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GRAYBACK RIDGE MOTOR NATURE TRAIL

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Welcome to the Grayback Ridge Motor Nature Trail. This tour presents an opportunity for you to explore a section of the park which is truly wilderness. Along this four mile roadway which rises across Grayback Ridge you will observe several very different forest communities. Each has its own characteristic species of plants and animals which make it unique and separate from the others. From high atop Grayback Ridge a magnificent view of Sun Valley and the distant Klamath Basin is possible. Surrounding you everywhere (below) are pine and fir trees of every size, shape and age, truly a virgin forest. The roadway guides you down the western side of Grayback Ridge into Sun Meadow. Depending upon the season of your trip many species of wildflowers will be noticed along the way. For the traveler attempting simply to cross Grayback Ridge this tour might take only 20 minutes. Such a journey would be at the expense of many interesting aspects of this area. We urge you to allow yourself time enough to become involved in what you see, not just from your automobile but by frequent stops along the way.

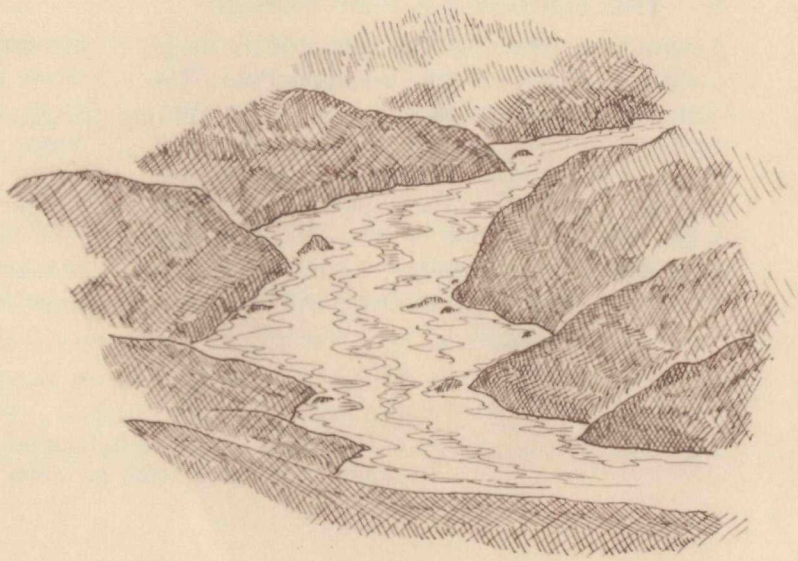
1. THE LODGEPOLE PINE FOREST

As you begin the drive the predominant plant along the roadway is the Lodgepole Pine. This two needles pine grows well in a dry environment intolerable to most other trees. The shrubs which grow at the base of these trees are well spaced as they compete for available water. Lodgepole Pine is often the first tree to invade an open area since it requires an abundance of sunlight to grow and can tolerate drier conditions. As mature trees begin to shade the ground, they prevent new seedlings from developing. In this way a Lodgepole forest will be succeeded by a new conifer whose seedlings are shade tolerant. Some day a mighty Red Fir or Mountain Hemlock forest may occupy this spot unless an occasional fire occurs to prevent this natural succession from taking place.

A map of your route is located on the center pages. You may wish to refer to it as you proceed.

2. LOST CREEK

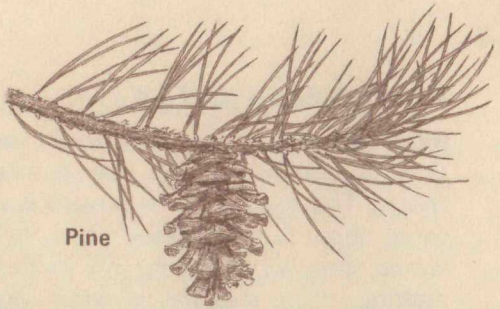
The addition of water to this dry terrain produces remarkable changes in the plants commonly associated with a dry forest. Lost Creek flows throughout the entire summer allowing such wildflowers as Anderson's Lupine, Sticky Cinquefoil and Arrowleaf Groundsel to thrive. Nowhere else in the Lodgepole forest will these delicate life forms be found. The need for water is so great that this flower bed seems like an island. A closer investigation of Lost Creek will yield rocks covered with such water loving plants as algae or moss. This cool fresh water provides moisture for all kinds of birds and mammals. Can you see any animals attracted here for a drink? What other life depends upon this creek? If you have the time, take a few minutes for a closer look at Lost Creek.



3. MIXED CONIFER FOREST

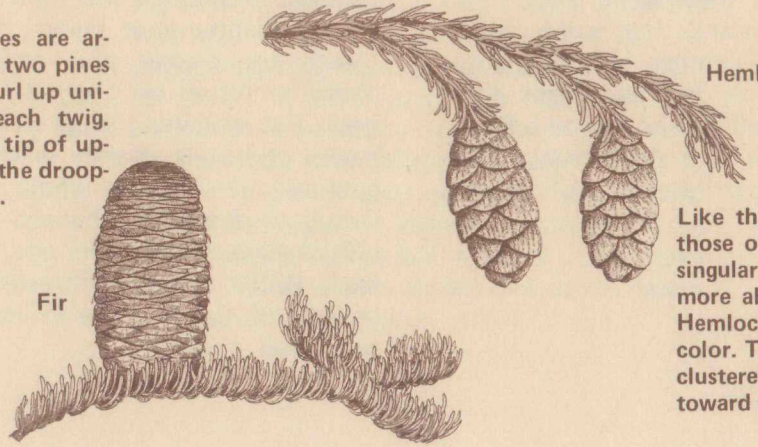
As the roadway begins to ascend Grayback Ridge, you may begin to observe a greater variety of trees. This is a mixed conifer forest with Western White and Lodgepole Pines, Shasta Red Fir and Mountain Hemlock all sharing the same habitat.

Here is a good opportunity for you to stop and investigate the individual characteristics common to each of these four conifers. How good a forester are you? All cones, whether fir, pine or hemlock are most obvious as they ripen in late summer. Since these cones contain the seeds for new trees, we ask you not to collect any samples.



The needles of the Western White Pine are arranged in bundles of five; some 2-4 inches long. The bark varies from silver grey to almost purple. You may notice the 6-8 inch cones hanging down from the upper branches.

The Shasta Red Fir needles are arranged singularly unlike the two pines mentioned. These needles curl up uniformly from underneath each twig. Fir cones stand erect at the tip of upper branches in contrast to the drooping appearance of pine cones.



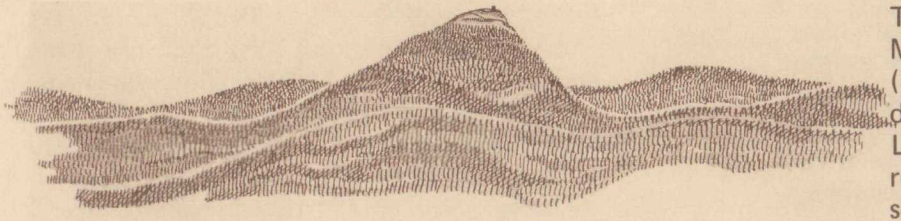
Like the needles of the Shasta Red Fir, those of the Mountain Hemlock are also singular though half the size and much more abundant as they circle each twig. Hemlock cones are small and purple in color. They are abundant early in summer clustered on branch tips and concentrated toward the top.

4. WHEELER CREEK

Most mountainous areas support several small streams similar to this one named Wheeler Creek. The source of the stream is a spring located about ¾ mile up the slope. With a heavy winter snowfall averaging 575 inches annually, melting snow supplies streams like Wheeler and Lost Creeks with water all year long. The release of water from melting snowfields is controlled in part by the trees which shade the ground, preventing quick melting of winter snowpack. In addition, valuable soil is held firm by the roots of these same trees. This controlled melting means that some water will be available all summer long for both plant and animal use. It also means that precious forest soil will not be lost to a flood of spring melt water and the entire forest community acting as a "water shed" is preserved.

5. APPROACHING GRAYBACK RIDGE TOP

The lack of a well established forest and the presence of exposed gray rock ledges resulted in the naming of the ridge ahead "Grayback Ridge." A fire long ago likely removed a once well developed forest and a new forest is now attempting to become re-established. Note the uniform growth of young trees on the slopes below. Fire plays an important role in the development and maintenance of a healthy population of trees. While healthy trees are burning so are insect infested and diseased trees. Fire also provides a new food source for some forest inhabitants as fallen trees are soon replaced by grasses and other low-growing plants preferred by deer, elk and sometimes bear. The remaining snags serve as perches for hawks and owls as they watch for mice and gophers below. The whole complexion of Grayback Ridge is changed now since fire visited here many years ago. In time, Grayback Ridge will be reforested and thus this section of Crater Lake Wilderness will have come full circle.



6. VIEW OF MOUNT SCOTT

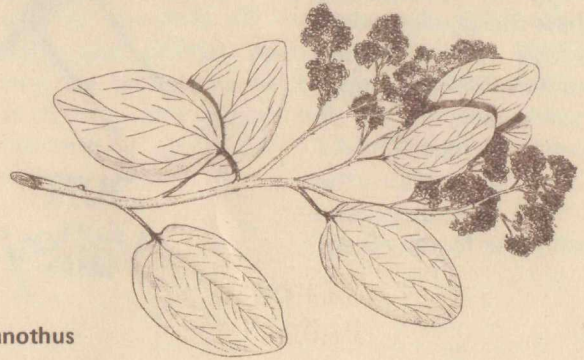
To the east is Mt. Scott, a parasitic cone of Mt. Mazama and the highest point in the park. (Mt. Mazama collapsed in 4,700 B.C. to produce the caldera which now contains Crater Lake.) Glaciers extending down Mt. Mazama removed the western portion of Mt. Scott and scoured off the lowlands beneath the remaining peak. In places this glacier was a thousand feet thick and heavy enough to reshape the underlying landscape. When the glaciers melted about 20,000 years ago, the U-shaped valleys were exposed. Grayback Ridge simply separates the two valleys; Pinnacle Valley on your left, Sun Valley on your right. Glacial valleys and scars are common throughout the high Cascade Range but here at Crater Lake only a few examples remain due to the recent collapse of Mt. Mazama.

Pinnacle Valley

Sun Valley

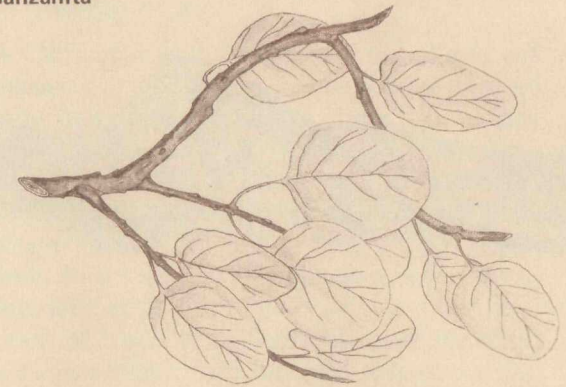
7. VEGETATION OF GRAYBACK RIDGE

Until trees re-occupy this ridge top, well adapted, sun tolerant, low lying woody shrubs will cover much of the ground. The shrub with reddish bark is Greenleaf Manzanita. The oval shaped, leather-like leaves expose their edges to the sun rather than their flat sides, thus conserving the limited water supply which is not normally replenished during the summertime. In early summer these plants display small, pink, bell-shaped flowers in clusters at the end of some stems. By late August these bells are replaced by an apple like fruit relished by black bears. (Manzanita means "little apple" in Spanish). Perhaps you noticed another common shrub with large glossy green leaves. This is Snowbush Ceanothus, which shares the sun drenched ridge top with Manzanita. In early summer Ceanothus displays a spray of sweet scented flowers, later replaced by small green berries. Together Greenleaf Manzanite and Snowbush Ceanothus while carpeting the ground provide housing for birds in early summer and food for bears in late summer.



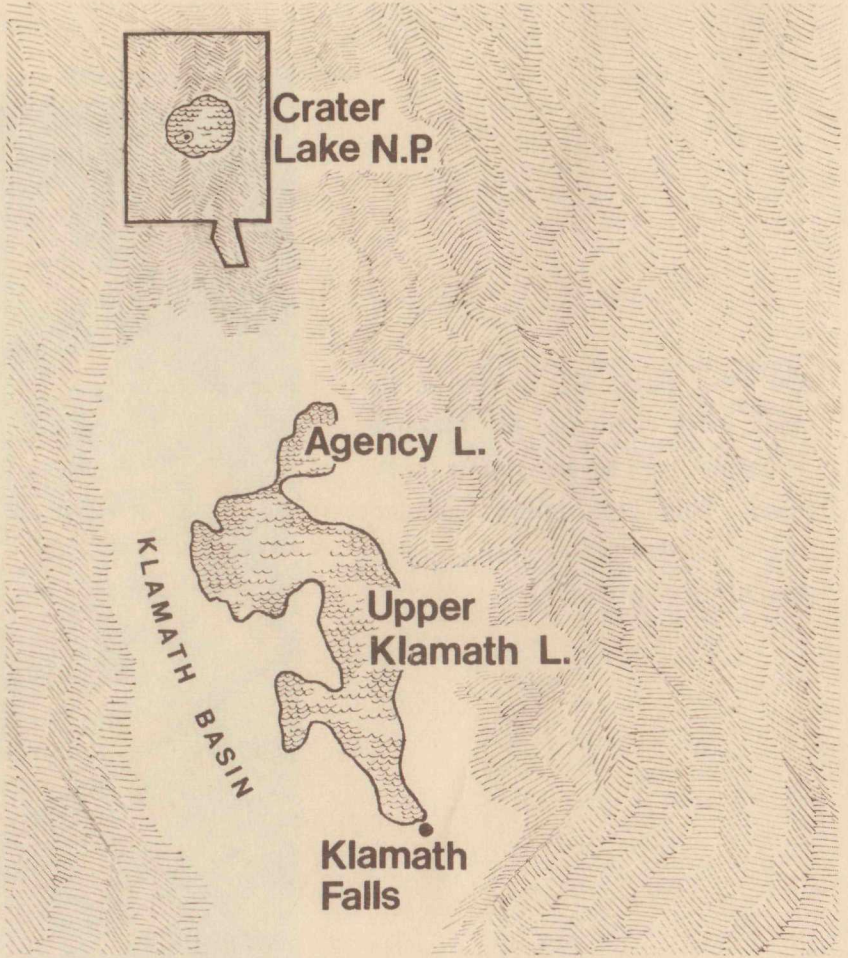
Ceanothus

Manzanita

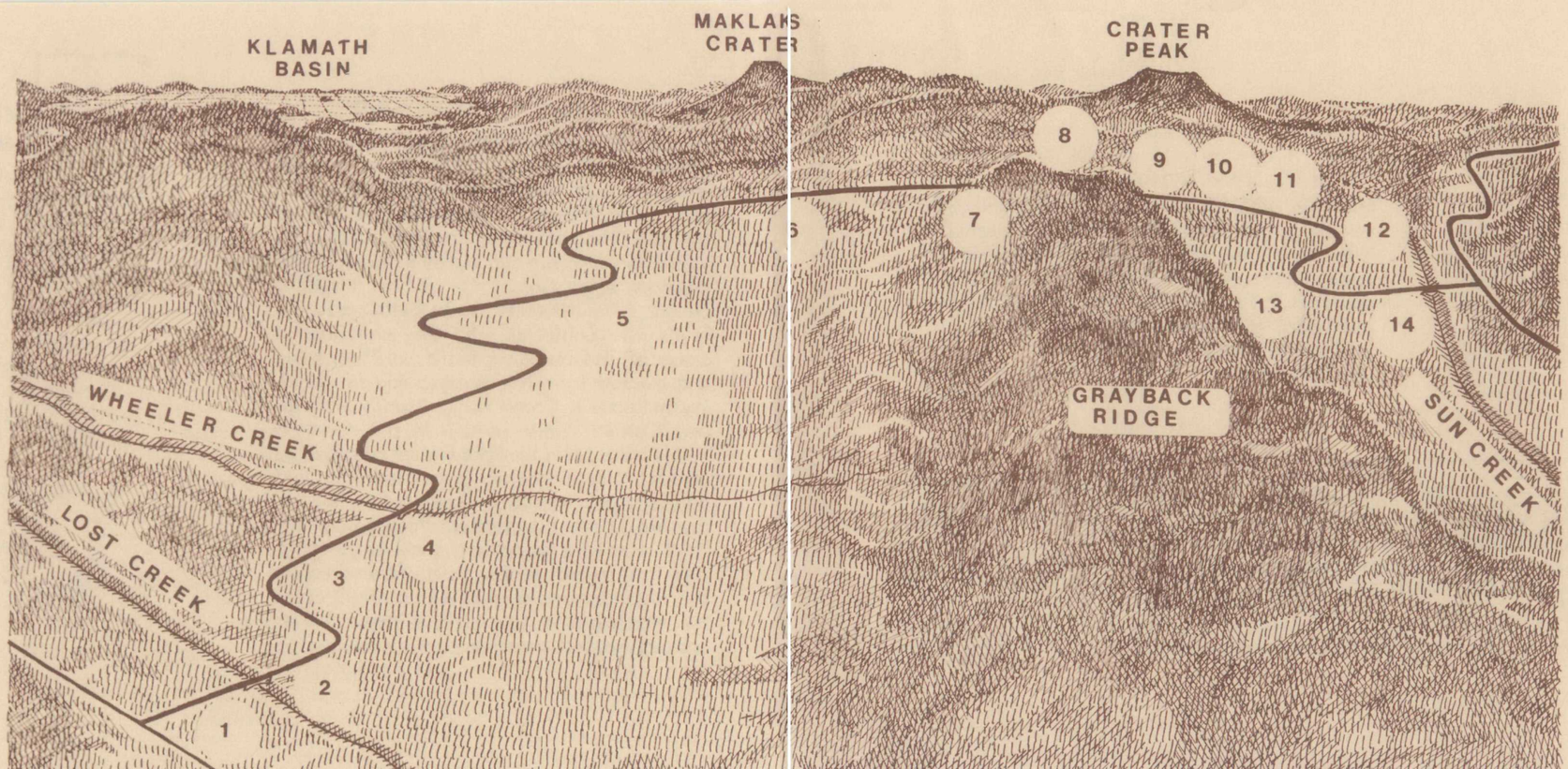


8. SUN VALLEY AND BEYOND

An excellent view is now possible from the summit of Grayback Ridge. Directly south along the ridge-line is a prominent cone, Maklaks Crater. The densely wooded area beyond this cone lies within Winema National Forest. In the distance surrounded by a broad, grassy meadow is the community of Fort Klamath, Oregon. The Klamath Basin before you extends into California and once contained a series of shallow lakes fed by melting snow and glaciers from Mt. Mazama and surrounding mountains. Today, only Agency and Upper Klamath Lakes remain in the northern half of the basin as these waters continue to recede. Klamath Basin is hot and dry and only sparsely vegetated compared to the valleys west of here toward the Pacific Coast for the Cascade Range captures most of the moisture from clouds as they drift eastward across the mountains. Like most of eastern Oregon, the vegetation in the basin is desert-like in appearance and structure.



On clear days, Mt. Shasta, a volcanic peak similar to Mt. Mazama, is visible from several points on the road. This picturesque landmark lies in northern California a straight line distance of 120 miles.



Though we hope you are enjoying the magnificent view, take an occasional glance at the roadside as you continue on. If any litter is seen, would you mind picking it up and dropping it in a trash can in the picnic area at the end of this drive. Thank you.

9. VIEW INTO SUN VALLEY

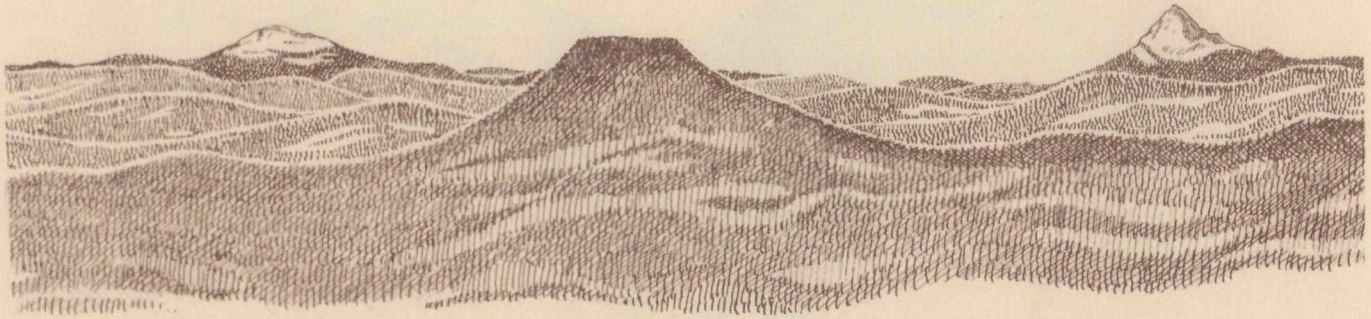
Here is a spectacular view of glacial Sun Valley. At first the valley was little more than a scar scraped canyon dotted with scattered boulders transported here from high atop Mt. Mazama. But slowly the invasion of plants began; first the soil forming lichens and mosses and then the grasses. As soil collected and developed a greater variety of plants appeared. Through a long period of plant succession, stage upon stage, a forest community of plants and animals has resulted. This same parade of plant succession occurs each time an area is denuded regardless of the reason.

Park your car as far to the right hand side of the road as possible and take a short hike down the slope for a better look into the canyon. WATCH YOUR FOOTING.

10. VIEW OF CRATER AND UNION PEAK

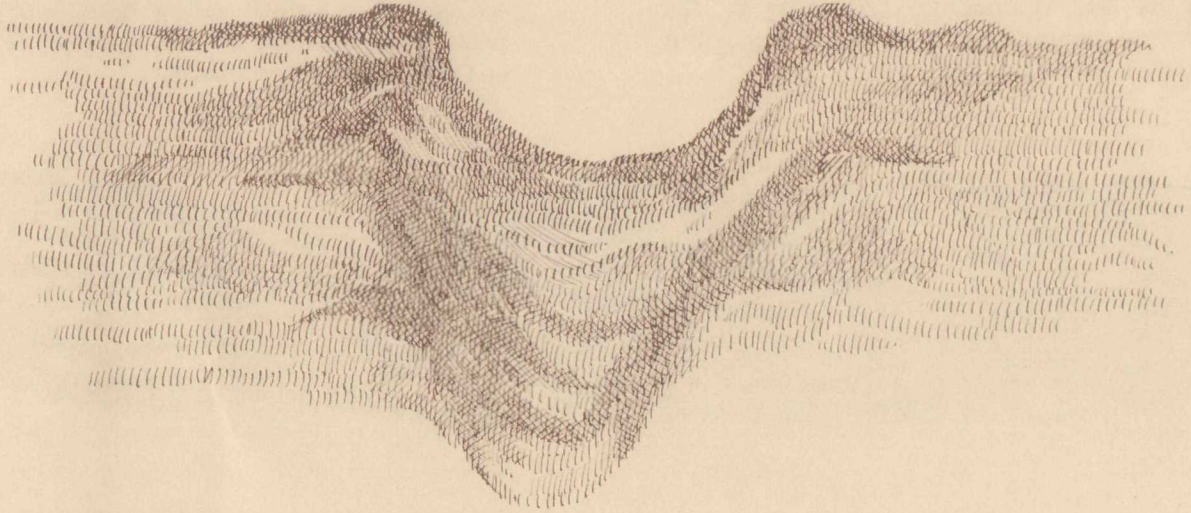
Along the western horizon are several peaks as different in age as in appearance. In the foreground is tree covered Crater Peak, a parasitic cone formed on Mt. Mazama. To the right and at a greater distance is Union Peak, appearing like the Matterhorn. Union Peak is a remnant of a volcano formed 10 million years ago, long before the first lavas of Mt. Mazama began to flow. To the left of Crater Peak is Mt. McLoughlin (20 miles to the south), a contemporary of Mt. Mazama but only 2/3 its size.

All green plants contribute to the total environment by absorbing carbon dioxide and releasing oxygen and other gases. Organic gases, emitted by the great number of trees within our forests, cast a slightly blue tinted veil over all distant objects. To these air components man's activity adds oxides of nitrogen, unburned hydrocarbons, sulfur dioxide and more carbon dioxide so that some days these peaks are buried in a thick yellow haze. Seeing the peaks then depends on the time of day and current weather conditions.



11. VIEW OF SUN NOTCH

With the collapse of Mt. Mazama, about 7,600 years ago, the long glacial carved valleys were cut off sharply. Sun Notch now points to the sky above instead of the ice covered summit of a lofty volcano. As you see it today, Sun Notch is continuing to change as rocks fall from the sides, altering its U-shape. Are we safe in assuming that Mt. Mazama will never erupt again?



12. MOUNTAIN HEMLOCK FOREST

Grayback Ridge runs roughly north and south cutting directly across the path of moist air moving in from the west. This and other ridges force the air to rise, milking the moisture out in the form of snow. As a result, the eastern side of Grayback Ridge is a much drier area than this, the western slope. Here a mature, lush Mountain Hemlock forest shades the ground with its thick canopy. Between the trees a cover of viney Crater Lake currant grows in profusion. Brownish flowers in the spring are exchanged for red berries in fall. The single blades of grass-like plants belong to Common Woodrush, another staple for forest grazers. A healthy Hemlock forest is guaranteed by the large population of young saplings nature is contributing to the survival of this forest. Man must play the role of wise manager if future generations of trees are to prosper.

13. THE FOREST COMMUNITY

This forest community, like the community of man, is alive. It grows its own food, it finds housing for its residents and it replaces its aged with youth. Each following generation may vary from the preceding one as conditions permit. These modifications may see the replacement of a pine with a fir or one species of animal with a new one. By a chain of these changes, the forest community maintains its place in nature while providing food for a changing variety of animals along the way. The animals in turn contribute something by controlling the underbrush through browsing and storing seeds which may generate into new trees. Left to natural forces, a conifer forest community and associated animals will survive in a healthy condition for centuries.

14. BASIN OF SUN CREEK

As the Hemlock Forest thins out toward the basin of Sun Canyon, sun loving grasses and wildflowers appear. Sun Creek, just ahead, is only a small brook but further down the additional water of numerous springs create a fast flowing stream. During our journey across Grayback Ridge we have observed many different plants and animals. Each is protected under Park regulations. Such regulations are at best difficult to enforce. It is only through your appreciation and understanding of these forest communities that the future of the park is guaranteed. Man is a part of all plant and animal relationships in one way or another. The role he plays is that of a wise executive. These forests and the creatures that live in them at Crater Lake are held in trust by you, the park visitor, and the rules and regulations provided by the National Park Service.

Just as the lives of plants and animals interconnect, so is Crater Lake National Park part of the world as a whole. In a much larger context, what we do here today at Crater Lake will certainly affect the future for those who live around the park.

NOTES AND OBSERVATIONS

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