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U. S. Forest Service Photo.

SAN RAFAEL WILDERNESS—PROPOSED FOR ADDITION TO THE NATIONAL WILDERNESS PRESERVATION SYSTEM (SEE EDITORIAL PAGE). TO THE RIGHT IS THE EXISTING PRIMITIVE AREA, WITH THE SISQUOC RIVER AS THE BOUNDARY. TO THE LEFT OF THE RIVER IS ACREAGE PROPOSED BY THE FOREST SERVICE FOR ENLARGEMENT OF THE WILDERNESS. ON THE HORIZON, CENTER, ARE SALMON PEAK AND BIG PINE MOUNTAIN.

THE PROPOSED TUTIMABA WILDERNESS

of

Craters of the Moon

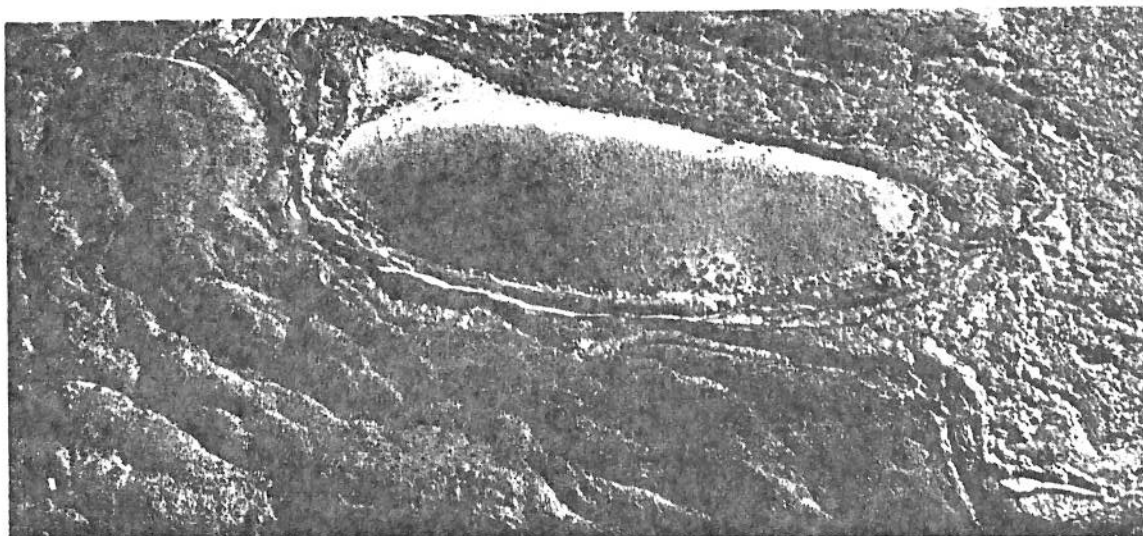
National Monument

BY ROGER J. CONTOR

Photos by National Park Service

CINDERONE CHAIN AT SHEEP
TRAIL BUTTE.





ROUND KNOLL
KIPUKA, AN
"ISLAND IN
TIME."

SIT SOMETIME in the middle of the Black Flow of Craters of the Moon. Though only three miles from a paved road, you will be a half day's journey into a wilderness. And a century into the past. The mood is unmistakably wild and remote. It is like being in a motionless black ocean.

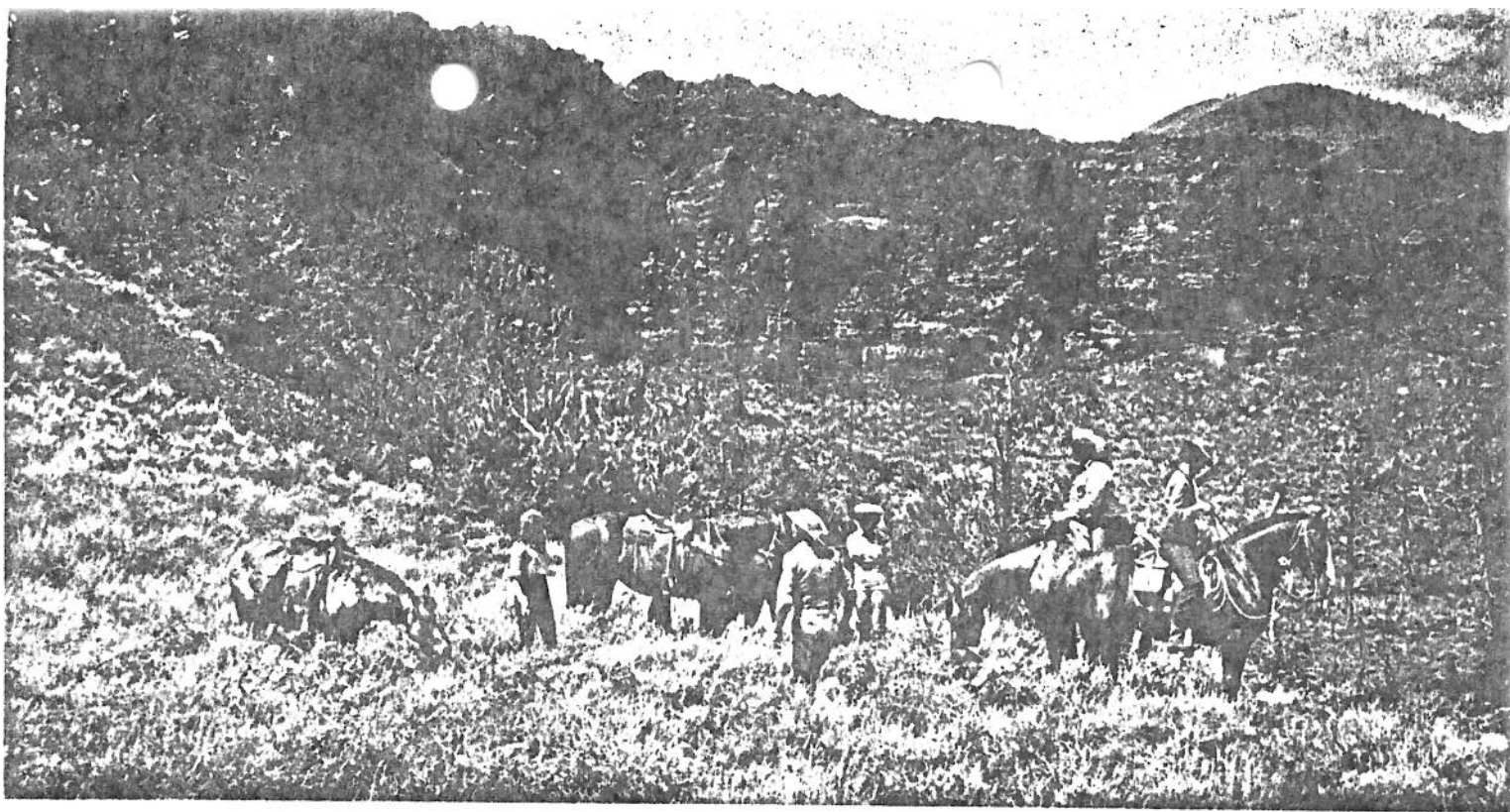
The lava is an ocean of rhythmic flow patterns, of beauty. Under the midday sun much of it glistens like rippled water. Sparkling basalt fragments display textures of tiny iridescent blue, green, and yellow bubbles. Billowing pahoehoe swirls sometimes wear a glaze or porcelain blue. Red-orange vents of lava tubes, seared smooth by superheated gases, appear deceptively new.

In this exciting environment, my family and I have spent many pleasant hours. Less than a hundred miles to the west of us is a fine alpine wilderness, the White Clouds. Yet our spare time was repeatedly spent in the fascinating volcanic terrain. Two summers passed before snow-fed lakes and alpine gardens could lure us away.

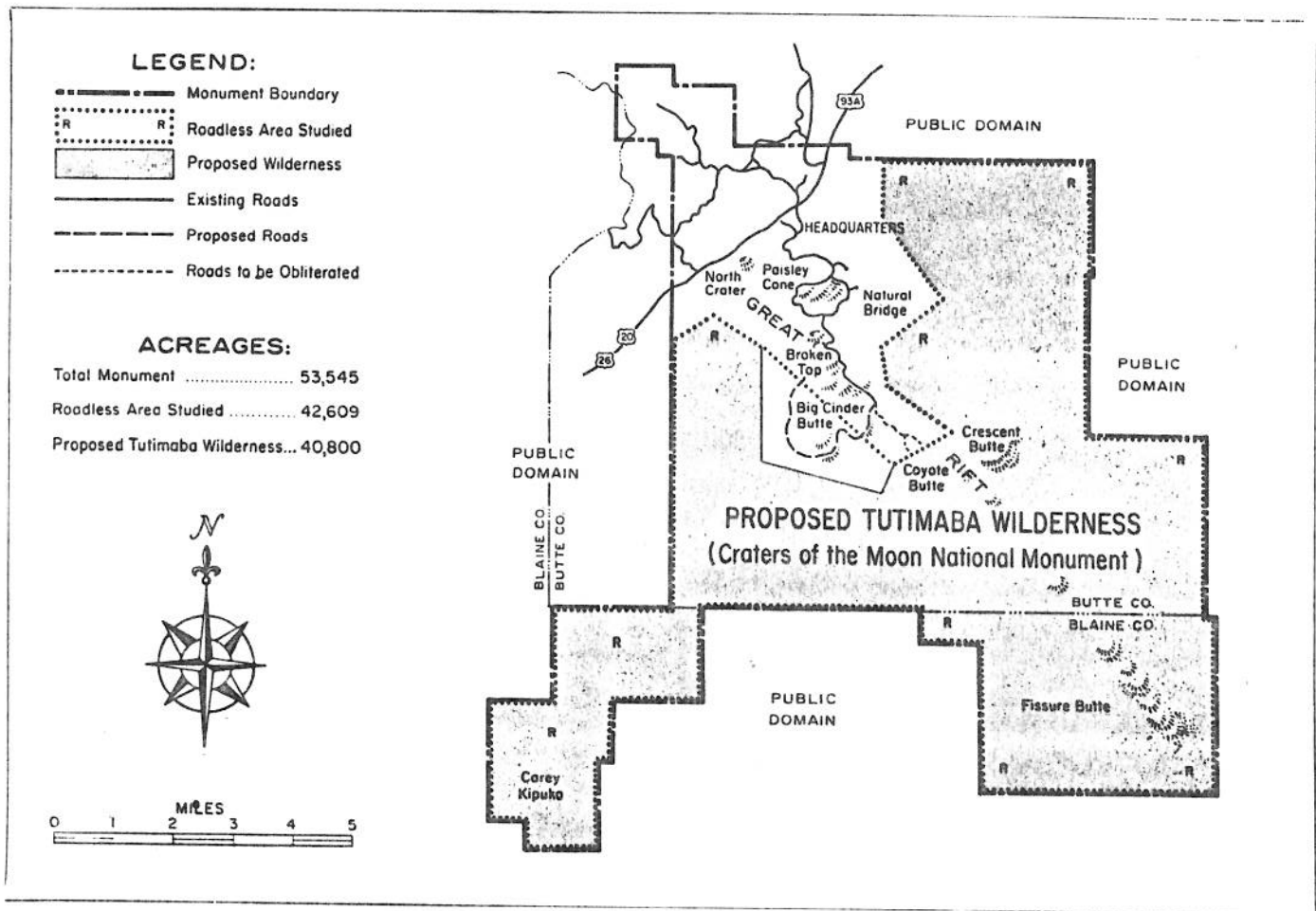
Craters of the Moon National Monument is a compact chronicle of the forces which created Idaho's vast lava sheet—the Snake River Plain. Compressed within the area's 83 square miles are nearly all known features of basaltic volcanism, including cinder cones, lava domes, pahoehoe flows, aa flows, tree molds, fissure caves, lava tubes, ice caves, collapse depressions, pressure ridges, transported crater walls, lava bombs, and kipukas. This stark area of suspended violence is the most recent product of the 25 million-year-old Snake River Plain.

TREE MOLD.





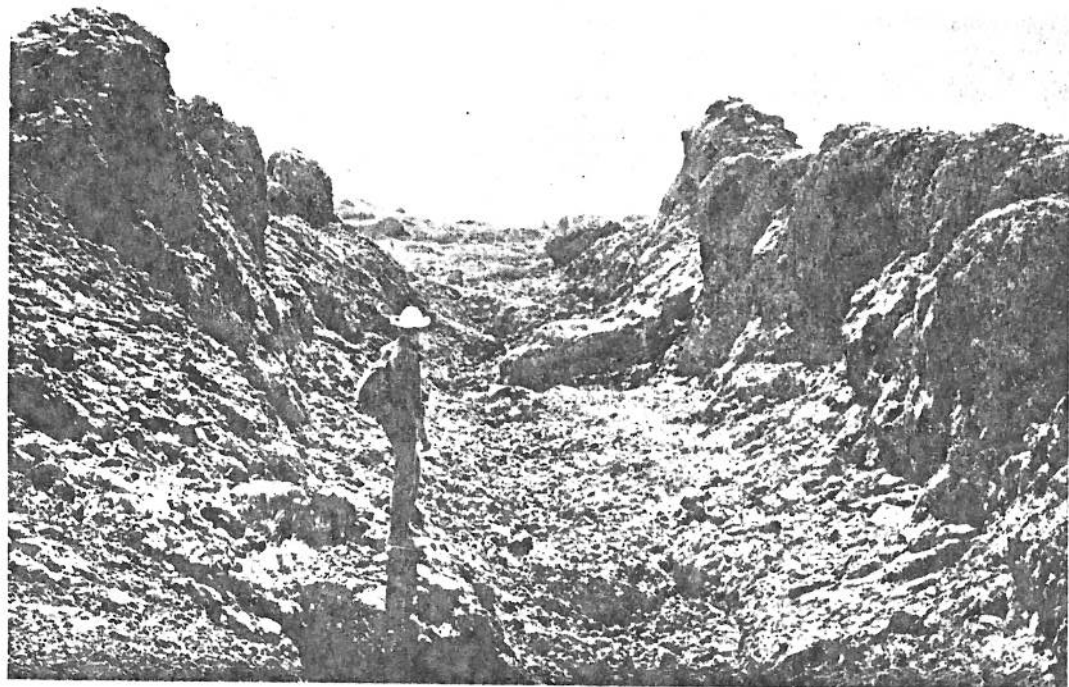
SADDLE HORSE PARTY INSIDE ECHO CRATER.

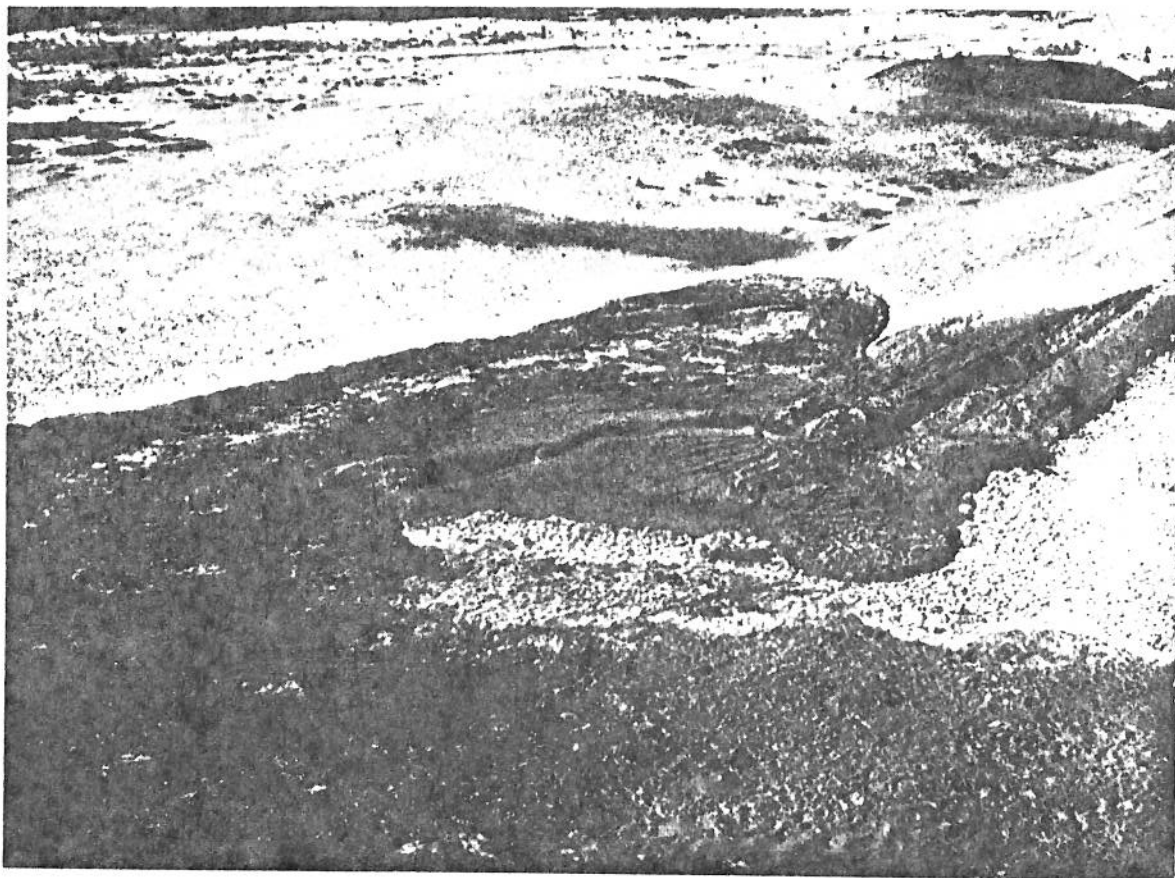




← BEARSDEN WATERHOLE.

SPATTER RAMPART AT
VERMILLION CHASM.





BREAK-OUT OF
LITTLE PRAIRIE
AA FLOW
FROM THE SIDE
OF THE WATCHMAN.

Established in 1924, the Monument now hosts over 200,000 visitors per year, despite its remote location. These visitors largely confine themselves to the loop drive in the northwestern section, an area of about 5,000 acres. Here roads, trails, and interpretive developments offer them a close acquaintance with most types of volcanic features. Outside the semi-developed zone, approximately 90 per cent of the area remains unchanged by man. Much is unexplored. It is not uncommon for hikers into remote sections to discover new caves, tree molds, or archeological sites.

THE NATIONAL PARK SERVICE has proposed that some 40,800 acres of the total of 53,545 (about three-fourths of the Monument) be managed as a unit of the National Wilderness Preservation System. Approximately 96 per cent of the land eligible for wilderness status is included in the proposed Tutimaba area. The small section left out will permit future development of a loop road circling around Big Cinder Butte. This road will ultimately give automobile-oriented visitors an opportunity to observe tree molds in place. This is the only major geologic feature the average visitor cannot now see.

The proposed wilderness offers geologic curiosities, archeological structures and sites, a surprisingly rich fauna, and vegetative cover of special importance to science. The setting is fresh and clean. Because access is limited to hikers, and because there are no attractions which lack counterparts in the more accessible parts of the Monument, human use has been scant.

About half of the Monument's prime geologic features will be included in the wilderness. These are nearly all products of small eruptions along the Great Rift. The genesis is clearly seen at a cinder cone called the Watchman. Here a fissure in the earth gave vent to a fire fountain of cinders, producing the cone. Later, heavy lava welling up inside the cone broke through the weak walls, leaving a gaping hole from which poured the Little Prairie AA Flow. Though many centuries old, this flow appears to have cooled only yesterday. Nine other cones within the wilderness area show the same general history. Echo Crater was the source of a more violent eruption. Only a partial cone remains; huge monolithic fragments of the ruptured walls have been swept eastward, marking the path of the flow.

At Vermillion Chasm, one of the most remote features in the wilderness, are a pair of lava walls

built up on both sides of a sputtering crack in the earth. Termed a spatter rampart, this colorful trough is several hundred feet in length. A sheer delight to students of volcanism.

In the heart of the wilderness area is Little Prairie, an ancient flow now covered by sagebrush and grass. On its western edge are fresh flows enclosing the Monument's largest tree molds. One, presumably a mold of a limber pine, is three feet in diameter. Most molds in this area resemble post-holes bored vertically down into the lava as deep as fifteen feet. They show where a mature forest was swept over by a wave of pahoehoe lava.

NEWCOMERS to the lavas are puzzled to find waterholes and ice caves scattered in depressions and fissures. Because of many internal gas bubbles, lava is a good insulating material. Ice which collects in the winter and spring months persists in a number of locations. Yellowjacket, Bearsden, Little Prairie and Vermillion Waterholes usually provide melting ice water to birds and other wildlife throughout the summer. Because their existence is precarious, the waterholes may need protection as human use increases.

AERIAL VIEW OF FLOW PATTERNS IN HUE DRAGON FLOW.

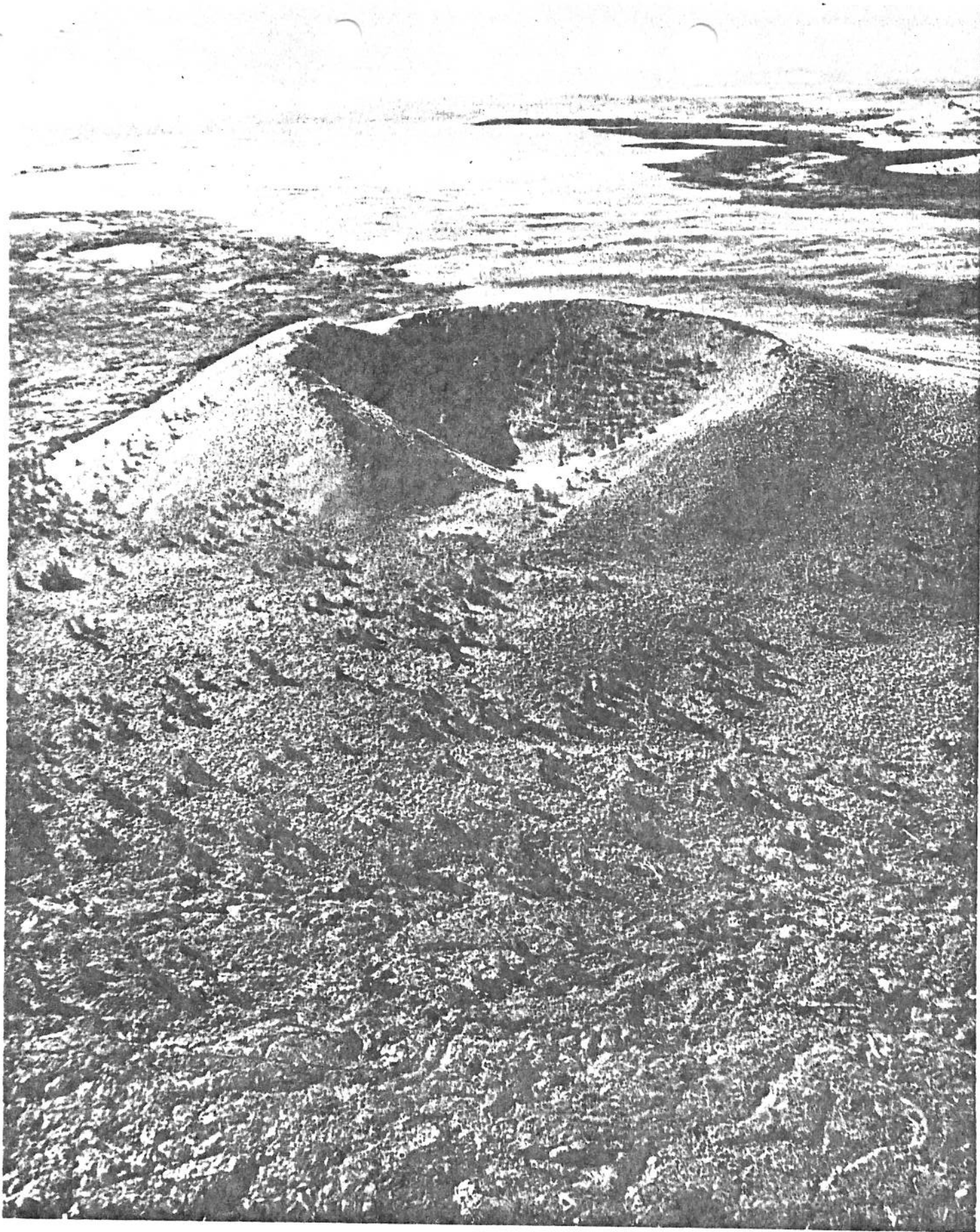


Near Bearsden Waterhole we find the best evidence of use by Shoshoni Indians. Bearsden is a fissure ice cave sunken perhaps twenty feet below the surface. Bighorn sheep or other animals using this waterhole could have been trapped by a Shoshoni hunter blocking the narrow access. Crude stone blinds a short distance away testify to such attempts. A quarter mile away a more elaborate blind on a tall crater wall fragment gives a view of approaching animals across a mile of grassland. This lookout was discovered when our 8-year-old son decided to climb "that rock." An adult would not have had the energy!

Campsites and artifacts indicate that Indian activity in the Rift Zone was oriented northwesterly in the Pioneer Mountains. The Shoshonis undoubtedly made short trips into the area to dig bitterroot plants from the cinder gardens. Perhaps nowhere in Idaho were bitterroots more profuse or as easy to dig as in the soft cinderbeds of Craters of the Moon. Also important to the Indians were lava tubes, where structures and artifacts are relatively numerous.

TUTIMABA (rhymes with SHOOT-him-papa) is the Shoshoni term for "Black Rock Overpass." The area held this meaning to nomadic bands traveling across the Snake River Plain between the Fort Hall-Pocatello area and the rich camas meadows at Fairfield. Though it appears flat, the broad plain is actually a huge lava dome, a thousand feet higher than valleys on either side. To someone crossing it in moccasined feet it was probably a very noticeable "overpass."

Like most desert areas, Tutimaba hosts more wild animals than the average person would suspect. The wanderer in the vegetated part of the Rift Zone can scarcely avoid seeing a few deer, perhaps a coyote, and a variety of smaller animals. It is the summer-time home of sage grouse, which use parts of it for nesting and brood grounds. A special delight to my family are the golden eagles. We never failed to see at least one on trips into the wilderness. Protection from domestic stock grazing and human activity has maintained rich habitats of grass and shrubs. Birds and animals adapted to such an environment have flourished. Limber pine forests are pockmarked with beds of the Monument's 300 deer. A flurry of mourning doves can be found at all the waterholes. Marmots, chipmunks, ground squirrels, and badgers are also common. Snakes are rather rare, but a few rattlers, gopher snakes, and racers are occasionally reported.



CRESCENT BUTTE, LITTLE PRAIRIE IN BACKGROUND.

Of special interest to botanists and range management experts are the two *kipukas* harbored within the proposed wilderness boundaries. Named from similar features in Hawaii, these are ancient cinder mounds surrounded by recent lava flows like islands in the sea. Their accumulated soil mantle and vegetative cover remained unchanged by the last eruptions. Protected by large areas of extremely rough lava, they have been little disturbed by hoofed animals. Thus they are rare remnants of original climax plant communities in this region. The 180-acre Carey Kipuka has already been the subject of three scientific publications. First identified by staff members of the University of Idaho, it was added to the Monument in 1962. The other kipuka, called Round Knoll, has been in the area since 1928. As items of scientific value, these "islands in time" will continue to be protected.

An acquaintance with the "Craters" creates fondness in most people. The geologic authority of the Monument, Dr. Harold T. Stearns, has studied the area since 1921. You must read his booklet, *Geology of Craters of the Moon*, before you know much at all about the area. His writings betray a love for the harsh environment over which he has trod so many miles. We cannot improve on his description of "yawning crater pits which are especially beautiful

under the lengthened purple shadows of evening" or "to the east stretches barren black lava until it fades into the desert haze." Perhaps the best is his description of the hills which "toward evening become pale and soft and velvety, like a staghorn in spring." A visit to the area in late May or early June, when ragged crowds of wildflowers color the area, can be very memorable.

The Tutimaba Wilderness has nothing to attract the mountaineer, a thirty-day pack trip party, or a fisherman. Its appreciation must rest on other things. Until now very few people have come to know it well. Yet it remains the most interesting and least disturbed segment of the entire Snake River Plain. Those who spend some time here will soon feel its lonely and unusual charm.

MR. CONTOR, when writing this article, was Superintendent of Craters of the Moon National Monument. He has since transferred to the Canyonlands Complex, which includes the Canyonlands National Park, Arches National Monument, and Natural Bridges National Monument. He entered the Park Service as a permanent ranger in 1955 at Yellowstone National Park, after studying zoology and wildlife management at the University of Idaho and Montana State College. He has also worked in the Rocky Mountains and Bryce Canyon National Parks, and in the Oregon Caves National Monument.



AUTHOR'S
FAMILY
INSPECT-
ING A
SEISMIC
FISSURE.