



PONY TRACKS

Newsletter of the Northwest Montana Posse of Westerners

Vol. 9, No. 3

Kalispell, Montana

April 18, 2022

Richard A. Hull, Ye Editor, e-mail: richardahull@charter.net

APRIL MEETING New Location!

Monday, April 25, 2022

Topic: “After the Dam, Rush to the Gorge”

Presenter: Jim Shelden,
Missoula, MT

Where: Northwest Montana History Museum,
Second floor historic classroom
124 Second Avenue East, Kalispell, MT.

Time: Grab 'n' Greet and book raffles
and signings at 6:00 pm

Dinner: No dinner will be available

Historic Presentation: Begins
at 7:00 pm and will require pre-event
reservations or a first-come, first-served
basis at the door.

For reservations call (406) 752-9642
(leave message) or send an email to
kbrittonrn@gmail.com.

Posse members may join the program through
Zoom at the following address:

[https://us02web.zoom.us/j/82386943060?
pwd=NFpLbFcyVkVEUXIGbmRmUzc2U0NvZz09](https://us02web.zoom.us/j/82386943060?pwd=NFpLbFcyVkVEUXIGbmRmUzc2U0NvZz09)

Meeting ID: 863 2628 8698

E-mail Tim Christianson at
tim.chris@yahoo.com for more help.

ABOUT THE PRESENTATION



Palouse Falls in southeast Washington is just one
of the remnants of the Lake Missoula flood.

Photo by Rick Hull

This month the Posse continues with our
most popular series – Glacier Lake Missoula.

Member **Jim Shelden** of Missoula follows up
his 2019's “The Cork in the Bottle” about the
ice-age Lake Missoula that stretched across
3,000 square miles of western Montana.

In “Rush to the Gorge,” Shelden uses
descriptions and illustrations to describe the
devastation downstream after the ice dam in
the Idaho mountains burst repeatedly and
2,000-feet of ice choked water tore across
Washington, down the Columbia River into
Oregon before reaching the Pacific Ocean.

The Ice Age floods forever changed the lives
and landscape of the Pacific Northwest.

Come and hear about the many features of
the National Park Service's National Geologic
Trail that extends across four states.

Visit our website: northwestmontanaposseofwesterners.wordpress.com

About the Presenter

Jim Sheldon is President of the Glacial Lake Missoula Chapter of the Ice Age Flood Institute – one of 11 chapters in the Northwest.

Educated in geology at the University of Idaho, over his career he worked with the BLM and the US Forest Service spending time on stability landslides, soil lab-geophysics, mineral law, permits regulation for environmental requirements for coal, oil and gas, caves, groundwater, and paleontology. He retired in 2009 as USFS Regional Geologist for Region 1 supervising lands and minerals specialists.

GENERAL MEETING INFORMATION

NMPW 's meetings are normally held on the 3rd Monday of the month, except the months of December and January. This month however, due to scheduling conflicts, the Posse meeting will be held on the 4th Monday - the 25th of April.

The meeting will also be held at a new location – the Northwest Montana History Museum (formerly the Museum at Central School), 124 Second Avenue East, Kalispell, Montana.

All meetings begin with a Grab'n' Greet for a chance to get acquainted and follow a historical presentation pertaining to American Western history.

The presentation is at 7 pm which is free for members and youths 16 and under. Non-members may attend at a cost of \$5. There will be no dinners this month.

Based on the past large attendance for the Glacier Lake Missoula programs, registrations will be required. Pre-event registrations are recommended or at the door on a first-come, first-serve basis.

In addition, all meetings will be broadcast

on-line via Zoom for our Out-of-County Corresponding and Brigade members and the members who cannot physically or choose not to attend the meetings.

FUTURE PROGRAMS

May: Monday, May 16, 2022
“Western Montana in Time-Lapse Photography” by Doug Ammons

June: Monday, June 20, 2022
"Lewis & Clark Expedition"
by Hal Sterns. (Part 3)

July: Monday, July 18, 2022
Part 3 of a series on Montana Aviation
by the Museum of Mountain Flying.

CALENDAR OF EVENTS



Members aware of events not listed here are encouraged to contact Ye Editor with the particulars at richardahull@charter.net

- May 4: History Book Club. The Paris Library by Janet Charles, 2 pm. at the Northwest Montana History Museum.
- Ninepipes Museum, located between Ronan and St. Ignatius, is now open. Hours are 10 am. to 4 pm Fridays and Saturdays during April. To schedule a tour at other times, email jo.cheff@ninepipesmuseum.org.
- This year's Fort Connah annual rendezvous will be June 16-19. The historic 1846 Hudson's Bay Company outpost is six miles north of St. Ignatius, Montana, on Hwy. 9.

Visit our website: northwestmontanaposseofwesterners.wordpress.com

FROM YE EDITOR'S DESK

By Rick Hull



The Posse continues venturing into new territory April 25, when it meets for the first time at the Northwest Montana History Museum in downtown Kalispell on April 25.

The Posse has been struggling with COVID restrictions for the past two years, and then last year lost its long-time meeting location at the Red Lion.

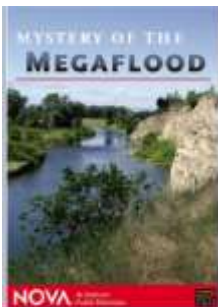
Then Posse Sheriff Ron Beard suffered his own health scare, and resigned, moving back to Maryland. Direction by e-mail and phone has not equaled in-person involvement.

The good news is the Museum is offering a bargain rate for the use of its meeting room.

This room is outfitted with an advanced audio-video setup, which should avoid March's experience. That presentation at the Flathead Electric Cooperative had to be projected on a blank wall, and the speaker system was not available.

For the first time, no meals will be available. The logistics and expense of a catered meal appears to be prohibitive. However the Museum's downtown location means that attendees can pick from a variety of local restaurants prior to the meeting.

The Museum has offered meeting space, but does not have the staff or time to run the meeting. Posse volunteers need to step up and fill the yawning gap left by the absence of Ron's many roles.



For those interested in more about Glacier Lake Missoula, NOVA's *Mystery of the Megaflood* is available on YouTube, or as DVD from the Ice Age Floods Institute website.

TRIVIA QUESTION

Barbara Boorman and **Pat Walsh** both had the answer to last month's question: What do *U.S. Grant*, *Pocahontas* and *Tom Carter* have in common?

All three are steamboats from the early days of Flathead Lake transportation.

The *U.S. Grant* was originally a sailboat christened the *Swan*. But the craft took a week to work its way north on Flathead Lake and then up the Flathead River to Holt. So it was fitted with a boiler and renamed the *U.S. Grant*. In 1885 it began making semi-weekly trips from Polson to landings along the Flathead River.

The *Pocahontas* joined the *U.S. Grant* in 1886 in hauling passengers and cargo on the lake. But the next year it was caught in storm and floundered in shallow water near Melita Island. The *Pocahontas* was eventually raised, rebuilt and renamed the *Dora*.

The *Tom Carter* was named after Montana's first Senator. Nearly 80 feet long and displacing 45 tons, it was built along the Flathead River. It carried as many as 170 passengers on its daily trips between Polson and Demersville.

This Month's Trivia Question

Captain John Mullan is known for building a road from Fort Benton, Montana, to Fort Walla Walla, Washington, in 1859-60.

But as a lieutenant in 1853 he explored northwest Montana as part of territorial Gov. Isaac Steven's expedition .

Mullan mapped the Flathead Valley up to the Canadian border by following the Maple River. The river, he noted, had no maple trees.

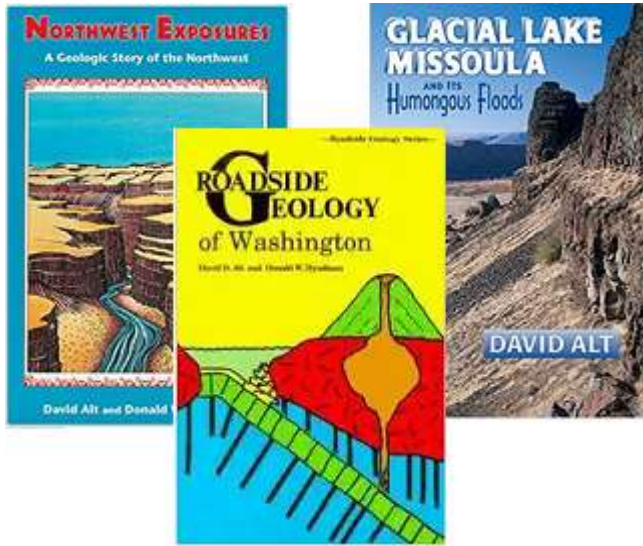
This month's question: What is the present name of the Maple River?

Submit your answer to Ye Editor at richardahull@charter.net and we will print the names of all those who get it right.

Visit our website: northwestmontanaposseofwesterners.wordpress.com

FROM THE BOOK SHELF

By Rick Hull



Geology dominates the northwestern United States. There are glacier-carved mountains, live volcanoes, geysers, massive lava flows and, of course, landscapes ravaged by a four-state flood.

Fortunately there were two University of Montana geologists who jumped in to explain the forces of nature in ordinary terms. The late David Alt and Donald Hyndman launched the Roadside Geology series in the 1970s, creating what has been a major industry for Mountain Press of Missoula.

The series now covers 32 states and areas like Yellowstone Park.

Alt authored additional books, including *Glacial Lake Missoula and the Humongous Floods*.

The books walk the tightrope of presenting the information in non-technical terms, without watering it down. Alt is particular good at this, along with his enthusiasm for the subject. And he is not afraid to point out where geologists are puzzled or disagree.

The books are available at bookstores across the country or from mountain-press.com. They are in trade paperback and typically run \$24 a piece.

DUES REMINDER

It is time for our annual members renewal and new member drive. Statements have been e-mailed to all current members. Please support our organization and its goals by responding as soon as possible.

We ask that your dues be made promptly to the address on the dues statement or brought to the April 25 meeting.

Do not hesitate to contact us with any questions or comments.

We are also requesting optional donations to the Posse's Equipment Fund for the purchase of upgraded programs, equipment, maintenance, and accessories.

This is the Posse's highest priority -- to make our award-winning programs available to all of our members and communities.

Join the Posse Team

Volunteers are needed to continue the Posse's more than six years of history programs.

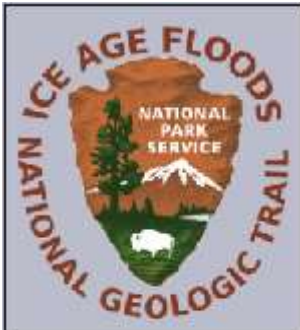
- Clerk of the Posse (Secretary-Treasurer)
- Deputy Sheriff for Membership
- Book Wrangler to maintain the Posse library and book raffles
- Assistant Zoom Master to assist and backup the Zoom Master
- Board Members
- Assistant Editor to assist the editor in writing and publicizing Posse newsletters.
- Webmaster for Posse website

Please join our Posse team as we rebuild our organization. Contact Eddy Byrne at 406-871-6001 or edwardjbyrne860@gmail.com to volunteer.

Thanks to **Robert Rodman**, who is the latest Posse member to contribute to the Live-Streaming Equipment Fund.

Visit our website: northwestmontanaposseofwesterners.wordpress.com

National Park Service NATIONAL GEOLOGICAL TRAIL



Unique among National Parks is the Ice Age Floods National Geological Trail.

This park is essentially a series of interpretive sites spread across Idaho, Montana, Washington and Oregon. Along with the sites spaced among 16,000 square miles, there are nearly weekly events such as river kayak trips, hikes, rocks and mineral shows, and presentation.

The initiative also includes the Ice Age Floods Institute, with 11 area chapters. Included is the Glacier Lake Missoula Chapter in Missoula, Montana, which meets monthly.

You can start your on-line journey at:
www.nps.gov/iafl/index.htm



Here you can get a preview of stops on the trail, such as Dry Falls State Park and Grand Coulee in Washington, or the Camus Prairie ripples or 3-D Paradise Center map in Montana.

The next step is joining the Ice Age Floods Institute at: iafi.org. A list of the Institute Chapters are at: iafi.org/local-chapters

Posse Gold Stars

Recognizing those members and friends whose generosity has assisted the Posse in so many ways:

Parkland Books,
raffle donations

Blacktail Mountain Books,
raffle donations

Northwest Montana Historical Museum,
meeting room

Tim Christenson,
Zoom annual subscription

Posse member donations
to the equipment fund and
anonymous raffle donations.

PARKLAND BOOKS



GENERAL OUT-OF-PRINT BOOKS
AND PAPER WITH EMPHASIS
ON WESTERN AMERICANA &
NATIONAL PARKS

850 LAKE BLAINE ROAD KALISPELL, MONTANA 59901
(One mile east of Junction of Routes 35 & 206)

Open Noon til 6 PM Friday, Saturday and Sunday
MARGE & ED ROTHFUSS, OWNERS

Ph. (406) 752-4464

E-mail: PARKLANDBK@AOL.COM

Blacktail Mountain Books



42 First Avenue West
Kalispell, Montana 59901

(406) 257-5573

Hours: 10:00 AM to 5:30 PM
Closed Sundays

Since 1977

www.facebook.com/blacktailbooks

www.blacktailbooks.com

30,000 books and we trade!

Visit our website: northwestmontanaposseofwesterners.wordpress.com

THE HERESY OF J. HARLEN BRETZ

By Rick Hull

Former Seattle school teacher J. Harlan Bretz had no idea about the controversy he would ignite when he spent his summers exploring the area west of Spokane, Washington in the 1920s. It would be more than a half century before the University of Chicago geologist's discovery of a massive, prehistoric flood were accepted.

Bretz was investigating the mystery of eastern Washington. The area has vast lava flows overlain with rich farmland known as the "palouse". But something had stripped sections of soil, exposing boulder-strewn bedrock. The contrast was so stark that "scab lands" was the only apt description.

Initial theories connected the erosion to the ice age, though the continental ice sheet had not reached that far south.

Bretz saw something much bigger than mere erosion. First, there were numerous narrow lakes that ran southeast and were always located in the scab lands, not on the surrounding palouse. The lakes were always in deep channels or coulees, and often stair-stepped down one after another.

And the scab lands coulees split and wandered, like channels of a river delta. Finally, instead of the usual V-shape of river valleys, the channels were U-shaped with steep walls.

Particularly impressive were Grand and Mose coulees. Grand Coulee was as wide as three miles and a 1,000 feet deep. A 400-foot drop now known as Dry Falls stood between the upper and lower sections of Grand Coulee .

Bretz accepted the idea that ice-age streams had carved the landscape. His maps of the scab land clearly showed the braided channels.

But his summer expeditions soon pointed to the massive volumes of water required. Isolated canyons were miles from any river, with their walls cut into 200 or 300 feet of solid rock. Elevation surveys showed the water spilled simultaneously over gaps 30 miles apart.

And the flows had been short lived. Waterfalls had failed to cut back into their headwall before drying up. Gravel deposits indicated the Snake River had been forced to flow backwards.

Bretz was proposing cataclysmic flooding – perhaps larger than the world had seen – that he called the Spokane Flood. "All other hypothesis meet fatal objections," he wrote in an 1923 paper.

During later summers he followed the flood downstream, showing how it carved the Columbia River gorge, and backed up the Willamette Valley past Portland.

The struggle was finding a source for all the water. One hint came from Joseph Pardee, who worked for the U.S. Geological Survey at Missoula. Pardee wrote Bretz that he had evidence that an ice-age glacier had plugged the Clark Fork River, creating a temporary lake he called Glacier Lake Missoula. Shorelines of the lake are still visible on Missoula's hillsides, especially after a spring snowstorm. However Bretz doubted Lake Missoula formed in the same time period as the flood. Instead he favored a undiscovered volcano that had melted the ice cap across the border in British Columbia. It was a theory based on similar episodes in Iceland.

After summers of work and interim papers, Bretz was invited to present his findings before



J. Harlan Bretz

the Geological Society of Washington, to be held Jan. 12, 1927, in Washington, D.C.

Bretz was surprised to see W.C. Alden, head of the U.S.G.S., on the conference's panel of prestigious geologists.

At first the presentation went well. He showed slides of the flood features and discussed why ordinary glacier runoff did not have the volume to carve the landscape.

Then the panel tore into his findings. One by one they attacked Bretz's findings in what appeared to be a planned ambush. Charges like "presposterous," "incompetent," and "inadequate" were thrown out.

Bretz had crossed a forbidden line. For a century geologists had fought against the idea of "catastrophism," which explained features in terms of cataclysms, such as the Biblical flood. Instead they preached "uniformitarianism," where the world was shaped by slow-moving forces identical to those that could be observed today.

In attendance at the conference was Joseph Pardee. Geological folklore says that Pardee whispered to a fellow attendee that he knew the source of Bretz's flood. But Pardee was not going to challenge his bosses in the U.S.G.S. and didn't publish anything on his Lake Missoula findings for years.

The assault essentially undermined Bretz's theory for nearly 50 years. Bretz continued to explore the scab lands and solidify his evidence. He fought back with a 1928 paper, in which he wrote, "Ideas with precedent are generally look on with disfavor and men are shocked if their conceptions of an orderly world are challenged."

The consensus continued against him, though no one had a viable alternative. Bretz eventually turned his interests to Greenland, and then to the ice-age history around Chicago. His studies included exploration of caves, and he began wearing a hard hat as head protection. It became his signature style whenever he did fieldwork.

Pardee finally broke his silence in the 1940s. He had discovered ripple marks nearly 50 feet high in Camus Prairie, just south of Hot Springs, Montana. And



Ripple marks at Camus Prairie, south of Hot Springs, Montana
Photo by Rick Hull



Sculptured lava outcroppings along the Spokane River are products of the Ice Age floods.

Photo by Rick Hull

Pardee had increasing evidence that a glacial dam had created Lake Missoula and had failed catastrophically.

Nearly 70 years old, Bretz returned to the scab lands for the last time in 1952. This time he realized that there were likely repeated floods. His last paper on the scab lands was in 1969.

Bretz won several prestigious awards and numerous converts in the meanwhile, but no vindication.

That changed in 1972. First, NASA launched the Landsat 1. From more than 500 up, the satellite vividly showed the scab lands as a braided, but unified, drainage. Then Mariner 9 returned pictures of similar channels on Mars. And NASA used aerial photos of the Camus Prairie ripple marks to compare to similar features on Mars.

Bretz's findings received official recognition from the U.S.G.S. when it published *The Channeled Scablands of Eastern Washington* for tourists at the 1975 World's Fair in Spokane. Finally, Bretz received the Geological Society of America's Penrose Medal in 1979 at age 79. He passed away two years later.

Bretz's legacy was sealed in 1994 when his bust was erected at Dry Falls State Park at Coulee City, Washington.



Dry Falls at Coulee, Washington, with its 400-foot drop.

Washington State Parks Dept.

This issue of Pony Tracks is Volume 9, Number 3

The Pony Tracks is published monthly except December and January by the
NORTHWEST MONTANA POSSE OF WESTERNERS

Authors of articles hold the copyright to their contributions. All other
content is ©2022 by Northwest Montana Posse of Westerners
c/o Clerk of the Posse, P.O. Box 2803, Kalispell, MT 59903

Notice to Contributors

Copy intended for this newsletter should be sent to the Editor at the e-mail address below.
Copy must be in the Editor's in-box on or before the first of the month in order to make that
month's issue. Copy received after that date will be held over until the subsequent issue.

The next issue of Pony Tracks will be issued May 9, 2022 (or thereabouts)

richardahull@charter.net

Visit our website: northwestmontanaposseofwesterners.wordpress.com