

Lewis and Clark And The Corps of Discovery



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Presentation III
Wed, Jan 24, 2018

Sacagawea Revisited

SACAGAWEA

SACAGAWEA was as tenacious, competent, and resourceful as any other member of the Expedition.

SACAGAWEA was much respected by the Captains and is described in very favorable terms in the Journals.

SACAGAWEA's principal reason for joining the expedition was to be an interpreter to translate between Shoshoni and Hidatsa so the Expedition could have good relations with the Lemhi Shoshoni and trade for horses.

SACAGAWEA facilitated friendly relationships with tribes along the way by means of her and her baby's presence – indicating the Expedition was not a war party.

SACAGAWEA recognized her home country and was able to identify familiar landmarks. In essence, her input gave the Expedition confidence that they were following the correct route.

SACAGAWEA supported the mission of the Expedition by gathering plant foods and plant medicines. The plant food was a much-needed source of carbohydrates.

SACAGAWEA rendered general assistance to the Expedition in every way she possibly could.



Sacajawea Monument, Salmon, Idaho

Questions?

Western Indian Tribes

- **Mandan (Hidatsa)**
- **Blackfeet**
- **Nez Perce**
- **Shoshoni**
- **Salish (Flathead)**
- **Columbia River Tribes**

Surprises and Adventures

► **September 19, 1805 (Gass)** -- the road was excessively dangerous along this creek being a narrow rocky path generally on the side of steep precipice, from which in many places if either man or horse were precipitated they would inevitably be dashed in pieces. **Frazier's horse fell from this road in the evening, and roled with his load near a hundred yards into the Creek.** we all expected that the horse was killed but to our astonishment when the load was taken off him he arose to his feet & appeared to be but little injured, in 20 minutes he proceeded with his load. this was the most wonderfull escape I ever witnessed, the hill down which he roled was almost perpendicular and broken by large irregular and broken rocks. the course of this Creek upwards due W.

Surprises and Adventures (Cont.)

▶ June 18, 1806 (Lewis) -- we had not proceeded far this morning before **Potts cut his leg very badly with one of the large knives**; he cut one of the large veins on the inner side of the leg...

▶ **York was not a hero**, any more, nor any less, than any other member of the Expedition. York is mentioned or referenced 187 times in the Moulton edition of the Journals.

▶ **There is no evidence whatsoever, that Clark fathered a son with a Nez Perce woman.**

Surprises and Adventures (Cont.)

▶ September 21, 1805 -- At the Weippe Prairie, **the men were not starving and they were not 'saved' from starvation by the Nez Perce.** They were dying of complications of carbohydrate deficit disorder (The Atkins Diet). This condition creates rapid weight loss.

▶ In Early August, 1805, **George Shannon was thought to be 'lost' on the Big Hole River in Montana** while hunting. He was gone for several days but finally caught up with the Party. This was the second time he was 'lost.'

Surprises and Adventures (Cont.)

► July 27, 1806 (Lewis) -- This morning at day light the indians got up and crouded around the fire, J. Fields who was on post had carelessly laid his gun down behid him near where his brother was sleeping, **one of the indians the fellow to whom I had given the medal last evening sliped behind him and took his gun and that of his brothers unperceived by him, at the same instant two others advanced and seized the guns of Drewyer and myself J. Fields seing this turned about to look for his gun and saw the fellow just runing off with her and his brothers he called to his brother who instantly jumped up and pursued the indian with him whom they overtook at the distance of 50 or 60 paces from the camp sized their guns and rested them from him and R Fields as he seized his gun stabled the indian to the heart with his knife...**

Surprises and Adventures (Cont.)

► **October 9, 1805 (Toby and His Son on the Run)**

(Gass) -- Here our old Snake guide deserted and took his son with him. I suspect he was afraid of being cast away passing the rapids.

(Clark) -- Dark we were informed that our old guide & his Son had left us and had been Seen running up the river Several miles above, we Could not account for the Cause of his leaveing us at this time, without receiving his pay for the Services he had rendered us, or letting us know anything of his intention...we requested the Chief to Send a horseman after our old guide to come back and recive his pay &c. which he advised us not to do as his nation would take his things from him before he passed their camps

Conceptions and Misconceptions

- ▶ **The Louisiana Purchase was controversial for Jefferson, but it eventually was the prime reason the US stretched from the Missouri River to the Pacific Ocean. The grand sum paid for it was \$0.03 per acre.**
- ▶ **The burial practices of the Nez Perce are varied according to family group:**
 - ▶ **on a platform**
 - ▶ **in the ground**
 - ▶ **under a pile of rocks**
- ▶ **Jefferson's dream of a simple route and an easy portage was never realized**
- ▶ **The geography of the North American continent was not symmetrical, as believed in Jefferson's time. The Rockies were much more rugged.**

Questions?

Expedition Epilogue

Expedition Epilogue

- **Meriwether Lewis:** He became President Jefferson's confidant and governor of Upper Louisiana Territory. Financial difficulties and mental problems caused him to commit suicide while staying at an Inn on the Natchez Trace in Tennessee.
- **William Clark:** He became Superintendent of Indian Affairs and Territorial governor of Missouri Territory. He married twice; Julia Hancock (1808) and Harriet Kennerly Radford (1820). Clark raised Sacajawea's son, Jean Baptiste Charbonneau after her death and educated him in the best schools available and financed his 6-year education in Europe.

*** Talk about granddaddy issues**

Expedition Epilogue (cont.)

- **Jean Baptiste Charbonneau (Pompy)**: He was well educated and spoke Shoshoni, French, and English. He also learned German and Spanish during his six years in Europe from 1823 to 1829. As an adult, he was an adventurer, trying fur trapping and trading, hunting, mining, scouting in the Mexican-American War, etc. He died at Inskip Way-Station in Danner, Oregon in 1866.

- **York**: His later life has been obfuscated by an avalanche of literature that uses non-factual speculation on his fate and contains much modern political correctness about slavery. Some of us believe that Clark refused to free him for several years, but finally did and he went back to his wife and family.

* **Talk about granddaddy issues**

Expedition Epilogue (cont.)

Sacajawea: Ignoring all the non-factual literature about her life after the expedition, we are left with two fragments of information. On Sunday, December 20, 1812 John C. Luttig in the “Journal of a fur-trading expedition on the upper Missouri 1812-1813” wrote: “This evening the wife of Charbonneau, a Snake Squaw, died of a putrid fever she was a good and the best woman in the fort, aged abt. 25 years she left a fine infant girl (Lisette).” In his papers for the period 1825-1828, Clark compiled a list of the expedition members that includes a terse note, “Sacajawea Dead.”

According to this estimate of age, Sacajawea would have been born about 1787 and would have been about 18 when she started on the expedition in 1805. It is difficult to determine the accuracy of these estimates since Luttig’s knowledge of her age could have been inaccurate. Tribal people did not have an established custom on the concept on an ‘age.’ A July 30, 1805 Journal entry by Whitehouse states she was captured at Three Forks, 3-4 years earlier. This would make the dates of her capture as 1801-1802. She would have been 14 or 15 at the time of her capture (if Luttig’s estimate of her age is correct).

Expedition Epilogue (cont.)

John Colter, Army Private, hunter. Colter received additional fame in the famous story of “Colter’s Run,” and his exploits in Yellowstone Park, nicknamed ‘Colter’s Hell.’

- **Patrick Gass**, Army Sergeant, journal keeper, carpenter. Gass was the first expedition member to publish his journal. He far outlived the other members and died at age 98. It has been reported that, At the age of sixty he married Maria Hamilton, aged 20 (he could not be elected to today’s US Senate). She bore 7 children (6 surviving to adulthood) over the remaining 15 years of her life.

Clark's Cash Book (1825 - 1828)

From: The Indianization of Lewis and Clark By William R. Swagerty 2012 (page 693).
The following is a table of names with the data from Clark's Cash Book. A photocopy of the page is included after the table. This is 20 years after the expedition.

Meriwether Lewis **Dead**

John Ordway **Dead**

Charles Floyd **Dead**

Patrick Gass **Illegible**

Nathaniel Pryor **at Fort illegible**

Toussaint Charbonneau **Illegible**

William E. Bratton **Ohio**

John Collins **Dead**

John Colter **Dead**

Pierre Cruzatte **Killed**

George Drouillard (Drewyer), **Killed**

Joseph Fields **Dead**

Reuben Fields **Illegible**

Robert Frazier **Illegible**

George Gibson **Dead**

Silas Goodrich **Dead**

Thomas Proctor Howard **Illegible**

Francois (William) Labiche **Illegible**

Jean Baptiste Lepage **Dead**

Hugh McNeal **Dead**

John Potts **Killed**

Sacajawea **Dead**

George Shannon **Kentucky**

John Shields **Dead**

John B. Thompson **Illegible**

Peter M. Weiser **Killed**

William Werner **Illegible**

Joseph Whitehouse **Illegible**

Alexander Hamilton Willard **Illegible**

Richard Windsor **Illinois**

*This document is extremely difficult to read, and I could find no transcription on the internet, so I attempted one myself. Please accept my apologies for any errors.

Clark's
Cash Book
Inside Cover

Capt. Lewis Dead
 Odoway Dead
 N. Pryor . . . at Fort Smith
 R^d Winderen . . . on Saingamal. Ill
 J. Manner . . . Perry low the
 Ch. Field . . . was Lowville
 W. Bratten . . . was Green. Ohio
 J. Labiche . . . T. Louis
 R. Jackson . . . a Gasconade
 Ch. Floyd Dead
 P. Gage Dead
 A. Collins do
 J. Collier do
 P. Crezale Killed
 J. Fields do
 J. Goodrich Dead
 J. Gibson Dead
 J. P. Howard
 H. Holt
 H. McNair dead
 J. Shields do
 J. Potter Killed
 J. De Kaye dead
 J. Thomson Killed
 W. Williams do
 P. Miller Killed
 J. Shelton
 J. Wapintore
 J. C. Lewis

A. C. Willard
 Geo. Druant Killed
 Louis Charton. Mob
 Sa. curja wa. ca. Dead
 Tourate. Char. ca. in
 Wertenburg. by

The Indianization of Lewis and Clark By William R. Swagerty 2012 (page 693)

Surprises and Adventures

Two of the most often recorded phrases in the journals are:

“We proceeded on”

“Mosquitoes Troublesome”

Questions?

Photos, Photos, Photos, etc.

Last surviving plaque put along the trail by Jack Harlan, 1935





Home away from Home

Camping & Hiking Alone





Camping at Lost Lakes Trailhead 2009

Sunrise

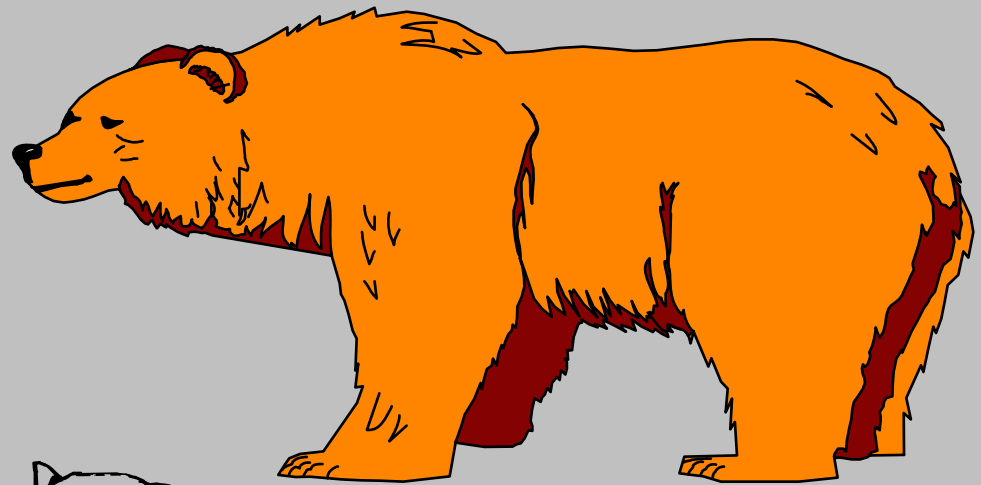


Camping & Hiking Alone

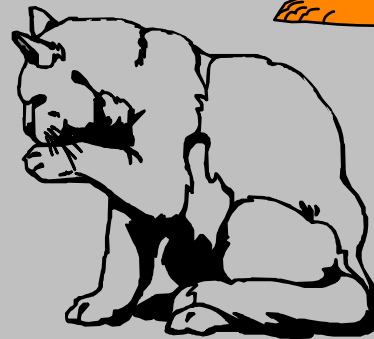
Was that a growl
I heard?



Steve



Hungry Bear



Mountain Lion
(Cougar)



Pussycat

Land of the Nez Perce



Ancient Rock Cairns



Rock Cairn on the Lewis and Clark Trail 2001

Westbound Across the Bitterroots

*“the most terrible mountains
I ever beheld”*

Sargent Patrick Gass,
a member of the Corps of Discovery,
September 16, 1805



100 Miles of Solitude

No power lines

No cell phone towers

No Wi-Fi

No lights at night but the Stars

Fire on the Landscape



Questions?



Copyright (c) 1997 Steve F. Russell

Old 1976 Ford Pickup
at Horseshoe Lake Lookout





**Lewis and Clark Trail
at
“Tipped Rock”**



**Lewis and Clark Trail
at
Spring Mountain**



Indian Paintbrush

Castilleja septentrionalis

Figwort Family (Scrophulariaceae)



Beargrass
Xerophyllum tenax (Pursh) Nutt.



Bitterroot (*Lewisia rediviva*)



Mountain Coneflower
(*Rudbeckia occidentalis* Nutt.)



Huckleberry *Vaccinium (membranaceum or ovatum or deliciosum or globular)*

Lewis – The Naturalist



Western Pileated Woodpecker

*Dryocopus pileatus
picinus (Bangs)*

“Making Friends”



**Chipmunk
(Rodentia Sciuridae)**



**Dangerous Chipmunk Tarantula
(*Rodentia iocus*)**

“Making Friends”



A Fellow Traveler
Musselshell Meadows



Nez Perce lodges at Packer Meadows – Traditional Camping Grounds



1st Nez Perce Trail Ride – 1990



Hiking Down the Salmon River, Idaho



Ordway Route



Ancient Nez Perce Trail

1988



Ancient Nez Perce Trail



The Northern Nez Perces Trail 2003

Questions?



**Hungary Creek
Looking Westward**

Critters and More Critters

Critters and More Critters



Black Bear
(Ursus americanus)

Critters and More Critters (cont.)



Cinnamon Bear
(*Ursus americanus cinnamomum*)

Critters and More Critters (cont.)



**Cougar
or
Mountain Lion
(Puma concolor)**

Critters and More Critters (cont.)



Wolves
(*Canis lupus occidentalis*)

Critters and More Critters (cont.)



National Geographic

Coyotes
(Canis latrans)

Critters and More Critters (cont.)



“Junior”

**Moose
(Alces alces)**



ELK
(*Cervus canadensis*)



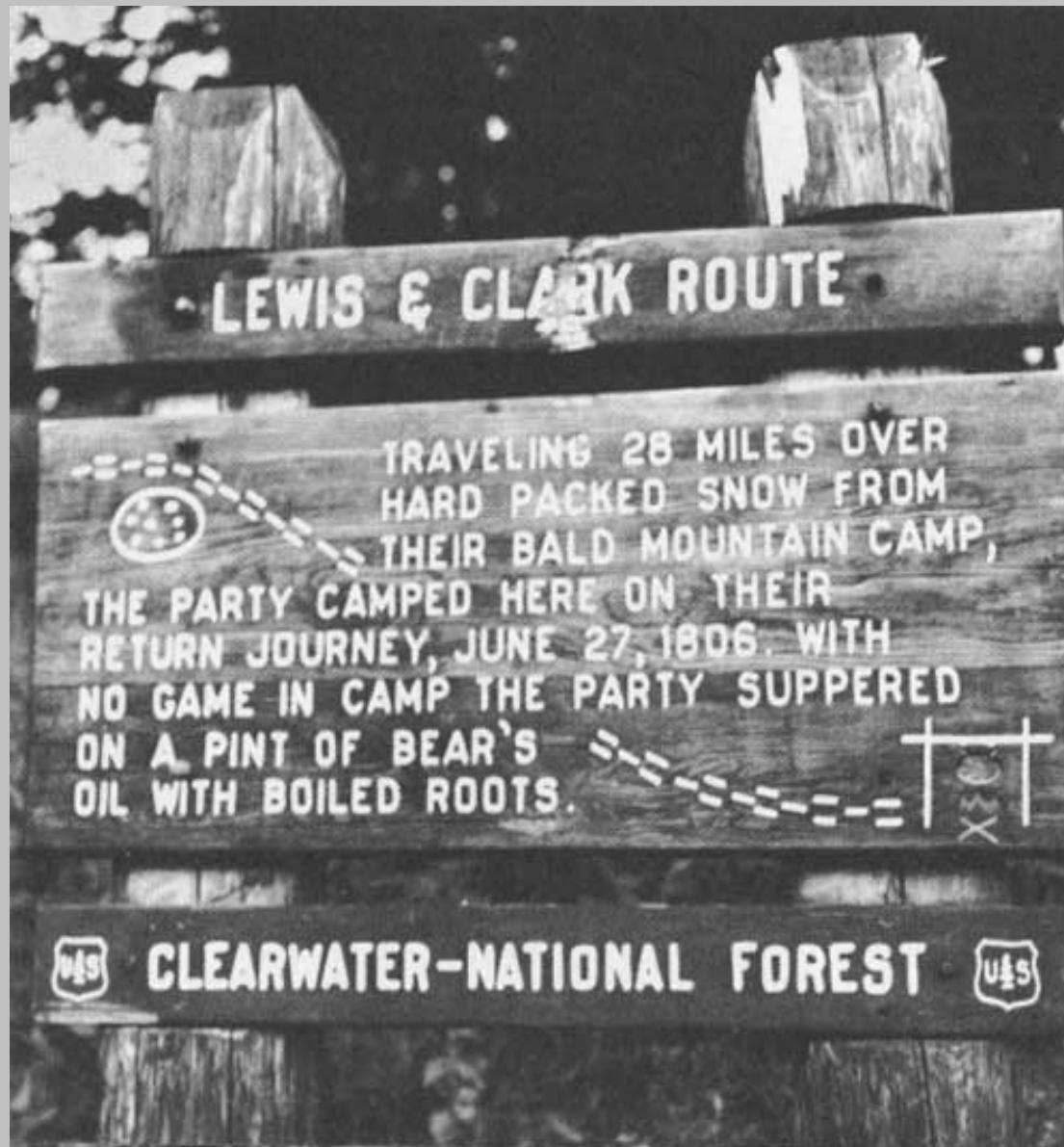
The rugged Bitterroot Mountains



Indian Grave on the Lewis and Clark Trail, 1895



Lolo Trail, Clearwater County, Idaho, 1989



Bald Mountain, Clearwater County Idaho, 1965



*1801 Jefferson
Presidential Medal
found by
Washington State
Archeologists in
July, 1964 when
relocating an old
Indian graveyard at
the mouth of the
Palouse River.*





Trade beads found at a Nez Perce burial site, 1965

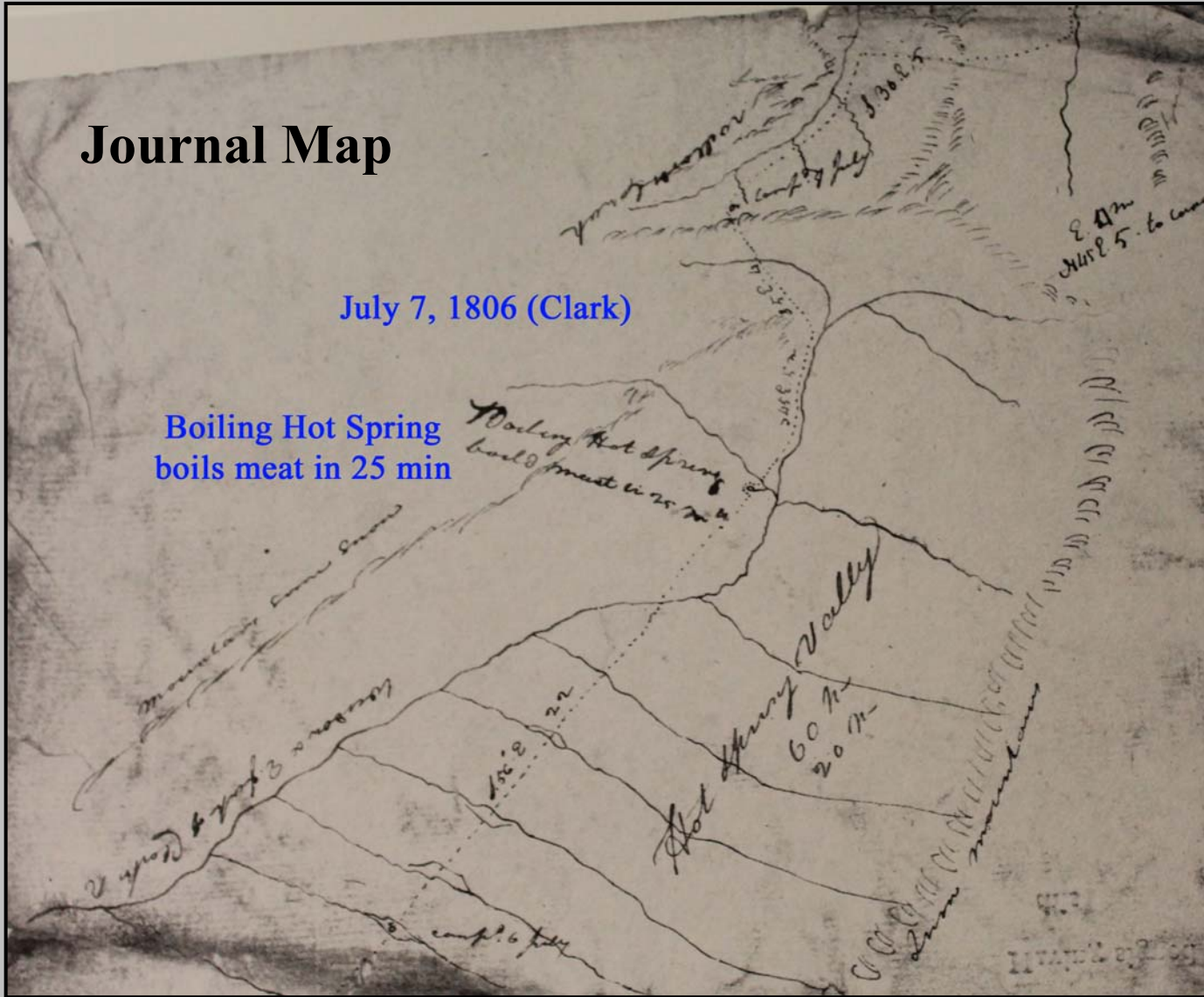
Rest in Peace



Journal Map

July 7, 1806 (Clark)

Boiling Hot Spring
boils meat in 25 min



Hot Spring Valley (Big Hole, Montana)

Boiling Hot Spring (Jardine Hot Springs, Jackson, MT)



Jackson Hot Springs Lodge ca1958
William Clark 1806



Jackson
Hot Spring
Lodge

Questions?

Hiking the Lewis and Clark Trail

August 11, 2009

Video



**Linwood Laughy , Dick Southern, Steve F. Russell
Hungry Creek 2012**



Singue Hole, Lolo Trail, Idaho



LOLO SUMMIT

THE LEWIS AND CLARK PARTY CROSSED THIS PASS SEPT. 13, 1805, WESTBOUND FOR THE PACIFIC AFTER A LONG DETOUR TO THE SOUTH.

From the headwaters of the Missouri they had crossed the mountains to the Salmon. Finding that river impassable, they traded for packhorses, hired an Indian guide, and came north to an Indian trail across the mountains here. Tired and ill-fed, the men were to have a hard struggle in early snow along the steep ridges which the trail followed for most of its 125 mile course west to the Clearwater River.

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Lewis and Clark Trail Friends and Colleagues

Horace Axtel

Nez Perce Elder



Horace Axtel & Steve F. Russell
Trail Ride, Lolo Trail, Idaho, 1992

Friends and Colleagues



Horace Axtel, Nez Perce Tribal Elder, 1996



Horace Axtel & Steve F. Russell, Lewiston, Idaho, 2009

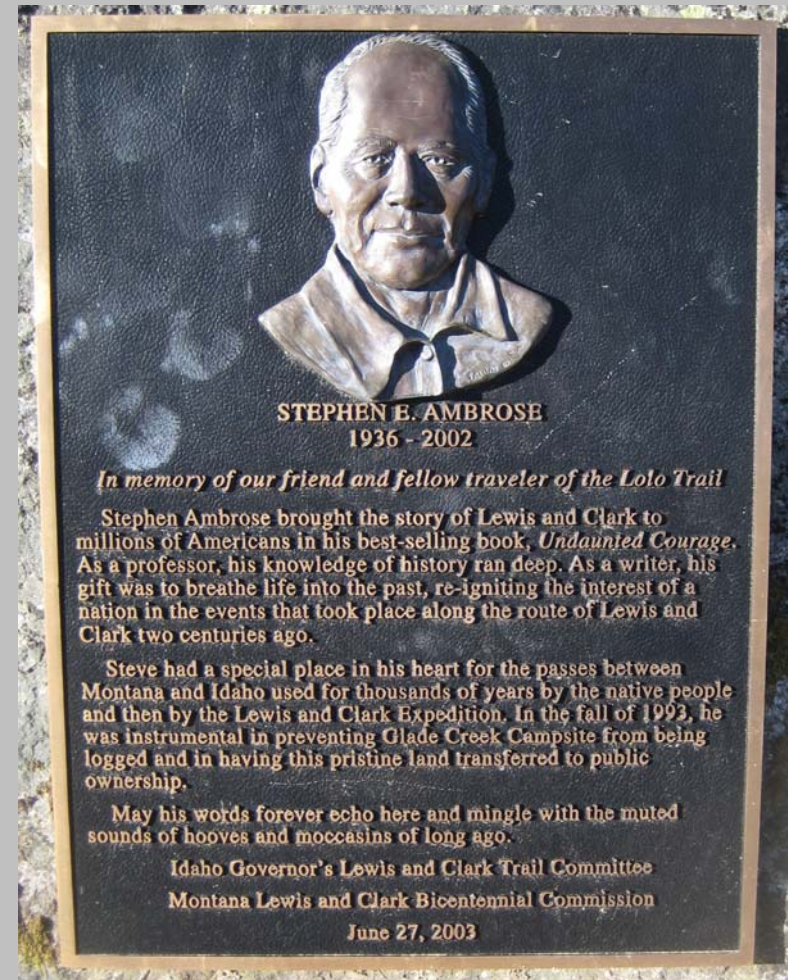


Nez Perce National Historic Trail Foundation Officers, 1997
Charlie Moses (VP), Steve F. Russell (Prez), Dan Gard (Sec)



Lochsa Lodge, Idaho, Lewis and Clark Trail Meeting 1997
William “Bud” Moore & Steve F. Russell

Lolo Pass Visitor
Center Dedication 2003
William “Bud” Moore
& Steve F. Russell





Salmon River
“River of No Return”
Whitewater Rafting
Chuck Boyd (Owner)
& Steve F. Russell
2002



Clearwater River, Idaho
Tom Geouge (USFS) & Steve F. Russell



Graduate Class for Lewis and Clark Trail in Idaho, 1999
Steve F. Russell, Instructor and Guide



Graduate Class for Lewis and Clark Trail in Idaho, 1999
Larry Jones doing “bunny ears” on Jim Ronda

Rebecca Russell on The Lewis and Clark Trail



Outfitting in Lewis and Clark Country



Lewis and Clark among the Indians



2002

James P. Ronda

James P. Ronda is H. G. Barnard Professor of Western American History at the University of Tulsa and past president of the Western History Association. Ronda is the author of many books, including Lewis and Clark Among the Indians, Beyond Lewis and Clark, and Jefferson's West.

*For Steve -
who has done so much to bring the
Trail alive, and keep it alive.
You are Trail finder, and Trail keeper*

James P. Ronda *With enduring
admiration and respect,*

*Jim Ronda
July, 1999*

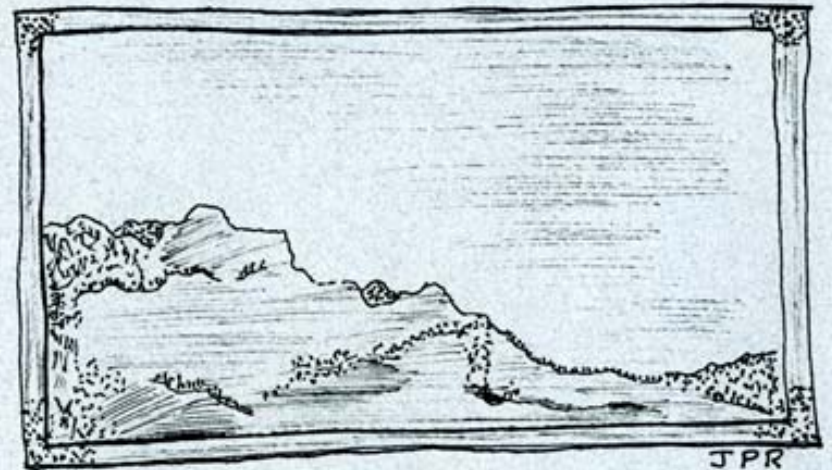
Lewis and Clark among the Indians



**JIM
RONDA**

HAPPY BIRTHDAY

Becca
→



JPR
1999

Big Sky Big MOUNTAIN'S
Big COUNTRY

July 31, 1999



Photo by Steve F. Russell

2017

Memorials

- *John A. K. Barker – River rat and the Snake River, hiking buddy, owner of Barker River Trips
- *Tony Varilone – Expert on Soda Springs geysers
- *Joe Mussulman – (1928-2017) Lewis and Clark scholar and creator of the best website on Lewis and Clark
- *Ralph Space – Located Lewis and Clark campsites on the Clearwater National Forest, family friend
- *Bud Moore – Forest ranger and forest fire expert, family friend and author of book of information on the Lochsa River country
- *Lucylle H. Evans – Author, historian, and St. Mary's Mission founder and director at Stevensville, Montana
- *John W. McClintic – (1912-2006) Lewis and Clark enthusiast and owner of the land where the Sep 4, 1805 campsite is located

*Deceased

Memorials (cont.)

- *Horace Axtel – Friend and Advisor on Lewis and Clark and the Nez Perce Indians
- Dick Southern – Fellow trail hiker and logistics support
- *Robert E. Anderson – Cousin and fellow trail traveler.
- *Harlan and Barb Opdahl – Outfitters and historians for the Lewis and Clark Trail in Idaho
- *Viola B. Anglin (1919-2016) – Postmaster and historian for the Lemhi Valley, Idaho
- Matt Battani – 2002 Survey assistant, Lewis and Clark Lolo Trail Precision Survey
- Theo Petersen – 2001 Survey assistant, Lewis and Clark Lolo Trail Precision Survey

Memorials (cont.)

- Larry Jones – Retired Idaho State Historian, succeed Merle Wells
- *Claude Judd – Retired Idaho State Representative, lives on the Lewis and Clark Trail west of Weippe, Idaho. Family friend.
- Lyle & Shelley Kuther – Supporters of my Lewis and Clark Trail research, Craigmont, Idaho
- Mike Venso – Photojournalist and co-author
- *Merle Wells – State Historian of Idaho and an expert in northwest history
- Del White – Friend and Nez Perce Tribal member

Questions?

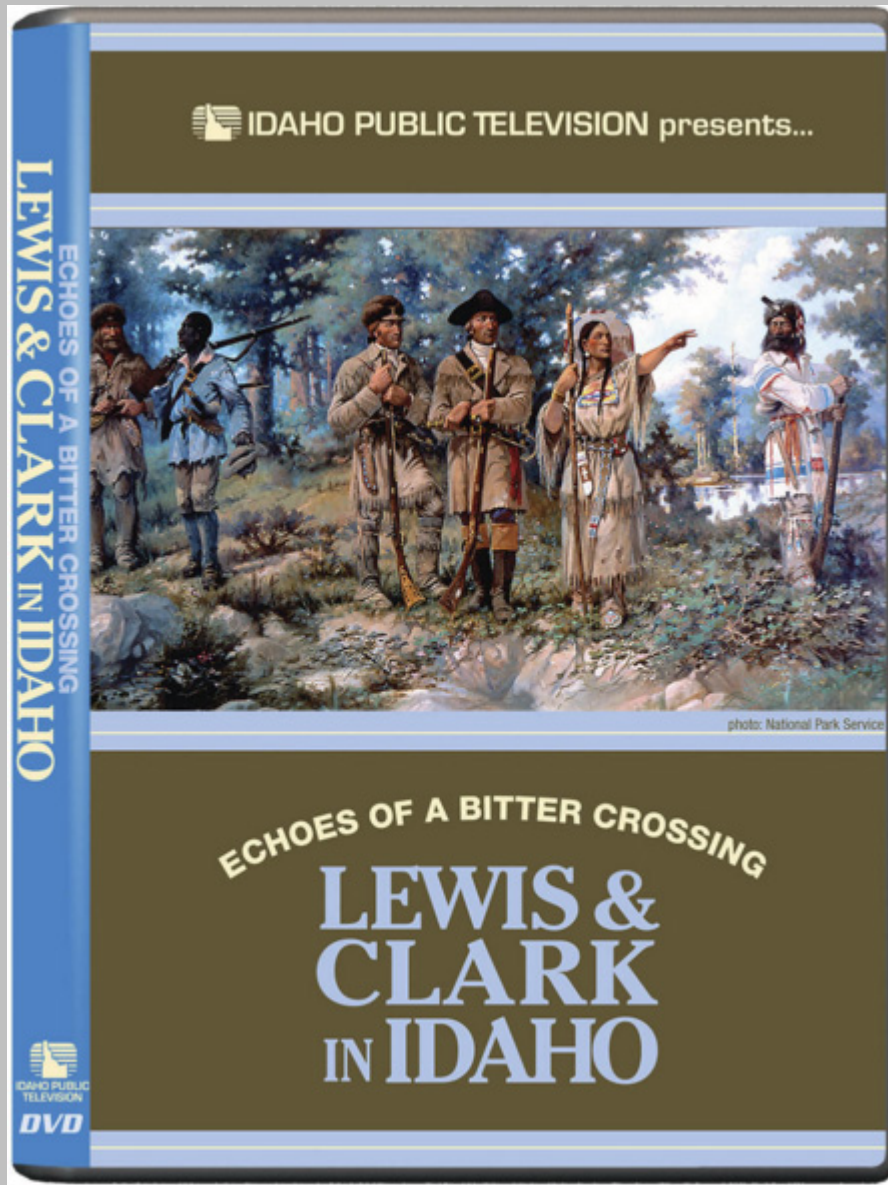
Lewis and Clark and The Corps of Discovery

**My Personal Research on the Overland
Portions of the Trail**

Steve F. Russell

Selected Presentations

- **1995 National Annual Meeting, Lewis and Clark Heritage Foundation, Missoula, Montana.**
- **1999 Lewis and Clark Workshop, Lewis-Clark State College, Lewiston Idaho.**
- **2003 Central Iowa Section, Institute of Electrical and Electronic Engineers, Ames, Iowa.**
- **2003 Ames Women's Club, Ames, Iowa.**
- **2004 Museum of the Rockies, Bozeman Montana.**
- **2005 North Carolina GIS Conference, Winston-Salem, NC.**
- **2006 Society of Women Engineers, Iowa State University, Ames, Iowa.**
- **2007 Golden K Kiwanis, Ames, Iowa**
- **2008 Cedar Rapids Community School District, Middle School, Cedar Rapids, Iowa**
- **2011 PEO, Ames, Iowa**
- **2011 Gilbert 6th Grade, Gilbert Iowa**



National Broadcasts Regional Emmy 1999

Cort Conley
Alan Pinkham
Norm Steadman
Chuck Raddon
Steve F. Russell
Rebecca Russell

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Site Graphic Designer -- Stephanie Dickey
Additional Writers -- Susan Stacy & Lori Joyce



Echoes of a Bitter Crossing

A Campfire Discussion

For our television program on Lewis and Clark in Idaho, we gathered five experts around a campfire in the Bitterroot Mountains, to discuss the epic journey of The Corps of Discovery.

The section of trail through the Bitterroots, known as the Lolo Trail, is considered by many to have been the most difficult part of their entire journey.



Joining us were Steve Russell, a professor of Electrical Engineering at Iowa State University, who grew up in the Bitterroots, and who is the co-author of *Across the Snowy Ranges: The Lewis and Clark Expedition in Idaho and Western Montana*... Chuck Raddon, a Forest Service recreation specialist whose job it has been to interpret the Lewis and Clark experience... Norm Steadman, mayor of Weippe, where the Expedition first met the Nez Perce people... Cort Conley, author of several books on Idaho... and Alan Pinkham, a Nez Perce tribal leader.

We asked them three general questions.

What Do You Think Is The Biggest Misconception About The Lewis & Clark Trail Through Idaho?

"What Lewis and Clark followed definitely was not a 'trail', yet this misconception pops up in all kinds of things."
-- **Chuck Raddon**



Chuck Raddon, Recreation Specialist, Clearwater National Forest

My perception of the biggest misconception is the name itself, the Lewis and Clark "Trail." Most people think of a trail as a route, usually a couple feet wide that's dug across an area. What Lewis and Clark followed definitely was not a trail. Yet this misconception pops up in all kinds of things, where people say I want to follow the Lewis and Clark trail. What they followed really isn't available anymore. We have trails that are pretty close to the same location, but not the Trail.

"It was a definite route...but they by no means pioneered a trail or invented the trail themselves."
-- **Steve Russell**



Steve Russell, Professor of Electrical Engineering

I think the big misconception is that Lewis and Clark "made" a trail, that there was an actual trail that they made through the forest when they were traveling. Of course that wasn't true; at least in this area they were following the Nez Perce trail. So it was a definite route, well traveled by horses that they were following, but they by no means pioneered a trail or invented the trail themselves.

"They were probably at the weakest point they ever were when they hit the Weippe prairie. They were basically dead."
-- **Norm Steadman**



Norm Steadman, Mayor of Weippe, Idaho

I think they followed the route of least resistance at the time, and the most definite one particular trail of the day. Perhaps the Nez Perce had come back across from a buffalo hunt or something, and that was the most definite route of the day.

"They call it the Corps of Discovery. What did they discover? We were here first, so what could they discover?"
-- **Alan Pinkham**



Alan Pinkham, Nez Perce Tribal leader

It sounds like this trail came into existence when these two guys by the name of Lewis and Clark came over... the trail is actually the northern trail of the Nez Perce. They would travel from here to the plains states. That's the route we took. That's the northern route. We also had a southern route... so there's two trails. There's two ways we went to get to the plains. Sometimes the trail varied; it wasn't always exactly in the same spot and the same tread, even though it did come up the sharp ridge line; that was the only place you could walk or ride horses ... so there was specific tread, but sometimes the trail itself varied a bit.

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IDAHO PUBLIC TELEVISION An Engineer Tracks the Trail


Home Echoes of Bitter Crossing Journey of Sasagawa Crossing the Centuries Moments in Time Among the Tribes




[Echoes Home](#)
[Historian Gary Moulton](#)
[A Native American Perspective](#)
[Dugout Canoes on the Clearwater](#)
[A Campfire Discussion](#)
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Lewis and Clark Across the Mountains

An Engineer Tracks the Trail

This site is the work of [Steve Russell](#), a retired Electrical Engineering professor at Iowa State University, who grew up in the Bitterroots, and who is the co-author of *Across the Snowy Ranges: The Lewis and Clark Expedition in Idaho and Western Montana...*



 <p>Introduction</p>  <p>This is a large-scale map of the trail. Click on any circle to learn about that region.</p> <p>Lolo Trail Map</p>	<p>Join the Corps of Discovery as they traverse the Lolo Trail in 1805</p> <ul style="list-style-type: none"> • Travel back in time 200 years. • View the difficult mountain ranges as the explorers saw them. • Map their actual path across the Bitter Root Mountains. • See the actual trail traveled by the expedition. • Visit some of their campsites. • Experience their desperation to get through the mountains. <p>Read the introduction by clicking on the scroll to the left or immediately begin the journey by clicking on the map.</p>
 <p>Self Discovery Experience</p>	<p>Read about Historic Preservation</p> <p>Touring the Route of Lewis and Clark</p>

[Credits](#)

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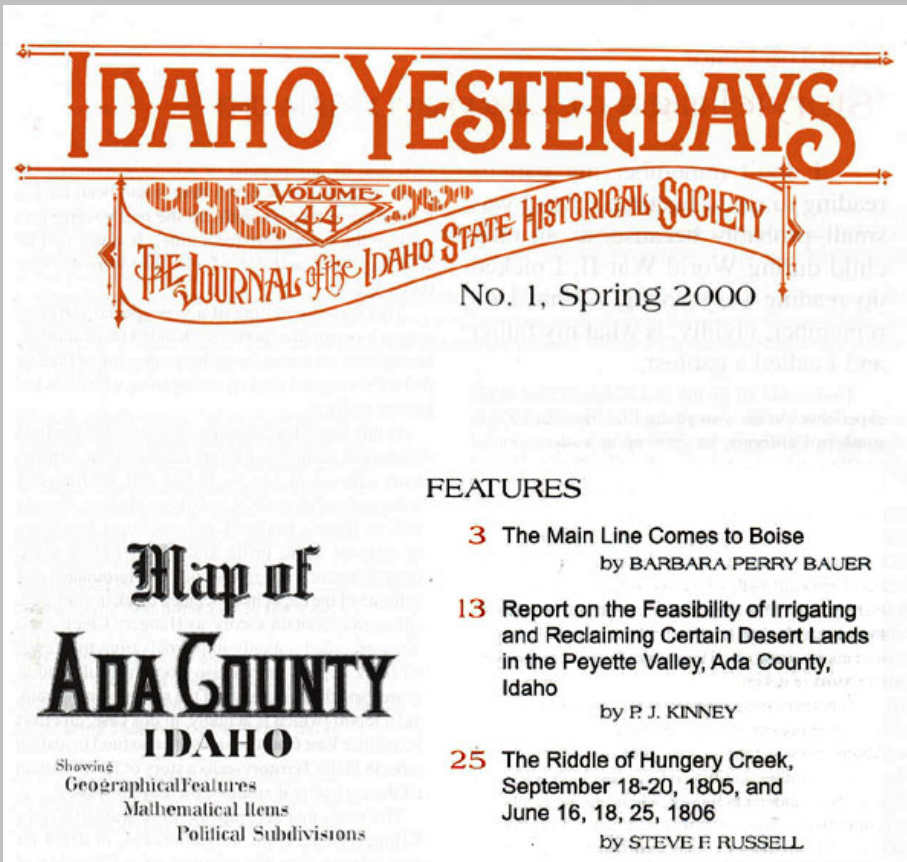
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Steve F. Russell Site Contributor And Developer 1998

Winner of a bronze medal at the
 National Educational
 Telecommunications Association,
 New York City, 1999

Journals



On the Trail of Lewis and Clark

THE RIDDLE OF HUNGERY CREEK

SEPTEMBER 18-20, 1805,
AND JUNE 16, 18, 25, 1806

by Steve F. Russell

Fascination with the route and camping places of Lewis and Clark has remained strong for more than 100 years. With the approaching bicentennial of the Corps of Discovery, this interest is only intensifying. What is more, increasing numbers of people are interested in following the route themselves—not always a wise idea, as is certainly the case with the area described here.

This is the first in a series of articles that Steve Russell is preparing on his research of the route and camping sites as the Corps of Discovery crossed the mountains from the Missouri River basin to the Columbia River basin. Their passage through Hungery Creek and Fish Creek took them across what is now the Clearwater National Forest of north-central Idaho. They came through the area four times, once in 1805 and three times in 1806. The documentation of their various journals leaves us with a wealth of clues as to the route they followed, although William Clark's maps for this area are of limited value because of their topographic distortion.

The author, who was born in Lewiston, is an electrical engineer on the faculty of Iowa State University. His work on this project has grown as he has been more and more intrigued by the landscape crossed by the Corps—the campsites, the tread of prehistoric and historic trails, and the often very difficult terrain. His bibliography appears at the end of the article.

History of the Area The Nez Perce

Before they obtained the horse, the Nez Perce used foot trails to travel to important camping areas and family sites in the mountains, but these trails were probably very limited. After they began using horses for travel, things were different: frequent and relatively easy travel over a wide area became possible. Of the numerous Nez Perce horse trails, four were significant for this research.

The first was the southern branch of the Nez Perce trail followed by Lewis and Clark through Hungery, Fish, and Eldorado Creeks. The second was a trail that went from upper Hungery Creek over Austin Ridge and down to Lolo Forks and then on to Musselshell Meadows. The third was the northern branch of the Nez Perce trail that went over Snowy Summit. The fourth route was the old Pete King Trail that went from the Lochsa River northward along the ridges to the Lolo Trail at Pete Forks Junction. It is highly probable that this trail had its origins in an ancient Nez Perce trail which connected villages on the upper Clearwater River with the Lolo Trail. In fact, it was probably the main link that connected the trails at the junction of the Lochsa and Selway Rivers with the Lolo Trail. For this article, the key part of the Pete King Trail is the segment that

went north and south through Fish Creek Meadows. Most of this trail has been abandoned, and the lower elevations of the trail have been significantly impacted by logging activities. The upper trail was incorporated into the fire-suppression trail system by the Forest Service.

The northern branch, which went over Snowy Summit, is the easiest route of the Lolo Trail System to follow into the Weippe Prairie. It is this route that George B. Nicholson chose for the Lewiston and Virginia City wagon road survey in 1866 and the route over which the Bird-Truax Trail would be constructed.¹ Why Lewis and Clark followed the southern branch through such rugged country when a much easier route (Snowy Summit) was available is still puzzling. My opinion is that the Hungery Creek route was used in early spring and late fall (an early-late route) when Snowy Summit was buried in deep snow. Another possibility is that this route was the one pointed out to unknown strangers entering the land of the Nez Perce.²

Olin D. Wheeler's explorations, undertaken in observance of the Corps of Discovery's centennial, led him to choose the route from Hungery Creek to Austin Ridge and then down to Lolo Forks. This was no doubt a good Nez Perce trail in his time, but the route does not match the journal descriptions or courses and distances.³

Symposium Presentations

Welcome to a preview of the Lewis and Clark Symposium Presenters:

Joe Mussulman (L&C Trail, L&C Music)



Dr. Joseph Mussulman, featured speaker, noted teacher, humanist, and author, has gained a nationwide reputation as a serious student of the Lewis and Clark expedition. He has written several articles and created maps of the expedition's route for several books, including *Along the Trail with Lewis and Clark*. He is also the producer and principal writer for the encyclopedic web site, *Discovering Lewis & Clark* (www.lewis-clark.org), which currently exceeds 1,300 pages. Dr. Mussulman will present the program, "Filling in the Zeros: Space, Pace, and Place on the Lewis & Clark Trail" on June 20, and "Men in High Spirits: Humor on the Lewis & Clark Trail" on June 21. Dr. Mussulman will also be performing music of the time of Lewis & Clark – In Greatest Harmony: "Medicine Songs" on the Lewis & Clark Trail at Brackenbury Square on Main St., Lewiston, Idaho.

Ron Craig (York)



Ron Craig, filmmaker-author, has made a one-hour documentary on "Who was York?" York was the only African-American member of the 1803-06 Corp of Discovery's expedition to the Northwest. Ron will present his program on June 20 entitled, "Who was York? A New Look at the Lewis and Clark Expedition."

Ken Karsmizki (Archeology, Great Falls, Fort Clatsop)



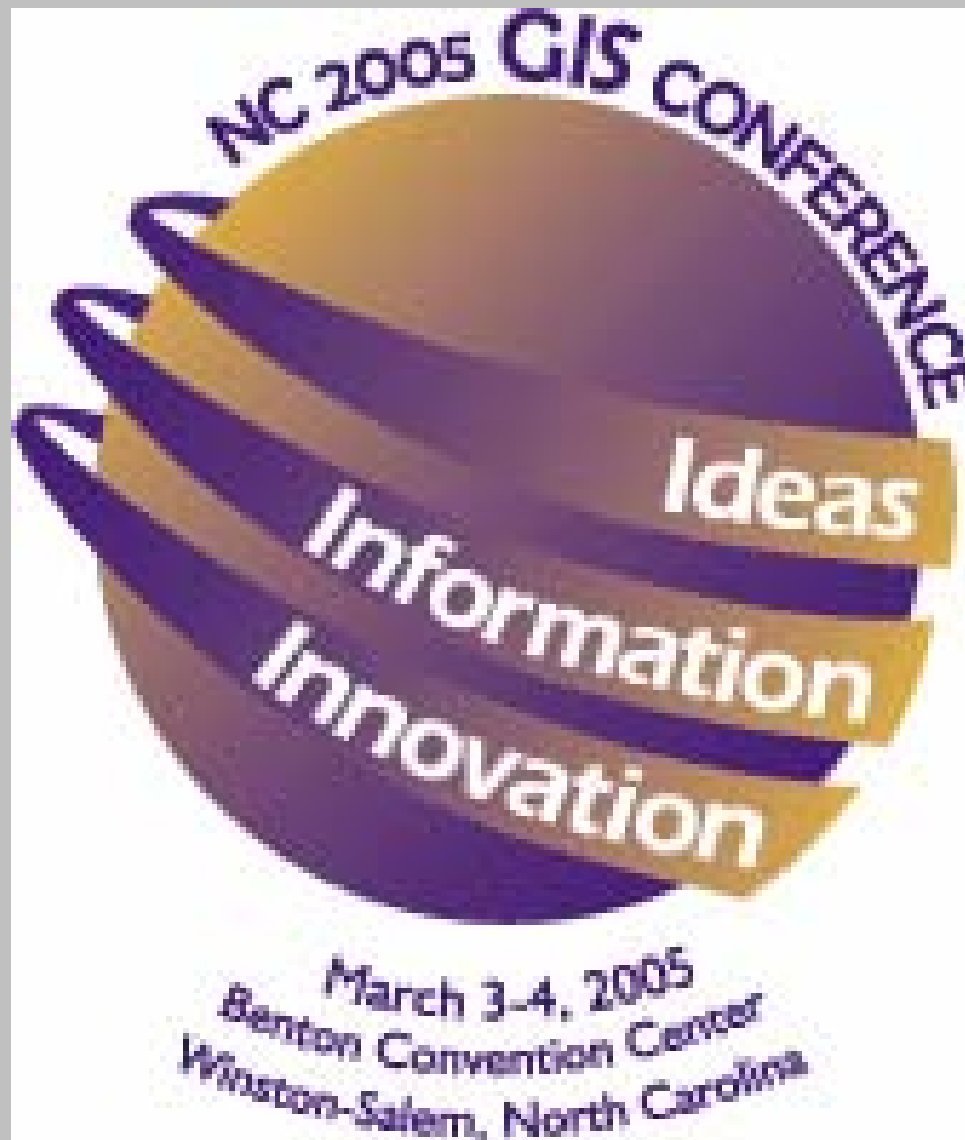
Ken Karsmizki, noted archeologist, works with NASA combining airborne and satellite imagery with historic maps and Lewis & Clark journals to locate sites along the trail. On June 21, Ken will discuss the use of satellite remote sensing equipment in location and analysis of Lewis and Clark campsites.

Steve Russell (Ordway, Tour Guide, Panelist)



Steve Russell, Associate Professor, Iowa State University, has researched the historic trails of the Lolo Trail corridor. His methods include the study of old maps, early aerial photos, pioneer survey notes, National Archive records and the journals of the expedition of Lewis and Clark. On June 21, Steve will present his program entitled, "Ordway's Salmon Fishing Excursion," and participate in a panel discussion of the study on the trail. He will also be involved in a book signing event at the Lewis-Clark Center for Arts and History on June 21. Steve will provide participants with historical overviews and interpretations on the bus tour to the Salmon Trout Camp

Invited Speaker

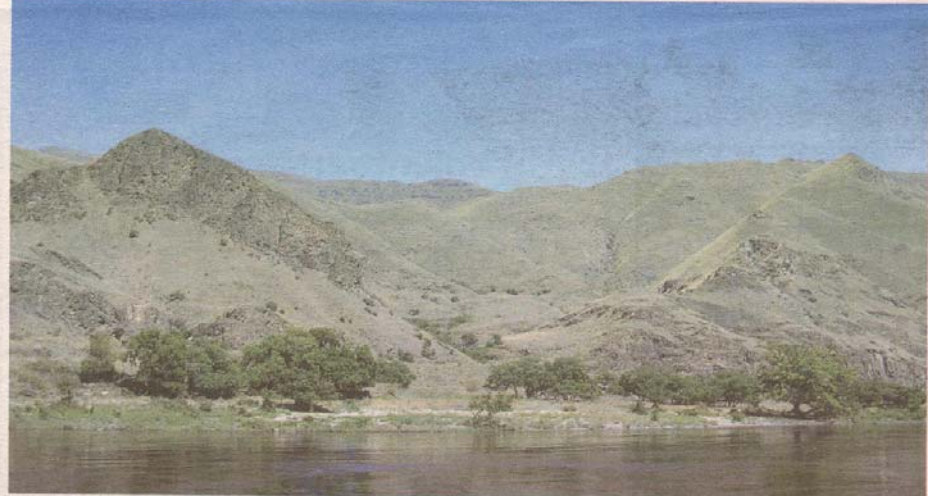


“The Latest News”

Lewis & Clark Expedition Site Discovery

- Discovered in 2000
- Archaeologist surveys in 2006 & 2007
- Eligible for **National Historic Landmark status**

6 – THE MEAGHER COUNTY NEWS Thursday, July 26, 2007



THE VIEW from the Snake River looking northeast toward Cougar Rapids Bar shows where Steve Russell spotted the site of an Native American longhouse near Lewiston, Idaho.

Steve Russell Locates Lewis and Clark Expedition Site

Archaeologists believe they have found the Nez Perce Indian village where three members of the Lewis and Clark expedition spent two nights and one day on an ill-fated fishing expedition.

In the spring of 1806, while expedition members were camped along the Clearwater River waiting for mountain snows to melt, Sgt. Ordway was dispatched to fetch salmon from the nearby Salmon River. Historians have speculated over the route that Ordway and Pvts. Robert Frazer and Peter Weise took. But until recently, historians didn't know exactly where the men descended into the lower Salmon River gorge and Hells Canyon or precisely

Cottonwood Creek. From there, he says, they dropped down to Big Cougar Bar.

The topography there matches that described by Ordway in his journal. When Russell flew over the site a few years ago he noticed some depressions on a bench above the bar. He figured that is where the longhouse, also described by Ordway, stood.

This year the archaeologists, led by Ken Reid of the State Historical Preservation Office at Boise, conducted a dig there. They uncovered clues that a longhouse did stand at the site and it was there in the right time frame to match the Ordway trip.

"The dimensions match what

Service.

None of the artifacts can be directly linked to Ordway. But Reid points out Ordway and his men only spent two nights and one day there. And during this part of their cross-country journey the men were wearing pants and shirts made of buck skin.

"There were no uniform pieces or buttons to lose," he said.

Before Reid and his colleagues unearthed a single scoop of dirt the historians used high-tech equipment to map the small bench where they believed the longhouse once stood. The map allowed them to surgically excavate the site while leaving most of it undisturbed.

Zig-Zag Searching for the Trail

It takes a large amount of searching all around to find the trail tread

A bear has been inspecting this old log in search of insects



Precision Survey of the Lewis and Clark Route on the Lolo Trail 2001-2002

Steve F. Russell (Trail, Survey)

Theo Peterson (Survey)

Matt Battani (Survey)

Sam Wormley (GPS)

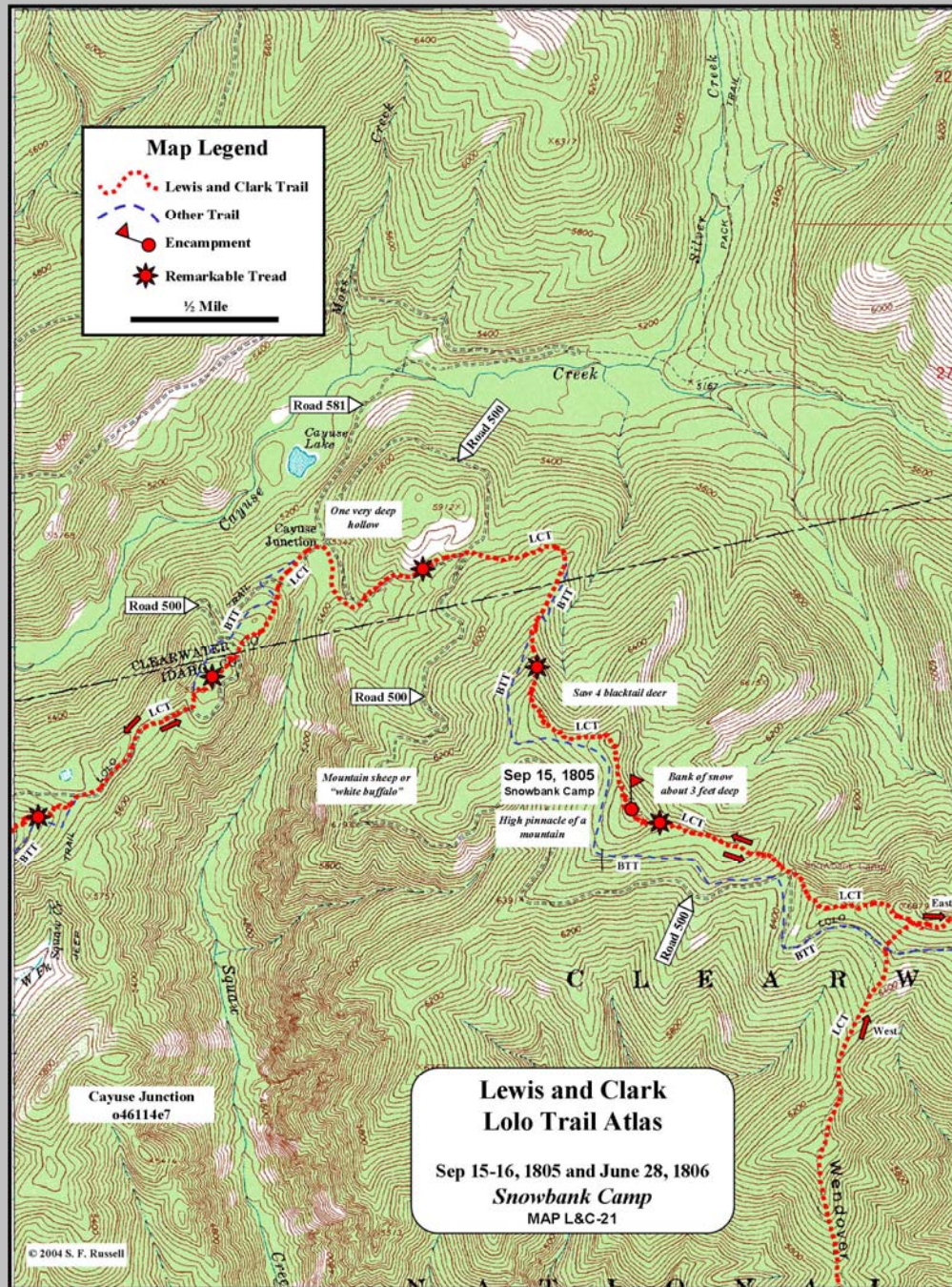
Precision Survey in Cone Flowers and Stinging Nettles

“Are we having fun yet”

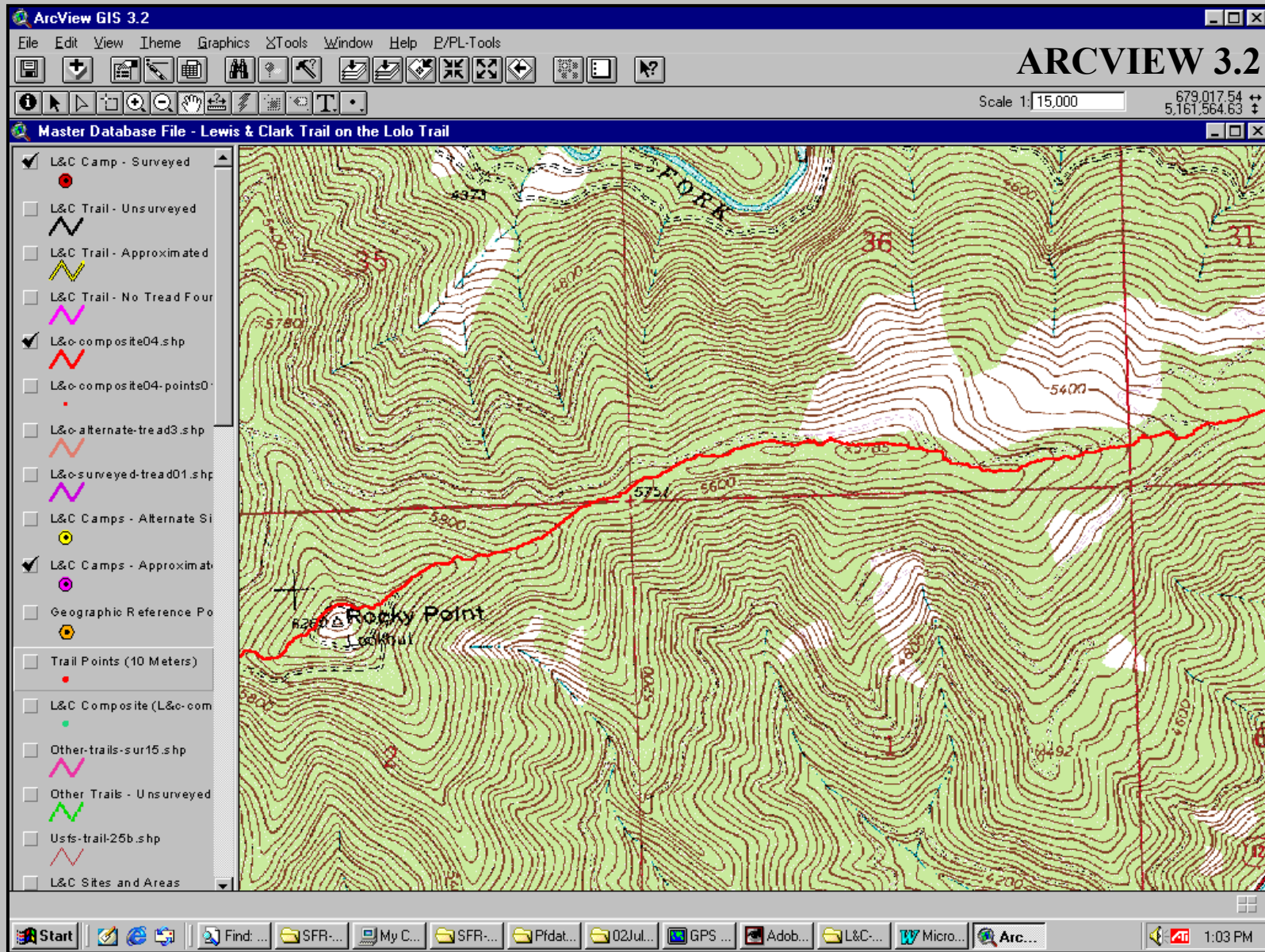


Matt Battani

Research Methodology



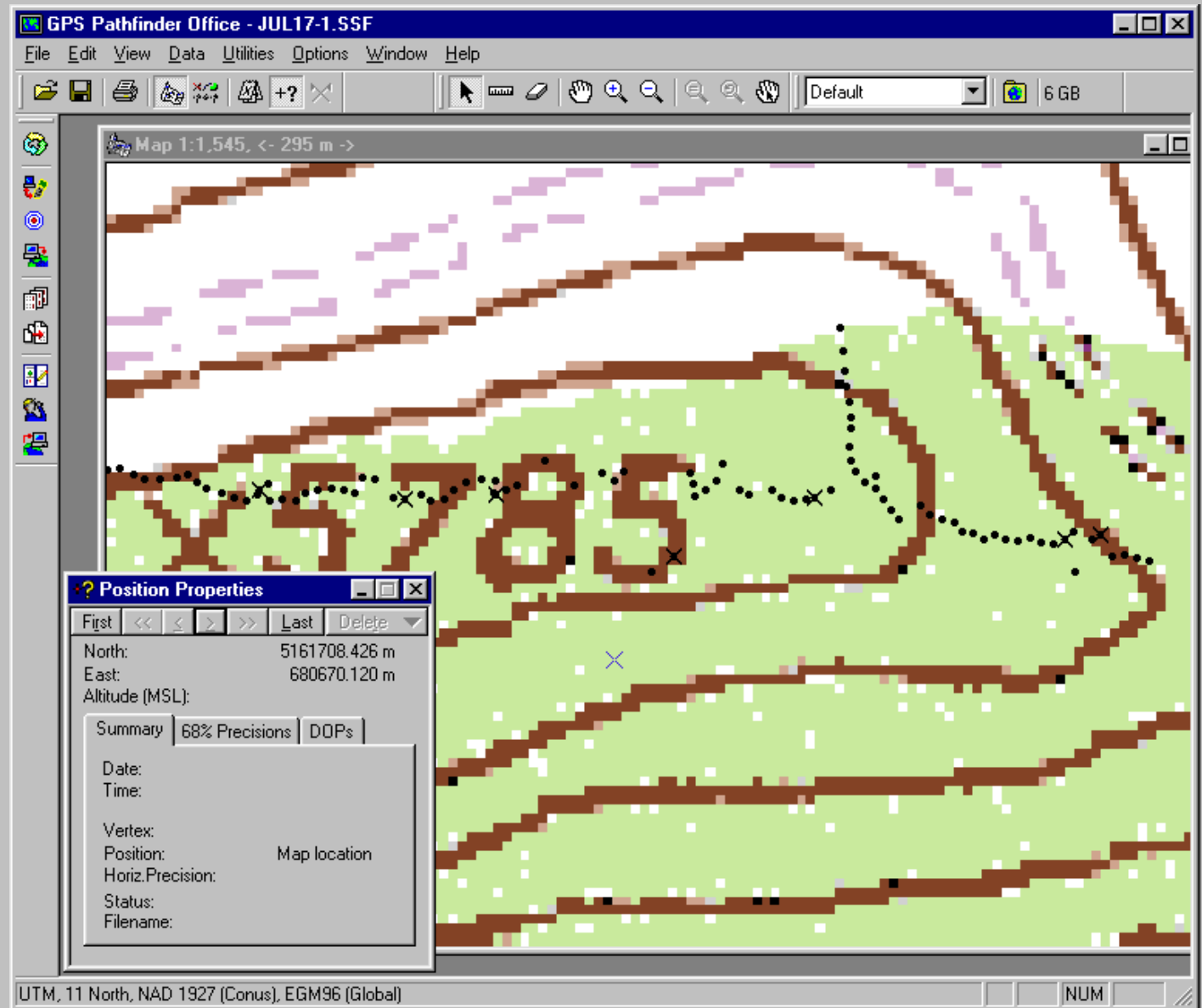
Computer Map Generation



Screen Shot of Pathfinder Map and data

Initial Raw Survey Data with Topo Map

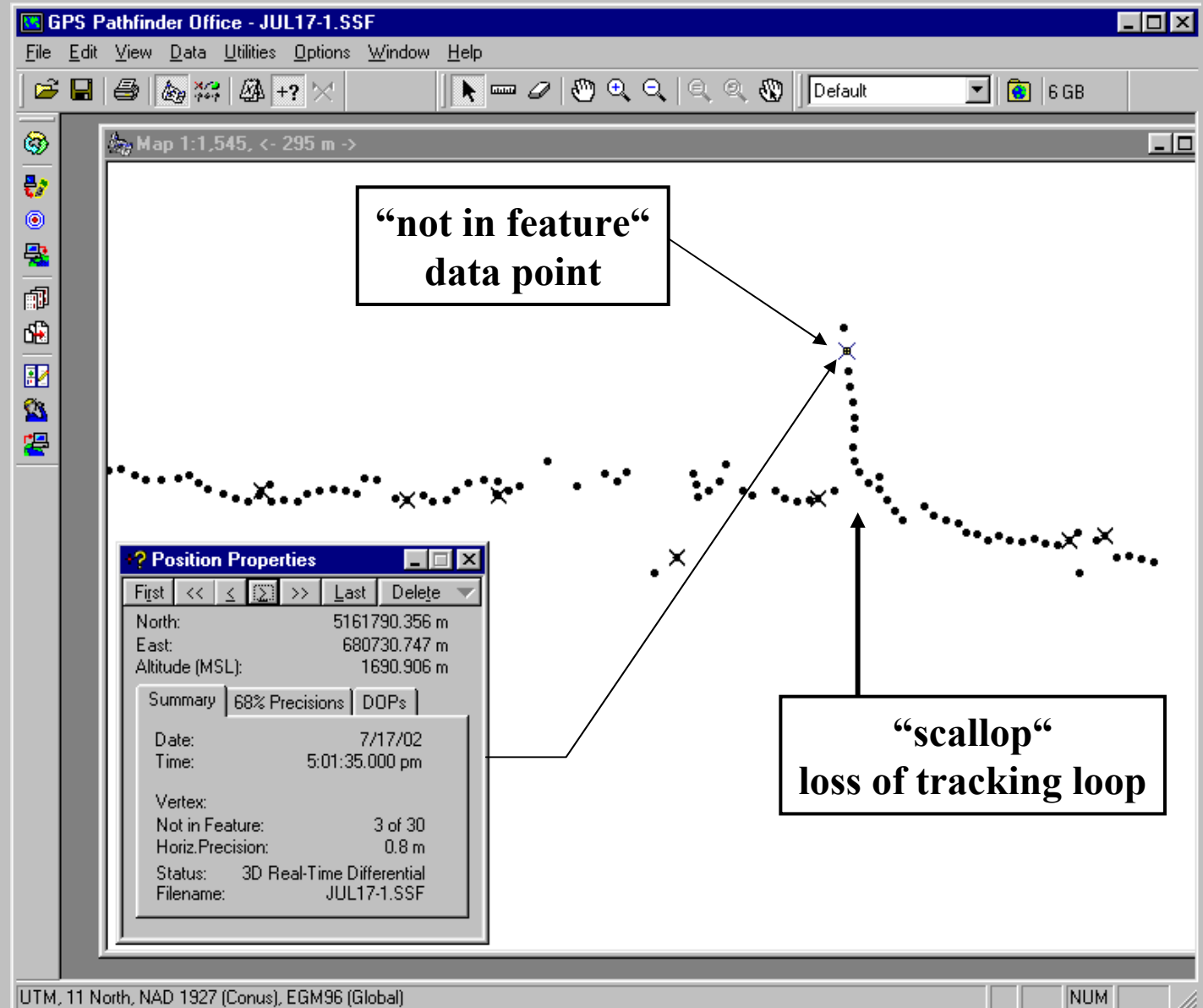
- **Quad: Rocky Ridge**
- **Locality: Rocky Ridge Lookout**
- **DRG: o46114e6**
- **NAD 27 (conus) UTM**
- **ZONE: 11**
- **NORTH: 5161708**
- **EAST: 680670**



Screen Shot of Pathfinder Map and data (cont.)

Initial Raw Survey Data w/o Topo Map

- “Not in feature” points
- Status is 3D real-time differential GPS but tracking loop is not locked
- Horizontal precision is reported to be 0.8 meters
- Actual error is approximately 30 meters



Loss of Accuracy During Real-Time Tracking

- **Methods of DGPS**

- **Coast Guard beacon**
- **Subscription satellite system**
- **Wide Area Augmentation System (WAAS) satellite**
- **Base-Rover differential GPS**

In heavy forest canopy, only the low-frequency Coast Guard beacon is effective. DGPS satellite signals are too weak to be received.

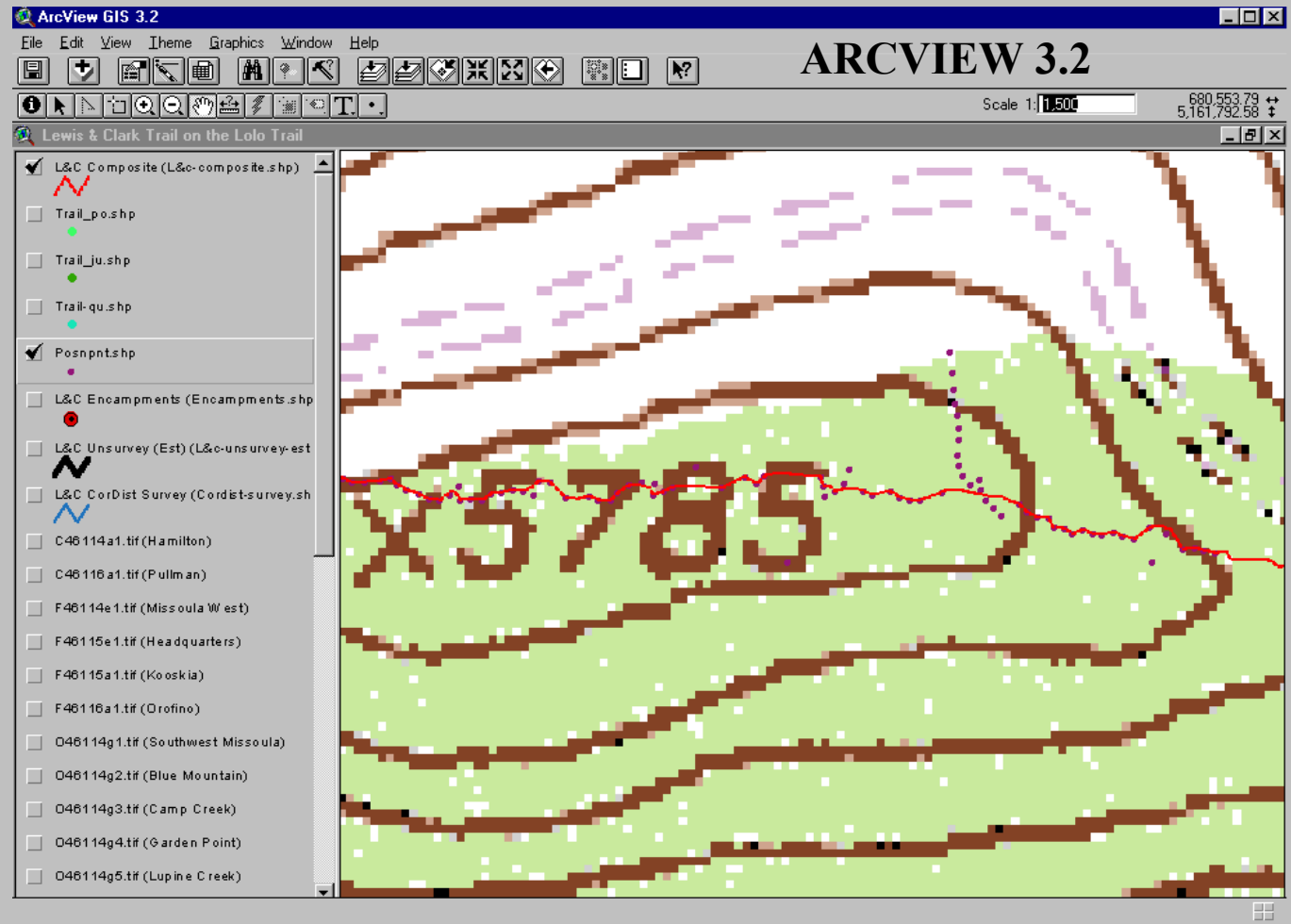
Although the Pathfinder receiver reported 3D differential GPS, its tracking loop had lost lock and gave an error almost 40 times larger than was reported

So far, the only effective solution to this problem has been to manually post-process the data

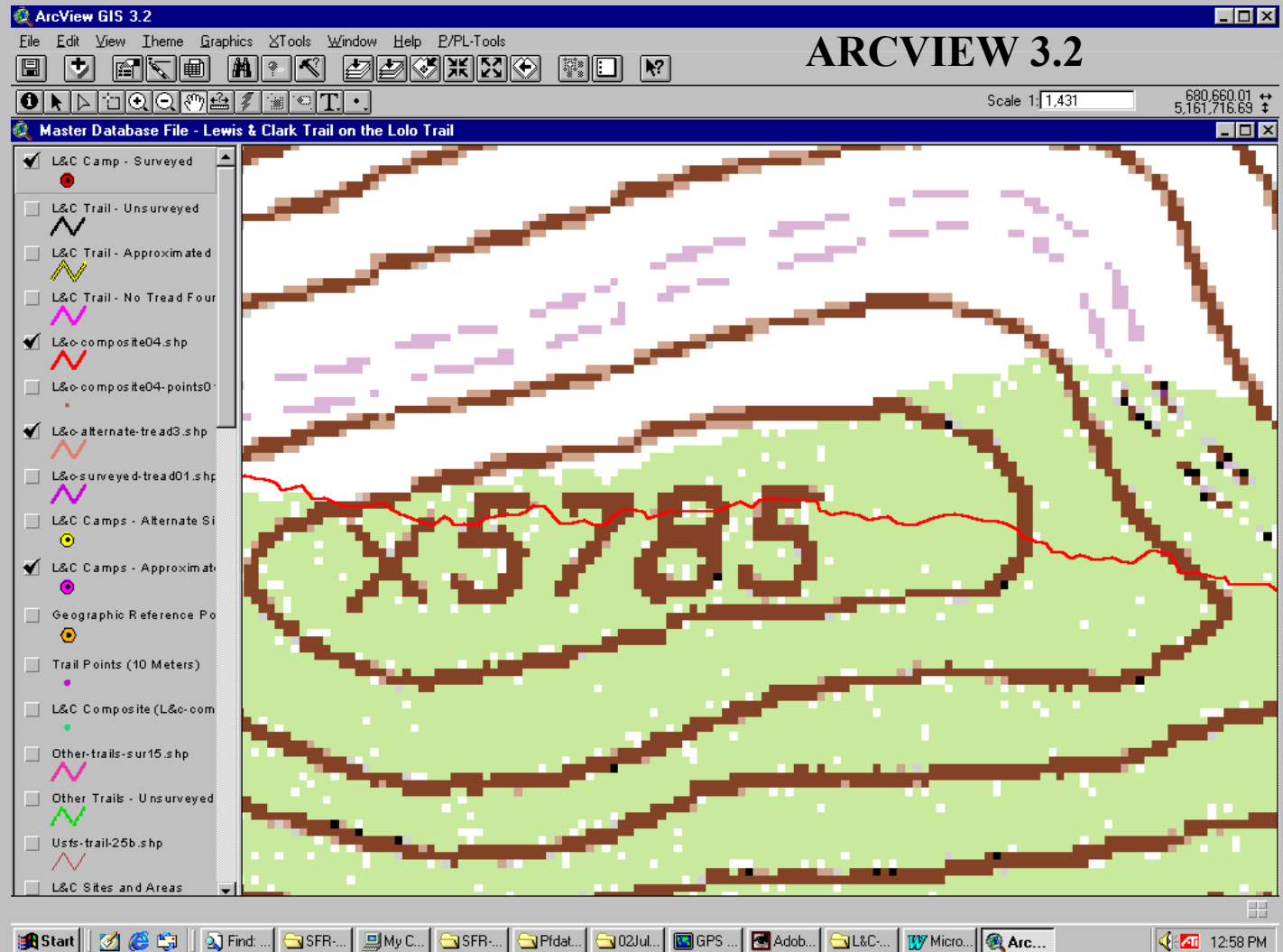
Manual Post-Processing of Data

Manual post-processing of data with ARCVIEW

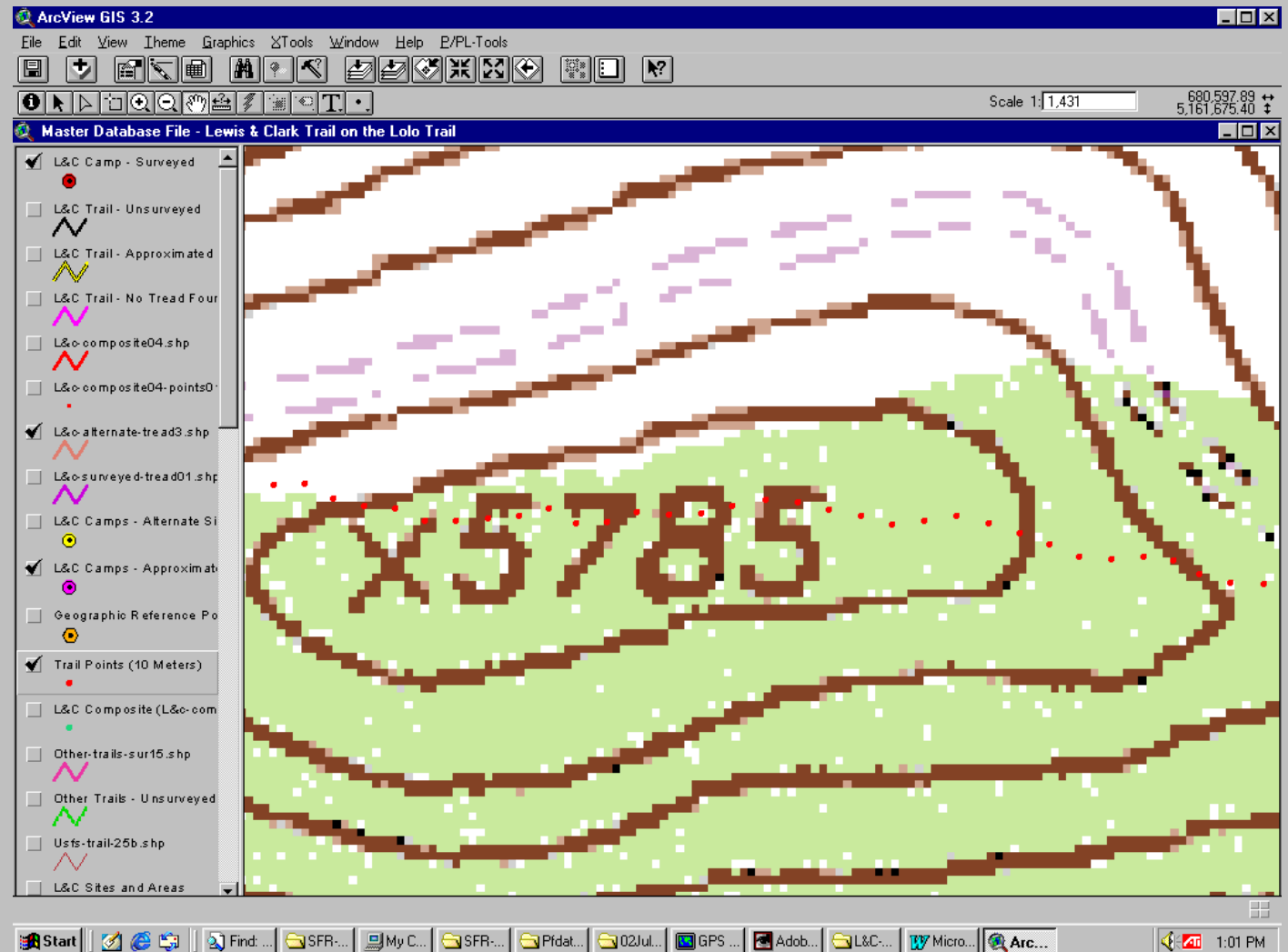
- Smooth line drawn between known good points
- Interpolation is used
- Scallops and other loss-of-tracking artifacts are removed
- Field notes and memorized trail features are used to assist interpolation



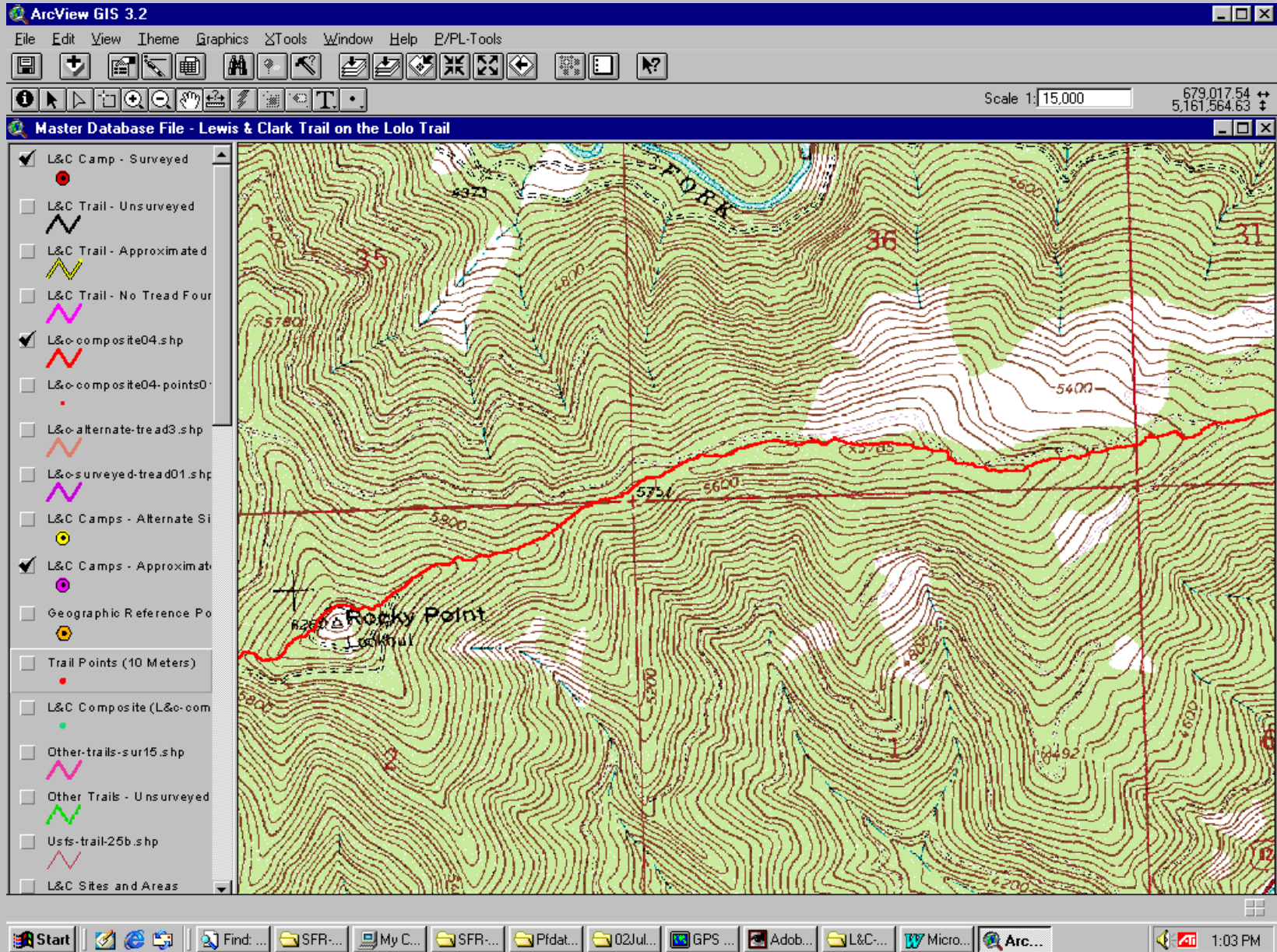
Final Results for Line Feature



Final Results for 10-Meter Point Feature



Zoom Out



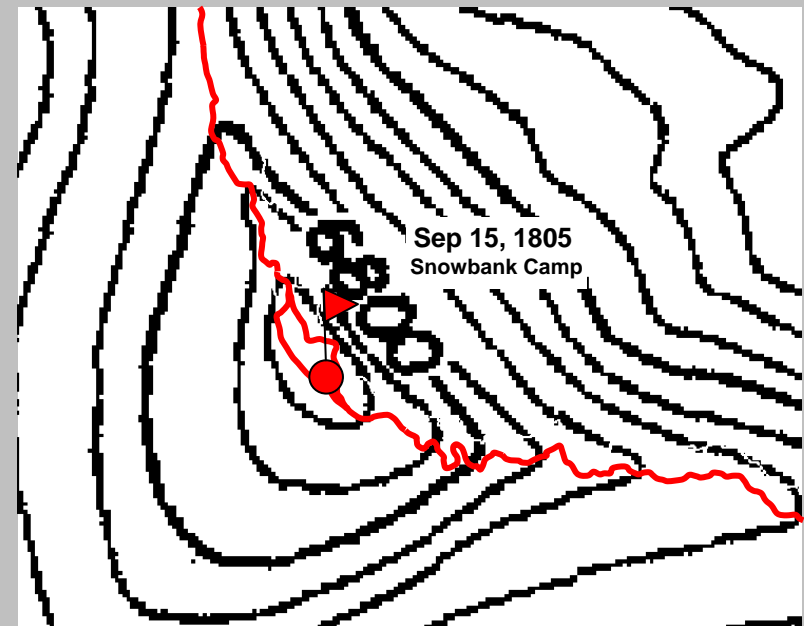
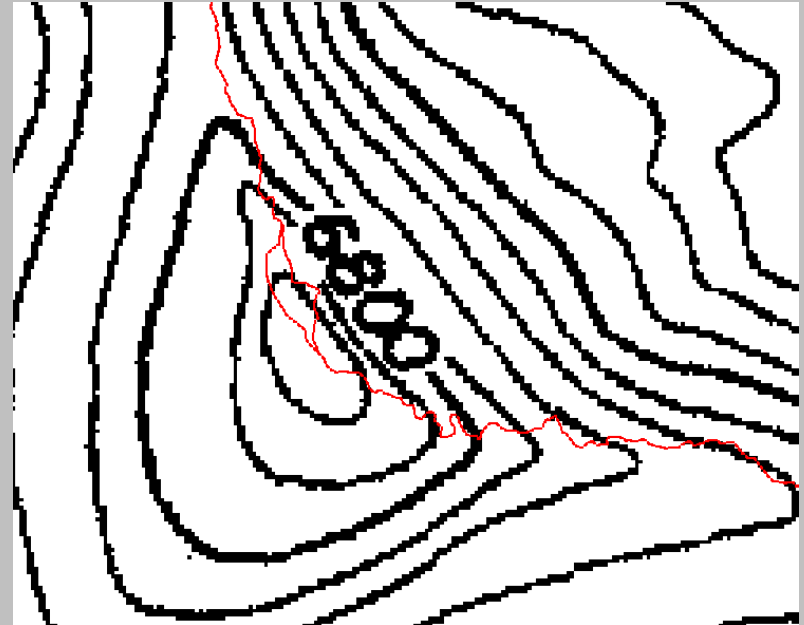
USGS Topographic Map Errors

Errors in a topographic map can make it look like the GPS plot is in error

The map to the above right has the GPS data accurately plotted on a USGS 7.5 minute DRG. The map elevation contours are distorted and too far west and south of the actual location of this ridge

The GPS plot on the map to the below right has been distorted so that it appears to be in the correct location. This is fine for hiking and reading paper maps but any GPS readings taken from this map will be in error

Conclusion: The accuracy of USGS DRGs is not adequate for accurate portrayal of the both the correct UTM location and the perceived topographic location



END OF SESSION III

Questions?

Photo Gallery

3000+

Questions?