

Mono's Volcanic Wonderland

By Mary Frances Strong

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(Color photos were gleaned from the internet and not part of the original article.)

POSSIBLY EVERYONE who has traveled Highway 395 north to Reno has noticed the Mono Craters in Pumice Valley south of Leeving, California. Their size and number make them hard to overlook. It is also quite possible that few of these highway travelers know about the beautiful Inyo Crater Lakes and the "Volcanic Wonderland" which surround them.

Generally, we think of the Sierra Nevadas as a fine example of glaciation. But here, on their eastern escarpment, volcanism has produced a number of fascinating geological formations. The Forestry Service has marked and provided access to many of these sites. From them, we can obtain an idea of the tremendous forces which have been responsible for many of our earth's landforms.



Happily, the Forest Service has also established several campgrounds among the stands of pine, fir and cedar in the Inyo National Forest. With elevations ranging from 7500 to 8500 feet, this is an ideal region for a summer vacation.

A good starting point for a trip into Mono's Volcanic Wonderland would be Lookout Mountain, three miles east of Highway 395. See Map. A steep, narrow, unpaved but safe road winds up to its 8300-foot, rounded summit. From this vantage point, you will be treated to a magnificent, 360-degree view of the surrounding country.

To the east of Highway 395, south of Lee Vining, California, Mono Craters dominate the skyline. Formed in recent time, geologically speaking, they represent part of the tremendous forces at work in this volcanic region.

The Inyo National Forest appears to "stretch forever" in an undulating carpet of green-brown only by white patches of pumice and the lofty peaks of the Sierra Nevadas. From the highway, the traveler is unaware of the extent of this fine prime forest.

Dominating the southwestern horizon is 11,000-foot Mammoth Mountain - the ski buffs' mecca. Looking easterly, the valley of the Upper Owens River and Long Valley appear as wide, rounded slots in the earth. To the south, the blue-green waters of Lake Crowley are barely visible.

Lookout Mountain is one in a series of volcanic domes lying between Mammoth Mountain and Mono Lake. Formed in stages, the initial explosive period was followed by numerous, viscous lava flows which congealed on the surface. The size of such domes is dependent on the amount of volcanic activity and material

reaching the surface. Lookout's summit is covered with obsidian and turned out to be an "unexpected rock collecting locale."

We lingered awhile on Lookout Mountain, reflecting on stories we had been told and absorbing the tranquil beauty of the ever-changing view. Had early Indians used the peak as a "lookout point?" Some local folks believe they did - who are we to doubt? Certainly they would have been able to observe herds of game and any campfire of friend or foe would quickly have been spotted.

The Indian lived in partnership with his environment and had learned to sustain himself with what nature provided. Moving from place to place, taking only what game and other food was needed, he wasted nothing and conserved his resources for future years. Modern man could learn a great deal from early man's "primitive ways."



We returned to the highway from Lookout Mountain, crossed Highway 395 and followed a graded road southwesterly into the forest.

Here, at the southern end of a long chain of magmatic extrusions, is "Obsidian Dome." Obsidian or volcanic glass, is a non-crystalline material composed of minerals that cooled rapidly from the molten state. The same mineral composition, when cooling more slowly, yields crystalline rock – rhyolite or granite.

We were headed for the Inyo Crater Lakes. The route was well-marked and, in a little over four miles, we came to the parking area. From this point, it was a short, half-mile hike to the craters along a well-defined trail.

Walking under a canopy of pines, the pungent fragrance of the forest was stimulating and we quickly reached our objective. As we approached the craters, the trail led up a steep bank and onto the rim. The bright sunlight was glaring. In a few moments our eyes adjusted; then we looked down into a funnel-shaped abyss with a milky-green lake at the bottom. Immediately north was the second crater.

The Inyo Craters are true craters and represent a small but impressive event in a long series of cataclysmic disturbances. Believed to have erupted some 500 years ago (between 1115 A.D. and 1465 A.D.), they are young geologically speaking and modest in size. Both craters are approximately 600 feet across. The southernmost is over 300 feet deep which its northern counterpart measures about 100 feet.



As might be expected, the Inyo Craters have been studied extensively. They are believed to have been formed when hot magma, deep within the earth, encountered large amounts of ground water percolating down from the earth's surface. While the magma heated the water, it was prevented from boiling by the weight of overlying rocks and liquid. Tremendous forces began to

After emerging from a dense forest of Red Fir and Jeffrey Pines², the abrupt void of south Inyo Crater is awesome.

build and eventually exceeded the restraining pressures. Water then changed to steam and enormous masses of overlying rock were explosively hurled upward and out-ward- leaving behind the craters.

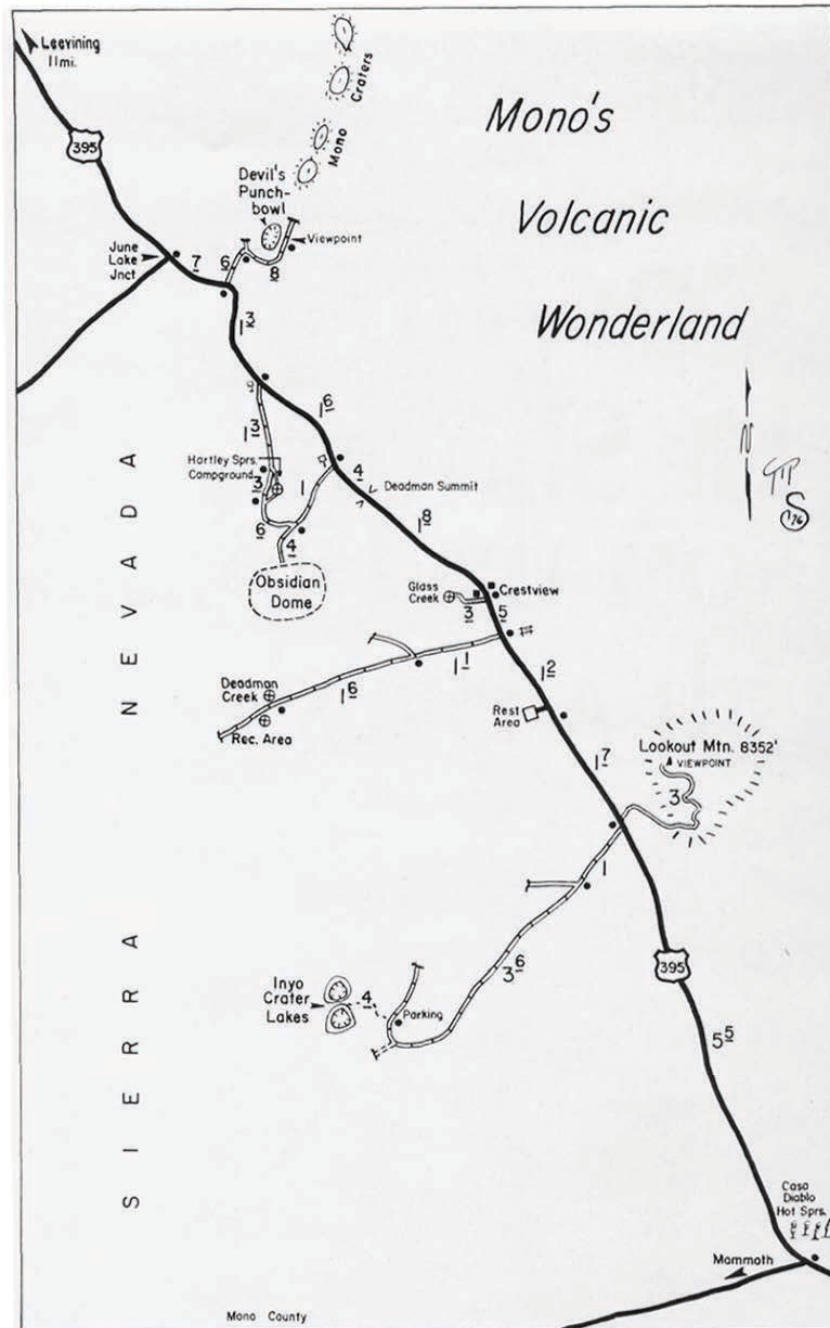
Protective rails have been placed on the rim of the southern crater and make it possible to safely view the bottom. A single picnic table provides a pleasant retreat for lunch. As you hike back to your car, watch carefully - you will probably find you are being accompanied by several birds flitting ahead along the trail. We noted jays, chickadees, nut-hatches and happily added "Clark's Nut-cracker" to our bird-watching list. The

latter are rather large, grey and white birds found only in higher elevations- 8000 feet or more.

Three miles north of Inyo Craters turn-off a sign proclaims "Deadman Creek Recreation Area." A graded road leads three miles west to two fine campgrounds developed among the pines and along the creek. If you prefer to camp closer to the highway, you will find a large, undeveloped campground along Glass Creek a half-mile north. It is on the west, behind Crestview Lodge. Unfortunately, water isn't available. All three campgrounds have plenty of good, level areas for trailers.

Obsidian Dome was the next stop on our volcanic wonderland tour. Traveling north from Crestview, Highway 395 climbs over Deadman Summit and, within a third of a mile, the signed turn-off will be seen on the left.

Just over a mile from the highway, this large geological phenomenon is fascinating to behold and should be of particular interest to rock collectors. Here, obsidian can be seen as it was originally deposited. Viscous lava was forced through a small vent in the earth's crust and spread over the surface to form this mile-long, 300-foot high dome. The texture and color variations in the obsidian are mainly due to the abundance and size of gas bubbles present when the lava solidified. A detailed explanation and drawing of the mushroom-shaped dome will



be found in the parking area.

Hartley Springs Campground lies a short distance north of the dome. Sitting attractively among the trees, it is roomy and well laid out. We voted it our favorite campground. Though not a developed camp, this is one of its greatest charms. There is water, a few tables, chic-sales and many good trailer sites available.

The final stop on our tour was the Devil's Punchbowl, two miles north of Obsidian Dome. A right turn and mile of travel leads to the rim. "Pumice, pumice everywhere" is descriptive of the bowl and surrounding sand. Stay on the road-pumice can be as tricky as sand. A pull-out area on the rim has been provided for parking. You will find it necessary to walk around in order to obtain the best views of this intriguing formation.



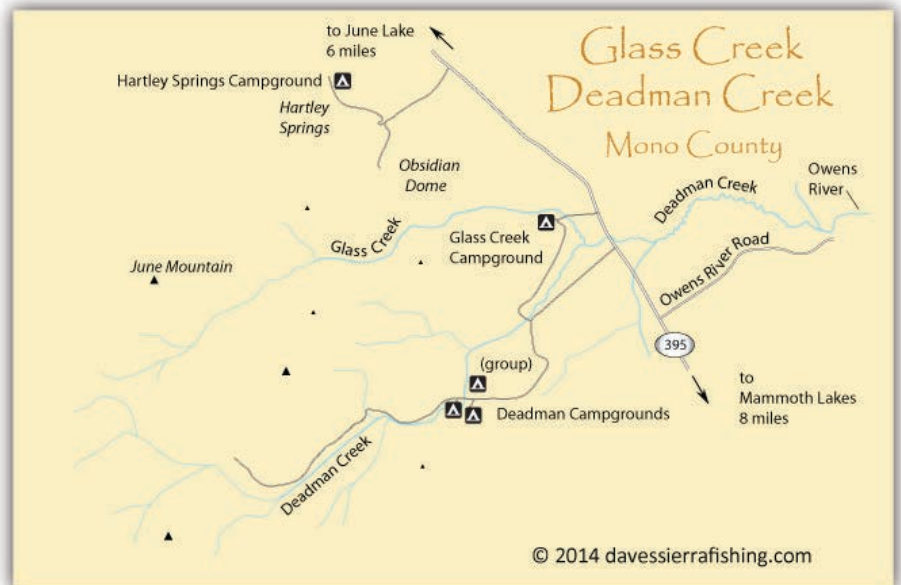
Two fine campgrounds in the Deadman Creek Recreation Area have been developed among the pines and along the creek. They make a good base camp when visiting Mono's Volcanic

During the Pleistocene Epoch, some 65,000 years ago, volcanic activity began in this region as explosion pits. The latter are rather shallow, bowl-shaped depressions formed when molten lava and superheated gasses explode to the surface through cracks in the earth's crust. Escaping material built up walls of silvery-grey pumice around the vents. The Devil's Punchbowl is a fine example of an explosion pit.

Immediately north of the Punchbowl, Mono Craters march across Pumice Valley to the edge of Mono Lake. Not true craters at all but volcanic domes, they, too, began as explosion pits. After the initial explosive phase, numerous viscous lava flows followed and congealed upon reaching the surface. The "build up" from these flows resulted in the outstanding geological formations we enjoy today.

Host to many famous visitors, this unusually scenic region was described by Mark Twain as "the loneliest place on earth." More recently, 1971, two Apollo 16 Astronauts - Charles Duke and John Young - spent the month of July in the area acquiring part of their geological training.

Mono's Volcanic Wonderland is only one small section of the vast wilderness and recreation region we Californians affectionately call "The Sierras." For desert dwellers, their eastern bulwark provides sanctuaries with welcome relief from summer's blistering sun and hot winds. Even the most dedicated desert aficionado will find the smell of pines and high mountain air invigorating. The sight and



sounds of many lakes and streams will be soothing to the eye and soul. A visit to Mono's Volcanic Wonderland will be more than just another vacation - it is sure to be "an experience."



Volcanic craters in the Mono Lake area.