# **Crater Lake**

Crater Lake National Park National Park Service U.S. Department of the Interior



*Reflections* Visitor Guide Winter/Spring 2024-2025





## Keeping the Park Open is "Snow" Easy Task

What were you doing at 4 am this morning? If you were a member of the Crater Lake roads crew, you might have been reporting for duty!

Trying to keep Highway 62 and the road to Rim Village open year-round is no easy task. The park's heavy equipment operators typically start before dawn—and sometimes work late into the night—clearing snow and sanding roads. "It can be a hazardous job," reports one operator, "especially when it's dark and white-out conditions are occurring. On a winding mountain road, you never know what's around the next corner. It could be a tree across the road at windshield level, a car stuck in the snow, or an avalanche." (continued on back page)



# A Winter Wonderland

## But for How Much Longer?

Straddling the crest of the Cascade Mountain Range, Crater Lake National Park is one of the snowiest inhabited places in America. Storms from the Pacific Ocean dump an average of 42 feet of snow at Park Headquarters each winter and more than 50 feet at Rim Village. Since 1931, however, when rangers began keeping track, totals have been trending downward. Snowfall at Park Headquarters has been below average for 11 of the past 13 years.

> At first glance, milder winters might seem to be good news, since deep snow tends to make life difficult. Snow forces many animals, including deer and elk, to leave the park in order to survive. Snow makes it hard for park staff to keep roads plowed and facilities functioning. And, for park visitors, storms often lead to disappointment, hiding Crater Lake from view.

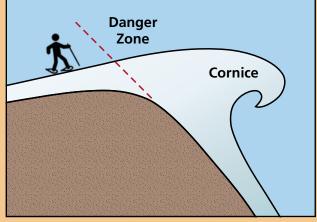
But consider the benefits that blizzards bring. A thick blanket of snow provides protection and warmth for "subnivean" mammals such as shrews, voles, and pikas. It serves as a water reservoir for the park's old-growth forests, insulating trees from drought and fire. It provides us with opportunities to ski, sled, snowshoe, and marvel at winter's beauty. And, since it eventually melts to feed the Rogue, Umpqua, and Klamath rivers, snow at Crater Lake is good news for downstream farmers, ranchers, cities, and wildlife.

Unfortunately, declining snowfall in the winter is having negative consequences

## Caution! Heavy Snowfall Creates Deadly Hazards



For your safety, keep away from snow-covered buildings. A "roofalanche" (roof avalanche) can happen without warning, sending heavy blocks of snow and ice across a wide area.



Stay back from the edge of the caldera! Unstable ledges of snow, called cornices, extend beyond the rim. Traveling onto a cornice can cause it to collapse, triggering a deadly avalanche.

## **Snowshoe with a Ranger**

Ranger-led snowshoe walks are a fun way to experience the park in winter. They take place on Saturdays, Sundays, and holidays from late November through April, and on weekdays during Winter Break (December 23-January 3) and Spring Break (March 24-28). There is no cost for the tour, and snowshoes are provided free of charge.

The walks start at 1 pm, last 2 hours, and are moderateto-strenuous in difficulty. Participants must be at least 8 years old and have warm clothing and footwear. Most walks begin at Rim Village and explore the forests and meadows along the rim of the caldera. Along the way, participants discover how winter affects Crater Lake and the park's plants and animals.

Space on each tour is limited, and advance reservations are recommended. To sign up, stop by the Steel Visitor Center or call 541-594-3100. Organized groups of 10 or more people may be able to arrange for their own, separate walk (staff permitting).



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in the summer. It's leading to longer and more severe fire seasons, a rise in insect epidemics and invasive species, and hardship for native plants and animals, as they struggle to survive in a climate to which they're not adapted. So, despite the challenges that long and snowy winters impose on the park, they are ultimately a cause for gratitude, delight, and celebration. Let it snow—please!

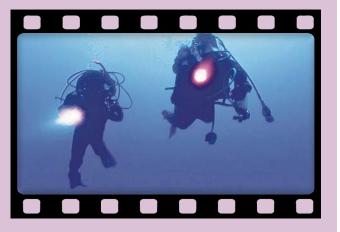
Rangers use a giant ruler—21 feet tall—to measure snow depth at Park Headquarters. They have measured snow depth, snowfall, and precipitation at this location since 1931.

While the *amount* of precipitation the park receives hasn't changed much over time, the *type* of precipitation has. Warmer weather is causing a larger proportion of it to fall as rain. Snowfall has declined. Average Annual Snowfall at Park Headquarters, by Decade:

1930s – 614 inches 1940s – 623 inches 1950s – 572 inches 1960s – 507 inches 1970s – 495 inches 1980s – 475 inches 1990s – 493 inches 2000s – 455 inches Since 2010 – 421 in.

## Watch the Park Film

Curious to learn more about Crater Lake? Stop by the Steel Visitor Center to watch the park's 22-minute film, shown on request throughout the day. The film explores the park's significance and the wonder that Crater Lake has inspired for generations. Entitled *Crater Lake: Into the Deep*, it includes dramatic underwater footage along with state-of-the-art animation that depicts the lake's violent, volcanic past.





Visitor Guide Winter/Spring 2024-2025

Reflections

This is the official visitor guide to Crater Lake National Park It is published twice a year and funded by the Crater Lake Natural History Association.

Park Phone: 541-594-3000 Website: www.nps.gov/crla Email: craterlake@nps.gov Mailing Address: PO Box 7, Crater Lake, OR 97604

## **Rules to Know**

Please take a moment to become familiar with these important regulations. For a full list of the park's policies, visit go.nps.gov/regs.

Drones - The use of remotecontrolled aircraft is prohibited.

Guns - Firearms are allowed in the park in accordance with Oregon state laws, but they are prohibited in all park buildings.

Lake Access - The trail to the lake shore is closed this time of year. Venturing below the rim of the caldera is forbidden.

use are prohibited. State drug laws do not apply in the park, an area of federal jurisdiction. **Fires** - Self-contained stoves

Marijuana - Possession and

are allowed; open fires are not.

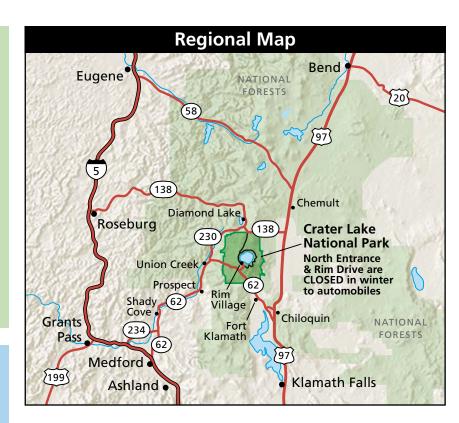
Wildlife - Feeding wildlife, including birds, is prohibited.

# Roads & Travel

The park is open year-round, 24 hours a day. Some roads, trails, and facilities, however, are closed seasonally due to snow. The North Entrance Road, Rim Drive, and Pinnacles Road close to automobiles each year on November 1 (or earlier if there is significant snowfall). Crews begin removing snow in April, but opening dates vary. The North Entrance Road and West Rim Drive tend to open in early June. The East Rim Drive and Pinnacles Road typically open in early July.

Highway 62 and the road to Park Headquarters are plowed daily and are open year-round. The 3-mile road from Park Headquarters to Rim Village is also kept open as much as possible (typically 60 to 70% of the time in the winter), but it is sometimes closed for days or weeks at a time during periods of heavy snow accumulation. Before visiting, check the park's website (www.nps.gov/crla) to find out if the road to Rim Village is open.

Even when plowed, park roads can be snow-packed and icy. Drive with caution and be alert for plows. Most accidents in the park are caused by excessive speed. When road conditions are poor, vehicles without winter tires or chains may be prohibited from driving to Rim Village. For your safety, do not stop or park in the roadway. Parking is allowed only in plowed pullouts and parking lots.



## Services & Facilities

## **E**mergencies

Dial 911 to report any emergency, 24 hours a day. First aid is available at the Steel Visitor Center.

## Phone & Internet

Cell service in the park is spotty. You may have luck at Rim Village. There's an emergency phone at Park Headquarters, outside the "snow tunnel" entrance to the Administration Building. The Rim Café & Gift Shop has WiFi.

## **Visitor Center**

The Steel Visitor Center at Park Headquarters is open daily except on December 25. Winter hours are 10 am–4 pm, becoming 9 am–5 pm in mid-April. Rangers are available to answer questions and help plan your visit. Kids can earn a Junior Ranger badge by completing a free activity book. The Crater Lake Natural History Association sells gifts, books, and souvenirs. A 22-minute film about the park is shown throughout the day.

## S Entrance Fee

No reservations are needed to enter the park, but an entrance fee applies, which can be paid upon arrival. The fee for most vehicles (November 1–May 21) is \$20.

## **Gasoline**

The park's gas station is closed in the winter. It typically reopens in late May. A charging station for electric vehicles can be found 100 yards south of the fee booth, but it may not be accessible after snow storms. West of the park, the closest gas is at the Prospect Service Station (541-560-3210), 29 miles from the park's fee booth. Gas and diesel are available there 8 am–8 pm daily. South of the park, the closest gas is at the Crater Lake Junction Travel Center (541-783-9800), 30 miles from the fee booth. Gas and diesel are available there 24 hours.



## **Restrooms &** Drinking Water

Restrooms and a water fountain are available in the Steel Visitor Center during business hours. When the road to Rim Village is open, restrooms there are open 24 hours. (Drive past the Rim Café & Gift Shop and look for the small building with "snow tunnel" entrances.) Water from the restroom sinks is safe to drink.

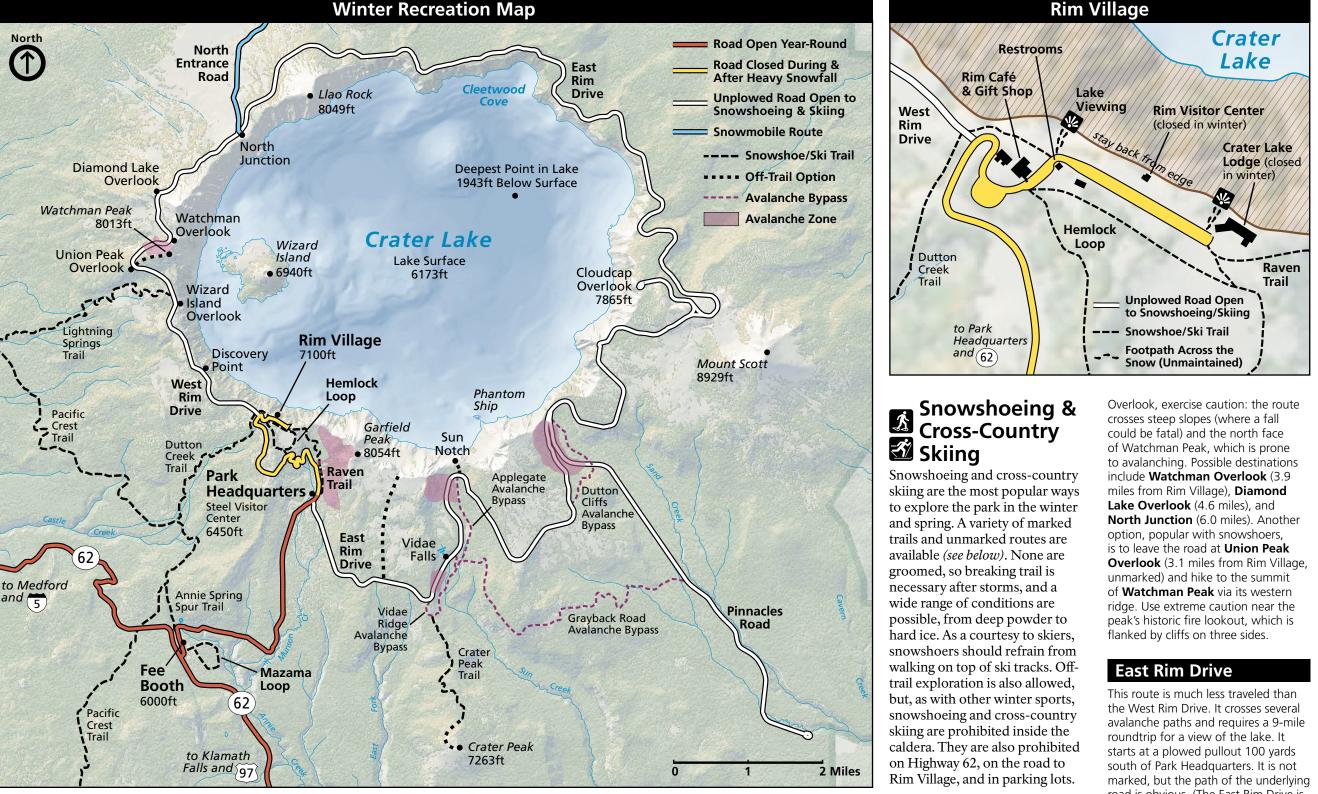
## Café & Gift Shop

The Rim Café & Gift Shop is open daily except on December 25 and on days when the road to Rim Village is closed. Winter hours are 9 am–4 pm, then 10 am–5 pm starting March 9. The café serves light meals, snacks, and beverages. A large gift shop offers a wide selection of souvenirs, as well as snowshoe rentals (see next page). An observation room on the top floor provides partial views of Crater Lake (weather permitting). For more info, call 866-292-6720.

## Lodging & Camping

There are no accommodations in the park in the winter or early spring. Crater Lake Lodge opens in mid-May. Mazama Campground typically opens in June. For a list of options outside the park, visit go.nps.gov/sleep. Camping in the park's pullouts and parking lots is prohibited. Overnight parking is allowed only at Park Headquarters, for skiers and snowshoers who are out backpacking in the park. The closest places for overnight parking and camping are the Annie Creek Sno-Park (0.5 miles south of the park boundary) and the Thousand Springs Sno-Park (2.4 miles west of the park boundary). A Sno-Park permit is required November through April; the closest place to buy one is Union Creek Resort (9.4 miles west of the park, 541-560-3565).





## Activities

## Lake Viewing

When skies are clear, spectacular views of Crater Lake can be enjoyed at Rim Village. During storms, however, the lake is usually hidden by clouds. The lake is completely "invisible" about 50% of the time in the winter and early spring! To avoid disappointment, check the weather forecast (www. weather.gov) and the Rim Village webcam (go.nps.gov/cams) before you leave home.

When the Rim Café & Gift Shop is open, a partial view of the lake can usually be obtained through the windows on the top floor, accessible by elevator. For a better view of the lake (and when deep snow blocks the view through the windows), you'll need to walk across the snow toward the edge of the caldera. The shortest route is via a "snow ramp" across from the Rim Village restrooms. Be careful—conditions at Rim Village can be icy and slippery!

On days when the road to Rim Village is closed, viewing the lake requires snowshoeing or skiing up the Raven Trail. Walking or otherwise traveling on the closed road is prohibited.

## Sledding

There are no designated sled hills or snow-play areas in the park, but many opportunities for sledding can be found. For your safety, sledding and other winter sports are prohibited on Highway 62, on the road to Rim Village, below the rim

of the caldera, and in parking lots. Please select areas that have gentle slopes, are away from trees and other obstructions, and provide a safe, flat runout area. Several such locations exist near Rim Village; one popular spot is the open meadow south of Crater Lake Lodge.

## **Enjoying the Park** With Your Pet

Pets on a leash (or otherwise physically restrained) are welcome in the park, provided they stay within 50 feet of plowed roads and parking lots. Solid waste must be picked up immediately and disposed of properly, in a trash can or toilet.

Dogs on a leash are also allowed on one snow-covered trail: the Pacific Crest Trail, which passes through a pretty forest but does not offer any lake views. This trail can be accessed from a pullout on Highway 62, 1 mile west of the fee booth, where it crosses the road.

Pets are not allowed on other trails this time of year, nor are they permitted off-trail, on unplowed roads, or in buildings. The most popular place to walk a dog is Rim Village,



Station at Park Headquarters (100 yards south of the Steel Visitor Center). Vehicles must be left overnight at Park Headquarters—not at Rim Village. The most popular one-night trip is to travel up the Raven Trail then out along the West Rim Drive, camping somewhere between Discovery Point and Watchman Peak. The most popular multi-night trip is the 31-mile loop around Crater Lake, which typically takes 3 to 4 days (see box, above right).



either in the parking lot or atop the snowbank beside the parking lot.

## **Backpacking**

Backpacking is allowed in the park year-round. Winter offers wellprepared skiers and snowshoers opportunities to experience occasions of unique beauty and solitude. All campers must obtain a free permit before setting out. Permits are available at the Ranger

Snow camping is required; there are no public huts or shelters. Campsites must be at least 1 mile from the nearest plowed road, out of sight of any trail or route, and



at least 100 feet back from the edge of the caldera. For trip-planning advice and a complete list of regulations, call 541-594-3060 or stop by the Steel Visitor Center.

## Snowboarding & Downhill Skiing

These activities are allowed in the park, but extreme caution should be used. There are no chairlifts or groomed runs. Venturing below the rim of the caldera is strictly prohibited. The most frequently skied slopes are on the southwest side of Garfield Peak, east of Park Headquarters. This area is prone to avalanches, however, so skiers should be experienced in avalanche safety and winter backcountry travel

## Snowmobiling

The park's North Entrance Road is groomed for snowmobile travel. At North Junction, if weather permits, riders can enjoy a spectacular view of Crater Lake. Snowmobiles must stay on the groomed route; they are not allowed to continue onto the Rim Drive, and off-route travel is prohibited. The route is open as conditions permit, typically from December through March.

Most people begin their ride at Diamond Lake Resort, where snowmobiles are available for rent. For rates and reservations, and to inquire about snow conditions, call 541-793-3333 or visit www. diamondlake.net. Diamond Lake Resort to North Junction is a 36mile roundtrip. A shorter, 18-mile roundtrip is available for people with their own snowmobiles (and a Sno-Park permit) who start by the park boundary on Highway 138.

Warning: Do not try to locate the summer hiking trails shown on the official park brochure. When buried by snow, they are virtually impossible to follow. Some, like the Garfield Peak Trail, are also far too dangerous to attempt in the winter and spring due to avalanche-prone slopes, unstable snow cornices (see *diagram on page 1)*, and icy cliffs.

A limited number of snowshoes are available to rent at the Rim Café & Gift Shop (866-292-6720). Overnight rentals are not allowed, and reservations are not taken. The closest places to rent cross-country skis-and snowshoes for overnight hikes—are Union Creek Resort (9.4 miles west of the park on Highway 62; 541-560-3565) and Diamond Lake Resort (7.2 miles north of the park off of Highway 138; 541-793-3333). For a list of other nearby outfitters, visit go.nps.gov/rent.

### West Rim Drive

On a clear day, this is the most scenic route in the park for snowshoeing and cross-country skiing. It follows the West Rim Drive, which is unplowed from November to mid-April. To find it, ascend the "snow ramp" across from the Rim Village restrooms, then head west. The route is not marked, but the path of the underlying road should be apparent. The West Rim Drive features gently rolling terrain and is suitable for people of all abilities (unless conditions are icy, in which case it can be treacherous for skiers, especially just west of Rim Village).

The route is mostly forested with occasional lake views, including spectacular views at **Discovery Point** (1.2 miles from Rim Village) and Wizard Island Overlook (2.3 miles from Rim Village). Neither viewpoint is signed, but both are fairly obvious. If continuing past Wizard Island

road is obvious. (The East Rim Drive is unplowed from November to June.) Vidae Falls (3.1 miles from the trailhead) is a spring-fed cascade that drops 100 feet over a series of ledges. Unfortunately, in the winter there is usually not much to see: the falls barely flow and are mostly hidden by snow.

The real highlight of the route comes at **Sun Notch** (4.5 miles from the trailhead), which offers a dramatic view of Crater Lake and the rocky island known as the Phantom Ship. The viewpoint lies a guarter-mile north of the road. To find it, leave the road at the apex of the sweeping righthand curve; the turnoff is not marked. Caution: On the way to Sun Notch, the East Rim Drive crosses two slopes that are prone to avalanching. If conditions warrant, you can bypass them by taking the Vidae Ridge Avalanche Bypass Trail (marked with blue diamonds) and the Applegate Avalanche Bypass Route (unmarked, but which follows the floor of the valley)

Another lake-viewing option for energetic snowshoers and advanced skiers is to attain the rim of the caldera east of **Garfield Peak**. This is an unmarked but straightforward ascent through open meadows and groves of trees. To get there, leave the East Rim Drive near the summit of the first hill, 1.8 miles from Park Headquarters. The rim lies 1.4 miles (and 950 feet of elevation gain) due north.

#### Hemlock Loop

This 1.3-mile loop explores a forest of mountain hemlock trees punctuated by meadows with views of Garfield Peak. It's marked with blue diamonds in the trees and orange poles in the clearings. It starts across from the entrance to the Rim Café & Gift Shop. (It can also be accessed near Crater Lake Lodge and from a pullout 1.5 miles south of Rim Village.) For skiers, traveling counterclockwise offers the most interesting downhill slopes and turns. In this direction, the trail climbs 45 feet to its high point, drops 200 feet, then gains 155 feet as it returns to Rim Village.

## Visiting in May?

A popular activity in May (and June) is to walk along plowed sections of the Rim Drive that have not yet opened to automobiles. Snow removal typically starts in mid-April, with plows heading west from Rim Village. Hikers, bicycles, and pets on leash are allowed past the gate. Please keep clear of snow removal equipment, and be alert for fallen rocks and patches of snow and ice.

## **Circling the Lake**

Each year, about 200 people ski or snowshoe all the way around Crater Lake on the unplowed Rim Drive. The trip can be exceptionally rewarding, with unforgettable views. It can also be physically and mentally demanding—a test o endurance and outdoor skills.

When the weather is clear and snow conditions are good, the 31-mile loop takes an average of 3 days to complete. Storms, however, force many parties to turn back or spend extra nights The route is unmarked, hard to follow in places, and crossed by several avalanche paths. Those attempting the trip should be experienced in winter camping off-trail travel, and avalanche safety. A backcountry permit is required.

March and April are the most popular months to circle the lake, with longer days and longer breaks between storms than December-February.

#### Mazama Loop

This flat trail makes a loop of 1.6 miles through the park's campground and provides views into Annie Creek Canyon. It's a good choice for beginning cross-country skiers and on days when the road to Rim Village is closed. The trail is typically open from mid-December to late March, when plowing operations in the campground begin. It's marked with blue diamonds attached to the trees and orange snow poles in the clearings.

#### Raven Trail

On days when the road to Rim Village is closed, the Raven Trail provides a way for skiers and snowshoers to access the rim of Crater Lake. (Traveling on the closed road is prohibited.) The trail starts at Parl Headquarters, by the closed gate. It is 2.0 miles roundtrip, gains 610 feet in elevation, and is marked with blue diamonds nailed to the tree trunks. The trail crosses the runout of several avalanche chutes. When crossing these chutes, do not stop or linger. You'll reach the rim of the lake (and, weather permitting, enjoy a spectacular view) several hundred yards east of Crater Lake Lodge. If you enter Rim Village, be alert for plows. Do not venture east along the rim toward Garfield Peak and its steep, avalanche-prone slopes.

### **Other Trails**

The Pacific Crest Trail passes through a snow-covered forest. It can be accessed from a pullout on Highway 62, 1 mile west of the fee booth. It is the park's only winter trail that is open to pets. The Crater Peak, Lightning Springs, Annie Spring Spur, and Dutton Creek trails offer challenging backcountry experiences for people with advanced winter skills. For details, advice, and route-finding information, call 541-594-3060 or stop by the Steel Visitor Center.



# Ask the Ranger

#### How deep is Crater Lake?

Crater Lake is 1,943 feet deep. It's the deepest lake in the USA—300 feet deeper than Lake Tahoe, which ranks second. Crater Lake is the deepest lake in the world formed by volcanic activity.

#### Where does the water come from?

About 83% of the water comes from rain and snow falling directly on the surface. The rest is runoff from precipitation landing on the slopes above the lake.

#### How clean & clear is the lake?

Since there are no inlets carrying sediment or pollution into Crater Lake, its water is

very clean: cleaner than the water that comes out of your faucet at home! When an 8-inch-wide

instrument called a Secchi

disk is lowered into the lake, the average depth at which it disappears is 103 feet. Some days, clarity readings exceed 130 feet.



### Does the surface freeze?

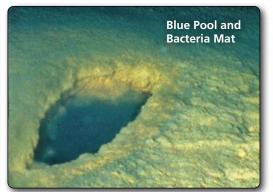
Crater Lake has not frozen over completely since 1949. Ice thick enough to support the accumulation of snow rarely forms on the lake, except during the coldest of winters. The lake contains a tremendous volume of water (5 trillion gallons) relative to its surface area (21 square miles).

#### Does the water level vary?

The level of Crater Lake fluctuates just a few feet each year. Winter storms make it rise a little; dry summers cause it to fall. The lake experiences about twice as much precipitation as evaporation, but the surface remains far below the rim because water continuously seeps out through a porous layer of rock along the north shore. Crater Lake is just like your bathtub—halfway up the side, there's a drain! Water leaks from the lake at a rate of 2 million gallons every hour. It goes deep underground and is not believed to feed any nearby rivers or springs.

#### How did Crater Lake form?

Crater Lake occupies the shell of Mount Mazama, a dormant volcano. The volcano once stood 12,000 feet tall, but its summit imploded after a major eruption 7,700 years ago. The event was witnessed by local Native Americans and was probably the most powerful North American eruption of the past 640,000 years. Wizard Island is a product of subsequent eruptions—it's a cinder-cone volcano that emerged from the lake around 7,300 years ago.



### Does anything live in the lake?

Crater Lake is home to a variety of insects, worms, snails, crustaceans, and amphibians, including a type of salamander found nowhere else in the world (the Mazama newt, a proposed subspecies of the roughskinned newt). Most of the lake's biomass, however, is plant-based: aquatic moss covers the floor at depths of 80 to 460 feet. Nowhere else in the world does moss grow so deep underwater, a testament to Crater Lake's clarity and transparency to sunlight.

#### Are there fish in the lake?

Crater Lake had no fish until it was stocked for fishing between 1888 and 1941. Six species were introduced, but only two have survived: rainbow trout and kokanee salmon. In 1915, crayfish were also added to the lake, as trout food. Recently, their

## **Climate Chart**

Winters at Crater Lake are long and snowy, a result of the park's position at the crest of the Cascade Mountains. On average, Park Headquarters receives 42 feet of snow. In this chart, air temperature and snowfall averages are from Park HQ, 1931-2019. Water temperatures are from 1965-2019.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Daily High (°F)	34	35	37	42	50	58	69	69	63	52	40	34
Average Daily Low (°F)	18	18	19	23	29	34	41	41	37	31	24	19
Average Snowfall (inches)	100	81	83	45	19	4	0.2	0.1	3	21	61	93
Avg. Snow Depth (inches)	78	100	115	110	75	23	1	0	0	2	16	47
Avg. Lake Surface Temp. (°F)	39	38	37	38	40	47	57	60	57	51	44	40

## Support Your Park





## Shop at the Park Store

When you shop at the Steel Visitor Center, all proceeds from your purchase are invested back into the park. The store is operated by the Crater Lake Natural History Association, a nonprofit partner of the National Park Service that supports the park's educational and scientific programs. Many important projects are funded by the Crater Lake NHA, including the printing of this visitor guide! The store offers a wide range of books and gifts, as well as Junior Ranger products for kids. You can also shop online at www.craterlakeoregon.org.

## **Report Your Wildlife Sightings**

If you spot any interesting animals during your visit or witness unusual behavior, please let us know! Your observations will help us learn which animals live in the park and how they use it. Species reported recently include the sooty grouse, western skink, mountain lion, short-tailed weasel, and black-tailed bumble bee. To share your sighting, email craterlake@ nps.gov. Let us know the date and location of your encounter, a detailed description of what you saw, and your name and contact info, in case we have questions. And if you captured any photos, send them along. Photographic evidence can be very important in confirming the identity of some species. Just remember that approaching, feeding, or disturbing wildlife is prohibited—so please keep your distance. Thanks for your help!

## Buy Crater Lake License Plates

**Keeping the Park Open** 

(continued from page 1)

Snow plows were first used at Crater Lake in 1930. Prior to that, crews used dynamite and shovels to clear the roads each spring. Today, the park employs 6 operators and 2 mechanics who maintain an assortment of push plows and rotary plows. The rotary plows are equipped with a fan that can shoot snow 75 feet into the air. To control where the snow lands, the operator can vary the angle of output. The amount of snow moved each winter by the park's roads crew is astounding. With it, you could create a ski trail 3 feet wide, 6 inches deep, and long enough to circle the Earth at the equator!

The most challenging part of the job is "Spring Opening," when the operators turn their attention to digging out the 30-mile Rim Drive and 9-mile North Entrance Road. They start with the West Rim Drive, departing Rim Village sometime in April. Typically, the snow they encounter is 20 to 30 feet deep. Near Watchman Peak, they meet drifts up to 50 feet thick. Progress is slow, averaging a quarter-mile of road cleared per day. In a light snow year, they'll reach the park's North Entrance by mid-May. After a severe winter, it will take until mid-June. The East Rim Drive is their final leg. "If we can get all the way around the lake by the 4th of July," says one operator, "we're happy."



population has exploded: crayfish now dominate 90% of the shoreline, and they've been found living at depths of up to 800 feet. Like miniature vacuum cleaners, they eat everything in their path, reducing the abundance and diversity of native organisms. Sadly, crayfish are swiftly pushing the lake's native newts toward extinction.

#### Has the lake floor been explored?

In the 1980s, a one-person submarine called Deep Rover made 47 trips to the bottom of Crater Lake. There, researchers discovered hydrothermal springs and three types of surprising features: 30-foot-tall chimneys of rock precipitated from the upwelling fluids; blue-colored pools of high-density, mineral-rich water; and huge mats of yellow bacteria that survive in the dark by oxidizing iron for energy.

This red fox was spotted by a park visitor. Red foxes are not always red; most at Crater Lake are silver to black.





If you live in Oregon, consider choosing Crater Lake license plates for your vehicle. For a one-time charge of \$30, you can outfit your car with these beautiful plates while supporting park projects. You can purchase them at any time, not just when buying a new vehicle or renewing your registration. Visit any DMV office or www.oregon.gov/odot/dmv for details. Proceeds go into an endowment that funds the operation of the park's Science and Learning Center, which provides living and working space for visiting scientists, teachers, and artists. For more information, visit go.nps.gov/slc.

## **Contribute to the Crater Lake Trust**

The nonprofit Crater Lake National Park Trust raises private funds to support park projects and connect the park with surrounding communities. Share your love of the park by making a tax-deductible gift. Learn more at www.craterlaketrust.org.

### **Volunteer Your Time**

Looking for a hands-on way to help the park? Consider sharing your time and talents as a Crater Lake VIP (Volunteer-In-Parks). Full-time volunteers are needed to help staff visitor centers, present interpretive programs, and perform PSAR (preventive search and rescue). Opportunities are advertised several times each year at www.volunteer.gov. Volunteers are provided free housing in exchange for 3 months of service. To volunteer periodically, join The Friends of Crater Lake, a nonprofit whose members help with special events and operate a winter information desk at Rim Village. Learn more at www.friendsofcraterlake.org.

### Share Your Comments

Whether you have a compliment, concern, or suggestion, we'd like to hear from you! This is your park, and we value your input on how best to manage it. To provide feedback, send an email or letter to the park's superintendent *(see addresses on page 2)*. For your safety, when you encounter a snow plow in the park, give it a wide berth. Passing one on the park's narrow roads can be hazardous. Wait until an intersection or until the plow stops and the operator waves you by. Until then, assume that the operator can't see you; visibility inside the plows can be poor. Also, skiers and pedestrians should be careful to keep away from the dangerous cascade of snow thrown by the rotary plows.

Thanks to the hard work, long hours, and dedication of the park's heavy equipment operators and mechanics, we can access and enjoy Crater Lake National Park every month of the year.