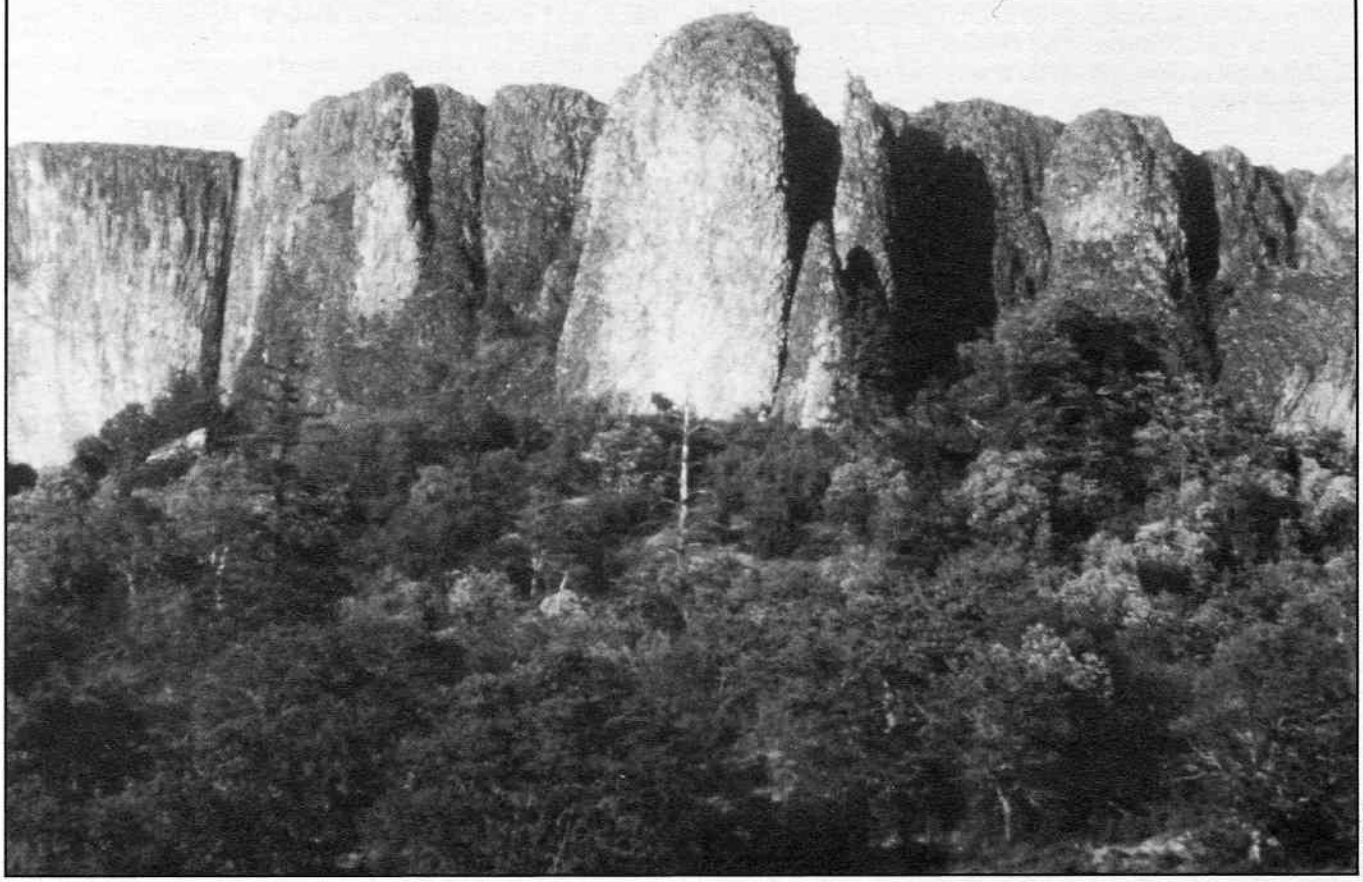
Oregon Plants, Oregon Places:
Upper and Lower Table Rocks, Jackson County



BORGIAS

By JOAN SEEVERS and DARREN BORGIAS

Two prominent mesa buttes, Upper and Lower Table Rocks, rise abruptly above the north bank of the Rogue River in Jackson County, Oregon, just north of Medford. The Rocks are a popular destination for wildflower lovers in spring and hikers all year. The vista from the top is spectacular. Mt. McLoughlin dominates the young volcanic Cascade Range to the east. To the south and west are the venerable and geologically complex Siskiyou Mountains. The forested mountains of the Rogue-Umpqua Divide to the north complete the view. The Rocks offer a remarkable combination of native plant communities, endemic wild flowers, unusual animals and interesting geology. The tops of the Rocks, crowned with a distinctive patterned ground—vernal pool landscape, come alive with wildflowers each year as winter gives way to spring.

The 3,300-acre managed natural area on Table Rocks is close to urban areas where local visitors can enjoy nature close to home. The rewards of the 800-foot climb are many. When hikers leave the trailhead on the valley floor in mid-April, an array of wildflowers waits to be enjoyed, studied or photographed on the trail up through oak woodlands. Animal signs are abundant for the trained eye and the eager learner. Over seventy species of animals are known from the Rocks. In the midst of an elegant wildflower show with unbroken views of surrounding peaks and mountains, you know you are at a very special place.

Access To The Rocks

To reach the Table Rocks, take Exit 32 off Interstate 5 in Central Point and proceed east about one mile to Table Rock Road (see map pg. 2). Turn left on Table Rock Rd. Reach Upper Table Rock by turning right onto Modoc Rd. about one mile past Tou Velle State Park on the Rogue River. Travel one and a half miles to the fenced trailhead on the left side of the road. Reach Lower Table Rock by turning west on Wheeler Road about three miles past Tou Velle State Park. Go to the fenced trailhead on the left side of the road. The trails to the summit are muddy in wet weather and steep in places, but are kept clear of poison oak. The trail gains 800 feet in elevation in a mile and a half at Upper Table Rock, two and a half miles at Lower Table Rock. Chemical toilets at the trailheads are the only facilities on the Rocks. Bring your own drinking

water. Pets are never allowed on the trails. Bikes, horses, camping, fires and wildflower picking are also prohibited.

Hazards include poison oak, ticks, the occasional rattlesnake, and steep cliff faces. However, with a little care, visitors can have a safe, enjoyable visit.

The trails to the summits of the Rocks traverse similar terrain and plant communities. The flora of the two summits is similar. A list of common plants is provided (pg. 7) along with blooming times for selected species (pg. 9).

Human History

Table Rocks have been important since humans first occupied Rogue River Valley thousands of years ago. Prehistoric sites near Table Rocks suggest that this small area has been used by humans for thousands of years. At the time of European contact, a native American tribe called the Takelma lived here.

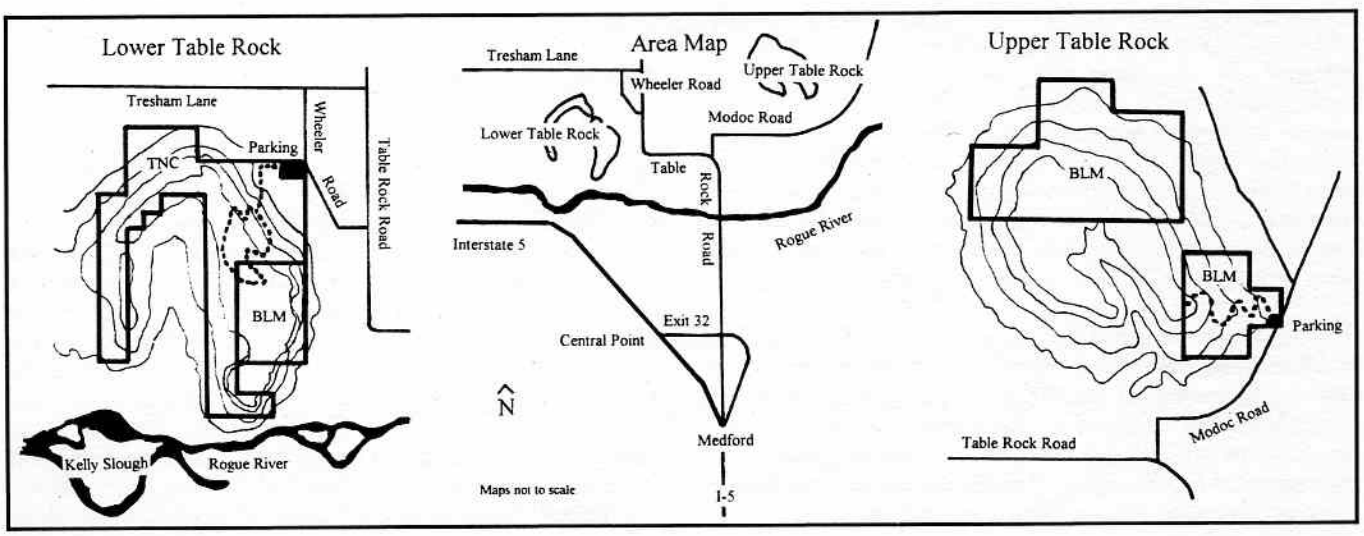
Table Rocks and the nearby Rogue River provided easy access to a variety of resources for food and other necessities. Salmon from the river, and acorns and camas *(Camassia quamash* ssp. *quamash)* from nearby gathering grounds, were the staples of their diet. Acorns of the abundant California black oak *(Quercus kelloggii)* and Oregon white oak *(Q. garryana)* were leached in the river to remove tannic acid and then ground into meal. Klamath plum *(Prunus subcordata)*, common chokecherry *(P. virginiana)*, and wild rose *(Rosa nutkana)* provided fruits for drying. They gathered medicines and materials for tools and basketry.

Hudson's Bay Company fur trappers, led by Peter Skene Ogden, contacted the Takelma and recorded observations of them and their villages near Table Rocks in 1827 (Beckham 1971, LaLande 1983). The quest for gold and land brought miners and settlers pouring into southwestern Oregon by the late 1840s. Conflicts betwen the two cultures escalated into the Rogue Indian Wars. The United States Army built Fort Lane across the river from Lower Table Rock to control the conflict. As fighting continued, Europeans designated Table Rocks as a reservation for the Takelmas and other southern Oregon tribes. Three years later, the remaining 400 Indians were moved to the Siletz Reservation in northern Oregon, ending the traditional Takelma way of life. The army abandoned Fort Lane, and Europeans quickly claimed the reservation land around the Rocks. Many commercial ventures have been proposed or attempted on Table Rocks, from mining to residential development on the summits. The main uses are now recreational and educational with some cattle grazing on Upper Table Rock.

Geology and Physical Environment

The Rocks, shaped like horseshoes in aerial view, are the eroded remnants of an andesite lava flow. The flow is andesite because of its silica content and calcium to magnesium ratio. The flow was formerly thought to be a basalt flow (Wiley, pers. comm. 1993). Recent investigations suggest that the andesite flow originated east of Prospect in the nearby Cascade Range (Wiley, pers. comm. 1993). The flow, radiometrically dated at 9.6 million years (Capps 1992), filled the prehistoric Rogue River canyon carved through the Payne Cliff Formation (Orr et al. 1992). Over millions of years, the surrounding valley floor eroded from the more resistant andesite. The 125-foot thick andesite layer originally filled the valley bottom. It now perches as isolated caps of mesa-buttes 800 feet above the basin floor, a classic example of inverted topography (Capps 1992). These two mesas are notable because their U-shapes preserve the oxbow meanders of the ancient river (Orr et al. 1992). The nearly level surfaces of Table Rocks stretch linearly, in a horseshoe shape for several miles. There are approximately 300 acres of level summit on Lower Table Rock and 500 acres on Upper Table Rock. Both have nearly vertical cliffs in places and display the vertical columnar jointing typical of lava flows. Talus slopes formed below the cliffs from rubble that was frost wedged from above. These high cliffs lend visual diversity to the landscape and are a focal point for observers on the valley floor.

The flat, table-like surface of Table Rocks has patterned ground — broad shallow depressions, round soil mounds and convex stony flats with linear mounds. Hydrologic gradients create a diverse pattern of plant associations that conforms to, and highlights, the microtopography. Vernal pools form in depres-



sions where underlying andesite bedrock prevents the downward movement of rain water. These seasonal wetlands last from the fall rains in late October into early June. Dwarf meadowfoam *(Limnanthes floccosa* ssp. *pumila)*, endemic only to the summits of Table Rocks, grows in this seasonally wet habitat.

Patterned ground is a regionally significant landform that occurs only where a shallow layer of soil lies over an impervious substrate or waterlogged basement. Either can create a temporary perched water table (Cox and Scheffer 1991). Cox and Scheffer propose arguments supporting the hypothesis that pocket gophers or other fossorial rodents work the soils to accumulate the mounds. Gophers move an estimated two or more tons of soil per year per animal, and a population may move 47 tons of soil on one acre in a year (Case 1983). Other theories propose seismic tremors (Berg 1990), periglacial freeze-thaw phenomena or wind deposition.

Soils on Table Rocks derive predominantly from colluvium. They range from the extremely plastic and sticky clays through loamier soils. When the rains fall, sticky clay mud around the lower and mid slopes clings tenaciously to boots. Later the soil dries and shrinks, leaving gaping cracks in the surface.

Lying in the rain shadow of the Siskiyou Mountains, the Rogue Valley is the warmest and driest region in Oregon west of the Cascades. Hot, consistently dry summers and mild, wet winters characterize the Rogue Valley's Mediterranean climate. The summits of Table Rocks often are above the low valley fog associated with winter high-pressure systems.

Plant Ecology of Table Rocks

Table Rocks are in the Pacific Northwest Interior Valley Vegetation Zone characterized by oak woodlands, grasslands, and chapparal (Franklin and Dyrness 1988). An Oregon white oak *(Quercus garryana)* savanna community forms the matrix of vegetation at Table Rocks that grades into a mixed woodland of Oregon white oak, California black oak *(Q. kelloggii)*, madrone *(Arbutus menziesii)*, ponderosa pine *(Pinus ponderosa)*, and, to a limited degree, Douglas fir *(Pseudotsuga menziesii)*. Chaparral of wedgeleaf ceanothus *(Ceanothus cuneatus)* forms large stands and threads through the savanna and woodlands. Detling (1961), emphasized wedgeleaf ceanothus chaparral, rather than the oregon white oak savanna as the fundamental vegetation of the region because of its widespread occurrence in the landscape and its more restricted range.

The assemblage of plant communities on the Rocks represents a climatic and floristic transition between the more moist Umpqua and Willamette Valleys to the north and warmer California central valleys to the south. While structurally similar, California oak communities differ from those on Table Rocks by replacement of ponderosa pine by digger pine *(P. sabiniana)* as the major conifer (Griffen 1988). An important overlay of grass species from the Great Basin suggests a strong floristic tie between the two areas (Heady 1977). Examples include the eastside bluebunch wheatgrass *(Pseudoroegneria spicata = Agropyron spicatum)* and junegrass *(Koeleria macrantha)*, which occur west of the Cascades on Table Rocks and elsewhere.

Franklin and Dyrness (1988) concluded that the nature of the original pre-settlement interior valley grassland communities is strictly conjectural. Livestock grazing and the introduction of non-native species from Europe and the Mediterranean have altered all stands to some degree. Recent classifications of Oregon white oak-dominated woodland communities in the Rogue and Umpqua basins reflect this change. Drier vegetation types are classified by their dominant non-native annual grasses (Smith 1985, Riegel et al. 1992). Several historic perennial bunchgrass communities have been replaced by associations of highly competitive introduced annual grasses (Reigel et al. 1992). Remnant patches of native grass species that aid in reconstructing presettlement communities occur on the Rocks.

Fire has maintained and influenced the grassland, shrub and savanna elements of Table Rocks (Detling 1961, Reigel et al. 1992). Natural fire return intervals are estimated to be from 5-10 years for oak-dominated woodlands and 5-25 years for pine types (Agee 1990). Prior to European settlement, grasslands and savanna burned more frequently than the rate due to lightning strikes. Historical accounts (Wilkes 1849, Lane in Walling 1884, Douglas in Davies 1980) clearly record the role of fire and explain the present landscape of grassland, savanna and woodland. They also show changes in the structure and extent of valley plant communities resulting from the exclusion of fire.

European agriculture in "Chief" Sams Valley between Upper and Lower Table Rocks may have erased evidence of the camas crop the Takelma are thought to have promoted by regular burning. By 1899, a forester for the United States Geological Survey noted that most oaks in the lowlands showed fire scars (Leiberg 1900). Fire suppression in the Rogue Valley resulted in dense stands of oak woodland, mixed oak and conifer woodland, and reduction of chaparral. A halt in the practice of widespread aboriginal burning, combined with post-settlement fire control, curtailed the role of fire and reduced the extent of grasslands and savanna.

BORGIAS

Oregon White Oak Woodland

Plant Communities

The Oregon Natural Heritage Program currently recognizes three communities in the Table Rocks Natural Area (Kagan 1993). These include, from the base to the top of the rock:

the Oregon White Oak Savanna; the Ponderosa Pine - Oregon White Oak - California Black Oak / Manzanita - Buckbrush / California Oatgrass - Idaho Fescue Bunchgrass Savanna; and the Madrone - Oregon White Oak - California Black Oak / Poison Oak Woodland. The summit is covered by what the Nature Conservancy calls Mounded Prairie. While the oak communities can occur as discrete, identifiable units, they tend to blend into one another.

Oregon White Oak Savanna

An open Oregon white oak savanna surrounds the lower flanks of Table Rocks on heavy clay soils. The oak varies in stature and occurs at variable densities. Individuals, often occurring in small clumps, roughly 60 cm (2 feet) dbh may be 130 to nearly 300 years old. Upslope, large relict Oregon white oaks with spreading canopies are interspersed in a dense stand of much younger oaks with narrow canopies. These young stands developed without recurrent ground fires (Habeck 1961, Thelenius 1968).

The savanna understory is a grassland of non-native annual grasses from Europe and the Mediterranean. Medusahead *(Taeniatherum caput-medusae)* is the most common in open grasslands with soft brome *(Bromus hordeacus)* and bulbous blue grass *(Poa bulbosa)*. Under the partial shade of oaks, hedgehog dogtail grass *(Cynosurus echinatus)* becomes the most prevalent. Native perennial bunchgrasses still present are California oatgrass *(Danthonia californica)* and Lemmon's needle grass *(Acnatherum = Stipa lemmonii)*. Common forbs include desert parsley *(Lomatium utriculatum)*, camas *(Camassia quamash)*, and the buttercups *(Ranunculus occidentalis* and *R. austro-oreganus*, a southern Oregon endemic). In early to mid summer, extensive stands of harvest brodiaea *(Brodiaea elegans)* color the grasslands violet.

Ponderosa Pine - Oregon White Oak - California Black Oak / Manzanita - Buckbrush / California Oatgrass - Idaho Fescue Bunchgrass Savanna

The pine-oak savanna blends with components of oak savanna, madrone woodlands, and the chaparral formation. Species diversity and density of trees and shrubs increase on slopes with more loamy soils. Pine and California black oak are important components of this savanna community with scattered Douglas fir that are seeding in, due to lack of fire.

The understory of pine-oak savanna is varied. On the shallower cobbly soils below the andesite cliffs, variable sized patches of buckbrush and white-leaf manzanita *(Arctostaphylos viscida)* occur. In early April, profuse cream-white flowers of the buckbrush saturate the air with their slightly musky, sweet scent. Poison oak *(Toxicodendron diversilobum)*, service berry *(Amelanchier alnifolia)*, snowberry *(Symphoricarpos albus)*, and the trailing honeysuckle *(Lonicera hispidula)* are important components of the pine-oak community. Stands of mountain mahogany *(Cercocarpus betuloides)* occur within the predominant oak community on east and north slopes. Stands of Fremont's silk tassel bush *(Garrya fremontii)* often grow in fully-exposed, rocky soils.

Under the partial shade of oak, native bunchgrasses predominate over non-native annual grasses. Idaho fescue *(Festuca idahoensis)* is more important on the shallow slopes and is protected under the shade of oaks. Concavities and benches often support California oatgrass *(Danthonia californica)*. Blue wildrye *(Elymus glaucus)*, and brome *(B. laevipes)*, are important perennial native grasses under woodland shade. Herbaceous pine-oak woodland plants include red bells *(Fritillaria recurva)*, delphinium *(Delphinium menziesii)*, and cat's ear *(Calochortus tolmiei)*.

Madrone - Oregon White Oak - California Black Oak / Poison Oak Woodland

A dense woodland dominated by madrone *(Arbutus menziesii)* grows at the base of the andesite cliffs all around the Rocks. The rocky, well-drained loam soil below the cliffs also supports large black oak and some Douglas fir. The broad-leaved evergreen madrone with its smooth, cool bark can be a huge spreading tree or a dense multiple-stemmed chaparral. Madrone is well adapted to fire, resprouting vigorously after burning. Stump-sprouted clusters of multiple stems are evident in some stands, marking the position of burned "parent" trees. Growth ring counts of stump sprouts show elapsed time since the last fire. Large Douglas fir and pine occur near the talus slopes below the andesite cliffs where the rocky surface prevents the spread of fire.

Deer brush *(Ceanothus integerrimus)* with fragrant lavender-blue inflorescenses in May and June is an important understory shrub. Poison oak, ubiquitous in this community, may reach "old growth" proportions as a groundcover, shrub, or vine climbing 20 or more feet up tree boles. The low, creeping snowberry *(Symphoricarpus mollis)* forms dense patches. Hairy honeysuckle *(Lonicera hispidula)*, in the same family, is a common woody vine. White leaf manzanita is an understory plant. California fescue *(F. californica)* and blue wild rye, common native grasses in the understory, have tall culms. Notable herbs include *Smilacina stellata, F. recurva* and *Arnica latifolia*.

Mounded Prairie

Mounded prairie covers the summits of Table Rocks. This grass-dominated community displays a variety of plant associations along interactive gradients of soil depth and hydrology. These associations often grow in variable bands that conform to the contours of the mounds and intermounds. The resulting scene is a colorful array of species that blooms in successive rings toward the center of the intermounds as soil moisture recedes through the spring.

Introduced European grasses currently dominate the mound tops. Native bunchgrasses including Lemmon's needlegrass, pine bluegrass, California oatgrass, squirrel tail, and Idaho fescue are found only sparingly. In late summer, the native annual three awn *(Aristida oligantha)* becomes apparent. Dominant forbs change through the flowering season but usually progress through the following colorful series: Starting in April the bright yellow lomatium *(L. utriculatum)*, white popcorn flower *(Plagiobothrys nothofulvus)* blue miniature lupine *(Lupinus bicolor)*, pink cornsalad *(Plectritis congesta)*, lavender and white Collinsia *(Collinsia* ssp.*)*. Later, as the grasses cure, purple clarkia *(Clarkia purpurea)* and indigo brodiaea *(B. elegans)* dominate. Buckbrush and oak are abundant on some mounds, and in deeper soils.

The intermound areas are the most spatially varied in species composition, depending on soil depth and hydrology. Native species and a few aliens, adapted to the special habitat, dominate the intermound areas. Several plant association patterns tend to recur with considerable overlap on deep-soil in-

termounds. These associations include masses of white brodiaea *(B. hyacinthina)* with the delicate annual hairgrass, *(Deschampsia danthonioides)* and water foxtail *(Alopecurus geniculatus)*. In deeper, well-formed basins with longer-standing water, the association of coyote thistle *(Eryngium petiolatum)* and navarretia *(N. leucocephala)* and a popcorn flower *(Plagiobothrys bracteatus)* occurs. In late spring, Downingia *(D. yina)* forms a purple ring around these pools between the hairgrass and the coyote thistle. Goldfields *(Lasthenia californica)* characterize margins and other wet intermound areas, with less standing water but somewhat deeper soil. Goldfields often form a narrow band around deeper pools. Pauper's clover *(Trifolium depauperatum)*, the introduced Mediterranean barley *(Hordeum marinum)*, and wild onion *(Allium amplectens)* are also common.

Rhacomitrium — Sellaginella Rocky Scablands

Bare andesite with a patina of soil accumulated deeper in crevices and strewn with andesite cobbles makes up the scablands of the mesa tops. A fragile community of mosses *(Rhacomitrium canescens)* and small vascular plants bind the soil to the bedrock. In the winter and spring, this community is full of botanical surprises. Tiny *Lomatium piperi* flowers in January. *Allium parvum* produces ephemeral sickle-shaped leaves in February and flowers in April. Where sufficient soil is present, tufts of native pine bluegrass *(Poa secunda* ssp. *secunda)* and magenta grass widows *(Sisyrinchium douglasii)* brave March storms. With summer, the community becomes dry and brittle in aestivation, waiting for a shower, or for fall rains so it can begin to grow again. The vascular cone-bearing spike-moss *(Sellaginella wallacii)* is an important component of this community. Other rock habitats, although not part of the mounded prairie, are also special areas for botanizing. The lace fern *(Cheilanthes gracillima)*, goldback fern *(Pentagramma triangularis)*, and licorice fern *(Polypodium glycyrrhiza)* are visible all year tucked in the fissures among columnar joints of andesite. In March, Brewer's rock cress *(Arabis breweri)* is also found here.

Unusual Plant Species

The flora of southwestern Oregon is extremely diverse with many localized endemic plants occurring in a relatively small geographic area. There are several such endemics on and around Table Rocks. There are other species not often seen elsewhere in southern Oregon.

Dwarf meadowfoam *(Limnanthes floccosa* ssp. *pumila)*, in the meadowfoam family (Limnanthaceae), is found only on top of Table Rocks. Dwarf meadowfoam's cream-colored, bowl-shaped flowers and pale-green herbage can be found along the margins of vernal pools and intermounds from late March to May. The leaves are deeply pinnately lobed, and the solitary flowers produce nutlets for fruits. The fruits seem to lack plant or animal dispersal mechanisms, contributing to the species' isolation on top of the two rocks. The U.S. Fish and Wildlife Service presently classifies dwarf meadowfoam as a category 1 candidate for listing under the Endangered Species Act.

Dwarf meadowfoam occurs mostly on margins of vernal pools (Hirsch and Riefler 1981). If inundation or saturation is sufficient, meadowfoam can grow in clay soil 1 to 20 cm deep, over andesite bedrock. Wet intermound areas support the largest proportion of the population. Meadowfoam density varies markedly from year to year. Fluctuations are greatest on the pool flanks where spatial and temporal inundation is most variable. Intermound populations are more stable. A five-year period (1986-1991) of monitoring the species shows a general increasing trend (The Nature Conservancy 1992).

TUTTLE – BLM

Dwarf meadowfoam

Southern Oregon buttercup (Ranunculus austro-oreganus) is endemic to central Jackson County. It occurs in oak savannas on the lower south flank of Upper Table Rock, but has not been found on Lower Table Rock. It differs from the more common western buttercup *(R. occidentalis)* by its fewer petals, the red veining on the backs of the petals, and the more densely villous pubescence on its leaves and stems. The U.S. Fish and Wildlife Service presently classifies southern Oregon buttercup as a category 2 candidate for listing under the Endangered Species Act.

Brewer's rock cress *(Arabis breweri)* in the Brassicaceae is a small purple rock cress growing on dry cliff faces of the Rocks. It occurs sporadically from Table Rocks in southern Oregon south to Mt. Diablo, California.

Oregon rock cress *(A. oregana)* has deep purplish-red petals and sepals and is found in oak woodlands on the slopes of Upper Table Rock. Its distribution is from southern Jackson County to northern California. This rock cress was a candidate for federal listing until 1980.

California sandwort *(Arenaria californica)* in the pink family (Caryophyllaceae) is a diminutive glabrous annual, occurring in the rocky scablands of the *Rhacomitrium canescens* community on top of the Rocks. Although very small, it grows close together in such large numbers that its flowers color the ground stark white. The California sandwort is found from here south to the Tehachapi Mountains, west of Bakersfield, California.

SEEVERS

California Sandwort

The unusual fern-ally, Nuttall's quillwort *(Isoetes nuttallii)* in the quillwort family (Isoetaceae), is an emergent wetland perennial. It looks like tufts of grass growing in the bottom of water-filled vernal pools. Its grass-like leaves attach to a corm submerged in the mud. Reproduction is by spores produced in sporangia in the enlarged leaf bases. Nuttall's quillwort is found in Washington, Oregon and California.

Henderson's fawn lily *(Erythronium hendersonii)* in the lily family (Liliaceae) is a southern Oregon endemic. It has bright lilac petals with a dark purple base. This fawn lily grows in profusion under oaks in early spring.

Red bells *(Fritillaria recurva)* in the lily family (Liliaceae), is found in southern Oregon and northern California. Its scarlet bell-shaped flowers stand out against early spring vegetation in Table Rock oak woodlands.

LANG

Redbells

Wildlife

In 1992 the Bureau of Land Management (BLM) established a "Watchable Wildlife Area" at Lower Table Rock to promote public opportunities for viewing. Whether on the slopes or on top of the Rocks, birds are most often seen. Turkey vultures and red-tailed hawks ride on updrafts near the Rocks and nest in trees or cliffs surrounding the rocks. Blue-gray gnatcatchers, more often heard than seen, nest at the northern edge of their range in buckbrush fields on the slopes. Water pipits are on top of the Rocks in winter. Violet-green swallows, tree swallows, Vaux's swifts, and white-throated swifts dart just off the edges of the rocks. Pileated woodpeckers can be heard drilling for insects in scattered large pines and Douglas fir below the cliffs. Acorn woodpeckers value dead and dying conifers, using them for granaries to store acorns. Oaks offer more than food by providing cavity nesting sites for birds and other animals. Tiny hummingbird nests can be found in the manzanita on top of the Rocks. The rustling of rufous-sided and brown towhees foraging in oak duff is never far off while hiking up the slopes. On the summit, lark sparrows court on the andesite cobbles of the intermounds. Lesser yellowlegs sometimes wade vernal pools in search of small aquatic arthropods.

Though seldom seen, resident mammals give away their presence by their signs, including tracks, scat, burrows and browsed plants. Abundant valley pocket gophers are detected by their mounded diggings in the grasslands. Dusky-footed woodrat nests, made of large piles of sticks, are obvious on the upper slopes along the trail. A small colony of California kangaroo rats on the Upper Rock occurs west of its principal range. The young shoots of buckbrush, an otherwise tough plant, are palatable to the black tail deer, which sculpt the shrubs into topiary forms.

The most common reptile is the western fence lizard, often seen along the trail and on top of both Table Rocks. The alligator lizard and the blue-tailed skink are also common residents, as are gopher snakes. The striped whipsnake, like the kangaroo rat, occurs here at the western edge of its range. Colorful red, black, and yellow California kingsnakes and western rattlesnakes are also notable residents of Table Rocks, although not often seen or heard.

Natural Area Management

The BLM and the Nature Conservancy manage a 3,317-acre natural area on Table Rocks. The Conservancy acquired its first tract on Lower Table Rock in 1978. Today the organization manages 1870 acres, including a 900-acre conservation easement. The Conservancy added nearly 200 acres to the preserve in the last three years in an ongoing effort to increase the protected status of lands within the designated preserve boundary. About 200 acres around the foot of Lower Table Rock remain to be protected. In 1984, the Medford District of the BLM amended its land-use plan to designate 1,240 acres of public land on both Upper and Lower Table Rocks as Areas of Critical Environmental Concern. ACECs are managed for the natural values of the site. Upper Table Rock is also designated as an Outstanding Natural Area to match Lower Table Rock's designation as a watchable wildlife site. The Rogue River Ranch is the other major landowner on the Rocks. The BLM and the Conservancy manage their lands cooperatively to maintain the biological diversity of this natural area. The agencies offer a nature experience for the public and environmental education for local school children. Public-use management minimizes impacts by confining use to trails, posting signs and by continuing educational programs. Posted guidelines at trailheads point out appropriate use.

Commodity use of Table Rocks is limited to livestock grazing under a BLM permit and the operation of a Federal Aviation Administration radio beacon on Upper Table Rock. Lower Table Rock has a grass airstrip, constructed in 1949. The BLM officially closed this runway, although planes still occasionally land. Currently, it serves as the hiking path to the south end of the Rock.

Ecological Management

Protecting natural features and restoration of natural, physical and biological processes are the main ecological management objectives. A restoration approach is taken where fundamental components of the system are missing or impaired. The role of fire and the invasion of non-native annual grasses and forbs are the most significant management concerns.

Preserves such as Table Rocks, designed to maintain or improve examples of the original grassland and savanna communities, offer valuable sites for research into restoration.

Increased use of prescribed burning under carefully-controlled conditions is essential to maintan these fire-dependent communities. A prescribed burning program is the best suppression practice for Table Rocks. Over the last 40 years, four significant fires on Lower Table Rock burned approximately 25 percent of the area.

Plant List

This list is not comprehensive. It covers commonly encountered species, as well as rare ones, from a variety of communities. Nomenclature follows Hickman (1993), or Hitchcock and Cronquist (1973).

Ferns & Allies

Cheilanthes gracillima (Lace fern); *Cystopteris fragilis* (Bladder fern); *Isoetes nuttallii* (Nuttall's quillwort); *Pentagramma triangularis* (Goldback fern); *Polypodium glycyrrhiza* (Licorice fern); *Selaginella wallacei* (Wallace's lesser club moss)

Grasses & Sedges

Achnatherum lemmonii (Lemmon's needlegrass); *Aira caryophyllea* (Silver European hairgrass); *Alopecurus saccatus* (Meadow foxtail); *Aristida oligantha* (Oldfield three-awn); *A. purpurea var. longiseta* (Red three-awn); *Avena fatua* (Wild Oat); *Briza minor* (Quaking grass); *Bromus diandrus* (Ripgut); *B. hordeaceaus* (Soft brome); *B. japonicus* (Japanese brome); *B. tectorum* (Cheat grass); *Cynosurus cristatus* (Crested dogtail); *Deschampsia danthonioides* (Annual hairgrass); *Eleocharis macrostachya* (Creeping spikerush); *Lolium perenne* (Perennial ryegrass); *Panicum capillare* (Witchgrass); *Poa bulbosa* (Bulbous bluegrass); *P. secunda ssp. secunda* (One-sided bluegrass); *Taeniatherum caput-medusae* (Medusahead wild rye)†; *Vulpia microstachys var. pauciflora* (Few-flowered fescue); *V. myuros var. hirsuta* (Foxtail fescue)†; *V. myuros var. myuros* (Rat-tail fescue)†

Forbs

Achillea millefolium (Yarrow); *Achyachaena mollis* (Blow-wives); *Agoseris heterophylla* (Annual agoseris); *Allium acuminatum* (Hooker's onion); *A. amplectens* (Slim-leaf onion); *A. parvum* (Little onion); *Amsinckia menziesii var. intermedia* (Rancher's fireweed); *A. menziesii var. menziesii* (Menzie's fiddleneck); *Aquilegia formosa* (Western columbine); *Arabis breweri* (Brewer's rock cress); *A. oregana* (Oregon rock cress); *Arenaria californica* (California sandwort); *Balsamorhiza deltoidea* (Deltoid balsamorhiza); *Berberis aquifolium* (Tall Oregon-grape); *Blepharipappus scaber* (Rough eyelash); *Brodiaea coronaria* (Elegant brodiaea); *B. elegans* (Harvest brodiaea); *Calochortus tolmiei* (Pussy ears); *Calystegia occidentalis ssp. occidentalis* (Variable morning-glory); *Camassia quamish ssp. quamish* (Camas); *Campanula prenanthoides* (California harebell); *Castilleja attenuata* (Valley tassels); *C. pruinosa* (Frosted paintbrush); *Centaurea solstitialis* (Yellow star thistle)†; *Chamomilla suaveolens* (Pineapple weed)†; *Chrysothamnus nauseosus* (Rubber rabbitbrush); *Clarkia gracilis* (Slender clarkia); *C. purpurea* (Purple godetia); *Claytonia perfoliata* (Miner's lettuce); *Collinsia grandiflora* (Large-flowered blue-eyed mary); *C. parviflora* (Small-flowered blue-eyed mary); *C. rattanii* (Rattan's blue-eyed mary); *C. linearis* (Linear-leaved blue-eyed mary); *Collomia grandiflora* (Chinese pagodas); *Crocidium multicaule* (Spring gold); *Cryptantha flaccida* (Weak-stemmed cryptantha); *C. intermedia* (Common cryptantha); *Cynoglossum grande* (Pacific hound's-tongue); *Delphinium andersonii* (Anderson's larkspur); *Dicentra formosa* (Bleeding heart); *Dichelostemma capitatum* (Blue dicks); *Dichelostemma congestum* (Ookow); *Dodecatheon hendersonii* (Henderson's shooting star); *Downingia yina* (Cascade downingia); *Draba verna* (Vernal whitlow-grass); *Epilobium torreyi* (Spike primrose); *Eriogonum compositum* (Northern buckwheat); *Eriophyllum lanatum* (Woolly sunflower); *Erodium cicutarium* (Stork's-bill)†; *Eryngium petiolatum* (Coyote-thistle); *Erythronium hendersonii* (Hendersons' fawn lily); *Eschscholzia californica* (California poppy); *Fritillaria affinis* (Checker lily); *F. recurva* (Scarlet fritellary); *Galium aparine* (Goose-grass); *Geranium molle* (Dovefoot geranium); *Gratiola ebracteata* (Bractless hedge-hyssop); *Hemizonia fitchii* (Fitch's tarweed); *H. pungens* (Common spikeweed); *Hesperochiron pumilus* (Dwarf hesperochiron); *Hypericum perforatum* (Klamath weed)†; *Idahoa scapigera* (Scalepod); *Lasthenia californica* (Goldfields); *Lemna gibba* (Duckweed); *Lepidium nitidum var. nitidum* (Shining peppergrass); *Limnanthes floccosa ssp. pumila* (Dwarf meadowfoam); *Linanthus bicolor* (Bicolored linanthus); *Lithophragma glabrum* (Prairie star); *L. parviflorum var. trifoliatum* (Three-leaved prairie star); *Lomatium piperi* (Piper's lomatium); *L. utriculatum* (Foothills lomatium); *Lonicera hispidula var. vacillans* (Hairy honeysuckle); *Lupinus bicolor* (Miniature lupine); *Madia gracilis* (Slender tarweed); *M. madioides* (Woodland tarweed); *Marah oreganus* (Coast man-root); *Micropus californicus* (Slender cottonweed); *Mimulus alsinoides* (Chickweed monkey-flower); *M. guttatus* (Seep-spring monkey-flower); *Minuartia californica* (California sandwort); *M. douglasii* (Douglas sandwort); *Monardella odoratissima ssp. odoratissima* (Western balm); *Montia linearis* (Narrow-leafed montia); *Myosotis discolor* (Yellow-and-blue forget-me-not)†; *Myosurus minimus* (Least mouse-tail); *Navarretia divaricata ssp. divaricata* (Mountain navarretia); *N. leucocephala* (White-flowered navarretia); *N. heterandra* (Tehama navarretia); *Nemophila pedunculata* (Meadow nemophila); *Oenothera deltoides* (Devil's lantern); *Orobanche uniflora* (Naked broom-rape); *Osmorhiza purpurea* (Purple sweet-cicely); *Pectocarya pusilla* (Little pectocarya); *Penstemon deustus* (Hot-rock penstemon); *P. laetus* (Gay penstemon); *Pentagramma triangularis* (Goldback fern); *Phacelia hastata* (Whiteleaf

phacelia); *Phlox gracilis* (Pink annual phlox); *Plagiobothrys austinae* (Austin'a allocarya); *P. nothofulvus* (Rusty plagiobothrys); *Plectritis congesta* (Sea blush); *Potentilla biennis* (Biennial cinquefoil); *P. millefolia* (Cut-leaved cinquefoil); *Ranunculus austro-oreganus* (Southern Oregon buttercup); *R. lobbii* (Lobb's aquatic buttercup); *R. occidentalis* (Western buttercup); *Sanicula crassicaulis* (Pacific snakeroot); *S. graveolens* (Sierra snakeroot); *Saxifraga integrifolia* (Northwestern saxifrage); *S. nidifica* var. *nidifica* (Nesting saxifrage); *Scutellaria siphocampyloides* (Skullcap); *Senecio integerrimus* (Western groundsel); *Sisyrinchium bellum* (Blue-eyed-grass); *S. douglasii* (Grass widows); *Thysanocarpus curvipes* (Fringepod); *Trichostema lanceolatum* (Vinegar weed); *Trifolium depauperatum* (Poverty clover); *T. dubium* (Little hop clover)†; *T. variegatum* (White-tipped clover); *T. willdenovii* (Spring-bank clover); *Tritelia hyacinthina* (White brodiaea); *Viola douglasii* (Douglas violet); *V. sheltonii* (Shelton's violet); *Wyethia angustifolia* (Narrow-leaf mule's ear); *Yabea microcarpa* (Western hedge-parsley); *Zigadenus venenosus* (Death camas)

Shrubs

Amelanchier alnifolia var. *semiintegrifolia* (Western serviceberry); *Arctostaphylos viscida* (White-leaved manzanita); *Ceanothus cuneatus* (Buck brush); *C. integerrimus* (Deer brush); *Cercocarpus betuloides* (Birch-leaf mountain-mahogany); *Garrya fremontii* (Fremont's silk tassel); *Holodiscus discolor* (Ocean-spray); *Prunus subcordata* (Klamath plum); *P. virginiana* var. *demissa* (Western choke-cherry); *Rosa nutkana* var. *nutkana* (Nootka rose); *Rubus discolor* (Himalayan blackberry)†; *Sanguisorba minor* ssp. *muricata* (Garden burnet)†; *Toxicodendron diversilobum* (Poison oak); Vitis californica (California wild grape)

Trees

Arbutus menziesii (Pacific madrone); *Fraxinus latifolia* (Oregon ash); *Pinus ponderosa* (Ponderosa pine); *Populus balsamifera* ssp. *trichocarpa* (Black cottonwood); *Pseudotsuga menziesii* (Douglas-fir); *Quercus garryana* (Oregon white oak); *Q. kelloggii* (California black oak); *Salix scouleriana* (Scouler's willow)

(† denotes non-native species)

Plan a trip to Table Rocks. Spring is the best season for wildflowers. The peak season varies from year to year, depending on temperature and precipitation. Because of differences in blooming times (see Table 1) best flowers along the trail may be earlier than on the top. Make several trips. You are always welcome. Call the Medford District of the BLM (503-772-0022) for information.

Literature Cited

Agee, JK. 1990. The historical role of fire in Pacific Northwest forests. *In:* Walstead, JD, SR Radosevich and DV Sandberg (eds.). Natural and Prescribed Fire in Pacific Northwest Forests. Oregon State Univ., Corvallis.

Beckham, SD. 1971. Requiem for a people. *In:* The Rogue Indians and the Frontiersman. Univ. of Oklahoma.

Berg, AW. 1990 Formation of mima mounds: a seismic hypothesis. Geology 18:281-284.

Capps, G. 1992. A geologic field guide to the geology of the Table Rocks. Unpubl. document. Bureau of Land Management, Medford, Oregon.

Case, RM. 1983. Pocket gophers in prevention and control of wildlife damage. Cooperative Extension Service, Institute of Agriculture and Natural Resources, Univ. of Nebraska, Lincoln.

Cox, GW and VB Scheffer. 1991. Pocket gophers and mima terrain in North America. Natural Areas J. 11(4):193-198.

Davies, J. 1980. Douglas of the Forests: The North American Journals of David Douglas. Univ. of Washington Press, Seattle.

Detling, LE. 1961. The chaparral formation of southwestern Oregon, with considerations of its postglacial history. Ecology 42(92):348-357.

Franklin, JF and CT Dyrness. 1988. Natural vegetation of Oregon and Washington. USDA, GTR-PNW-8, Portland, Oregon. 417 pp.

Griffen, JR. 1988. Oak woodland. *In:* Barbour, MG and J Major (eds.). California Native Plant Soc. Spec. Publ. 9.

Habeck, JR. 1961. The original vegetation of the mid-Willamette Valley, Oregon. Northwest Science 35(2):65-77.

Heady, HF. 1977. Valley grassland. *In:* Barbour, MG and J Major (eds.). California Native Plant Soc. Spec. Publ. 9 491:514.

Hickman, JG (ed.). 1993. The Jepson Manual: Higher Plants of California. Univ. of Calif. Press, Berkeley.

Hirsch, L and J Reifler. 1981. A study of vernal pools on the summit of Upper Table Rock. Unpubl. rept., Southern Oregon State College Herbarium, Ashland.

Hitchcock, CL and A Cronquist. 1973. Flora of the Pacific Northwest. Univ. of Washington, Seattle.

Kagan, J. 1993. Comprehensive classification of plant community types in Oregon. Unpubl. document, Oregon Natural Heritage Program, Portland.

LaLande, J. 1983. First over the Siskiyous: Commentary of Ogden's routes of travel through northern California and southwestern Oregon, 1826-1827. Unpubl. ms.

Lane, J. 1884. History of Southern Oregon. AG Walling (ed.). Portland, Oregon, pp. 316, 334.

Leiberg, JB. 1900. Cascade range and Ashland forest reserves and adjacent regions. *In:* US Geological Survey 21st Annual Rept., 1899-1900, Part 5:211-498.

Orr, EL, WN Orr and EM Baldwin. 1992. Geology of Oregon, 4th ed. Kendall/Hunt Publ., Dubuque, Iowa.

Reigel, GM, BG Smith and JF Franklin. 1992. Foothill oak woodlands of the interior valleys of southwestern Oregon. Northwest Science 55(2):66-75.

Smith, WP. 1985. Plant association within the interior valleys of the Umpqua River Basin, Oregon. J. Range Management 38:526-530.

The Nature Conservancy. 1992. Monitoring plan for *Limnanthes floccosa* ssp. *pumila*. Unpubl. document, The Nature Conservancy, Portland, Oregon.

Thelenius, JF. 1968. The Quercus Garryana Forests of the Willamette Valley, Oregon. Ecology 49(6):1124-1133.

Wilkes, C. 1849. Narrative of the United States exploring expedition during the years 1838, 1840, 1841, 1842. V:215-250.

Table 1. Flowering time for common Table Rock plants

(Scientific Name) Common name	Jan.	Feb.	Mar.	Apr.	May	June
(Lomatium piperi) Piper's lomatium		✓				
(Sisyrinchium douglasii) Purple-eyed grass		✓	✓			
(Brodiaea hyacinthina) Hyacinth brodiaea			✓	✓	✓	
(Collinsia sp.) Blue-eyed Marys / Chinese pagodas			✓	✓		
(Crocidium multicaule) Spring gold			✓	✓		
(Draba verna) Draba			✓	✓		
(Lithophragma bulbifera, L. parviflora) Prairie stars			✓			
(Ranunculus occidentalis) Western buttercup			✓	✓		
(Saxifraga integrifolia, S. nidifica) Saxifrage			✓	✓		
(Sisyrinchium bellum) Blue-eyed grass			✓			
(Allium acuminatum, A. amplectens, A. parvum) Wild onion				✓	✓	✓
(Amsinckia intermedia) Fiddleneck				✓		
(Arenaria californica) Sandwort				✓		
(Balsamorhiza deltoidea) Balsamroot				✓		
(Calochortus tolmiei) Cat's (Kitten's) Ears				✓	✓	
(Cynoglossum grande) Hound's tongue				✓		
(Delphinium menziesii) Larkspur				✓		
(Dodecatheon hendersonii) Shooting star				✓		
(Downingia nana) Downingia				✓	✓	
(Erythronium hendersonii) Henderson's fawn lily / Lamb's tongue				✓		
(Fritillaria recurva) Red bells				✓		
(Hesperochiron pumilus) Strawberry flower				✓		
(Limnanthes floccossa ssp. *pumila)* Dwarf woolly meadowfoam				✓		
(Lomatium utriculatum) Desert parsley				✓		
(Lupinus bicolor, L. micrantha) Lupine				✓	✓	
(Mimulus guttatus, M. alsinoides) Monkey-flower				✓		
(Plectritis congesta) Rosy plectritis				✓		
(Ranunculus austro-oreganus) Southern Oregon buttercup				✓		
(Trifolium depauperatum) Pauper's clover / Cow's udder				✓		
(Viola douglasii) Douglas' violet				✓		
(Viola sheltonii) Shelton's violet				✓		
(Camassia quamash) Camas					✓	
(Castilleja pruinosa) Indian paint brush					✓	
(Clarkia purpurea, C. gracilis) Clarkia					✓	
(Psilocarphus brevissimus) Woollyheads					✓	
(Perideridia gairdneri) Yampa						✓
(Wyethia angustifolia) Mule's ears						✓