

Craters of the Moon Plant Communities

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The CPSU at the University of Idaho recently completed a two-year study that described and mapped the vegetation at Craters of the Moon National Monument. The project was carried out using a combination of field sampling methods and by manually interpreting 1:1500 scale color aerial photos. Vegetation types were delineated based on the most dominant and conspicuous species and on those species having high reflective cover within an area.

Although it may come as a surprise to those individuals who have only briefly visited the monument, the 21,650 ha area has a unique and highly diverse flora. Because much of the southern two-thirds of the monument is isolated from other vegetated areas by barren lava flows and receives low levels of back-country use, the plant communities were found to be essentially free of disturbance. In addition, because of the time since the last volcanic eruptions (about 2200 years) and the general absence of fire, most of this vegetation appears to be in a climax or near-climax stage.

A total of 26 vegetation types was identified and mapped. The map was rectified to a scale of 1:24,000 and photographically combined with the new park topographic map of the same scale.

Flows of a'a, pahoehoe, and black lava, which have low plant cover, dominate much of the monument (68%). A variety of forbs combined with tansybush (*Chamaebatiaria millefolium*), mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) and rubber rabbitbrush (*Chrysothamnus nauseosus*) make up the vegetative cover on these flows. Other large areas of the monument are more densely covered by a variety of shrub dominated communities. There the principal shrubs are antelope bitterbrush (*Purshia tridentata*), wax current (*Ribes cereum*), mountain big sagebrush, and rubber rabbitbrush found in combination with several species of perennial grasses, of which bluebunch wheatgrass (*Agropyron spicatum*) is most common. These shrub communities provide excellent spring and early summer browse for mule deer. Limber pine (*Pinus flexilis*) also is found throughout many of these communities.

Although they make up only a small part of the monument (2%), the cinder gardens are one of the unique plant communities. They are found primarily on and adjacent to the cinder cones where growing conditions are extremely harsh due to summertime high soil surface temperatures (often exceeding 160°F) and low soil moisture levels. These areas are dominated by small perennial forbs such as dwarf buckwheat (*Eriogonum ovalifolium* var. *depressum*) and dwarf monkeyflower (*Mimulus nanus*).

Equally small in extent, but giving evidence to the vegetative diversity, are the Douglas fir communities at the higher elevations on north-facing slopes and the quaking aspen stands on the upland sites. A report on the study "The vegetation types of Craters of the Moon National Monument" by Thomas A. Day and R. Gerald Wright, number B 84-2, is available from the University of Idaho CPSU, Moscow 83843.