Lower Sagehen Creek Loop Trail

This trail guide was prepared by Kitty Williamson in partial fulfillment of the California Naturalist Program held at the Sagehen Creek Field Station of UC Berkeley in 2014.

Distance: 5.3 miles round trip  
Duration: Approximately 3 hours  
Difficulty: Easy  
Start/Finish: Sagehen Creek Bridge on Highway 89  
Season: Late April to Mid-November  
Elevation: 6000 feet ± 100 feet  
Facilities: None  
Maps: Tahoe National Forest (Sierra Buttes/Donner Pass) by National Geographic (#805) or any map showing Stampede Reservoir  

Summary: A pleasant, mostly level, user-created trail along Sagehen Creek between Highway 89 and Stampede Reservoir. Starting on the north side of the creek takes you through a lush riparian forest with aspens, willows, conifers, birds and wildflowers. At about 2 miles you emerge at Sagehen Meadows and see Stampede Reservoir ahead. Cross Sagehen Creek and return to Highway 89 on the more open and drier south side of the creek, starting on a four-wheel drive (4WD) track and completing the final mile on a user-created trail.
BACKGROUND

Note: This is a user-created trail in the Tahoe National Forest. It is not shown on printed maps of the area. Neither the trail nor the trailhead parking area is maintained by the United States Department of Agriculture (USDA) Forest Service.

Undammed and nearly pristine, Sagehen Creek is home to a variety of fish and its waters support a riparian woodland and meadow. This trail follows Sagehen Creek for its final 2.5 miles, from the Highway 89 bridge to Stampede Reservoir.

How did Sagehen Creek get its name? Before the Stampede Dam was constructed in 1970 there was a large meadow system where the creek converged with the Little Truckee River. A population of greater sage-grouse, commonly called “sagehens” at the time, lived in these meadows and gave rise to the names Sagehen Meadows and Sagehen Creek. Today, only a fraction of the meadow system remains due to the presence of Stampede Reservoir, although more is visible when the reservoir shrinks due to drought.

Sagehen Creek is about 8 miles long. It starts on Carpenter Ridge east of the Sierra Nevada crest and flows into Stampede Reservoir. Releases from the Reservoir flow down the Little Truckee River, through Boca Reservoir, into the Truckee River and then to the Great Basin. Water from the Great Basin is trapped inland and never reaches any ocean, only leaving by evaporation.

The Sagehen Creek Field Station and Experimental Forest is located a couple of miles upstream from the trailhead. This is a research and teaching site operated by the University of California (UC) Berkeley under a long-term special use permit with the USDA Forest Service. It was established in 1951 and has hosted many projects and courses on subjects including fish, wildlife, forestry, botany, geology, hydrology, meteorology, and most recently, creative arts. More information on the Sagehen Creek Field Station is provided at the end of this trail guide.

GETTING TO THE TRAILHEAD:

From Interstate-80 (I-80) at Truckee, take Exit 188B to Highway 89 North towards Sierraville. Continue north on Highway 89 for 7 miles to Sagehen Creek. At about 6.8 miles, the road starts downhill to Sagehen Creek, crosses the creek on a small bridge, and then begins an uphill climb. Although there are no signs marking either Sagehen Creek or the trailhead, there are usually some cars in a user-created dirt parking area on the right (east) side of the road immediately after the bridge. Slow down at the bridge to make this very sharp right turn. If you see the sign to UC Berkeley’s Sagehen Creek Field Station, you have gone too far.

No parking is available once the snow falls, effectively closing the trail until spring melt.

There are no facilities at the trailhead but a vault toilet is available at the Donner Family Camp Picnic Area, 4 miles south of Sagehen Creek on Highway 89.
THE HIKE:

The user-created trail leaves the small parking area on the north side of Sagehen Creek and follows the creek downstream for 2.5 miles. This trail is especially popular in the spring and early summer when there are abundant wildflowers. An outstanding online guide to the wildflowers of Sagehen Creek has been prepared by Lynn Hori, a certified California Naturalist, and is posted on her Tahoe Flower Hikes blog at:

http://flowersbyhike.wordpress.com/2012/04/21/sagehen-creek-to-stampede-reservoir/

The trail guide below focuses on the non-floral aspects of this riparian woodland and meadow: -- its wildlife, fish, forest, geology, and history.

The Sagehen Creek basin gets an average of 35 inches of rain each year. As you walk down the path, you enter a mixed pine forest of lodgepole (Pinus contorta) and Jeffrey pines (Pinus jeffreyi) that merges into a riparian forest including quaking aspen (Populus tremuloides) and Lemmon’s willow (Salix lemmonii) growing close to the creek.

Nineteenth century logging. In the late nineteenth century this area was logged to supply lumber for Nevada’s Comstock Lode and the Transcontinental Railroad. Lumbering continued until the 1930s. There are old saw-cut stumps near the trailhead and other evidence of this former logging operation is further down the trail. These stumps of trees that were cut down over a century ago served a new purpose recently when Sagehen Creek Field Station researchers took core samples from the stumps and analyzed them to retrieve fire interval data back to the 1600s.
After about a mile the trail joins the railroad bed built for the nineteenth century logging effort. The ties and rails were removed making this an ideal walking path. At several places on the right of the trail you can see stonework used to make the roadbed level. However, such private logging operations ended when the land became a part of the Tahoe National Forest in the 1930s.
**Beaver pond.** The creek widens into a broad shallow pond created by a beaver dam. The dam is visible in the photo below as the long, horizontal green line marking the far shoreline of the pond.

Beavers (*Castor canadensis*) are the largest rodents in North America and always live near water. They are herbivores who eat the inner bark (cambium) of aspens, cottonwoods, and willows, and also use these trees for building materials for their dams and lodges. Since beaver are mostly nocturnal you are unlikely to see them during the day. But you can see their handiwork here in the form of many beaver-gnawed stumps down the slope to your right by the edge of the pond. Some of the stumps are fresh but others were felled in prior years, indicating that this large dam has been several years in the making.

There are also beaver lodges in the pond. Beaver build these shelters only after they have dammed a stream and created a suitable pond. A beaver lodge is a mound of twigs and brush about 5 feet in diameter with an underwater entrance and a nest chamber inside. It provides protection against predators and a place to sleep during the day. You can see a couple of beaver lodges from the trail if you look closely.

**Ancient volcanism.** The open slope along the trail by the beaver pond and beyond is littered with many chunks of andesite, an igneous (volcanic) rock of a medium tan-gray color. Geologists call it “porphyritic andesite” since embedded black pyroxene crystals give it a speckled appearance. It oozed out of the ground as molten lava 5-6 million years ago when the Sierra was a volcanic mountain range. A series of andesite flows can be found along the north side of Sagehen Creek for much of its 8-mile course. The differing sizes of the pyroxene crystals indicate lava flows at different times. Andesite containing small pyroxene crystals came from earlier flows, while andesite with the larger crystals came from later flows, after the crystals had time to grow in the subterranean magma chamber. In places, one flow overlaps another, allowing geologists to reconstruct the history of the flows.
In much of the Sierra Nevada glaciers scoured the surface exposing the underlying granite batholith. However, the Sagehen Creek basin was only lightly glaciated and much of its volcanic rocks remain. The different hydrologic characteristics of volcanic rock and granite rock explain why Sagehen Creek flows all summer while many granite basins dry up: volcanic rock acts as a sponge, releasing its water slowly, while granite absorbs very little, allowing quick runoff.

**Wildlife.** Downstream from the beaver dam the forest is alive with bird sounds including the tapping of woodpeckers as well as the chirps, songs, and calls of other birds. Listen for Oregon junco, chickadee, red-breasted sapsucker, Audubon’s and yellow warbler, and Cassin’s vireo, although they are difficult to see due to the thick understory around the creek at this part of the trail. You may also see the brightly colored western tanager.

At about 2 miles the path leaves the forest and enters Sagehen Meadows. There are usually several examples of coyote scat on the trail in this open meadow area.

Some large wooden trestle beams by the side of the trail remain from the abandoned logging operation. One now serves as a handy bridge over Sagehen Creek, shown in the photo below.
A number of fish species, some native and some non-native, can be found in the creek. Most colorful are the small (6-8 inch) pink kokanee salmon who migrate through this section of stream to spawn in September. The kokanee are a form of landlocked freshwater sockeye salmon (*Oncorhynchus nerka*). They are not native to this area and were introduced in the 20th century into lakes in the Tahoe area.

Sagehen Creek also has rainbow, brown, and brook trout – all of them non-native. They have forced out the only native trout in the Truckee River system: the Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*). The Lahontan cutthroat trout is one of the world’s largest trout (up to 39”) and is the state fish of Nevada. One caught in Pyramid Lake holds the record of 41 pounds. However, it’s now so rare that it has been listed as “threatened” under the federal Endangered Species Act. There is only one remaining natural breeding population of Lahontan cutthroat trout today in nearby Independence Lake.

These native trout evolved in ancient Lake Lahontan and its tributaries which once covered much of the Great Basin. Only remnants of the huge lake exist today in places like Pyramid Lake and Walker Lake. As the ancient lake slowly shrunk, the Lahontan cutthroat trout adapted to wide-ranging conditions of temperature, salinity, and pH that non-native trout cannot tolerate. This adaptability may once again give the Lahontan cutthroat trout a competitive advantage in the changing conditions now being brought about by global warming and drought.

Lahontan cutthroat trout are important to the Paiute tribe which now operates a hatchery recovery program involving Pyramid Lake and its tributary the Truckee River. Their program is proving successful – in 2013, the trout spawned in the Truckee River tail waters for the first time in many years. A research program at the Sagehen Creek Field Station has been studying the possibility of reintroducing Lahontan cutthroat trout to Sagehen Creek.

Sagehen Creek also has other, smaller fish. Paiute sculpin (*Cottus beldingi*), a native species, is hard to see as they are only 1-5 inches long, usually very still, and their color matches the gravel.
Having crossed Sagehen Creek, the path continues along the old railroad bed from the former logging operation. You will cross a couple of small streams and seeps, stepping over mats of watercress (*Rorippa nasturtium-aquaticum*). This non-native plant in the mustard family was introduced from Europe and is now common nationwide up to 8000 feet elevation. It grows densely in the wet places on mud or quietly-flowing streams, and it almost chokes these small wetland streams in Sagehen Meadows. Its bright green rounded leaves float on the surface and its thin roots hang down into the water. Pinch off a leaf or two and taste its bright peppery flavor.

In late May through mid-June these meadows offer a special visual treat – large numbers of camas lilies (*Camassia quamash*), a purple flower that grows in extensive swaths. These are described in Lynn Hori’s wildflower guide to this trail (link provided on page 3, above).

**Stampede Reservoir.** Stampede Reservoir, clearly visible to your left, was created in 1970 when the U.S. Bureau of Reclamation dammed the Little Truckee River by building Stampede Dam. A primary purpose of this reservoir was to improve the downstream spawning habitat of a critically endangered endemic fish, the cui-ui (*Chasmistes cujus*) who would migrate from Pyramid Lake into the Truckee River to spawn. Water releases from Boca and Stampede Reservoirs are timed each spring to support flows suitable for spawning.

Stampede Reservoir attracts migrating birds. You may see Canada geese (*Branta canadensis*) California gulls (*Larus californicus*), and a variety of ducks. An occasional summer visitor is the elegant long-legged sandhill crane (*Grus canadensis*) which may be found feeding in the meadows near the water. The sandhill crane is one of the oldest species of birds in the world. They are usually seen as mated pairs or as a family group. Their distinctive haunting call can be heard for up to 2 miles.

![Sandhill Crane](http://www.inaturalist.org/places/lower-sagehen-creek-hiking-trail-ca-us)
Another striking visitor is the American white pelican (*Pelecanus erythrorhynchos*), easily visible because of their large size and bright white feathers. In flight you can see their dramatic black wingtips and their wingspan up to 8.’

**Aspen Restoration Project.** As you approach Stampede Reservoir you enter a grove of quaking aspen (*Populus tremoides*), a signature tree of the American West. Since aspen require a good source of water, Sierra Nevada aspen grow near streams and lakes. You have already passed several aspen stands along the creek on this hike.

All the trees in a single aspen grove share a common root system and are, genetically speaking, one organism as they share the same DNA. This becomes obvious in the fall when the leaves of the whole grove turn yellow at the same time. Aspen can reproduce two ways, vegetatively by sending out runners from an existing root system, and sexually by flowers which produce wind-borne seeds. Each seed has a tuft of dispersal hairs, similar to the cottonwood, and can be carried by the wind for up to several miles.

Aspen have been declining in the Sierra Nevada. In some places they have been shaded out by conifers, an unintended consequence of decades of forest fire suppression in the twentieth century. In other places their young shoots have been eaten by deer or by grazing sheep or cattle. The Forest Service is now working to reverse aspen decline by restricting livestock grazing and by removing competing conifers to provide more light and space for aspen to grow.

Both these strategies are in now use in Sagehen Meadows. Sheep grazing is no longer permitted. Dozens of lodgepole pines were removed in 2012 in and around this aspen grove by the shore of Stampede Reservoir. The results at this aspen restoration project site will not be measurable for a decade, the time needed for young aspen to become firmly established. If successful, this grove will expand as new trees emerge at its edges.
**Donner Fire.** In August 1960 the Donner Fire swept east from Donner Ridge through this area destroying 45,000 acres of forest in eight days. Afterwards, the Forest Service removed dead trees and planted new Jeffrey pine seedlings in “plantations” which are visible today as stands where all the trees are young and about the same age. If you look up the hill on the south side of Stampede Reservoir you will see one of these plantations. More information about the Donner Fire and this reforestation effort called Penny Pines is located on a Forest Service signboard by Highway 89 one mile south of the trailhead.

Forestry researchers and wildlife biologists now realize that such dense, even-aged, monocultural stands are not ideal for wildlife and can pose a significant fire hazard. Two Forest Service-sponsored pilot projects now underway nearby are experimenting with ways to introduce a more varied, wildlife-friendly, fire-resistant forest structure.

**Donner Lake Glacier.** The return trail starts as a 4WD road on the south side of Sagehen Creek. This side is more open and drier than the north side, making for a warm hike on a sunny day. In addition, the soil and rocks have a markedly different color and texture from the north side of Sagehen Creek. You are walking on a layer of glacial till left by the Donner Lake Glacier 200,000-600,000 years ago. “Glacial till” is a geological term for the mixture of rocks, gravel, sand, and clay directly deposited by a glacier as it moved across the land.

Follow the 4WD road (F.S. 886-18) for about two miles, paralleling the creek, ignoring the side roads to the right and the left. The 4WD road enters a mixed pine forest and ends abruptly at the “No Motor Vehicles” sign pictured below. Walk past the sign and follow the narrow use trail the final mile to Highway 89.
Lodgepole pines predominate, their bark commonly described as looking like pressed cornflakes. As you approach Highway 89 you will also see some Jeffrey pines which are larger and taller than the lodgepoles. On a warm day their bark gives off a delightful fragrance that some describe as vanilla and others as butterscotch. Their cones, also larger than those of the lodgepole, have a sharp prickle on each scale. Since the prickle is turned downward, the cone can be held comfortably in your hand, inspiring the name “gentle Jeffrey” in contrast to the “prickly Ponderosa,” a pine whose cones have uncomfortable outward-pointing prickles.

This last section of trail runs closer to Sagehen Creek. Beaver-gnawed trees are again visible as you pass the area where they have spent years building their dam and lodges.

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More information about the Sagehen Creek Field Station’s research, education, art, and public events is available at:

- Sagehen home page: [http://sagehen.ucnrs.org/index.html](http://sagehen.ucnrs.org/index.html)
- Sagehen Events: [http://sagehen.ucnrs.org/events.htm](http://sagehen.ucnrs.org/events.htm)
- Sagehen TV: [http://sagehen-video.blogspot.com/](http://sagehen-video.blogspot.com/)
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