

**Newberry National Volcanic Monument**

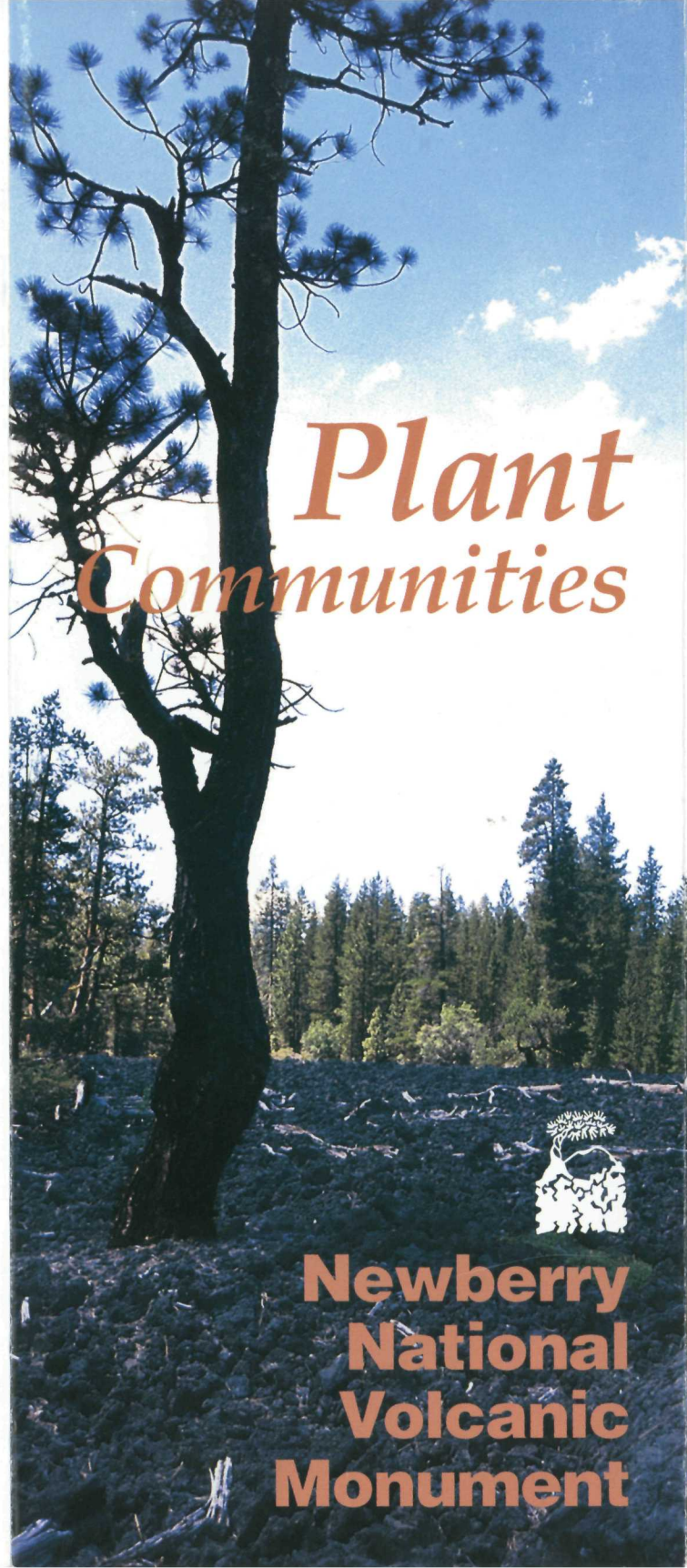
*Plant Communities*

- Ponderosa Pine Forest
- Lodgepole Pine Forest
- Mixed Conifer Forest
- Lava Flows
- Point of Interest

*This brochure was produced by the Deschutes National Forest and the High Desert Chapter of the Native Plant Society of Oregon. Illustrations by Sue Manley-Hinton, Sunriver Nature Center, and David H. Wagner, PhD, Northwest Botanical Institute. Brochure designed by Natalie Herse, Bend, Oregon.*



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*Plant Communities*

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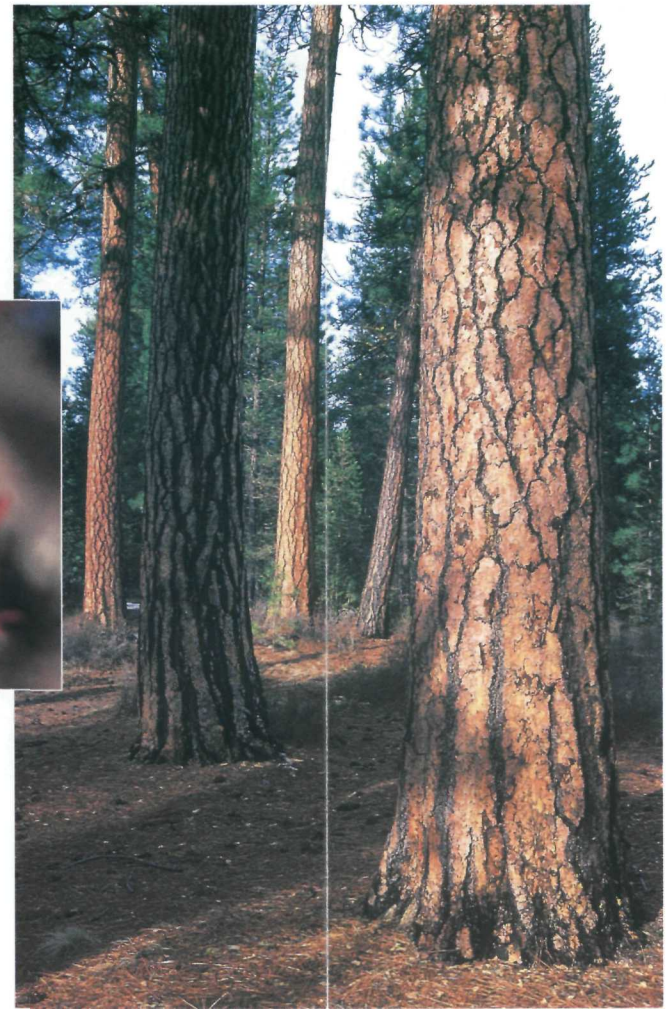
*"To preserve and protect for future generations Newberry's remarkable geologic landforms, and to provide for the conservation, protection, interpretation, and enhancement of its ecological, botanical, scientific, scenic, recreational, cultural, and fish and wildlife resources."*  
Public Law 101-522

**N**ewberry National Volcanic Monument, just south of Bend, Oregon, is a 62,000-acre volcanic wonderland. At its center is the Newberry volcano. The summit of this huge shield-shaped volcano rises about 4,000 feet above the surrounding high lava plains. Large eruptions created the caldera now called Newberry Crater. The caldera harbors Paulina and East Lakes and the Big Obsidian Flow. Volcanic features in the Monument include Lava Butte, Lava River Cave, and the Lava Cast Forest. On the south side of the caldera is 7,955-foot Paulina Peak, the highest point in the Monument. Hundreds of parasitic cinder cones

on the flanks of the old volcano complete the Paulina Mountains. There is a 4,000 foot difference in elevation between the Deschutes River, the lowest point in the Monument, and the top of Paulina Peak. This difference in elevation combines with the sheer size of



Newberry Volcano and its Paulina Mountains to produce a variety of climates and plant communities within the Monument's boundaries. As elevation and precipitation increase, one encounters the ponderosa pine forest, the lodgepole pine forest, and the mixed conifer forest of mountain hemlock and white fir. Around Paulina and East Lakes, and along Paulina Creek more complex riparian plant communities are found. On some of the Monument's lava flows still other plants survive.



*Above: Indian paint-brush (Castilleja spp.) adds color throughout the Monument.*  
*Top right: Fire is an integral part of many forest ecosystems.*  
*At right: Periodic "cool fires" help keep the floor of ponderosa pine forests "clean" of undergrowth.*



## Ponderosa Pine Forests

Open park-like stands of mature, orange-barked ponderosa pines once made up majestic forests, kept clear of undergrowth by periodic fires. Most of those big trees were cut early in this century. Second-growth ponderosa pine forests now occupy lower elevation areas of the Monument. Fire, an essential part of this plant community, is being reintroduced to help restore those historic forests. This regeneration is particularly visible in the Lava Butte area.

## Lodgepole Pine Forests

The lodgepole predominates in colder and higher areas of the Monument. Historically, lodgepole pine never assumed the size and numbers seen today because of the frequency of natural fire. Fire will be reintroduced into these forests.

## Mixed Conifer Forests

White fir, mountain hemlock, ponderosa and lodgepole pine are the main tree species in this plant community. Fire suppression has allowed many trees of all species to grow in many parts of the Monument. This crowding has resulted in stressed and weakened trees. In some areas they have been attacked and killed by insects. These dead trees provide important wildlife habitat, and fuel for natural fires.

## Riparian Areas

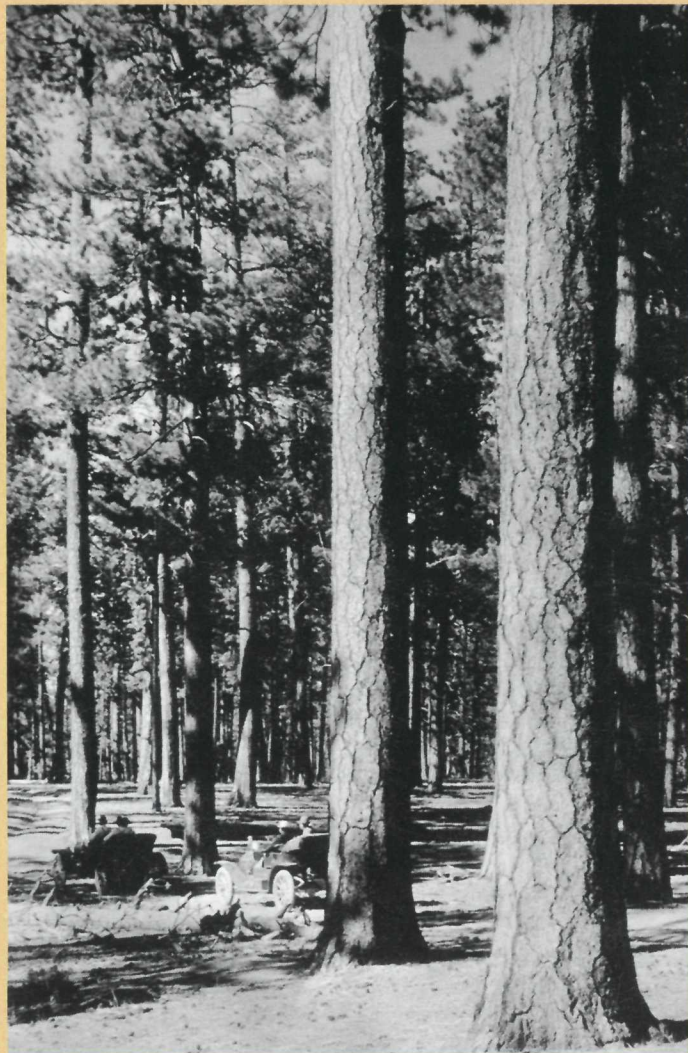
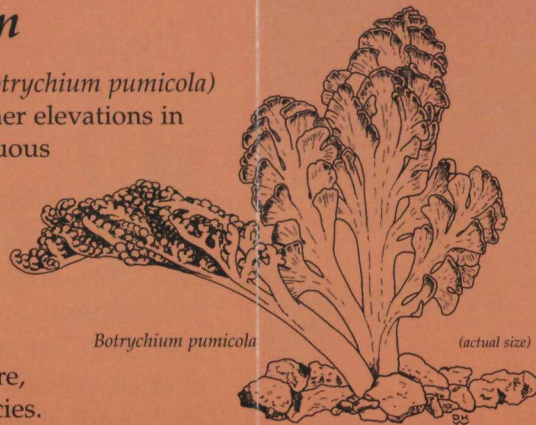
These wet areas along Paulina Creek, the Deschutes River, and around East and Paulina Lakes support a greater variety of plants. Grasses, rushes, sedges, flowers and willows thrive here and provide food, nesting and cover for fish, birds and other wildlife.

## Vegetated Lava Flows

The lava flows in the Monument are among the youngest in the country. From a distance they appear barren, but a closer look surprises the visitor. Some solitary, and sometimes stunted ponderosa pines grow in the lavas. Mosses and lichens are early invaders of these harsh landscapes. Many colorful flowers such as Indian paintbrush and Davidson's penstemon often thrive on the lavas and can be seen alongside the Lava Cast Forest Trail.

## Pumice grape-fern

The rare pumice grape-fern (*Botrychium pumicola*) occurs in recent pumice at higher elevations in the Monument. This inconspicuous plant grows as far south as Crater Lake National Park and as far north as Broken Top Mountain in the Three Sisters Wilderness. Forest Service management plans help preserve this and other rare, threatened, or endangered species.



McKay Collection

Clockwise from right:

Even sparsely vegetated lava flows host occasional trees and clusters of flowers, like the penstemon (*Penstemon davidsonii*).

Riparian areas support more flower species, including the yellow monkey-flower (*Mimulus guttatus*).

Travel was easy through turn-of-the-century old-growth ponderosa pine forests kept clear of undergrowth by periodic fires.

