RECORDED CULTURAL DATA SURFACE FEATURES, ARTIFACTS: large number of points SUBSURFACE FEATURES, ARTIFACTS: AREA: DEPTH:		16 PRESENT LAND USE: 17 POTENTIAL IMPACTS: LOW MEDIUM HIGH VANDALISM FS ACTIVITY OTHER DETAILS:	
10 CLASSIFICATION: <input type="checkbox"/> CLASS I (ELIGIBLE) <input checked="" type="checkbox"/> CLASS II (UNEVALUATED) <input type="checkbox"/> CLASS III (NOT ELIGIBLE)		18 REMARKS/RECOMMENDATIONS:	
11 ON/NOMINATED: <input type="checkbox"/> NRHP <input type="checkbox"/> NHL <input type="checkbox"/> HABS <input type="checkbox"/> HAER			
12 RECORDED BY: Don Stephens Jr. (/ /) REVISED BY: (/ /)			
13 INVENTORY SOURCE: ASM files		19 ATTACHMENTS: <input type="checkbox"/> SITE LOCATION MAP <input checked="" type="checkbox"/> SKETCH MAP <input type="checkbox"/> PHOTOS <input type="checkbox"/> OTHER: MAP ON 23PU2	

FOREST MARK TYPED
DISTRICT ROLLIN
PLAN. UNIT
COMP.
SITE NO. 23PU3

Project Obstacles

- Variations

ARCHAEOLOGICAL SURVEY OF MISSOURI
SURVEY SHEET

Site Number 23 PL 160 Local Name or Number D-3 County Pulaski

I. Type of Indian remains (Mound, Village, Burial Ground, etc.) _____

II. Location: Contour Elev. 920-930
SW NW
NE NW Section 1 Township 37 N Range 11 W
U.S.G.S. Quadrangle Dixon 7.5' (1954) Other Map used Wastewater Treatment Project Map
Owner of Property Harold Copeland
Address of owner Dixon, MO
Cultural Affiliation _____
Nearest water: NAME McMakin Cr. Distance 500'
Right or left bank of stream (looking downstream) right Spring Nearby? How Far? _____
Size of Site 125 x 120 Meters 375' E-W x 120' N-S Feet/Acres _____

III. Site description
Lithic scatter on terrace about 500' north of McMakin Cr. Terrace elevation is about 5'; material is most visible along fence in cattle path, visibility in pasture about 5%.
Surface collection: flint, some utilized, 2 oblong scrapers, probably one a very nice site, now extensively collected. Land owner described "hired points" about 1 1/2" long - Woodland? No shovel testing permitted. Depth of deposits and disturbance unknown.
No obvious midden staining.

IV. Condition of Site. (If excavated - by whom, when, what was found, address of excavator, etc.)
Extreme disturbance, now in pasture. About 1965-1970 field was arched grazed with animal stand and track. Patrons and others collected the site extensively and land owner stopped them about 7 years ago. He doesn't have any collection himself from the site, or names of any of the collectors.

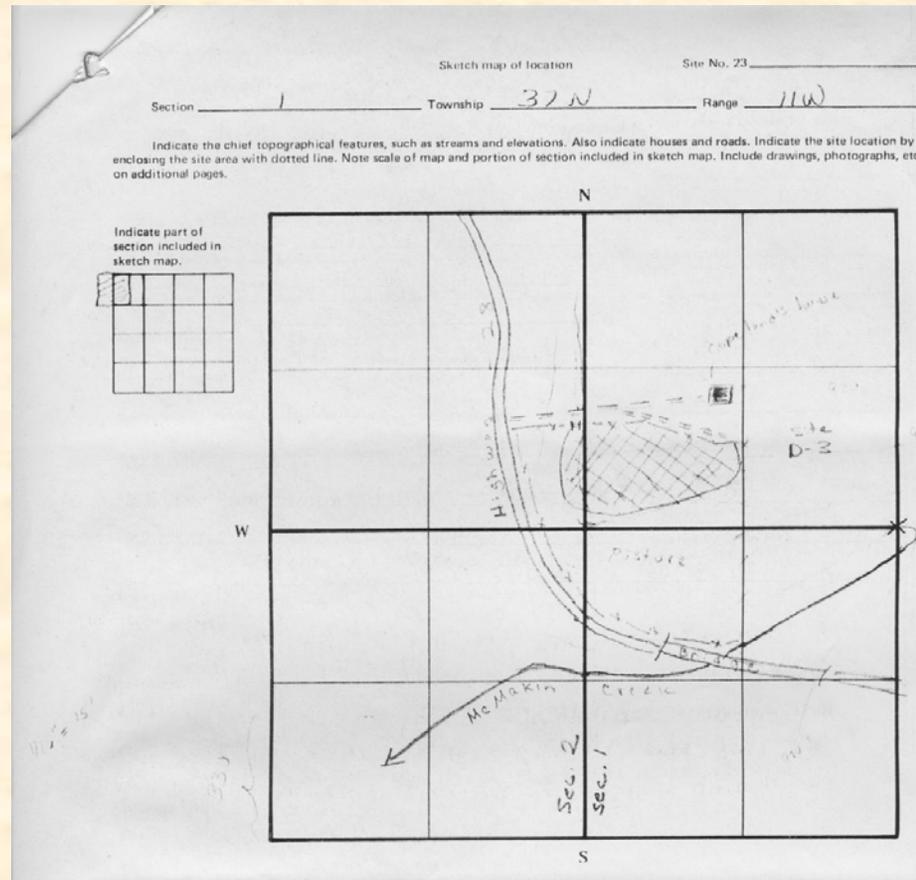
V. This information supplied by Suzanne Harris
Ck. Address 23 S. Taylor Idell
Date 10 April 1978

VI. Return this form when filled out to: Missouri Archaeological Society
15 Switzer Hall
University of Missouri
Columbia, Missouri 65201

Site No. 23
Section 1
Township 37 N
Range 11 W

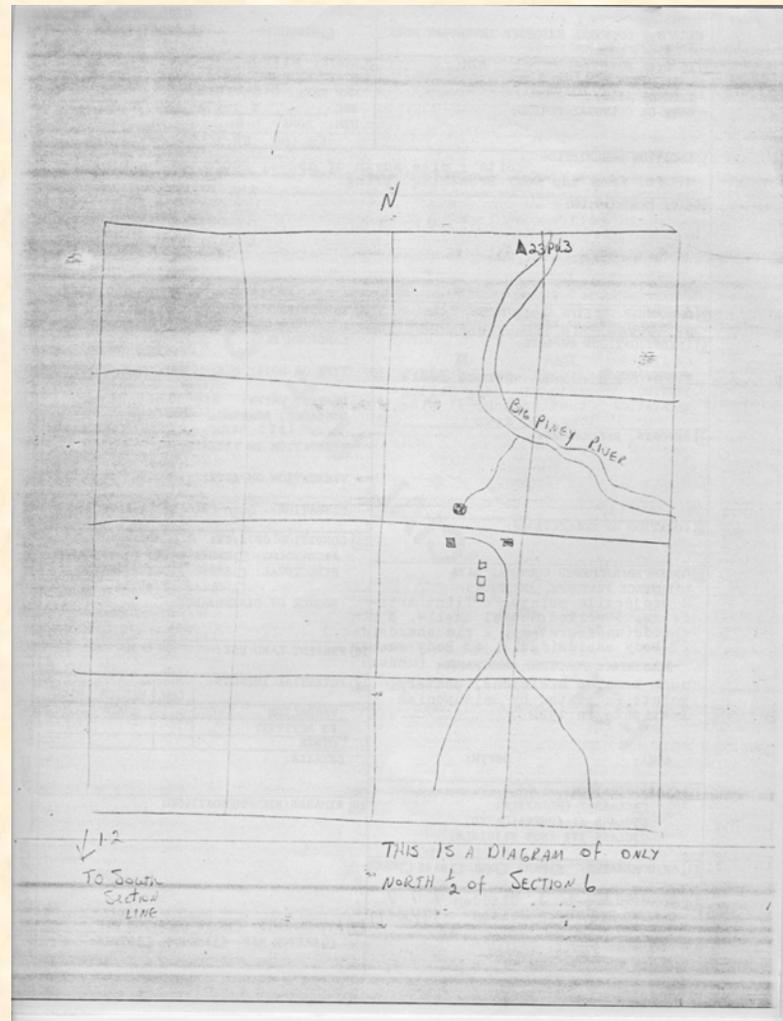
Project Obstacles

- Large amount of variation in the quality of the maps



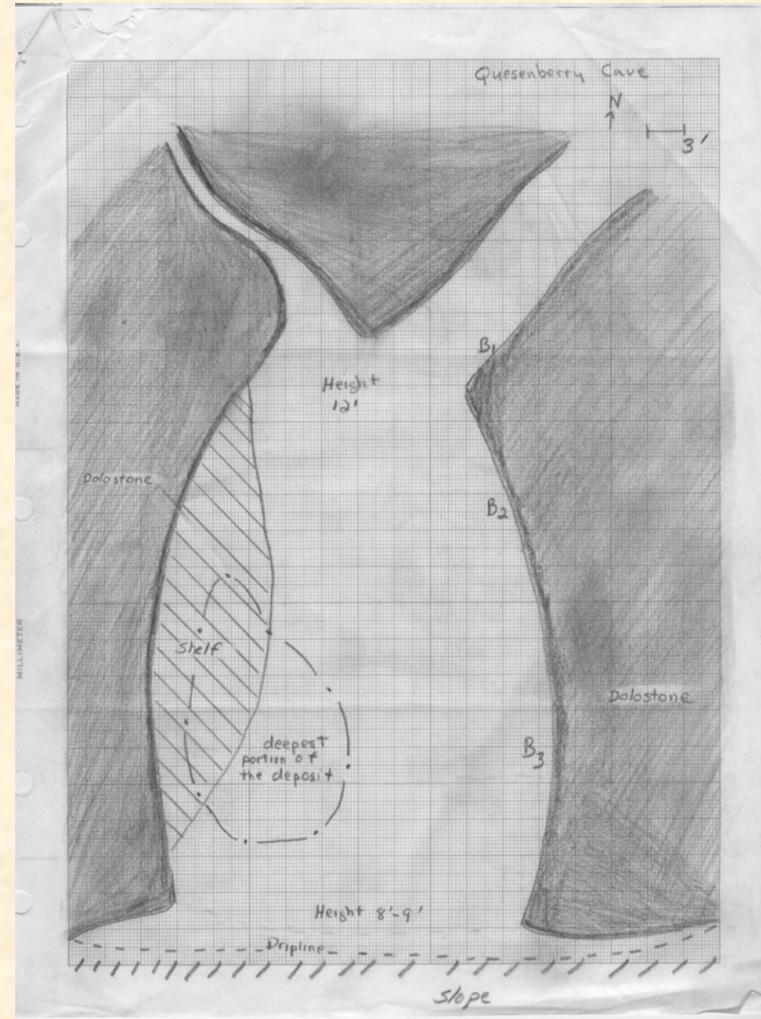
Project Obstacles

- Hand drawn map



Project Obstacles

- Hand drawn map



Progress

- Designed and implemented an SDE database for polygon capture
 - Over 18,000 surveys polygons
 - Over 20,300 site polygons

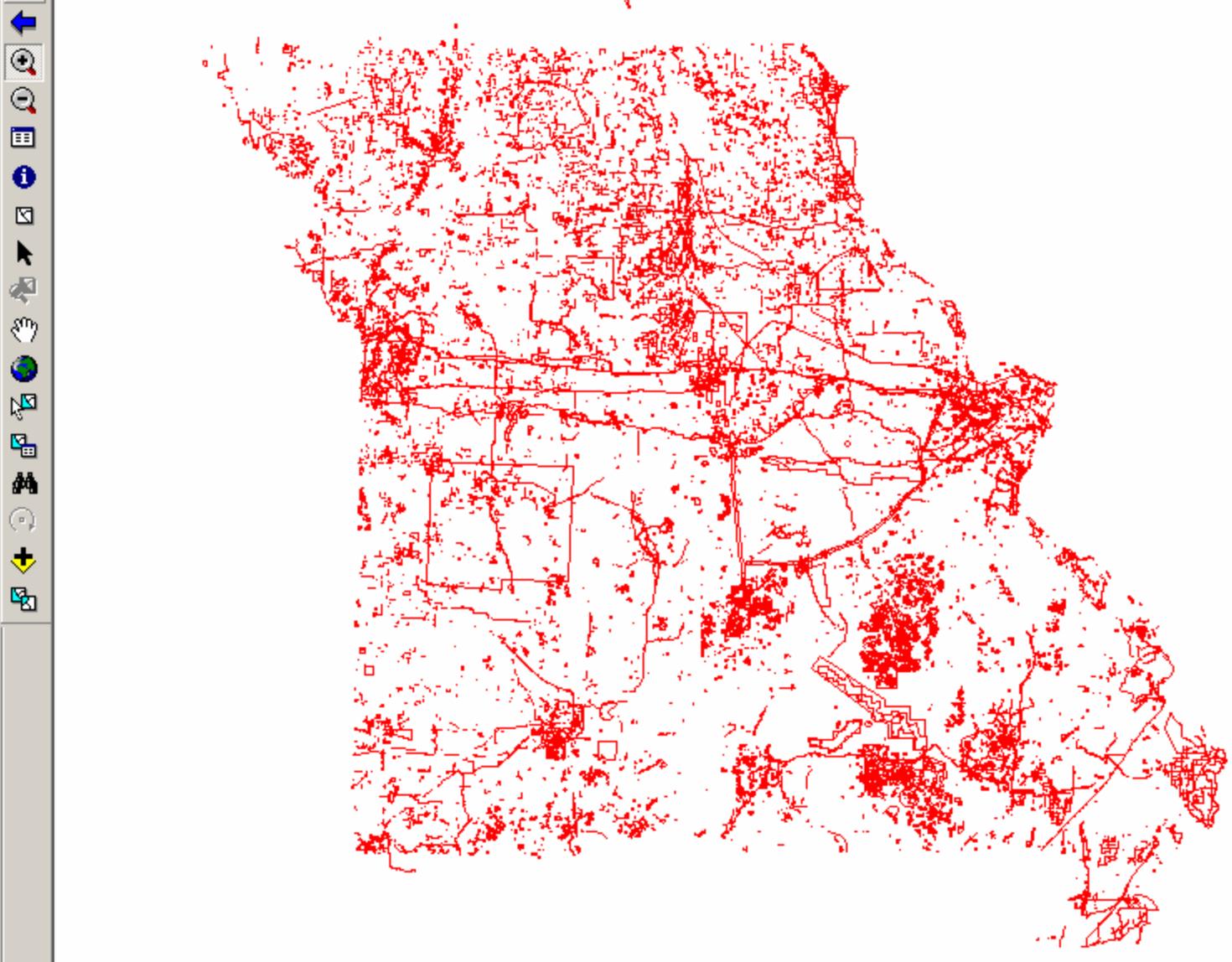
File Edit View Insert Selection Tools Window Help

Topology: [dropdown]

Editor [dropdown] 1:3,539,158 Task: Create New Feature Target: SurveyPolygons

[Navigation icons]

- Layers**
- SurveyPolygons
 - SitePolygons
 - mtnf_distrcs polygon
 - plss_mo83 polygon
 - statvst3mdc arc
 - county00 polygon
 - quads24k polygon



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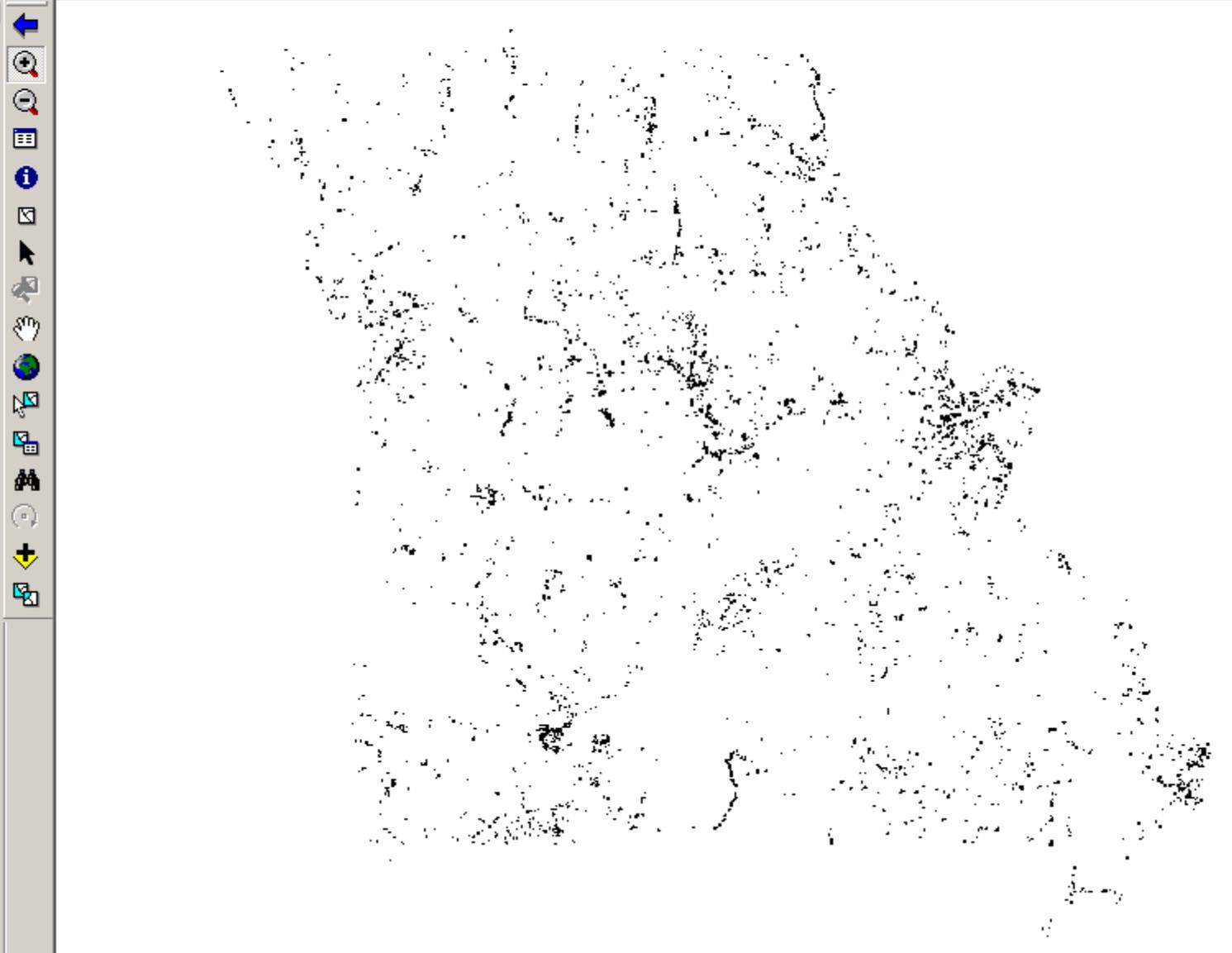
Topology: [Dropdown]

Editor: [Dropdown] 1:3,539,158 [Dropdown] Task: Create New Feature [Dropdown] Target: SurveyPolygons [Dropdown]

[Navigation and Editing Tools]

Layers

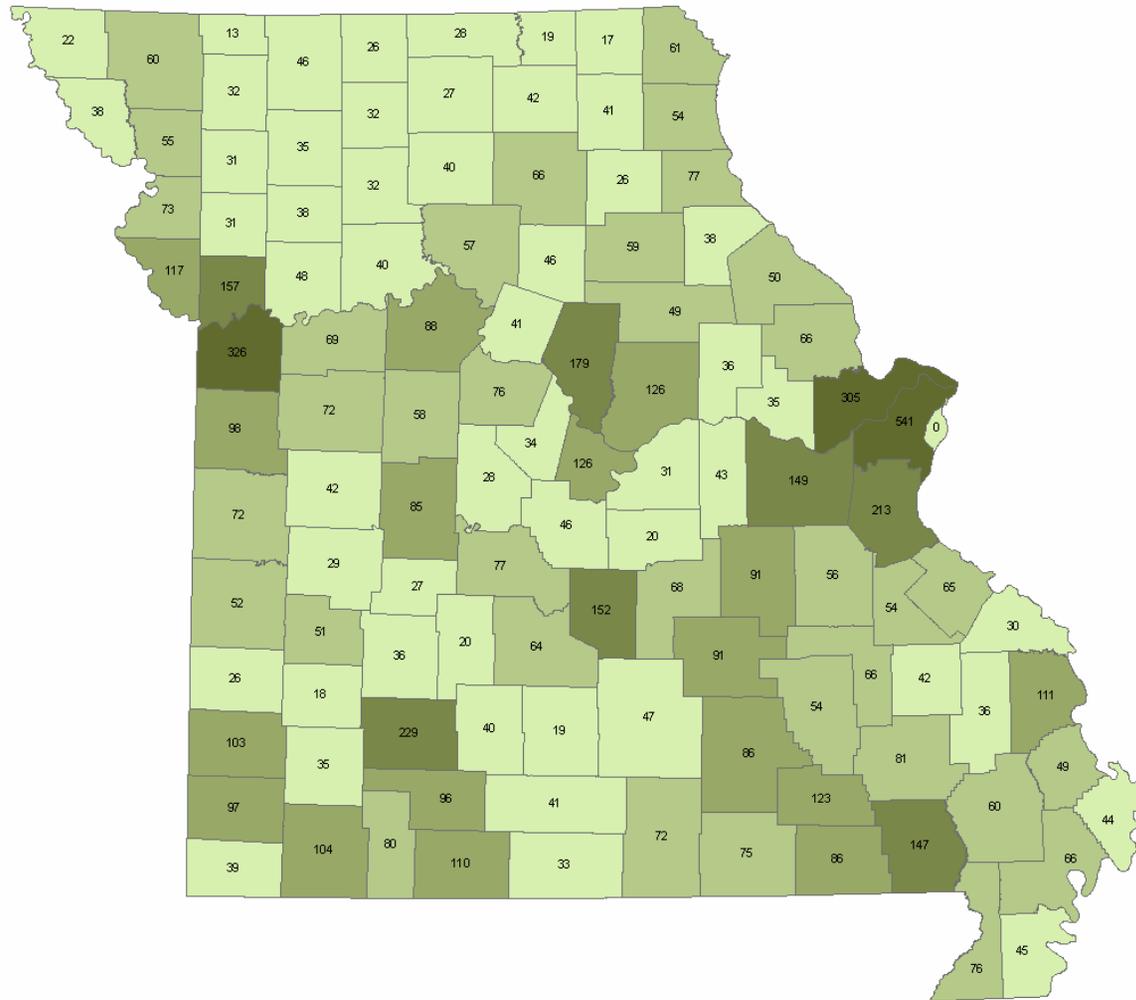
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Progress

- Currently survey & site data capture for 115 counties completed

Surveys - Current Counts



What's left to do

- Back log for last 2-4 years (2 boxes of sites, 100 boxes of surveys)
- Private Collection (11 boxes of sites)

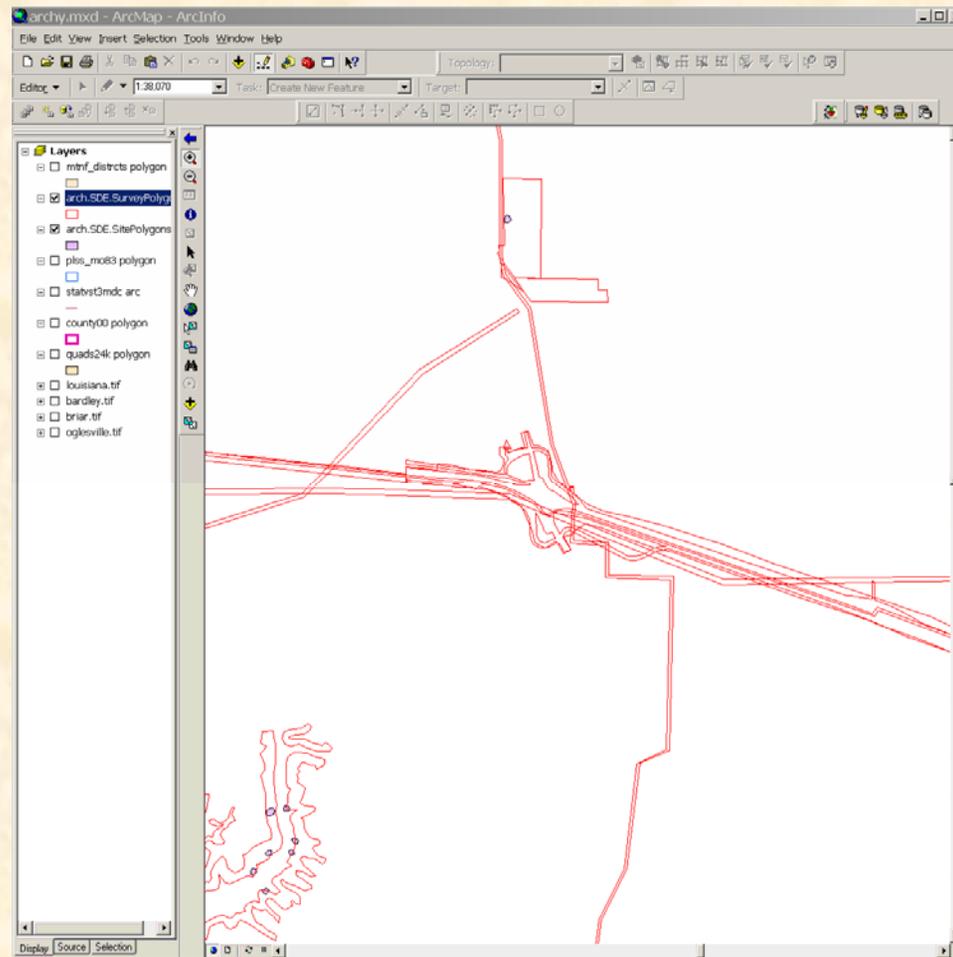
Why is this useful?

- More efficient use of time
 - Archaeologists will have the data at their fingertips; not searching files



Why is this useful?

- Fewer surveys conducted in an area



Usability

- From October – December 2006 used approx. 125 times by SHPO to retrieve data requested by patrons
- Currently being tested & updated by MoDOT & USFS

The Future

- Data Delivery Projected: July 2007
- Archaeological Predictive Modeling Project
 - Proximity to streams, water bodies & wetlands, etc.
 - Soil Types
 - Landform
 - Proximity of discovered sites

Involvement

- MoDOT
 - Bob Reeder
 - George Kopp
 - Alexis Gardner
 - Michael Meyer
 - Richard Rahe
 - Sue Olson
 - Pam Schmutzler
- DNR
 - Jeff Schloss
 - Kerry Nichols
 - Brant Vollman
 - Judith Deel
 - Amy Richards
- USFS
 - Kolleen Bean
 - Kris Swanson
 - Kristina Hill
 - Kathryn Turner
- MoRAP
 - David Diamond
 - Melissa Lanclos
 - Diane True
 - Mike Morey
 - Brad Harris
 - Taisia Gordon
 - Kathryn Riesenbergl
 - Dyanna Pursell
 - Tammy Martin
 - Dustin Hulting
 - Jackie Schneiderman
 - Jeff Pickels
 - Daniel Belshe
 - Dwayne Hemmer
 - Kim Traxler
 - Erin Eales
 - Lindsey Scherder

Questions or Comments...

- MoRAP
 - <http://www.cerc.usgs.gov/morap>
- SHPO
 - <http://www.dnr.state.mo.us/shpo>
- MoDOT
 - <http://www.modot.state.mo.us>

Thank you!!