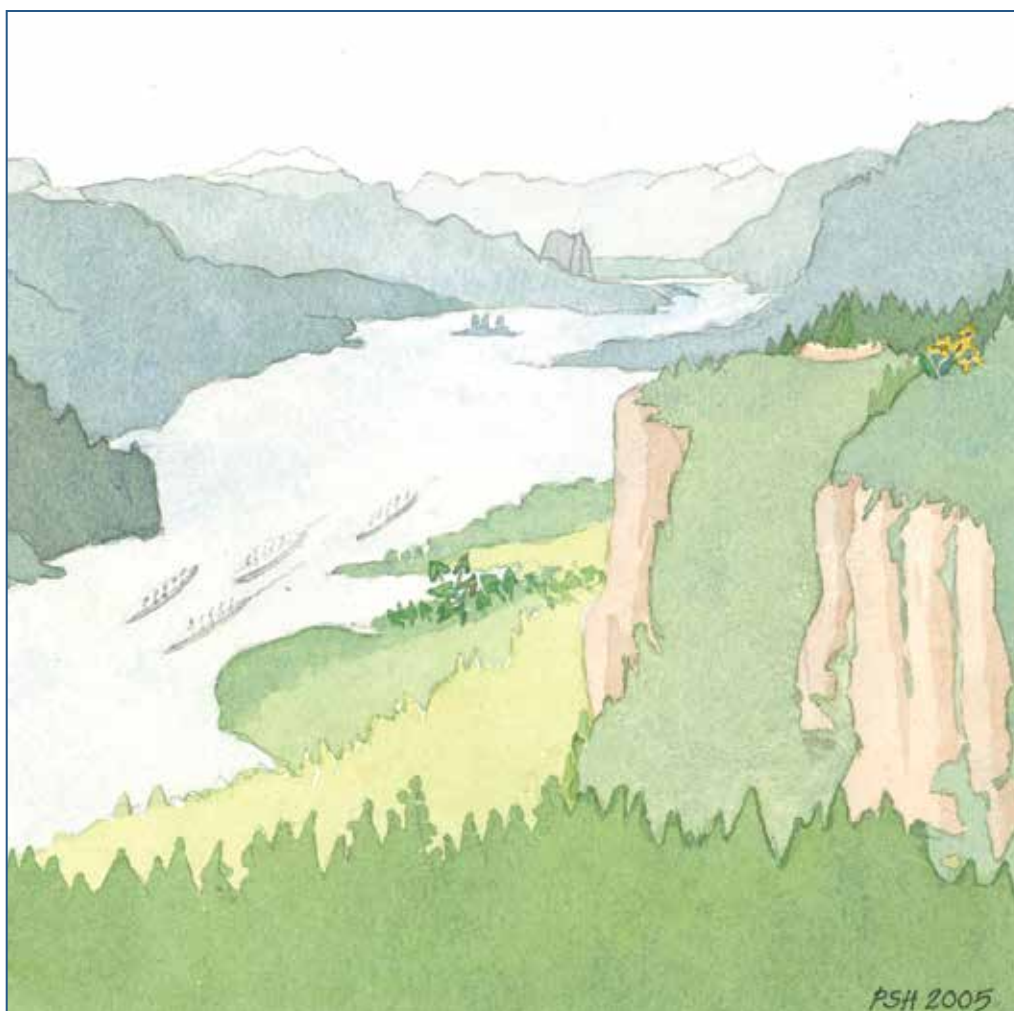


We Proceeded On

Lewis and Clark Trail Heritage Foundation

February 2017 Volume 43, No. 1

CLARK'S YELLOWSTONE RIVER CANOE CAMP



Plus Remembering Peter S. Hockaday
The Townsend Black Snake

“LAYERS OF HISTORY ON THE COLUMBIA RIVER”

Symposium—Vancouver, Washington—March 31–April 2, 2017

BY TRAVIS BOLEY

Oregon-California Trails Association Manager

A joint symposium, co-hosted by the Lewis & Clark Trail Heritage Foundation (LCTHF) and the Oregon-California Trails Association (OCTA), will be held Friday–Sunday, March 31–April 2, 2017, at the Heathman Lodge in Vancouver, Washington, tucked in the tall firs along the north shore of the Columbia River. Hotel information appears at the end of this article.

Following a Friday evening reception, Dr. Steven Fountain of Washington State University Vancouver will open the conference Saturday with a brief overview of the Columbia River, its geography, and how it influenced the region. Bob Setterberg follows with his talk, “The Missoula Floods: A Mega-Transformation of the Pacific Northwest.”

An exploration of the American Indians who populated the area by Sarah Hill of the Friends of the Ridgefield National Wildlife Refuge and Chinook Vice Chairman Sam Robinson will offer insight into Native peoples, both past and present. Special focus will be given to the Cathlapotle Plankhouse at Ridgefield NWR west of Vancouver, where the Corps of Discovery encountered the largest gathering of American Indians during their epic journey. Alys Weber, PhD candidate at Washington State University Vancouver will speak on Scottish fur-traders and their American Indian wives.

Historian Barb Kubik, co-chair of the symposium, will speak about “We Proceeded On....Down the Grand Columbia River: The Corps of Discovery in Present Day Clark[e] County.” NPS Ranger Bob Cromwell from Fort Vancouver National Historic Site will also speak on the fur trade of the Columbia Basin, and the broader Northwest.

The Oregon Trail sessions, four in number, feature Richard Engstrom, a descendent of families that came to call Clark County, Washington, home. Larry Bafus will discuss his ancestor A.J. Boland, the first sheriff of Clark County, who was killed by American Indians near Yakima. Mr. Bafus is also a descendent of emigrants on the Hackelman Wagon Train in 1845. There is a planned presentation on Amelia Stewart Knight, whose 1853 diary is one of the more famed women’s overland journals. Our other co-chair of the symposium, Lethene Parks, will speak on Peter

Skene Ogden, the famed Canadian fur trapper and explorer of the American West and western Canada, and the Chief Factor at Fort Vancouver when the Oregon Trail migration began.

Saturday will conclude with a presentation on Fort Vancouver during the military era, from the Indian Wars through World War II, by Tanisha Harris, who will speak on her family’s journey along their own “Oregon Trail” to Vancouver at the outset of WWII, and Ranger Bob Cromwell, who will speak on Pearson Airfield, one of the two oldest continuously operated airfields in the United States.

Saturday night will feature a banquet with keynote speaker Jack Nisbet, author and naturalist, and several special presentations honoring the 50th anniversary of the National Trails Act, signed into law by President Lyndon Johnson in 1968.

Sunday will offer an optional bus tour, limited to fifty people and led by Bradley Richardson, Curator at the Clark County Historical Museum. It will include stops at the Chinook Plank House, Frenchman’s Bar along the Columbia, and the Steigerwald National Wildlife Refuge to view one of Lewis & Clark’s campsites. Returning to Vancouver, we will visit both Fort Vancouver and the Clark County Historic Museum.

Registration and information is at www.lewisandclark.org (click on the Layers of History Symposium details link) or call 816-252-2276.



The Heathman Lodge has both single and double-occupancy rooms available for \$125/night (normal rate is \$148). Call the hotel at 360-254-3100 to reserve your room. Request the special OCTA rate.

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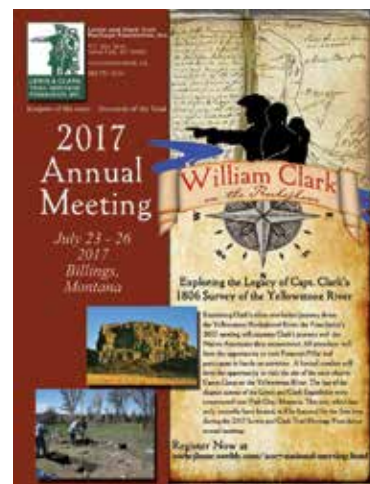
On the cover:
"The Columbia River"
by Peter S. Hockaday.
Courtesy Roger Wendlick,
Oregon Chapter, LCTHF.

On the back cover:
Bear Grass and the fifteen-star-and-stripe flag on the Lolo Trail. Photo by Steve Lee.

We Proceeded On welcomes submissions of articles, proposals, inquiries, and letters. Writer's guidelines are available by request and can be found on our website (www.lewisandclark.org). Submissions may be sent to Robert Clark, WSU Press, P.O. Box 645910, Pullman, WA 99164-5910, or by email to robert.clark@wsu.edu.



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E. G. Chuinard, M.D.,
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Our mission:

As Keepers of the Story—Stewards of the Trail, the Lewis and Clark Trail Heritage Foundation, Inc. provides national leadership in maintaining the integrity of the Trail and its story through stewardship, scholarship, education, partnership and cultural inclusiveness.

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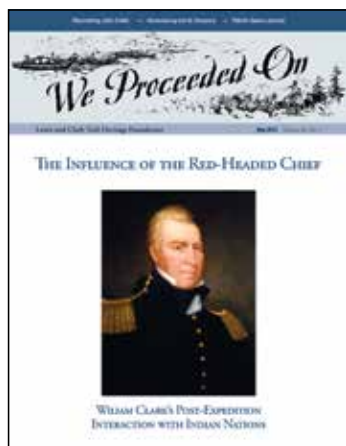
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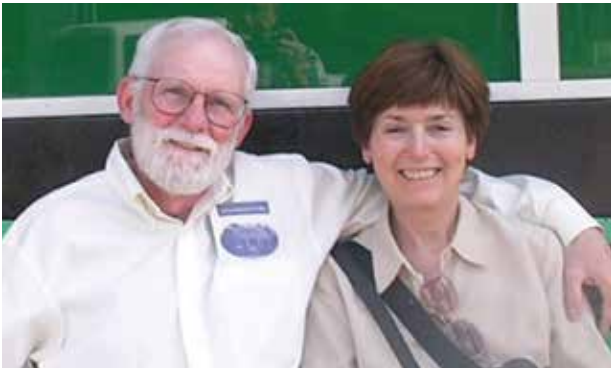
WE PROCEEDED ON

(Back issues, 1974–current)

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A Message from the President



Phillip Gordon and President Philippa Newfield

On Wednesday, September 4, 1805, after the Corps of Discovery had descended into the Bitterroot Valley of present-day southwestern Montana, Sergeant John Ordway wrote in his journal:

...towards evening we arived at a large encampment of the flat head [Salish] nation of Indians... about 40 lodges and I Suppose about 30 persons, and they have between 4 or 5 hundred horses now feeding in the plains... they received us in a friendly manner. when our officers went to their lodges they gave them each a white robe of dressed skins, and spread them over their Shoulders and put their arms around our necks instead of Shaking hands as that is their way they appeared glad to See us. they Smoked with us, then gave us a plenty Such as they had to eat, which was only Servis berrys and cheeries pounded and dried in Small cakes. Some roots of different kinds...

The next day Ordway continued:

...they are a band of the Flat head [Salish] Nation our officers...told them our business and that we were friends to all the red people &C. which they appeared verry friendly to us. ...they are the likeliest and honestest we have seen and are verry friendly to us. they Swaped to us Some of their good horses and took our worn out horses, and appeared to wish to help us as much as lay in their power.

On November 1, 2016, history repeated itself in the Bitterroot Valley. Tony Incashola, director of the Salish-Pend d'Oreille Culture Committee, again offered words of welcome to the Bitterroot Valley's visitors and residents at the Story Gathering and Interpretive Planning

Workshop organized by Kris Komar of the Bitterroot Cultural Heritage Trust in Darby, Montana.

Speaking in the ancestral homeland of the Salish, Mr. Incashola said it is important to remember that the opportunities people have today were created by those who came before. His comments were apt as the attendees had gathered to tell of the history, scenic beauty, and recreational opportunities that abound in the Bitterroot Valley, an area stretching from Lolo in the north to Sula at the southern end.

VALLEY OF THE THREE TRAILS

The Bitterroot Valley was officially designated "The Valley of the Three Trails" in June of 2016. The ceremony at the Ravalli County Museum in Hamilton, Montana, celebrated the three nationally designated trails that traverse the valley: the Lewis and Clark National Historic Trail (LCNHT), the Nez Perce (Nee-Me-Poo) National Historic Trail, and the Ice Age Floods National Geologic Trail.

Building on that event, Lewis and Clark Trail Heritage Foundation (LCTHF) Past President Margaret Gorski, Immediate Past President Steve Lee, Member Phillip Gordon, and your president joined representatives from the three trails, tourism and

interpretation firms, and local museums, historic sites, towns, and businesses in sharing our stories. We also began the work of synthesizing the stories into a unified interpretation of the richness of the Bitterroot Valley's year-round offerings to both residents and visitors. This interpretation will be, at its heart, all about the stories, observed Susan Jurasz, principal in charge of Sea Reach Ltd, the firm that has designed more than two hundred interpretive signs along the LCNHT.

The workshop also demonstrated why the LCTHF has a Friends and Partners Committee chaired by Dick Fichtler. The synergy created when the LCTHF works with other organizations helps accomplish our goals, proving that the whole is indeed greater than the sum of its parts. We all met new people, exchanged ideas, told everyone about our trail stewardship and education grants, and made many friends. That three trails traverse the Bitterroot Valley emphasizes the importance of our on-going collaboration with the Nez Perce (Nee-Me-Poo) National Historic Trail, and offers the opportunity to work with representatives of the Ice Age Floods National Geologic Trail, which the LCNHT parallels at other segments, including the Columbia River.

IMPORTANCE OF COLLABORATION

Karla Sigala, interpretive specialist with the LCNHT, emphasized the value of this kind of collaboration. The LCNHT staff is building on the infrastructure created during the Bicentennial to increase people's awareness of the different ways to experience the LCNHT. They are replacing existing Auto Tour Route signs with new, updated signs and verifying that points of interest, directional arrows, and

spacing are all accurate. This work is based on recommendations presented in the plan entitled “Effective Wayshowing for Enhanced Visitor Experience, Lewis and Clark National Historic Trail and Auto Tour Route.”

Among LCNHT Superintendent Mark Weekley’s goals are to publicize recreational opportunities along the LCNHT and cooperate with visitor centers at the tribal, state, and federal levels. Indeed, the foundation document of the LCNHT includes partnership as a critical supporting resource. The central role of partnering with various groups along the trail, Sigala said, echoes the importance of collaboration to the Lewis and Clark Expedition: people of diverse talents, backgrounds, experiences, and perspectives all cooperated and worked together to assure the success of their endeavor.

Darby’s mayor, J. C. McDowell, spoke to the workshop group. He discussed his commitment to investing in the progress and future of Darby and

the importance of their efforts to bring more visitors to the Bitterroot Valley. He also generously invited all the participants to have a beer on him at his Bandit Brewery down the street from the Darby Club House where we were meeting. As evidence of the creativity engendered by our coming together at the workshop, we even came up with two new brews for the mayor: Three Trail Ale and Ice Age IPA.

LCTHF’S 49TH ANNUAL MEETING— BILLINGS, MT

While the Bitterroot Valley is significant as the location of Travelers’ Rest State Park, excitement awaits us in Billings, Montana, at our 49th Annual Meeting. William Clark’s recently discovered and archeologically verified campsite on the Yellowstone will be featured at the meeting whose theme is “Clark on the Yellowstone.” In this issue of *We Proceeded On* you will find the program and registration form for the Annual Meeting. We invite every-

one to attend to experience the thrill of being out on our trail, the stimulation of excellent talks and field trips to Pompeys Pillar and Clark’s Canoe Camp, and the warmth of friendships ongoing and new.

Also at the Annual Meeting in Billings will be a drawing for a \$100 Amazon Gift Card. Those eligible to enter the drawing are all the people who have given gift memberships and all those who have received gift memberships from July of 2016 to June 15, 2017. The winner need not be present to win, although every giver of a gift membership is the winner of a \$5 Amazon Gift Card for each LCTHF membership given. Remember: a gift membership in the LCTHF is an excellent way to celebrate birthdays, anniversaries, holidays, life cycle events, and major achievements such as graduations. It is truly a gift that keeps on giving – and strengthens the LCTHF in the process.

—Philippa Newfield



STEVE LEE

View of the Bitterroot Mountains from Hamilton, Montana.

Clarks Crossing Interpretive Panel Dedication

By Ralph Saunders

On October 14, 2015, Ben Nordlund, Executive Director of the Yellowstone County Museum, hosted the unveiling of a new interpretative panel depicting Clarks Crossing, a Lewis and Clark site south of Billings, Montana, on the Yellowstone River. Jeff Dietz, President of the Rochejhone Chapter, noted that the crossing would be of interest to members attending this summer's annual meeting. Ralph Saunders gave a history of the crossing. The panel, funded by a LCTHF grant, was initiated by the Rochejhone Chapter and is placed at the locale where Capt. Clark "had the horses drove across the river..." on July 24, 1806.



Ben Nordlund (left), Lindy Hatcher, and Steve Lee (right) at the dedication of the new panel.

Indiana University Southeast Accepts Donation of Lewis and Clark Handshake Bronze

By Steven Krolak

Meriwether Lewis and William Clark shook hands on October 2, 2016, at Indiana University (IU) Southeast in New Albany, Indiana. Or rather, re-enactors Jan Donelson and Peyton "Bud" Clark (direct descendant of the explorer), portraying the roles of Lewis and Clark, performed the handshake during the ceremony marking the donation of a statue commemorating that historic event to IU Southeast.

The statue, displayed in a glass case in the IU Southeast library, is a 1/5-scale model of the life-sized statue at the entrance to the Falls of the Ohio State Park visitor's center in Clarks-ville, Indiana, both the work of the late Montana sculptor Carol Grende. It was near this spot that the two explorers met and launched their famed expedition. And it was this bronze model



"When They Shook Hands, The Lewis & Clark Expedition Began," by sculptor Carol Grende.

that launched the fundraising efforts that ultimately enabled the full-scale version to become a reality. The creation and placement of the two statues reflect the tireless work of the Indiana Lewis and Clark Commission over the past fifteen years to have Clarksville, Indiana, officially recognized as the

starting point for the Corps of Discovery's epic journey.

This past summer the statue's owner, Phyllis Yeager, made the model available to her longtime collaborator and friend, Dr. Claudia Crump, co-founder of the IU Southeast Center for Cultural Resources (CCR), to ensure that it remain in the area. The CCR has worked closely with the Commission for many years, sharing its vision and helping raise awareness of Lewis and Clark among the region's social studies teachers and their students. In gratitude for the support that CCR has received from IU, the CCR donated the statue to IU Southeast for permanent display.

Among the Indiana Lewis and Clark Commission's many aims are a drive to include the region in the Lewis and Clark National Historic Trail, as recently recommended by the National Park Service, and the proposed naming of the new "East End" bridge over the Ohio River between Indiana and Kentucky after the explorers.

Glass Plate Images Donated to LCTHF

By Steve Lee

The Lewis and Clark Trail Heritage Foundation recently received an interesting and timely gift that will be on permanent display in the headquarters office in Great Falls.

Arizona members Todd and Nadine Weber donated two glass plate negatives depicting Harpers Ferry, West Virginia, approximately one hundred years ago, and clearly showing two bridges and the confluence of the Shenandoah and Potomac Rivers. The Webers, guides on many tours throughout the West, received the negatives some years ago from one of their tour participants. When the Webers read about the 48th Annual Meeting of the LCTHF held in Harpers Ferry this past summer, they donated the images to our foundation.



Harpers Ferry, West Virginia, as depicted in a glass plate "lantern slide."

PHOTO COURTESY OF LCTHF, STEVE LEE, AND TODD AND NADINE WEBER

The estimated date of both glass plates is sometime between 1894 and 1920. The 1894 date is when the Baltimore and Ohio Railroad punched a tunnel in the Maryland hillside and

built bridge number 3, with a "Pratt truss" superstructure across the Potomac River. The 1920 date is approximately when glass plates were replaced by photographic film.

We Proceeded On *The Journal of the Lewis & Clark Trail Heritage Foundation*

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Ads are required to be submitted either as a minimum 300-dpi jpeg or as a high-resolution pdf with embedded images and fonts.

RESERVATION DEADLINES

Issue	Reservation Due Date	Artwork Due Date
February (Winter)	November 15	January 1
May (Spring)	February 15	April 1
August (Summer)	May 15	July 1
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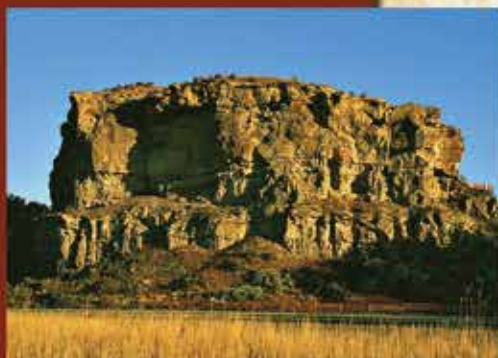
2017 Annual Meeting

July 23 - 26
2017
Billings,
Montana

William Clark
on the Rochejhone



Exploring the Legacy of Capt. Clark's
1806 Survey of the Yellowstone River



Examining Clark's often overlooked journey down the Yellowstone (Rochejhone) River, the Foundation's 2017 meeting will examine Clark's journey and the Native Americans they encountered. All attendees will have the opportunity to visit Pompeys Pillar and participate in hands on activities. A limited number will have the opportunity to visit the site of the once elusive Canoe Camp on the Yellowstone River. The last of the dugout canoes of the Lewis and Clark Expedition were constructed near Park City, Montana. This site, which has only recently been located, will be featured for the first time during the 2017 Lewis and Clark Trail Heritage Foundation annual meeting.



Register Now at
rochejhone.weebly.com/2017-national-meeting.html

Preliminary Program

Pre-Meeting

Thursday - July 20

Friday - July 21

Saturday - July 22

8:00 am LCTHF Board Meeting

8:00 am LCTHF Board Meeting

8:00 am to 3:30 pm - Carol Weisman Workshop
on Non-Profit Fundraising

8:00 am to 12:00 pm Oral History Workshop: Sue Buchel



Main Program

Sunday - July 23

8:15 am Opening Ceremony

9:00 am Clark on the Yellowstone: Matt Redinger, Ph.D.

10:15 am Locating Clark's Canoe Camp and Pryor's Horse Crossing:
Ralph Saunders

12:15 pm Awards Luncheon

2:00 pm Archaeology of Clark's Canoe Camp:
Tom Rust, Ph.D.

3:45 pm William Clark's Survey & Mapping: Ralph Saunders

7:00 pm Social and Canoe Camp Exhibit Viewing at Yellowstone
County Museum

Monday - July 24

Off-site Trips:

9:00 am Yellowstone River Float Trip (additional cost)

9:00 am Canoe Camp Guided On-site Tour by Dr. Tom Rust
(limited availability/additional cost)

1:30 pm Horse Crossing Site Visit

On-site Sessions:

9:00 am Clothing Styles of Crow Women, Pre and Post Trade Era:
Mardell Hogan Plainfeather

10:30 am Promises and Threats, Horses and Trade - Capt. Clark
and the Crow (Apsalooke) Indians: Adrian Heidenreich, Ph.D.

1:30 pm Sacagawea and the Mythology of American Expansionism:
Emily Arndt, Ph.D.

3:00 pm The Art of Exploration: Charles Fritz

6:00 pm Pub Crawl/Art Walk

Tuesday - July 25

9:00 am to 5:00 pm History Fair Activities at Pompeys Pillar

Wednesday - July 26

9:00 am Back to the Future: John Pulasky

11:00 am Wolves in Great Abundance-Coyotes and Wolves in Lewis and
Clark's West: Tim Lehman, Ph.D.

1:00 pm Following Clark - Beginning a New Era: TBD

3:00 pm Chapter Officers Meeting

4:00 pm Business Meeting

5:00 pm No Host Social

6:00 pm Banquet/Auction

Keynote Speaker: Keith Edgerton, Ph.D.

Meeting Activities

In addition to the traditional sessions by world class presenters, the 2017 Meeting will offer a variety of off-site activities. Active wear and sun screen is strongly recommended for outdoor activities. Bug repellent is also suggested as the mosquitos can be "troublesome."



Yellowstone River Float (Monday, July 24)

For an additional fee, participants can float the Yellowstone just like Clark and the Corps. Absaroka River Adventures' licensed guides will carry attendees down a stretch of the Yellowstone that passes the Canoe Camp location.



Canoe Camp Guided On Site Visit (Monday, July 24)

For an extra fee, a limited number of people will be able to stand where Clark and the Corps camped from July 19-23, 1806. Guided by Dr. Tom Rust, participants will get a chance to hear about the process of archaeological discovery and stand around the fire pit where the Corps ate dinner. Space is limited, so register early. People with limited mobility should use caution as the site is remote and unimproved. Participants will need to be able to walk at least 1/2 mile across rugged terrain with significant unmarked trip hazards and deadfall.

Visit to Pryor's Horse Crossing Site (Monday, July 24)

Participants will also have the opportunity to visit the location of where Clark had Sgt. Pryor take the remaining ponys herd across the Yellowstone River. The tour will be guided by Ralph Saunders, the person responsible for pinpointing the location and getting it officially named "Clarks Crossing" with the USGS.



History Fair at Pompeys Pillar (Tuesday, July 25)

Exactly 211 years to the day after Clark was there, participants will visit Pompeys Pillar where there will be a number of hands on activities by reenactors and presentations by scholars. Transportation will be provided from the hotel and all fees included in the base price of registration.

Lodging Information and Meeting Registration Found Online at:
rochejhane.weebly.com/2017-national-meeting.html

Area Attractions



The celebrated beauty and wide open spaces, charming small towns with truly local flavor and spectacular, unspoiled nature entice even the most unfamiliar visitor. Montana's fresh mountain air and views follow you no matter where you go. Billings, Montana's Trailhead, is where it all begins. There is much to do and see, memories to make before and after the meeting.



ARCHAEOLOGICAL FINDINGS OF CLARK'S YELLOWSTONE RIVER CANOE CAMP

A FINAL ASSESSMENT

THOMAS C. RUST

Guard duty is one of the most basic functions of a soldier. In July 1806 that duty took on special importance for Captain William Clark and his contingent of the Corps of Discovery exploring the Yellowstone River en route home. The party had been camping near the shores of the Yellowstone south of modern day Park City, Montana. They had been travelling horseback with a herd of almost fifty horses to be used in trade with the Mandan Indians. By this time the Corps had divided not once, but twice. Meriwether Lewis had travelled north to explore the Marias River, a

Missouri River tributary. Clark had proceeded south to the headwaters of the Missouri near Three Forks, Montana, where he split the party again, sending Sergeant John Ordway and nine men to connect with Lewis further down the Missouri. Clark continued over the mountains in order to explore the valley of the Yellowstone with the remaining members of his party.

The trip went well until July 19 when Private George Gibson fell and impaled his thigh on a snag projecting from a fallen tree. Travelling horseback became increasingly difficult and Clark searched for a camp where Gibson could rest, the horses recoup, and large standing trees from which to make canoes were available. The corps would be waterborne once again.

On July 21, 1806, the party discovered that nearly half of the horses had disappeared the previous night. Clark became convinced that Indians had stolen the horses, a slight he would not easily forgive. He took measures to prevent further loss. "I am apprehensive that the indians have Stolen our horses," he wrote in his journal that day. He added "I determined to have the ballance of the horses guarded..."¹ The next two days he sent a party to find them, even if it meant tak-



Figure 1. Boys Scouts from Troop #2 of Billings volunteering at the Clark Canoe Camp Archaeology Project. Notice the "black bluffs" in the background, which match the location and description by William Clark.

ALL IMAGES COURTESY OF AUTHOR.

ing them off the duty of canoe construction, but it was to no avail. To add to his frustration, on the 22nd, wolves or dogs came into the camp and stole some of the meat being processed. Clues mounted indicating the presence of Indian raiders. Sergeant Pryor had found a moccasin, “the mockerson worn out on the bottom & yet wet, and have every appearance of haveing been worn but a few hours before. those Indian Signs is Conclusive with me that they have taken the 24 horses...Labeech returned haveing taken a great Circle and informed me that he Saw the tracks of the horses makeing off into the open plains and were by the tracks going very fast. The Indians who took the horses bent their course reather down the river.”² Guarding the remaining horses from Indians and the food from animals meant guard duty was being done to highest military standards.

Following normal military standards, the party had made a “sink” at this camp, the military term of the day for a latrine, little more than a hole dug in the ground at least three hundred feet away from the “kitchens” where food was prepared. Sometime during their stay here, a member of the corps went to relieve himself, and in the process a small lead musket ball fell into the tall river-bottom grass and was lost. There it remained for over two hundred years until it was recovered by the Clark Canoe Camp Archaeology Project. Once recovered, it became one of the key pieces of evidence in verifying that the camp was correctly identified, but also raising new questions about parts of the journey.

From 2011 to 2014 an archaeological survey, sponsored by Montana State University-Billings and the Rochejhone Chapter of the Lewis and Clark Trail Heritage Foundation in Billings, with support from the National Park Service and the Headwaters Chapter of the Lewis and Clark Trail Heritage Foundation, began excavation on a site targeted after extensive textual and cartographic research. In the November 2011 issue of *We Proceeded On*, three articles on this excit-

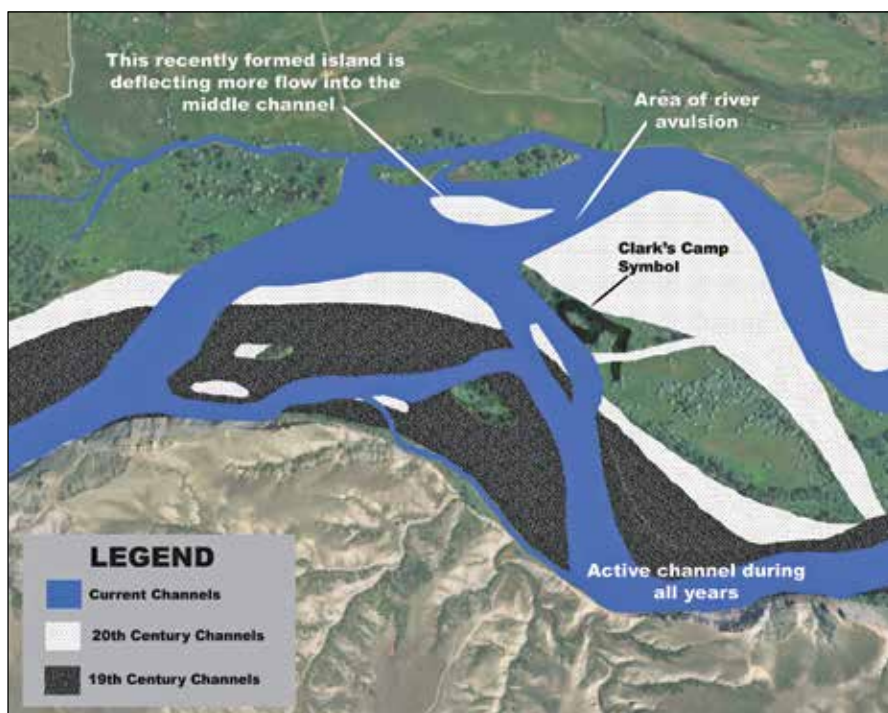


Figure 2. Channel history near the proposed camp imposed upon a 2009 Google aerial photograph. The camp is marked with the symbol used by Clark on his Map 108. Sometime after the turn of the twentieth century, the river created a new channel to the north of the site, making the area an island. Fortunately, the proposed campsite was on higher ground and more resistant to channel migration flood damage (see Fig. 3).

ing work appeared. Even though we were not yet half-way through the first field season, slow but significant progress had been made.³ The site, identified by the work of Ralph Saunders, had thus far been spared the relentless destructive force of the Yellowstone River. In the two hundred years since Clark and his party traveled the route, the river channel had moved north of the site, separating the site from the mainland. In 1997, devastating floods inundated much of the island. However, the study area was located on ground high enough to be spared. The winter before the first field season left a particularly heavy snow pack, and the threat of flood was significant, adding an urgency to work at the site.

When we last reported in *We Proceeded On*, we were only partially completed with our geophysical analysis. We used a magnetometer to measure variance in the earth's magnetic field and a soil resistivity meter to measure electrical resistance in geology of the site. Both surveys provided data about the subsurface geology and possible cultural modifications, even very slight ones. We surveyed the site and divided it into grid

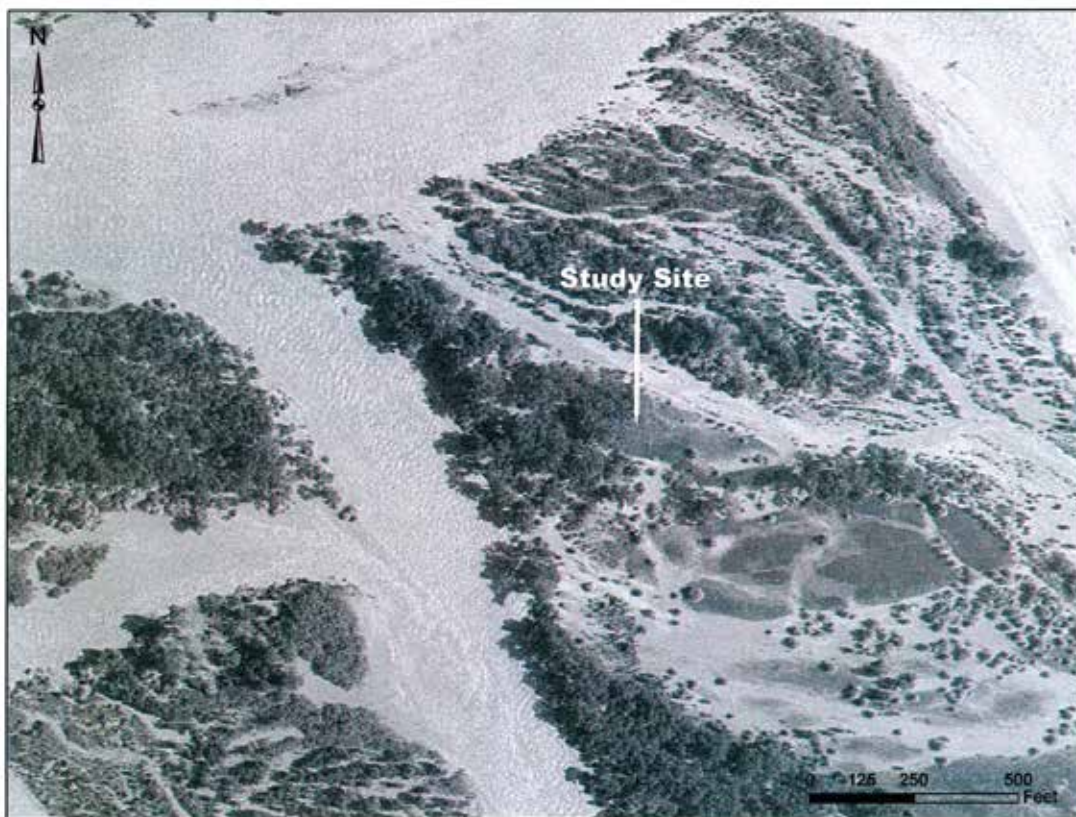


Figure 3. Aerial photo of the site in 1997 during a 100+ year flood event. Note that the study site is on higher ground and not inundated with water as much as the rest of the island.

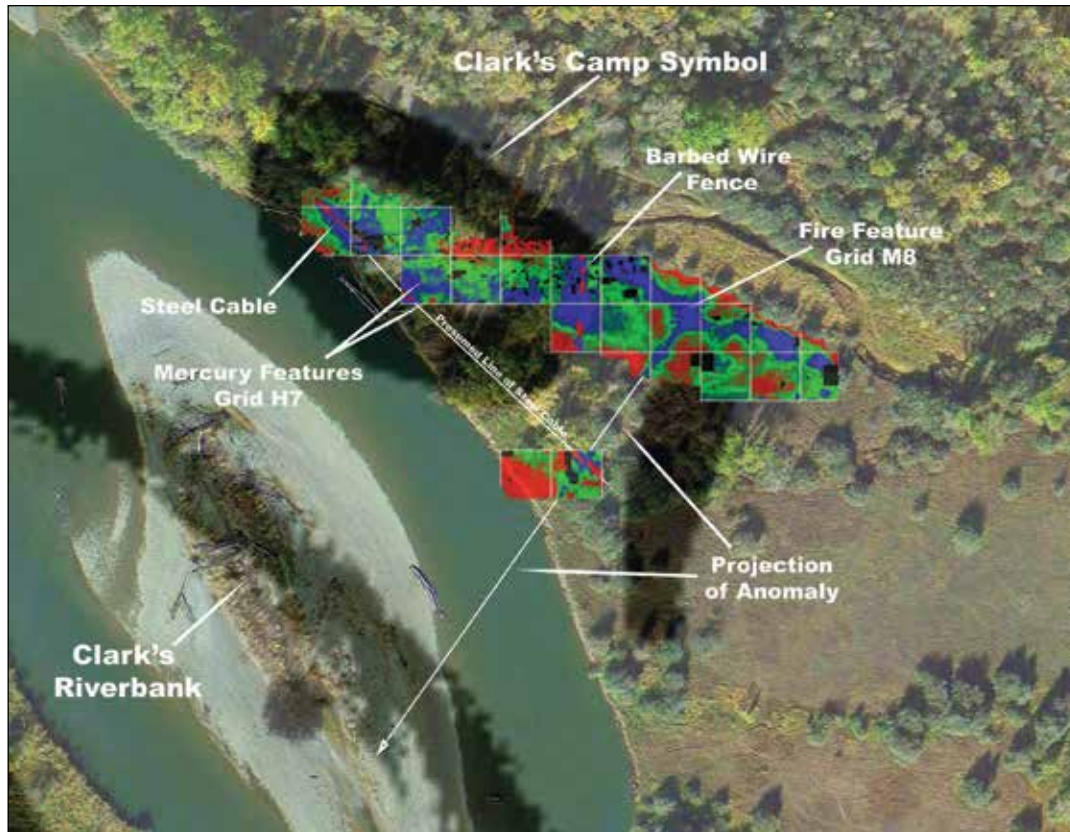


Figure 4. Magnetic survey results superimposed over a 2013 aerial photograph and Clark's symbol which was geo-referenced to the earth during the proposed site study. Note the erosion of the bank since 2011 when the survey was conducted.

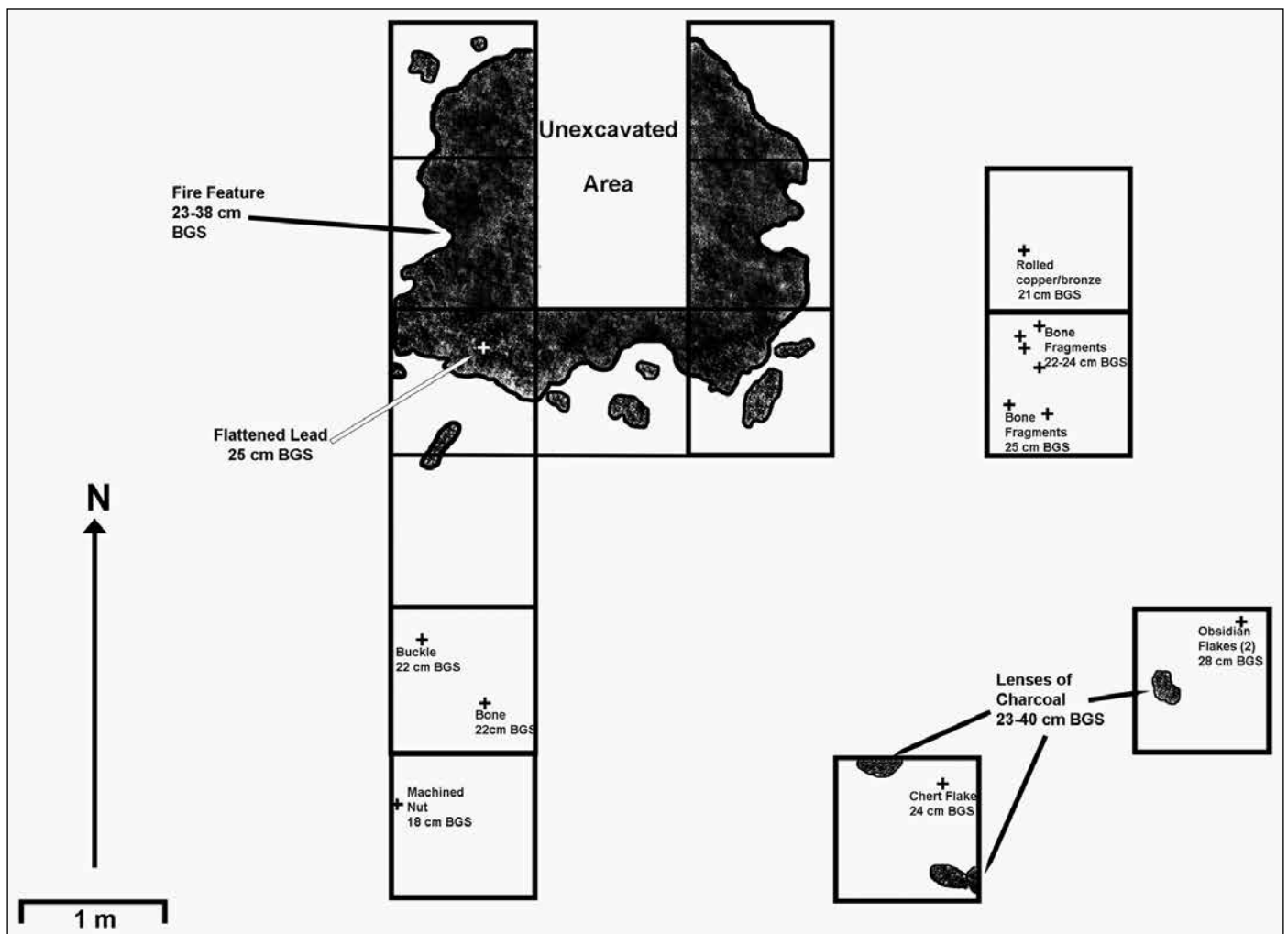


Figure 5. Plan view of fire feature in Grid M8. "BGS" means "below ground surface."

units twenty meters square. We ultimately completed a magnetometer analysis of sixteen full and eight partial twenty-meter grid units and an electrical resistance survey of four grids. The results of the magnetometer survey are represented on Fig. 4.

FINDINGS

The initial subsurface testing focused on the intersection of the two anomalies that made a "T" like intersection in the southeastern part of the site. Approximately 23-38 cm below the ground surface (BGS) there was a significant amount of charcoal inclusions. This fire feature was approximately two meters in diameter and irregular in shape, but generally circular. The charcoal inclusions were small in size, most being smaller than 1 cm in diameter. The feature did not have stones enclosing it as at other known Lewis and Clark sites. Seven pieces of flat lead with irregular shape and thickness

were found approximately 25 cm BGS amid the charcoal inclusions on the western part of the fire feature. Lead isotope testing was performed to determine the chemical signature of the lead in comparison with other artifacts from Travelers' Rest and Fort Clatsop. The isotope signature of these fragments had no correlation with any known lead artifacts from other known or presumed Lewis and Clark sites. Their origin and use remains unknown. At this time their association with the Corps of Discovery cannot be definitively made. If lead artifacts are found in the future at other Lewis and Clark sites, that may change. (See Table 1 and Fig. 6.)

Excavation units adjacent to and in proximity of the fire feature revealed several bone fragments, one with butcher marks. All were found within 4 meters of the fire feature. The bone fragments were taken to the Montana State University Billings Science Department's vertebrate zoology and human/animal physiolo-

Table 1. Lead isotope signature analysis in relation to artifacts from other Lewis and Clark sites and the closest signatures from the USGS Doe Databank. The instrument used to measure the lead-isotope ratios has a margin of error of +/- 0.1.

Location	Locality Name	Lead Isotope Ratio Data and Locations			Reference
		206Pb/204Pb	207Pb/204Pb	208Pb/204Pb	
Montana	Canoe Camp M84C	15.908	15.459	35.617	Doe Data Bank (1977) [†]
New Hampshire	Ruggles Mine	18.55	15.8	38.34	Doe Data Bank (1977)
North Carolina	unknown	18.43	15.71	38.4	Doe Data Bank (1977)
Arkansas	Montgomery Co.	18.36	15.61	38.56	Doe Data Bank (1977)
Connecticut	Roxbury	18.38	15.7	35.5	Doe Data Bank (1977)
Maine	Denboe Point	18.4	15.7	38.5	Doe Data Bank (1977)
Massachusetts	Quarry	18.41	15.75	38.43	Doe Data Bank (1977)
Utah	Deer Trail Mine	18.37	15.75	38.51	Doe Data Bank (1977)
North Carolina	Yancey County	18.34	15.61	38.2	Doe Data Bank (1977)
Kentucky	Clover	18.38	15.59	38.2	Doe Data Bank (1977)
Montana	Canoe Camp SP18	18.395	15.641	38.407	Geochron Laboratories (2013)
Montana	Travelers' Rest #324	18.535	15.632	38.457	Geochron Laboratories (Hall et al., 2003; Hall and Lockman, 2003)
Kentucky	Olive Hill	18.55	15.65	38.47	Doe Data Bank (1977)
Kentucky	Olive Hill	18.55	15.65	38.54	Doe Data Bank (1977)
England	Isle of Man	18.3	15.52	38.22	Doe Data Bank (1977)
England	Lake District	18.3	15.6	38.36	Doe Data Bank (1977)
England	Shropshire	18.38	15.61	38.32	Doe Data Bank (1977)
England	N Midlands	18.48	15.62	38.48	Doe Data Bank (1977)
Canada	Kootenay	18.37	15.69	38.42	Doe Data Bank (1977)
Canada	Kootenay	18.48	15.72	38.42	Doe Data Bank (1977)
Oregon	Fort Clatsop	20.368	15.792	39.399	Geospec Consultants Ltd. (Hall et al., 2003)

[†]Bruce Doe and Randal Rohborough. Lead Isotope Data Bank: 3,458 Samples and Analysis Cited. Report Submitted to the United States Department of the Interior, United States Geological Survey, Open File Report 79-661. (Washington, D.C.: Government Printing Office, 1977).

ogy specialists. The small nature of the fragments prevented positive identification. The two narrow pieces, possibly related, were tentatively identified as either a radius or alternatively rib bones of a small to medium sized mammal, possibly fox, coyote, or beaver. The longer of these has butcher marks near the mid-point of the shaft (Fig. 7).

Another bone (Fig. 8) was identified as a fragment from a long bone of a medium to larger mammal, perhaps deer, antelope, or possibly a small elk or bison calf. The rest (Figs. 9-10) were unidentifiable given their fragmentary natures. However, one bone (Fig. 11) was found approximately 32 cm from a corroded buckle (Fig. 13). It was also at the same depth as a rolled

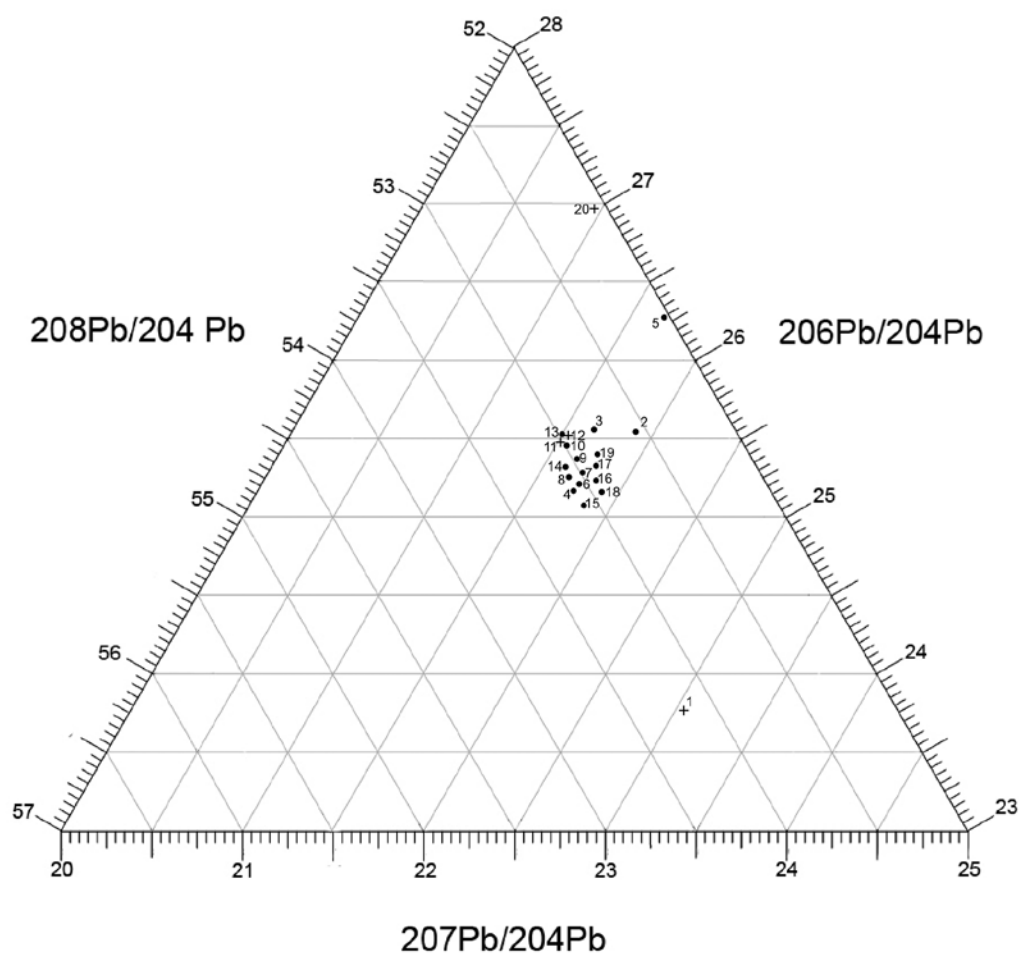


Figure 6. A ternary graph plotting the three isotope ratios to samples from Table 1. The crosses indicate the artifacts found near Lewis and Clark contexts. The circles indicate other samples from the Doe Data Bank (USGS 1997). They represent the closest signatures to Artifact #324 from Travelers' Rest and the lead ball from the canoe camp.



Figure 7. A bone fragment found near the fire feature, possibly a radius or rib from a small to mid-sized mammal. This bone has butcher marks indicating cultural modification.

Figures 8–11. Other bone fragments from near the fire feature.



Figure 8.



Figure 9.

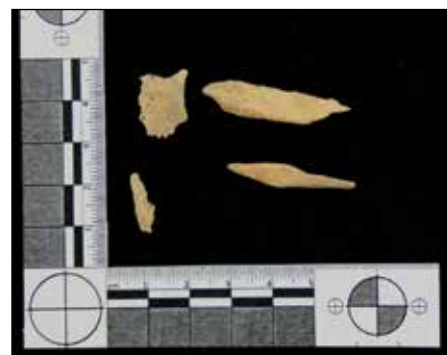


Figure 10.

Table 2: Carbon dating of samples.

Excavation Unit	Description	C14 Age Before Present	Calibrated Age 1 Sigma (68% probability of date range)	Calibrated Age 2 Sigma (95% probability of date range)
M8-1C	Charcoal from fire feature 28 cm BGS	169 +/-30	1668 CE to 1951 CE	1660 CE to 1953 CE
M8-10C	Bone fragment found 20 cm BGS	218 +/-30	1649 CE to 1950 CE	1643 CE to 1950 CE
M8-11D	Charcoal fragment from lens found 25 cm BGS	137 +/-30	1679 CE to 1939 CE	1669 CE to 1944 CE
M8-8C	Bone fragment found 22 cm BGS	147 +/-30	1671 CE to 1943 CE	1667 CE-1950 CE



Figure 11.



Figure 12. Ralph Saunders finding the buckle near the fire feature.



Figure 13. A plain buckle found near the fire feature. The context where this buckle was found (22 cm BGS) is the same context as a bone fragment (Fig. 11) with an acceptable carbon date range, and thus its possible association with the Corps of Discovery cannot be ruled out. However, it is possible that the buckle may also have been associated with the agricultural use of the land in the late nineteenth and early twentieth centuries when animal labor would have been common.



Figure 14. Piece of rolled copper found near fire feature.



Figure 15. Crew member Ben Nordlund using the Mercury Vapor Analyzer in the *in situ* method.

piece of copper 4 meters away (Fig. 14). Given its association with the artifact, a sample was sent for carbon 14 (C14) testing. It returned a date of 218 $\pm$ 30 years Before Present (BP) and yielded a date range of 1669 A.D. to 1944 A.D. when calibrated for atmospheric carbon. People get very excited about C14 dating, but it has severe limitations. The results provided the very broad date range because of calibration for atmospheric carbon. Radiocarbon dates of around two hundred years or newer fall into a period of fluctuations in the radiocarbon level in the atmosphere due to the competing effects of fossil fuels from the industrial revolution, as well as low solar activity. In addition, atmospheric testing of atomic weapons put a significant amount of C14 into the atmosphere, further complicating testing of recent samples. Results in this two-hundred-year span give values with multiple intercepts to the calibration curve and therefore the entire range is usually quoted. All the samples from the site fell within this range. The calibrated age, while difficult to narrow down more exactly, can nonetheless be accepted as associated with the Corps of Discovery, though not in any way conclusive.

The geophysical anomalies in the northwestern part of the site were the other focus of attention. Excavations focused on the two anomalies noted in both geophysical surveys. At approximately 28 cm the soils produced modeling of slightly darker colors that became more distinct with depth, producing a type of calico color-



Figure 16. Crew member Dylan Mollendorf using the Mercury Vapor Analyzer in the *ex situ* method.

ing. These features were systematically tested for traces of elemental mercury. A two-phase methodology was borrowed from excavations done at Travelers' Rest near Lolo, Montana.⁴ Soil was tested every 10 cm *in situ* by creating a hole in the unit floor and passing the sensor of a Mercury Vapor Analyzer into the hole to take a reading (see Fig. 15). Given the early date and the low temperature of the ground soil (approximately 43 degrees Fahrenheit), the temperature was not sufficient to vaporize the mercury for detection by the instrument. However, the second phase of the methodology compensated for this through an *ex situ* method (Fig. 16). Samples were taken from the floor of each unit level and placed directly into a clean ziplock bag and sealed. The sample was then warmed in the hands of a field crew member. The instrument's sensor was then placed in the bag and the bag re-sealed as readings were taken. At depths between 30 and 50 cm BGS, samples returned positive readings of between 0.003 and 0.014 milligrams of mercury per cubic meter in the excavation units. Given the time pressures, the methodology was modified to economically determine the complete horizontal extent of the mercury readings. Additional samples were taken in an *ex situ* manner from shovel

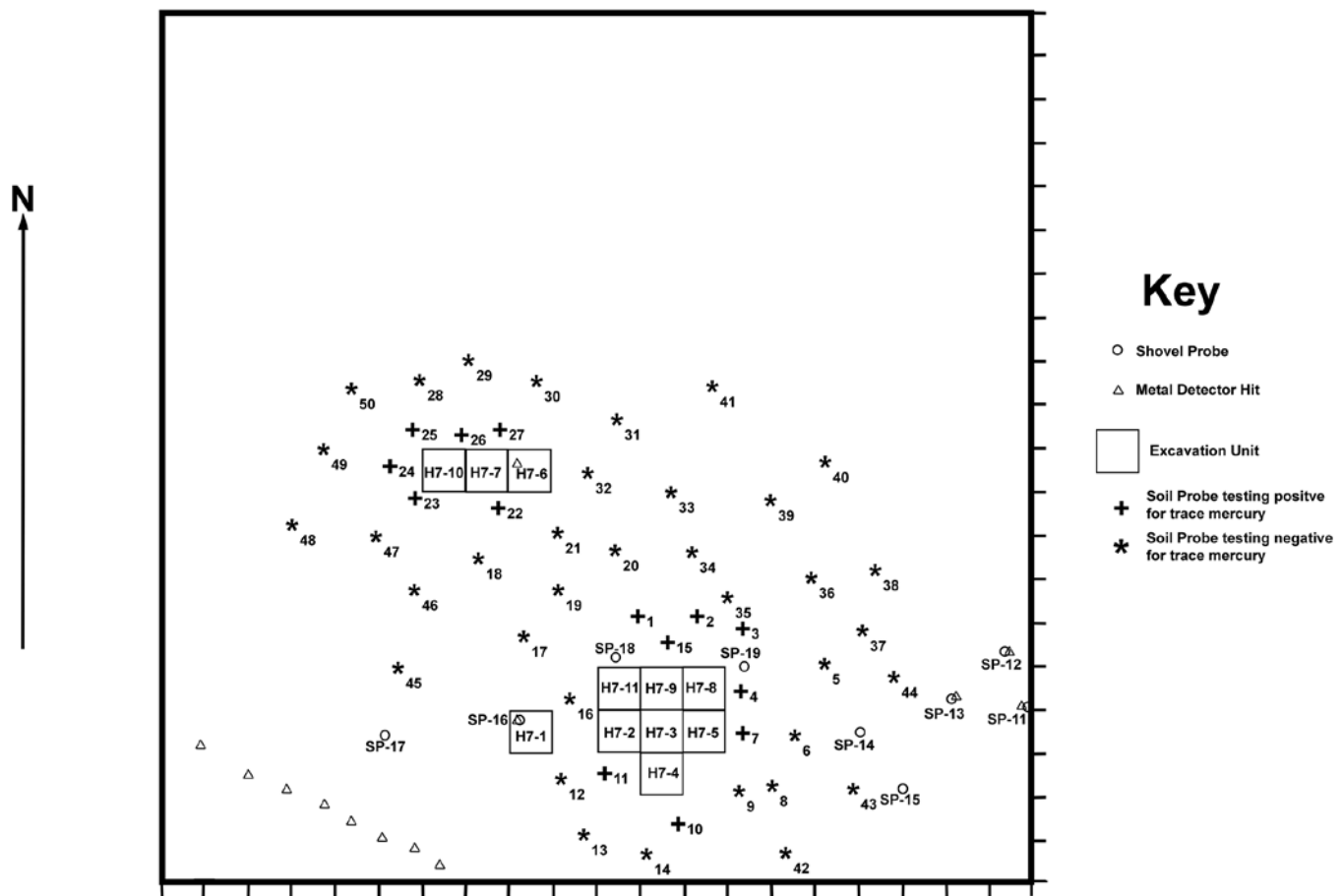


Figure 17. Plan view of the entire Grid H7 with soil probes tested for mercury noted. Note the positive mercury samples near the features identified in the magnetic and resistivity surveys.

probes and small soil probes. Samples were taken every 10 cm depth, placed in a new ziplock bag, agitated, and read with the instrument. Positive readings between 30 and 50 cm BGS were located, roughly corresponding with the anomalies identified in both geophysical surveys (Figs. 17 and 18).

The discovery of the localized mercury almost exactly three hundred feet from a fire feature, would alone lend itself to interpreting the site as associated with the Corps of Discovery, since that distance conforms to nineteenth century military regulations regarding placement of latrines, and other Lewis and Clark sites excavated at Lower Portage Camp and Travelers' Rest.⁵ Unlike at Traveler's Rest, the localized mercury is not located in a feature that has a distinctly linear shape.⁶ Rather it would appear to be in an irregular modeling of the soil.

In the more northern anomaly, a piece of strap metal was discovered approximately 23 cm BGS. The strap metal was approximately 9 cm long and 1.75 cm

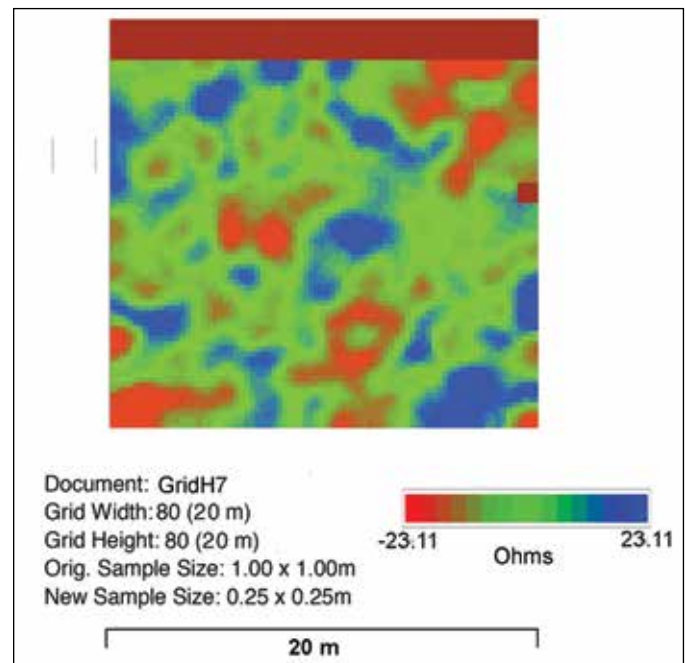


Figure 18. Soil Resistivity of 20 X 20 m labeled as Grid H7. Measurement in ohms. Note the donut-shaped anomaly in the bottom center of the grid. Also note the other anomaly to the west of center in the grid. These roughly correspond to the positive readings in the mercury vapor analyzer (Fig. 17).



Figure 19. Strap metal fragment found near the more northern mercury laden features. One of the long sides has been filed after its production, seen as the notch on lower part of this picture. The large circular indentation appears to have been machined at the time of manufacture.

wide. The artifact was pointed at one end and broken at the other. It had at least one machined hole approximately 0.45 cm in diameter near the pointed end and possibly another through the broken end. The broken end had a partial circular cut through the metal almost the full width of the object. Along its length a small indentation appears to have been filed into the object. The modification appears to be rougher and newer than the holes and circular depression (see Fig. 19).

The identification of this artifact is difficult to ascertain given its fragmentary nature and the fact it appears to have been modified at least once. The depressed circle bisected on the broken end also gives the impression a larger screw may have once rested there. Any association with Clark and his men would be conjectural at best. It is entirely possible that it may also be of more modern origin and not associated with the Corps of Discovery, despite being found at a similar depth to an apparent musket ball just over five meters away. Based on its chemical signature, that ball has a greater confidence of being associated with the corps.

One shovel probe, just over 2 m to the west of the southern-most mercury laden feature, contained a spherical piece of lead measuring .375 inches on one axis and .376 on the other (see Fig. 20). It appears to be an unfired musket ball of approximately .375 caliber. The caliber does not match any of the known weapons of the expedition, though admittedly there is not a comprehensive list.⁷ Given its ambiguous caliber, initially it was much like the buckle—not offering enough unique characteristics to aid in building an

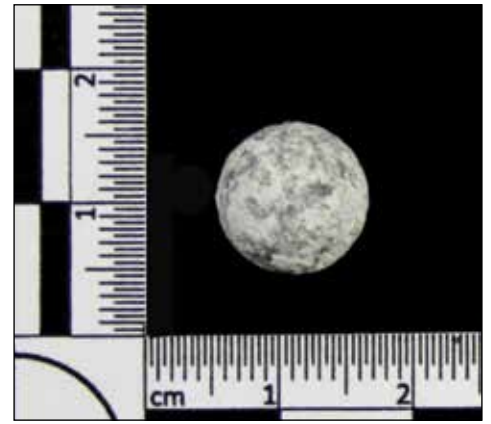


Figure 20. Spherical lead found in a shovel probe 28 cm BGS approximately 2 meters from the southern most feature with trace mercury.

argument for this site as Clark's Canoe Camp. However, in 2013 the National Park Service paid for laboratory analysis of the lead ball, as well as another sample from the lead found near the fire feature. The results indicate that the lead ball has an isotope signature that is consistent with Artifact #324 at Travelers' Rest (see Table 1 and Fig. 6).⁸

CORRELATION WITH THE JOURNALS AND OTHER LITERARY EVIDENCE

The features and artifacts found at the site have a striking resemblance to the literary evidence of the expedition. The site matches both the location and geographic descriptions, such as the "black bluffs," as determined from the data in Clark's maps and survey logs. Both mercury and lead were found where Clark's camp symbol was geo-referenced to the earth. The presence of mercury in features approximately 300 feet from a fire feature corresponds to the military regulations of the time and other known Lewis and Clark sites. The fact that there are two features with mercury corresponds to the military regulations that latrines "are to be filled up and new one dug every four days, and oftener in warm weather."⁹ Given that they would have been on site in July, the weather can reasonably be expected to be warm with the daily high temperature averaging 87 degrees Fahrenheit.¹⁰ The presence of mercury in and of itself, generally considered positive proof for the corps' presence, is significant. The lead ball, whose chemical signature is statistically identical to an artifact from another context believed to be associated with Lewis and Clark, is even more significant. Taken

together, there are a number of correlations that seem more than coincidental. That being said, the problem inherent in textual and ground correlation is the tendency to interpret the “finds” only in light of the text, giving the results a built-in bias.

At the same time, the material and literary record can complement each other, and for this project every effort was made to try and mitigate any bias. The discovery of the lead ball, and its high probability of being associated with the corps, perhaps requires reexamination of the journals and other sources in ways not done before. Despite increased confidence that the lead ball was associated with the expedition, the question remained as to its caliber. It still seems most logical the ball was made to be used in a firearm not previously recorded, presumably of private ownership. However, lead balls of the same caliber are commonly found on Revolutionary War sites as part of a shot called “buck and ball,” which consisted of three to six small balls and one large ball placed in an unrifled musket.¹¹ This could lead to a re-examination of the evidence found in the journals and other historical literature.

The use of shotguns for military purposes has a uniquely American background given their use in hunting on the frontier. Their transition to military use was only natural and is well documented.¹² The most common military use was the blunderbuss, a weapon also known to have been taken on the expedition, but not present with Clark at the proposed campsite in 1806. However, in relation to muskets, the historic sources and archaeological literature offer significantly more reference to buck shot in a load known as “buck and ball” than simply buckshot. Buck and ball was a common ammunition used by American troops from the Revolutionary War through the Civil War. The concept is relatively simple. Using a smoothbore musket of large caliber, usually .69 or .75 cal, buckshot of .320 and .38 cal were placed behind a larger musket ball that acted as a gas seal. Alternately, with pre-made paper cartridges, the small balls could be placed in front of the larger ball.

Either method provided the same result. Since smoothbore muskets were remarkably inaccurate, this method compensated by firing a larger number of projectiles at the target. The intent of the buck and ball load was to combine the devastating impact of the

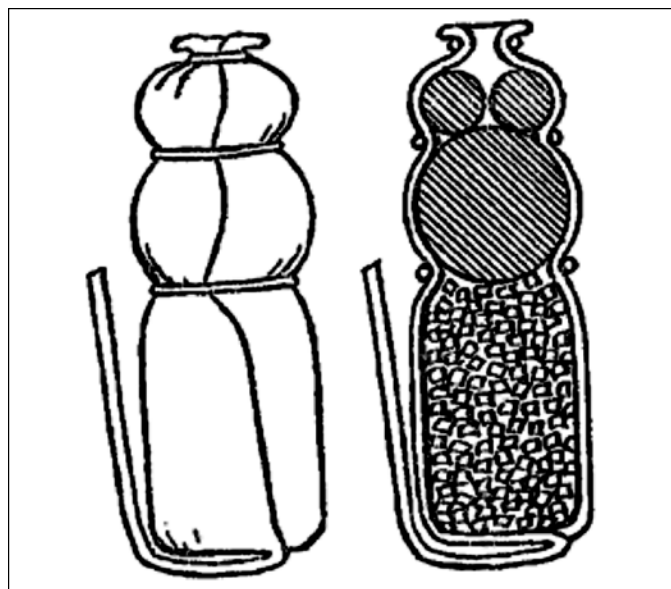


Figure 21. Example of a pre-made “buck and ball” cartridge load typical from the Revolutionary War through the Civil War (from Russell 1957: 246).

full-size ball with the spread pattern of a shotgun and improved the hit probability of the smoothbore musket.¹³ The average range of Revolutionary War buckshot found at archaeology sites is between .330 and .380 cal.¹⁴ By 1777, the buck and ball method became standard. General George Washington issued orders from his General Headquarters in 1777 that “buckshot are to be put into all cartridges which shall hereafter be made.”¹⁵ The resulting cartridge was similar to the drawing in Fig 21.

Archaeology has discovered the use of buck and ball in several contexts. Excavation of a 1782 shipwreck off the coast of Florida in 2012 turned up a Brown Bess musket that, when X-rayed, showed it was still loaded with buck and ball, indicating that the method was in use by the British as well as the Americans.

Postdating the Lewis and Clark Expedition, the U.S. military continued to use buck and ball load in combat. During the Seminole Indian Wars in Florida (1815-1845), buck and ball was standard issue for smoothbore military muskets.¹⁶ U.S. Army Quartermaster ordinance survey of 1838 during the Seminole Wars listed 2,344,535 cartridges “purchased or fabricated” with 2,061,446 (or 87.9%) of those being “musket ball and buckshot cartridges.”¹⁷ As late as 1862, the U.S. Military Academy textbook, *A Course of Instruction in Ordnance and Gunnery*, instructed cadets in the art of using these loads, stating that they “are

principally used in Indian warfare, and especially in night-fighting.”¹⁸ In the later stages of the Civil War, smoothbore muskets fell out of use and the buck and ball method disappeared, replaced by the combat shotgun around the turn of the twentieth century.¹⁹

There is no explicit or direct evidence the Corps of Discovery used buck and ball loads. However, before the expedition departed, William Clark ordered “every man to have 100 Balls for their Rifles & 2 lb. Of Buck Shot for those with musquets and F[uzees].”²⁰ Buckshot was considered a viable anti-personnel load in muskets and historian James Garry speculates that during the tense confrontation with the Teton Sioux, several members of the expedition may have had buckshot loaded in their muskets.²¹ The caliber of the buckshot was not specified, but could have been similar to the ball found at the site.

CORRELATION WITH OTHER LEWIS AND CLARK SITES

The results of this study of Clark’s Canoe Camp seem to correlate in many ways with other known campsites believed to be associated with the corps at Travelers’ Rest, near Lolo, Montana,²² and Lower Portage Camp, near Great Falls, Montana.²³ In both cases localized trace mercury in the soil has been seen as evidence for the expedition’s presence, given its use as a medicine. When compared to the Lewis and Clark campsite at Travelers’ Rest in particular, the layout of the canoe camp site is very similar. The localized mercury, being almost exactly three hundred feet from a fire feature, not only relates to the layout of that site, but also the military regulations of the time.

Perhaps the greatest correlation is the chemical signature of the lead ball found near the latrine. The ratio of the three isotopes gives a signature that is not only consistent with #324 found at Travelers’ Rest, but also correlates with the nearby localized mercury deposits at the same depth. In addition, the signature of both lead artifacts is consistent with two geological samples collected in Kentucky, which had historic mining during the period when the expedition was procuring supplies. Unfortunately, pertinent records of that time period were likely destroyed in the War of 1812.²⁴ Still, the confidence that the ball and the site are related to the Lewis and Clark Expedition rises significantly. Given the military nature of the expedition, it is easy to

imagine a sentry approaching the latrine to relieve himself, perhaps placing his cartridge case on the ground, spilling some of the contents, and losing a piece of shot in the tall July river bottom grass.

The flattened lead from the fire feature, on the other hand, does not appear to be related to either the lead ball or other known lead artifacts from the expedition. The same is true for a lead ball found at Fort Clatsop. These artifacts still may be related to the expedition, but they do not correlate with other known samples.

Admittedly, there is at least one major difference between this site and other known sites. The main fire feature lacked an enclosure of stones as found at both Travelers’ Rest and the twelve hearths at Lower Portage Camp. While it is possible any stones left by the corps may have been intentionally removed in later years when the land was plowed and used for agriculture, such an assertion is speculative.

CONCLUSIONS

Taking the evidence together, a case both for and against the site being associated with William Clark and the Corps of Discovery can be made. Even removing from discussion the artifacts of an ambiguous nature, such as the strap metal, bones, and buckle, the case for a Lewis and Clark association is strong. It can be summarized as follows:

- The site is where Clark’s survey logs and mapping data describe the location.
- The site matches Clark’s descriptions, particularly in reference to the “black bluffs” slightly downstream but clearly visible from the site.
- All artifacts and features have been found at the location where Clark’s symbol had been geo-referenced to the earth.
- The features discovered at the site, when taken together, appear to conform not only to the military protocols used by the Corps of Discovery, but also other sites believed to be associated with the expedition, particularly Travelers’ Rest. In addition, localized traces of mercury are found in features just under three hundred feet from a fire feature that carbon dates to an acceptable timeframe.

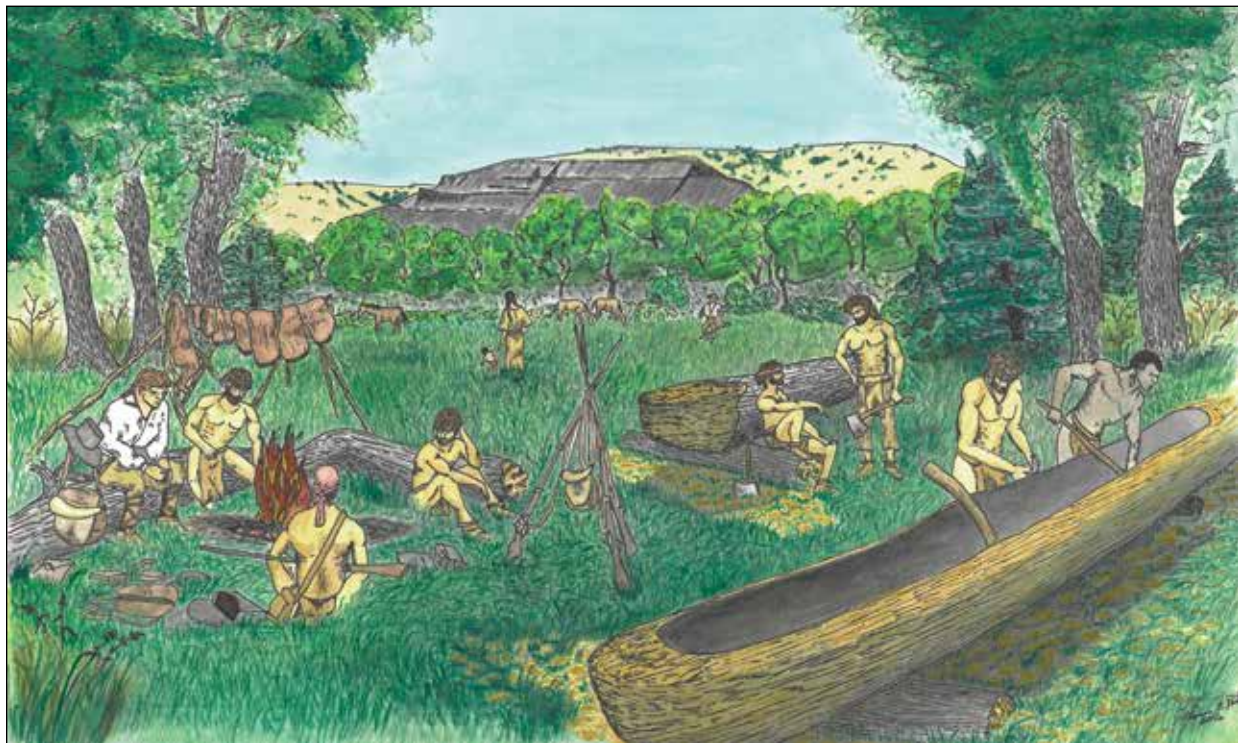


Figure 22. An illustration of what activity at the camp may have looked like in light of the archaeological excavations. Compare this with Figure 1. The campfire being excavated by the Scouts in Figure 1 is accurately placed here. Small items around the fire may explain things such as the potential buckle. However, even though every effort was made to make it as accurate as possible, like all illustrations, much is still conjectural.

- The localized traces of mercury found in features at this site are found in similar quantities at Travelers' Rest. Mercury has also been found at Lower Portage Camp, another site believed to be associated with the corps.
- A lead ball found two meters from one mercury feature and in a similar stratigraphic context has a chemical signature that is statistically identical to an artifact found at Travelers' Rest in a context believed to be associated with the Corps of Discovery.

If the more ambiguous artifacts are included, the case becomes even stronger. A buckle and piece of strap metal are certainly things the corps could have used and they were found in a context that may be associated with the expedition. Given their relatively small size, they could be, to borrow the phrase from James Deetz, "small things forgotten,"²⁵ lost in the tall and lush river bottom grass. The bones found around the fire feature add to the case as well, as they are distributed much as bone fragments were at Lower Portage Camp.

While the case for the site being associated with the Corps of Discovery is strong, it may not be entirely convincing to all. The evidence is imperfect and a case

can be made that the site should not be associated with the Lewis and Clark Expedition. Negative argumentation is often easier than positive, as it only needs to raise doubts and requires no internal consistency. The case against the site being associated with the Lewis and Clark Expedition can be summarized as follows:

- The dating of the site, particularly through C14 testing, is imprecise at best, giving too broad a range to be useful, once calibrated for atmospheric carbon. Though typical with samples of about two hundred years old, the range provides little usable data upon which to base any positive conclusions.
- The fire feature does not have a stone enclosure as found at other sites believed to be associated with the expedition at Lower Portage Camp and Travelers' Rest.
- The artifacts (other than the lead ball) are often extremely ambiguous and cannot be associated with the Corps of Discovery with any certainty. Buckles have not changed significantly for almost three millennia and there is no positive evidence the bones near the fire feature were associated with the members of the expedition.

- The lack of artifacts, especially diagnostic artifacts, is problematic. Other than the remains of mercury and the lead ball, little evidence points conclusively to the Corps of Discovery.
- The metal artifacts found at the site may indicate the site is not associated with the corps since metal was a high premium for personal use and trade goods with the Indians. Therefore, the party would have been saving every scrap possible for their anticipated arrival at the Mandan villages later that summer. Clark was obviously very concerned about having enough trade goods, given his reaction to losing half of their horses, which he intended to use for trade.

The strength of the negative argument does not appear to be as convincing as the positive argument for the site being associated with the Corps of Discovery. While one or two pieces of evidence can be dismissed as coincidence, it becomes harder with three or more, and given the cumulative number of correlations found at the site, the case for the site being associated with the corps is very strong. The strength of some of the evidence is hard to dismiss, especially the chemical signature of the lead ball and the presence of mercury in localized deposits three hundred feet from a fire feature. While not everyone will be convinced, there is more evidence, and more convincing evidence, of its association than any of the other potential sites for this specific camp. Yet, it is up to the other entities, such as the National Park Service or the Lewis and Clark Trail Heritage Foundation, to weigh the evidence presented here and declare if the site is indeed the place where Clark made his canoes. 🌿

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NOTES

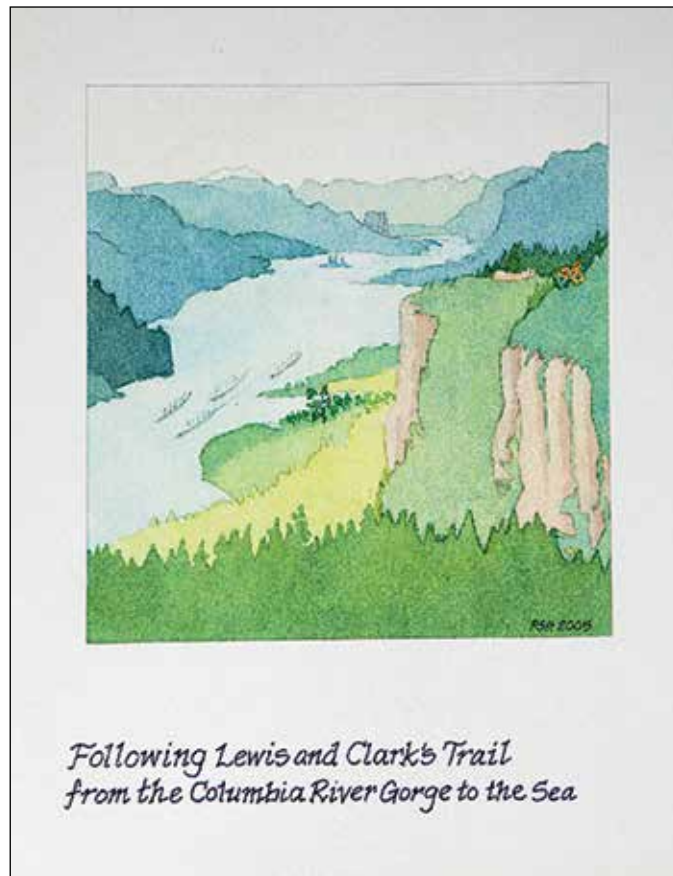
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REMEMBERING PETER S. HOCKADAY

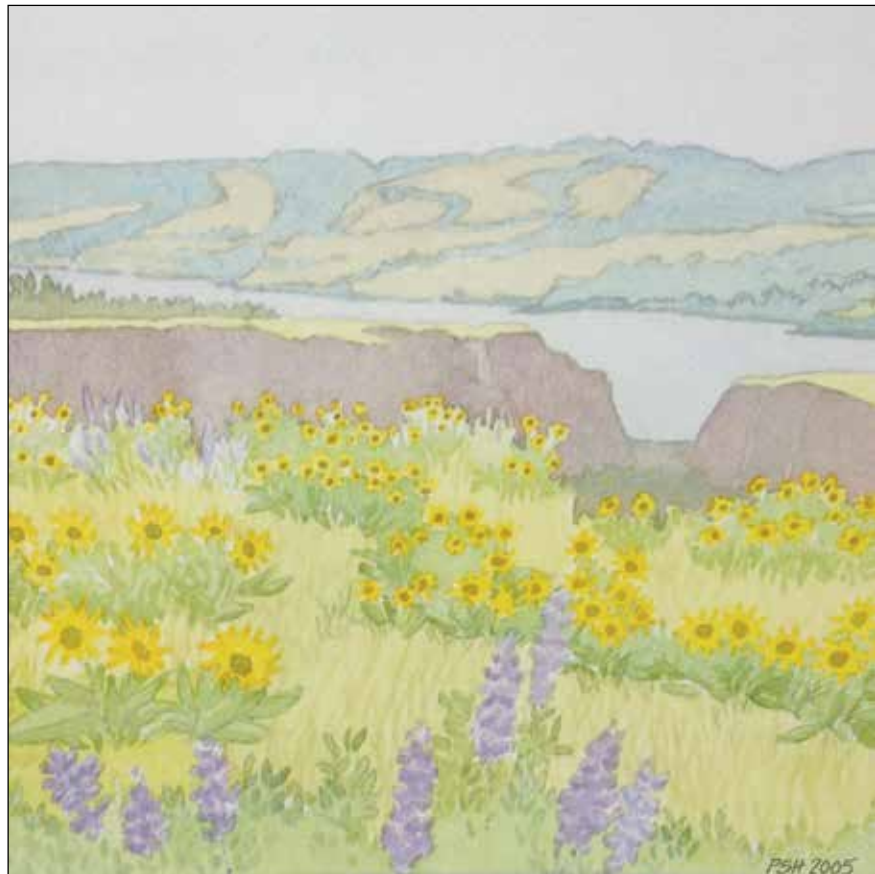
JOAN HOCKADAY



Architect, amateur artist, and dry-fly fisherman Peter Stuyvesant Hockaday died in San Francisco in May 2014.¹ Born in St. Louis in 1936, he grew up surrounded by local Lewis and Clark lore. He brought his love of the story west when he joined a San Francisco architectural firm in the 1960s and then moved to the Pacific Northwest to open a Seattle branch of his architectural firm in the late 1990s.

Purely by chance at the Rainier Club in Seattle, Peter met another Missouri man—just before the

Lewis and Clark Bicentennial events unfolded. Keen Lewis and Clark historian Robert R. Hunt brought Peter up to date on coming events and obscure facts about the Lewis and Clark journey.² Peter was hooked. Long lunches ensued in the splendid surroundings of the historic Rainier Club with Bob and Peter trading stories of the trail and news from *We Proceeded On*. Soon after, Peter prepared watercolors for the “Beautiful Blue Camas” piece that appeared in the November 2003 issue of this journal.



COURTESY, ROGER WENDLICK, OREGON CHAPTER, LOTHF

“Gateway to the Pacific.” Peter’s artwork for the cover of the 37th Annual Meeting of the Lewis and Clark Trail Heritage Foundation in Portland, Oregon, August 6–10, 2005.



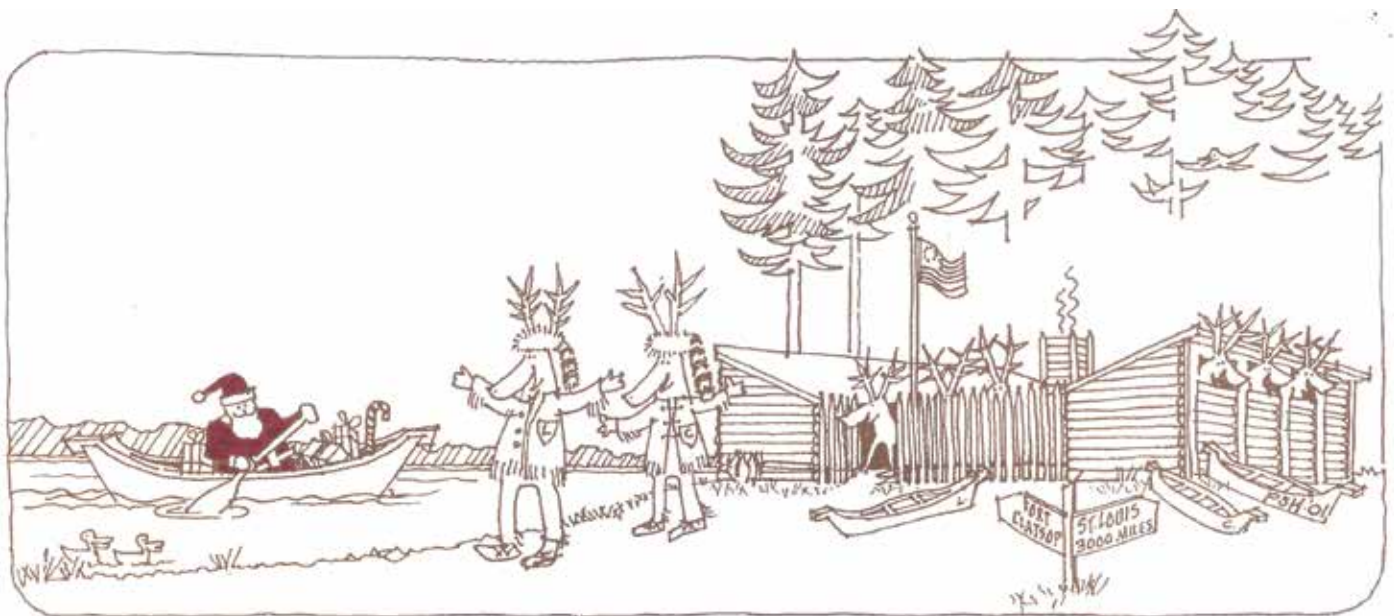
The architect, planning his next fishing and trail trip, left, sketched by family friend (and artist) Russell G. Fudge in the 1980s.



Holed up in Marge and Ed Kuchynka's "Retreat at Someday Ranch" cabin overlooking the Weippe Idaho wildflower fields, Peter churned out watercolors of historic Lewis and Clark scenes viewed from the Kuchynkas' windows and in surrounding fields. Closer to home, he sketched the Columbia River camp sites and wildflower fields alongside the Columbia River route west. For two years before the arrival of a British tour group in 2004, Peter scouted and sketched sites suitable for British visitors eager to see the Columbia during the Bicentennial and learn about Lewis and Clark's epic journey. British author (and explorer himself) Roy Lancaster led Scottish, Irish, and English hikers who for two weeks followed the (well-prepared) Lewis and Clark Trail down the Columbia to the Washington and Oregon coasts where Lewis and Clark camped and complained about the winter weather back in 1805 and 1806.³

Oregon chapter member Larry McClure soon heard of Peter's St. Louis roots, British tour-group scouting, and amateur drawing ability. Larry asked Peter to sketch the program cover for the 2005 Annual Meeting of the Lewis and Clark Trail Heritage Foundation in Portland.⁴ The Portland program cover artwork, pictured on the previous page, soon turned into that year's Christmas card with Santa pointing the way back to St. Louis. Meeting Jim Merritt, then *WPO* editor and a former editor of *Princeton Alumni Weekly*, unearthed unexpected Hockaday family history and a lasting east-west connection.

At left, Hockaday's 2004 Christmas card showing, in the distance, the British Isles (home to the many gardeners on the Columbia River wildflower tour that April). Below, Hockaday's 2001 card, showing an unexpected Christmas visitor to the soggy winter campsite at Fort Clatsop by the Pacific.



Whimsical Christmas cards of Lewis and Clark sites followed for years, until children married and deserved stories and sketches of their own on Christmas cards. However, Santa rarely stopped pointing the way, as did Lewis and Clark, to the wild western landscape between St. Louis and the Pacific. 🌿

Peter Hockaday's architectural firm Perkins+Will donated \$1,000 in his memory to the Lewis and Clark Trail Heritage Foundation in 2014, a perfect—and surprise to the family—gift in honor of the weekend watercolorist and lifelong keeper of the Lewis and Clark story.

NOTES

1. See *We Proceeded On* 29 (November 2003), 20-25.
2. See profile and tributes to Bob Hunt from editor Wendy Raney, Jim Merritt, Gary Moulton, Jim Holmberg, Barb Kubik, and others, along with a list of Bob's *WPO* contributions over a 20-year period. *We Proceeded On* 36 (February 2010), 6, 34-35.
3. See Roy Lancaster's Columbia River review published in the Royal Horticultural Society's monthly, *The Garden*, February 2005.
4. For a profile of Larry McClure, former LCTHF secretary, see *We Proceeded On* 36 (February 2010), 31.

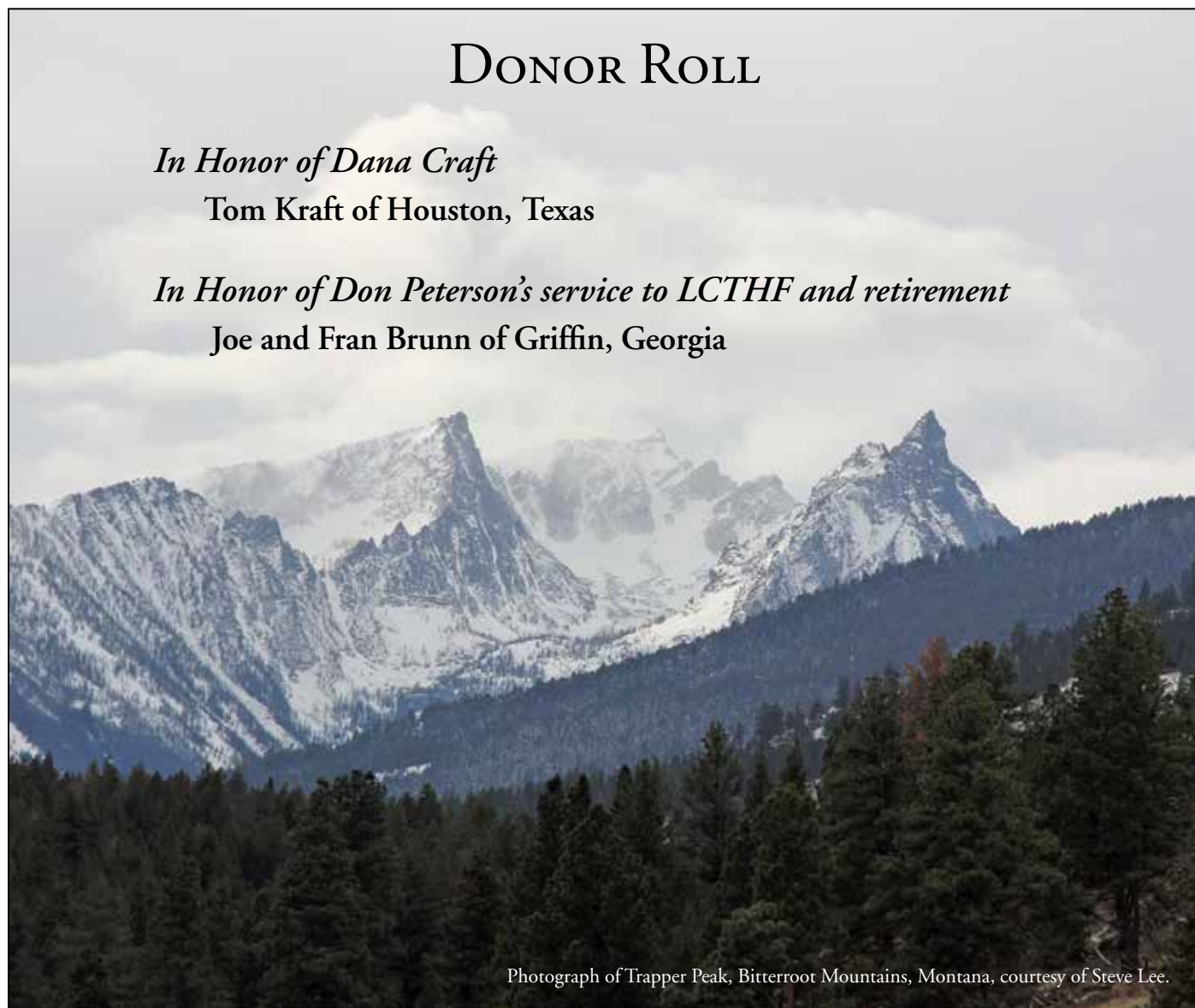
DONOR ROLL

In Honor of Dana Craft

Tom Kraft of Houston, Texas

In Honor of Don Peterson's service to LCTHF and retirement

Joe and Fran Brunn of Griffin, Georgia



Photograph of Trapper Peak, Bitterroot Mountains, Montana, courtesy of Steve Lee.

THE LEWIS AND CLARK EXPEDITION AND THE TOWNSEND BLACK SNAKE

TROY HELMICK



Melanistic Garter Snake. All photos in this article courtesy Crimson Bluffs Chapter, taken in and around Townsend, Montana.

President Thomas Jefferson wrote Meriwether Lewis very lengthy and detailed instructions¹ as the Corps prepared for the Expedition to the Pacific Ocean. Under the heading “Other Objects Worthy of Notice,” Jefferson included:

... the soil & face of the country, it's growth & vegetable productions ...the animals of the country generally, & especially those not known in the U.S., the remains & accounts of any which may be deemed rare or extinct; ...times of appearance of particular birds, reptiles or insects.²

Tuesday July 23, 1805: Captain Meriwether Lewis and the main party of the Expedition proceeded on their mission up the Missouri River with eight dugout canoes. As noted on Clark's map,³ the party camped that night on a small island in the river three miles north of present-day Townsend in Broadwater County, Montana. Capt. Lewis recorded in his journal that day:

“I saw a black snake today about two feet long the belly of which was as black as any other part or as jet itself. it had 128 scuta on the belly and 63 on the tail.”⁴

The following day, July 24, the party continued up the river past Indian Creek, the Crimson Bluffs, and Yorks Islands, then camped on the west side of the river six miles south of Townsend, near Dry Creek. Lewis recorded on that day:

...we observed a great number of snakes about the water of a brown uniform colour, some black and others speckled on the abdomen and striped with black and brownish yellow on the back and sides. The first of these is the largest being about 4 feet long, the second is of that kind mentioned yesterday, and the last is much like the garter snake of our country and about its size. None of these species are poisonous I examined their teeth and found them innocent. They all appear to be fond of the water, to which they fly for shelter immediately on being pursued.⁵

Captain Lewis evidently found the little black snake to be worthy of notice as he measured the length, counted scales, and examined the teeth. Worthy of notice it must be, as we are still attempting to determine its identity after more than two hundred years!

PREVIOUS IDENTIFICATIONS

In *The Original Journals of the Lewis and Clark Expedition, Vol. II Part II*, Thwaites 1904, in a footnote on page 264, the snake is misidentified as, “The dark variety of the so-called spreading adder or blowing viper—a species of *Heterodon*.”⁶

In a footnote on page 422 of *The Journals of the Lewis & Clark Expedition*, Volume 4, Gary Moulton,

editor, the snake was also identified as the “Western Hog-nosed snake, *Heterodon nasicus*, Burroughs, 276-77; Cutright (LCPN), 427-28.”⁷

In *We Proceeded On*, Volume 34, No. 3, August 2008, (page 22) an article by Kenneth C. Walcheck, “Montana Zoological Discoveries Through the Eyes of Lewis and Clark,” the snake was again identified as a “Western Hog-Nosed Snake, *Heterodon nasicus*. The snake was described by Spencer Fullerton Baird and Charles Girard (1852). Observation date: July 23, 1805.”⁸

In spite of the apparently definitive statements by recognized authorities, there is a difficulty with this identification: the western hog-nosed snake has never been reported from the area around Townsend, Montana, and is not known to occur there. The nearest reported occurrence is approximately seventy-five miles to the northeast. It seems likely that the identification is incorrect. Now, more than two hundred years after Capt. Lewis described the little black snake, we believe that its proper biological classification can be finally determined.⁹

In the *Montana Outdoors* magazine article, “Identification of Montana’s Amphibians and Reptiles,” by Jim Reichel and Dennis Flath, 1995, two garter snakes are listed as native to the Townsend area: the Common Garter snake (*Thamnophis sirtalis*) and the Western Terrestrial (*Thamnophis elegans*). Also noted, “...all black individuals are occasionally found.”¹⁰ The ques-



Three Garter Snakes common to the Townsend area.

tion then is, does the black snake belong to the *T. sirtalis* or to the *T. elegans* species?

SEARCHING FOR BLACK SNAKES

Larry Thompson, a Helena, Montana, biologist, was searching for the black snake in the Townsend area in May 1983. In an article in *The Townsend Star*¹¹ he offered a reward of ten dollars to the first person to provide a living specimen of the black snake, together with information on the exact site and date of capture. We found no record of any snakes captured or rewards paid.

The Crimson Bluffs Chapter of the Lewis and Clark Trail Heritage Foundation was chartered at Townsend, Montana, in 1998. The capture and identification of the Lewis black snake was one of the objectives shared by several of the new chapter members. Progress on the project was very slow until 2003, when two black snakes were captured—one in Townsend and another by the Missouri River west of Townsend. An interested individual from Kalispell, a college professor from Bozeman, and a TV reporter with camera from Helena came to see the snakes. We soon had land owners, school teachers, students, sheriff’s deputies, families, and others searching for black snakes along twenty miles of the Missouri River.

The chapter contacted Dr. Grant Hokit, Biology Professor at Carroll College in Helena, Montana. At his invitation we delivered some snakes to him at the college. He was immediately and eagerly supportive of our effort. He gave us much needed advice on the collecting, care, and feeding of garter snakes. We continued to search and collect garter snakes and kept in contact with Dr. Hokit about our progress. We showed live snakes and spoke to students in classrooms and to others at outdoor events. Each year as fall weather approached, we released the captured snakes so they could return to their communal den sites before winter.

In spring 2007, Dr. Hokit called us to report he had students and resources to proceed on with a research project to identify the black snake. We agreed to assist them with hunting and collecting snakes and offered to help in any other way that we could.

SPECIES IDENTIFIED

Carroll College students James T. Van Leuven and Sarah Tomaske came to Townsend with the objective



Melanistic Garter Snake in its favorite environment.

to determine if melanistic, or black, garter snakes from the Townsend area belong to *T. elegans*, *T. sirtalis*, or neither.

In his thesis, “Survey of Melanistic Garter Snakes by Traditional and Geometric Morphometrics,” Van Leuven explains how a total of eighty *T. elegans*, twenty *T. sirtalis*, and twenty-three melanistic individual snakes were captured and analyzed.¹² Five photographs were taken of each specimen. Scale count, linear and geometric morphometrics, and other data were recorded for each specimen.¹³ A scale was clipped on each snake to identify and prevent duplication of data.¹⁴ Approximately 2mm of the tip of the tail was clipped and stored for DNA analysis for a separate study in the future.¹⁵ Information collected with each specimen included time and date of capture, air temperature, wind conditions, distance to nearest water source, habitat type, morphotype, and GPS coordinates.¹⁶ All snakes were released near their capture site.¹⁷ Van Leuven completed the research and concluded that melanistic individuals in the Townsend area are morphometrically more similar to *T. elegans* than to *T. sirtalis*.¹⁸

DNA analysis of the specimens clipped from the snakes and stored by Van Leuven was completed by Carroll College student Kevyn J. Stroebe in his 2009 study, “Molecular Genetic Affinities of the Melanistic Western Terrestrial Garter Snake, *Thamnophis elegans*.” Stroebe examined the association between phenotype and species of garter snakes found along the Missouri River near Townsend, Montana, by analyzing the cytochrome b mitochondrial DNA sequences of *Thamnophis elegans* (Western Terrestrial Garter Snake), *T. sirtalis*

(Common Garter Snake), and melanistic individuals.¹⁹ The results showed that the melanistic snake sequences are more similar to sequences of *T. elegans* than to those of *T. sirtalis*.²⁰ The melanistic snakes group with *T. elegans* in phylogenetic analyses.²¹ The results support the morphological evidence of Van Leuven (2008).²²



T. elegans. Partial Melanistic.



T. elegans. Western Terrestrial Garter Snake.



T. sirtalis. Common Garter Snake.

The combined analyses of Van Leuven (morphometric) and Stroebe (molecular genetics) are presented in the paper recently submitted to the scientific journal *Northwest Naturalist*, “Melanistic Phenotype of *Thamnophis elegans* First Described by Captain Meriwether Lewis.” Authors: D. Grant Hokit, Jennifer M.O. Geiger, James T. Van Lueven, Kevyn Stroebe. The results of the combined analyses provide strong evidence that the melanistic garter snakes reported from Broadwater Co. are morphotypes of *T. elegans*.²³ Supralabial counts, linear morphometrics, and molecular phylogenetics all demonstrate the similarities between *T. elegans* and melanistic individuals while simultaneously describing the distinctiveness of *T. sirtalis* in the area.²⁴ This conclusion was further supported by the capture of a specimen exhibiting phenotypic mosaicism (Rakyan et al. 2002) with the head and posterior parts in typical color morphology for *T. elegans* and melanism in other parts.²⁵ Other melanistic individuals were completely black with no discernible dorsal or lateral lines.²⁶

Based on the results of the analysis of the description by Lewis, and the known distribution of herpetofauna in Montana, we conclude that it was most likely a melanistic individual of *T. elegans* that Captain Lewis encountered on July 23, 1805 and *not* a Western Hog-nosed snake.²⁷ His location on that date was less than 10 km from our study site, he described a snake that is “jet black” in appearance, and his scale counts fit within the range known for *T. elegans* (Rossman et al. 1996).²⁸ Also, on the subsequent day he mentions a second black snake (“of that kind mentioned yesterday”) within the context of describing numerous encounters with garter snakes (Lewis et al. 2002).²⁹ The Western Hog-nosed snake has not been confirmed in Broadwater County.³⁰ 🌿

For more information, contact: Dr. Grant Hokit, Department of Natural Sciences, Carroll College, 1601 N. Benton Ave., Helena, MT 59625.

Troy Helmick is a charter member and a director of the Crimson Bluffs Chapter of the Lewis and Clark Trail Heritage Foundation in Townsend, Montana.

NOTES

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2. Ibid.

3. Gary E. Moulton, ed., *The Journals of the Lewis and Clark Expedition*, 13 volumes (Lincoln: University of Nebraska Press, 1983-2001), Vol. 1, *Atlas of the Lewis and Clark Expedition*, No. 63.

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5. Ibid., 4:423.

6. Reuben G. Thwaites, ed., *Original Journals of the Lewis and Clark Expedition, 1804-1806*, 7 volumes plus atlas (New York, 1904-1905), 2:264.

7. Moulton, 4:422.

8. Kenneth C. Walcheck, “Montana Zoological Discoveries Through the Eyes of Lewis and Clark,” *We Proceeded On* 34, no. 3, (Aug. 2008): 22.

9. The detailed biological data referred to in this article came from two college theses and an analysis of the combined theses—all from the Department of Natural Sciences at Carroll College, Helena, MT.

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11. Larry Thompson, “Biologist Looking For Garter Snakes,” *The Townsend Star*, May 12, 1983, p. 1.

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25. Hokit, et al., “First Described by Lewis,” 7.

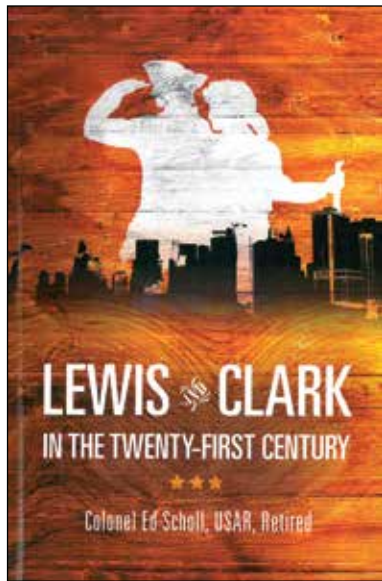
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30. Hokit, et al., “First Described by Lewis,” 8.



Lewis and Clark in the Twenty-First Century. With Volume 2: A Pictorial History.

By Colonel Ed. Scholl, USAR, Retired.

Mustang, Oklahoma: Tate Publishing & Enterprises, 2010. 228 pp., \$18.99 paperback. Volume 2, 2016, 440 pp., \$75.99 paperback.

Reviewed by Robert Clark.

In August 2003 Ed Scholl joined the Discovery Expedition of St. Charles, Missouri, in their ambitious bicentennial reenactment of the Corps of Discovery's trans-continental journey under Captains Meriwether Lewis and William Clark, 1803-1806. Replicating the original expedition, the reenactment spread over a four-year span, including the Eastern Legacy. Using the journals of the corps, the modern-day crewmembers recreated their predecessors' journey, adhering as precisely as possible to the original timeline, route, and recorded events.

The reenactors and volunteers, approximately two hundred fifty

men and women, participated in various ways and for varying lengths of time (some for just a weekend, others for weeks at a time) during the adventure. In addition to individual volunteers, the author calls out a number of Lewis and Clark Brigades/Chapters who helped support and staff the expedition. Scholl estimates that he was with the expedition for 77 percent of the trip, and his account therefore offers an excellent eyewitness overview. During the journey he portrayed Private Hugh Hall, and in so doing kept a journal of his experiences which gave birth to this book.

The author provides a list of all participants, a full itinerary for each leg of the journey, and the signature events in which they participated. Highlights, and some lows, are detailed. For example, while in Nebraska the expedition received an extremely large donation of corn. Scholl notes, "we had corn at all of our meals for days, and days, and days. We had corn in our salads, in our pancakes, in our sandwiches, in our desserts, and finally in our dreams."

The introductory text includes an excellent summary of supplies and their costs, including the reenactor's costume. The challenges faced by the reenactors are compared throughout with those of the nineteenth-century corps. Though at times repetitious, this comparative detail offers an illustration of the reenactor's work in creating a living history experience for the thousands who visited and viewed the twenty-first century adventure en route or in camp.

Volume 2 supplements the author's narrative of the journey with more than eight hundred photographs

from the reenactment. Printed in color on glossy paper, the images are primarily candid photos of places and participants. Short introductions preface each of the four legs of the journey. The author estimates that 90 percent of the pictures are his own, but he has included photos taken by other participants, as well.

Lewis and Clark in the Twenty-First Century is quite obviously a labor of love offered in tribute to those who shared an unforgettable experience. As Scholl notes, life-long friendships were developed by the modern-day crew members, and subsequent reunions and additional river trips have not been uncommon. But perhaps more importantly, this narrative provides a documentary record for the future, much as the journalists of the original Corps of Discovery preserved their adventures for posterity.

A few minor quibbles: Though not part of the narrative's intent, background on the Discovery Expedition of St. Charles, Missouri, would have added to an understanding of the reenactment and its origins. Misspellings of several important locations could have been corrected: Maris River should be Marias; Three Rivers is Three Forks at the head of the Missouri; Wieppi above the Clearwater in Idaho is actually Wierpe.

Ed Scholl's publication adds significantly to our appreciation and understanding of this significant living history event.

Robert A. Clark is editor of We Proceeded On, and editor-in-chief of Washington State University Press.

Creative Fiction Reviewed

Works of historical fiction receive only occasional reviews in *We Proceeded On*. Reader input has been mixed. In 2000 there was a rather contentious exchange on the topic, with one letter stating flatly “I object to WPO’s publishing reviews of works of fiction... There is all too much misinformation being published today by writers who want to jump on the Lewis and Clark

bandwagon to make a fast buck. That kind of junk belongs in pulp magazines, not in *We Proceeded On*.”

To this condemnation, James Alexander Thom (author of *Sign Talker*) responded in a succeeding issue: “As a historical novelist and sometime historian, I seek to give truths and insights, and welcome any discussion they might provoke. Please keep critiquing it all: fact, fiction, and the indeterminables.”

Primary sources are at the core of our study of the Lewis and Clark adventure. Secondary sources offer interpretive insight that can prompt deeper study and thought. Fiction offers a further leap into “what might have been.” Each has value.

We have received several works of creative fiction lately, and I’m pleased to offer short summaries on each for those of you who have an interest.

The Editor

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CHAPARRAL recently acquired a Lewis & Clark collection featuring books from two well-known Northwest historians. A catalog of these books is available on our website or upon request.

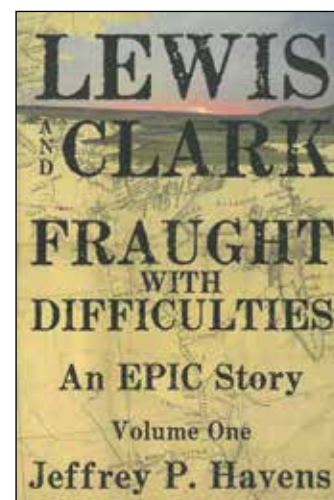
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Fraught With Difficulties: Lewis and Clark Lead the Corps of Volunteers for Northwestern Discovery Across America and Back. An Epic Story in Two Volumes.

By Jeffrey P. Havens.

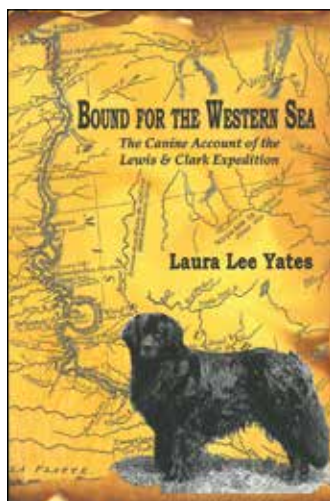
Helena, MT: FWD, LLC, 2015, 2016. 641 pp. Historical fiction. \$24.95 each volume, paperback. Discounted price available at www.fraughtwithdifficulties.com

Jeff Havens’s novel is solidly grounded in the journals of the corps. As the author explains in his promotional material, “Great effort was made for

the story narration to adhere to the expedition journals, and is supplemented with many historical facts.” Created dialogue and motivations expand the factual record.

Told through the character of Meriwether Lewis, the novel offers a detailed account of the day-by-day experiences of the corps. Lewis’s view is omniscient, including events where he was not present.

The author clarifies the liberties taken with the historical record in “Story Notes,” a cross-referenced appendix found at the back of each volume. The books include a comprehensive timeline, source list, bibliography, index, and alphabetical list of characters



Bound for the Western Sea: The Canine Account of the Lewis & Clark Expedition.

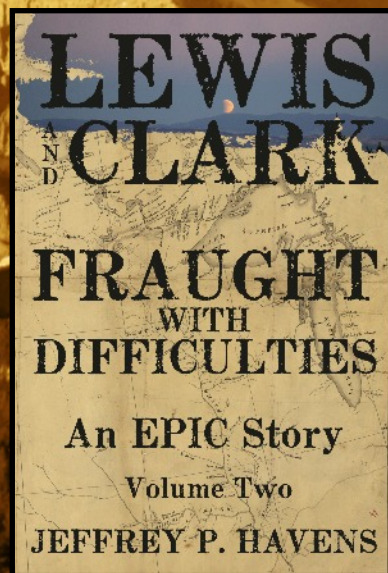
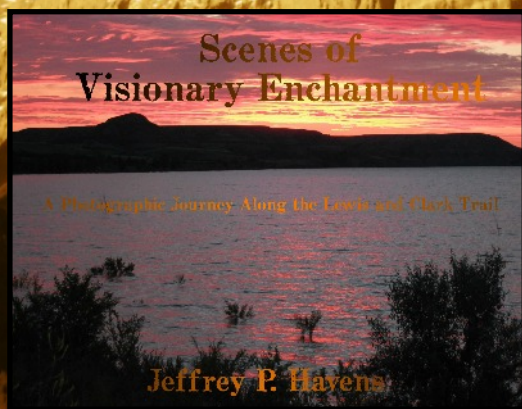
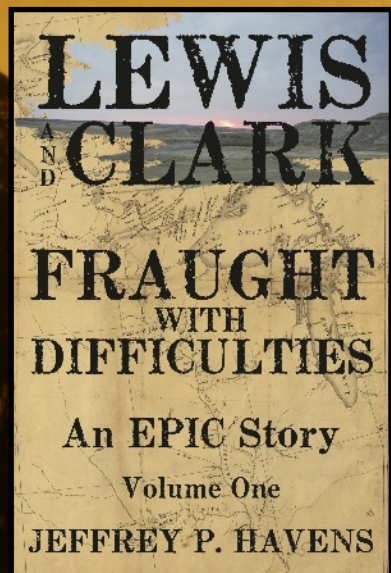
By Laura Lee Yates.

Paonia, CO: Undaunted Press, 2016. 316 pp. Historical fiction. \$14.95 paperback.

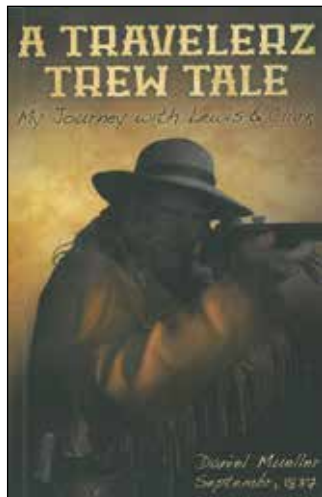
Seaman, the Newfoundland dog belonging to Meriwether Lewis, has been the subject of several books, primarily for children or young adults. Laura Lee Yates’s new novel tells the story of the Corps of Discovery through the eyes of Seaman, and her style will appeal to both adult and youthful readers.

Yates is a good writer, and her story moves along briskly. It offers a more emotional account of the expedition, focusing on the bond between Lewis and his companion, as well as the friendship Seaman develops with the members of the Corps of Discovery.

Relive the great adventure of the Lewis and Clark expedition in this epic two-volume novel and unique photo book!

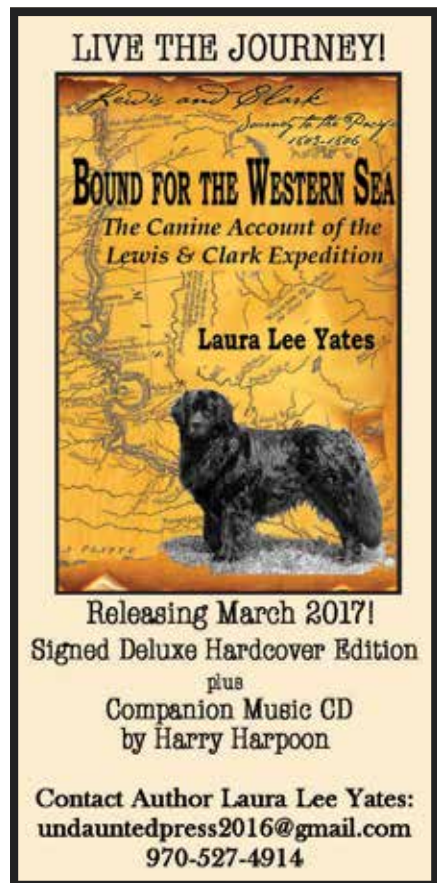


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A Travelerz Trew Tale: My Journey with Lewis & Clark. Daniel Mueller, September 1837.

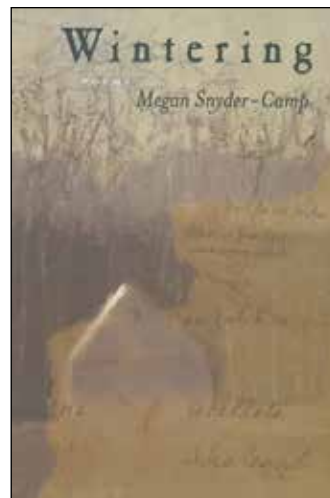
By David L. Miller.
Indianapolis: Dog Ear Publishing,
2015. 150 pp. Historical fiction.
\$20.00 paperback.



The journey of the Corps of Discovery is reimagined in this new work through the journal of fictitious adventurer Danny Mueller. Mueller is a creative speller with an idiosyncratic dialect that can challenge the reader in the early going. For example, in describing translations:

"I gotta tell ya, its always comical lisenin to all them Injun tribes try to translat back an forth between usuns and themuns. Weed start out in English, then to Frenchy, then to Hidasu, then to Shoshony, and finuly to Nez Purse an back agin. Back an forth, back an forth. It took HOURS just ta say a little bit!"

This short work offers an introduction to the story of the Corps of Discovery.



Wintering

By Megan Snyder-Camp. North Adams, Massachusetts: Tupelo Press, 2016. Pp. xii, 80, \$16.95 paperback. Reviewed by Robert Clark.

Megan Snyder-Camp is a Seattle poet who, in 2009, began studying

the arrival of the Corps of Discovery at the Pacific. Her experiences over the course of several years along that storm-battered coastline, revisiting their campsites and trails, their journals and log books, offered inspiration. As she explains, "I found myself lingering where many historians had hurried past: sites of absence, of error of silence."

The prose is lyrical:

"The pristine wilderness, the untouched plains, the thousand thousand buffalo, the countless bears that Lewis and Clark saw: what looked like abundance was actually absence. Decades before the explorers set out, the smallpox virus swept ahead of them, back and forth across the land until many tribes had been reduced to a small band of survivors. The animals they'd hunted roamed free and multiplied, the land grew thick around them, and passing through, you could be forgiven for saying you had found eden. Were not those survivors now your guides."

While reading the journals and exploring the landscape she also partook of seventeenth-century Japanese poet Matsuo Bashō, whose haibun form and ability to carry two tracks of imagery at once—the observed landscape and an interior one—offered a form combining fragments of prose and poetry that could be utilized to map the places, both physical and metaphysical, that she visited.

Native American voices play an important role in the work, and while delving into this topic the author began researching the vocabularies of Native languages gathered by Jefferson and Lewis. The work concludes with a thirteen-page, footnoted essay discussing those vocabularies, their creation, and their loss.

Missouri River Basin Lewis & Clark Interpretive Center



Situated on a scenic seventy-nine-acre wooded bluff overlooking the Missouri River, this interpretive center offers a wide array of entertaining and interactive exhibits and activities for the traveler. Its focus is on the more than three hundred discoveries of flora (178 plants) and fauna (122 animals) noted during the Corps of Discovery Expedition—the only museum or interpretive center in the nation highlighting the corps' amazing scientific discoveries.

The exhibits and displays were designed with the expert advice of Dr. Gary Moulton, the nation's definitive scholar on the Lewis & Clark Journals, who served as the center's first In-Resident Scholar.

The three-story, 12,000-square-foot center is located on the southeastern edge of Nebraska City, Nebraska. On the center's grounds visitors can climb aboard the fifty-five-foot-long authentic replica of the keelboat used on the journey. Built to nautical standards, this magnificent boat was featured in the National Geographic IMAX film "Great Journey West."

Nationally known PBS documentary film-maker Ken Burns provided the film and other assistance for the center's video. This attraction alone makes the site a "must" along the Lewis & Clark trail for its educational and entertainment value. The thirty-two-minute film is shown in the center's theatre and provides a sense of the sights and sounds of travel with the brave explorers 200 years ago.

The center has recently added a new exhibit featuring miniature replica period boats and a collection of stamps featuring the flora and fauna discovered. A log cabin built by the center's reenactors is also on the grounds.

Visitors can walk several miles of hiking trails. One trail goes from the center to an observation deck that overlooks the grand Missouri River along the river's bluffs. In addition, there is a birding trail with a small amphi-

theater. Another trail takes visitors to a forty-eight-foot replica Indian Earth Lodge and is handicap accessible.

The center also features exhibits that recognize the significant role of the Native American peoples to the success of the Corps of Discovery.

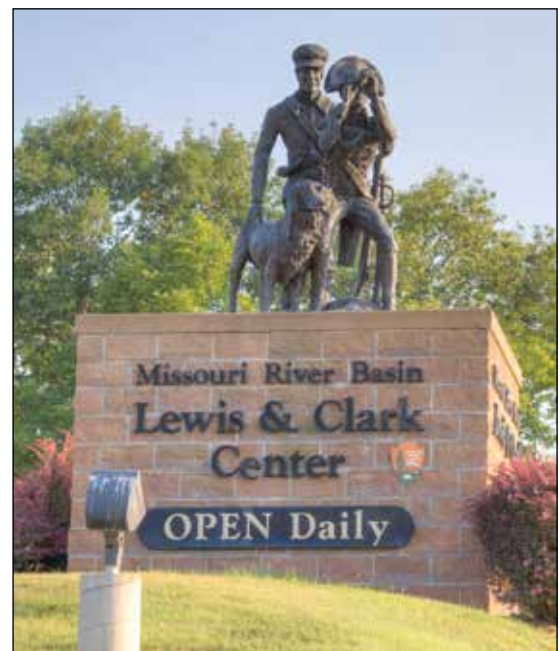
New activities are planned each month, including reenactments and presentations on the Corps of Discovery, the fur trade, and river navigation. Visit the website for scheduling.

The center is open Wednesday through Saturday, 10 am to 4 pm, and Sunday, noon to 4 pm. Admission is \$5.50 for adults, \$4.50 for college students and seniors, \$4.00 for active military and veterans, and \$3.50 for students ages 6-18. Children 5 and under are free.

Contact Information:

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Nebraska City, NE 68410
402-874-9900

www.mrb-lewisandclarkcenter.org



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