

RE-EXAMINING THE ROUTE OF MOUNTAIN MAN JOSEPH WALKER, who discovered the Yosemite Valley in October 1833

J. David Rogers, Ph.D., P.E., P.G., C.E.G., C.HG.
Missouri University of Science & Technology

for

**CalGeo Annual Conference
Yosemite National Park
May 2-4, 2013**



Did you ever stop to think how Yosemite Valley was formed and who discovered Yosemite National Park?



Joseph Rutherford Walker (1798-1876)

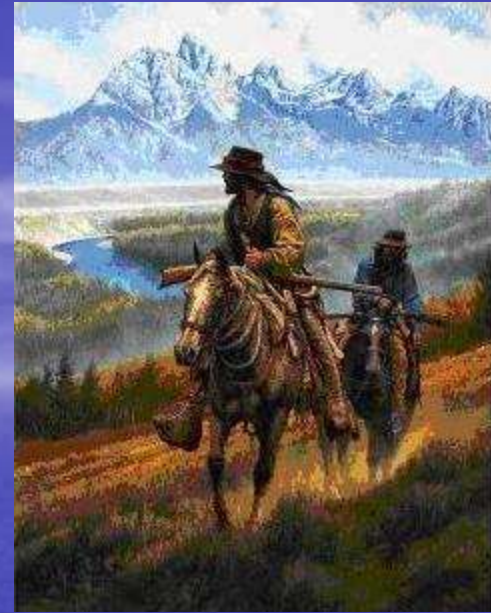
- Joe Walker was born in Virginia but spent his formative years in Roane County, Tennessee
- When he was 15 years old he and his older brother Joel enlisted in Colonel John Brown's mounted rifle company serving under Andrew Jackson in the Creek Indians Campaign, and fighting alongside Sam Houston at the Battle of Horseshoe Bend in March 1814
- In 1819 he moved to Fort Osage, Missouri Territory, on the distal edge of the American frontier. The following year he and David Meriwether struck out for the Rocky Mountains, hoping to reach the Pacific Coast. Instead, they became the first group of Americans to make the overland trek to Santa Fe, where they were arrested by the Spanish governor.
- Walker also played a prominent role in establishing the Old Santa Fe Trail. From 1825-27 he worked as a guide for a government survey establishing the Santa Fe Trail as a viable trading route, beginning at Fort Osage.
- In 1827 he became the first sheriff of Jackson County, Missouri where he remained for several years, while dabbling in various businesses supplying horses and supplies to frontier trappers and traders.



Joe Walker was 6'-1" tall and cut an impressive figure, dressing himself in embroidered buckskins, commonly referred to as "frontier finery."



EMIGRANT TRAILS



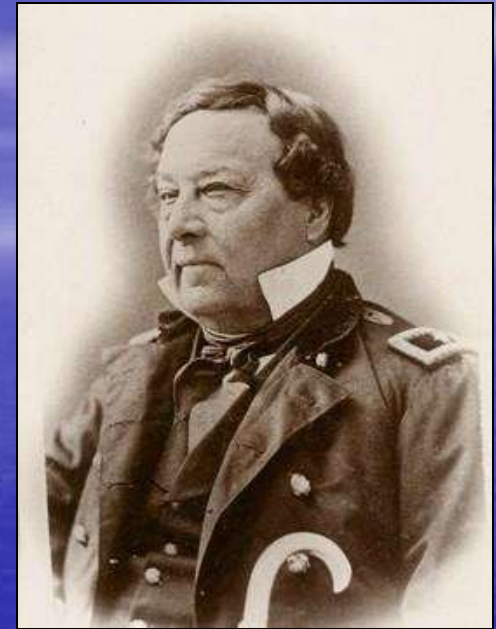
- Fur trappers scoured the west between 1807-44, when the first emigrant wagon trains began moving west, mostly along the Oregon and California Trails. The Mormons emigrated to the Great Salt Lake Valley in 1847-48, and the first transcontinental rail link was established through Ogden, Utah Territory in May 1869.**

Captain Benjamin Bonneville



Left: Benjamin Bonneville as he likely appeared in 1833, while leading a trapping expedition into the Columbia River Basin

Right: Benjamin L.E. Bonneville (1796-1878) 30 years later, as a brevet Brigadier General during the Civil War

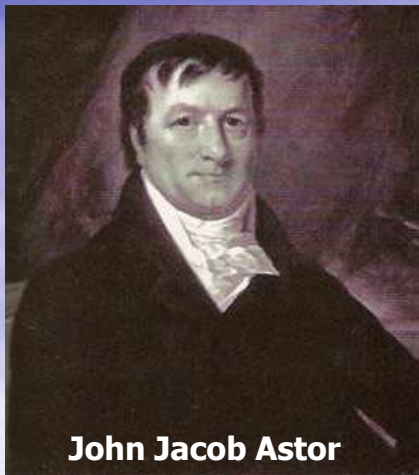


- In late 1830 Walker met Army Captain Benjamin L. E. Bonneville (West Point Class of 1815) at Fort Gibson along the Grand River, between the Cherokee and Creek Indian Territories (near what is now Muskogee, Oklahoma).
- Bonneville asked the Army for a two-year leave of absence to enter the fur trade and reconnoiter the British held Oregon Country. These adventures are believed by many historians to have been orchestrated by Andrew Jackson and some of his cabinet members.

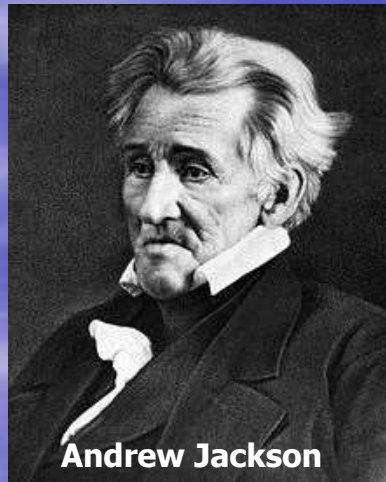


Joe Walker

- Early in 1832 **Joe Walker** joined **Bonneville's** expedition when it departed **Fort Osage, Missouri**.
- **Bonneville** proceeded to lead the first wagon train (110 men with 20 wagons) across the **Continental Divide** through **South Pass** on **July 24, 1832**
- This route came to be known as the **Oregon Trail** and **Bonneville** established a trading post on the **Green River** in what is now **southwestern Wyoming**.
- **Bonneville** seemed more interested in **reconnoitering** the western frontier than in **fur trading**.



John Jacob Astor



Andrew Jackson

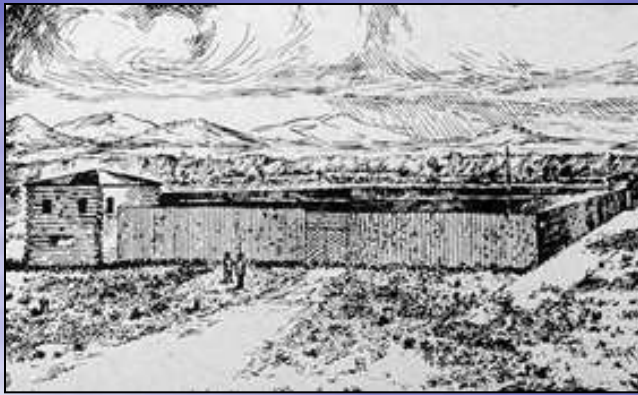
Friends in high places

- **Bonneville and Walker's expeditions of 1832-35 were funded by a group of New York businessmen, which likely included John Jacob Astor, and others politically aligned with President Jackson.**



Bonneville leads 1833 expedition into the Columbia River Basin

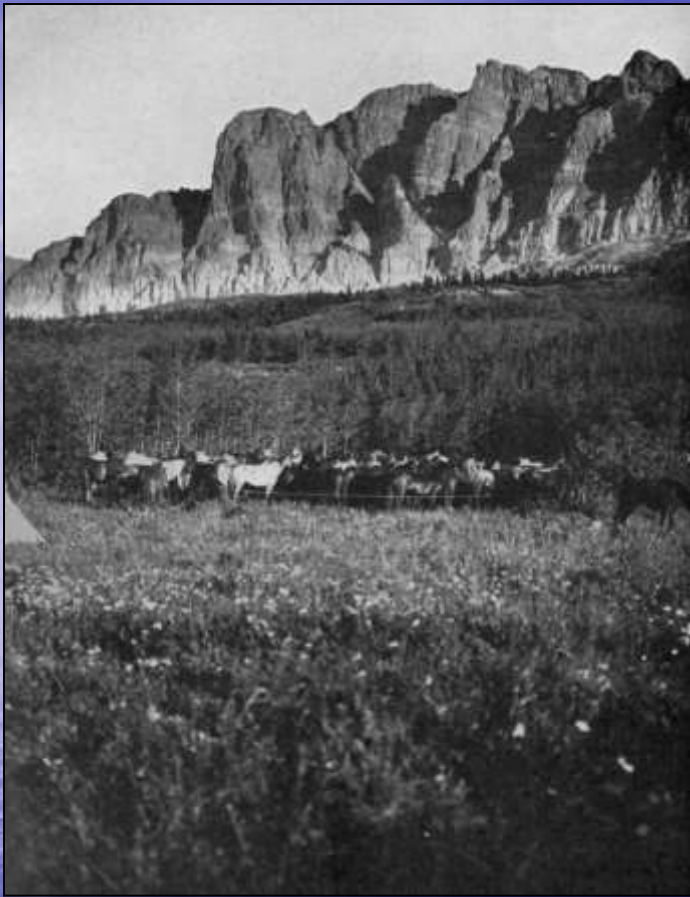
- **In January 1832 Bonneville travels to Washington, DC and secures Passport #2567 along with a Mexican visa issued to Joseph R. Walker. He did not apply for any other passports. The passport record has since vanished...**
- **Soon after establishing his trading post in what is now western Wyoming, Bonneville led an exploring party into the Columbia River Basin controlled by the British Hudson's Bay Company.**



**Fort Bonneville trading post
on the Green River in
Wyoming**



- **On July 27, 1833 'Captain' Joseph Walker departed Bonneville's Green River outpost with 40 men and 80 horses to "*explore the Great Salt Lake and to find an overland route to California*" (the Great Salt Lake had previously been explored and circumnavigated by Jed Smith in 1826-27).**
- **Four days later they reached the headwaters of the Bear River, where Walker required each man to hunt, slaughter, and jerk not less than 60 pounds of beef for the impending journey across the Great American Desert. 20 more free trappers joined the group (incl Bill Williams and Joe Meek), bringing the group's strength to 60 armed men, making it the *largest group* of Americans to ever penetrate the far west.**

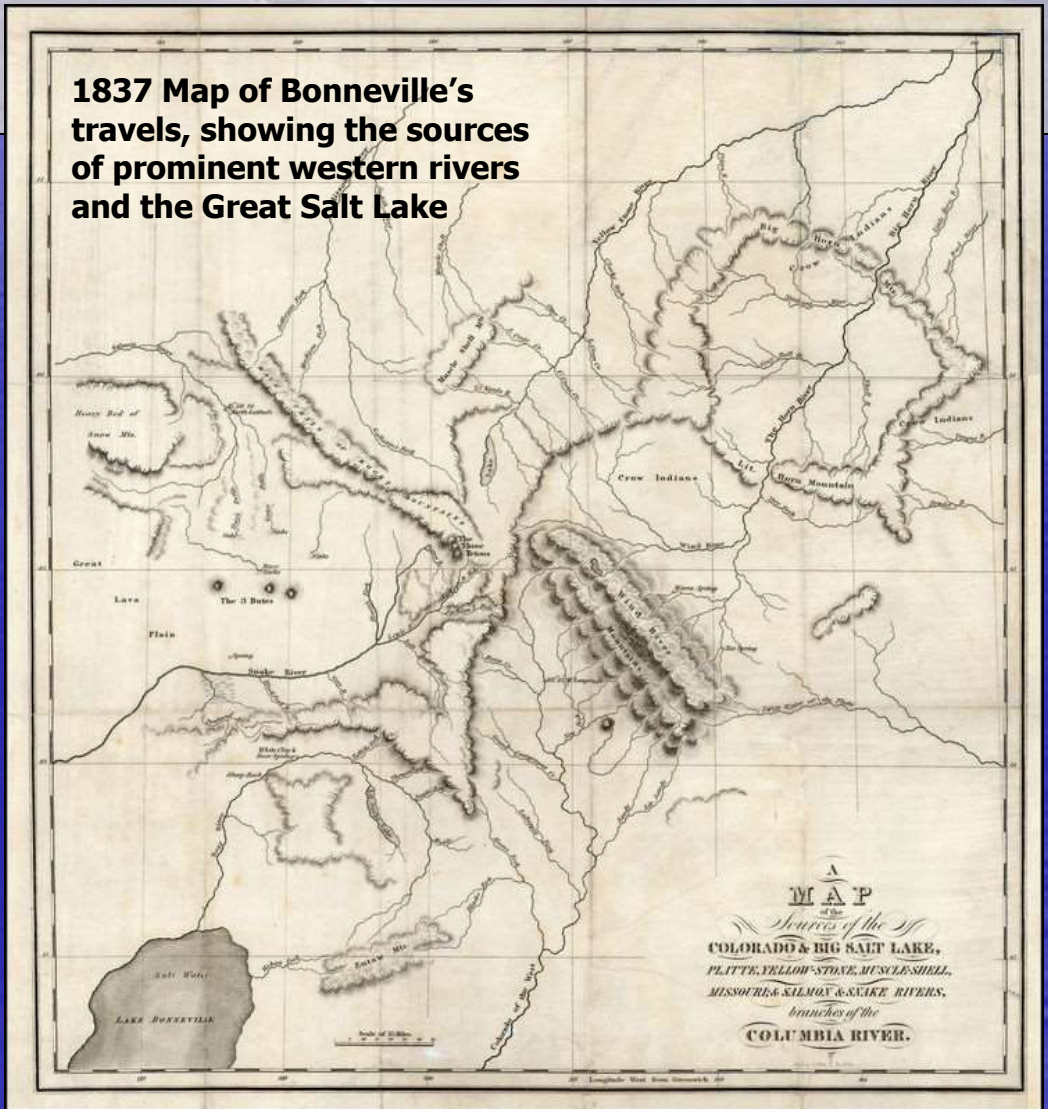
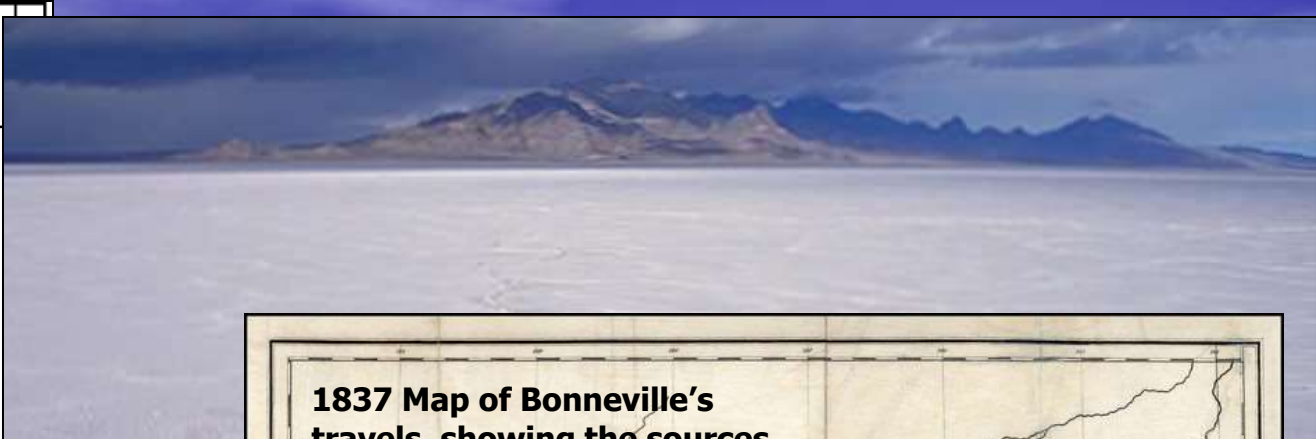
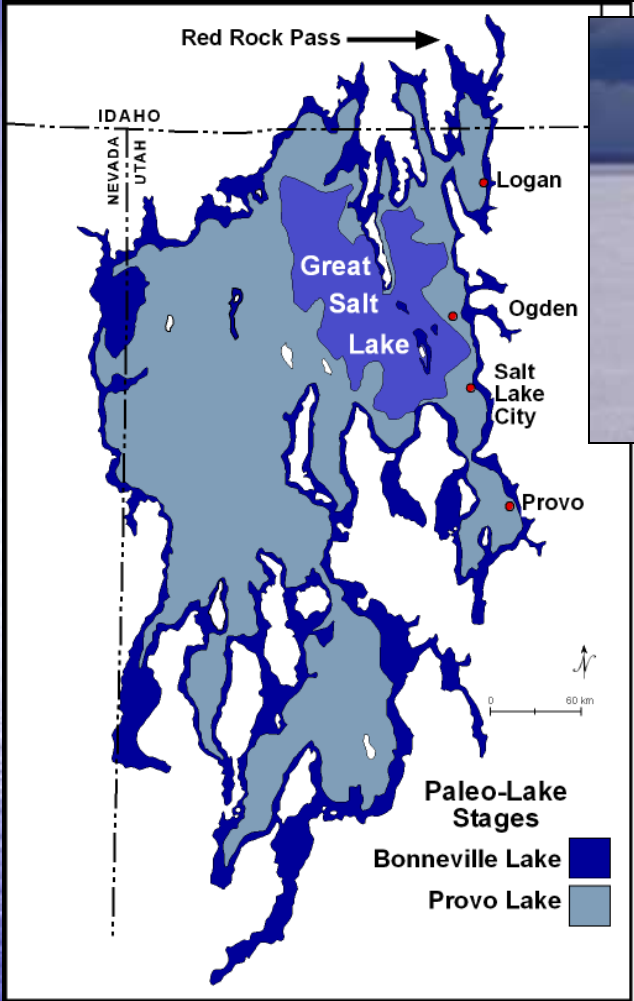


Tools of the fur trade: Mountain men came in two varieties: contract employees of funded companies, and so-called "free trappers," who operated independently, selling their furs at the annual rendezvous. Their **rifles, horses, and iron traps** were their most valued possessions, and any trapping expedition required prodigious quantities of horses, which had to be cared for and guarded. Other hazards included opportunistic Indians, poachers, marauders, and foreign officials who could confiscate property by force.

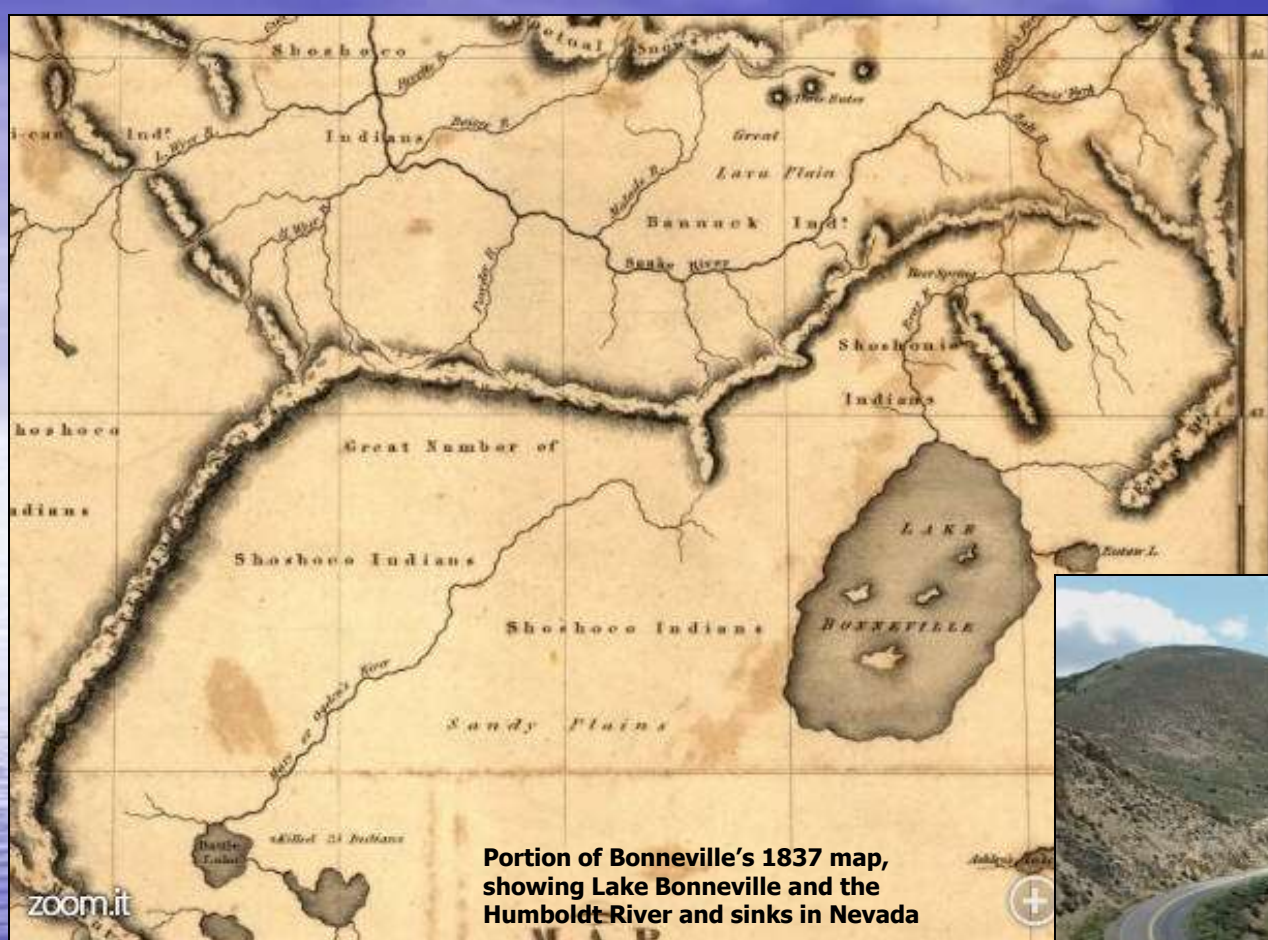
Bonneville names the Great Salt Lake after himself



In mid-August Walker's party reconnoitered the northern and western shore of the Great Salt Lake, and like Smith, confirmed that the legendary "Bueneaventura River" leading westward did not exist.



- Walker decided to strike westward across what later came to be known as the "Bonneville Salt Flats," laid down by glacial Lake Bonneville, shown above and named in the 1837 map



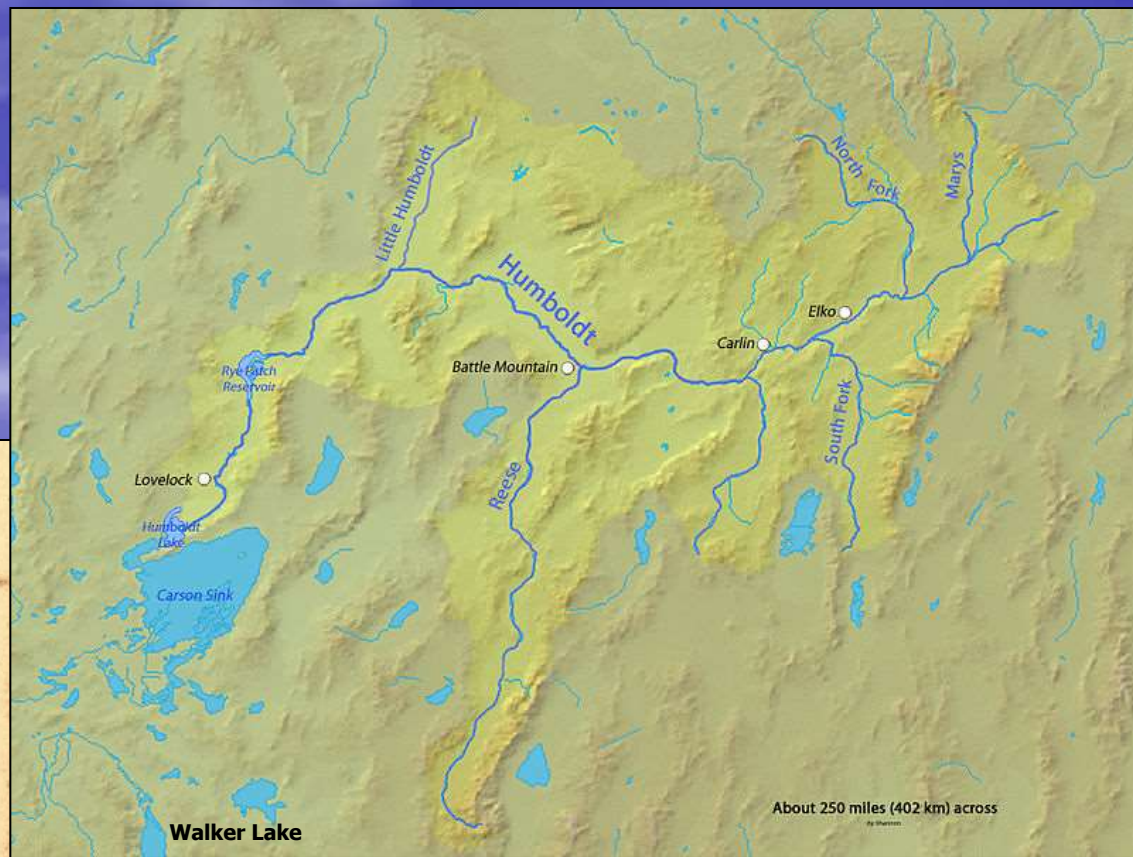
Portion of Bonneville's 1837 map, showing Lake Bonneville and the Humboldt River and sinks in Nevada



Around September 1st Walker's Party reached the headwaters of the Humboldt River (upper right).

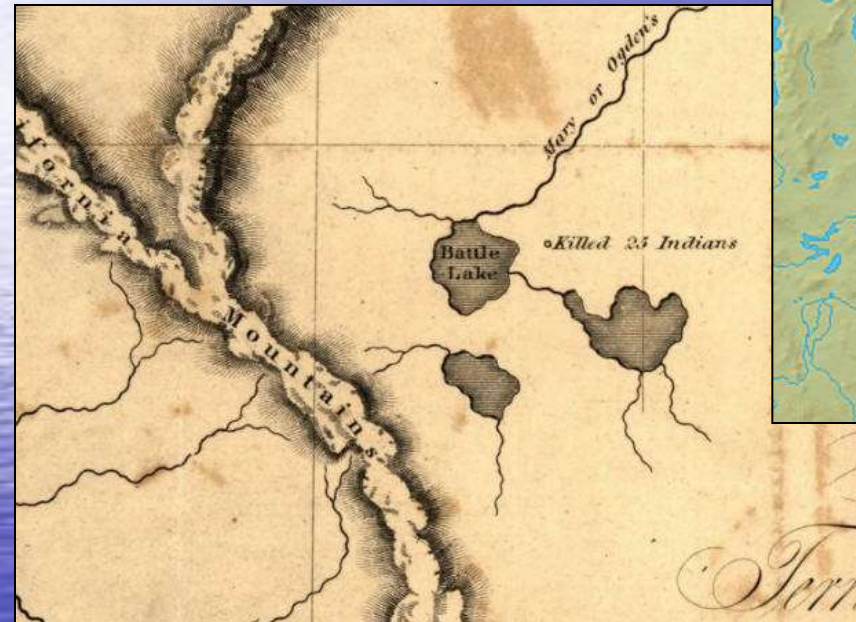
Walker named it the "Barren River," but Bonneville's memoirs referred to it as "Ogden's River" (above left) because Peter Skene Ogden had stumbled upon the middle reaches of the river near present-day Winnemucca in 1828. John C. Fremont explored its course in 1848 and re-named it the Humboldt River, after German naturalist Alexander von Humboldt.

Humboldt Lake and Carson Sink



Humboldt River Watershed. Walker called it the "Barren River." It empties into Humboldt Lake while the Carson River, flowing east from the Sierras, empties into the Carson Sink

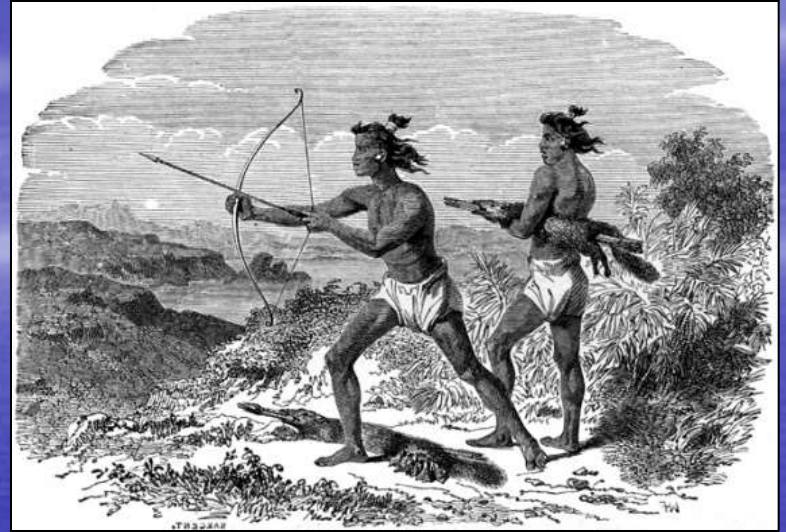
- Walker blazed what came to be known as the "California Trail" along Nevada's Humboldt River to the Carson Sink, shown at left.
- They proceeded a short distance up the lower Carson River, then crossed a low divide that took them to an enormous fresh water lake, which Fremont later named "Walker Lake."



Encounter with Paiutes at Humboldt Sink

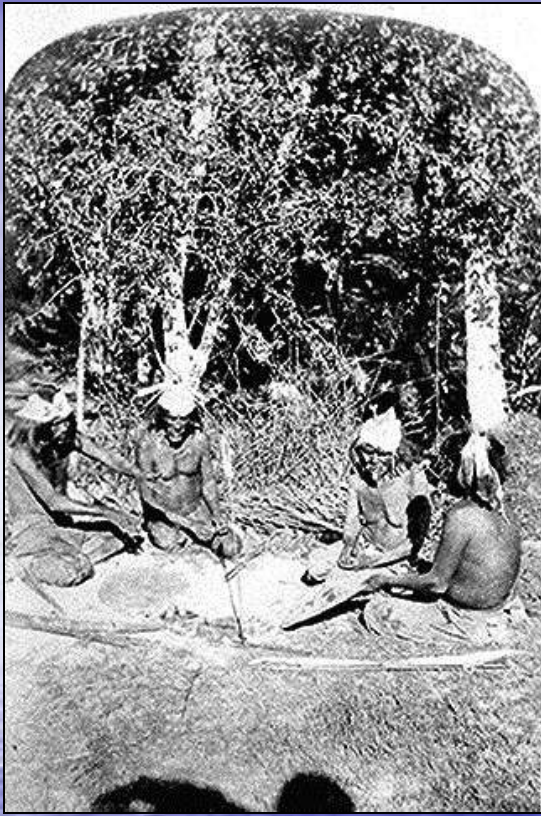


- **During the first week of September the Walker Party reached the Humboldt Sink, then an area of marshes and shallow lakes. Here they encountered hundreds of Native Americans they named "diggers," because they used sticks to excavate insect larvae from holes, which they ate.**
- **The Indians began stealing items from the party, heightening tensions. As Walker's Party tried to moved on, the group of Indians grew larger (between 400 and 900) and more menacing, advancing upon them.**



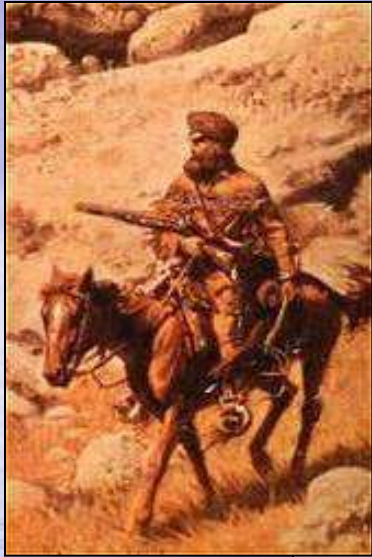
After numerous demonstrations of their rifle's firepower and appeals to stand back and allow the trappers to pass, Walker ordered 32 of his men to fire into a group of braves that were brazenly advancing upon his column. They fired a single volley, killing 39 Paiutes, at which point the Indians dispersed rapidly and retreated with much yelling. They named this area "Battle Lakes."

Sampling the native fare

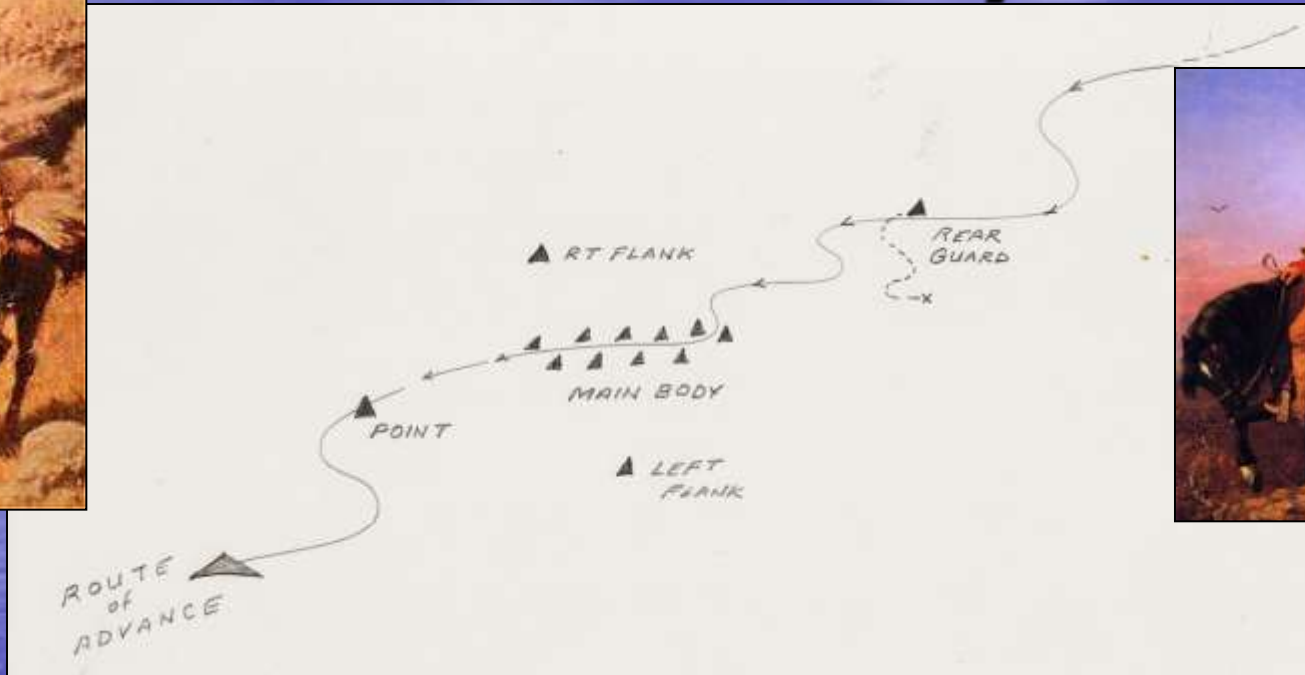


- While moving upstream along the Walker River, the trappers surprised a few families of Paiutes in their wikiups, near one of the desert pools. The Paiutes fled when they saw the white men. In one of the wikiups the trappers found rabbit skin bags full of what they believed to be dried fish. They confiscated the bags and emptied their contents into the evening's stew back at camp, which was devoured that night and the next morning.
- A number of the men became sick and Walker became curious, so he dissected the "dried fish" and found them to be insect larvae, which the Paiutes had rooted out of the ground with their sticks.

Method of advance traveling through hostile territory



Riding the Point



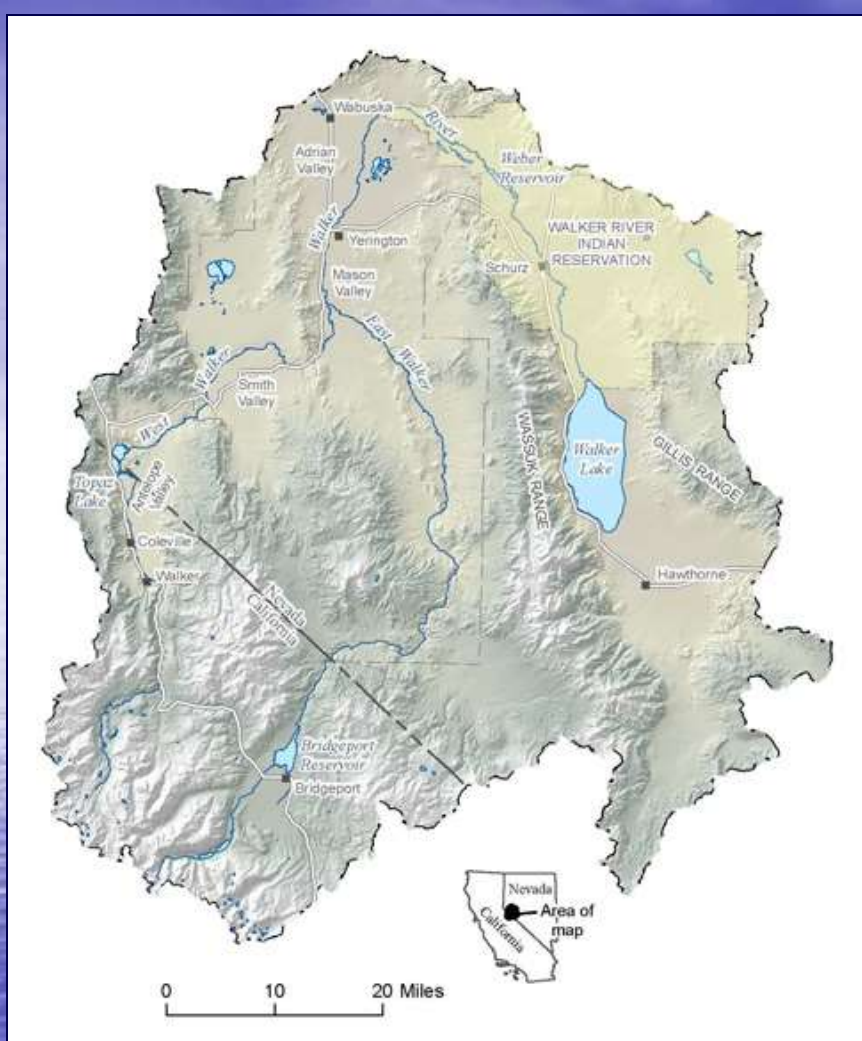
Riding tail

Mountain men were always out-numbered by Native Americans. They had to be able to find passable routes for their horses, sources of water every 10 to 25 miles, and defend themselves from Indian ambushes, usually at dusk or dawn, when they were bedding down or just waking up. Hostile Indians would often stalk them for several days to ascertain their methods of operation and discern the best manner of attack.

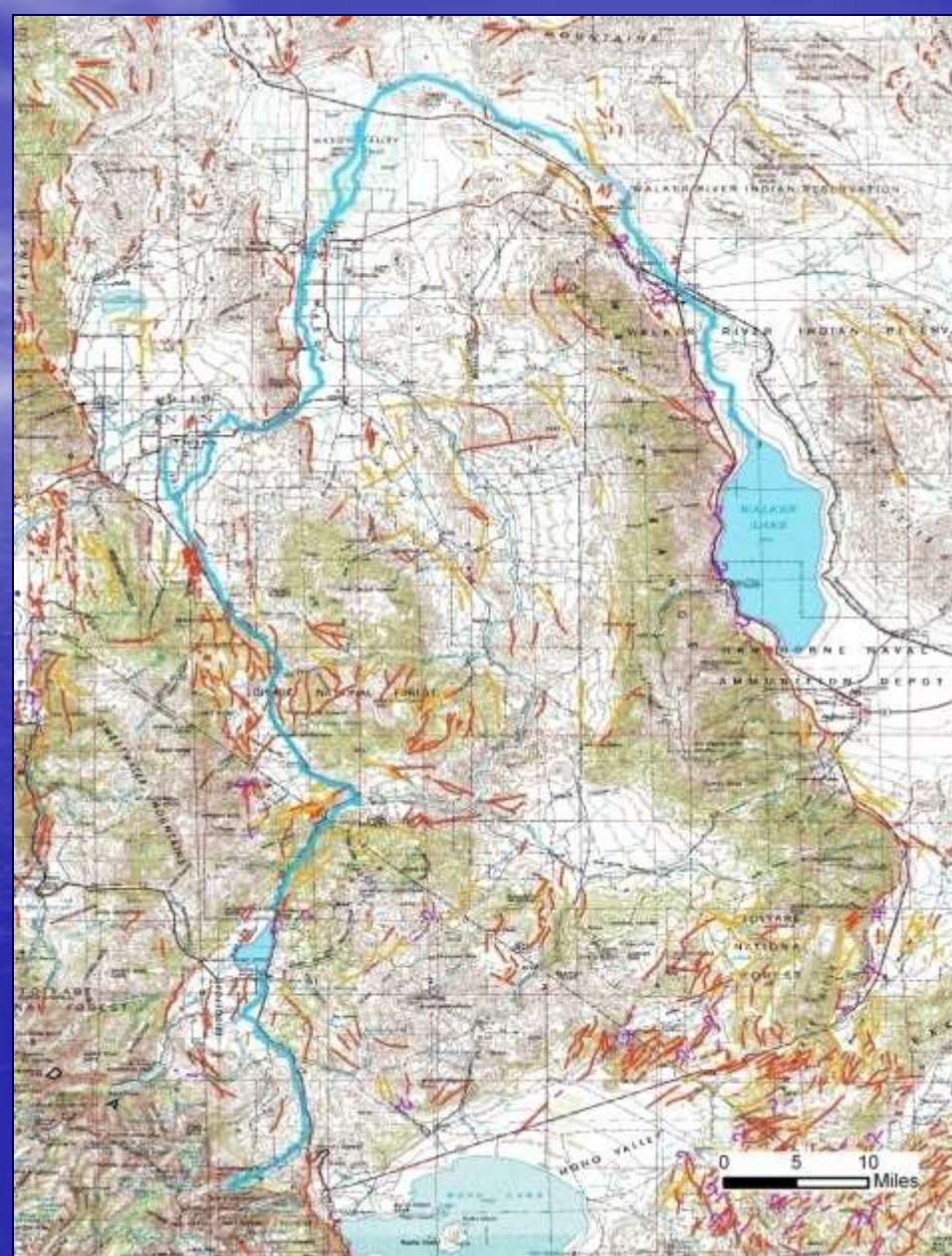
The more experienced members of a party would ride the point or flanks as scouts, firing their rifle followed quickly by a pistol shot if they encountered trouble. If suspecting trouble, the most experienced scout would often ride tail, behind the main group, lying in wait off the trail to see if they were being followed.



- **Walker Lake is the southernmost remnant of glacial Lake Lahontan, nestled against the picturesque Wasuk Mountains.**
- **The glacial lake reached its peak elevation of 4,380 ft about 12,700 years ago, as the Wisconsin glacial ice began melting rapidly**
- **The glacial lake (shown at left) covered about 8,500 square miles of what is now western Nevada, centered on the Humboldt and Carson Sinks.**
- **The name *Lake Lahontan* was assigned by John C. Fremont during his explorations 1843-45.**



- In late September 1833 Walker's party followed the Walker River to the lake now bearing his name, nestled against the snow capped mountains.



Topography of the East Walker River Basin and associated faulting. The faults control locations of natural springs and ephemeral seeps.

East Walker River



- Walker turned his party around and headed up the Walker River. They noted a decreasing amount of wild game as they climbed in elevation. Their horses needed forage and water to sustain them, which became increasingly scarce.
- By early October all their hunters were able to find were a few rabbits, which were insufficient to sustain a party of 60 men. The group began running out of jerked beef about the time they began ascending the Sierras.
- Today, the East Walker River supports four of the top-ranked pristine catch-and-release wild trout habitats in America.

The priceless journal of Zenas Leonard

Adventures of a Mountain Man:

The Narrative of Zenas Leonard

Written by Himself

Introduction by Milo Milton Quaife



Leonard's narrative
Zenas Leonard



Zenas Leonard (1809-57) was a native of Clearfield, Pennsylvania. In 1831, at age 22, he joined a company of 70 free fur trappers that departed St. Louis for the Rocky Mountains. He entered the employ of Captain Bonneville in the summer of 1833 and joined Walker's party, where he served in the role of adjutant, keeping written records of the party's travels and commercial dealings. He returned to Missouri with Bonneville in 1835, visited his relatives in Clearfield, then settled in Fort Osage, where he remained until his death from cholera, at age 48. His journal was published in 1839, after Washington Irving's book on Bonneville appeared, which blamed Walker for the commercial losses incurred by Bonneville.

They did not ascend Tioga Pass



The physical descriptions provided by Zenas Leonard suggests that the Walker Party never saw Mono Lake, a distinctive geographic feature on the east side of Yosemite Park.

Nor, does Leonard describe any ascent and descent of Conway Summit (8,376 ft), into the Mono Basin, which would have precipitated a more dramatic ascent of the eastern crest of the Sierras through Tioga Pass (at right), from a lower elevation.



- **The Walker Party may have ascended Green Creek to Virginia Pass (10,531 ft) or Virginia Creek to Mono Pass (10,599 ft)**

Ascending the Sierras along Virginia Creek



- **From Leonard's Journal:** *This mountain is very high as the snow extends down the side nearly half way the mountain runs north and south in the morning we dispatched hunters to the mountain in search of game and also the lookout for a pass over the mountain as our provisions were getting scarce.*
- *After prowling about all day... They had seen no practicable place for crossing the mountain.*
- *One of them had found an Indian path which they thought led over the mountain whereupon it was resolved that in the morning we would take this path as it seemed to be our only prospect of preservation. On examination we found that horses traveled it, and must of course, come from the west.*

Mono Lake

Google earth



Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image © 2013 TerraMetrics

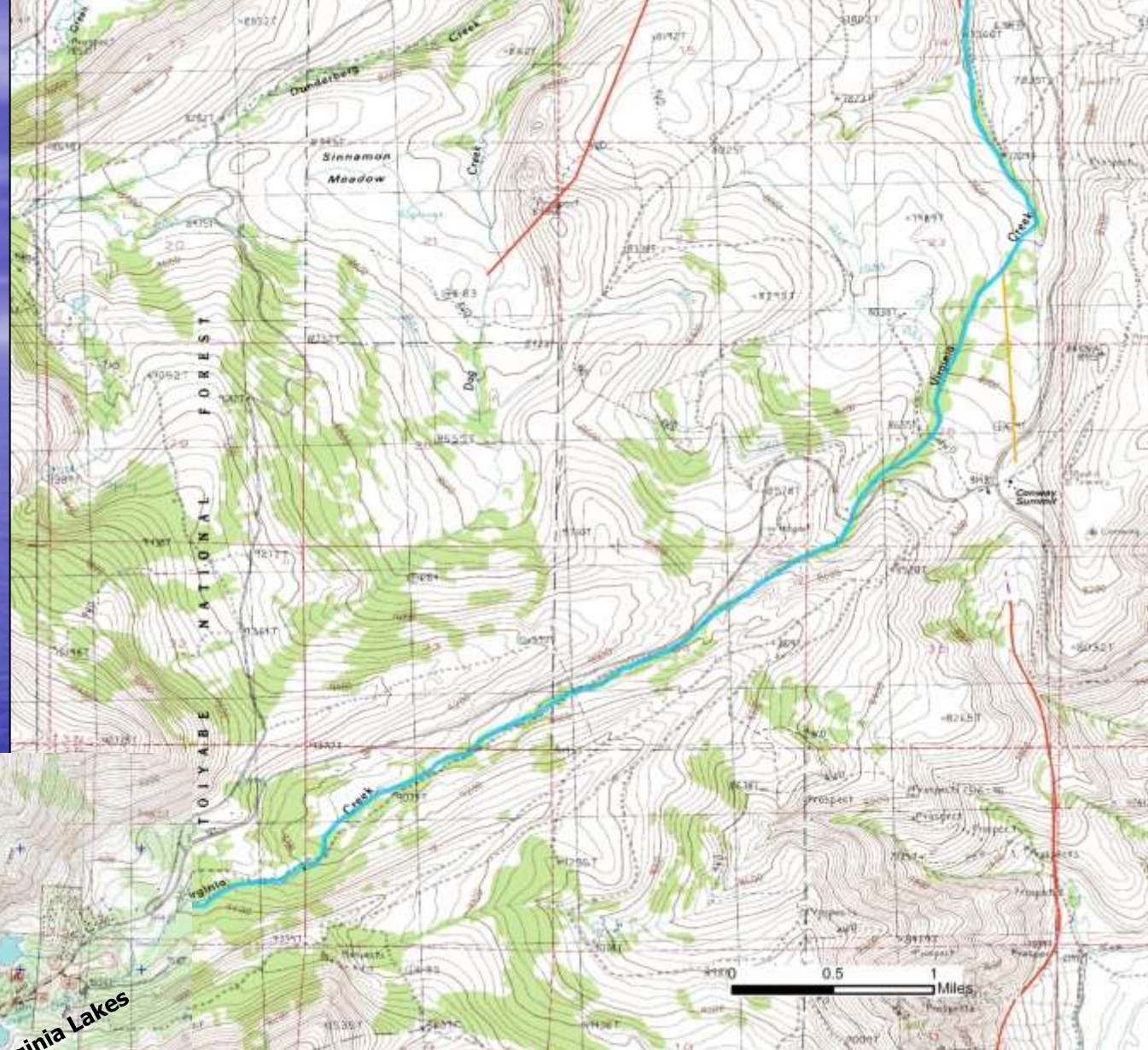
- It can be appreciated from the oblique GoogleEarth image that the Walker Party would not have seen Mono Lake if they ascended either Virginia Creek or Green Creek, at center image.

Late Wisconsin Glaciation



Up Virginia Creek to the Virginia Lakes

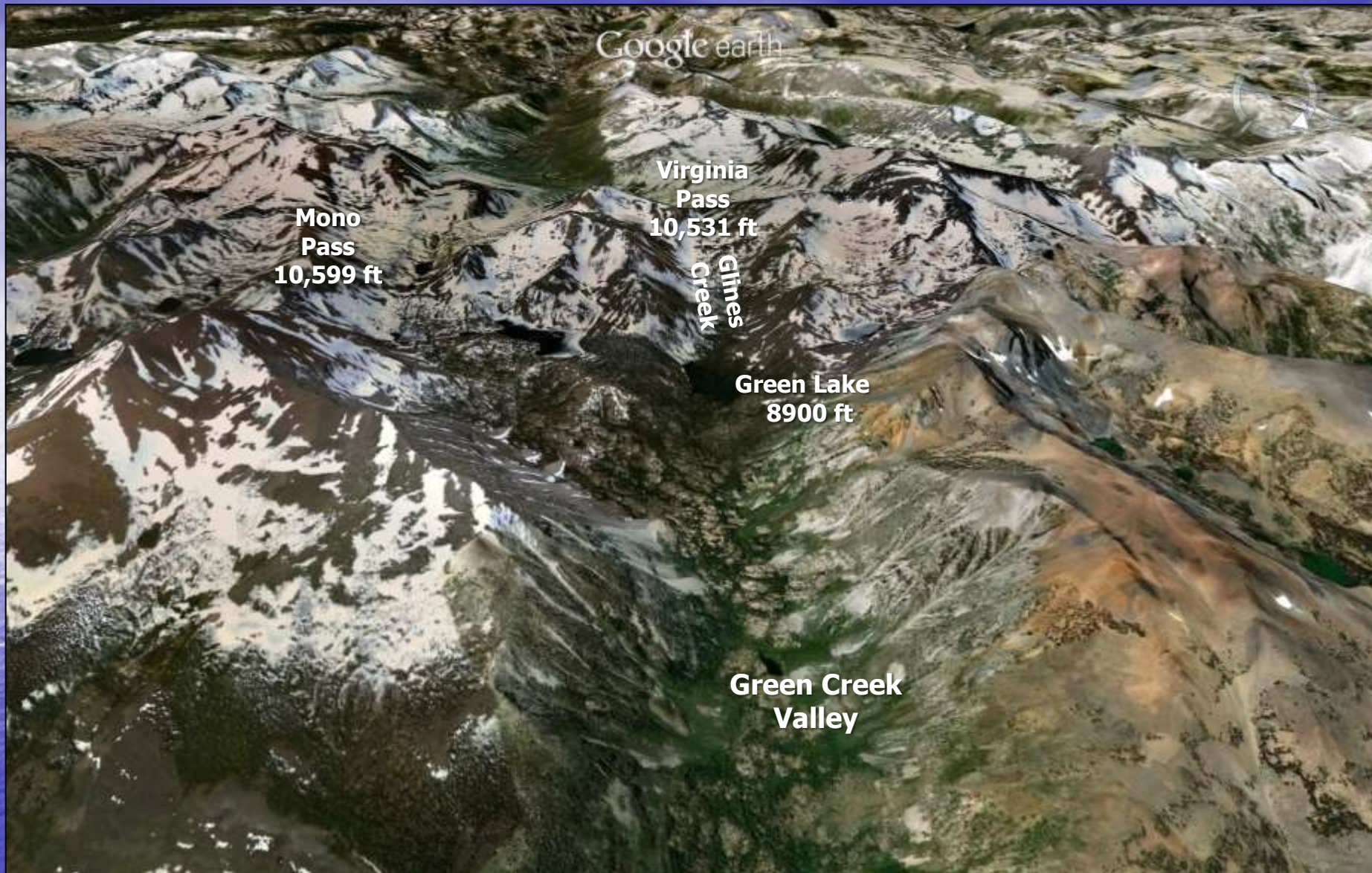
- The path up Virginia Creek to the Virginia Lakes is probably the easiest ascent of the eastern massif of the Sierras to an elevation of 9,770 ft.



- Today one can drive by car to the resort community of Virginia Lakes, the upper end of the road being at elevation 9,720 ft.



- Unlike upper Green and Glines Creeks, the path up Virginia Creek and over Mono Pass involves crossing a false summit on the western side.



Google earth

Mono
Pass
10,599 ft

Virginia
Pass
10,531 ft

Glines
Creek

Green Lake
8900 ft

Green Creek
Valley

- **Virginia Pass (10,531 ft) lies at the crest of Glines Creek, above Green Lake (8900 ft) at the head of Green Creek Valley, all shown here. This is the next major canyon north of Virginia Creek.**

Ascending the Sierras over Mono Pass?

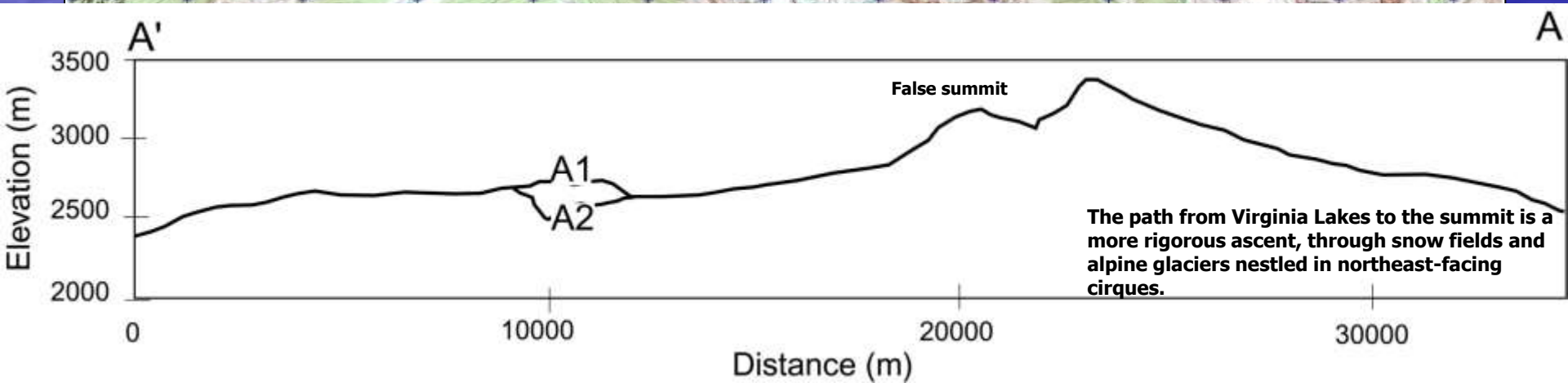
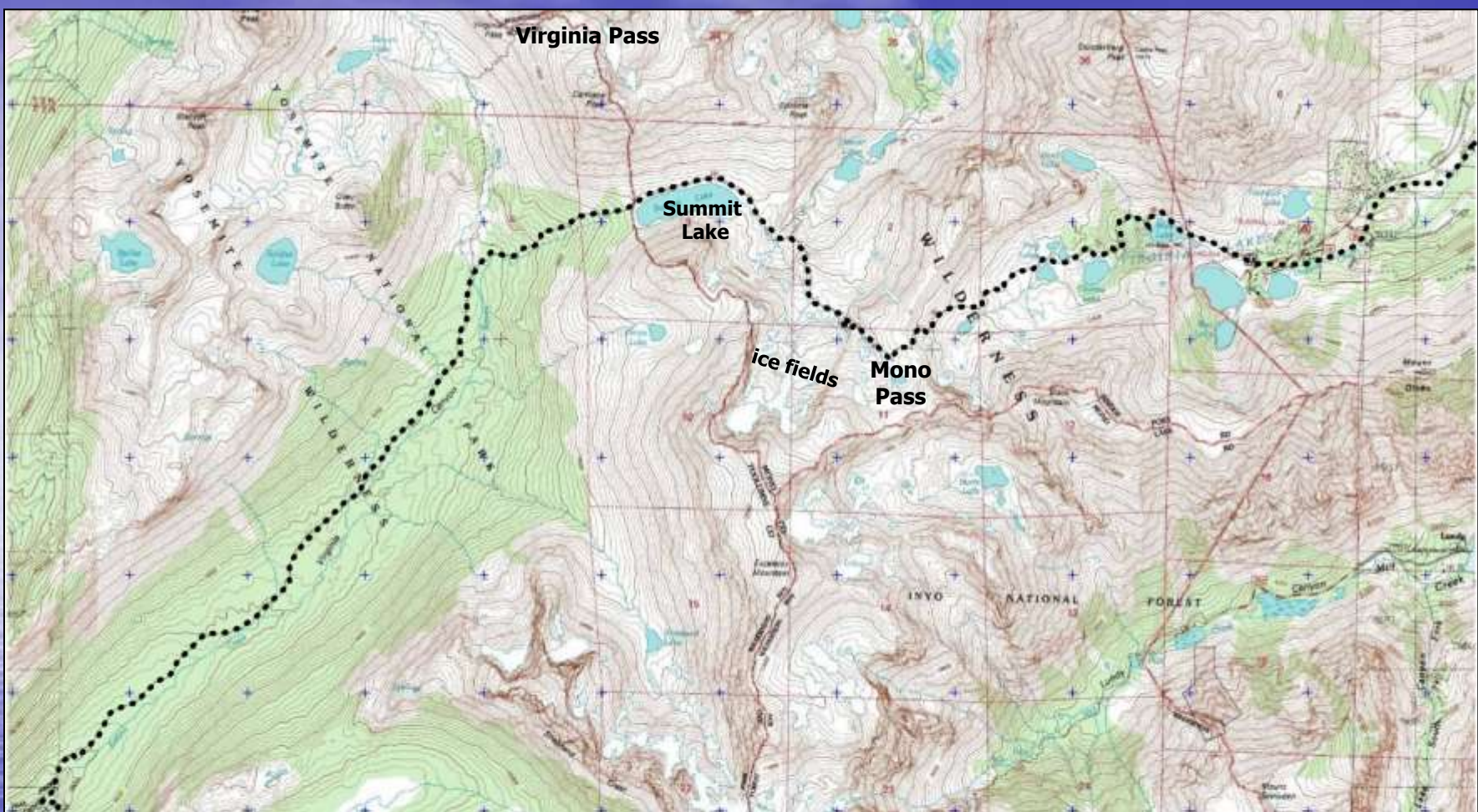


- *Around October 16th - When we arrived at what we took for the top we were again encamped the ground was covered with the deep snow which from appearance lays on the north side of the peaks, the whole year round. **This sounds like the false summits involved with the trail over Mono Pass***

View of Sierra Crest looking north from Virginia Pass



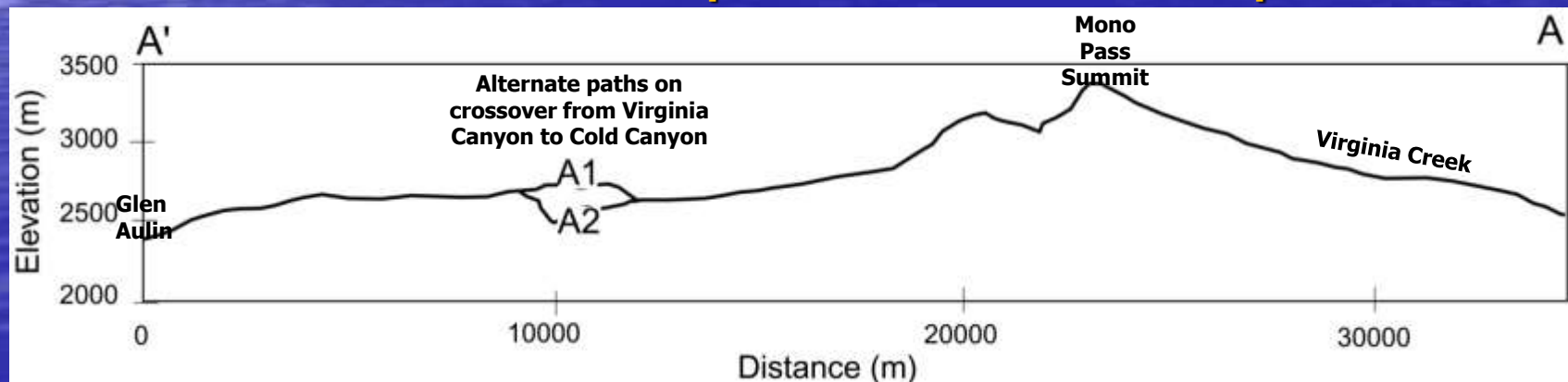
- **Leonard's Journal:** *As we advanced, in the hollows sometimes we would encounter prodigious quantities of snow. When we would come to such places, a certain portion of the men would be appointed alternately to go forward and break the road, to enable our horses to get through; and if any of the horses would get swamped, these same men were to get them out. In this tedious and tiresome manner we spent the whole day without going 8 or 10 miles (over Mono Pass?)*

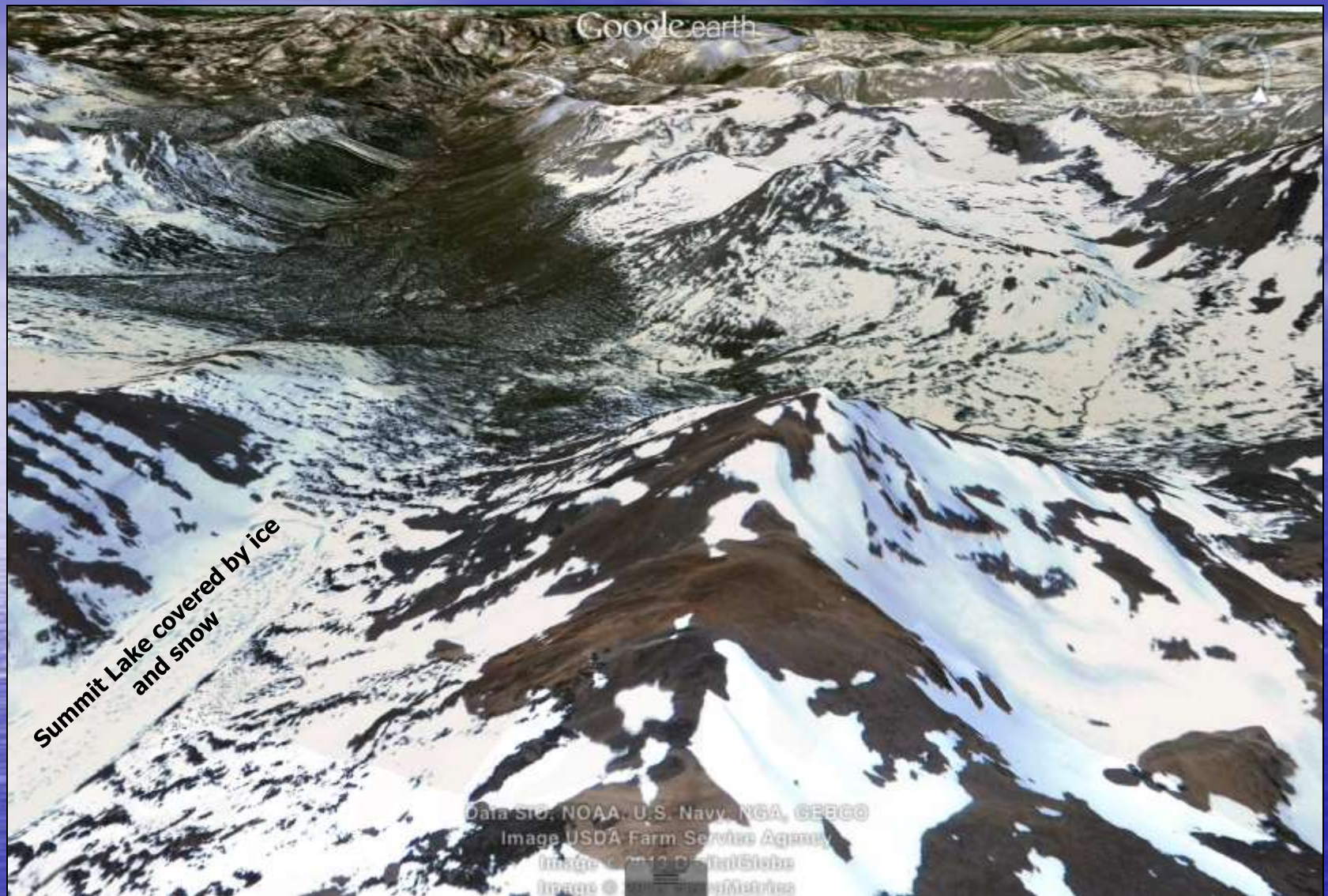


Summit Lake is a surreal landform that lies on the eroded pre-glacial surface of the Sierra Batholith, near the crest of Mono Pass, at an elevation of 10,599 feet. Leonard does not mention passing a lake on the summit, but it was likely covered in ice and snow.



- The Walker Party likely passed over the summit when it was obscured by snow, in mid October 1833. The east-to-west profile across Mono Pass is presented below.**



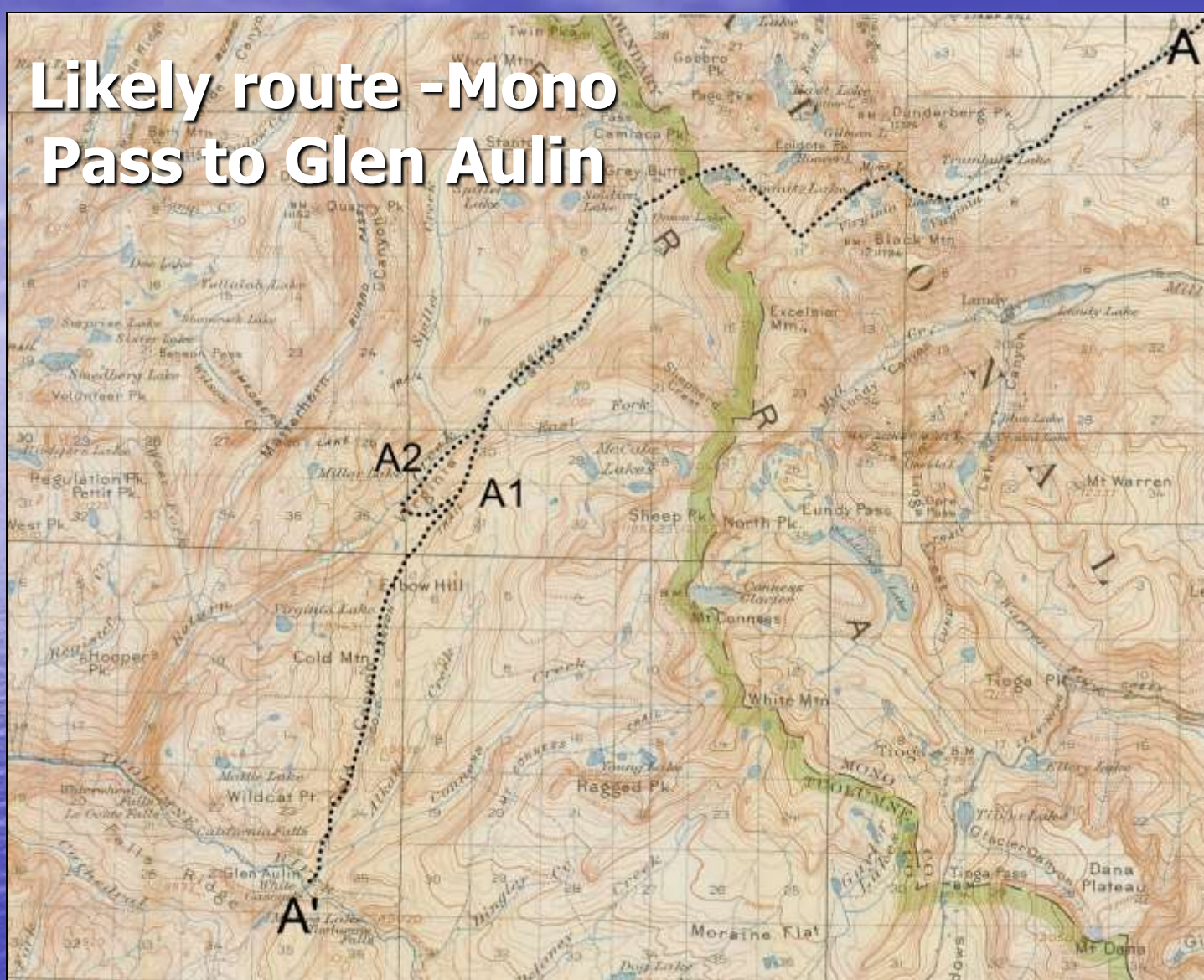


Summit Lake covered by ice
and snow

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image USDA Farm Service Agency
Image © 2012 DigitalGlobe
Image © 2012 GeoEye

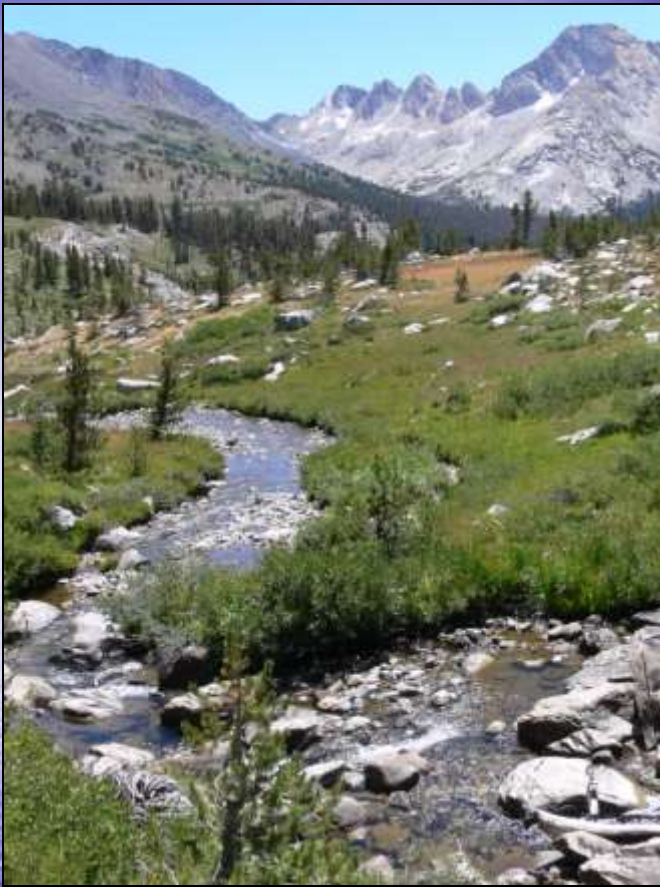
- **Bird's eye view Summit Lake under snow on Mono Pass (extreme left), looking down Virginia Canyon and Return Creek. Virginia Pass is at extreme right. This approximates the snow conditions described by Leonard, so may explain why the lake isn't noted.**

Likely route - Mono Pass to Glen Aulin



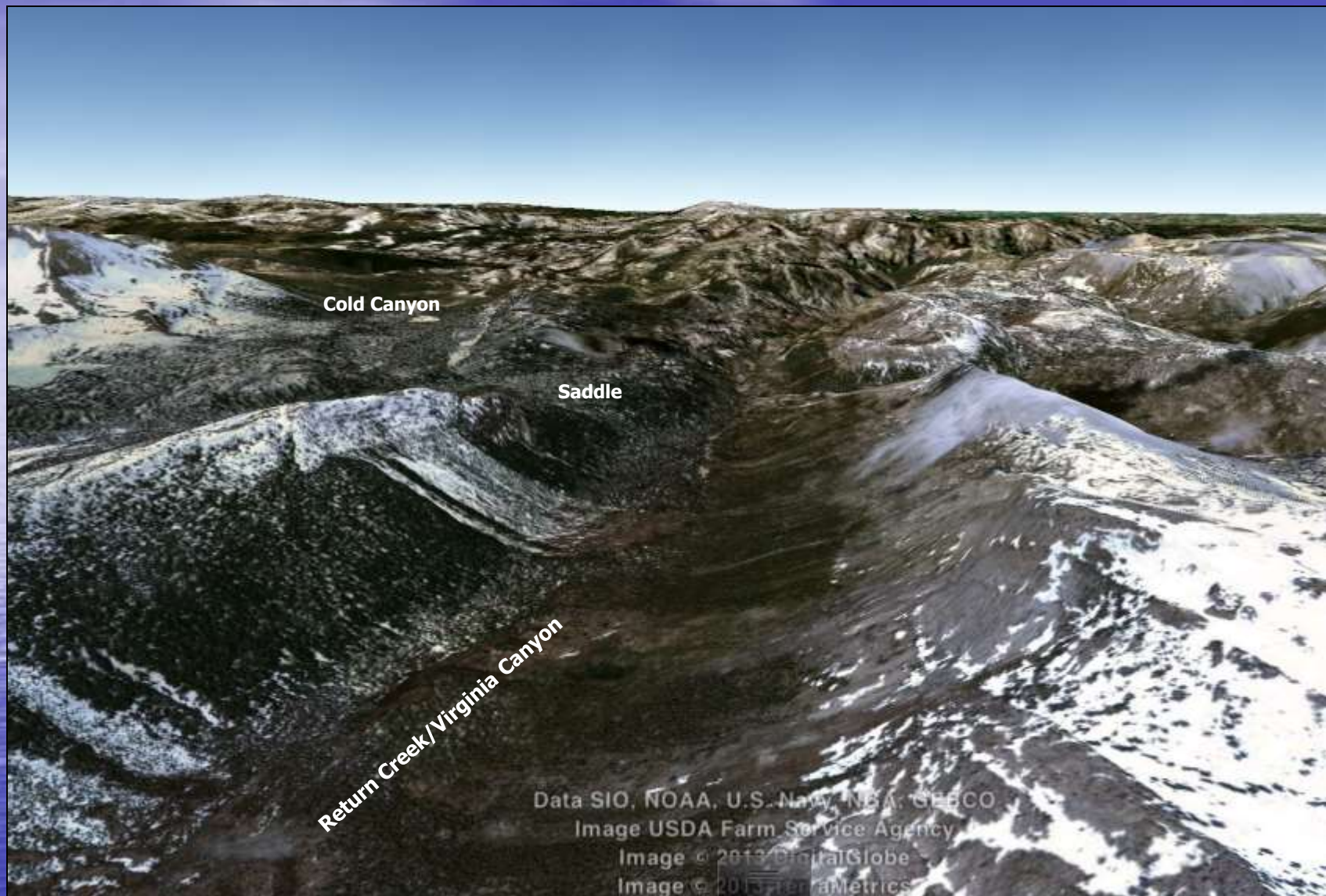
- The descent from Mono Pass Hill is steep and slick. Walker's Party was likely aided by the mid-October snow pack, which would have cushioned the horse's hooves. Their horses were without sufficient forage, which was now days behind them.

Views in upper Virginia Canyon along Return Creek



• **Leonard's Journal:** *This days' travel was very severe on our horses, as they had not a particle to eat. We encamped this night on the south side of one of these peaks are ridges without anything to eat, and almost without fire.*

• **That evening a number of the party asked to detach themselves and return east, to the Rocky Mountains. Walker says they could leave, but could not take additional horses, provisions, or ammunition with them, as the entire group was bordering on starvation. The discouraged men decide to remain, and Walker ordered two of the party's horses slaughtered for a feast.**

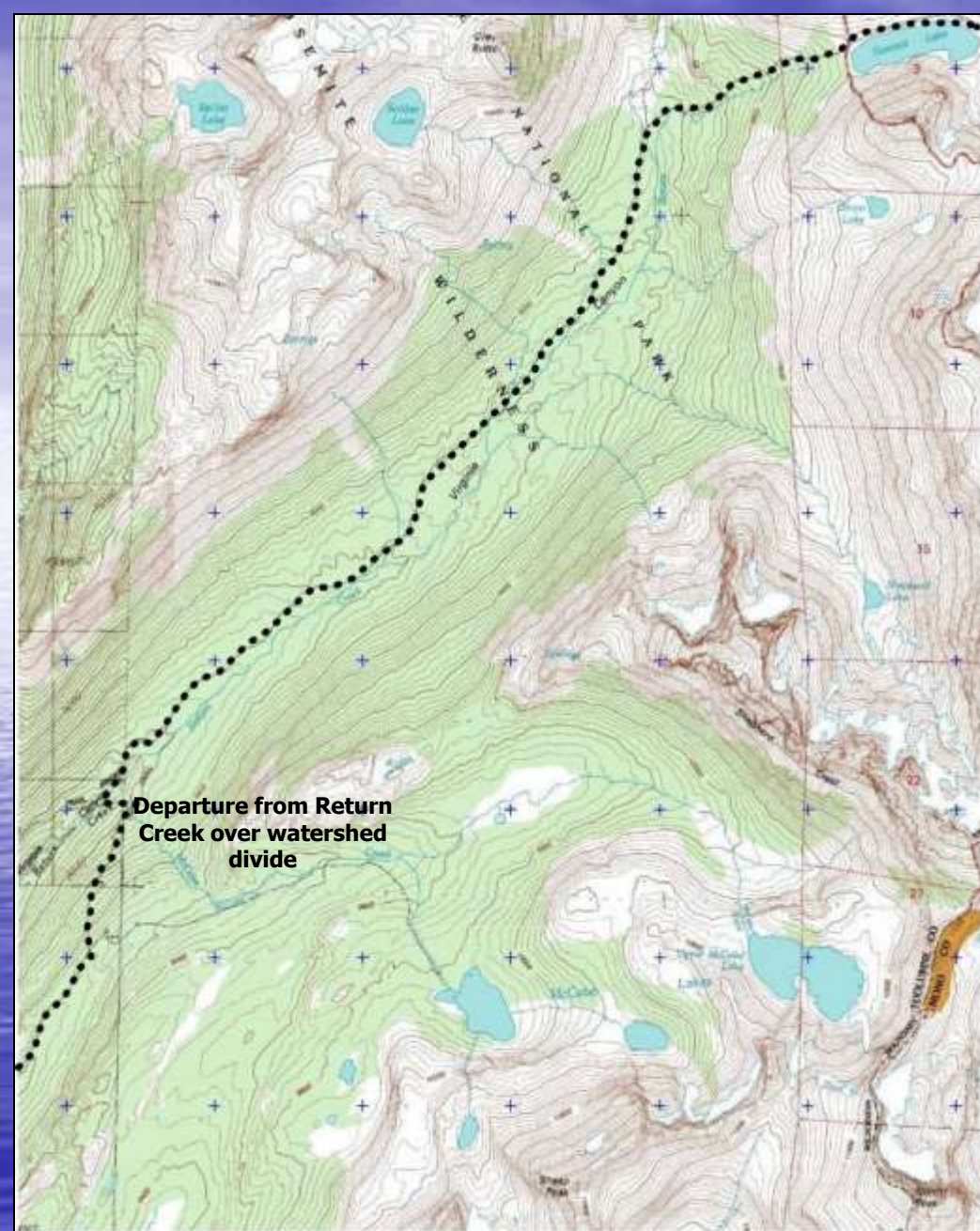


- **Bird's eye view of watershed divide between Virginia Canyon (in foreground) and Cold Canyon, to the east. An Indian trail likely ascended and crossed over this saddle.**

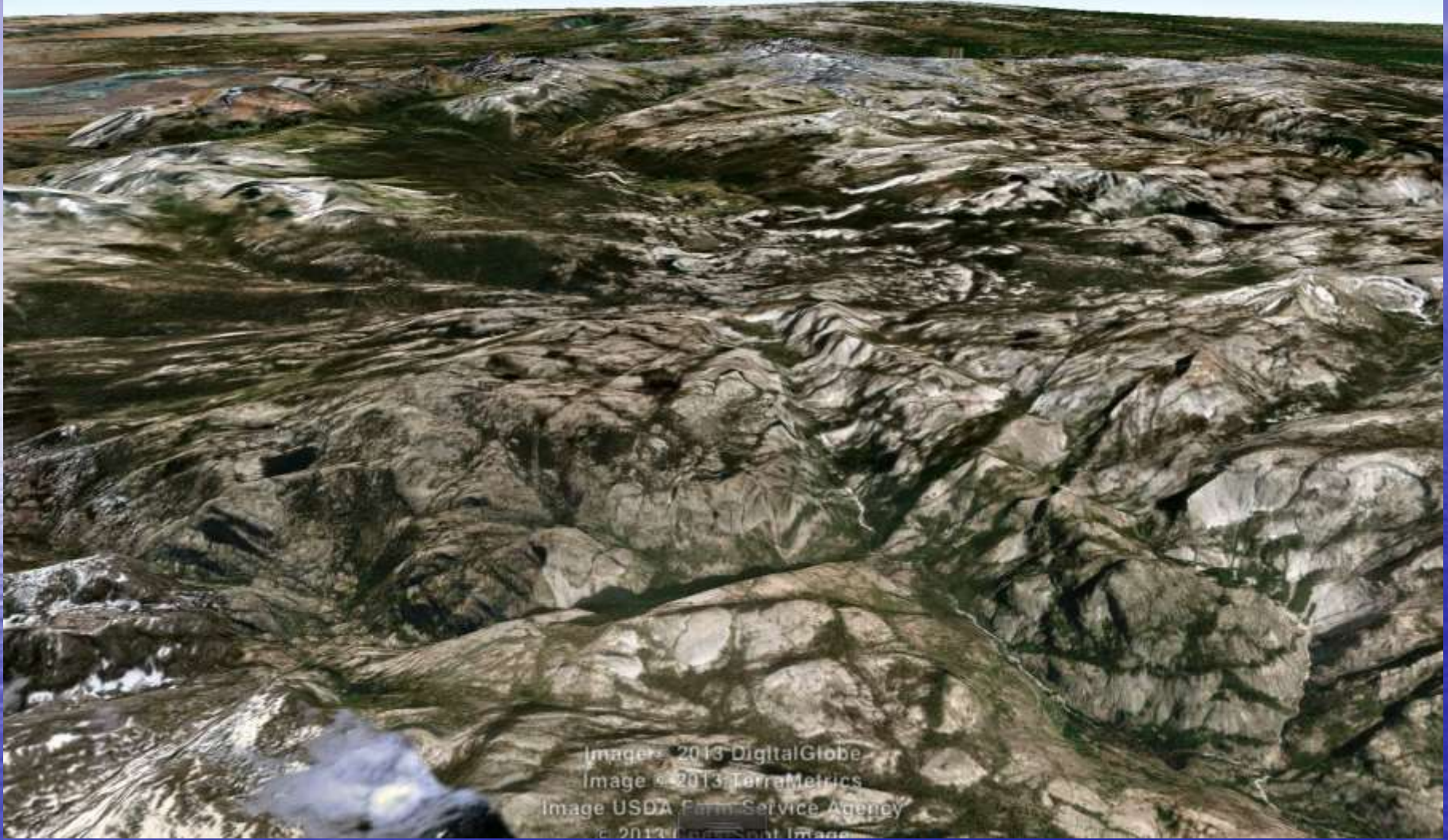
Encountering “Indian trading paths”

In the morning... we renewed our journey, now and then coming onto an Indian path, but as they did not lead in the direction we were going, we did not follow them, but most of the distance we this day traveled, we had to encounter hills, rocks and deep snows. About the middle of the afternoon we arrived a small lake or pond, where we concluded to encamp, as at this pond we found a small quantity of very indifferent grass, which are horses cropped off with great eagerness.

There are no small lakes along Return Creek in Virginia Canyon.



View looking easterly, up the Tuolumne River. Return Creek cuts across the view, from lower left.



- The party would have had to cross over from Return Creek to Cold Canyon to avoid being stranded by waterfalls along the Tuolumne River Gorge below Glen Aulin.

Where the route gets sketchy... which lakes is Leonard referring to?

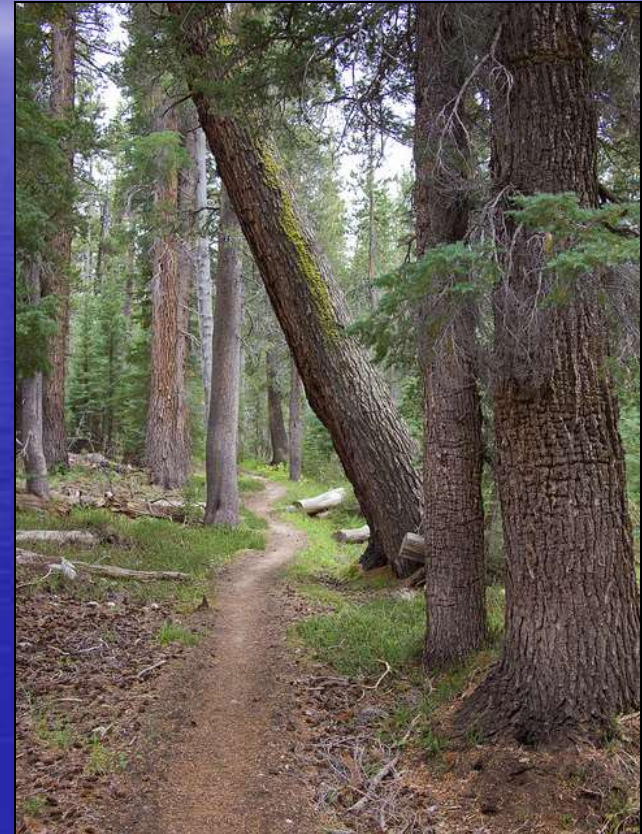
Leonard's Journal: *The next morning we resumed our labor, fortunately finding less snow and more timber, besides us a number of small lakes, and prospect of getting into a country that produced some kind of vegetation. The timber is principally pine, cedar and redwood mostly of a scrubby and knotty quality.*

After traveling a few miles, further however, then any other days since we had reached the top of the mountain, we again and camped on the margin of another small lake, where we had the good fortune to find some pasture for our horses.

They are several days travel past the crest of the Sierra and have dropped sufficiently in elevation to be in timbered country with vegetation. This day they travel "several miles farther" than during previous days, which suggests they may have crossed over into Cold Canyon



Cold Canyon lies along the Pacific Crest Trail



The trail up Cold Canyon is an old Indian trading route which is well shaded and watered most of the summer and fall.



Portion of the Yosemite National Park Visitor's Map

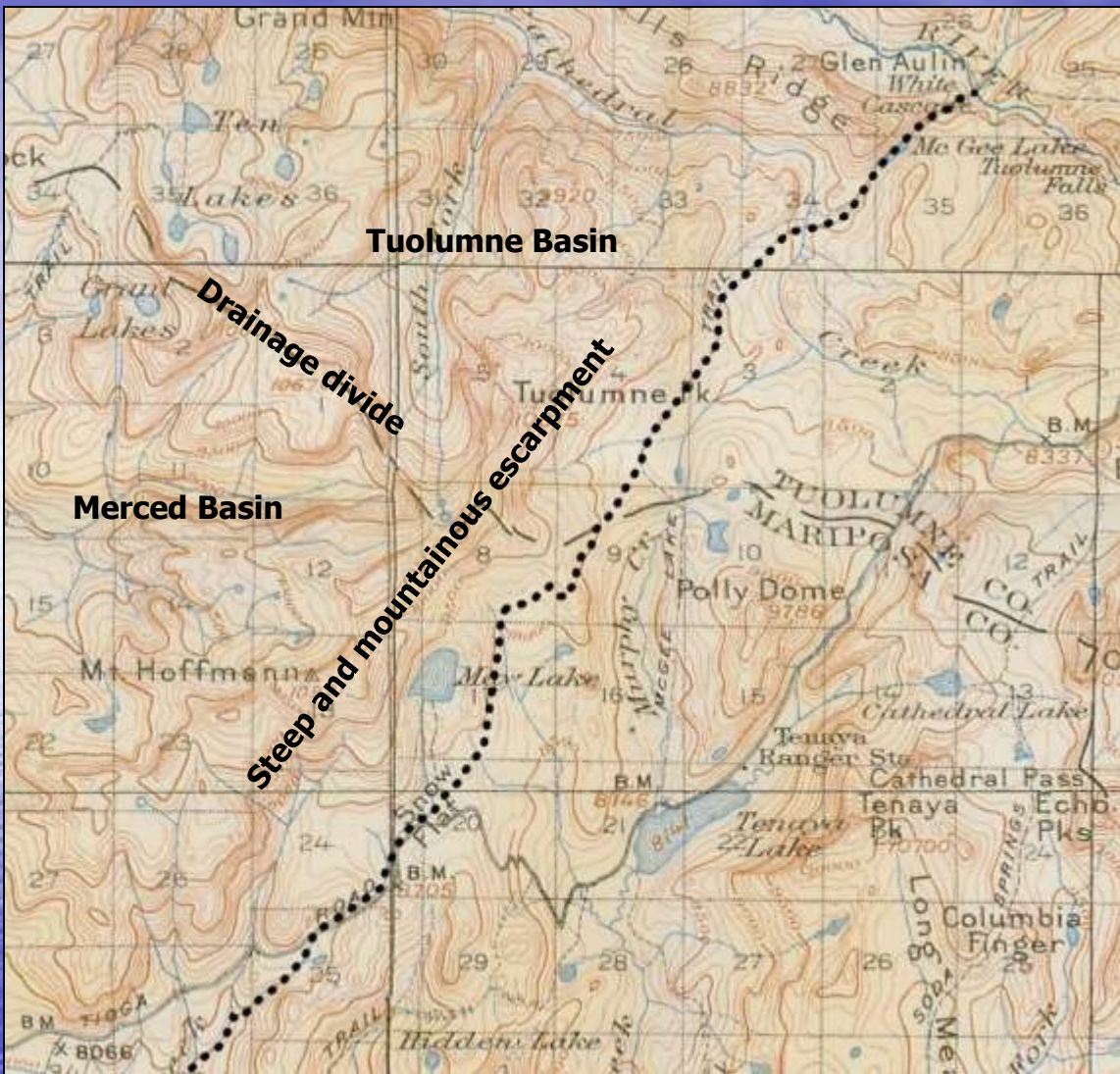


Glen Aulin

**The precipice at
Glen Aulin, where
the Tuolumne River
drops into a series
of impassable
cascades and
waterfalls**

Leonard's Journal: *The next morning several parties were dispatched in search of a pass over the mountain and to make search for game but they all returned in the evening without finding either. We had traveled for five days since we arrived about we supposed to be the summit, we were now still surrounded with snow and rugged peaks and the vigor of every man is almost exhausted.*

If the party was still passing down Return Creek or Cold Canyon upstream of Glen Aulin, it would make sense for them to dispatch scouts to ascertain the best route by which to take their beleaguered horses, as lower Return Creek and the Tuolumne River below Glen Aulin would be almost impassable.



Leonard's Journal: *We traveled a few miles every day, still on top of the mountain, and our course continually obstructed with snow hills and rocks. Here we began to encounter in our path, many small streams which would shoot out from under these high snowbanks, and after running a short distance indeed chasms which they have a few ages cut in the rocks, precipitate themselves from one lofty precipice to another, until there are exhausted in rain below. [waterfalls]*

Some of these precipices appeared to us to be more than a mile high.

There is no mention of passing either May Lake or Tenaya Lake, two of the most notable features in this area. They could not have skirted the eastern margins of Tuolumne Peak and Mt. Hoffman without seeing May Lake, but might have passed below it, as shown here, maintaining a south-southwesterly heading.

Challenges traversing glaciated granite

Sheet joints



Isolated boulders termed "glacial erratics"

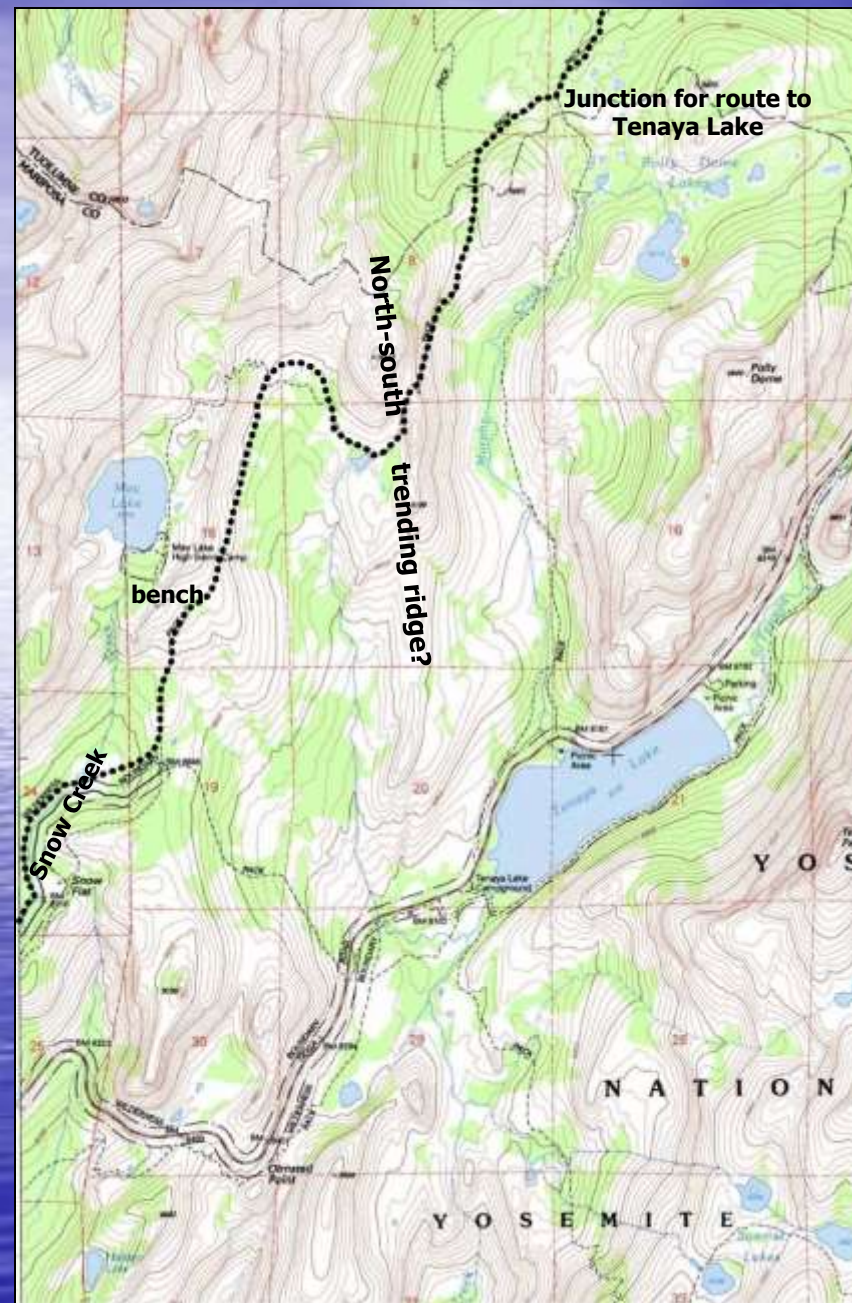


- The area between Polly Dome and Tuolumne Peak was carved by the Tenaya Glacier, stripping off all loose material, polishing exposed surfaces, and leaving "glacial erratics."
- All of these features were hard on the horses hooves and their footing, especially glacial polish.

Leonard's Journal: *Some of the men thought that if we could succeed in this sending one of these precipices to the bottom, we might just work our way into the valley below-but on making several attempts we found it utterly impossible for a man to descend, to say nothing of our horses.*

We were then obliged to keep all along the top of the dividing ridge between two of these chasms which seemed to lead pretty near in the direction we were going-which was west, in passing over the mountain, supposing it to run north and south. This would seem to preclude the watershed divide between the Merced and Tuolumne Rivers, which runs-east-west
In this manner we continued until the 25th without any particular occurrence except that of our horses dying daily - the flesh of which we preserved for food.

This sounds similar to the May Lake Pack Trail, but lying several hundred feet below it, crossing a prominent topographic bench that would bring the party into upper Snow Creek, heading south.





- **The sheer mass of glacialized Sierra granite greets anyone moving along the zone between Tenaya Lake and the upper Yosemite Valley, which lies far below and out of view. This view is from Olmstead Point on Tioga Pass Road.**

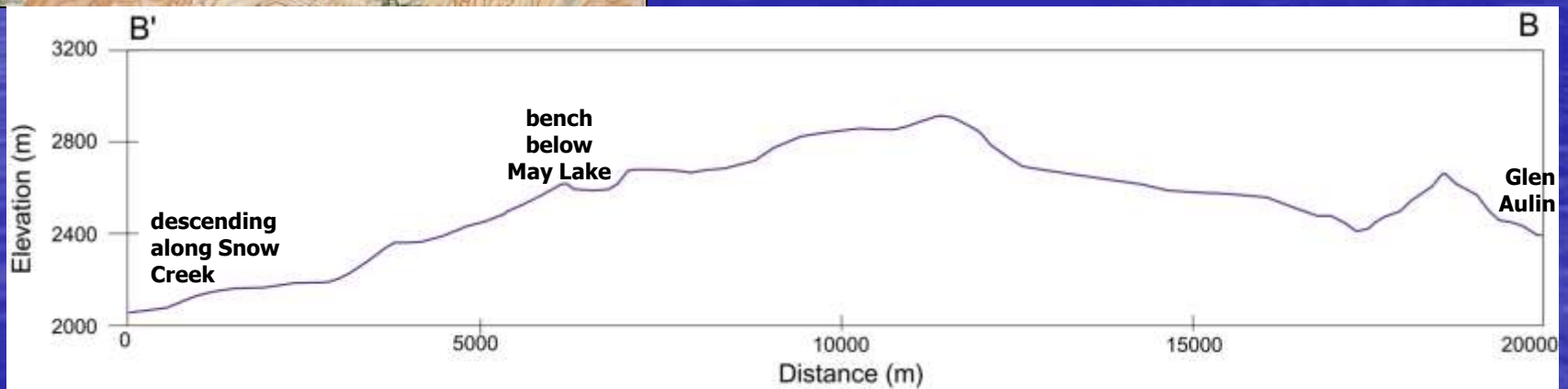
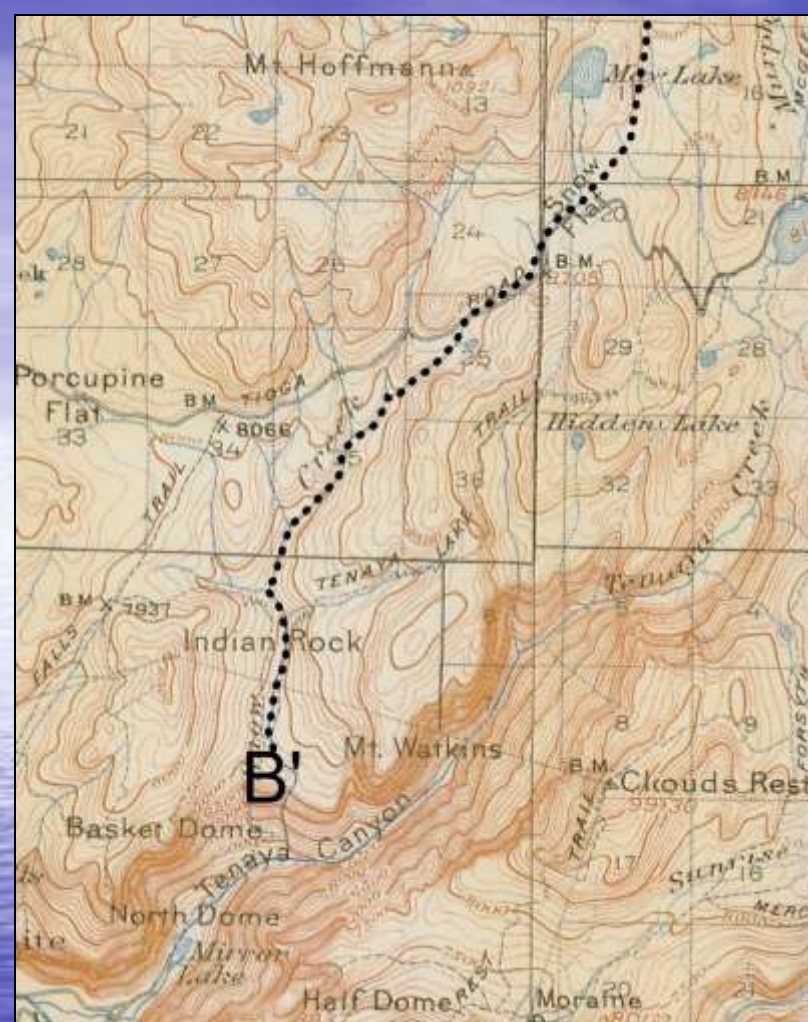
Reconnoitering routes to the unseen valley lying below and to the south of them...

Leonard's Journal: *October 25th. This day we sent out several parties on discoveries who return in the evening without bringing the least good news except one man who brought a basket full of acorns to camp. These nuts our hunter had got from an Indian who had them on his back traveling as though he was on a journey across the mountain, to the east side.*

We now felt agreeably surprised that we had succeeded so far and so preposterously, in a region of many miles in extent where a native Indian could find nothing to eat in traversing the same route, but acorns.

This entry describes an attempt to reconnoiter a direct path to the valley below.

The profile of the party's path between Glen Aulin and lower Snow Creek is shown below



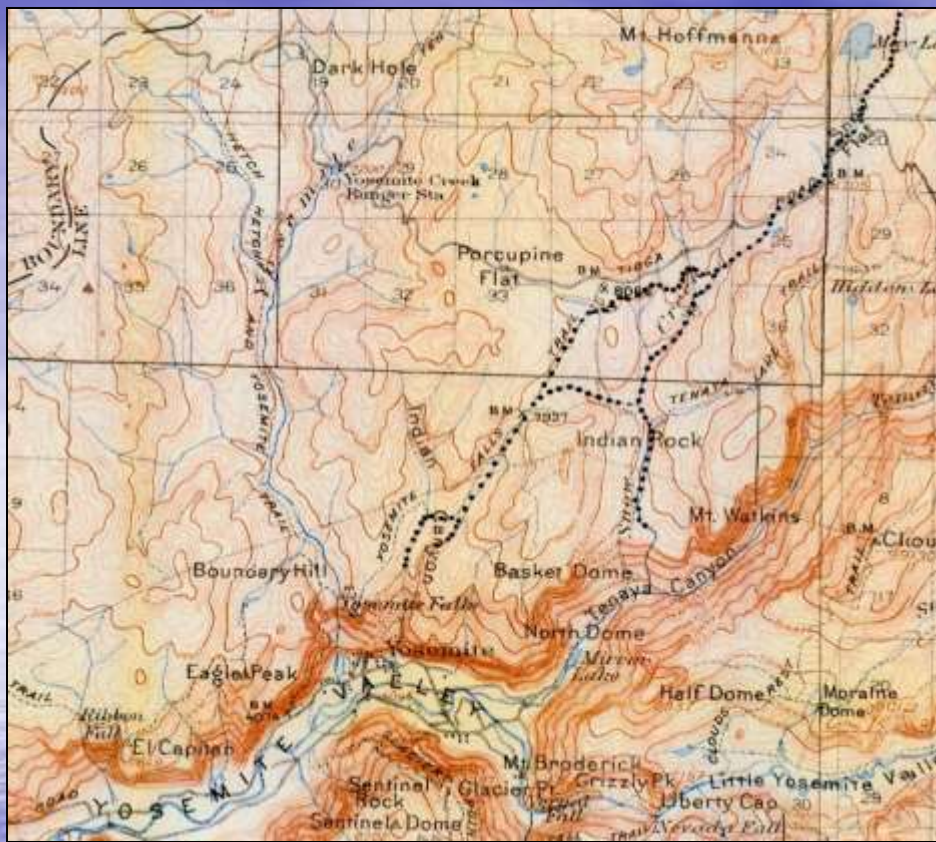
Probing a possible path down Snow Creek?

- One of party's scouts likely reconnoitered the lower reaches of Snow Creek to its precipice gorge. Here the creek makes an unusual S-shaped turn, first to the east and then back to the west, before spilling over a series of cascades into Yosemite Valley, shown below.
- The scout would not have been able to see Yosemite Valley from this chasm because of the sharp turn...



The cascades of Snow Creek falls would have been impassable for men or pack horses





Around October 27th. We still found snow in abundance, but our course was not so much obstructed with rocks as formerly. In two or three days we arrived at the brink of the mountain this at first was a happy sight, but when we approach close, it seemed to be so near perpendicular that it would be folly to attempt a descent. In looking on the plane below with the naked eye, you have one of most singular prospects in nature; from a great height of the mountain the plane presents a dim yellow appearance—a beautiful plane stretched out toward the west until the horizon presents a barrier in the site.* From the spot where we stood to the plane beneath, must be at least a distance of 3 miles as it is almost perpendicular, a person cannot look down without feeling as if he was wafted to and fro in the air, from the giddy height.



Lehamite Falls, as seen from the valley



Photo by Christopher E. Brennen at Caltech

Looking down Indian Canyon

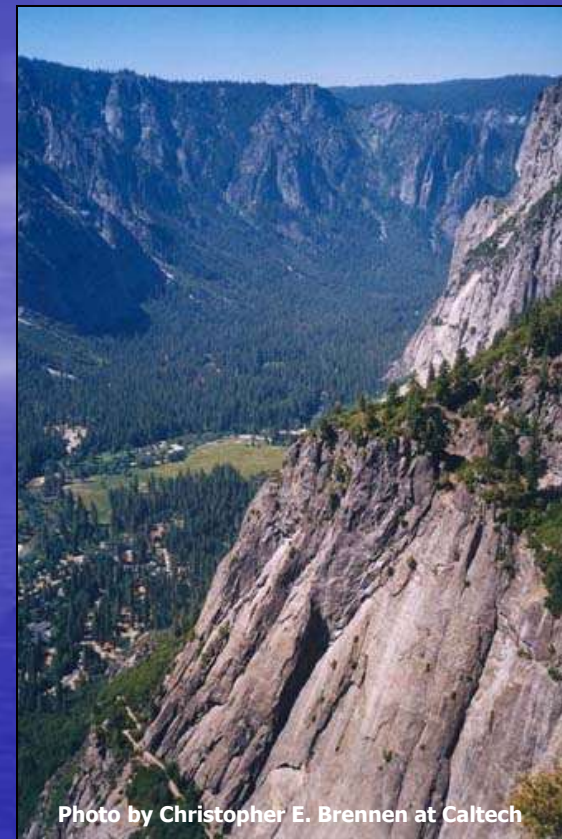


Photo by Christopher E. Brennen at Caltech

View of Yosemite Valley from
Indian Canyon overlook

- **I think they took an Indian trail leading westward, out of Snow Creek, working their way around Indian Rock and down Lehamite Creek or Indian Canyon (shown at left), along what is now called the Yosemite Falls Trail. This would taken them down the creek paralleling Indian Canyon, or possibly down the latter, to the spectacular precipice overlooking the Yosemite Valley (shown at right), east and above Yosemite Falls. This would explain Leonard's dramatic descriptions of "streams turning into rain" [water falls] and the "impassable precipices"**

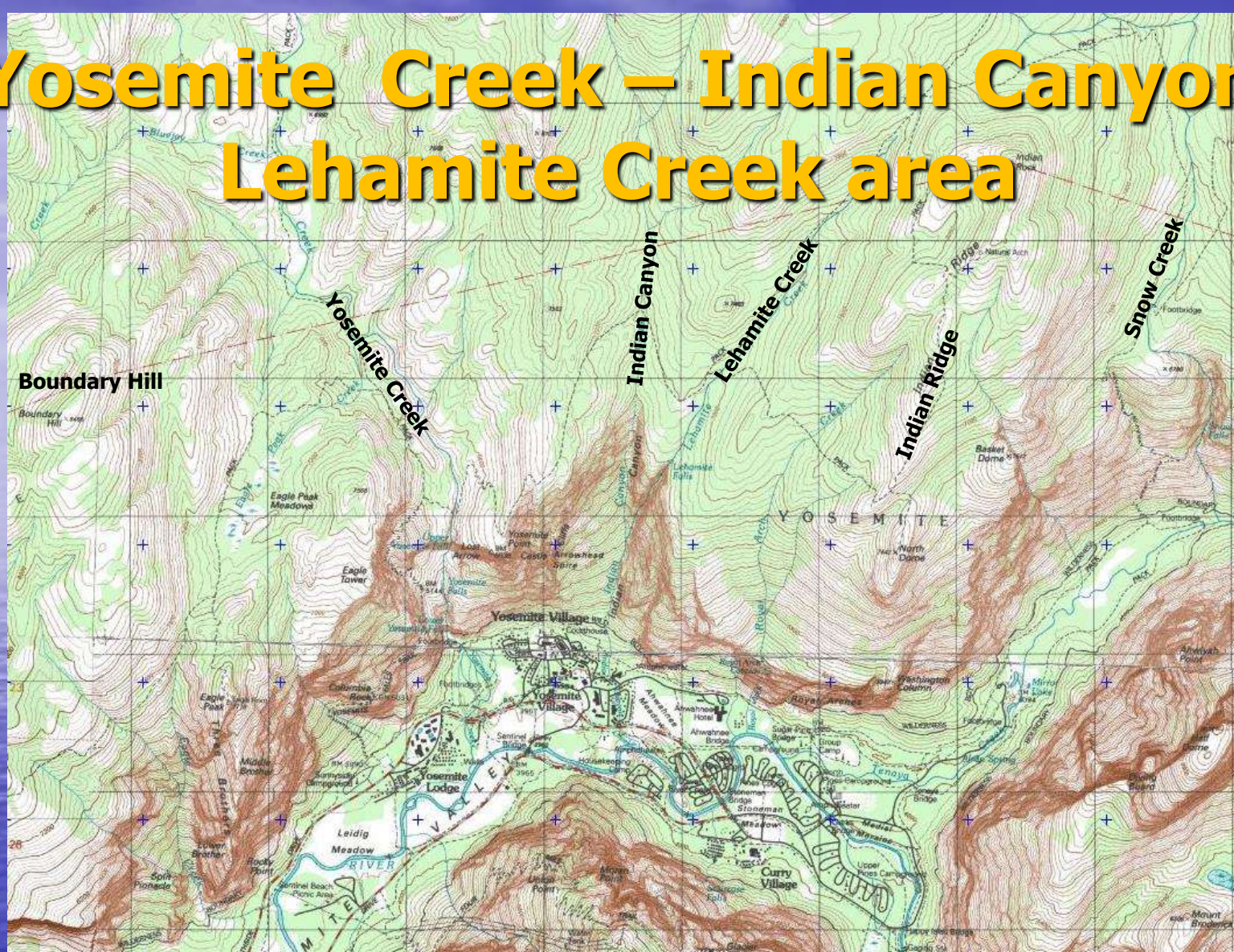
Breathtaking vistas of a valley they cannot access



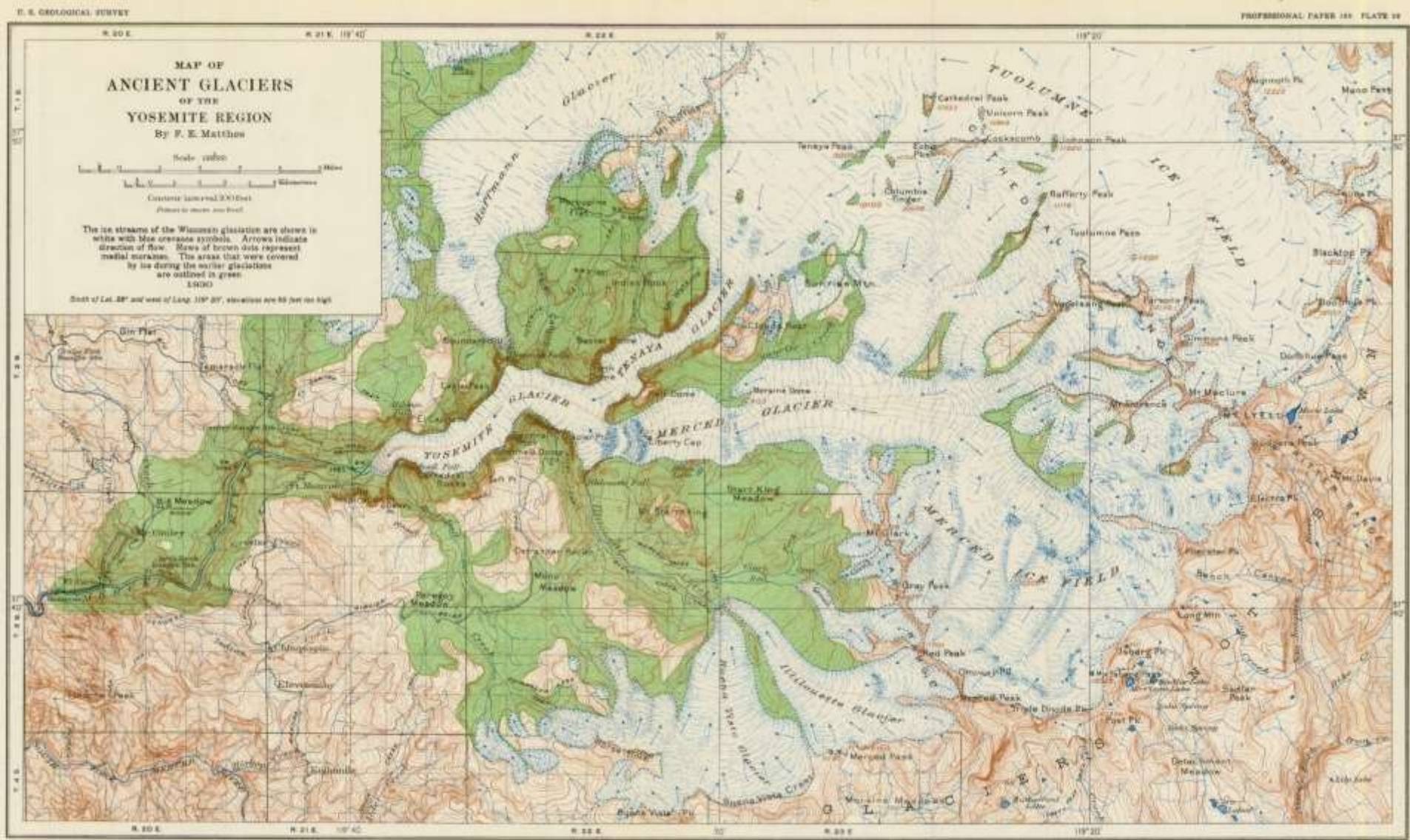
The Walker Party spent at least one evening near the spectacular precipice overlooking Yosemite Valley, likely somewhere between Lehamite Creek and Yosemite Creek.

Whatever glee they may have felt was certainly tempered by their own struggle to survive mountains more precipitous and foreboding than they had ever seen. They were still engaged in a battle of survival, slaughtering their worn-out horses.

Yosemite Creek – Indian Canyon Lehamite Creek area



- *Here we encamped for the night, and sent men out to discover some convenient passage down towards the plain, who returned after an absence of a few hours and reported that they had discovered a pass or Indian trail which they thought would answer our purpose.*

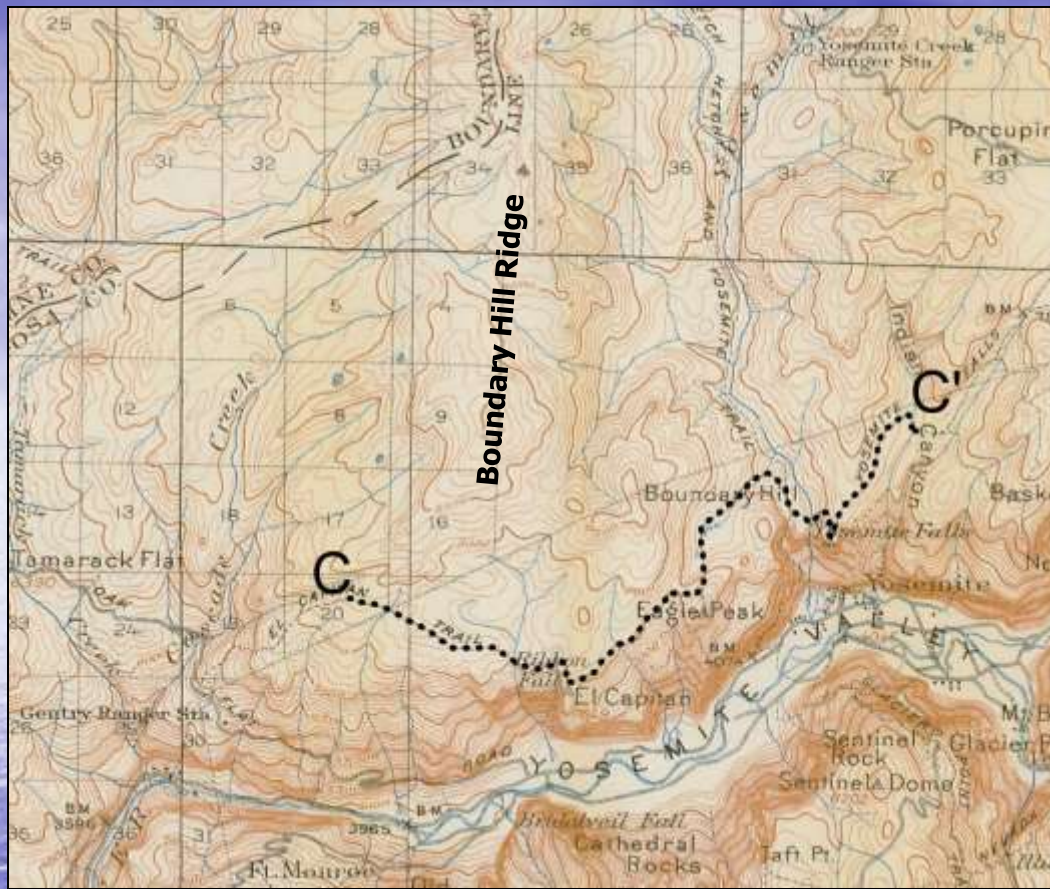


- Most of the major valleys emanating from the crest of the Sierras were carved multiple times by glaciers during glacial stages of the Pleistocene Epoch, during the last 2.6 million years. The latest Wisconsin glaciation (shown in white) was not as severe as some glacial stages that preceded it (shown in green).

Physical barrier formed by Yosemite Creek

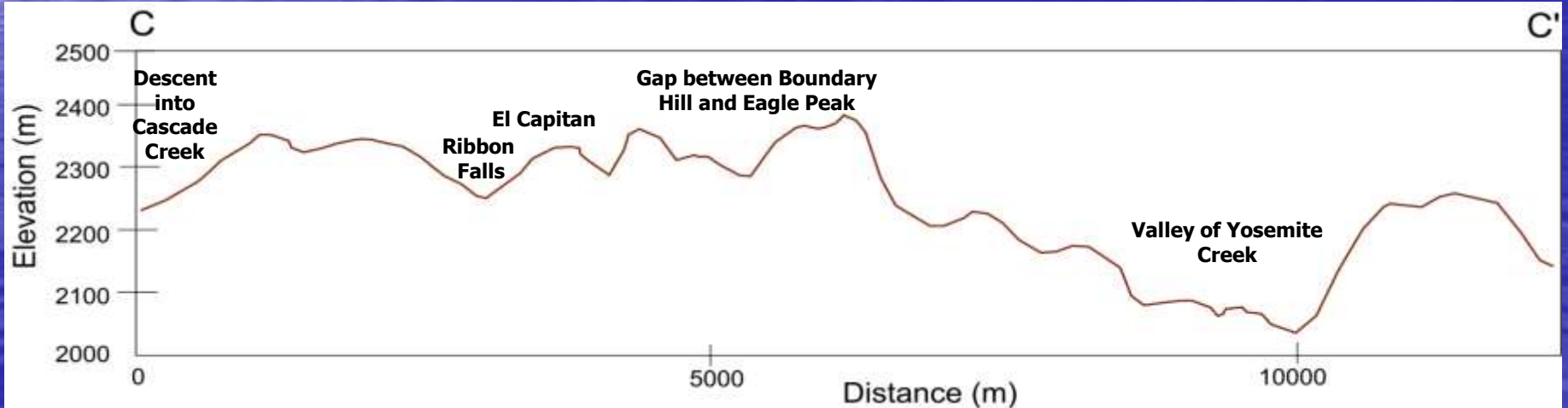
- Yosemite Creek runs north-south as a deep chasm carved by the Hoffman Glacier.
- This chasm was most easily crossed at its lower elevations, near the valley's precipice.
- The party's salvation lay in finding an "Indian Trail" leading westward....





The steep climb out of Yosemite Creek, working west along the ledge overlooking the valley

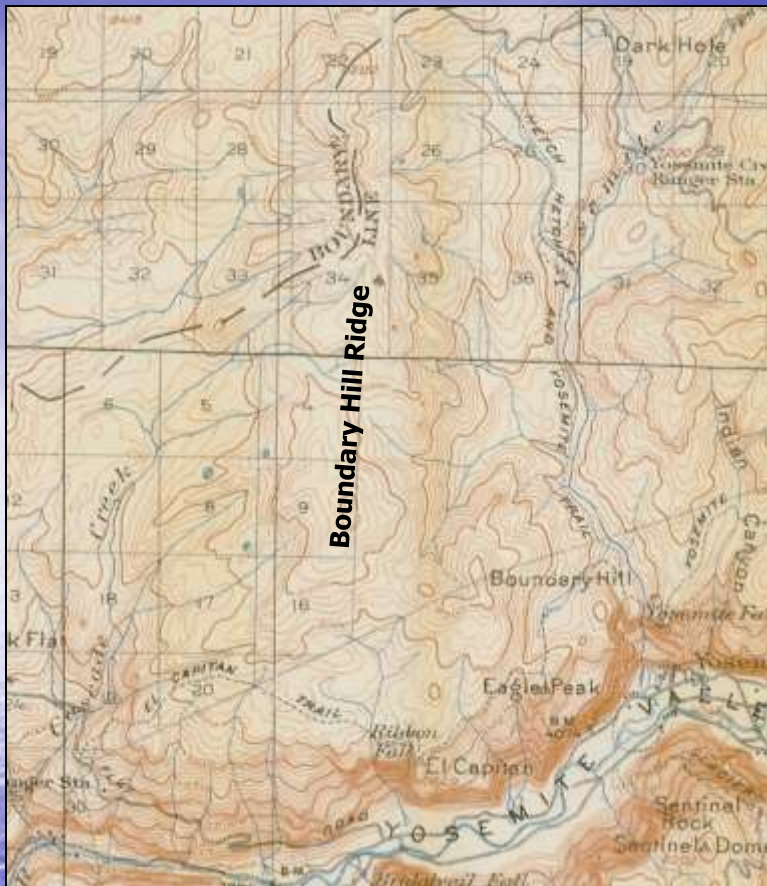
The profile below is from Indian Canyon (c') across Yosemite Creek Valley, around Boundary Hill, thence across the crest of El Capitan to the precipice overlooking Cascade Creek (c).





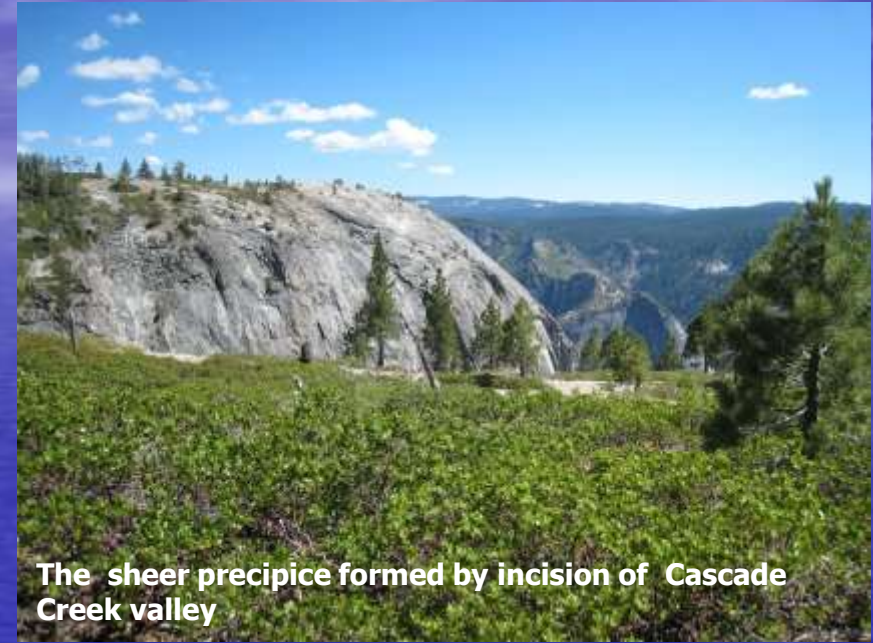
- **Around October 28th.** *The next morning after pursuing our course a few miles along the edge of the mountaintop* we arrived at the path discovered our by our men, and immediately commenced the descent gladly leaving the cold and famished region of snow behind. The mountain was extremely steep and difficult to this end, and the only way we could come any speed was by taking a zigzag direction, first climbing along one side and then turning to the other, until we arrived at a ledge or precipice of rocks, of great height, and extending eight or 10 miles along the mountain* - where we halted and sent men in each direction to ascertain if there was any possibility of getting over this obstruction. In the afternoon of the same day our men returned without finding any safe passage through the rocks.*

Working around Boundary Hill Ridge, west of Yosemite Creek



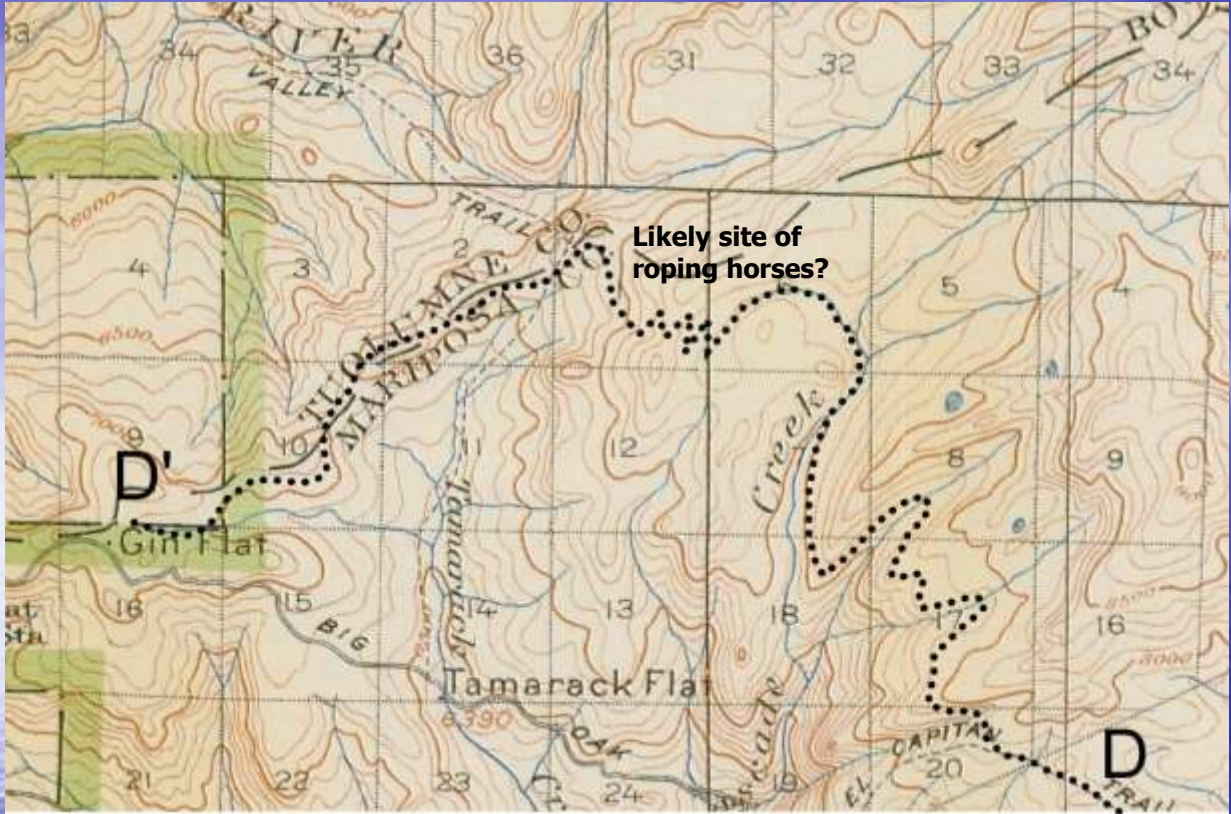
- * Boundary Line Ridge forms the western massif overlooking upper Yosemite Creek. It is 7,400 to 9,200+ ft high and would be the only physical barrier in this area that would afford the trappers a panoramic view to the west, which lies at a lower elevation. I have assumed that they more or less followed the present day El Capitan Trail across the top of the north Yosemite Valley escarpment. Using this route they would have passed over a small knoll rising to 7,400 ft, which may have afforded the described vista to the west.

Impasse at Cascade Creek?



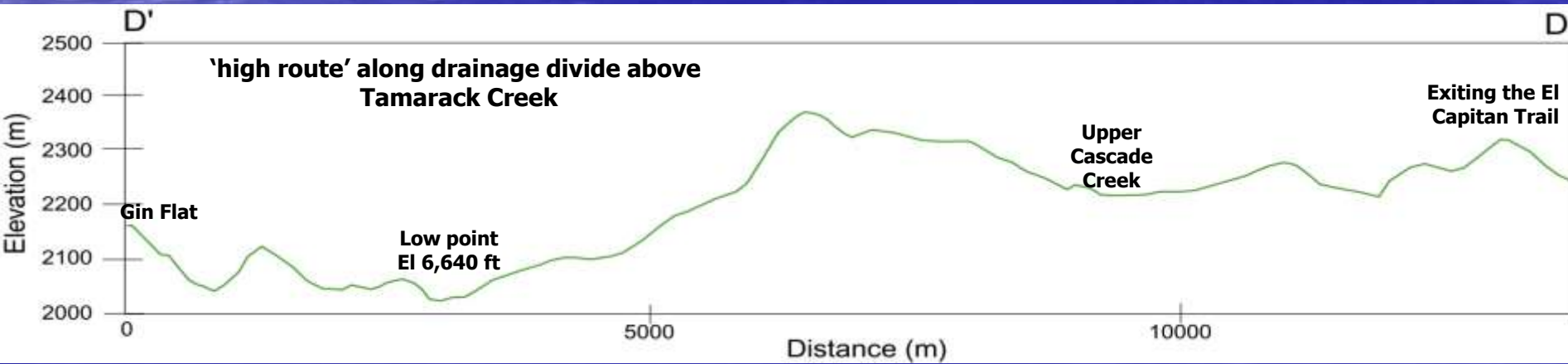
The sheer precipice formed by incision of Cascade Creek valley

- Leonard appears to describe their traverse of a steeply incised valley, which could describe lower Cascade Creek and/or Tammarack Creeks, both lying west of El Capitan and Boundary Hill Ridge.
- If they were picking their way westward along the old El Capitan Trail astride the Yosemite Valley precipice, Cascade Creek would present a formidable physical barrier. If they were traveling at a higher elevation, the old Aspen Valley Trail bisects their path. It is too steep for even the most sure-footed horses to pass across the upper end of Tammarack Creek, adjacent to a linear east-west ridgeline leading to Gin Flat.



- They appear to be working their way westward along the linear east-west watershed divide that forms the border between Mariposa and Tuolumne Counties in this area, towards Gin Flat (see 1930 Matthes map, at left).
- They had to remain at a relatively high elevation to intersect the Tuolumne Grove (5,800 ft) and/or Merced Grove (5,400 ft). In this area the Merced River is at an elevation less than 3,500 ft.

The profile below shows the "high route" sketched above across Cascade and Tamarack Creek basins. The Walker Party may have taken a "lower route," which would explain their noticing oak trees *before* seeing the giant Sequoias, if this indeed occurred.

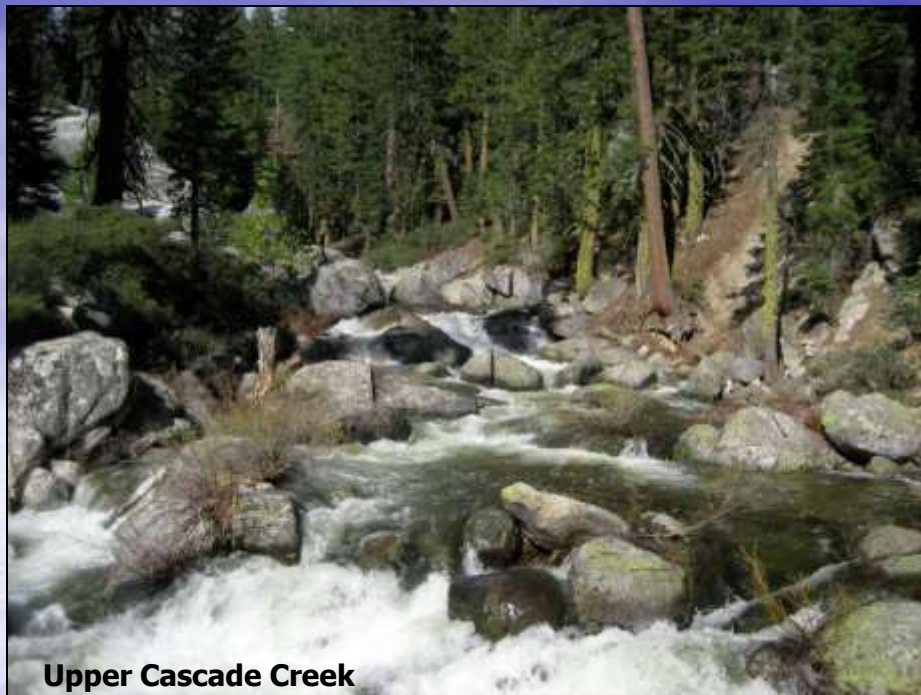




Letting their horses down on ropes to cross Cascade Creek?

- **Leonard's Journal:** *24 of our horses died since we arrived on top of the mountain, 17 of which we eat the best parts. When our men return without finding any passage over the rocks, we searched for a place that was as smooth and gradual in the descent as possible and after finding one, we brought our horses, and by fastening ropes round them let them down one at a time without doing them any injury.*





Upper Cascade Creek



Gin Flat – oaks begin to appear 1000 ft below this elevation

- *After we got our horses and baggage all over the rocks we continued our course down the mountain, which still continued very steep and difficult. The main body continued on down until we arrived at some green oak bushes, where we encamp for the night to wait for our hunters (this was sometime between October 29 and November 1).*
- *In descending the mountain this far we have found that little snow, and begin to emerge into a country which has some signs of vegetation having passed through several groves of green oak bushes etc. (Manzanita?) The principal timber which we came across, is redwood, white cedar, and balsam trees.*

The noted presence of “green oak bushes” would generally apply to elevations below 6,000 ft, which in this case would have to be the lower reaches of Tamarack Creek, because Gin Flat is at an elevation of 7,000 ft

Discovery of Giant Sequoias



The Walker Party appears to have threaded the natural drainage divide between Gin Flat and Hazel Green, which would have taken them by the giant Sequoias

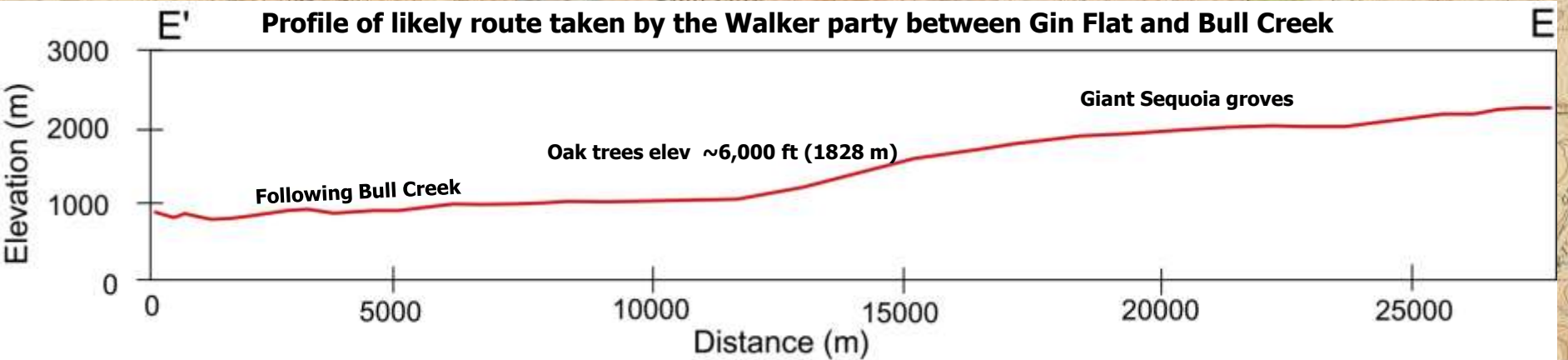
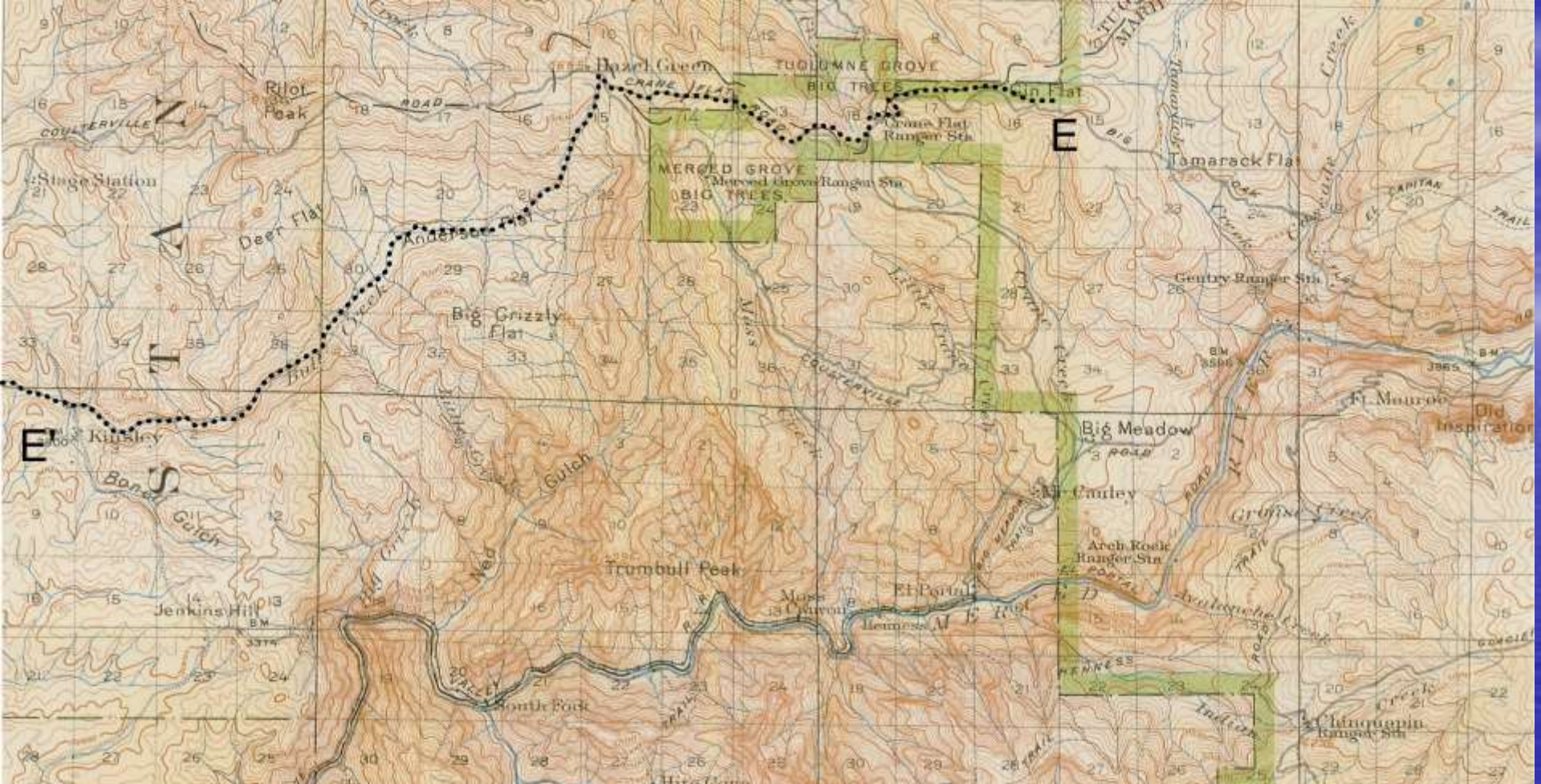


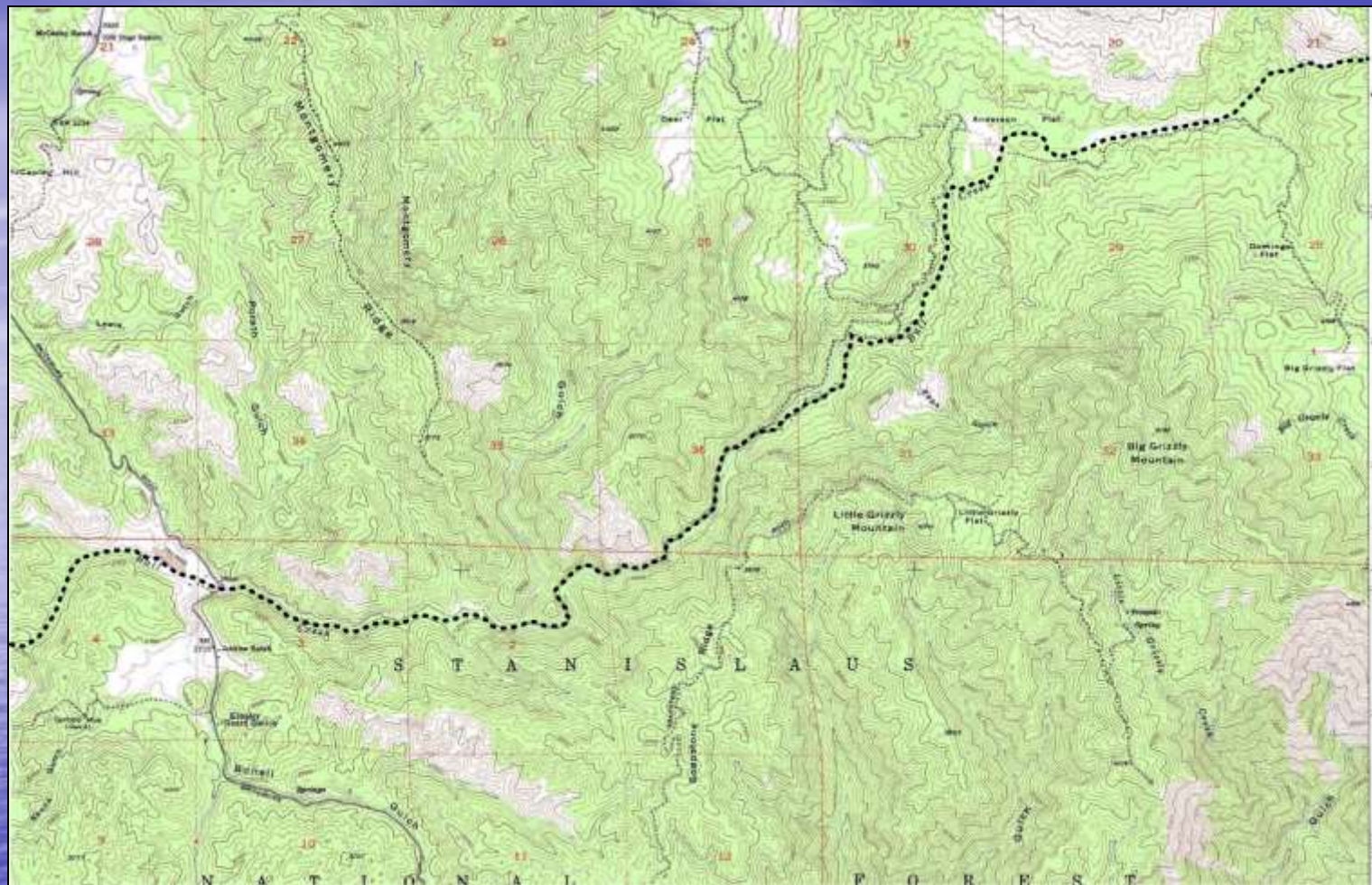
October 28th to 30th. *In the last two days traveling we have found some trees of the redwood species, incredibly large - some of which would measure from 16 to 18 fathoms round the trunk at the height of a man's head from the ground.*

Position fix



- Zenas Leonard's description of giant Sequoia trees is probably the most significant entry in his journal in terms of confirming the Walker Party's path in 1833 across the future Yosemite Park.
- The Tuolumne and Merced Sequoia Groves are just 20 acres apiece in extent, and they lie thousands of feet above the valley floor. Giant Sequoias are only found in scattered remnants along the western side of the Sierras, between elevations 4,500 and 7,000 ft.



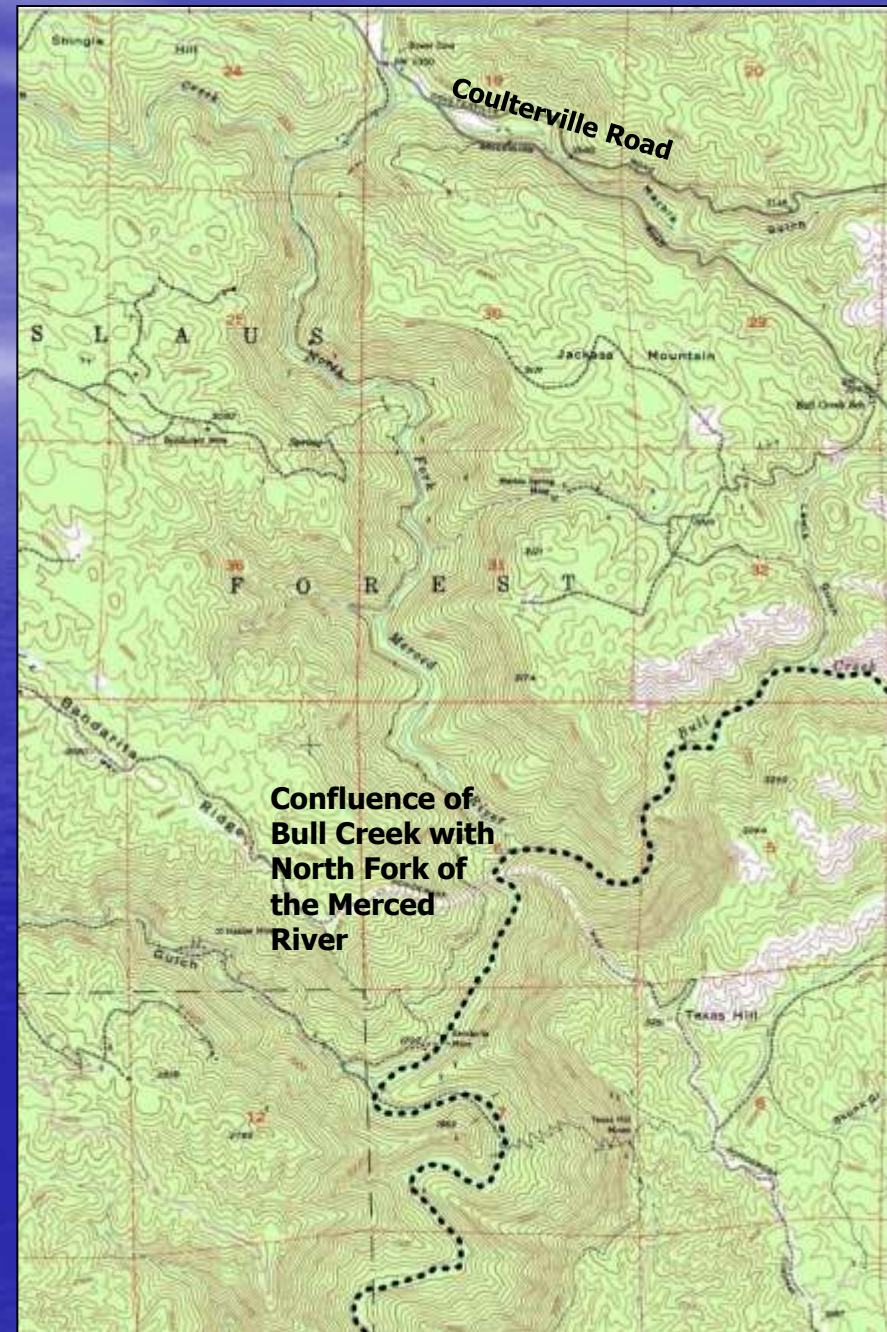


- *On October 31 we pursued our course towards the plain in a westerly direction now that we had reached a country thickly filled with almost all kinds of game our men and particularly, those fond of hunting, were in fine spirits.*
- *After a walk of about 15 miles we arrived at the margin of the woods, where we concluded to spend the remainder of the day and night. **They appear to have descended Bull Creek, which heads due west, cuts southwest, then continues westerly to join the North Fork of the Merced River.***

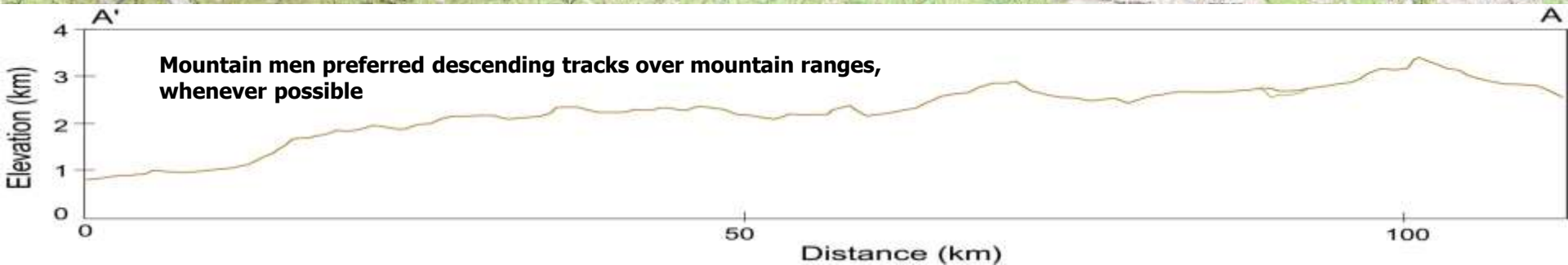
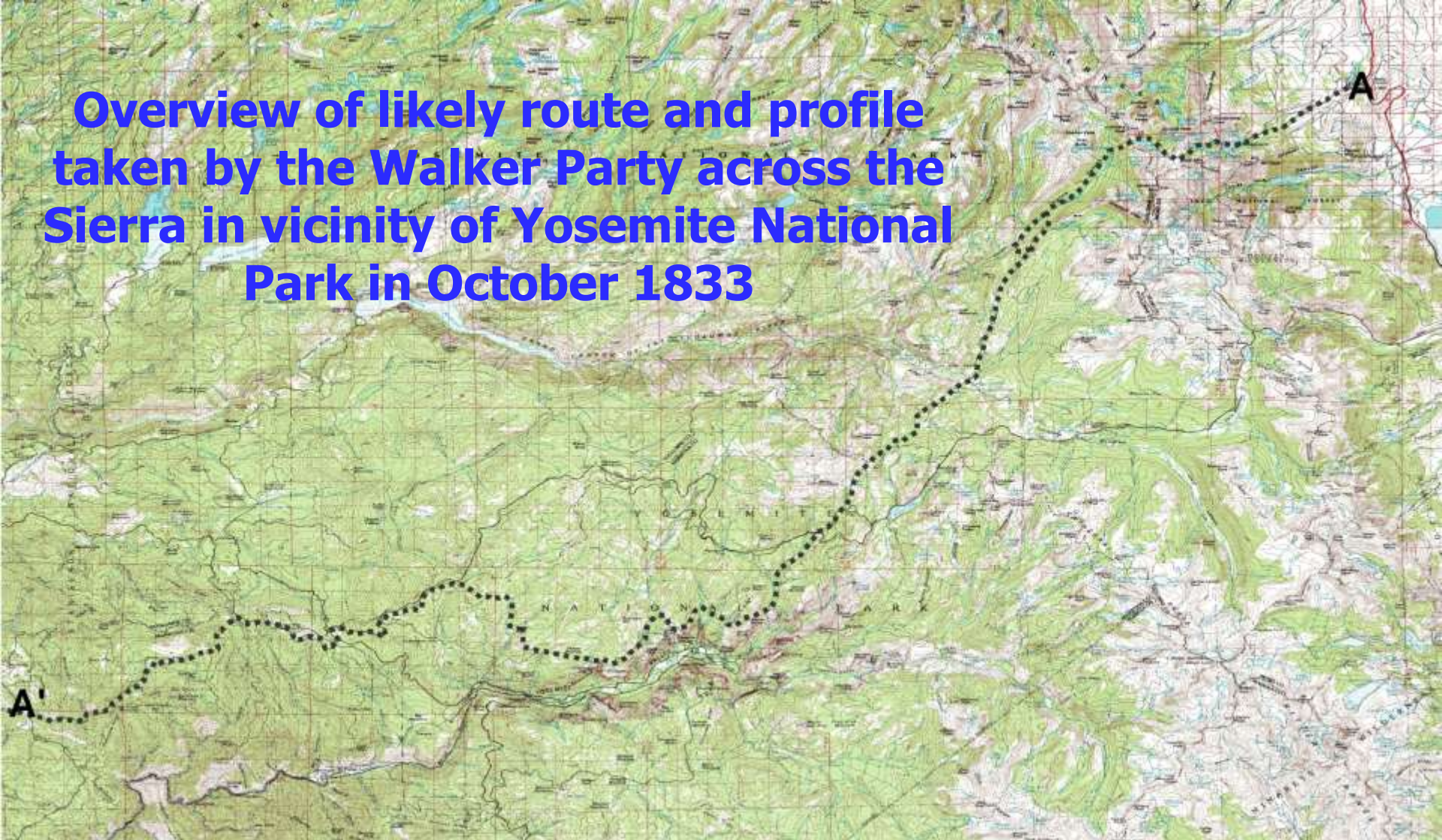
The party descended along Bull Creek



Leonard's Journal: *The following morning we directed our course across or rather along the plain until we came to a large river heading in the mountain and wending its way through the plain. Bull Creek runs into the North Fork Merced River around elevation 1700 ft. They followed this south to the main channel, sometime after November 1st, 1833.*



Overview of likely route and profile taken by the Walker Party across the Sierra in vicinity of Yosemite National Park in October 1833



Timing Fix



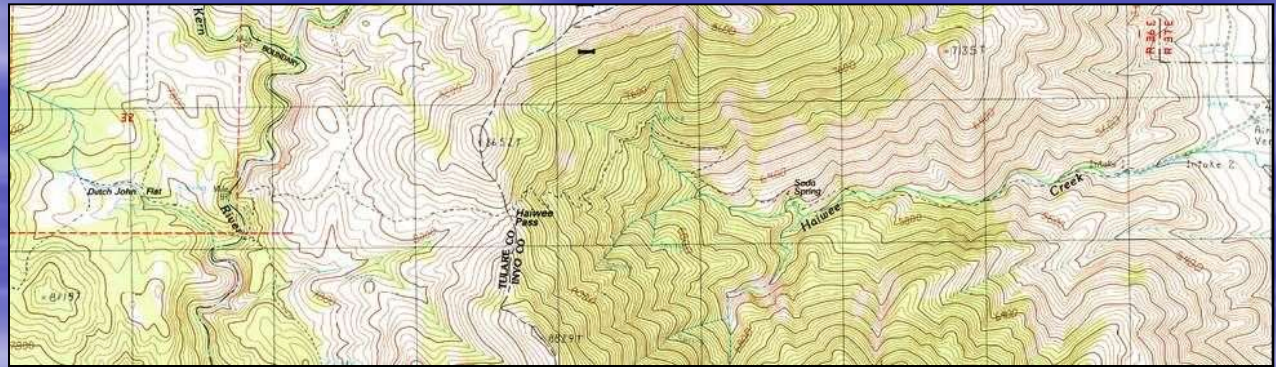
- **Zenas Leonard's journal recorded the most spectacular meteor shower of the 19th Century, which witnessed an estimated 200,000 shooting stars between midnight and dawn on November 12, 1833. Leonard records that they were camped along the Sacramento/San Joaquin River, probably somewhere near the present position of Martinez, because they encountered salt water for the first time the following day, which would have placed them on the *west side* of the Carquinez Straits.**

Wintering Over on the coast



The Walker Party skirted the eastern shore of San Francisco Bay, around the bay's southern margins and cut southwest, across the Santa Cruz Mountains. They made their first seaside camp at Point Ano Nuevo (shown at left), today a State Park. There they were befriended by John Bradshaw, Captain of the sloop *Lagoda*, sailing out of Boston. Bradshaw advised Walker to present his credentials to the Mexican Governor Jose Figueroa at Monterey, just 50 miles south. This Walker did and the governor only asked him to refrain from trapping on Indian lands or trading with them. He also offered a land grant of 30,000 acres if Walker would establish a rancho *with "50 American mechanics of different kinds."*

Haiwee Pass Pass (1834)



Looking west from Haiwee Pass
towards Dutch John Flat



Looking east from Haiwee Pass Summit



On February 14, 1834 Walker led a company of 54 men, 340 horses, 47 head of cattle, and 30 dogs out of a camp about 40 miles east of San Juan Bautista, heading for the San Joaquin Valley. The party worked their way south along the Sierra foothills, employing two Indian guides. They likely passed through what is now Porterville, and ascended the Sierra via Johnsondale and Kern Flat, across Casa Vieja Meadows, Dutch John Flat, and eventually over Haiwee Pass (el. 8,500 ft), around March 15, 1834.

Walker Pass (1843)

THE SIERRA NEVADA
FROM WALKER'S PASS TO THE COAST RANGE
Observations and Surveys made under the direction of the
N. JEFFERSON DAVIS SECRETARY OF WAR
Williamson Top' Eng' assisted by Lieut. J. H. Poole Top' Eng'
and M' Isaac Williams Smith, Civ. Eng'

1853

V A L L E Y

1853 map of Walker Pass by US Corps of Topographical Engineers
The name was assigned by Captain John C. Fremont in 1844, after
Walker had led all but 12 of Fremont's party over it heading west

Walker's
Pass

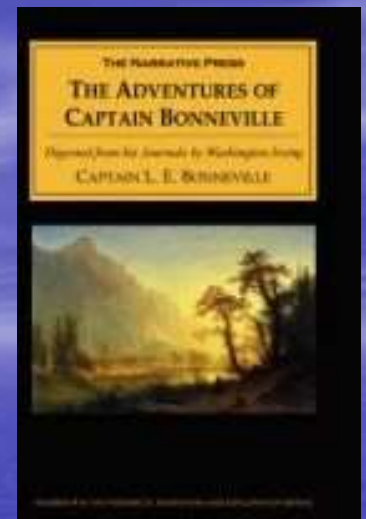
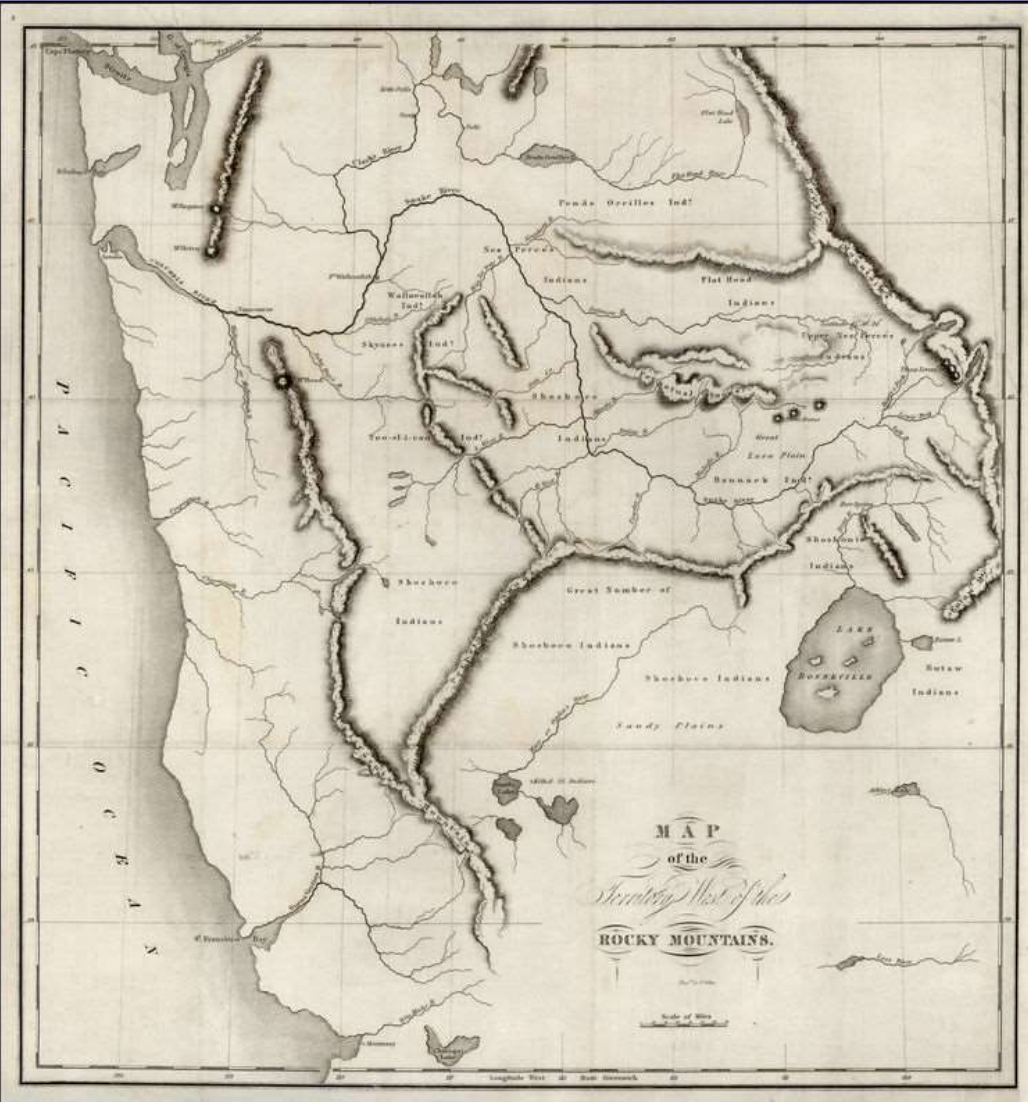
Nine years later, while guiding the party of Colonel John C. Fremont heading west across the Sierra in 1843, Joe Walker took them over a new pass farther south of Haiwee Pass. At an elevation of 5,250 ft, it is much lower and more snow-free than any other pass across the Sierras. Fremont named it Walker's Pass in 1845, and Walker promoted it for years thereafter as a viable transcontinental railroad route.



Mouth of Kern Canyon



Summit of Walker Pass

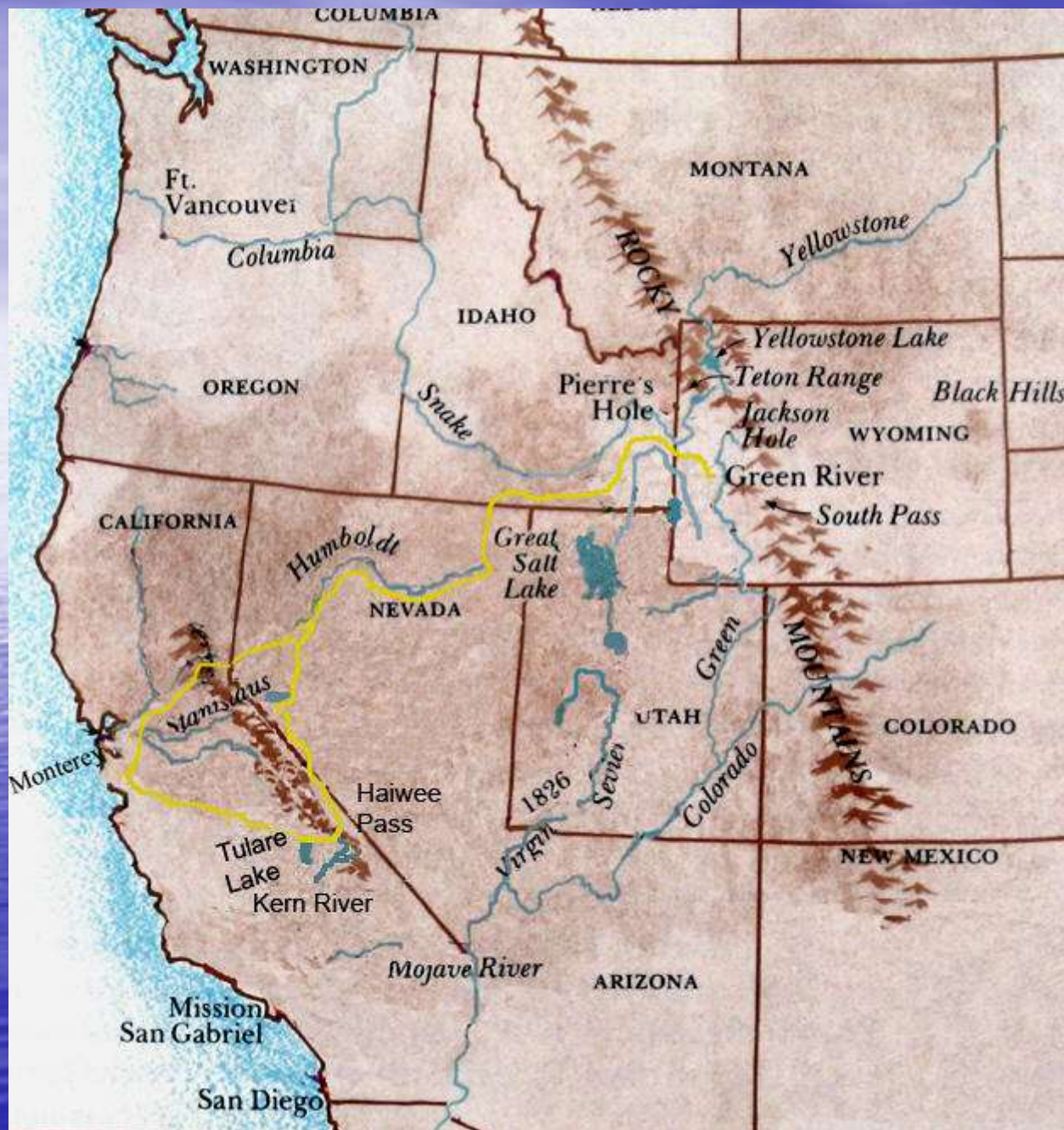


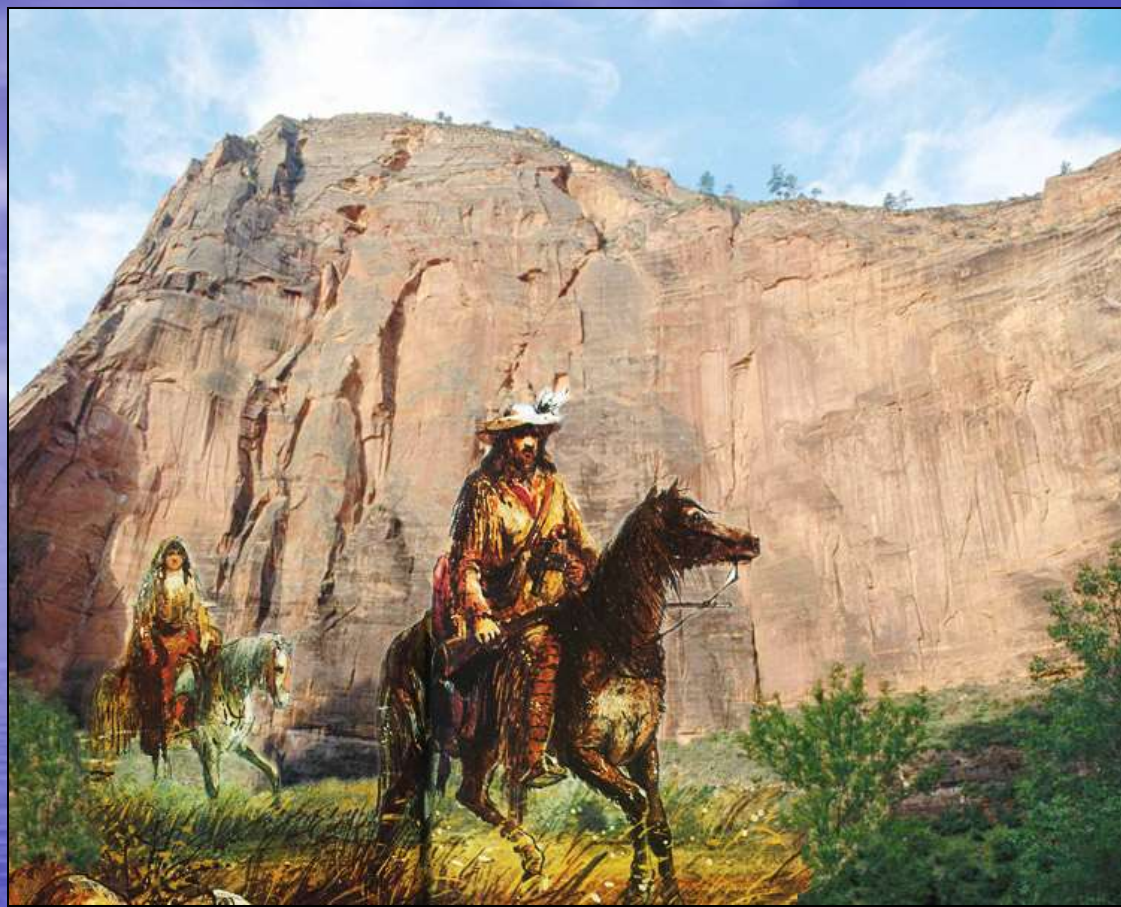
Walker's Party returned to Ft. Bonneville on July 12, 1834. Bonneville's unsuccessful efforts at working the fur trade ended up taking four years instead of two, and he had to seek intervention of President Jackson to re-secure his Army commission in 1835.

Upon his return, Bonneville signed over his journals for \$1000 to New York based writer Washington Irving, who pens "*The Adventures of Captain Bonneville, USA*," published in 1837. These blame Walker's forays into California for Bonneville's loss of money.

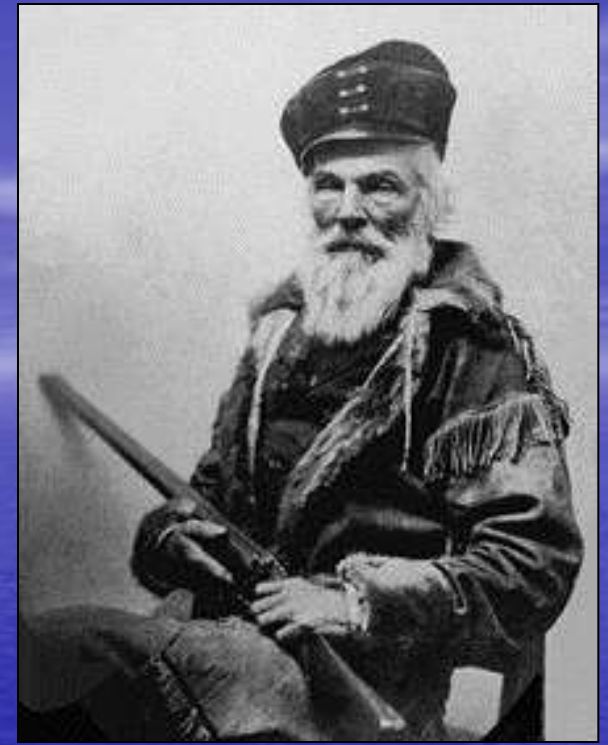
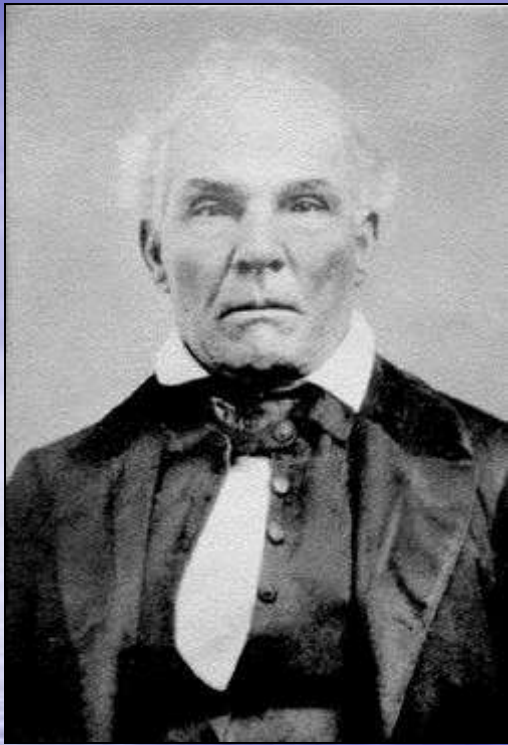
Walker's traverse of California in 1833-34

- Place names honoring Walker include: Walker Pass, Walker Lake Nevada, Walker Lake California, East and West Walker Rivers, Walker Valley, Walker Gulch, Walker Canyon, Walker Creek, California, Upper and Lower Walker Creeks, the Walker Trail, Walker Peak, Walker Mining District, Walker, Arizona, and Walker, California





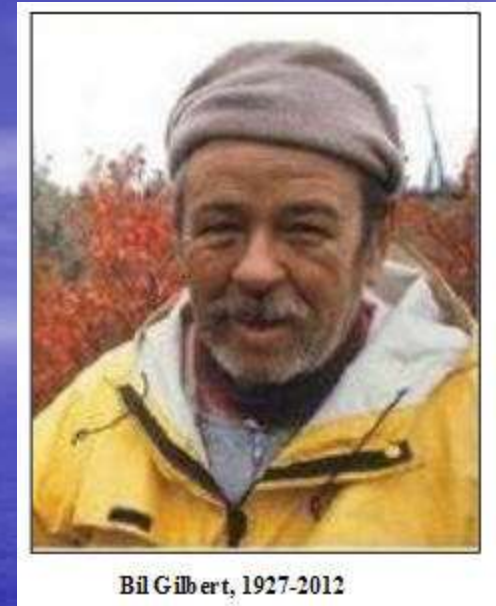
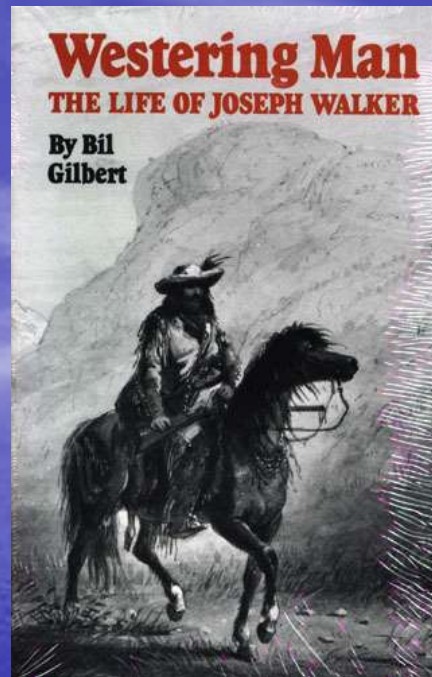
In 1836 Walker married a Snake Indian princess who was revered for her beauty at the annual Mountain Man Rendezvous. For these festivals she was decked out in the finest frontier clothing on a fine horse, following her husband at a respectable distance. She bore him five children, and he took his family to Sunday services at the local Baptist church whenever they visited Missouri. She and the children were lost to cholera in the great epidemic of 1846, which occurred in the wake of the first emigrant wagon trains heading west, killing thousands of native Americans.



After his wife and children died, Joe Walker emigrated to the San Francisco Bay area, where his brother Joel was one of the earliest inhabitants of the Napa Valley. He continued leading forays into the American Southwest, fighting the Apaches in the 1860s and discovered radioactive "yellow cake" (carnetite) in the Chinle Shale along the Little Colorado River. His eyesight grew increasingly bad as a consequence of drinking alkaline waters laced with arsenic from desert watering holes. He retired to run the Manzanita Ranch in Contra Costa County with one of his nephews near the northern base of Mt. Diablo, near the present day City of Walnut Creek. He died on October 27, 1876 at age 77 ys and 10 months ,and was buried in the Pioneer cemetery in Martinez, California.



The spirit of
Joe Walker ?



Bil Gilbert, 1927-2012

In 1981, Joe Walker's biographer, Hall of Fame Journalist Bil Gilbert and his mountaineer friend John Thompson were retracing Walker's steps over 80 miles of the Sierras, across Yosemite. While camped close to the summit of the Sierras, Gilbert experienced a surreal dream, wherein he found himself in a old St Louis tavern with Joe Walker's sister-in-law Barbara, who introduced him to Joe Walker, who then offered to answer any questions he might have. The only question he managed to ask was "How did Walker meet Benjamin Bonneville?" Walker replied that he was introduced to Bonneville by "Lieutenant William Montgomery," a figure Gilbert had never turned up in any of his years of research on Walker's life. He suddenly awoke, startled by a mule deer that walked across their sleeping bags and scampered off into the blackness.... Subsequent research revealed that Montgomery was a West Point graduate serving at Fort Leavenworth in 1827, when Walker was Sheriff of Jackson County, a few miles away...the two men would had to have known one another. To his dying day Gilbert maintained that it was the strangest thing that ever happened to him in his 50 year career as a professional journalist...