ENFIA Interpreter

February 1, 2025 Vol. 19

A Message from the President

By Stan Trevena

Let It Snow

One of our board members was just up at Carson Pass and said there's only about two feet of snow on the ground. This winter got off to a good start, but we've had very few storms since the holidays. The forecast says this may change in the coming week as I write this. A bit of fresh snow at the Pass will bring out all the skiers and snowshoes.

We only have four months until we open Carson Pass for the season. The next newsletter will be in May. This article is intended to get a lot of information out to our members and docents about the new year. Please take the time to thoroughly read through this article and all correspondence sent out in the coming months.

ENFIA Memberships

Each year in March ENFIA memberships come up for renewal. This is a process that is completely automated with our Wild Apricot membership system. Every ENFIA member will receive an email reminding them of this renewal. If you have approved automatic renewals, your credit card will be automatically used for the renewal. This past year we added the options for non-recurring renewals for both individual and family memberships.

If you volunteer as a docent, you must be an ENFIA member to be covered by the Federal Employees' Compensation Act (FECA), which is essentially worker's compensation for federal organizations such as the

Forest Service, while volunteering at any of our locations.

Log into our membership system at https://enfia.org/membership/member-profile (there's a link at the bottom of every page of our website https://ENFIA.org under "Membership") to check how you are set up for membership renewals. We recommend that everyone log into their account by the end of February. Please verify that your contact information is current, especially your email and both home and cell phone numbers. Outside of the newsletters, we use email to communicate with our members.

When logging into the membership system, your Membership Card will be displayed on the first screen. You should print and/or save a copy of your card (easy to just snap a picture on your phone) to get a 20% discount on selected items at any one of our retail locations within the Eldorado National Forest.

Many of our new members are referrals from existing members recruiting their friends, family, and people they meet out on the trail. We got several new members this past Fall after the end of the season this way. If you encounter this situation, you can simply give our web address to anyone interested in becoming a member, http://ENFIA.org (easy to remember).

Docent Training

Planning for this year's training is just getting started. Last year's training went very well at the Lake Tahoe Community College campus. The facilities were very nice and met all our needs. We had a good turnout, and a lot of positive feedback on what was covered. We recorded that training and made it available to watch online if you were unable to attend in person.

Unfortunately, it became apparent during the season that some docents had not attended training or watched the training video and mistakes were made. The mistakes were with retail, permits, and bear canister loans. These mistakes caused some confusion and additional work for others, mistakes with bear canisters can lead to incorrect charges and refunds for returns.

It's critical that our docents get an annual refresher of their training for volunteering at Carson Pass. The Forest Service regularly makes modifications to their permits and procedures, ENFIA annually updates their manuals and makes changes based on the USFS. It's essential that all docents know each year about these amendments.

Planning has started for this year's training. Because of the number of things that need to be covered, and the fact that all docents are going to be required to sign paperwork for the Forest Service this season, **we will be requiring in-person training for all active docents**. We are planning on having two in-person training sessions; one on a weekday and one on a weekend. Locations are still being sought. As we get closer and get more information, we will send out an email with dates and locations.

If you do not attend one of the training sessions and do not sign the Forest Service agreement for volunteering, you will need to make special arrangements to complete those tasks before working your first shift at the station this season.

Scheduling

We will be opening the VSP Scheduling System up for the new season in April. An email notice will be sent out to all active docents on the date that this will occur. We are trying to get this open earlier this year so people can lock in the days they want to volunteer at the station and maybe reserve a stay at the cabin. We will also be using this system to manage the signups for the different training sessions being offered.

Interpretive Activities

Our interpretive hikes are always well received at Carson Pass. We are hoping to place a focus on coordinating these activities and adding new activities for this season. Mike Conroy, one of the two Station Managers, is going to be the lead in this effort. We are already exploring offering hikes and new activities related to Nature Journaling. We will survey our members soon on what activities people want to see, and if anyone out in our membership wants to get involved in offering these hikes and activities.

Tree Removal

Since the record setting winter of 2023, there has been some discussion with the Forest Service about trees at the Carson Pass Information Station. If you've never noticed, there's a weather station up on the granite to the east of the station. The tall radio antenna on top of the station transmits this data to a tower in South Lake Tahoe where it's posted online. You can connect remotely to this weather

station by going to this address from your phone or computer:

https://www.findu.com/cgi-bin/wxpage.cgi?call=CARSON&last=240

The weather updates about every 15 minutes. We have clocked some high winds up at Carson Pass during some of the recent winter storms. The station opened back in 1996. The trees have grown quite a bit over the past 29 years, and several were posing a danger to the structure if they were to fall in a storm.

We were notified at the end of the season that a Forest Service crew would be coming up to thin out some of the trees around the station. Since these trees were removed, we are exploring options to set up a temporary or permanent place to have some seating for interpretive activities, maybe even a small amphitheater. We will need to discuss and work with the Forest Service on anything we propose to do.

Another benefit of the thinning of the trees around the station is that our solar panel array on the roof of the station is getting a lot more exposure to the sun!

Forest Service Budget Cuts

In the last newsletter I included some information on the cuts to the Forest Service that are currently being implemented. Chris Sailor at the Amador Ranger District has asked if any of our volunteers would want to work as a volunteer Wilderness Ranger this season. This would involve hiking the trails around Carson Pass, permit checks for overnight visitors, site cleanup of the overnight campsites, educating visitors who are violating the rules and basic trail maintenance. If you would like more information on this opportunity, you can email Chris at christopher.sailor@usda.gov

I mentioned in the last newsletter that the Crystal Basin Station on Ice House Road north of Highway 50 was likely not going to open this season because of these cuts. Kristi Schroeder (Acting Public Affairs Officer) at the Forest Supervisor's Office mentioned that if ENFIA had volunteers that wanted to help staff the station they may be able to open it for a few days a week, possibly on weekends.

We will send out an email and survey in the next month to see if there's interest with our members in any of these (and possibly other) volunteer opportunities for this coming season within the Eldorado National Forest.

Board of Directors

The last newsletter had some information from our Fall Business

Meeting and Volunteer Lunch up in Placerville back in October. At that lunch we announced the results of voting for board members. At the time, we had one position vacant with nobody stepping forward to fill the vacancy. Per ENFIA bylaws, the board appointed that position at our recent January meeting. We now have a fully staffed board of directors:

- President: Stan Trevena
- Vice President: Edi Barrow
- Treasurer: Barbara Simpson
- Secretary: Don Bordenave
- Member at Large: Bruce Odelberg

Thank You

I want to thank everyone that made this past year a success at Carson Pass. We made many changes, had new people join the group that works behind the scenes, and were able to bring on more docents to help us be successful in providing a service and support to those visiting the Carson Pass wilderness area.

All of us behind the scenes took a breather from the end of October until New Year's. With only four months left until we reopen for 2025, it's time to get back to work and get ready for what lies ahead. Keep an eye out for emails between now and then with important information and updates.

If you want to contact me about anything related to ENFIA, you can email me at president@ENFIA.org

Stan Trevena, President ENFIA

History of Caples Lake

Part 2

By Frank Tortorich

As I related to the readers in Part #1, Lake Valley (Caples Lake) was an important and convenient location for the pioneers. It provided gold seekers and their animals with a place to rest and recuperate from their difficult task ascending the Devil's Ladder. This was the first summit of the Sierra Nevada (Carson Pass) at nearly 8,600 ft. elevation.

The majority, if not all, of diarists wrote about the "Second Summit" (West Pass) at 9,600 ft. This would be the second highest pass the emigrant wagons would travel over during the peak of the gold rush.[1] From Lake Valley, the travelers could see the second summit, just four to five miles ahead with a 1,800 ft. climb and extremely steep in a few places.

Here is what James A. Pritchard wrote in his Diary in 1849:[2]

1 Sonora Pass is about 10,000 ft. elevation. The Sonora route was only used for two years 1852 to 1854 when fell into disuse because of its difficulty.

2 The Overland Diary of James A. Pritchard from Kentucky to California in 1849. Copy in the California State University Library Sacramento, CA.

Sunday August 5th… About 3 P.M. we commenced the ascent with 14 mules hitched to one wagon…by sunset we succeeded in taking 2 of our wagons to the top of the hill Mountain… (Carson Pass).

Monday August 6th. … we resumed our march… for a distance of 4 miles where we struck Lake Valley. This is a handsome Valley with several beautiful little streams putting(sic) in from the mountains and running through it, emtying(sic) they(sic) waters into a beautiful lake which is found at the lower part of the Valley a mile or mile & one half long & from ½ to ¾ wide.

Here we found good grass and encamped for the day at the foot of the next high ridge of the mountain that we have to ascend.

Even though West Pass loomed high and ominous on the horizon from Lake Valley the travelers knew that they were only about six or seven days from their destination, be it "Hangtown," Coloma, Webberville, Dry Town, or any of the rivers or streams containing gold that would soon become known as the "Mother Lode."

When Mary Jane Walker Caples, along with her husband James, a baby, and her brother, rested in Lake Valley (Caples Lake) in 1849, they remembered that location with great interest. When they arrived in "Hangtown," James became ill. So, to make money, Mary Jane, with two Dutch ovens, baked, and sold pies to the miners for $1.25 to $1.50 (about $49.00 in today's value) per pie. It was said she sold as many as 100 pies in one day.[3] This was more money than most miners were making.

The Caples family settled in the Sacramento Valley to raise cattle. They also built a summer cabin in Lake Valley that soon became known as Caples or Caples Place. It also served as a trading post for the emigrants and later a place for summer campers that lasted for about 30 years.

The 1870 assessment roll for Alpine County shows; *James Caples had a track of land containing 160 acres situated at Summit Lake (Caples Lake) on the Amador Nevada Wagon Road with a house, barn, and other improvements. Value real estate $1,500.*

The census for that same year:

James Caples Dwelling 10 (?) Real estate value at $1,600, personally property valued at $30,000. Farmer.

In 1862, a new road was built by blasting through the Carson Spur. This new road would completely avoid having to travel over West Pass. It was called the Amador-Carson Valley Wagon Road and basically followed near present-day California State Highway 88. That was the same year that Nevada became a territory. As a result, the name of the road was soon changed to Amador Nevada

3 Mary Jane Walker Caples Reminiscence of her 1849 Overland Journey to California. California Historical Society, San Francisco.

Wagon Road. This new and improved road came into existence due to the Comstock Lode discovery in 1859. This gold and silver discovery is what created a need for better roads connecting California and Nevada.[4]

Around 1900, the Amador Nevada Wagon Road was upgraded and renamed the Alpine Highway. California State Highway 89 was also designated as an Alpine Highway. It was not until 1956 when it was finally designated as California State Route 88.[5]

With the road improvements, many more people traveled over Carson Pass headed east to the gold and silver mines in Nevada. The Caples home in "Lake Valley" was a perfect location to serve the travelers and campers with their needed supplies.

In the years following 1864, more people started to come into the Caples area for fun, recreation, and to escape the valley heat. Kirkwood Inn was built in 1864. This would become the summer cattle grazing area and popular destination for camping, fishing, hiking, and relaxing. The Caples' home and trading post in Lake Valley continued to prosper.

In 1864, the two-year-old baby of Mary Jane and James died and was buried at the edge of the lake.

4 Before the Nevada territory was established in 1862, it was the Utah territory.

5 In 1956, President Dwight D Eisenhower signed the Federal-Aid Highway system Act of 1956 creating the US Interstate Highway system. This is when California State Route 88.

The grave was moved in 1922 when Pacific Gas and Electric Company dammed Lake Valley.

The Caples baby grave is within the summer home tract at Caples Lake. Photo by Frank Tortorich.

(The Dog's name is Pearl, an honorary member of OCTA)

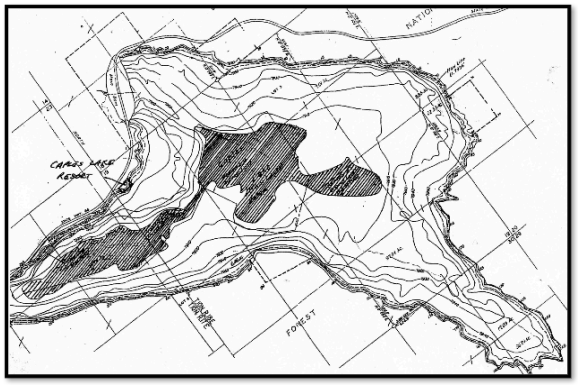
The headstone reads:

Our little
Harry l.
Son of
J.& M.J. Caples
Died May 25, 1864
Just 2 yrs & 9 mos.

As more summer visitors came to the area, "Twin Lakes" became the common name for Lake Valley.

The cross-hatched area on Map 1, shows the lake line as it was before the dams were built in 1922. The lake line is the same all the way around with a deep narrow neck connecting the two larger bodies of water, giving the appearance of two lakes. The contour lines are descriptive of the topography for the entire valley. The larger outline shows Caples Lake at

its high-water mark today. Highway 88 can be seen coming from Carson Pass to the upper right of the map, following along the lake's edge. It then continues to the left for about a mile, coming to the original Kirkwood Inn,[6] and now part of the Kirkwood Ski area.[7] Also notice how far apart the contour lines are on the right half of the "lake." This flat area was a grassy meadow with scattered trees, which provided a wonderful camping area for the gold seekers, providing grass and rest for the animals.



Map 1

Map 2 shows the Twin Lakes and the Alpine Highway before the 1922 damming of the valley.

Notice just above the "K" in lake there is a bridge across Caples Creek. The creek coming into the lake from the right is Woods Creek; the creek coming into the lake from the bottom of the map is Emigrant Creek. Those are the two main water sources for the lake along with the snow melt from the winter runoff.

Map 2

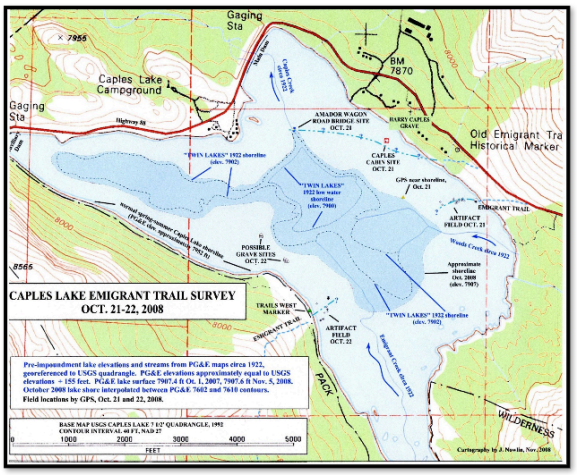
In 1920, Pacific Gas and Electric finalized plans to build a concrete spillway dam and a second earth filled main dam that would have a water-controlled outlet gate at the bottom of the main dam.

The concrete spillway dam is to the left edge of the map and the main dam is at the top center of the map. Present day Highway 88 is the red line following the upper edge of the lake.

The location of Baby Harry Caples' grave can be seen at the right edge of the lake. The Caples cabin site is also identified.

6 In the middle of Kirkwood Inn, the boundary lines for three counties, Alpine, Amador, and Eldorado Counties join.

7 Kirkwood Ski Resort (now Kirkwood Mountain Resort) opened in winter of 1972 when Caltrans began clearing the highway of snow in 1971. This made Highway 88 one of California's three year-round highways across the Sierra during the winter.



Map 3 provided by Jon Nolan

The Emigrant Trail is in the right center of the map as it enters Lake Valley. The trail leaves Lake Valley, identified by a Trails West "T" marker. Both segments show the artifacts field, which I will cover later.

Construction on the dam began by cutting down all the trees leaving stumps that would be below the new high- water line. Excavation to deepen the dam and provide material for the dam began in 1920; the spillway and dam were completed in 1923.

An outlet gate was installed to control the outflow of water at the bottom of the dam. The gate was a large sheet iron door that could be raised and lowered to open or close to regulate the volume of water flowing into Caples Creek. The gate was operated from a small building at the top of the dam, which can be seen today.

After Lake Valley was flooded and there were no longer "two lakes," people still called it Twin Lakes.

In the 1970s, the US Forest Service of the Amador District Ranger Gil Ward, proceeded to have the name changed back to the original name Caples and added "Lake" to the name. His efforts were successful. Even though the name was now Caples Lake a few old timers still referred to it as Twin Lakes.

Caples Lake today is still a destination location with a large Forest Service campground and a resort with a store, restaurant, and lodging. Fishing, boating, hiking, and backpacking are major draws for summer recreation. Winter provides ice fishing and cross-country skiing.

In 1978 my wife Mary Ann and I signed a volunteer agreement with the Amador Ranger District to do research on the Carson River Route of the Emigrant Trail. It did not take long for us to learn about the "49ers" camping in Lake Valley (Caples Lake.)

In 1979, for some unknown reason to me, PG&E drew down the water at Caples Lake, exposing the remnants of the Caples cabin site. I was able to take pictures of the remnants of the rock outline of the cabin.

I was so excited about this I was showing everyone in the Forest Service office of this great discovery. I kept the photo on my desk at the district office. To my great disappointment someone took the photo, never to be seen again. Sadly, I could not find the negatives either. Soon the lake was returned to its seasonal level and the Caples cabin

site was not to be seen for another 27 years.

About 2006 or 2007, the outlet gate at the Caples Lake Dam was beginning to malfunction. El Dorado Irrigation District (EID), the new owners, sent a diver down and discovered a badly rusted gate. An underwater video showed the diver removing a part of the guide rail with his hand. The rusting was preventing the raising and lowering of the 83-year-old sheet-iron gate. EID began making plans to draw down the lake level to replace the damaged outlet gate.

When I heard about this, I was excited. We would now be able to see the remains of the Caples Cabin site. But most important to me, we could now investigate where the Emigrant Trail had been hiding under water for the past 86 years.

I contacted EID and the Forest Service asking permission for OCTA[8] to do an archaeological survey of the Emigrant Trail. OCTA was granted permission to conduct the survey under the direction of a licensed archaeologist. Well, as it turned out, OCTA had its own archaeologist, Leslie Fryman. Leslie was a private consulting archaeologist and the Preservation Officer for OCTA and the CA-NV Chapter at that very time. We could not have asked for a better partner.

As soon as the snow melted in the early summer of 2008, EID started drawing down the water in Caples Lake. It was a slow process because the snow-melt water was adding to the increased flow down Caples Creek. California Fish and Game (name at that time, now Fish and Wildlife) restricted the amount of outflow from the dam to protect the fish habitat in the creek. As the summer progressed, the lake level was slowly falling. But not fast enough to satisfy my impatience.

The plan was to lower the lake only as far as needed. Then a bladder dam was installed that would stop the flow into the control gate so that work could be started to change out the rusted gate. Large pumps were installed to divert water through pipes from the lake around and over the dam to keep a steady flow of water into Caples Creek, which was also required by Fish and Game. The lake level was not to be lowered to its original natural level. To my delight it would be low enough for members of the CA-NV Chapter to conduct our survey. However, what was soon exposed was a massive mud flat that prevented foot travel.

Looking North-East from Highway 88 at the tree line on the far side of the lake, Photo by Frank Tortorich

This presented a new problem as we could not do our work until the mud

8 Oregon-California Trails Association

flat dried, which was frustratingly slow. So how do I tell chapter members what dates to save for this project? We made a calculated guess and decided on October 21 and 22, 2008, We were hoping that the unpredictable Sierra weather would cooperate making the mud dry enough to walk on.

When planning the lake drawdown, EID had contracted with a professional archaeology firm, ASM Affiliates out of Reno, Nevada, to excavate the Caples Cabin site and survey as much of the lake below the high-water mark as possible. I communicated with them so we each knew what the others had planned to do to avoid overlapping. It was a great partnership with each group willing to share reports.

On Tuesday October 21, 2008, twenty-six-chapter members[9] assembled at the Kirkwood Inn parking area so that each OCTA member could sign a volunteer agreement with the US Forest Service. The plan for the day was established. The first two hours were spent doing a tour of what an ASM archaeology survey revealed at the Caples cabin site and other areas.

Caples Cabin site. Photo by Frank Tortorich

Theresa Lechner, senior archaeologists for ASM Affiliates, described their findings. It was established as a cabin, most likely a log structure with a fireplace and flagstone hearth.

A notched log was found embedded in the mud near the cabin site. Another exciting discovery was the bridge abutments from the old Alpine Highway.

This was a great surprise for us all and a once in a lifetime experience. This was proof positive of the exact location of the Alpine Highway.

Alpine Highway bridge abutment. Photo by Frank Tortorich

After our tour of the lake bottom, we headed over to where the Emigrant Trail entered Caples Lake to start our survey of where the Emigrant Trail might be found below the normal lake level.

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[9] October 21, 1908, OCTA Chapter volunteers; 1 Jim Allison. 2 Ann Bagne. 3 Ed Bagne. 4 Barbara Bane. 5 Don Buck. 6 Joyce Everett. 7 Leslie Fryman. 8 Burt Gardner. 9 Roger Gash. 10 Karen Gash. 11 Sharon Hanson. 12 Bob Harms. 13 Theresa Lechner. 14 Chuck Lowery. 15 Janet Nowlin. 16 Jon Nowlin. 17 Ford Osborn. 18 Jerry Osgood. 19 Dee Owens. 20 Glenn Ownes. 21 Spencer Parker. 22 Larry Schmidt. 23 Phyllis Schmidt. 24 Frank Tortorich. 25 John Winner. 26 Joan Young.

Leslie Fryman and I gave instructions on how to proceed. The volunteers worked in pairs. One with a metal detector and another a recorder to document the findings on a standard archaeology survey form. Light scraping was allowed, and no artifacts were to be taken. Each item was recorded, photographed with a GPS location, and returned to its original location. Pin flags were also used to establish a pattern and the limit of the survey site.

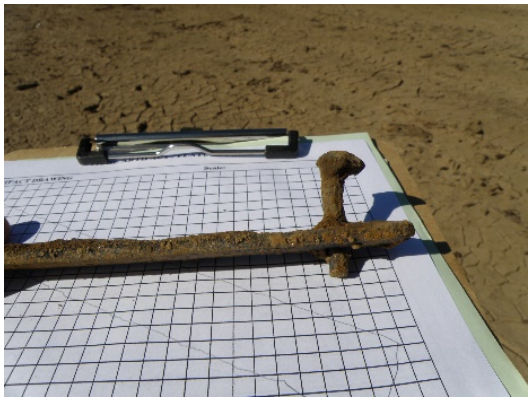
The pairs spread out at 10-yard intervals and zigzagged their way toward the mud flats and the existing water level.

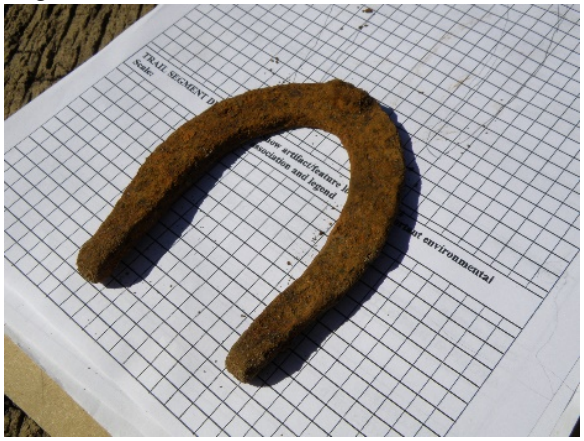
The survey resulted in a 150-foot-wide corridor where the wagons traveled. The corridor extended from the high-water line for 700 ft. where the survey could not continue because of the mud.

The results were amazing and exciting. Nineteen historic wagon related items were discovered.

Below are six examples of the recorded artifacts. Dee Owens photographed most of the artifacts.


Ox Shoe


Wagon Box Iron


Mule Shoe


Wagon Tailgate handle


Three-inch lead Bar/ Bullet Making

Assorted Wagon Items

We now had a much better understanding of where the wagon groups came into Lake Valley to overnight.

The next day, Wednesday, October 22, 2008, 14 OCTA members[10] met at the Caples Lake spillway to survey the southwest side of "Lake Valley." We walked about 1.5 miles along the lake bottom to see if we could locate the grave of pioneer Alexander Cotton as reported by his Great-Great Granddaughter, Dorothy Cotton. John Winner brought some divining rods, so we spent some time in a location that looked promising. While dowsing a cluster of rocks, the rods reacted indicating a possible grave. We took a GPS location reading for mapping later. See Map 3 for this location.

We then proceeded on to the area where we knew that the wagons traveled out of Lake Valley. See Map 3.

Like Wednesday, we worked in groups of two. One with a metal detector and the others as a recorder. We worked about 600 ft. from the high water mark as far as we could, stopping at the edge of the mud flats. Twenty artifacts were located like those found Wednesday. The big difference was we could not determine the limit of the survey area. This indicated to us that this was most likely the camping area. Wagons were spread out over a large area, which we did not have the time to survey. However, most of the artifacts were close to what was determined to be the trail corridor.

As you can see on Map 3, both survey areas would eventually connect if we could have waited for the mud flats to dry out. Unfortunately for us, the following week a snow storm came in and eliminated the possibility to finish our work. However, we did conclude that the survey was a huge success and added a significant body of knowledge to our research on the Carson River Route of the California Trail.

EID completed the replacement with a stainless-steel outlet control gate. That winter provided enough snow-melt water to completely flood Lake Valley again.

This was the opportunity of a lifetime for this researcher and all who participated.

My appreciation goes to EID, US Forest Service, ASM Affiliates in Reno, but mostly to all the OCTA

10 1 Jim Allison. 2 Ann Bagne. 3 Ed Bagne. 4 Joyce Everett. 5 Sharon Hanson. 6 Janet Nowlin. 7 Jon Nowlin, 8 Dee Owens. 9 Glenn Owens. 10 Spencer Parker. 11 Larry Schmidt. 12 Phyllis Schmidt. 13 Frank Tortorich. 14 John Winner.

members who gave their time and talent. Special thanks to the late Jon Nowlin for his map making skills. We miss you Jon. Also, my thanks to John Winner for his GPS skill and dowsing talent, to Dee Owens for her photographic skills and for her YouTube creation. Others who provided photos, Ed Bagne, John Winner, Spencer Parker, and Jon Nowlin.

I learned after the fieldwork that my camera malfunctioned so my deepest thanks to all who helped back me up with their photos.

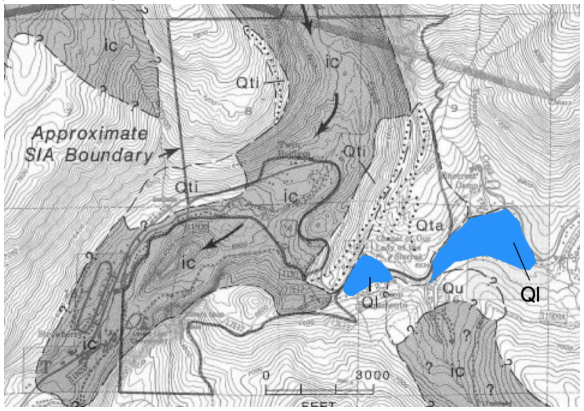
Frank and Mary Ann Tortorich are Charter and Life members of OCTA. Frank served as the CA-NV Chapter's first president.

A Bygone Lake in the Forest

by Lester Lubetkin

This is a tale about a lake within the Eldorado National Forest that no longer exists. In fact, it probably hasn't had water in it for over 10,000 years! Let's call this lake, "Sayles Lake", since the sediments left by this lake now form the ball field and play area of Sayles Flat and underlie areas to the east, stretching for nearly a mile to Tamarack Pines Rd.

The smooth, U-shaped valley holding Horsetail Falls and Pyramid Creek was formed by a series of glacial advances. Glaciers filled this valley with ice multiple times, to depths of over 500 feet thick. As you drive on Highway 50 going east towards Echo Summit, at the Pyramid Creek Trailhead the highway starts to swing to the right (south), where you can see exposed granite that has been smoothed and striated in places by moving ice some 13,000 to 20,000 years ago.



Map showing the path of the Pyramid Cr glacier, the glacial deposits and the location of Sayles Lake. Ql = lake, Qta and Qti = glacial moraines, ic = glacial ice. From Calif Geology, 1989.

This glacier was fed from up in the basin of Lake Aloha, in Desolation Wilderness. Going further east along Highway 50, the road takes a fairly sharp right hand turn. Here the road starts to traverse along a glacial moraine that was deposited along the eastern edge of this 13,000 to 20,000 year old glacier. And further to the east, where the road starts to turn back to the left, the road begins to traverse an older glacial moraine deposited by a glacier 60,000 years ago or more.

Throughout the Sierra Nevada, we have learned that the older glacial event (at least 60,000 years ago) was larger than the more recent one (some 13,000 to 20,000 years ago). And this is why the glacial moraine sequence

we see on the east side of Pyramid Creek has the older, larger moraine (labelled Qta in the map) farther east than the younger, and smaller moraine (labelled Qti on the map) that Highway 50 sneaks through at the lower end of Sayles Flat.

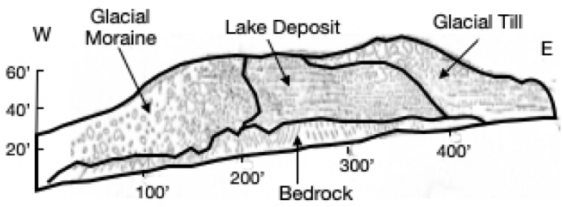
The headwater reach of the South Fork American River from Sayles Flat to Echo Summit was largely glacier-free, at least for the last 120,000 years or so. There were glaciers that descended to the valley from the south at Lake Audrain, Huckleberry Flat and Sayles Creek, as well as the large glacier coming from the north down Pyramid Creek. But the valley bottom had no glaciers. This gap in the Late Pleistocene ice cap was the only one across the length of the Sierra Nevada.

The unique thing about this section of the South Fork American River canyon is that the glaciers that came down Pyramid Creek valley cut across the valley of the South Fork American River, such that the glacial ice and the deposits left by these glaciers dammed up the waters of the South Fork American River, forming lakes at various times in the Pleistocene epoch. Geologists learned about these lakes from identifying lake sediments exposed in roadcuts back in the 1960's - you can't easily see these deposits any longer due to vegetation and road stabilization work.

Map showing the maximum extent of glaciers in the last 60,000 to 120,000 years (area in light blue). From Ehlers and Gibbard, 2003.

U.C. Berkeley Geology professor Clyde Wahrhaftig made a drawing of one of the roadcuts along the north side of Highway 50 back in the mid-1960's, which displayed a 60,000 year old glacial moraine holding back flat, thinly bedded sand and silt which was deposited in this ancient lake. The interfingering of glacial and lake deposits shows that there were at least three pulses of glacial growth at this time. As shown in the drawing of the roadcut, the lake sediments lie on top of granite bedrock, and are in turn covered by younger glacial deposits in the eastern portion.

The ridge at the western end of Sayles Flat is the lateral moraine of the youngest glacier (some 13,000 to 20,000 years ago) and it dammed the South Fork American River as well, forming a smaller lake at that time.



Simplified roadcut drawing from Professor Wahrhaftig showing lake sediments held in by the glacial moraine to the west and overlain by glacial deposits to the east.

We can only just imagine what the floodwaters were like as the ice melted as the glaciers receded and the lake waters broke through the loose moraine sediments, cutting deep channels and releasing the water stored behind these weak dams. These floods would have rushed down the South Fork American River, likely eroding the banks in areas and in other places leaving large deposits of gravel and boulders.

Another interesting glacial feature to note in this area can be seen as you drive on Highway 50 going west towards Pyramid Creek Trailhead and the town of Strawberry. You will see that the highway drops in elevation quite significantly. The section of the South Fork American River valley at Sayles Flat forms a “hanging valley”, created by the erosion of the Pyramid Creek glacier across the valley of the South Fork American River. (maybe another article later about hanging valleys in the Eldorado Forest).

Sources:

International Assoc for Quaternary Research, 7th Congress, Guidebook, 1965

California Geology, Four Geological Special Interest Areas, Vol. 42, No. 8, August 1989.

Quaternary Science Reviews, Vol 22, 2003.

Contributors Wanted

Calling all ENFIA members! We would love to hear about your adventures during the off season. Have you been out skiing? Snowshoeing? Camping? Enjoying the full moon? This newsletter comes out 4 times each year in February, May, August and November. All articles are welcome! Please submit articles to Robyn at rsandperl@enfia.org

Several docents and friends enjoying a full moon snowshoe to Robb’s Hut.