



NATURE NOTES
from
CRATER LAKE

NATURE NOTES FROM CRATER LAKE

National Park Service
Crater Lake National Park

Crater Lake Natural
History Association

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Thomas J. Williams
Superintendent

C. Warren Fairbanks
Editor

Richard M. Brown
Associate Editor

INTRODUCTION

One of the objects of the Crater Lake Natural History Association is "to aid in the distribution of information on all subjects pertaining to the park." It is in keeping with this aim that this 1955 number of Nature Notes from Crater Lake is presented. Reprinting of Nature Notes articles is encouraged; it is requested that acknowledgement be given both to the author and to this publication.

Each summer a dedicated National Park Service interpretive staff presents an excellent program of talks, nature trips, exhibits, and other informational services. The material found in the following articles is the result of staff members' activities seldom brought to the attention of the visitor – the gathering of new information. Such efforts both document and give new information for talks.

The Crater Lake Natural History Association was founded in 1942 to promote and assist the interpretive program offered park visitors, to further the investigation of subjects of popular interest and importance, and to aid in the distribution of information on all subjects pertaining to the park. Toward this end it sponsors **Nature Notes from Crater Lake** and operates a publications sales counter, the proceeds from which are used entirely to support this work. A list of items for sale may be obtained by writing to the Executive Secretary, Crater Lake Natural History Association, Box 97, Crater Lake, Oregon.

C. Warren Fairbanks
Chief Park Naturalist

(Harry C. Parker was Chief Park Naturalist in 1955.)



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Cover Photo: Young Cascade red fox, cross phase, at den in loose rock beside southwestern part of Rim Drive. From Kodachrome by Welles and Welles.

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Forest fire toward Union Creek from The Watchman.
From Kodachrome by Welles and Welles

CRATER LAKE FIRES FOR 1955

By Norman Wild, Ranger Naturalist

With one or two exceptions, the 1955 summer visitor to Crater Lake National Park could not have found more suitable weather had he ordered it. Rarely was there rain, and then only for brief periods. The clear conditions offered the vacationist excellent opportunities to view the park and enjoy the naturalist-conducted boat and field trips. The lake, also, cooperated by sharing its colors with the hosts of photographers.

A glance at the weather reports indicates that the total precipitation in June amounted to 1.57 inches. The greatest rainfall for any one day occurred on the 29th, when 0.65 inch was recorded. July was even drier. Only 0.58 inch fell, with the month's heaviest rainfall coming on the 27th and contributing 0.21 inch to the total. August was completely free from precipitation.

The warm weather indicated but one thing to the park's fire guards: should any fires occur, control would be difficult, for the forests were very dry.

The first fire of the year occurred on July 18, when a construction company, building a bridge near the Annie Spring entrance station, let a pile of old, burning timbers get out of control. The fire guards quickly quelled the blaze, which burned only one-quarter acre. This was the only park fire until September.



Mountain hemlock
struck by lightning
at head of Lake Trail
From Kodachrome by
C. Warren Fairbanks

On September 4, the two lookouts for the park, on The Watchman and Mt. Scott, were notified to watch for possible lightning strikes from a fast-approaching electrical storm. I was on duty at the Information Building that afternoon. The log book from there indicates that the morning was clear – with the exception of a few large, billowy clouds. By noon, winds from the north and south had brought dark, ominous thunderheads into the region. The first lightning was observed from the rim. From these few flashes, three known fires were started, and fire crews were immediately sent out. The damage from these blazes covered 5.25 acres.



Fire guards equipped
for duty.
From Kodachrome by
Welles and Welles

Another lightning storm arrived on Labor Day, September 5. Unlike its predecessor, this provided some rain, all in the northeastern corner of the park. Lookouts on The Watchman and Mt. Scott immediately reported five smokes in the Union Peak area.

As a result of this storm, the park was suddenly converted from normal operation to an emergency fire-fighting unit. Conditions were to remain that way until September 12, when the last of some twenty-six lightning and one man-caused fires were under control.

All available manpower was placed on stand-by. The situation was acute because most of the seasonal personnel had left prior to this outbreak. In all, thirty-nine National Park Service employees were available for use in some capacity for fire control. Only a few men could be spared for any one fire, since fourteen fires were now going.

The light from the ranger office, the nerve center of the park for fire control, was to remain burning late into the night. Plans were being made, crews selected, and supplies ordered to meet the ever-increasing number of smoke reports. The fire house was a beehive of activity. Rangers, engineers, electricians, equipment operators, laborers, all were assembled to receive instructions, equipment, and sack lunches and to be dispatched to the fires. Some were left to sharpen tools, fill back pumps, and have things in readiness for relief crews.

On September 6, Ranger Naturalist Willis Downing and I helped fight a blaze which had been reported by the Mt. Scott lookout in the vicinity of Timber Crater. This area was now the scene of numerous smokes, for the small amount of rain which had fallen on September 5 had delayed the spreading of fire from the point of ignition, by lightning, to the forest duff. This fire, which eventually burned 7.2 acres, proved to be difficult to control, as it had started in some brush, far from the fire road. By early afternoon, when reinforcements arrived with a bulldozer to complete our hastily constructed fire line, the situation looked more promising. It was officially under control at 11:30 p.m. However, the last snags were not declared cold until the 14th. This initiated the first use of a bulldozer to fight a fire in Crater Lake National Park; it proved to be an invaluable aid to fire control.

Equipment Operator John Fulton and I were used on succeeding days to look for new fires and to check on burned-over areas that were supposedly cold. His knowledge of the terrain was very useful, for we cross-

ed much of the area by old, unused roads that were scarcely discernible.

The fires were now putting heavy demands not only on the already short manpower, but also on all available equipment. As a result of an emergency call on September 6, some portable field radios were flown from Olympic National Park to aid our communications. Additional hand tools and headlights were needed by the 8th. A rush order was sent for more equipment. Reinforcements of any kind were difficult to obtain because of the attention being given to numerous fires in northern California and southern Oregon.

The abundance of smoke from fires, both in and outside the park, made the detection of new blazes difficult. Visibility from both lookouts was practically nil by September 7. By the 9th, Crater Lake could not be seen from the Rim Drive. Visitors were quite disappointed to find the blue waters hidden beneath a blanket of smoke.

Many of the fires occurred far from available roads. Equipment had to be carried to the scene. Water, with but few exceptions, played only a small part in fire suppression. Considered a luxury, most of it had to be carried in with back pumps and was therefore used only sparingly. The tools most frequently employed were shovels, axes, Pulaskis (a combination axe and hoe), and McLeods (a combination rake and hoe). The most indispensable item of all, the weary man on the fire line, could not always expect immediate relief, and in some cases he worked around the clock.

The last fire, the twenty-seventh in nine days, was reported in the early afternoon of September 12. Its location was on the north side of Union Peak. Fire Guard Fred Labar and his crew quickly extinguished this half-acre blaze.

That only thirty-one acres of the park were burned, that only thirty-nine men were available to suppress these twenty-seven fires, and that at no time was anyone allowed to relax and "take things easy," should be proof enough that an outstanding job was done by one and all. There is a display in the Information Building which simulates a forest fire. It will always remind me of the dangers of fire as well as of these nine hectic days in which human effort and cooperation were realized to the fullest extent.

THE "LADY OF THE WOODS" REVISITED

By Richard M. Brown, Assistant Park Naturalist

Clink!. . . .Clink!. . . .Clink! Metallic tappings penetrated the usually quiet forest of hemlocks on the slope of Mt. Mazama. This day, the 19th of October, 1917, would be the last to hear the sounds drifting out through the trees from this particular source. For many days, begin-

ning on the 4th of that same month, these trees had attended this unaccustomed industry by man here on the side of the mountain. More responsive audience, especially of the human sort, was scant. Few heard and even fewer sought out the alien sound. But now the final blow had been struck; natural tranquility would soon return to the hemlocks.

Evidence of man's passing would remain, however, through the years and decades in this lonely spot within the forest. For here would rest alone the figure of a woman, patiently chiseled forth from the side of a great boulder lodged among the trees. Incomplete, she reclines relaxed against the volcanic rock as though she were a sleeping beauty awaiting the day when her creator would arrive to bring her to full realization. She would have a long wait for the craftsman's return, and even then she would not receive the finishing touch of his hand.

The story of the "Lady of the Woods" has now been told many times — too often to be repeated here in much detail. The interested reader is encouraged to look further into the various accounts relating to this fascinating episode of local history. All of those mentioned here may be found in the library at Crater Lake National Park, home of the "Lady of the Woods."

Dr. Earl Russell Bush, official surgeon for the U. S. Engineers in 1917, was stationed in Crater Lake National Park during the summer of that year. The pressure of his duties had lessened considerably toward the end of the season. Seeking some manner in which he could occupy his free moments productively and, at the same time, express the feelings of love and inspiration which the lake and surrounding country had aroused in him, the concept of a sculptured figure occurred to him. Such a figure would be a symbol of the park's wilderness and little-noticed richness of life — its fecundity, as Dr. Bush has so frequently expressed it.

After wandering through the forest and finding at some distance from the main camp a rock that suited his desires, Dr. Bush persuaded the blacksmith, William Ivy, to make an appropriate set of tools. The



The Lady of the Woods,
8 August 1954
Photo by C. Warren Fairbanks

work began on October 4. Progress was slow, especially because of the hardness of the rock. Fortunately, with his background as a doctor, he was not discouraged by the lack of a model. Unfortunately, winter and its hazards are here very much at hand this late in the year; little time remained for carrying out this project. Then came the day of departure, October 19, the figure still lying incomplete against the surface of the boulder.

Dr. Bush had continued his carving for about a week without notice by other members of the staff. Feeling a sense of slight embarrassment about this undertaking, he had mentioned to no one the purpose of his visits into the woods. However, curiosity and the persistent tapping of hammer and chisel eventually led a few to seek out the site of this activity. Although he was reassured by the praises which came forth upon their viewing the results of his efforts, Dr. Bush pledged them to secrecy. Mr. Alex Sparrow, Superintendent, was alone granted permission to let Mr. William G. Steel, U. S. Commissioner, know about it the following summer. Thus, in 1918, Mr. Sparrow covered the stone chips with pine needles and took Mr. Steel to see it, pretending that he had discovered some Indian carvings which Mr. Steel didn't know about. "The old gentleman, an authority on the Klamath tribe, was not to be fooled. Said he, 'In the first place it isn't an Indian woman for she has too long legs; in the second, the concept is not Indian but rather classical.' Told the truth he joined the others in secrecy but wrote to me for details." (Bush, 1953).

This secret was well guarded by all who shared it. Mr. Steel was U. S. Commissioner for the park until 1934, and Mr. Sparrow was Superintendent until 1923, but it was not by either of them that the secret was finally revealed.

The discoveries of the "Lady of the Woods" which were made during the following years provided several remarkable speculations as to how the figure had been created and, for those who did recognize it as a work of man, some extraordinary tales in respect to the motivation of the sculptor. Some of the newspaper articles in the Steel scrapbook collection in the park library today make almost incredible reading. The first of these discoveries, by workmen in the park in 1919, produced speculations that this was an effigy or petrification which might be older than the mummies of Egypt and New Mexico and would merit investigation by scholars (Anonymous, 1919a, 1919b)! Some have thought it to be a natural formation. One legend, which gained rather wide circulation in various versions, explains the carving as a response to the loss of a loved one (Willson, 1923).

The true origin of the "Lady of the Woods" was first revealed to the general public two years later, in August, 1921, following the appearance

of an article by Anne Shannon Monroe (1921). This account stimulated Mr. F. E. Miller, of Portland, Oregon, to make it known that the figure was carved by Dr. Bush (Anonymous, 1921a). The same information appeared in several places shortly afterward (Anonymous, 1921b, 1921c). The story was soon verified by Dr. Bush himself in a letter to Anne Shannon Monroe (Anonymous, 1921d) and was made available a year later in more permanent form by the Mazamas (Monroe, 1922).

Word concerning the "Lady of the Woods" seems not to have traveled very far during the years immediately following the first revelation of its creator. There appeared in 1923 a lengthy article which, on the basis of an expedition to study the figure, included new speculations concerning its origin (Willson, 1923). Among other suggestions, it was put forth by Samuel Hubbard, then curator of archaeology at the Oakland museum, that this might be the cast of an actual woman who had been engulfed by a flow of volcanic mud which poured down the sides of Mt. Mazama. He reasoned that the mud would not have been hot enough to destroy the body and would have solidified quickly. After a period of time, disintegration of the body would have left a perfect mould. A later eruption of volcanic mud was then presumed to have flowed down the mountain and into this mould, filling it completely and solidifying. Five months later the truth was set forth again (Anonymous, 1924).

Not until 1925 did Mr. Steel himself, on the basis of a letter to him from Dr. Bush, publish an account of the sculpturing (Steel, 1925).

By 1930, interest in the "Lady of the Woods" had increased so greatly that it had become necessary to construct a trail to it from a point near the old office building (Solinsky, 1930). Today the trail, marked by one or two simple signs, passes the south end of the Ranger Dormitory, over the creek crossed by a small bridge, and westward a few hundred feet to the site itself, also provided with a simple sign.

The origin of "Lady of the Woods" as the name for this figure remains in doubt. It seems to appear for the first time in Anne Shannon Monroe's (1921) article. Dr. Bush thinks that it may have been bestowed by Mr. Kiser, who held a photographic concession in the Park in the 1920's (Bush, 1953).

On August 8, 1953. during the brief period from noon until 2:00 p.m., I had the great good fortune of being on duty in Sinnott Memorial. During that period, I met and spoke with Mr. and Mrs. Claude Shafer, of Cincinnati, who indicated that they were personally acquainted with Dr. Bush. Later that same afternoon, I had the opportunity to conduct Mr. Shafer to the "Lady of the Woods," thus enabling him to fulfill a promise which he had made to Dr. Bush that he would visit it. Mr. Shafer was kind enough to write a brief note in our log book and, of considerably

greater importance, to supply a current address for Dr. Bush.

This meeting prompted me, within the next few days, to write a letter to Dr. Bush, asking for further information concerning the "Lady of the Woods" and attempting to determine the possibility of his visiting Crater Lake. The reply which arrived within a few days greatly exceeded my hopes. This lengthy letter includes many fascinating details of Dr. Bush's stay here in 1917, many of which had not been recorded previously. To my delighted surprise, he closed with, "Hoping to have the pleasure of meeting you next year..." (Bush, 1953).

During the summer of 1954, I was much encouraged by a letter from Dr. Bush (1954a) indicating that he was then in California, planning on fulfilling his promise to visit the park and having made reservations to stay here August 6 through 8.

The long-awaited August 6 finally arrived and, at length, word came through from the South Entrance station to the effect that Dr. Bush had come into the park. Although I was not on duty that particular day, I was on hand to greet Dr. Bush. When he had not called at Park Headquarters within a reasonable period of time following his entrance into the park, I went to the Rim Village to inquire after him at the lodge. He had, indeed, registered and was staying at one of the cabins. A call at the cabin failed to produce any response. Evening arrived, and Dr. Bush was still nowhere to be found. Visits to the lodge and the Community House, just before the evening programs were to begin, also failed to locate him. The naturalists presenting the programs were encouraged to invite Dr. Bush to make himself known should he be present, which they did, but without results. It was not until the next morning, following a brief telephone conversation, that I was to meet Dr. Bush in person.

As one might have come to suspect from the foregoing, Dr. Bush proved to be a most pleasant and unassuming individual. He had brought along Mrs. Bush and their son, Newell. Having come to the park by way of Fort Klamath, they had spent the night of August 5 in the same Fort Klamath Hotel that had received them upon their first arrival at that little town in early July, 1917.

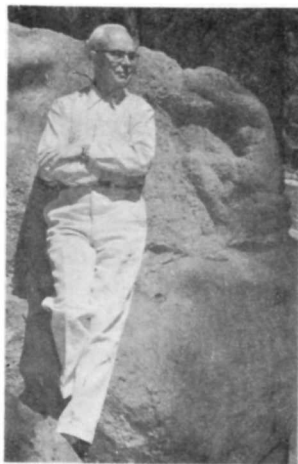
Much of two very enjoyable and rewarding days were then spent in the doctor's company. Dr. Bush reminisced along the rim, and elsewhere, over his summer in the park and its experiences. We walked from the rim down to Park Headquarters, following the passable portions of the mile or so of road which was the main route of travel back in 1917. He pointed out, to the best of his ability in view of the years gone by and the changed scene, the locations of the various buildings of the Park Headquarters area at that time.

Highlight of the entire period came when Dr. Bush returned, after 37

years, to his "Lady of the Woods." He was rather surprized, and pleased, to see how well it had weathered the years. Pitting had marred the once smoother surface of the figure, but otherwise it was much as he had remembered it. I detected the merest hint of a feeling on his part that the development of the nearby area had not added to the original attractiveness of the spot and its aspect of remoteness. This, however, passed quickly, and Dr. Bush seemed to enjoy this reunion very much. He consented to being photographed with his "Lady of the Woods," and for this we are most grateful. Several black-and-white pictures were taken and added to the park's photographic collection, as were also a few 35 mm. color slides.

Dr. Bush spoke with much modesty in respect to his sculpturing and indicated no illusions concerning its merits as a work of art. The "Lady of the Woods" was his first effort at sculpturing, which simply makes it the more remarkable. Following this beginning attempt in 1917, and after becoming settled in Cincinnati, Dr. Bush's aroused interest resulted in his taking up the study of sculpture under Clement J. Barnhorn. According to Dr. Bush, Mr. Barnhorn knew about the "Lady of the Woods" and praised it as amateur work, but he also exacted a promise from Dr. Bush that he would never touch it in an attempt to carry further his original idea. Mr. Barnhorn indicated to Dr. Bush that he had apparently been "successful in putting something into a crude outline that expressed what must have been a real inspiration. He says that the inspiration is now gone and that it was the invariable experience when artists attempted such a thing that they failed to carry out the real and worthwhile theme." (Bush, 1930). It is no doubt well that such a promise was made, even though today's regulations would not permit Dr. Bush to continue the work should he wish to do so.

Of much greater importance than the sculpturing, especially to Dr. Bush himself, are the responses which it has aroused in those who have come to see it through the years — by chance or otherwise. This is obviously as Dr. Bush intended it, even from the time of his conception of such a response to his own inspiration. A variety of emotions has been expressed in the numerous articles which have been written by persons who were impressed with the "Lady of the Woods." In addition,



Dr. Earl Russell Bush
with his
Lady of the Woods,
8 August 1954.
Photo by
C. Warren Fairbanks.

several poems have been inspired by it; a few of these have appeared in print (Luman, 1937; Mills, 1943; Williams, 1954).

Dr. Bush and his family left the **park** on August 9. Before his departure, he gave to the **park** a number of items of considerable interest and value. These include several photographs of various members of the 1917 staff, of scenes at Park Headquarters and about the rim, and of activities in the area during that summer; a Crater Lake National Park topographic map (Edition of Apr. 1911, reprinted Oct. 1913) which he had used while working here; and a Crater Lake brochure prepared by the Southern Pacific Company in 1917. We are most grateful to Dr. Bush for these contributions to our historical collections.

Dr. Bush (1954b) wrote, after returning home, that, "The memories aroused by the visit were both pleasant and vivid. Very likely I shall not get there again."

Perhaps the coming years will be kind enough to prove Dr. Bush wrong in respect to this last thought. But whether or not he is able to return to this spot again is surely not of the greatest importance. The lasting values of Dr. Bush's association with the **park** rest in the "Lady of the Woods." The true essence of its significance, and the best expression of the attitude with which it should be viewed, seem to me to be most simply and clearly put in Dr. Bush's own words. Perhaps you will keep them in mind when you come upon this symbol of the inspiration which one man found within the wilderness:

"This statue represents my offering to the forest, my interpretation of its awful stillness and repose, its beauty, fascination, and unseen life. A deep love of this virgin wilderness has fastened itself upon me and remains today. It seemed that I must leave something behind . . . if it arouses thought in those who see it, I shall be amply repaid. I shall be satisfied to leave my feeble attempt at sculptural expression alone and unmarked, for those who may happen to see it and who may find food for thought along the lines it arouses in them individually. It would be sacrilege to assign a title and decorate it with a brass plate." (Monroe, 1922).



(Biographical note: Dr. Earl Russell Bush, born in 1886, received his M. D. degree from the Indiana University School of Medicine in 1909. He practiced medicine in Indianapolis, Indiana, for a few years prior to World War I. After that war, during which he served as a member of the Medical Corps, he reentered government service, becoming Regional

Medical Officer, U. S. Veterans' Bureau, Cincinnati, Ohio. In January, 1930, he became Associate Medical Director, Western and Southern Life Insurance Company. Dr. Bush is now retired, making his home in Fort Worth, Florida.).

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FISHING AT CRATER LAKE NATIONAL PARK

By Joseph C. Hunt, Seasonal Ranger

Photos by C. Warren Fairbanks

PART I - STREAMS

Many park visitors are interested in the fishing conditions here in Crater Lake National Park. In most cases, fishing is limited. For example, the streams are very hard to reach. Annie Creek and Castle Creek are cut into steep canyons with sheer walls. Brush is also a handicap to the fisherman. Sand Creek at the East Entrance, where the pinnacles are located, is a prime example of stream conditions; this stream can be seen from the highway.

Small rainbow trout, Salmo gairdneri irideus Gibbons, and eastern brook trout, Salvelinus fontinalis (Mitchill) are abundant in the streams. The size of the trout caught in these streams averages about eight inches. One of the reasons for the smallness of the trout is that the snow pack is very deep in these canyons, reducing the food supply by covering the streams. From late in July until September, these streams are usually free from snow.

Bait fishing is a good standby that brings fine results. Fly fishing is almost useless because of the brush cover in the area. Spin fishing is difficult, the streams being too small.

If the hardy fisherman can overcome these handicaps, however, he should be able to catch his limit of ten fish in these beautiful mountain brooks.

PART II - THE LAKE

Crater Lake, in addition to being one of the most beautiful lakes in the world and, according to some, one of the seven natural wonders of the earth, is also one of the most interesting as far as angling is concerned.

There are two main types of fish in the lake. The first is the land-locked red, sockeye, or kokanee salmon, Oncorhynchus nerka kennerlyi (Suckley), which I do not consider to be a good type of fish for this lake. They do not grow very large, and, as far as angling is concerned, I can not consider them game fish. These fish range between nine and thirteen inches in length. Very seldom is a fish caught that is larger or smaller. They are small in body structure and weigh little for their size.

The rainbow trout, Salmo gairdneri irideus Gibbons, in Crater Lake, however, is a much different fish in comparison with the salmon. This



Sockeye salmon from
Crater Lake

fish grows large and is a vicious fighter. Like most lakes that fishermen enjoy, Crater Lake could be one of their favorites if they understood the habits of the rainbow trout in this lake. The park visitor who fishes in the lake is usually not familiar with the habits of these trout. Therefore, many draw a wrong conclusion about the great fishing that Crater Lake offers.

The length of the rainbow ranges between fifteen and one-half and twenty-three inches, the average measuring nineteen inches and weighing about three pounds. These fish are deep feeders, the reason being that the summer is so short that surface feeding for bugs is limited. Some say the water is so clear that, in order to escape the rays of the sun, they have to seek shelter in deep water or under overhanging rocks.

Trolling at around seventy feet deep produces fine results; however, it is not great sport because of the weight of the spoons and sinkers. Spin fishing is the sport in the lake. With a light spinning rod and a light-test line, using a quarter-ounce lure, a fisherman will have a wonderful time on the lake; but along with all this, he will have many heartaches.

The mouths of the trout are very soft. Once hooked, these fish break water and in two or three jumps are usually free. The fisherman can expect to land one of every five that he hooks. There have been many stories which attempt to explain their tearing loose so easily. One possible suggestion is that the lack of minerals in the water has a weakening effect on the cartilage of their mouths. As a side-light, let me describe one of the strangest things about the rainbow trout in Crater Lake. Once free, after breaking loose from the hook, they continue to jump and break water, sometimes three feet into the air. They may do this five or six times. An explanation for this might be that their mouths are so soft that, having been torn by the hook, they are actually in pain.



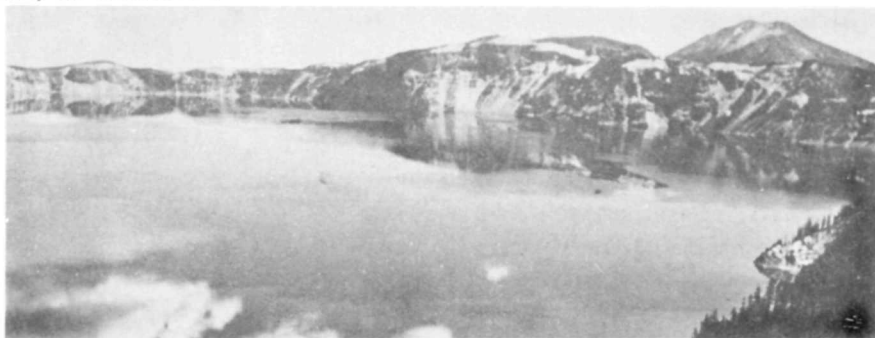
23¾-inch rainbow
trout taken from
Crater Lake in
August, 1954

Very seldom does a fisherman catch a large rainbow on a flyrod using artificial flies. Using a fly rod limits one in the length of cast. Also, the fish sees the movement through the clear water and will not strike. Anglers have spent days

on the lake without seeing a fish rise for a live bug or fly. This seems strange for a lake that has been stocked many years with rainbow trout.

Unless certain problems are solved in the future, good fishing in the lake may cease. Crater Lake can not stand heavy fishing; the fish do not reproduce in quantity. Contrary to popular opinion, I believe that lack of food is not the handicap to reproduction in this lake. There are many types of underwater life for the fish to feed on.

The grave problem is the absence of adequate spawning grounds. There are no known inlets or outlets to Crater Lake, providing an unfavorable situation for spawning trout. They must, therefore, find nesting grounds in the lake. There are located around its edges a few sandy beaches that otherwise would be ideal, but the wind creates such choppy water that the roe would be washed away. The light pumicesand also shifts around in the water. The spawner probably lays her eggs in the holes and cracks of the steep walls around the shores of the lake. This is not an ideal situation, because the eggs have little protection from other fish. When the eggs have hatched, the fingerlings fall prey to their own cannibalistic kind; apparently few escape this fate. If the fish that do escape and reach maturity are caught by the angler, then the supply may be exhausted.



Looking toward Mt. Scott from Sinnott Memorial
From Kodachrome by Welles and Welles

VIEWS FROM SINNOTT MEMORIAL

By Willis G. Downing, Ranger Naturalist

If the name Sinnott Memorial is mentioned, most park visitors and employees think at once of the excellent views of Crater Lake to be had from that point and of the art and photograph exhibits in the room behind the lookout platform. This, of course, is the reason for the existence of this observation post. It is there to enable all who visit Crater Lake to better appreciate its meaning — scientific, scenic, and aesthetic.

To the ranger naturalists who stand duty there, the lake and the wall

around it are of continual interest. The lake is never the same. Even if it were, no single viewing of Crater Lake would impart complete understanding to the viewer.

Some of the questions that visitors ask at Sinnott Memorial are about the area just below and around this observation point. Many interesting and sometimes unusual observations of mammal and bird life have been made from Sinnott Memorial; for example, the viewing of swimming eagles on different occasions by Dr. George C. Ruhle (Farner, 1952) and Ranger Naturalist John Mees (1954). I have enjoyed watching some of the more usual antics and habits of the smaller mammals around Sinnott Memorial. Any one of the smaller animals in that vicinity can be an absorbing study in itself.

The golden-mantled ground squirrels are very much in evidence all during the day. I have often marvelled at their lack of appreciation of the approximately 900-foot drop to the lake surface from Sinnott Memorial. I have seen them scamper along the stone wall at the edge of Sinnott Memorial and take a flying leap into midair. They invariably land on some small crag of rock along the steep outer wall. Then they will jump from one small outjutting to another until they reach the more level ground west of Sinnott Memorial.

They leap, too, from rock to rock along the slide area east of this observation post. Now and then one golden-mantled ground squirrel will chase another away from some source of food. In the process of rapid movement, he will dislodge a rock, and a rock slide begins. At the beginning of the summer season, streams from melting snow caused larger rocks to roll down this slope. When the snow disappears, minor erosion continues as ground squirrels and an occasional marmot dislodge smaller rocks from the slopes.

Like the ground squirrels, the marmots have no fear of the drop to the lake surface. They do not jump from rock to rock as do the squirrels, but scamper up the steep slide area east of Sinnott Memorial. They seem startled when their movements start the rolling of a rock downhill. Marmots are also agile in their movements on rocks. They often climb and and lie upon rocks a hundred feet or so below Sinnott Memorial.

One of my rarer views of a marmot in action was obtained on the grassy slope just west of the walk leading down to Sinnott Memorial. Ranger Naturalist Edward Burnham first noticed a young marmot nibbling at the head of a sedge. The marmots along the rim usually avoid approaching humans. This one seemed an exception. He continued working his way up the slope, standing, grabbing stalks of sedge in his two front paws, and eating the seeds. Many visitors photographed this unusual sight as the marmot approached within two or three feet of the wall beside the walk.

To the interested observer, the slopes, slides, and rocks around Sinnott Memorial can provide surprising discoveries about the habits and ventures of golden-mantled ground squirrels, marmots, and other small mammals that live thereabouts.

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CHIPMUNK SEQUEL

By Edward A. Burnham, Ranger Naturalist

In the last issue of this publication, I described the events which followed the "chipnapping" of a baby Allen's chipmunk by a "villainous" Clark nutcracker at the eastern end of the Rim Campground (Burnham, Edward A. 1954. The nutcracker and the baby chipmunk. Nature Notes from Crater Lake 40:14-15). This chipmunk was picked up by the big bird, which tried to fly away with him and then dropped him. Mrs. William Loftis, wife of the Park Engineer, took over the upbringing of our little "orphan."

The young chipmunk was released last fall by Mr. and Mrs. Loftis in an attempt to adjust him to his natural environment. According to Mrs. Loftis, they did not band or mark him in any way; however, they now have one Allen's chipmunk which sits on the window sill of their home and seems less nervous and excited than most Allen's chipmunks. He will even approach within a few feet of them for food. They are not certain that this is the same chipmunk, but since he is much tamer than the other chipmunks, they think he is perhaps the matured baby of last year.

A WILDFLOWER GARDEN

By Edward A. Burnham, Ranger Naturalist

The kiss of the sun for pardon,
The song of the bird for mirth;
One is nearer God's heart in a garden
Than anywhere else on earth.

Frances Louise Gurney

There are many hidden gardens in the 250 square miles which comprise Crater Lake National Park. Most of these are for the more adventurous souls who enjoy out-of-the-way places.

But there is one wildflower garden, close to the road, which even the



Eastern side of Castle Crest
Wildflower Garden, looking
southward.

From Kodachrome by
Welles and Welles

elderly or those to whom walking is a chore may visit with a minimum of effort.

Castle Crest Wildflower Garden may be found beside the Rim Drive, one-quarter mile eastward beyond the service station near Government Headquarters. At this point a large sign indicates the way to the wildflower garden, the path beginning near the parking area across the road.

A cold stream flows through the shady glen beneath the hemlocks and firs. The half-mile trail passes over a rustic bridge and through a nursery of young Shasta fir trees. Beyond, one may start the loop walk by either of two branching paths. One of the

fascinating aspects of this wild garden is its inclusion of wet, mushy parts and dry, dusty sections. Each area has its characteristic variety of plant life, and one may give way to the other within a very few feet. Springs flow from many places on the slope to one side of the garden, forming wet areas where profuse growths of plants are found.

It has been my privilege, during the seasons of 1954 and 1955, to place identifying signs for many of the flowers and plants, not only in Castle Crest Wildflower Garden, but also along the trails to Garfield Peak, to Discovery Point, and to the lake. Often my wife and eight-year-old daughter come along as helpers. Here at Castle Crest, late in the afternoon, we have watched yellow-bellied marmots feeding peacefully among the rocks. Here, too, flit many tiny hummingbirds, sipping nectar from the wild flowers.

We have found peace in the quiet of early evening at Castle Crest Wildflower Garden. Perhaps you, too, may find here a sanctuary!

INTERRUPTED FEAST

By John Mees, Ranger Naturalist

During the month of August, Castle Crest Wildflower Garden has an abundant growth of many varieties of wildflowers. In addition, it is often frequented by many of the animals that make their homes in the park.

I was enjoying the half mile stroll through the gardens on August 2,

1955, when I came upon a chickaree, Tamiasciurus douglasi (Bachman), eating a fungus-like growth at the base of a lodgepole pine. While I was watching this squirrel for several minutes he appeared to pay very little attention to me and kept eating busily away. When I moved closer to see what he was eating, the chickaree scampered up the tree carrying his lunch with him. Apparently the item was greatly relished. When the squirrel reached a higher branch, he resumed his eating.

Being curious about the nature of his meal, I tossed a few pieces of pumice near him, and the chickaree dropped his fungus near the base of the tree. It was later identified tentatively as false truffle, Rhizopogon rubescens, by Wm. Bridge Cooke, Mycologist, U. S. Public Health Service, Cincinnati, Ohio, to whom appreciation is expressed for making the determination.

Chickarees often carry mushrooms up trees and store them under loose bark or in the fork of a limb, intending to return later and eat them (Cahalane, 1947; Palmer, 1954). Apparently this fellow wanted to take no chances on having his delicacy stolen from him and was going to finish it off immediately. Save for an interruption by a curious naturalist, perhaps he would have completed his feast.

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AT HOME ALONG LOST CREEK

By Mrs. Marcella Stine

We returned to Lost Creek on the 15th day of June, 1955. Almost immediately we found that a pair of yellow-bellied marmots, Marmota f. flaviventris (Audubon and Bachman), had made their home under the old barn. During the summer we watched their comings and goings with a great deal of interest.

On July 9th, I happened to walk by the barn and, much to my surprise, saw two baby marmots. Upon looking around I found two more babies. I hurried home to tell my family of the discovery, and together we went over to watch them. After a few minutes the babies began to appear: first came the four, then another, and finally three more. Eight baby marmots! They were very unsteady on their legs and fell all over each other as they played.

They seemed not to know the meaning of fear and paid no attention to us. Suddenly we heard a loud thumping of feet as one parent came rushing through the grass. The babies scurried into their home — all

except one curious little fellow. He apparently decided to have another look. All at once he let out a sharp squeal and backed into his home. I feel reasonably sure that mamma spanked.

After lunch we again went over to watch the babies and to count them once more. 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9--my daughter Sandy counted 10. Goodness, that just couldn't be -- ten in one family? There were two adults; these must have been the parents. Surely there wouldn't be two mothers and no father? They were all out now, playing like kittens. We counted again. Sure enough, there were ten. We sat about ten feet away, watching them play until the parents came home and shoved them in.

Much of the next three days was spent in taking pictures. I managed to get one which included all but two of the babies. By the end of the week they were venturing a hundred feet and more away from home.



Eight of the ten young marmots in the colony at Lost Creek; one out of sight at the left side of the photo.

The adults were doing a fine job of teaching. The youngsters became more timid and would scurry into their home when we approached. The only way of getting pictures after July 17th was to catch them unaware -- which was almost impossible -- or with a telephoto lens. And how I wished that I had had such a lens!

The barn stands in a direct line of sight from our cabin. With binoculars we continued to watch the marmots from our door. They still played quite a bit, but they scurried home at the slightest sound.

By the 20th of July, the young went with the adults in search of food. Then we would see them only in the early morning and after 5:00 p.m. During the last week in July there was no sign of either young or adults. I feel that they must have moved elsewhere, due to the many attempts made by visitors to capture them.

On August 14, I was surprised to see one of the young sunning itself behind the barn. I haven't seen him since, although I have gone there

frequently. I have seen evidence of many visits in which he returned with grass for his winter bed.

We have received so much pleasure from this marmot family that we hope very much to find another under the old barn next spring.

Editor's note:—According to Victor H. Cahalane (1947. *Mammals of North America*. New York, The Macmillan Co. x, 682 pp.), a marmot litter usually numbers four or five and has extremes of three to eight. A family of ten for a single mother would be very exceptional, although perhaps possible. However, frequent and intensive observation convinced Mrs. Stine that one of the two adults was a male. Furthermore, the presence of two females in an area with no evidence of any male would be rather unexpected, especially in view of the fact that yellow-bellied marmots are quite sociable animals. If one assumes that the two adults observed here were not both females and each mothers of a litter, it is also possible that one was a mother caring for, in addition to her own, the offspring of a family whose mother was killed, while the other was the father. In any event, this observation is an unusual and intriguing one. --- R. M. B.

THE GIANT MEADOW MOUSE

By Orville Page, Ranger Naturalist

The meadow mouse is rarely seen in our park, especially in the daytime. On the morning of July 17, 1955, it was my privilege to observe for a few moments two mice which I am reasonably certain were giant meadow mice, Microtus richardsoni arvicoloides (Rhoads).

My destination was Godfrey Glen and Duwee Falls, in the steep-sided Annie Creek Canyon. A short distance above Godfrey Glen, I crossed a very lush meadow area. On the upper slopes of the meadow were some small springs which formed little streams of water about six inches wide and three inches deep. As I approached one of these streams, a splashing commotion was heard. This turned out to be caused by the two giant meadow mice. They seemed frightened by my intrusion and began to swim up the little stream. The mouse in the lead swam along for about eight feet and disappeared into the grass. The second mouse swam a little way and then hid under some grass that drooped over into the stream. Only his head was visible. He apparently felt insecure, and before my camera could be focused, he followed the other mouse on up the stream and disappeared.

Meadow mice are often found around water or damp places (Cahalane, 1947; Wallis, 1947). They are very good swimmers. One meadow mouse in Michigan was observed to swim about eighty feet, part of the way under

water, to escape capture.

We have many little animals in the forest that are not seen unless one gets away from the thickly populated places. While out strolling through wooded areas, the lover of nature probably enjoys most those moments when he encounters some forest animal going about his daily living habits. These forest friends will continue to live in their natural surroundings as long as the National Parks maintain natural wilderness areas. The National Parks belong to you, as an American citizen. Only your constant vigilance will keep them in their present primeval setting.

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WOODPECKER ACTIVITIES

By Donald Van Tassel, Ranger Naturalist

Before the month of June was very old, I realized that this was going to be a good summer to get well acquainted with woodpeckers. Upon moving into the Annie Spring trailer court, the family of Seasonal Ranger J. Francis Stine informed me of recent activity by a male Arctic three-toed woodpecker, Picoides arcticus (Swainson), at his roosting hole in the center of the campground. This hole was located about twelve feet up in a live lodgepole pine. It was easily recognized as belonging to this bird because of the recent stripping of bark, forming a band about eighteen inches wide and nearly encircling the tree, at the same height as the hole. Only the male was seen, and he was usually gone all day.

Late in the morning of June 11, I waited for about an hour to see if there was any daytime activity, as I was hoping that this might be a nesting hole. The male finally came, pecking at the bark for two or three minutes before flying away again. No nesting there. I did hear and, after sneaking up the hill above the nest, see him giving the rapid, loud drumming on a dead branch of a tree which is usually associated with mating interests. This is the only record I have been able to find of a roosting hole in the park, and there is only one definite record of a nesting hole.

Soon after locating this hole, the high chatter of another woodpecker attracted my attention to a nesting hole located about thirty feet up in the dead, bleached-out snag of what seemed to be another lodgepole pine. The tree was standing within ten feet of the South Entrance road just

across from the trailer court driveway. The bright red splotch of color on the top of this bird's head quickly identified him as a hairy woodpecker, presumably Dendrocopus villosus orius (Oberholser). It was apparently a nesting hole, but because of the unstableness of the tree I had to be satisfied with climbing an adjacent tree about eight feet away for observation and pictures.

After a long and uncomfortable wait, the male accommodated me by flying to the nest. On two occasions I saw the male chase away an inquisitive red-breasted nuthatch, Sitta canadensis L., which may also have wanted a nesting hole. Many days later, and after many observations of the hole and the active male, I saw the female for the first time. Her appearance seemed to coincide with the first peeping of the newly-hatched young, about June 20. Although I wasn't privileged to see all the family out of the nest at once, I took pictures of a nearly-grown male almost out of the hole on July 12, and from the noise within I would guess there were at least two other young. By July 19 there was no sign of the family at or near the hole.

June 17 I will long remember as the day I saw my first western pileated woodpecker, Dryocopus pileatus picinus (Bangs). This crow-sized, black bird with brilliant red crest and black-and-white striped neck swooped across the front of my car about four miles inside the park on the South Entrance road. He displayed his beauty while perched for a minute on a tree and then hurried away, giving his characteristic, loud, laughing cackle.

The very next day, while down in Annie Creek canyon near the South Entrance, I saw my first red-breasted sapsucker, Sphyrapicus varius dagetti Grinnell, very active about the mountain ash, Sorbus sitchensis M. Roem., and the black cottonwood, Populus trichocarpa Torr. and Gray. Upon revisiting this locality a month later, both parents were dividing their attention between feeding two immature birds – quite capable of flying around by themselves – and drinking the sap or eating the insects attracted by the sap oozing from the characteristic rows of square holes which they had pecked in the bark of the mountain ash. The young were also concentrating on pecking the ooze, so much so that I could approach within a few feet.

A momentary distraction from woodpeckers was occasioned by the loud peeping of an immature water ouzel or American dipper, Cinclus mexicanus unicolor Bonaparte, who was also being fed, on a log in midstream. He could hardly constrain himself when one of the parents would fly up bringing some insect tidbit.

In this same locality I noticed a pair of red-shafted flickers, Colaptes cafer (Gmelin), another member of the woodpecker family. Since they were on the other side of the stream I couldn't check into their reason

for favoring that particular area. They are the most conspicuous, if not the most abundant, woodpecker in the park, especially in the lower regions. On July 28, while escorting a field trip near the top of Garfield Peak Trail, I spotted one showing a brighter red than I had noticed before. On July 21 I saw a young flicker taking food from a parent about six miles inside the south boundary. While exploring Wizard Island for a few hours on August 6, I noticed what appeared to be a family group flying among the trees.

In order to round out my woodpecker experiences, I was eager to observe the fairly common Williamson sapsucker, Sphyrapicus thyroideus (Cassin), which is rather unusual in having a conspicuous contrast in color markings between the male and female. It was especially gratifying, then, to discover on July 12 a nesting hole containing young about forty feet up in a dead mountain hemlock near the Wineglass on the north-eastern side of the lake. Both parents were in the feeding business and were quite disturbed when I scrambled up to look in the hole, even though I couldn't see the young.

The Lewis woodpecker, Asyndesmus lewis (Gray), is also fairly abundant in the park, especially late in the summer. Last year I noticed them first on August 31, traveling in small flocks near Garfield Peak. They were evidently attracted to the area by flying insects or ripening berries. Such post-breeding movements to higher areas are common here.

Other woodpeckers uncommonly observed in the park are the alpine three-toed woodpecker, Picoides tridactylus (L.), the white-headed woodpecker, Dendrocopos albolarvatus (Cassin), and the red-naped sapsucker, Sphyrapicus varius nuchalis Baird.

Learning to recognize the members of a specific bird family and getting acquainted with their habits make a commonplace walk through the woods an adventure. Concentrating on the woodpeckers has guided my observations, and wherever I go I find a "family friend." Now, even old snags, instead of seeming dubiously attractive, are noticed and suggest a potential home or a source of food for an unusual bird.

Perhaps you would like to choose a particular group of birds to concentrate your attention upon for a while. Here in Crater Lake National Park, Dr. Donald S. Farner's *The Birds of Crater Lake* should prove an interesting and useful companion for your bird explorations.

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CRATER LAKE PINES

By Orville Page, Ranger Naturalist

Photos by C. Warren Fairbanks



Ponderosa pines near
the South Entrance
From Kodachrome by
C. Warren Fairbanks

There are many beautiful trees in Crater Lake National Park, many virgin areas untouched by the woodsman's axe or the camper's fire. Stately trees that have lived for centuries are here for the enjoyment of the park visitor, trees that will remain here for generations to come if the scourge of fire is kept out.

The pine tree has rather long, cylindrical needle-leaves that are clustered together in little bundles and are held together by a sheath at the base. The number of needles in the cluster is one of the characteristics used for identification of the different types of pines. The foliage is rather open, allowing the sun's rays to make irregular splotches of light on the forest floor. The cones are more rough and coarse than those of the firs and hemlocks.

Crater Lake National Park boasts five beautiful species of pines. These trees grow throughout the area in belts, according to elevation, which may be referred to as Life Zones. The ponderosa pine, *Pinus ponderosa* Dougl., and the sugar pine, *Pinus lambertiana* Dougl., are found at the lowest elevations of the park. They grow in the Transition Zone, which runs up to about 5,500 feet elevation above sea level at this latitude. The Canadian Zone, which here ranges between about 5,500 and 6,200 feet, includes the lodgepole pine, *Pinus contorta* Dougl. var. *latifolia* Engelm., and the western white pine, *Pinus monticola* Dougl. The white-bark pine, *Pinus albicaulis* Engelm., is found in the highest elevations of the park, comprising the area referred to as the Hudsonian Zone. One should realize that there is considerable overlapping of these growing areas and that the above figures are quite general. They will vary considerably according to local conditions of exposure, sun and weather.



Ponderosa pine
cone, x1/7

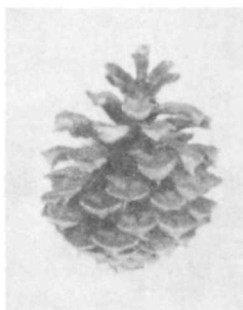
The beautiful ponderosa pine is the most outstanding pine of the park. As one enters from the south, these towering trees with their golden-brown bark, frame the roadway so magnificently that they are sometimes mistaken for giant redwoods. If one examines the large bark plates closely, he can readily see scales having shapes that might well remind him of a piece of an old jigsaw puzzle. These majestic trees are well named, these ponderous ponderosa pines.



Sugar pine
cone, x1/7

The largest and most stately of all our pines is the sugar pine. It is both larger and taller than its close neighbor, the ponderosa. It received its name from the fact that, in scarred or burnt areas of its bark, it sometimes exudes a sugary resin. This the Indians particularly esteemed. The sugar pine is becoming quite scarce in logging regions. It is a favorite of the lumbermen because of its enormous size and its soft white wood. Fortunately, the trees in the park are protected from this fate.

The lodgepole is probably the most abundant pine in this area. In the southwestern part of the park it grows in dense groves. It is often referred to as "dog-hair pine," because of its thick growth, and as "jack pine."

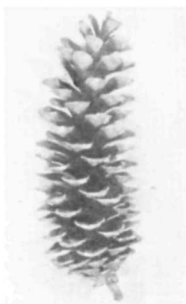


Lodgepole pine
cone, x1/7

Lodgepole pine received this name because of its particular usefulness. The Rocky Mountain Indians used these slender trees for making their teepee poles and drag-sleds. The Plains Indians traveled hundreds of miles to secure these poles. More recently, the pioneers adapted this practice to the building of their cabins and lodges.

The cones are often sealed by a sticky resin which prevents release of the seeds. They may remain dormant within the cone for decades. Since growth is so thick, lodgepole pine forest has a high fire incidence. When fire sweeps through such a forest, the resin of the cone is melted and the seeds are freed to start a new grove. If fire is kept out long enough, gradually some of the larger, more shade-loving trees will work their way in and crowd out the slender lodgepole.

A very attractive but not so abundant tree is the western white pine. Often one will notice a dozen or more rather long, tapering cones near the top of this tree. If one examines the needles of the tree and finds them in bundles of five, he is readily assured of its identity as a white pine.



Western white
pine cone, x1/7

The most beautiful, in a grotesque sort of way, is the white bark pine. The odd shapes of these trees are the result of exposure to the icy winds and winter snows at high elevations. Because of the severe weather it endures, this pine may be rather bushy and and only three or four feet high, even though it is many



Whitebark pine
cone, xl/7

decades old. It is often found growing in a crevice on some rocky ledge where it would appear that no tree would be able to survive. The seeds of its small purple cone are especially favored by nutcrackers and chipmunks.

These trees provide homes and food for many of the forest animals. These beautiful homes, centuries old, can be destroyed in a matter of minutes by someones carelessness. Let's protect our trees and keep our parks and forests green.

Comparative Table of the Pines of Crater Lake National Park

Name	Mature Size Height; diameter	Mature Bark	Cone Length; width	Needles Length; number
Ponderosa pine <u>Pinus ponderosa</u>	60-125 ft. 2-2½ ft.	Large golden- brown plates	3-6 in. 2-4 in.	5-11 in. 3/bundles
Sugar pine <u>Pinus lambertiana</u>	70-150 3-6 ft.	Long plates; reddish brown to grayish brown	10-20 in. 2½-3½ in.	2½-4 in. 5/bundle
Lodgepole pine <u>Pinus contorta</u> var. <u>latifolia</u>	30-50 ft. 2-6 in.	Thin; silver- gray to black	1-2 in. ¾-1½ in.	2 in. 2/bundle
Western white pine <u>Pinus monticola</u>	50-100 ft. 1-3 ft.	Small plates; silver-gray	6-10 in. 2-3 in.	2-4 in. 5/bundle
White-bark pine <u>Pinus albicaulis</u>	6-60 ft. 1-5 ft.	Thin; silver- gray to white	1-3 in. ¾-2 in. Purplish	1-2½ in. 5/bundle

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CHARCOAL LOG REIDENTIFIED

By Richard M. Brown, Assistant Park Naturalist

The large section of a charcoal log which is now exhibited in the Information Building is apparently (Libbey, 1956) the same one as that which has previously (Anonymous, 1931:1) been referred to sugar pine (*Pinus lambertiana* Dougl.). Recent examination of material from this log has led Prof. D. W. Benseid (1956), Department of Forestry, Iowa State College, Ames, Iowa, to state that "one can say with a fair degree of certainty that it was ponderosa pine."

This identification, as well as the earlier one, is in line with the summary which Williams (1942:113) has provided of the species represented by various pieces of charred wood collected in the immediate vicinity of Mt. Mazama. Appreciation is expressed to Dr. Benseid for this contribution to our information concerning the natural history of the Crater Lake area.

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THE DAY OF THE GREAT GRAY OWL

By Florence Welles

On Tuesday, the 15th of July, 1952, we were not looking for the great gray owl. In fact, if we had been told that we might find and photograph a specimen of the large bird with a wing-spread of four and a half feet or more, we would have been most hesitant about believing it.

What took us from Crater Lake to an area of lodgepole pines a few miles west of Fort Klamath that day was the information that on a deserted farm known as "the old Turner place" we might find a coyote family. Our informant did not know the exact location of this family, but his idea seemed to be that it was living among the roots of a fallen tree. The prospect of seeing and, with luck, photographing coyote pups was an exciting one.

About the middle of the afternoon we arrived. Our first impression was that the woods were full of fallen trees. Which direction to take?

Would we have to wait for dusk when the mother coyote would be venturing forth in search of food for herself and her family, at which time we might be lucky enough to see her? We stopped the jeep near a group of forlorn and empty buildings in a clearing a half-mile in from the road. The place seemed to sag all over, and the setting looked ideal for a Hallowe'en party.

At first, the only wildlife in evidence was a welcoming committee of mosquitoes, which no doubt changed shifts but which stayed with us throughout the hours we were there. Carrying the camera equipment that we do doesn't leave a hand free for swatting! My husband was carrying the 500 mm. lens on a Leica which was mounted on a tripod, and I was carrying the 300 mm. lens, also on a tripod-mounted Leica. The forest floor was a criss-crossed tangle of fallen trees, and the going was rather rough. My husband struck off in one direction and I in another.

After intense looking for some time, I was suddenly aware of a slight movement and all at once found myself eye to eye with a porcupine only a few inches from me. He looked away quickly but continued to sit there, hunched over and perfectly quiet except for the gentle motion of his quills produced by his breathing. I spoke to him. No response. He just continued to ignore me and to stare off and away in what seemed to be a very rude and sullen manner. We already had pictures of both adult and young porcupines. So, as this fellow seemed not in the least interested in my company, I decided to move along. I looked back occasionally until he was out of sight. He still hadn't moved.

I soon forgot him because it now seemed that a certain lodgepole pine just ahead of me was filled with a flock of small birds. Their chirping grew louder, and then softer, as I passed the tree. But where were the birds? Not a single bird could I see, although I searched each branch. I walked around the tree, and the noise grew louder again. Now I could see the spot from which it was coming. The little birds were not on the tree but in it. On tip-toe, I looked into a hole on the trunk. There was an immediate crescendo of chirping followed by complete silence. I could just make out three small heads. I thought longingly of our "strobe-light" outfit, which was miles away. I caught sight of my husband at some distance and signaled him to come and look. I watched with interest as he moved quickly and quietly over and around fallen trees with his unwieldy load of camera equipment. He looked in at the little birds. What kind of birds were they? If we waited, the mother would return and we would probably recognize her. The mosquitoes settled down on us—to wait, too.

The sun was getting so low that little light came through the forest now. We decided not to wait longer to identify our little birds but to resume our hunt for the coyotes. Our rising to leave was the cue for the tiny chorus to start up again inside the tree, and with some regret we

went away.

A creaking among the high branches of the lodgepole pines told us that a wind was rising. Aside from that, there was hardly a sound as we moved along, still alert for any hint of the coyotes we were hunting.

Suddenly, in the branches above us and quite near, an excited chattering and commotion arose from a group of fluttering birds. What was it all about? We both moved cautiously and, peering up, almost immediately saw a giant owl which appeared to "fall off a limb," as my husband later put it, not far above us. With seemingly noiseless and deliberate, slow strokes of his wings he alighted in another tree a short distance away. My first thought was, "There simply can't be an owl that big!"—but there he was, still the center of attraction for the animated group of small birds which had followed him to his new perch.

After our initial amazement, the photographer came out in both of us. We realized that the light was poor and that what remained of it was fading rapidly. Much of the tree on which the owl was sitting was moving in the wind. We focused on him and hoped that a beam of sunlight would hit him. As we held our breaths and waited for this miracle, he decided to "fall off" again and float away to another tree. This happened four times, I believe, with the Welleses in perspiring pursuit.

At one point my husband ran back to the jeep for the longest and most powerful—and most cumbersome—lens, the 640 mm. He was back in record time, but of course by then our owl was off again, to a higher part of another tree, and the light was dimmer yet. We tried using a reflector, but the light under the trees wasn't strong enough to be sent back up effectively. He moved again, and again we picked up all our equipment and followed him. This continued, with now and then a chance shot, until there was no further opportunity for getting an identifiable picture. At one point a sparrow hawk dived past the owl and provided a means of judging the latter's size. The hawk appeared to be about the size of a swallow.

Dr. Donald S. Farner, Assistant Park Naturalist, sent kodachrome slides of our owl to Alden and Loye Miller for positive identification, and a letter received August 9th, 1952, indicated that there was no doubt that this was indeed the great gray owl, Scotiaptex nebulosa nebulosa (Forster).

Our last experience of the day was so improbable that I wonder if I should mention it at all. However, although it really happened, I think I would doubt it if I hadn't actually been there. We loaded everything into the jeep and started away. It was almost dark. Suddenly my husband said, "Look over there!" Loping along like a moving shadow, was the unmistakable slinking form of the animal we had originally set out to find—a coyote!

What a day!

Postscript, 1954

We couldn't have forgotten the events of the day just described even if we had tried. We knew that we had to go back, and it wasn't just to see if we could find the great gray owl again. We had to admit that, in spite of large outlays of film and energy, fading light and rising wind had defeated us in getting a picture of the great gray owl that would serve for more than identification purposes.

Finally, on July 26, 1954, we spent another day in the same wild-life area, still deserted by human beings except for an occasional visit by the owner. He had told us that another family of coyotes had been born. We waited and we watched. If they were there, they remained well hidden under a tangled maze of fallen trees.

Birds were everywhere. We took many pictures, but the high point of the day was finding a great gray owl again. This time we think we have a picture that is really worthy of him.



Great gray owl near Fort Klamath. From Kodachrome by Welles & Welles.

A GREAT GRAY OWL APPEARS IN THE PARK

By Harry C. Parker, Chief Park Naturalist, 1952-1955

An unidentified visitor was the source of evidence that the great gray owl, Scotiaptex n. nebulosa (Forster), ranges within this park. A dead specimen was picked up on the roadway one and one-half miles within

the south boundary at about 7:10 a.m. on August 27, 1955. The bird appeared to have been killed by a car. It was prepared as a skeleton, and the specimen (CLNP 657) has been added to the park collection.

The bird was presented to the ranger on duty at the park's South Entrance. He indicated that it should be taken to the Park Naturalist's office at Park Headquarters. There the visitor turned the bird over to Ranger Naturalists Edward A. Burnham and John Mees. The donor was in such a hurry that he departed without having his name and address properly recorded. The ranger naturalists were able to recall that the gentleman was from Monterey, California, and that his name was something like "Gamelin," "Gmelin," "Gambling," or "Gamble." However, a later search of the Monterey telephone directory proved fruitless insofar as locating the man by this name is concerned.

There is little reason to question this record. The visitor appeared to be a reliable person who was well oriented in the park and who, therefore, should have believed correctly that he was inside the park when he found the bird.

The establishment of such a record is not unexpected. The experiences of Ranger Ralph Welles and his wife, Florence, with this bird in the Fort Klamath area have also been reported upon in this issue of Nature Notes from Crater Lake. I have, on numerous occasions during the autumn, heard great gray owls hooting at dawn in the forests near Wood River, south of Fort Klamath. I have seen them several times, although outside the park, within a mile of the south boundary, along the road to Fort Klamath. However, to the best of my knowledge, this is the first time that the species has been recorded within the park.

It is to be hoped that great gray owls will be seen more often within the park, for they would make an interesting addition to our avifauna. In outward appearance, the great gray owl is the largest of the American owls. However, this is deceptive because, in actual body dimensions, it is exceeded by the great horned owl. The seemingly greater size of the great gray owl results from its much fuller feathering and the greater length of its tail. This bird inhabits primarily the northern forests and similar high-mountain forests, such as occur in the High Sierra of Yosemite National Park, where there are few people. In winter, the species may be found in more southerly areas, including Iowa and the Lake States. Individuals seen in such circumstances frequently appear to be quite unafraid in the presence of man.

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 (Mr. Parker has been Chief Park Naturalist at Grand Teton National Park, Wyoming, since December 11, 1955,---Ed.)

BREAKFAST INTERRUPTED

By Orville Page, Ranger Naturalist

On the morning of July 31, 1954, I was making my way toward the rim of the lake. As I approached a meadow area, I chanced upon a Columbian blacktailed doe and her two fawns. The interesting part of the observation was that the two fawns were busily nursing the doe. As quietly as possible the camera was made ready, but the ever-alert mother sensed the presence of an intruder. Before a picture could be taken, mother and offspring were bounding gently and gracefully off through the meadow, leaving a disappointed photographer but a greatly enriched observer of nature.

BEAR STATISTICS

By Richard M. Brown, Assistant Park Naturalist



A young bear surveys his surroundings from a mountain hemlock lookout
 From Kodachrome by
 Welles and Welles

William Rosenbalm—Bill to many of us—Truckdriver during the 1955 season, has served as a member of the maintenance staff in the park for several summers. He is therefore particularly well acquainted with the area, and he has come to know and recognize individually many of the bears that live here. On September 12, 1955, I finally found the long-awaited opportunity to chat with him for a while about "our" bears and to visit with him one of the places in the park where the bears frequently gather.

My patience was well rewarded by a most interesting conversation and a view of more bears at liberty than I had ever before seen all at one time. During this period, fourteen different bears, including eight adults and six cubs, were in evidence at one time or another. This occas-

ion also gave me a chance to summarize Bill's knowledge as of that date concerning the bear population in the park, with particular reference to the latest additions. The most recent previous study of the bears in this respect is that of Roland D. Walters (1953. Observations and census of the black bear in Crater Lake National Park. Nature Notes from Crater Lake 19:26-28), who reported a total of forty-one; this included twenty-two adults, six second-year cubs, and thirteen first-year cubs.

As a result of my discussion with Bill, thirty-two bears of the park's total were accounted for as of that time. Of these, thirteen are adults and nineteen are cubs; the latter are all assumed to be first-year cubs. In spite of some possible error in this assumption, this indicates that the number of first-year cubs may be on the increase; in any event, according to the available data, it is not decreasing. Of course, a certain number of bears is overlooked in any estimate such as this.

The distribution of these bears by color phase is as follows: adults, ten black and three brown; cubs, thirteen black and six brown. Grouping them by families, and including odd individuals, gives this result: one black mother with three black cubs; two black mothers (one being Sally), each with three cubs, two black and one brown; one black mother with three cubs, two brown and one black; one black mother with two black cubs; one brown mother with two black cubs; one black mother with two cubs, one black and one brown; one black mother with one brown cub; Sandy, a brown male about five years old; Charlie, a black sister to Sandy; one black female, characterized by a light-colored "necklace" that continues down toward her belly as a stripe and by a flattened appearance when seen from the front, which has made herself quite a nuisance in the East Entrance area this summer; another black female; and one brown male. Perhaps the most unusual feature made evident by this compilation is the relatively high proportion of families, exactly one-half, having triplets.

Bill Rosenbalm certainly provides an outstanding example of the values that may be gained by patient and persistent observation of our wildlife. I know that he has found it a fascinating experience; this can be seen simply by the way he behaves when he is near the bears and by the way he talks about them. I am most grateful to Bill for his having shared with me the interest, enthusiasm, and fund of knowledge which he has found through his association with these animals.

(A later report by Bill Rosenbalm, recorded in the observation file and dated October 21, 1955, indicates an additional family consisting of a black mother with two black cubs; in the family consisting of a black mother with a single cub, the cub apparently should be classed as black rather than brown. This gives a total of thirty-five bears including, fourteen adults and twenty-one cubs. ---R.M.B.)

WATER BEARS IN CRATER LAKE

By C. Warren Fairbanks, Assistant Park Naturalist

One day in early August, 1954, Ranger Naturalist John Rowley and I were prowling about the base of Wizard Island, situated near the west end of Crater Lake. This was an important hunting expedition. Extensive and careful preparations had been made before starting the trip. First, adequate provisions had been secured by making arrangements, well in advance, with the dining hall for a supply of sandwiches and various suitable accessory food items—it was to be an all day trip.

After checking the supplies, we stowed them carefully, along with other gear, into pack sacks. These in turn were loaded into a conveyance that carried us to the Rim Village, which was as far as we could travel by motor vehicle. The remainder of the way to Crater Lake had to be negotiated on foot. Upon unloading at the Rim, therefore, we shouldered our packs and headed down the Lake Trail—a trek of 1.6 miles.

On this particular day we took our time. In addition to being rather heavily loaded with essentials, we had brought along various pieces of photographic equipment in order to make a complete pictorial record of our operations. Consequently, we stopped now and then to capture with lens and film interesting features and events along the way.

At the bottom (of the trail, not the lake), we obtained a boat with out-board motor—previously arranged for, to be sure. As quickly as possible, yet without undue haste, we loaded our gear into the boat for the one and one-half mile voyage to Wizard Island—the water being a little too cool for comfortable swimming, especially with full field pack—and took off, after the motor finally started, of course.

Upon reaching the island, we picked up other equipment which had been cached there during a preliminary exploratory mission and, now completely outfitted, set course for the shore of Fumarole Bay, chief base of operations.

Fully half a day had been consumed in this phase of our venture, so, reaching our destination, we sat down to devour our repast. All the while, excitement of anticipation for the hunt kept mounting within us. It was even difficult to make ourselves take the time to properly dispose of paper sacks and milk cartons for return to a suitable trash repository before heading out. In fact, John Rowley, younger and more impetuous, and having seen some sign which suggested the presence of game, set off along shore while still munching a sandwich. This he held firmly in his left hand while using his right to aid his progress along the rough and steep terrain.

I was not long in following, however. Presently, initial excitement having been replaced by the steadier verve of actual search for the prey, we were working the area methodically as a well-accustomed team, leav-

ing no stone unturned in the effort to exhaust all possibilities for finding their lairs. Then, having examined the original site thoroughly, we returned to the boat to seek other likely spots.

Finally, and much later, each of us sighted and drew fine bead—first I, then Mr. Rowley—on fair game. There, caught squarely in the centers of the fields of our respective hundred-power scopes, were two water bears—the first ever reported to be seen in Crater Lake. Mine was so nearly hidden by lush green vegetation that I could just barely (no pun intended) make out his—or, more probably, her—outline. Ranger Naturalist Rowley's, on the other hand, was lumbering along nearly always in the open. No triggers were pulled, however—park regulations do not permit action.

We had, of course, returned to the laboratory, and our "scopes" were microscopes. Water bears are very small animals. Although the largest of them are a little over one twenty-fifth of an inch in length, most tardigrades, as they are known to students of zoology, are only about half that size or less (Pennak, 1953). Actually, they are not very well known, even to the zoologist. The name of this animal means "slow walker," and the clumsy lumbering way in which he gets around is very suggestive of his common name — water bear.

Since he has four pairs of short stumpy legs, some people consider him to be a rather distant cousin of the spider, while others place him in a completely separate division of the animal kingdom. Be his relationships as they may, these two specimens proved to be a very interesting find. To our inexperienced eyes, they appeared to belong to the genus Macrobiotus, although this has not been definitely determined. The one which came under my microscope was taken from the bottom of Fumarole Bay. It was collected with a mass of filamentous green algae (simple green plants) that was lifted with a plant grapple (Fairbanks and Rowley, 1954) from a depth of twelve feet. The other specimen, oddly enough, came from rotting wood lying in water along the nearby shore of the island.

Even though water bears are little known, they are reportedly very abundant in various aquatic and semiaquatic habitats (Pennak, 1953). Frequently they are found on mosses which are intermittently wetted by rain or splashings from streams. The animals have the ability to shrink up and become inactive when conditions such as insufficient moisture make active existence impossible. In this way they are able to remain alive in a state of minimum activity, which can persist as long as there are food reserves available within their bodies.

Tardigrades feed mostly upon plant cells, from which they extract the fluid contents by a sucking action. They also may be canabalistic to a certain extent. In the main, however, they should be classed as converters which make the food substances manufactured by plants avail-

able to other animals. They, in turn, are preyed upon chiefly by certain protozoans and by roundworms (Pennak, 1953). Therefore, they form one link in the food chain which always begins with the green plant and which leads ultimately to some large animal.

It might be correctly inferred that the "hunting expedition" mentioned above was not organized to track down the water bear. To be exact, we were searching for other forms of life. The find, however, was one of considerable interest because it brought to light a little-known animal which had not previously been reported as part of the fauna of Crater Lake National Park.

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THE HARVEST OF A QUIET EYE

By Clarence J. Nordstrom, Ranger Naturalist

One afternoon in mid-July, when sunbathing in an open space not far from Park Headquarters, I heard the sudden whir of a miniature airplane motor within inches of me. It passed as quickly as it came. In a matter of seconds the sound was repeated. Watching for the cause, I shortly saw a blur as something shot toward me and then quickly disappeared, accompanied by the same hum. It suddenly dawned on me that this was the season of the hummingbirds and that they, like humans, are curious creatures and may have been shooting low merely to view better an object obviously out of place in their habitat.

* * * * *

It was afternoon in late July, after a body-shaking ride over one of the fire roads. I had gone to the Crater Spring bogs for the purpose of getting photographs of three insect-eating plants, including two sundews, Drosera rotundifolia L. and Drosera anglica Huds., and the rather rare bladderwort, Utricularia intermedia Hayne.

While examining a sundew, my eyes happened to fall upon a most fascinating sight. On a nearby flower, a lady's thumb, a bee had settled in its search for nectar. Upon this insect, with legs wrapped around it, was a large and beautiful, white, spotted spider having a head tiny in comparison with its extremely large, round body. Close examination showed that the bee was shrunken and motionless. It was evident that the spider had either paralyzed the bee or stung it to death. Then it had proceeded to suck out the body juices, filling its own body seemingly to

the bursting point—a habit characteristic of the crab spiders (thomisids), to which group this individual apparently belongs. The bee was in perfect condition except for this aspect which suggested a deflated balloon.



Cony beside a red elderberry bush.
From Kodachrome by Welles and Welles.

When I was casually winding my way down the Lake Trail one morning, with eye ever alert for a new flower just emerging, a strange bird, or some other thing of interest, my attention was caught by a green branch, approximately sixteen inches long, moving crosswise over the trail. It appeared to be propelling itself, until—after a few seconds, at the head end—a cony suddenly appeared from nowhere. The long green leaves parted, exposing the little brown creature which evidently had decided that early August was not too soon to begin preparing its hay pile for the long winter ahead.

Apparently the animal's attention was so intent upon its instinct-inspired task that it either failed to notice or deliberately ignored movement that ordinarily would have driven it to cover. Since the moving branch was within three or four feet of me before it disappeared under the rocks, I could clearly distinguish the red elderberry leaves that the cony had chosen to include in his winter food supply.

Sitting on a ledge within a few feet of the Lake Trail during a prolonged pause on my upward climb, I noticed nine stationary white dots on the blue water. They formed a perfect arrow, four making up the head, five the shaft.

Suddenly the arrow broke as the dots changed position and as some of them left the surface and winged their way aloft. Probably never again will I see nine California gulls, *Larus californicus* Lawrence, line themselves up, by pure chance, in this perfect formation.

SOUNDS IN THE WILDERNESS

By Orville Page, Ranger Naturalist

As one walks through Munson Valley, with keen ears listening to the

sounds of the wilderness, he may hear creaks and groans as if some giant were struggling under a great burden. This particular sound came within my hearing one day while I was out enjoying nature's vast storehouse of treasures. By following the sound, a Shasta red fir was discovered as the cause of the muffled complaint. At about forty feet above the ground the trunk forked, forming a crotch, and the two trunks ran up another thirty or forty feet. Lying in the crotch was an old dead tree with its broken-off base resting on the ground. As the light winds worked their way through the valley, they swayed the trees gently, causing the dead tree to rub over the bark of the fir and send out the remorseful sound. Indeed, a forest giant was complaining of its unwelcome load.

THE PLIGHT OF AN UNSUSPECTING MOUSE

By Beatrice E. Willard, Ranger Naturalist, 1953

Sketch by Ardis Hamilton, Telephone Operator, 1953

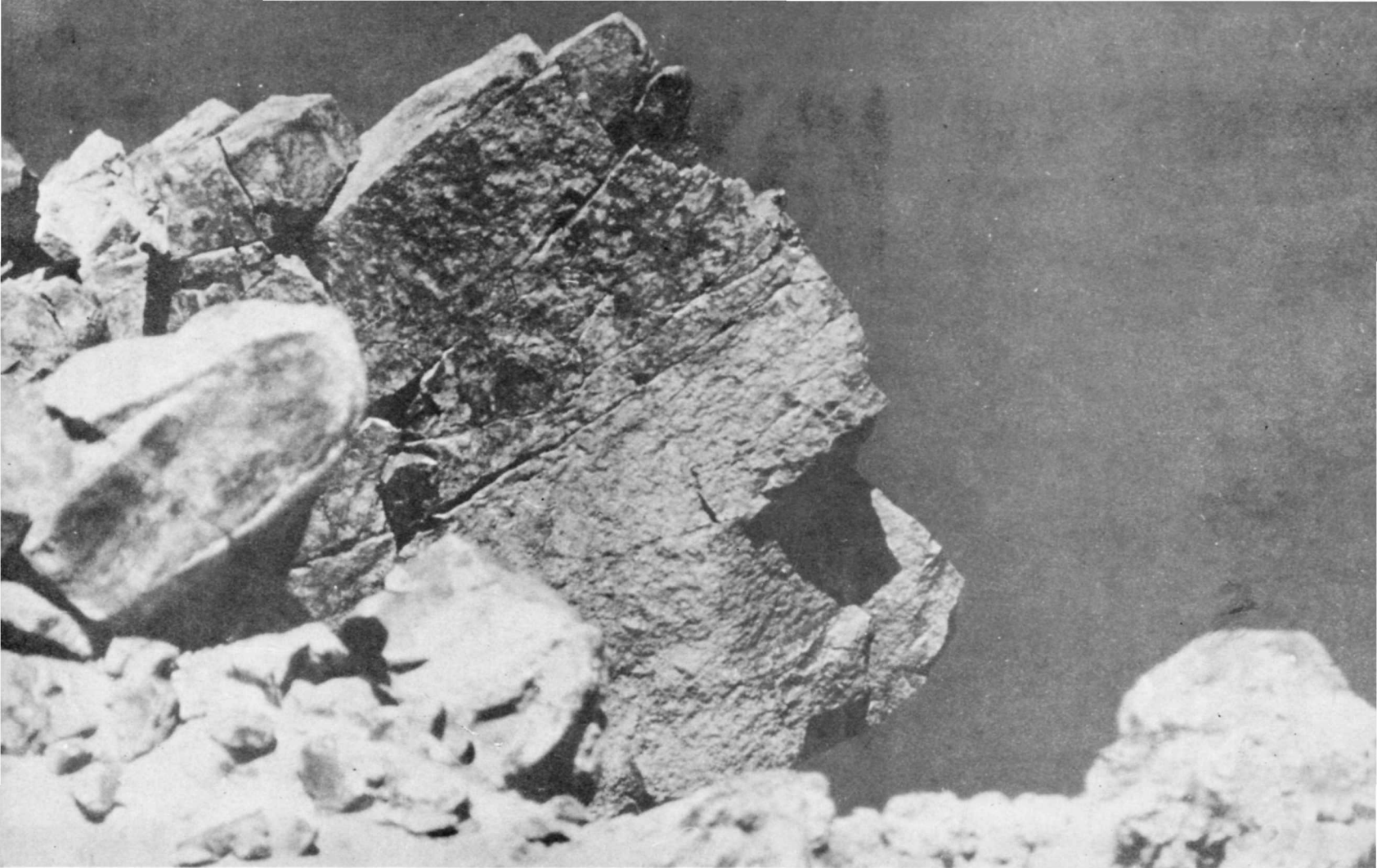
On day in late June, when I was near the South Entrance to Crater Lake National Park, I chanced to spy a beer bottle near the road. As I picked it up to dispose of it, something in the neck drew my attention. Closer inspection revealed the skull and forepaws of a white-footed mouse, and through the brown glass the hindquarters of this unfortunate rodent were dimly visible.



We can only suppose that this unsuspecting creature entered the discarded beer bottle, flung to the side of the road by an unthinking person, and became inextricably lodged in the neck while attempting to leave. Whether or not he imbibed the remaining contents is questionable, but the smell may have done its share in luring him to his doom.

The moral of this story is clear — someone not only contributed to the marring of the natural beauty of the roadside, but also lured one of the native animals into a fatal venture.

*"Let no one say, and say it to your shame,
That all was beauty here until you came."*



"Teddy Bear Point" along the Garfield Peak Trail

From Kodachrome by Welles and Welles