



# Crater Lake Reflections



The Newspaper of Crater Lake National Park

Summer 2000

## Partners for Protection

This is an exciting time for Crater Lake National Park! As we enter a new millennium and approach our own centennial (in 2002), a wide range of projects is underway to improve our ability to protect Crater Lake National Park.

Sometime this summer, work will begin on restoring the historic Kiser Studio, Community House, Sinnott Memorial Overlook, and Plaza Comfort Station at Rim Village. All have suffered gradually over the years from the effects of time and the elements, yet all are part of the history and character of the Rim Village Historic District.

The long-term lake research project, begun in 1982, continues to reveal new insights about Crater Lake, while other studies around the park contribute to our understanding of forest and stream ecosystems. You may read about some of those discoveries in this issue of the *Crater Lake Reflections*.

Meanwhile, the Recreation Fee Demonstration Program continues to fund projects throughout the park. Restoration of the historic Watchman Lookout is underway, and work will begin this summer to make the Godfrey Glen trail accessible to all visitors. The bull trout restoration project in Sun Creek will be completed this year. Progress has been made toward the development of an educational curriculum for use with schools in our region.

National Parks throughout the nation face significant challenges in the new millennium – challenges that originate both within their borders and from far away. Parks like Crater Lake protect the most significant parts of our natural



*The Sinnott Memorial Overlook and Wizard Island (photo by Jim Phelan, used with permission)*

and cultural heritage, yet they cannot continue to exist without your help. Throughout this issue of the *Crater Lake Reflections*, you'll read not only about how park rangers are working to protect this park, but also about the many ways you can contribute. Learn to practice "leave no trace" principles on park trails. Join a ranger-led program and learn more about Crater Lake's unique and often fragile resources. If you're age 12 or under, ask how you can participate in our Junior Ranger program. Take what you learn home with you, and support natural areas everywhere by practicing a more sustainable lifestyle.

Crater Lake is one of the most magnifi-

cent and beautiful landscapes on this fragile, blue Earth. With your help, we can keep it that way.

*Chuck Lundy, Superintendent*



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## Park Information

(541) 594-2211 Ext. 402

[www.nps.gov/crla](http://www.nps.gov/crla)

# Planning Your Visit



## Entrance Fees

The entrance fee for Crater Lake National Park is \$10 per family car. The rate is higher for commercial vehicles. The fee for bicycles is \$5 per person or \$10 per family. An annual Park Pass, accepted at all National Parks, costs \$50.



## Scenic Drives

A spectacular 33-mile Rim Drive circles Crater Lake. The North Entrance Road cuts through the barren but beautiful Pumice Desert. The 7-mile Pinnacles Drive parallels the fascinating Sand Creek Canyon. The forested, unpaved Grayback Drive offers distant views of the Klamath Basin.



## Lodging & Meals

Lodging and food are available at Rim Village and Mazama Village. See page 12 for details.



## Visitor Centers

There are two visitor information centers at Crater Lake National Park. Both are fully accessible and staffed by park rangers who can assist you with park information, trip planning, weather forecasts, and backcountry permits. Books, maps, posters, and other educational materials are sold at both locations.

The Steel Information Center, located at Park Headquarters, is open from 9:00am - 5:00pm daily. A 16-minute film, *The Crater Lake Story*, is shown twice hourly.

The Rim Visitor Center is located west of the Crater Lake Lodge in Rim Village. It is open in June and September from 9:30am to 5:00pm, and in July and August from 9:30am to 5:30pm.



## Boat Tours

No private watercraft is permitted on Crater Lake. However, the Crater Lake Lodge Company offers 1 hour and 45 minute ranger-narrated boat tours from late June through mid-September. During peak season, 9 tours per day are offered, with the first tour leaving at 10:00am and the last tour departing at 4:30pm. Tickets are sold at the parking lot above the Cleetwood Cove trailhead. Ask at a visitor center for current prices. See page 10 for important information about hiking the Cleetwood Cove Trail.



## Pets

Pets must be on leash at all times and are allowed only in parking areas, campgrounds, and picnic areas. Pets are not permitted on park trails.



## Camping

See page 12.



## Supplies

Basic supplies and gasoline are available at Mazama Village. See page 12 for details.



## Hiking

See pages 10-11.



## Bicycling

Bicycles are not permitted on park trails, but are permitted on all roads. Park roads are narrow with limited sight distance. Cyclists should wear helmets and bright clothing.



## Fishing

Fishing is permitted in Crater Lake with artificial lures. Pick up a brochure on fishing regulations at either park visitor center.



## Ranger-Led Program Schedule July 1 - September 4, 2000



	Sun	Mon	Tue	Wed	Thu	Fri	Sat
<b>Discovering Crater Lake (10:00am - 4:00pm hourly except 12:00, daily)</b> - Learn about the special qualities and features of the "Jewel of the Cascades," and how it came to be. (20 minutes)	✓	✓	✓	✓	✓	✓	✓
<b>Circle of Life (11:30am Sunday and Friday)</b> - All things are connected! Join a ranger to learn about the plants and animals of Crater Lake. The species featured will vary. Meet at the Rim Visitor Center flagpole. (30 minutes)	✓					✓	
<b>Hot Topics (2:30pm Tuesday and Thursday)</b> - Our understanding of Crater Lake National Park continues to grow, even as we face increasingly complex challenges. Learn about current issues or recent research. Meet at the Rim Visitor Center flagpole. (30 minutes)			✓		✓		
<b>Junior Ranger Program (5:00pm daily)</b> - Visitors from 6 to 12 years old may become "Junior Rangers" by participating in this activity! Meet at the Mazama Campground amphitheater (between D and E loops). (1 hour)	✓	✓	✓	✓	✓	✓	✓
<b>Evening Campfire Program (Nightly, 9:00pm in July, 8:30pm in August, 8:00pm in September)</b> - Relax under the stars and learn more about Crater Lake National Park during these slide presentations. Topics vary nightly. Programs are held at the Mazama Campground amphitheater (between D and E loops). (1 hour)	✓	✓	✓	✓	✓	✓	✓

## Beyond the Pavement

<b>Garfield Peak Hike (9:30am Wednesday and Saturday)</b> - Enjoy spectacular views and wildflowers as you hike up this beautiful peak. Meet at the Rim Visitor Center flagpole. (3.4 miles, 5.5 km, 2 hours)				✓			✓
<b>Annie Creek Canyon Hike (2:00pm Wednesday and Saturday)</b> - Enjoy a cool mountain stream in a beautiful canyon. Meet at the Mazama Campground amphitheater (between D and E loops). (1.7 miles, 2.7 km, 1½ hours)				✓			✓
<b>Discovery Point Hike (2:00pm Sunday and Friday)</b> - Hike to the place where Crater Lake was first discovered by European-Americans in 1853. Meet at the Rim Visitor Center flagpole. (2 miles, 3.2 km, 2 hours)	✓					✓	
<b>Watchman Peak Sunset Hike (Tuesday and Thursday, 8:00pm in July, 7:30pm August 1-21, 7:00pm August 22-September 4)</b> - Take a twilight hike with a park ranger to this breathtaking viewpoint. Meet at the Watchman Trailhead parking area, and bring a flashlight. (1.4 miles, 2.3 km, 1½ hours)			✓		✓		

All programs are subject to cancellation or substitution due to weather. Special programs may also be offered. Check at a visitor center for current information.

# Restoring Rim Village

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## Rehabilitation of the Rim Village Historic District Continues

Kent Taylor

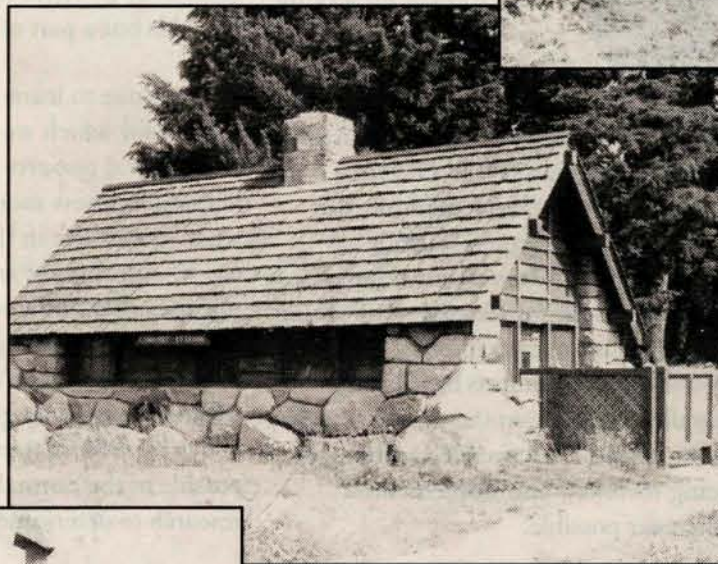
Congress has appropriated \$1,733,000 to rehabilitate four historic structures within the Rim Village Historic District. The structures include the Sinnott Memorial Overlook and Museum, the Community House, the Kiser Studio, and the Plaza Comfort Station. These facilities have served visitors since the 1920s and 1930s. Their designs represent various interpretations of the rustic style of architecture developed so that each building would appear to fit compatibly into the surrounding natural landscape. Stones, boulders, wood siding, and heavy wooden beams used in their construction complement the great trees and rugged geology of the park.

The Rim Village Historic District is on the National Register of Historic Places. This project represents the National Park Service's continuing commitment to upgrade and maintain visitor facilities at Rim Village while preserving the historic character of this significant cultural resource. The most recent Rim Village project was the rehabilitation of Crater Lake Lodge, completed in 1994 and reopened for guests in 1995.

Work on the four historic structures will begin during August 2000, and continue through the summer of 2001. When they reopen to the public for the summer of 2002, visitors will again be able to enjoy panoramic Crater Lake views and interpretive exhibits at the Sinnott Memorial Overlook and Museum, and evening ranger programs at the Community House. The Kiser Studio will continue to serve as a summer visitor contact station until a planned year-round visitor center is built in the vicinity of the cafeteria/gift shop sometime in the near future. The Plaza Comfort Station will be upgraded and made handicapped accessible.



Community House, 1941



Plaza Comfort Station, 1941



Kiser Studio, 1941



Sinnott Memorial Overlook under construction, ca. 1930

### Sinnott Memorial Overlook and Museum

Completed by the National Park Service in 1931, this facility provided panoramic scenic views to the public from an easily accessible point just below the rim of the caldera. The museum behind the balcony contained artwork that encouraged visitors to understand and appreciate the majestic scenery and unusual natural features of the park. Its exterior design of large boulders blends into the landscape, making it one of the best examples of rustic architecture in the National Park Service. It is difficult to locate from tour boats on the lake. Walk the promenade along the edge of the rim westward from Crater Lake Lodge, and see for yourself how well it fits into the caldera wall.

### Kiser Studio

Built and operated during the 1920s by noted photographer Fred Kiser, the studio provided a work area for producing souvenir hand-tinted photographs of the park for sale to visitors. Photographs were taken in black and white and then colorized with oil paints by Kiser's employees.

### Community House

Built during the 1920s, the Community House provided a place of education and entertainment for Rim Village's overnight lodgers and campers. Glass lantern-slides were used by rangers for visual presentations during lectures much like the today's photographic slide shows. Music and dancing were among the amusements visitors enjoyed after an active day of exploring the park.

### Plaza Comfort Station

This restroom was built during the 1930s. At the time, the National Park Service felt that it was important for structures to fit into the landscape rather than detract from it. Even this relatively mundane visitor facility was treated architecturally in the same way as other more significant park buildings. Its style is the same as the Sinnott Memorial Overlook and Museum.

*Reflections* is funded and published semi-annually by the Crater Lake Natural History Association. This issue was designed and edited by Kevin L. Bacher. The Jr. Ranger pages were created by Lihann Jones.

## What on Earth is "Sustainable Practice?"

Lihann Jones

The National Park Service is faced with the enormous task of protecting our national treasures while providing the public with opportunities for recreation and education. This balancing act is becoming more and more difficult as we discover the huge impacts that humans are having on individual species, on whole ecosystems, and alarmingly, on the entire fabric of life.

To lessen these impacts, the National Park Service has recently implemented the Sustainable Practices and Opportunities Plan (SPOP). "Sustainable practices" are ways of performing our duties, for the environment and the public, without seriously damaging the environment. These practices meet the mission of the entire National Park Service, "...to conserve the scenery and the natural and historic objects and the wild life therein, and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (*Organic Act, 1916*).

Preserving and protecting the environment has been one of the foremost goals of the National Park Service since its creation 84 years ago. Why, then, do we need this plan? The current sustainability program will boost our awareness of what we are doing as individuals and as a national park to meet the urgent environmental issues of today.

Studies by the Bureau of Land Management have shown that the cumulative effects of past activities on public lands have led to serious environmental problems including fragmented plant, animal and fish habitats; less productive rangeland conditions; and a general decline in forest health. The Worldwatch Institute estimates that 25% of mammal and amphibian species, 11% of birds, 20% of reptiles, and 34% of fish species surveyed so far are threatened with extinction. The leading cause of these declines is human destruction of rich habitats.



Clearly, we must change how we perform our everyday tasks if we are to preserve not only our beautiful and historic national treasures, but the delicate web of life to which we are connected. We must examine the potential impacts, both locally and globally, of our most routine choices. Learning to do more with less, to reuse and recycle, are the first steps toward preserving our resources.

Crater Lake National Park has implemented sustainable practices in many ways. Our fee collection program, for example, has recently reduced paper usage by as much as 45%. Administrative buildings have containers for recycling everything from aluminum cans to office paper. Low-flow water faucets have been installed throughout the park. Ideas for other kinds of sustainable practices are being reviewed and implemented wherever possible.

Sustainability assessments have been done by groups of National Park Service employees specializing in areas of waste reduction, energy conservation, recycling, and landscape conservation. We have learned, however, that we cannot focus our attention only within the boundaries of the parks. Fouled air and water do not recognize national parks leads to destruction when it spreads to the fragile areas we are trying to protect.

As a Park Service, we have made it our mission to preserve important and irreplaceable ecosystems. These areas will not survive as islands unto themselves. "Environmentality," "thinking green," and "Mother Earth" are not words and catch-phrases to be taken lightly. These concepts, along with the National Park Service's goals and programs, will help "life" continue into the future - not only the lives of animals, plants and trees, but our own lives and the lives of our children. *By the way, please recycle this newspaper!*

## Looking Toward the New Millennium

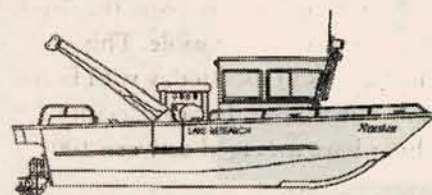
William M. Brock

Throughout the year, our Natural Resource Preservation and Research staff is faced with significant challenges to preserve the natural resources of Crater Lake National Park. The threats to this park range from the obvious to those yet undetected, and from within as well as from outside our boundaries. As our world grows smaller, we are increasingly aware that the Crater Lake ecosystem we strive to preserve unimpaired is but a part of a greater system.

We continue to learn about the resources for which we are responsible. Our natural resource inventories are helping us know more today about what species live in the park. Through our monitoring we are learning what role they play and how they interact in the greater ecosystem. Monitoring also helps us understand if resources are within a normal range of variability. When we believe that our systems are outside of the normal range, we focus research to determine cause and effect.

In some cases, we have identified where the natural systems need intervention and we are actively restoring these systems. Scars from development have been restored with their native vegetation. The bull trout is on its way back from the brink of extinction in the park. And for the first time in a decade, we are prepared to allow natural fire to reclaim its ecological role.

The future will undoubtedly throw us some curves. But it will also present opportunities through technology and science. It will give us new tools to better understand the ecology of this park. Armed with knowledge and understanding we will be better equipped to be better managers and more sensitive stewards. We look optimistically toward the new millennium.



## Some Highlights from Recent Lake Research

Three trend analyses of Crater Lake, conducted with the assistance of personnel from Oregon State University and Rogue Community College, demonstrate that Crater Lake is a complex, dynamic system. For example, the population of *Daphnia pulicaria*, the lake's largest zooplankton, has undergone dramatic changes over the last fifteen years. We hypothesize that either non-native kokanee salmon or nutrient upwelling is affecting daphnia abundance.

Using hydroacoustic technology, we have studied the size and behavioral patterns of the Crater Lake fish population. As many fishermen noted last summer, the fish population was significantly higher than recent years. In fact, populations were approximately 23 times higher than 1998. A similar pattern occurred in 1989, followed by the near-disappearance of daphnia. Using this technology in conjunction with data from fish caught in gill nets, we will be able to quantitatively examine the effects of the fish population on other aspects of lake ecology, especially in terms of the effects on zooplankton.

Researchers from Oregon State University recently completed a study of bacterial ecology in the lake sponsored by the National Science Foundation. The bacterioplankton community in Crater Lake differs from communities found in other freshwater systems. Differences may be due to atypical properties of the study site. Crater Lake is a very deep subalpine lake with a surface area approximately four times the size of the watershed that feeds it, and phytoplankton productivity is believed to be limited by nitrogen availability. These properties are rare in lake systems and more closely resemble oceanic systems.

The exchange of nutrients in the lake system was further studied using sediment traps moored to the bottom of the lake. The ongoing study demonstrates that large pulses of particles move down the walls of the lake and these particles are a source of nutrients into the deep basin of the lake.

# Naturalist Notes

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## Color by Chance

Thomas A. McDonough

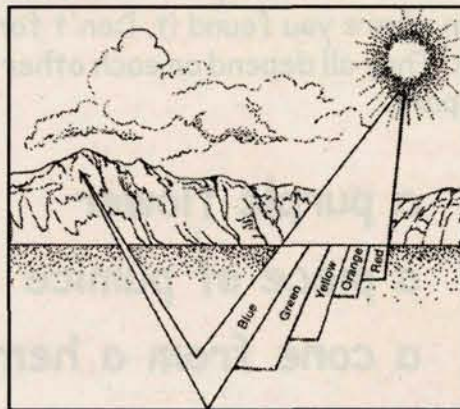
The color of Crater Lake has always attracted special attention. It's as though no other lake in our experience is quite so blue. Colored postcards fail somehow to adequately prepare us for the real thing. Yet we need to leave with something that will remind us of the experience when we are miles away. Visiting artists have attempted to capture this color with their oils and watercolors, and more recently with their photographic films. They are not alone, however, in this fascination with the intense hue of the water.

Dr. Edison Pettit of the Carnegie Institute authored a paper in 1936 entitled *Why Is Crater Lake So Blue?* In this work, Pettit described the color as "deep Prussian blue" in deep water, and "turquoise blue" around the edges. Seen from a tour boat, and close-up, Pettit described the water color as appearing more like "deep indigo." Pettit analyzed several physical and chemical properties of the lake water and concluded that the samples were pure and relatively free of suspended

The same sunlight that reflects off newly fallen snow turns our lake blue. The shorter wavelengths of sunlight (the blues) that enter the surface are scattered about by the billions of water molecules located there. Some of this blue light is scattered upward toward sightseers at the surface. The longer wavelengths (the reds, oranges, and yellows) are more easily absorbed than scattered, and they disappear. (Radiant energy is converted to heat or thermal energy in this process of absorption.)

A small percentage of the scattered sunlight reaches the bottom of the lake. Park biologist Mark Buktenica saw for himself in 1988 and 1989. He piloted *Deep Rover*, a 7000-pound (3200 kg) submarine, on 17 dives to the bottom of Crater Lake. After shutting off all instrument lights, he detected a faint glow from the surface. This water is both blue and clear.

The clarity of Crater Lake was first measured in 1897 by Joseph S. Diller, a visiting geologist assigned to the U. S.



and 120 feet (30-35 meters). Under unusually calm conditions, a maximum depth of 144 feet (44 meters) was measured in 1997. This maximum depth reading is a world record!

The clarity of water here has a profound effect on the plants and animals that live in the lake. A large colony of moss thrives at a depth found nowhere else. This moss, *Drepanocladus aduncus*, encircles both Wizard Island and the shoreline at a depth between 100 and 400 feet (30-120 meters). Some individual plants have been located even deeper. It is the clarity of the water that permits photosynthesis to occur at such great depths. Fish were introduced into the lake beginning in 1888. Over the next 50 years, 1.8 million fish were stocked. Today, schools of kokanee salmon and rainbow trout often can be seen swimming though the water near shore. Fish in Crater Lake are known to dive down deep while looking for food. A primary food of the kokanee is a very small swimming organism named *Daphnia*. Kokanee have been observed feeding on this particular zooplankton at a depth of 300 ft (90 meters). This is 2.5 times deeper than what has been typically observed in other lakes of similar depth, like Lake Tahoe in California.

The color and clarity of Crater Lake are intimately connected. Increased concentrations of suspended particles or dissolved solids would both decrease the lake's clarity and alter its color. Park resource managers have a great responsibility to protect this lake from the types of human impact that have harmed other large, deep lakes across

the nation. A monitoring program was set up in 1982 that allows park scientists to sample physical, biological, and chemical properties of Crater Lake throughout the year. With all this background information, we hope any change that might occur here will be quickly recognized.

Nature has afforded Crater Lake some natural protection. One way to pollute a lake is to first pollute the streams that flow into it. This body of water has no inlet. The 34 billion gallons (129 billion liters) of new water that enter the lake each year come only from precipitation and runoff from the sheer surrounding cliffs. Nutrient-rich streams are prevented from entering by the steep rocky walls of the caldera.

Scientists believe that Crater Lake formed within a few centuries following the collapse of Mount Mazama, 7,700 years ago. The lake has therefore been around a long time, but its color and clarity may be a relatively recent phenomena. Warm, mineral-rich springs on the lake basin appear to be the primary way chemicals are introduced into the water. These hot springs were possibly more active in the past than at the present. This might explain why the variety and concentration of phytoplanktons in the water has diminished over the centuries. Has Crater Lake slowly purified as the mineral-rich water at the bottom of the lake has seeped away? If this is so, and Hans Nelson of the U.S. Geological Survey believes it is, then our lake might not have been so clear and blue thousands of years ago.

The natural appearance of Crater Lake is enjoyed by hundreds of thousands of park visitors each year. Whether seen from the Rim Drive or along the shore at Cleetwood Cove, this place has a unique charm and character. But no lake lasts forever. Someday the fires of Mount Mazama will re-ignite and the clear, deep blue water will be no more. Until then, we celebrate a rare location and ponder the events that permit the special color of Crater Lake.



sediments and dissolved materials. He established that the apparent color of the water was not real. Crater Lake water is, in fact, colorless. Where, then, does the intense blue of the lake come from?

Geological Survey. He lowered a 9.5-inch (24-cm) white dinner plate into the water in order to measure the depth at which it became invisible. This technique is still used today with little modification. Over the years, clarity readings have averaged between 100

# Jr. Rangers

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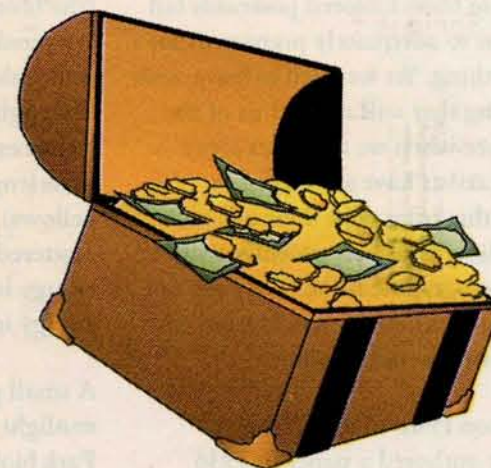
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**P**ark Rangers have a very interesting and exciting job. They study and protect the water, plants, and animals at Crater Lake National Park. They also provide information and services to many visitors. Unfortunately, we don't have enough park rangers to talk to each visitor, or to make sure that the park stays clean and the animals stay safe. We need your help. The following activities will help you learn more about Crater Lake. You'll still need to complete a Jr. Ranger booklet (available at park visitor centers) to become an official Jr. Ranger and receive a badge, but these activities will help you learn more about this exciting place. Once you know more about the park you can help us protect it. Good luck. We're counting on you!

## Treasure Hunt!

Locate the following 5 items. Draw a picture of each item in the boxes below, label it, and write down where you found it. Don't forget! Each item is an important part of Crater Lake National Park. They all depend on each other. Please do not take them home with you or remove them from the park.

- ✓ a purple flower
- ✓ a piece of pumice
- ✓ a cone from a hemlock tree
- ✓ a waterfall
- ✓ a park ranger



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## Just your friendly roving reporter...

Now that you've found a park ranger and drawn his or her picture, ask a few questions.

What is your name? \_\_\_\_\_

What job do you perform at Crater Lake National Park? \_\_\_\_\_

What is your most important duty? \_\_\_\_\_

What part of your job do you like best? \_\_\_\_\_

Where is your favorite place in the park? \_\_\_\_\_

What is your favorite animal in the park? \_\_\_\_\_

What is your favorite flower or tree? \_\_\_\_\_

What do you like best about Crater Lake National Park? \_\_\_\_\_

I'm a tree!  
I'm a tree!

During the long winter season at Crater Lake, we get a lot of snow - so much snow that many of the trees have to adapt to the deep and heavy amounts of snow that fall on their branches. Pretend you're a tree. Hold your arms out to the side and ask an adult to try to push them down. What should you do as a tree to keep the snow from breaking your branches?



Answers on the next page.

# Jr. Rangers

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## A Touchy, Feely Hike

This is a fun idea for any trail in any park. We suggest the Castle Crest Wildflower trail, the Godfrey Glen trail or the Annie Springs trail.

### Here's what you do:

Start walking!

After a minute, STOP.

What do you hear?

Name 2 different things that you can hear.

Okay, start walking again.

After a minute, STOP.

Reach out and touch 3 different things (like tree bark, a rock, or flower petals).

Remember, don't pick them or take them with you.

What do they feel like?

Okay, time to start walking again.

After a few more minutes, STOP.

Look around.

Does the trail look different now than it did when you started?

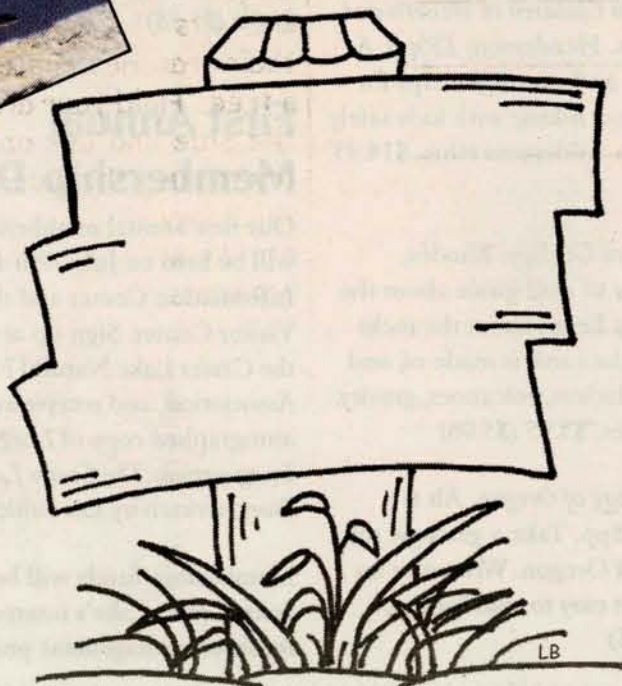
What are 2 things that look different?

Talk to a ranger or an adult about what you noticed during your stops. Congratulations! You're done!

Pretend you're an animal that lives at Crater Lake National Park. Draw a picture of yourself. Include where you live, what you eat, and where you sleep.

## The Animals Need Your Help

Wild animals are only supposed to eat wild food (grass and seeds that naturally grow in the park). Unfortunately, people still feed them. Feeding animals is bad for animals and for people. Many animals store their food and save it for winter. When they store "people food" it doesn't last long and rots before the animals can eat it. With their stored food gone, they starve during winter. Plus, animals do bite the hands that feed them. In order to protect people and animals we try to stop people from feeding them. But, we need to make a sign that lets everyone know it is dangerous to feed wild animals. Can you draw a sign that will help us?



## Fill In the Blanks

Everywhere I look, I'm amazed by what I see!

When I look deep into the lake I see \_\_\_\_\_.

There are many colors in the forest too, like \_\_\_\_\_.

When I close my eyes and stand quietly I hear \_\_\_\_\_.

If I were to choose one word to describe Crater Lake National Park I would say \_\_\_\_\_!

If you enjoyed doing these activities, get a Jr. Ranger book from one of the visitor centers. After finishing the book and attending 2 programs, you will receive a Jr. Ranger Badge!

### Answers to "I'm a Tree, I'm a Tree!:"

- Some tree branches grow at an angle toward the ground so the snow can slide off when it gets too heavy. (Lower your arms just a little so the snow can slide off.)
- Some trees are really flexible and bend under the weight of the snow. (Bend your arms.)
- Some trees are very skinny so there is no room for snow to build up on them. (Pull your arms in to make yourself skinnier.)

# Supporting the Park

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## The Crater Lake Natural History Association

Established in 1942, the Crater Lake Natural History Association (NHA) is a non-profit organization dedicated to advancing educational and scientific activities within Crater Lake National Park. The NHA invests funds generated from sales of items purchased at our park visitor centers directly back into the park, providing services such as publishing park-related books and maps, printing this newspaper, and purchasing equipment and materials for educational and scientific research programs. The Crater Lake NHA also supports Oregon Caves National Monument in Cave Junction, Oregon.

Become a member of the Crater Lake Natural History Association and learn more about the park's natural and

cultural resources. Yearly memberships can be purchased at park visitor centers or by mailing in the form below. Members receive a number of benefits including:

- A 15% discount on books, videos, maps, and other sales items.
- Discounts from most other park associations including those at Yellowstone, Grand Canyon, Yosemite, and Mt. Rainier.
- A subscription to our park's semi-annual newspaper *Reflections*.
- The satisfaction of assisting the important educational and scientific programs of Crater Lake National Park.

## For Sale from the Crater Lake NHA

(Italics denote NHA member price)

*A Guide to Crater Lake National Park and the Mountain That Used to Be.* Warfield, 48pp. Beautiful photographs and excellent descriptions tell the story of Crater Lake and give the reader an overview of the park. \$5.95 (\$5.06)

*Lodge of the Imagination: The Crater Lake Lodge Story.* Juillerat, 18pp. The history of the construction and renovation of Crater Lake Lodge. Historic photos illuminate the undertaking from its inception in the early 1900s to its rehabilitation in 1995. \$4.95 (\$4.21)

*Crater Lake Trails Illustrated Topo Map.* National Geographic, 1:62,500 scale. Waterproof/Tearproof. 100% plastic material. \$9.95 (\$8.46)

*Crater Lake National Park Trails.* Toops, 46pp. A good basic guide to the hiking trails of Crater Lake National Park. \$3.95 (\$3.36)

*Walking Tour.* Mark & Hyde, 14pp. Take a stroll through memory lane on this 1-mile loop trail around the Crater Lake National Park Headquarters. A guided hike about the history of the people and buildings of the late 1920s and early 1930s. \$2.00 (\$1.70)

*100 Hikes in Southern Oregon.* Sullivan, 240pp. A detailed guide to hikes in Southern Oregon and adjacent Northern California. \$12.95 (\$11.01)

*Best Hikes With Children in Western and Central Oregon.* Henderson, 255pp. A guide to hikes and overnight trips for families. Tips on hiking with kids safely and fostering a wilderness ethic. \$14.95 (\$12.71)

*Golden Guide to Geology.* Rhodes, 160pp. An easy to read guide about the earth's geology. Learn about the rocks and minerals the earth is made of, and the effects of glaciers, volcanoes, gravity, and other forces. \$5.95 (\$5.06)

*Roadside Geology of Oregon.* Alt & Hyndman, 278pp. Take a geologic tour on the roads of Oregon. Written in an informative yet easy to read format. \$15.00 (\$12.75)

*Fire Mountains of the West.* Harris, 380pp. A study of the Cascade Volcanoes one major peak at a time from one end of the range to the other. This book tells the history, current status, and future possibilities for eruptions of each volcano. \$18.00 (\$15.30)

*Hiking Oregon's Geology.* Bishop & Allen, 221pp. A guide to hikes in Oregon's most scenic and geologically interesting places, including Mount Hood, Crater Lake, Oregon Caves, Kalmiopsis Wilderness, Newberry National Volcanic Monument, and Eastern Oregon. \$16.95 (\$14.41)

*Discovering Crater Lake.* Field & Machlis, 32pp. Make the magic of Crater Lake come alive for children with this activity book. Designed for children who want to learn more about the park and its resources. \$4.95 (\$4.21)

*Coyote In Love.* Dwyer, 32pp. The Native American legend of how Crater Lake was formed by a flood of tears from a heartbroken coyote. Illustrated in bright, whimsical watercolors. The perfect gift. Hardbound \$15.95 (\$13.56)

*Nature Notes from Crater Lake,* an annual publication produced by our park staff, contains original research and observations for anyone wanting more than a fleeting glimpse of the park. Authors include employees of the National Park Service, volunteers, and members of the Friends of Crater Lake. \$1.50 (\$1.28)

## First Annual Membership Drive

Our first annual membership drive will be held on July 29th at the Steel Information Center and the Rim Visitor Center. Sign up as a member of the Crater Lake Natural History Association, and receive an autographed copy of *Lodge of the Imagination: The Crater Lake Lodge Story*, written by Lee Juillerat!

Membership funds will be used to assist Crater Lake's interpretive and resource management programs.

Item	Qty.	Price	Total
Subtotal			
Shipping			
Membership (optional): \$10 individual, \$15 family			
Order total			

### Mailing Rates

We use U.S. Mail

Up to \$20.00.... \$4.00

\$20.01 - \$35.00.... \$5.00

Over \$35.00.... \$6.50

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Daytime Phone (\_\_\_\_) \_\_\_\_\_

Visa/Master Card # \_\_\_\_\_ Exp. \_\_\_\_\_

Cardholder Signature \_\_\_\_\_

### Crater Lake Natural History Association

P.O. Box 157

Crater Lake, OR 97604

(541) 594-2211 ext. 499

(541) 594-2299 FAX





# Supporting the Park

Summer 2000

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## Be a Friend to Crater Lake National Park

Founded in 1993, the Friends of Crater Lake National Park is a non-profit organization that cooperates with the National Park Service in the stewardship of the natural and cultural resources of Crater Lake National Park. The group has helped by building and maintaining trails, constructing foot-bridges, staffing information desks and fire lookouts, helping to restore vegetation, and hosting Cycle Oregon. The group participates in the Adopt-a-Highway program, nature walks, and other regional programs, and is helping to plan for the 100th Anniversary of the park, coming up in 2002.

If you would like to support Crater Lake National Park, consider joining the Friends of Crater Lake. For further information about the group and its activities, contact Greg Reddell or Greg Hartell at the address listed below, or visit the Friends of Crater Lake web site.

Program activities for summer 2000 include:

**Fire Lookouts** - Each summer, the Friends of Crater Lake offer a workshop to train volunteers for duties associated with fire surveillance at the Watchman Peak and Mt. Scott fire lookout towers. Following training, volunteers can sign up for a day or a weekend at either Watchman Peak or Mt. Scott. In addition to looking for smokes, a major part of this job consists of chatting with park visitors. This summer's training will be conducted on July 8, 2000.



**Trail Project Weekend** - Each summer the Friends of Crater Lake help maintain or build a trail in the park. Past projects have included helping to reroute the Pacific Crest National Scenic Trail, building an interpretive trail at Park Headquarters, and rehabilitating trails and overlooks throughout the park. The first Trail Project Weekend of the new century will be August 18-20, 2000.

**Adopt-a-Highway** - The Friends of Crater Lake have adopted a highway. Garbage cleanup dates are June 10, July 29, and September 9, 2000.

**Winter Rim Information Desk** - Many Friends have enjoyed staffing the desk in the cafeteria at Rim Village during winter weekends. A short training meeting will be held about mid-November for those interested in participating.

**Join the Friends!** Help support Crater Lake! Membership brochures are available at either park visitor center or by writing to the address below.

## Centennial Planning Has Begun

Even though it is two years away, plans for the centennial of Crater Lake National Park are creating a flurry of activity. And why not? This was one of America's first national parks, making it one of the oldest in the world. Its significance in America has grown in many ways in the past one hundred years, and the centennial is a wonderful opportunity to have public dialogue about its resources and its values. We are grateful to the Friends of Crater Lake National Park for helping us develop centennial projects.

A number of events are being considered, including the following (most plans are tentative and contingent on funding):

- Beginning this fall, the park hopes to host "artists in residence," to create works of art based on Crater Lake. In 2002 the Schneider Museum of Art at Southern Oregon University will present an exhibition of works that come out of the program.
- Funded by a grant from the Chiles Foundation and *in memoriam* gifts from the Arthur Family, historian Rick Harmon is preparing a definitive publication on the history of the park.
- An initial grant from the Mazamas, the Portland, Oregon outdoor organization, has allowed KSYS public television in Medford, Oregon to begin plans for a one hour video program on the park's history.
- A playwright is under contract to create a script for a one person performance about William Gladstone Steel, the "father of Crater Lake National Park."

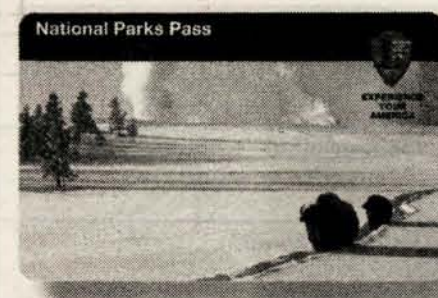
We expect the centennial year to be one of unprecedented public attention for Crater Lake National Park. You can help by becoming a member of the Friends of Crater Lake. The next few years will provide wonderful opportunities to explore the values Crater Lake holds for each of us!

## Fee Program Update

In 1996, Crater Lake National Park became part of a pilot project established by the U.S. Congress called the Recreation Fee Demonstration Program. This program allows participating parks to keep 80% of entrance fees on-site, to fund projects that benefit the park where the money was collected.

Several projects at Crater Lake have been funded through the new program. Restoration work continues at Watchman Lookout. Work will begin this year to make the Godfrey Glen Trail accessible to those with mobility impairments. Trail crews will work to improve the wilderness character of the Crater Peak and Dutton Creek Trails. In Sun Creek, resource managers will complete their final year of work to restore native bull trout populations. Behind the scenes, progress has been made toward developing an educational curriculum for use with local schools.

Other projects are planned in coming years. Historic signs throughout the park are being recreated. Trampled vegetation will be restored at the Vidae Falls Picnic Area. The old docks and bulkheads at Cleetwood Cove will be replaced. At Mazama Campground, we will install bear-proof food lockers.



In April of this year, the National Park Service launched a new "Park Pass," available at either of our entrance stations. For \$50, it provides entrance to any national park area that charges an entrance fee. Unlike the former Golden Eagle Pass, 70% of the money we collect by selling the new pass stays here at Crater Lake National Park.

As you visit the park, look for signs identifying our Fee Demonstration Projects. These are the tangible results of your entrance fees. Your assistance helps to support and protect Crater Lake National Park.



**The Friends of Crater Lake**

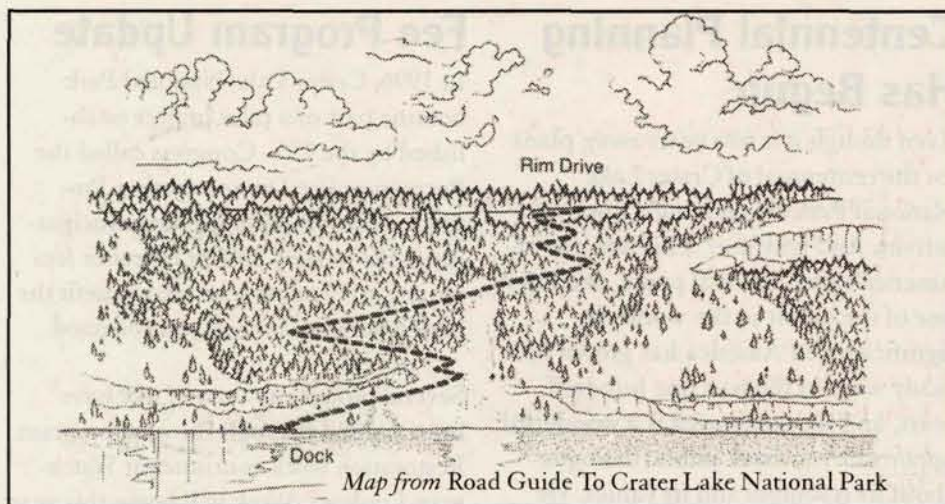
P.O. Box 88

Crater Lake, OR 97604

greddell@cvc.net

<http://www.halcyon.com/rdpayne/foclnp.html>

# Exploring Park Trails...



## Enjoying the Park Safely

To preserve park resources and protect yourself, please observe the following regulations and safety reminders:

- Hiking or climbing inside the caldera is prohibited. Conditions within the caldera are extremely dangerous. The Cleetwood Trail is the only safe and legal access to the lake's shore.
- Dogs and other pets are not allowed on park trails. Pets are permitted on a leash in parking areas and campgrounds only.
- Feeding wild animals, including birds, is prohibited. Feeding animals is dangerous for you, bad for them, and harmful for the ecosystem. Please enjoy all wild animals from a distance.
- Smoking is prohibited on all trails.
- Observe posted speed limits along park roads, and watch for wildlife, visitors, and bicyclists.
- Bicycles are not allowed on park trails. Bicycling is permitted on paved roads and the Grayback Drive. Wear a helmet at all times.
- Shortcutting on trails is prohibited. Please help us to protect the vegetation and prevent erosion by obeying this regulation.
- Free backcountry permits are required for anyone wishing to spend a night in the backcountry. Permits are available at both park visitor centers during regular hours of operation.
- Be prepared! Equip yourself with water, food, warm clothing, rain gear, sunscreen, and anything else appropriate to the trail you take. Know the weather forecast, and avoid exposed places during thunderstorms.
- All park resources (rocks, plants, artifacts, etc.) should be left undisturbed for other visitors to enjoy.

## Tips for Hiking the Cleetwood Cove Trail

The Cleetwood Cove Trail, located on the north side of Crater Lake, is the *only* safe and legal access to the shore of Crater Lake. It is one mile (1.6 km) in length, one-way, and drops 700 feet (210 meters) as you descend from the East Rim Drive trailhead to the lakeshore. On your return trip, this is comparable to climbing 65 flights of stairs! The Cleetwood Cove hiking trail is recommended only for those in good physical condition and should not be

attempted by visitors with heart, breathing, or walking problems. It is not accessible for visitors with mobility impairments. Hikers should wear closed-toe shoes and bring plenty of water, sunscreen, and mosquito repellent. Toilets are available at both the trailhead and the boat dock area. Due to the park's heavy snow conditions, the trail typically does not open until late June, and closes in early October.

## Crater Lake Hiking Guide

Destination/Trail Name	Distance	Difficulty	Trail Highlights
Sun Notch Viewpoint	0.5 mile (0.8 km) round-trip	Short stroll Allow 30 minutes	Overlook of Crater Lake and Phantom Ship
Castle Crest Wildflower Garden	0.5 mile (0.8 km) loop trail	Short stroll Allow 30 minutes	Beautiful brook; display of wildflowers July - August
Godfrey Glen	1 mile (1.6 km) loop trail	Gentle level hike Allow 45 minutes	Overlook of Annie Creek Canyon; old growth forest
Discovery Point	1.3 miles (2.1 km) one way	Moderate ups and downs Allow 1 hour	Views of the lake between Rim Village and Discovery Point
Watchman Peak	1.4 miles (2.3 km) round-trip	Moderate climb; 500 feet (150 m) elevation gain. Allow 1 hour	Historic fire tower; overlook of Wizard Island
Annie Creek Canyon	1.7 mile (2.7 km) loop trail	Moderate climb out of canyon Allow 1 1/2 hours	Deep stream-cut canyon; wildflower and wildlife sightings
Cleetwood Cove	2.2 miles (3.5 km) round-trip	Strenuous climb; 700 feet (215 m) elevation gain. Allow 2 hours	Guided boat tours; fishing; see details in article above
Garfield Peak	3.4 miles (5.5 km) round-trip	Strenuous; 1,000 feet (300 m) elevation gain. Allow 2 to 3 hours	Panoramic views; overlook of Phantom Ship
Mt. Scott	5 miles (8 km) round-trip	Strenuous; 1,500 feet (460 m) elevation gain. Allow 3 hours	Highest peak in park; outstanding views; historic fire tower
Crater Peak	5 miles (8 km) round-trip	Moderate climb; 615 feet (190 m) elevation gain. Allow 3 hours	Forest, panoramic views (but no view of the lake), wildlife

# ...and the Backcountry

Summer 2000

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## Leave No Trace

John Broward

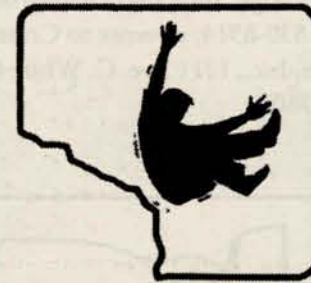
Crater Lake National Park is a special place worthy of protection. With so little federal land protected as wilderness, we must do everything we can to ensure there will be something left for future generations. To help us maintain the natural ecosystems of this magnificent wilderness, please follow the "Leave No Trace" (LNT) guidelines listed below. By living these principles you will help us maintain Crater Lake for this and future generations.

- 1) Plan Ahead and Prepare:** Know the area and what to expect. Careless hikers not prepared for the conditions may damage sections of the park. For example, hikers on Garfield Peak have eroded fragile meadows in their efforts to avoid crossing snowfields. Learn the special regulations designed to protect Crater Lake's backcountry. Select appropriate equipment. For example, waterproof boots and gaiters will help keep you on the trail when it is muddy. Repackage food to eliminate unintentional litter. Prepare for extreme weather and other dangers.
- 2) Camp and Travel on Durable Surfaces:** Durable surfaces include established trails and campsites. Camp at least 200 feet from streams. Avoid areas where damage is just beginning. Avoid camping in sensitive areas such as meadows and near the rim. Concentrate use on existing trails and campsites. Stay on trail and do not shortcut. Walk single file in the middle of the trail, even when it is wet or muddy. Remember: good campsites are found, not made. Altering a site is not necessary.
- 3) Properly Dispose of What You Can't Pack Out:** Dispose of human waste responsibly and pack out toilet paper. Minimize soap and food scraps in wastewater. Avoid contaminating water sources when washing. If you can pack in full food containers, you should be able to pack them out empty. Do not leave trash in fire rings. People mistakenly believe aluminum and tin will melt. It won't! Inspect your campsite or rest area for litter or spilled foods.
- 4) Leave What You Find:** Minimize site alterations. Avoid damaging live trees and plants. Leave natural objects and cultural artifacts for future generations to enjoy. Do not build structures or furniture or dig trenches. Avoid disturbing wildlife.
- 5) Minimize Use and Impact from Campfires:** Decide whether you should even have a fire. Sometimes the wilderness can be enjoyed more without a fire. Use a camp stove and candle for cooking and light. If you decide to have a fire, be aware of regulations and weather conditions. Use small sections of dead wood and burn them completely. In high use areas, use existing fire rings. For remote areas, learn to use appropriate LNT fire techniques. Make sure fires are out cold and remove non-designated fire rings.
- 6) Respect Wildlife:** Enjoy wildlife at a distance. Minimize disturbance as much as possible. Do not feed, harass, approach or follow any wildlife. Be aware of the special considerations for bear country. Hang food 15 feet off the ground and keep a clean camp to avoid attracting bears. Exposing animals to human food damages their health, alters natural behaviors, and makes them more vulnerable to predators. Do NOT bring pets into the backcountry. Dogs especially harass wildlife. All wildlife at Crater Lake is protected by law.
- 7) Respect Other Visitors:** Use discretion in camp location. Reduce your impact on other visitors by being out of sight and sound of park trails when camping. Reduce noise and overly bright colored clothing. Make your campsite look like nobody has ever been there. Step to the down hill side of the trail when encountering pack stock. Let nature's sound prevail. Avoid loud voices and noises.

For further information on Leave No Trace, ask to watch the LNT video at the Steel Information Center; call the LNT information line at 1-800-332-4100; or visit [www.LNT.ORG](http://www.LNT.ORG) on the World Wide Web. If you are interested in a free group presentation in the Crater Lake area, contact Park Ranger John Broward c/o Crater Lake National Park, P.O. Box 7, Crater Lake, OR 97604.



### USE CAUTION



NEAR  
THE  
EDGE  
FOOTING CAN  
BE DANGEROUS

**Please be cautious near the rim of the caldera. The Cleetwood Cove Trail is the only safe and legal access to the lake. Climbing inside the caldera is strictly prohibited.**

## Exploring the Backcountry

Opportunities for wilderness camping are abundant at Crater Lake National Park. All overnight campers must obtain a free backcountry permit, available from a ranger at any information desk during regular hours of operation. The ranger on duty will inform you of the current weather forecast, parking information, and any special conditions you may need to know about.

Please observe the following regulations in the backcountry:

- Pack stock is permitted only in certain parts of the backcountry. Ask at an information desk for details.
  - Pets, firearms, bicycles, and motorized vehicles are not permitted in the backcountry.
  - Camping and open fires are prohibited within a mile of any paved road; within 100 feet of any water source, trail, or other camping party, except when using a designated campsite; between the Rim Drive and Crater Lake; on Wizard Island, Mt. Scott, or Garfield Peak; or in the vicinity of Sphagnum Bog.
  - Pack out all garbage and leave a clean camp.
- Groups are limited to 8 people.
  - Open fires are allowed only if "dead and down" wood is used. Wood can only be collected below an elevation of 6,800 feet. If possible, use an existing fire ring.

# Visitor Services

Summer 2000

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## Rim Village

The Liao Rock Cafe, the Watchman Restaurant, and a gift shop are all located on the south rim of Crater Lake. During peak season (June 17 - September 4, 2000), their hours are:

Cafe	8:00am - 5:00pm
Restaurant	5:00pm - 10:00pm
Gift Shop	8:00am - 8:00pm

A formal dining room is located inside the Crater Lake Lodge. Its hours of service are:

Breakfast	7:00am - 10:30am
Lunch	11:30am - 2:00pm
Dinner	5:00pm - 10:00pm

## Mazama Village

A campground, the Mazama Motor Inn, a camper services store, laundry, showers, and gasoline are all available at Mazama Village, located near the south entrance station off Highway 62. During peak season, the camp store is open from 7:00am to 10:00pm.

## Lodging

There are two facilities for overnight lodging inside the park:

**Crater Lake Lodge** (71 rooms) is located at Rim Village, overlooking the lake. It will be open for the summer season from May 20 through October 21, 2000. Reservations are highly recommended well in advance.

**Mazama Village Motor Inn** (40 units) is located seven miles south of the lake in Mazama Village. It will be open from June 9 through October 8, 2000.

To make reservations for either of these accommodations, contact the Crater Lake Lodge, Inc., (541) 830-8700, FAX (541) 830-8514; or write to Crater Lake Lodge, Inc., 1211 Ave. C, White City, OR 97503.

## Camping

There are two campgrounds inside Crater Lake National Park:

**Mazama Campground** contains more than 200 sites and is operated by the park's concessioner from mid-June through early October, weather permitting. Reservations are not taken, but generally there are plenty of sites available. The campground offers running water, fire rings, picnic tables, and flush toilets. Wheelchair-accessible sites are available. Evening campfire programs are offered nightly from early July through early September. Fee: \$13.00 tent site; \$14.00 RV/trailer site (no hookups).

**Lost Creek Campground** is operated by the National Park Service from mid-July through mid-September. It contains 16 sites for tent camping only, and is located in the southeast corner of the park on the spur road to the Pinnacles Overlook. Fee: \$10/site.

## Emergencies

**DIAL 911** to report medical, police, or fire emergencies, 24 hours a day. First aid is available at either park visitor center and at the ranger station at Park Headquarters.

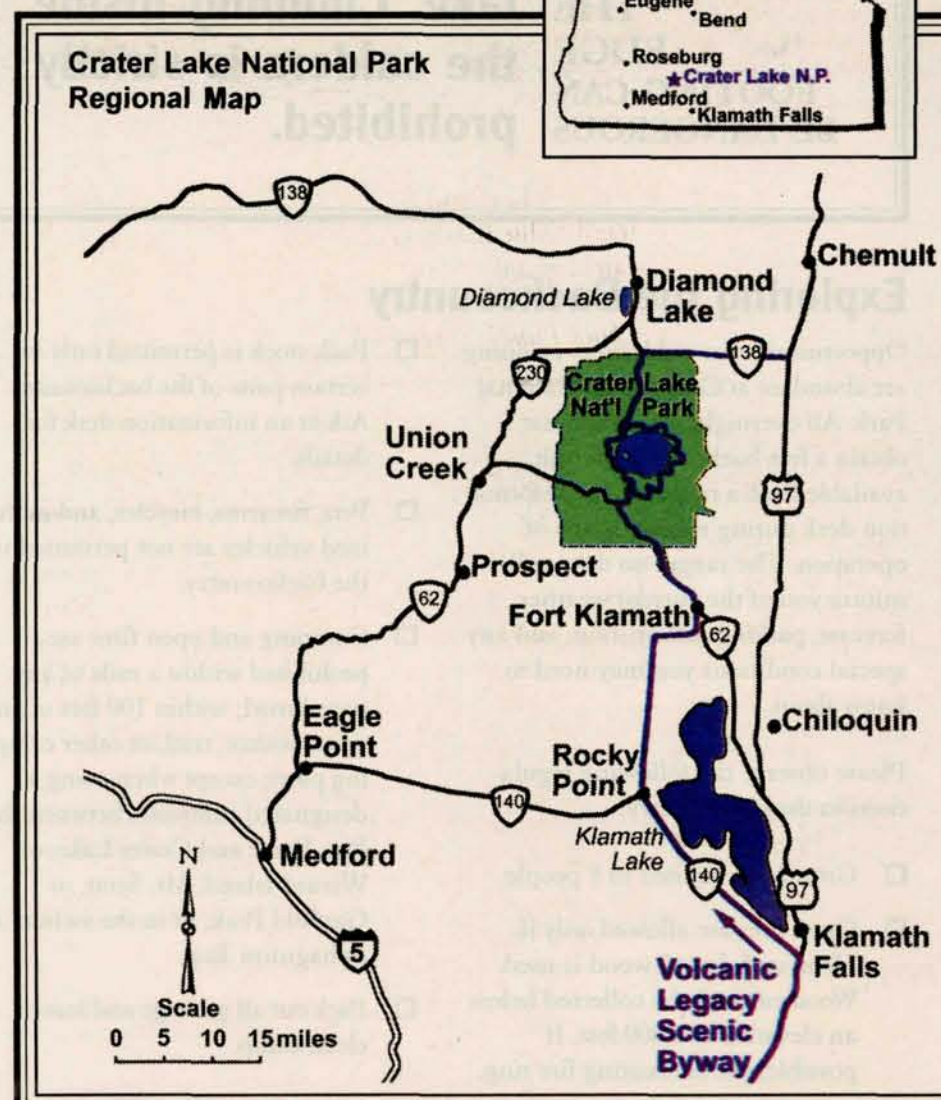
## Lost and Found

If you lose an item while visiting the park, contact a park ranger at either visitor center or call the park dispatch office, (541) 594-2211 Ext. 347, to report your loss. Found items may be turned in to a park visitor center.

## Postal Services

A U.S. Post Office is located in the foyer of the Steel Information Center. During the summer, it is open Monday through Saturday from 10:00am to 12:00pm and from 1:00pm to 3:00pm.

*All rates and times are subject to change without notice.*



## Getting to the Park

During the summer, Crater Lake National Park may be entered either from the north via Highway 138 or from the south via Highway 62. Spring and Fall travelers should note that during an average snowfall year, the north entrance to the park opens for the season in mid-June and closes in October when the winter snowfall begins.

## Traveling Crater Lake's Rim Drive

The 33-mile (53-km) Rim Drive circles Crater Lake inside the park. More than 30 overlooks are located along this scenic two-lane road. Allow two hours to travel completely around the lake. A seven-mile (11-km) spur road departs from the Rim Drive on the east side of the lake, and provides access to the Pinnacles Overlook, Lost Creek Campground, and Grayback Drive. While enjoying the spectacular views found along Rim Drive, watch out for deer and other wildlife crossing the road, and be aware that icy road conditions may be present at any time of the year. Obey the posted speed limits at all times.

## Driving Distances in Summer:

Klamath Falls	60 miles	100 km
Medford	80 miles	130 km
Bend	105 miles	170 km
Eugene	140 miles	225 km
Portland	250 miles	400 km
Seattle	425 miles	685 km
San Francisco	450 miles	725 km