

REFLECTIONS

Crater Lake National Park

Volume 4, Summer 1980

St. Helens *A Living Text*

Could the explosive events that have occurred at Mount St. Helens happen at Crater Lake?

They already have.

The cataclysmic events that have reshaped Mount St. Helens in Washington are surprisingly similar to those geologists believe happened at Mount Mazama, the mountain that collapsed and formed the caldera containing Crater Lake.

The Mazama blast happened about 7,000 years ago when about 15 cubic miles of ash was ejected. The blast sent pumice thousands of feet into the sky. Observation at St. Helens confirms evidence that Mazama's ash formed great thunderheads and giant dark clouds of fine particles. Artist Paul Rockwood's painting, right, of how Mount Mazama appeared at its maximum height and eruption is based on geologic evidence and estimate. The similarity of St. Helens and Mazama is remarkable, even though both are high Cascade cones of about the same age.

Both explosions were similar in other ways.

Most of the ash from St. Helens has been carried by prevailing winds to the north and northeast. The ash of Mazama also fell to the north and east, covering an area of more than 250,000 square miles, ranging from Saskatchewan to Wyoming. The finer particles from both volcanoes were carried the greatest distance.

In both explosions, the forests and communities underneath the ash clouds were shrouded in a dark, gray world. Washington cities east of St. Helens have been cast into mid-day darkness. No doubt Native Americans north and east of Mazama were mystified, frightened and some left homeless by Mazama's ash outpouring much as many Oregon and Washington people have been displaced by St. Helens.

It is believed that on the morning after Mazama's great explosion the entire region more than 100 miles northeast of the caldera was a desolate land devoid of any life. Although the St. Helens eruptions have not equaled the believed size of the Mazama eruption, the same type of destruction has been seen in wide areas surrounding the mountain.

As the eruption pictures of Mazama and St. Helens indicate, the actual discharge of volcanic material was probably similar. In addition to the ash and dust belched out of Mazama, it is believed heavy masses of ash raced as "glowing avalanches" at speeds of 70 to 80 miles per hour down valleys previously cut by water and glaciers. Similar ash flows have occurred at St. Helens.

Howel Williams, the geologist whose early investigations reveal much about Mazama's collapse and Crater Lake's formation, speculated there were lightning storms and forest fires during Mazama's eruption. Again, eyewitnesses to St. Helens explosions reported lightning flashes and nearby forests have been set ablaze.

As the volcanic events at St. Helens continue to re-form that mountain, some at Crater Lake will be watching and wondering if the Washington mountain's new shape will be similar to the caldera containing Crater Lake.

Whatever shape it eventually takes, Mount St. Helens is serving as a living text in better understanding events that occurred at Mount Mazama. And possibly in understanding volcanic events still to come.



Mount St. Helens as it looked during May 18 explosion. Note the ash from the mountain top and the ash flows traveling along mountainside.



Mount Mazama as it is believed to have appeared at its maximum height at time of major eruption.

Fires Help Trees, Animals

If you see smoke billowing from forestlands during your Crater Lake National Park visit, don't be surprised.

Weather permitting, park rangers plan to conduct prescribed burns on about 10,000 acres this summer and fall. Areas ranging in size from 200 to 5,000 acres are ready to burn, if weather conditions permit.

Why?

It's important to remember the National Park Service is not a protector of trees and forests, but of forest processes and natural systems. Historically wildfires have been quickly suppressed, supposedly to protect the watershed, save animals and trees.

The result has been a level

of over protection that has actually allowed massive and unnatural buildups of vegetation that set the stage for catastrophic fires. And, ironically, the plant community has been altered so drastically that wildlife habitat has been reduced.

White firs, however, germinate in layers of duff and are shade tolerant. Without fire the white firs will replace the ponderosa pines.

The damage of a prescribed or natural fire is temporary. Nutrients from burned fuels are recycled and used by

sprouting plants. Wildlife habitat is improved.

A park research study completed in 1974 showed that before intense fire suppression policies began fire had historically been present in the ponderosa pine forest every seven to 35 years.

The study also recommended that prescribed fires be used as management tools to return the forest to a more natural state. In 1976, during ideal weather and fire danger conditions, 256 acres in the ponderosa forest near the park's south entrance were prescribed burned.

A fire management plan was developed in 1977. It divides the park into three management areas. Unit 1, about 96,000 acres, is where fire is not normally a threat to life, natural or historical resources. Unit 2, about 15,000 acres, is a zone where fires may be suppressed or left to burn depending on the degree of fire danger. Unit 3, a fire suppression zone, covers about 49,500 acres near developed areas.

The plan was tested in the summer of 1978 when a lightning fire was allowed to burn its natural course, 542 acres.

From the start of the fire until the smoke disappeared a ranger was on duty during daylight hours at a roadside pullout that overlooked the fire. Field glasses, maps and portable exhibits were used to explain the philosophy of the park's fire management plan.

More fires — both natural and prescribed — are likely this summer. If conditions again permit, rangers will be on hand to explain the natural process of fires to park visitors. The importance of fire in shaping and maintaining a forest's natural system can no longer be overlooked.

If you see smoke, ask a park ranger to help you take a closer look.

After Fire Walks

"After the Fire Walks" are offering during and after natural and prescribed burns. Check park bulletin boards or ask at the Visitor Center for dates, times and other related information.

Special arrangements for walks are possible for educators and groups. Contact Park Headquarters, (503) 594-2211, for information.

Bears

Caution Necessary

An impressive summer resident at Crater Lake is the American black bear.

Last summer, however, there were several incidents involving bears and campers — incidents that could lead to the removal or destruction of problem bears.

Bears make early evening visits to Mazama Campground for one reason, food. Ice chests and food boxes are instantly recognized and smashed open. Bears will even remove car windows and an occasional convertible top to get to visible food.

Campers have a responsibility to prevent problem bears. Never consciously or unconsciously set out "bear picnics" by stacking ice chests and food items on campsite tables. Such temptations cause injuries to campers and bears. Patrolling rangers may deal strongly with people providing "picnics."

To protect your property, and yourself, follow these rules:

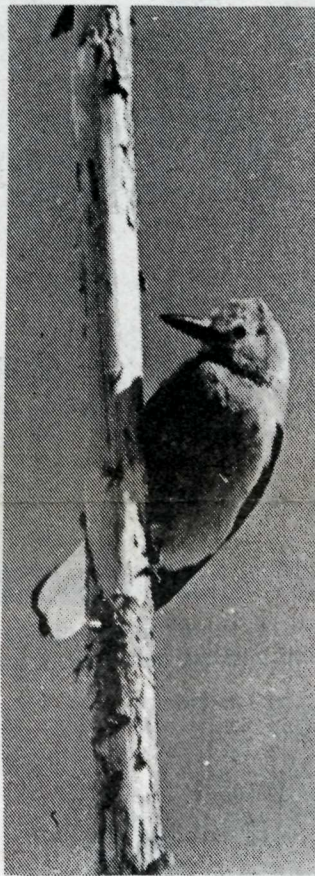
- Store all food in a vehicle trunk. If no trunk is available keep food and food containers covered and out of sight inside the vehicle.

- Clean dishes and utensils immediately after use.

- Deposit all garbage in the nearest refuse container.

- Do not store food in tents; do not leave vehicles unattended with windows open; do not leave food, food containers, cooking utensils or table scraps in the open.

Bears are part of Crater Lake National Park's natural systems. Enjoy bears from a distance.



Clark's nutcracker

Park Trails, Hikes

New Book Subjects

Two new, inexpensive field books have been published by the Crater Lake Natural History Association.

Crater Lake National Park Trails is a hikers guide written by Connie Toops, a former seasonal park ranger. The information in this publication has been extensively checked for accuracy by backcountry rangers. *Trails* provides valuable information how to get into Crater Lake's little visited backcountry and lends insights on what may be seen along the way. The cost is \$1.25.

Birds of Crater Lake National Park is a full color publication written by Dick Follett, who wrote a similar guide for Yellowstone National Park. *Birds of Crater Lake* is a useful introductory book that can help enhance a visitor's understanding of birds in the park. It sells for \$3.50.

Both new publications are available at Park Headquarters in Munson Valley and at the Rim Village Visitor Center.

Wildflower Delights

The senses can take on delights during a hike around the Castle Crest Wildflower Garden.

It's located about a half-mile from the park headquarters parking area. If traveling around the lake on Rim Drive, the garden parking area is located just a short distance before the one-way road reconnects with the two-way portion of the highway.

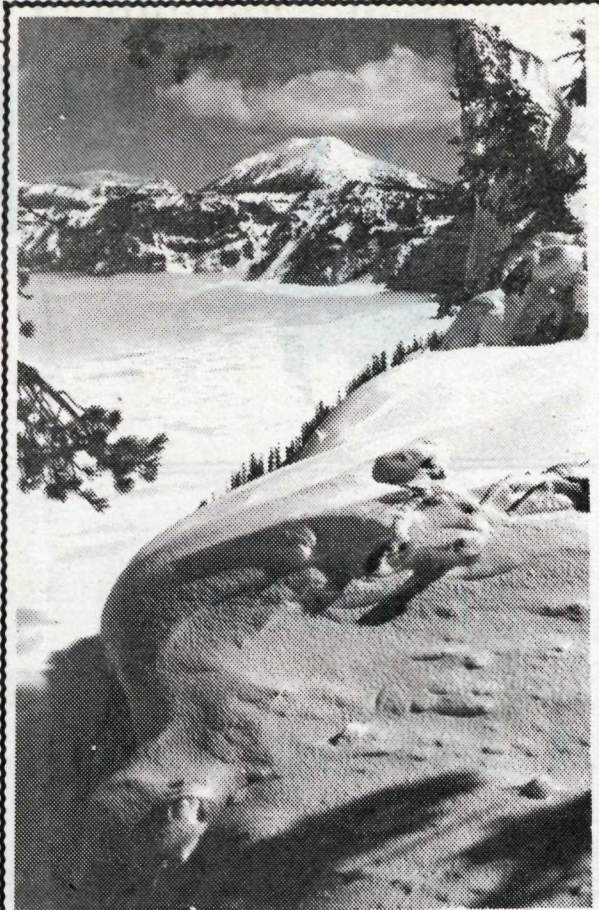
Between now and the first heavy snows of fall, the garden is upholstered with a changing array of flowers that are not only a pleasure to view, but also a joy to smell.

The trail leads through a forested area to the cool, dense, lush meadow.

Late morning to late afternoon are the best hours to view the vivid floral colors and take the best photographs. Some visitors prefer to come earlier, or later, and hope for glimpses of deer, foxes, marmots and pikas. Throughout the day the garden typically attracts sparrows and juncos in the streamside willows while rufous hummingbirds often whirl about the meadows.

Depending on the moisture, the varieties of flowers may change daily. Among the more commonly seen flowers are buttercups, shooting stars, orchids, lupine, false hellebore, groundsel and fleabane. Many species are identified by signs along the paths.

Park rangers can provide information on which flowers are blooming.



What Question Is Asked Most?

What's the most common question asked park rangers?

It's probably something you've wondered, too — does Crater Lake freeze in the winter?

The answer is no, not usually.

Park records show the lake has officially only frozen over once, in 1949. Unconfirmed reports indicate the lake may have been frozen in 1924, 1928 and 1930.

If it seems surprising the high elevation (6,176 feet above sea level) lake doesn't freeze more often, the explanation is simply. It's too deep. During winter months the water below the 328-foot level is 38 degrees, or usually warmer than the water on top, which varies between temperatures of 32 and 67 degrees. The warmer water gives off heat, which rises toward the lake surface and normally retards ice formation.

And, because of its great depth — as much as 1,932 feet — Crater Lake stores a great amount of heat.

What else happens in the park in winter?

Traditionally Crater Lake receives an average of nearly 50-feet of snow each season. But those traditions haven't been followed the past three winters as snowfall has been below average.

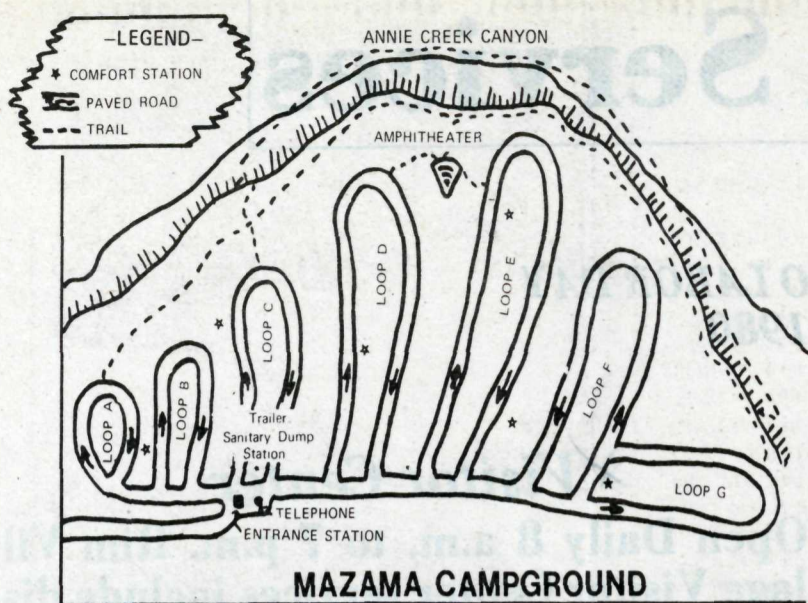
Snow or not, the park is being visited by larger numbers of people each winter as the popularity of cross country skiing increases. Skiing along the rim is always popular while the renewed Crater Lake Wilderness Cross County Ski Races, sponsored by the Klamath Falls-based Alla Mage Ski Club each February, are also drawing others.

Places you visit in Rim Village in summer are traveled by skiers and snowshoers during winter months. Ranger-led snowshoe nature walks are a popular wintertime activity.

Come in winter and bring warm clothes, skis, snowshoes and innertubes. But leave the ice skates home. Even if you could reach the lake, chances are the lake wouldn't be suitable for skating.

Reflections is published by the Crater Lake National History Association, a non-profit organization committed to the educational, scientific and historic objectives of the National Park Service. Sales outlets at the Visitor Center and Park Headquarters offer maps and publications selected to help the co-owners of Crater Lake National Park — all Americans — to better understand, appreciate and protect the Park — and to insure the same responsible enjoyment for future generations.

Guard Your Valuables Keep Vehicles Locked



Breaking into parked vehicles, even while owners are a short distance away, is an increasing crime in National Parks and other outdoor recreation areas.

All park visitors are cautioned to lock their vehicles doors to discourage possible thefts. Valuables should not be left in sight, even in a locked vehicle. Put them in the trunk or completely out of sight. Though not a major problem at Crater Lake, be aware that thefts sometimes occur.

Professional thieves usually travel throughout the country and break into vehicles. They often use special tools that cause no damage but which allow them to unlock doors in 15 seconds or less. If they

cannot see any property available, however, they usually will not take the risk. Daylight break-ins, incidentally, are just as common as those after dark.

If you are victimized, please report the incident to a park ranger immediately. Information about what is missing, evidence of tampering and any possibly suspicious people can help in

locating thieves and preventing future incidents. Park personnel are always alert for possible thefts, but your assistance will greatly help us.

By using the advice offered we hope to make your Crater Lake National Park more enjoyable. Take a few minutes, follow the suggestions and you can reduce the possibility that your vehicle will be tampered with.

Camper Information

Don't delay if you are planning to camp in Crater Lake National Park.

The park's 200-plus campsites fill up fast during the busy summer months. Sites are available on a first-come, first-served basis with no reservations. Through most of the summer all campsites are filled by late afternoon or early evening so visitors should select sites early on arrival to the park.

Most, 198, are located at Mazama Campground near the Annie Spring Entrance

Station. All types of users are permitted. In addition to the \$2 park entrance fee there is a \$3 nightly fee per campsite at Mazama.

Another 12 campsites are available at the smaller, less developed Lost Creek Campground in the park's southeast corner. Lost Creek is open only when the entire Rim Drive is open.

Campers at both locations are allowed to collect dead and down firewood. The collection of wood between Rim Drive and the lake is not allowed, however, to protect the rim's scenic value.

Fires are permitted only in fireplaces.

When staying in a park campground please remember:

- Quiet hours are from 10 p.m. to 6 a.m.
- Pets must be on leashes at all time when outside of vehicles. They are not allowed on trails, ranger-led activities or at the evening campfire programs.

• Waste water must be collected in closed containers and disposed of at the comfort station or sanitary dump in Loop C of Mazama Campground. No trenching for any purpose is allowed.

• Roadside camping is not permitted.

• There is a 14-day restriction on camping. Sites are restricted to six people or one family unit. The park has no facilities for group camping.

Rim Runs Set

Be alert for runners along many of the park roads.

Some runners are park or concession employees maintaining or improving their physical fitness. And some of those people are training for the Fifth Annual Crater Lake Rim Runs-Marathon, which is scheduled August 9. More than 500 runners will be racing distances of 6.7, 13.1 and 26.2 (marathon) miles along Rim Drive. The races will start at the Watchman Overlook.

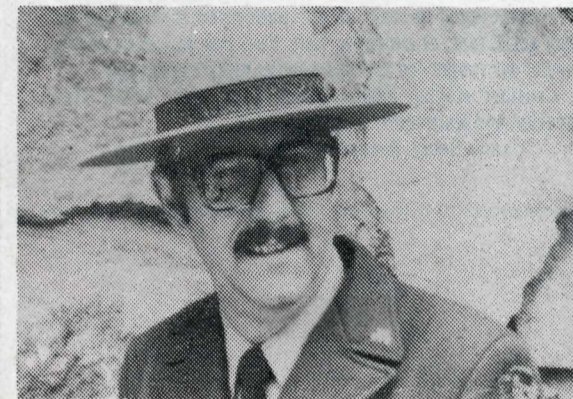
Traffic will be controlled during the rim runs-marathon, especially between Rim Village, the North Entrance and Cleetwood Cove between 10 a.m. and about noon.

Worship Services

Interdenominational and Catholic services are available during the summer months at Crater Lake National Park.

Four interdenominational services of worship are offered on Sundays by A Christian Ministry in the National Parks. Services are held at the Mazama Campground amphitheater at 8 a.m. and 8 p.m. while other services are offered at the Rim Village Rim Center at 9 a.m. and 7 p.m.

Catholic services are provided on Saturdays at 6:45 p.m. at the Rim Village Rim Center.



Service Plus

Rod Cranson has served as a seasonal ranger at Crater Lake National Park for five summers, always sharing his knowledge and insights with visitors or park staff.

This summer Rod is sharing information in a new way. He recently wrote and published a much needed geology book, *Crater Lake, Gem of the Cascades*, a concise, interesting visitor-oriented publication.

Nine months of the year Rod teaches geology and natural science at Lansing Community College, Michigan. For more than a dozen summers he and his family — wife, Sharon, and children, Keri and Kurt — have traveled and studied volcanic areas of the Pacific Northwest, United States, Canada and Mexico.

At Crater Lake, Rod is truly a "plus."

Fee Activities

Boat Tours

Have you ever thought about boating in a volcano?

It's possible by taking fee tours offered by Crater Lake Lodge, the park's concessionaire.

Narrated lake tours are offered on the lodge's fleet of boats. Tours begin and end at Cleetwood Cove, a 1.1-mile hike from the Cleetwood Cove parking area on Rim Drive. Tours on the 60-passenger boats last two hours and leave hourly each day between 9 a.m. and 3 p.m.

Five minute stops are made at Wizard Island, where visitors can elect to wait for the next boat or spend the day.

Cost of the boat trips is \$6.50 for adults and \$3.50 for children under age 12. Children on the 9 a.m. trip are charged a reduced fair of \$2.75.

Rim Tours

Travel around the rim is possible in concession operated mini-buses, which leave Crater Lake Lodge daily at 8 and 10 a.m. and 1 and 3 p.m. Stops are made at scenic overlooks on the two-hour long tours. Arrangements can be made to connect visitors with boat tours. The cost is \$6.50 for adults and \$3.25 for children.

Limousine Service

Daily transportation between the Klamath Falls bus depot and the park is available by the Crater Lake Lodge limousine from June 15 to September 15. The limousine leaves the lodge at 10:30 a.m. and arrives in Klamath Falls at 12:30 p.m. It leaves Klamath Falls at 3:30 and returns to the lodge at 5:30 p.m. The cost is \$10 one-way or \$20 roundtrip.

Crater Lake Lodge

Rooms, meals and occasional evening programs are available at historic Crater Lake Lodge June 15 through early September. Reservations are usually required for overnight stays. Breakfast is served in the dining room from 7 to 10 a.m. with dinner from 5:30 to 9 p.m.

Camp Store

Fresh milk, bread, lunch items, dairy products, snacks and other foods are available at the camp store in the rear of the gift shop-cafeteria complex. Many Oregon products are featured.

Gas Station

Gasoline, oil, batteries and other limited automotive needs are available between Memorial Day and about October at a service station in Munson Valley. Major gasoline credit cards are accepted. Summer hours are 8 a.m. to 7:30 p.m.

Gift Shop-Cafeteria

Souvenirs and meals are sold at the gift shop-cafeteria in Rim Village. Hours are 7 a.m. to 8 p.m. during the summer. Breakfast is offered from 7 to 9:30 a.m., Continental breakfast from 9:30 to 11 a.m. and lunch-dinner from 11 a.m. to 8 p.m. The Watchman restaurant-cocktail lounge is upstairs and open from noon to 11 p.m.

Rustic Cabins

Rustic, private cabins located behind the gift shop-cafeteria can be rented for a day or longer. For reservations and/or information visit the gift shop-cafeteria information desk.

Information Services

**JULY 1 TO LABOR DAY
1980**

Hello And Welcome

Welcome to Crater Lake.

This year has been designated as the "Year of the Visitor" by the National Park Service.

All of us working at Crater Lake National Park join in our pledge to do our best to provide you with the highest quality service. This is also a reminder to us as employees that we are stewards of your park, entrusted with the responsibility of protecting Crater Lake and its surroundings for you — and for future generations.

We hope you will enjoy and be rewarded by your visit. You are encouraged to seek out our uniformed staff people for any assistance, or simply to visit. Feel free to join us during any of our ranger-led activities and campfire programs.

Consider staying longer during your visit. You'll save energy, and learn more about your park.

James Rouse, Superintendent



Visitor Center

Open Daily 8 a.m. to 7 p.m. Rim Village Visitor Center services include displays, map and publication sales. Ranger on duty for assistance, information and backcountry camping permits.

Information about weather, roads and recreation opportunities at Crater Lake National Park is available 24 hours a day.

People seeking information before or after regular working hours, 8 a.m. to 5 p.m. daily, can obtain basic reports through the park's automatic tape message by telephoning park headquarters (503) 594-2211.

In case of emergencies people needing assistance can get 24-hour-a-day assistance by telephoning (503) 594-2811. You will be placed in immediate contact with park personnel. Remember, this number is for emergency calls only.

Park visitors, including backpackers traveling on the Pacific Crest Trail, can have mail delivered to the park. A small post office is located in the Park Headquarters Administration Building. Mail should be sent to, General Delivery, Crater Lake, Oregon 97604.

Sinnott Memorial

Open Daily 9 a.m. to 6 p.m. Rock Stairway from the Visitor Center leads to the Memorial overlook on the caldera rim. Panoramic view of lake. Ranger on duty presents 15 minute geology talk every hour on the half-hour beginning at 9:30 a.m.

Ranger Led Activities		Time	S	M	T	W	T	F	S
Garfield Peak	This 3 hour, 3 mile hike climbs to a viewpoint 1,800 feet above Crater Lake. Frequent stops offer rest, vistas and understanding. Good hiking shoes required. Bring water and light jacket. Meet in the Visitor Center at the Rim Village.	9 A.M.	•	•	•	•	•	•	•
Lake Discovery	Meet John Wesley Hillman, one of the party that discovered Crater Lake in 1853. Look for him on horseback at Rim Village.	11:00 A.M. 1:00 P.M. 3:00 P.M.	•			•		•	
Watchman Peak	Climb the ¾ mile trail to Watchman Peak Lookout on this 2 hour hike. Excellent view of entire lake and countryside. Good hiking shoes and jacket recommended. Meet at the Watchman trailhead on Rim Drive, 5 miles north of Rim Village.	1:30 P.M.	•			•		•	
Kids' Special	One-half hour walk or demonstration especially for the young. Parents must be accompanied by children. Meet at the Rim Center building at Rim Village.	2 P.M.		•	•		•		•
Evening Program	Forty-five minute illustrated talks on significant features and residents of the park. Topics change nightly and are posted. Held at Rim Center Building at Rim Village.	8 P.M.	•	•	•	•	•	•	•
Campfire Program	Forty-five minute illustrated talks on significant features and residents of the park. Topics change nightly and are posted. Held at Mazama Campground amphitheater.	9 P.M.	•	•	•	•	•	•	•