



Reflections Visitor Guide Summer/Fall 2019



Park News

► Astronomy Programs

Have you ever seen the Milky Way? Or spotted a distant galaxy through a telescope? On eight dark nights this summer—June 29; July 1, 3, and 27; and August 3, 12, 24, and 31—park rangers will be presenting astronomy-themed digital slide shows followed (weather permitting) by telescope viewing sessions and a star tour of the night sky. Check posted flyers for the times and locations of these special events.

► Leave Your Drone at Home

Operating remote-controlled aircraft in the park is prohibited. Please report violators to the nearest employee.

► Backcountry Campfire Ban

Over the past 20 years, humans have started 51 wildfires in Crater Lake National Park! In 2016, for example, an escaped campfire near the Pacific Crest Trail burned 1,000 acres (405 hectares), closed the West Rim Drive, and cost \$4.5 million to contain. To combat this problem, wood fires will no longer be allowed in the park except in official fire rings at Mazama Campground and the Rim Village Picnic Area. Backpacking stoves are still permitted park-wide.

► East Rim Drive will be Vehicle-Free on Sept. 14 & 21

On two Saturdays this September, motor vehicles will not be allowed on the park's East Rim Drive. Bicyclists and pedestrians will have an opportunity to enjoy 24 miles (39 km) of scenic roadway without vehicle noise and traffic. Check the park's website (www.nps.gov/crla) for details.

Welcome!



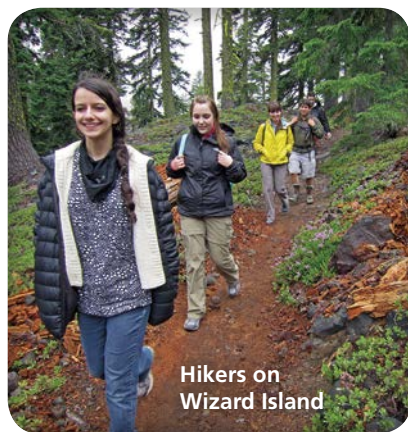
¡Bienvenido!
Willkommen!
歓迎!
Bienvenue!
Добро пожаловать!
Dobrodošli!
स्वागत हे!
Benvenuto!
Welcom!
ようこそ!

Each year, more and more people from around the world are discovering the spectacular scenery and special qualities of Crater Lake National Park. As stewards of this global treasure, we welcome visitors of all backgrounds, languages, and nationalities and celebrate the diverse perspectives they bring to the park. Whether you're an Oregonian or from across an ocean, we welcome you here and hope you will return home with great pictures and memories.

Craig Ackerman
Superintendent

More Than a Pretty Lake

12 Great Ways to Explore Your Park



Crater Lake is one of the most beautiful lakes on planet Earth. Its blue water, dramatic cliffs, and enchanting islands make it exceptionally photogenic. Understandably, taking in the scenery from the rim of the lake is the park's most popular activity. Capturing the beauty on a camera or phone is a close second. Eventually, though, you might find yourself wondering if there is more to the park than just the amazing views. Is there anything really to *do* here?

Thankfully, the answer is yes! The park offers much to see and do beyond the first flurry of photos. To get you started, here's a list of a dozen recommended activities that are guaranteed to make your visit to the park more memorable, meaningful, and fun.

Watch the Park Film

Explore the park's violent past and its present tranquility in this 22-minute film, shown on the hour and half-hour at the Steel Visitor Center at Park Headquarters.

Drive Around the Lake

Rim Drive is a 33-mile (53-km) road that encircles Crater Lake. More than 30 pullouts offer dramatic views of the park's volcanic scenery. Allow 2 to 3 hours (*see page 5*).

Attend a Ranger Program

Discover the wonders of Crater Lake with those who know the park best. Talks, walks, kids programs, boat tours, and trolley tours are offered daily (*see page 3*).

Hike a Trail

From easy walks to challenging hikes, the park has something for everyone. Explore pristine forests, flower-filled meadows, and rocky peaks (*see page 4*).

Find the Phantom Ship

Anchored near the lake's south shore is an island that seems to be sailing away. To see it, hike to Sun Notch or drive to the viewpoint named in its honor (*see page 5*).

Photograph the Pinnacles

Formed during the same eruption that gave birth to the lake, these colorful volcanic spires are tucked away in the park's southeast corner (*see page 5*).

Rotary Plow at Rim Village



Tour Crater Lake Lodge

For a glimpse into an earlier era, check out the history exhibits—and walk through the Great Hall—of Crater Lake Lodge, renovated in the 1990s but first opened in 1915 (*see page 2*).

Visit the Sinnott Overlook

With panoramic views and fascinating exhibits, this is the place to learn about the park's geologic story and history of scientific investigation (*see page 2*).

Have a Picnic

The viewpoints and picnic areas along the Rim Drive are perfect for outdoor eating (*see page 5*). Stop by the Rim Village Café for grab-and-go sandwiches, salads, and snacks.

Touch the Water

The trail to the lake shore is steep and sometimes crowded, but the water at the bottom is some of the world's purest. Swim, fish, or simply dangle your toes (*see page 3*).

Savor the Sunset

Sunsets in the park can be spectacular. Join a ranger for a hike up Watchman Peak (*see page 3*) or pick a private viewpoint on the East Rim Drive.

View the Milky Way

On moonless nights, the park offers some of the darkest night skies in America. Look up to see meteors, satellites, planets, and the starry arms of our galaxy.

When is the Park Open?

Crater Lake National Park is open year-round, 24 hours a day. Some roads, trails, and facilities, however, are closed seasonally due to snow. The park's North Entrance Road and Rim Drive close for the season on November 1 (or earlier if there is significant snowfall).

Crews start plowing these roads in April, but opening dates vary (depending on winter snow totals, spring weather conditions, and whether any plows break down). The North Entrance and West Rim open sometime between mid-May and late June. The East Rim opens between mid-June and late July. Highway 62 and the road to Rim Village are open year-round.

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Look Inside! →

Park Profile

Crater Lake National Park protects the deepest lake in the United States. Fed by rain and snow (but no rivers or streams), the lake is considered to be the cleanest large body of water in the world. The water is exceptional for its clarity and intense blue color.

The lake rests inside a caldera formed approximately 7,700 years ago when a 12,000-foot-tall (3,600-meter) volcano collapsed following a major eruption. The eruption may have been the largest in North America in the past 640,000 years. Later eruptions formed Wizard Island, a cinder cone near the southwest shore.

The park is central to the cultural traditions of local American Indian tribes, whose ancestors witnessed the lake's formation.

Today, old-growth forests blanket the volcano's outer slopes, harboring a wide variety of plants and animals, including several rare species. The park provides unique opportunities for scientific study and public enjoyment.

- Park established: 1902
- Size: 183,000 acres (74,060 hectares)
- Number of visitors last year: 721,000
- Lake depth: 1,943 feet (592 meters)
- Lake width: 4.5 to 6 miles (7 to 10 km)
- Annual snowfall: 43 feet (13 meters)
- Last time the lake froze over: 1949



Artist Paul Rockwood's conception of Mount Mazama, the volcano that collapsed to form Crater Lake. If you gathered up the ash from Mount Mazama's catastrophic eruption and spread it evenly across the state of Oregon, it would form a layer 8 inches (20 cm) thick.



Bicyclist on East Rim Drive



Rim Visitor Center



Wizard Island



Exhibits at the Sinnott Overlook



National Park Service
U.S. Dept. of the Interior

Crater Lake Visitor Guide Summer/Fall 2019

This is the official trip-planner and newspaper of Crater Lake National Park. It is published twice a year and funded by the Crater Lake Natural History Association through sales made in the visitor center bookstores.

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

Accessibility

Except for the Sinnott Overlook, developed areas in the park are generally accessible to individuals with mobility impairments. Wheelchair-accessible paths include the Rim Village promenade and the Pinnacles Trail. The Godfrey Glen, Sun Notch, and Plaikni Falls trails are accessible to wheelchair users with assistance (see page 4). Multiple pullouts on Rim Drive have wheelchair-accessible wayside exhibits. Some ranger programs are accessible to people with limited mobility (see page 3). We are working hard to improve our level of accessibility for all park visitors. We welcome your comments.

ATMs

The Mazama Village Store and Rim Village Gift Shop have ATMs.

Drinking Water

Water faucets can be found at Rim Village, Mazama Village, and inside the Steel Visitor Center. Bottled water can be purchased at the top and bottom of the Cleetwood Cove Trail (when boat tours are operating).

Electric Vehicle Charging Station

A 24-hour charging station is located by the Annie Creek Gift Shop. It has one standard (J1772) connector and one Tesla connector.

Emergencies

Dial 911 to report any emergency, 24 hours a day. First aid is available at visitor centers and the ranger station at Park Headquarters.

Entrance Fee

From May 22 through October, the park's entrance fee is \$25 per vehicle (\$15 per motorcycle), good for 7 days. The rate is higher for commercial vehicles. Your fees are put to work improving visitor services and facilities. Thank you for supporting your national parks!

Gasoline
Self-serve, unleaded

gas is available at the Mazama Village Store during business hours.

Internet

Wireless internet is free for guests of Crater Lake Lodge and The Cabins at Mazama Village. Public Wi-Fi is available at Crater Lake Lodge and the Annie Creek Restaurant for \$4 per hour or \$10 for 24 hours.

Lost & Found

Contact a ranger at either visitor center or call 541-594-3060.

Phones

Cell reception in the park is spotty. Pay phones are located outside the Mazama Village Store and inside Crater Lake Lodge and the Annie Creek Gift Shop.

Picnic Areas

Picnic areas are found throughout the park (see page 5). The Rim Village picnic area has fire grates. Most picnic areas have vault toilets but no running water.

Post Office

A US Post Office is open Monday through Saturday in the Steel Visitor Center. Summer hours are 9:00 am–noon and 1:00–3:00 pm.

Recycling

Combination trash/recycling bins can be found at more than 20 locations in the park. Recycling is currently limited to aluminum cans and newspaper.

Restrooms

Restrooms with flush toilets and running water are located at Rim Village, Mazama Village, and inside the Steel Visitor Center (9:00 am–5:00 pm). Vault toilets are located at most picnic areas, several trailheads, Lost Creek Campground, the park's North and West entrances, and both ends of the Cleetwood Cove Trail (see map on page 5).

Showers & Laundry
Coin-operated showers and laundry machines are located by the Mazama Village Store.

Services & Facilities

Camping

The park has two campgrounds. Senior Pass and Access Pass holders are entitled to a 50% discount. Overnight parking elsewhere is not allowed, except by backcountry permit (see page 3). For a list of camping options outside the park, ask at a visitor center.

Mazama Campground (214 sites) is located 7 miles south of Rim Village near Highway 62. In 2019, it will likely be open June 14–September 29. All sites in June are available only on a first-come, first-served basis. For the rest of the summer, 75% of sites can be reserved in advance by calling 866-292-6720 or online at www.travelcraterlake.com. The other 25% remain first-come, first-served. In July and August, the campground often fills by mid-afternoon. The campground offers tent sites (\$22 per night) and RV sites (\$32). A few of the RV sites have electric hookups (\$36). A water hookup is available at the dump station. There are many pull-through sites; some can accommodate RVs as long as 50 feet (15 meters). Each site has a picnic table, fire ring, and food locker. Black bears are rarely seen, but campers should store all food in their locker or vehicle. The campground has drinking water, flush toilets, showers, and laundry facilities. A general store sells groceries, firewood, and gasoline. You can call the campground directly at 541-594-2255. It's operated by the park's concessioner, Crater Lake Hospitality.

Lost Creek Campground (16 sites, tents only, \$5 per night) is located on the Pinnacles Road. In 2019, it will likely be open from early July to late September. Water and flush toilets are not available at Lost Creek this year, and wood fires are not allowed. Campers should bring their own drinking water; portable toilets will be provided. The campground typically fills by mid-afternoon. Registration is self-service, and reservations are not taken. Each site has a picnic table and food locker. Payment can be made by check or exact cash.

Food & Dining

The **Rim Village Café** serves light fare including grab-and-go sandwiches, salads, beverages, and snacks.

- May 17–June 6 10:00 am–6:00 pm
- June 7–Sept. 2 9:00 am–8:00 pm
- Sept. 3–29 10:00 am–6:00 pm
- Sept. 30–Nov. 3 10:00 am–5:00 pm
- Nov. 4–Dec. 31 10:00 am–4:00 pm

The **Annie Creek Restaurant** in Mazama Village has a varied menu that includes breakfast sandwiches, burgers, wraps, soup, salads, and pizza.

- May 24–Late Sept.

Breakfast	8:00 am*–10:30 am
Lunch	11:00 am–4:00 pm
Dinner	4:00 pm–8:00 pm**
- *7:00 am June 14–Sept. 2
- **9:00 pm June 14–Sept. 2

Crater Lake Lodge features fine dining in a casual atmosphere, with gourmet cuisine made from local ingredients. Reservations are recommended for dinner (541-594-2255) but are not taken for breakfast or lunch. Appetizers, drinks, and desserts are also available from 1:00 pm until closing in the Great Hall and on the back patio.

- May 17–Oct. 13

Breakfast	7:00 am–10:00 am
Lunch	11:00 am–3:00 pm
Dinner	5:00 pm–9:00 pm*
- *9:30 pm June 7–Sept. 7

The **Mazama Village Store** sells groceries, camping supplies, firewood, and gasoline.

- May 24–June 13 10:00 am–5:00 pm
 - June 14–Sept. 2 7:00 am–9:00 pm
 - Sept. 3–23 8:00 am–8:00 pm
- Gas only, store closed:
► Sept. 24–Oct. 14 10:00 am–5:00 pm

Gifts & Books

Books, maps, postcards, and souvenirs are available at both visitor centers (see page 8). The park's concessioner, Crater Lake Hospitality, operates two other gift shops:

The **Rim Village Gift Shop** has the same hours as the Rim Village Café (see above).

The **Annie Creek Gift Shop** has similar hours to its adjacent restaurant (see above).

Lodging

The park has two motels, both operated by Crater Lake Hospitality. Advance reservations are highly recommended; call 866-292-6720 or visit www.travelcraterlake.com. For a list of lodging options outside the park, ask at a visitor center.

Crater Lake Lodge (71 rooms) overlooks the lake at Rim Village. In 2019, it will be open May 17–October 13. Rooms begin at \$197 per night.

The Cabins at Mazama Village (40 rooms) are located 7 miles south of Rim Village. In 2019, they will be open May 24 to late September. Rooms are \$160 per night.

Visitor Centers

At the park's two visitor centers, rangers can answer questions and help plan your trip.

The **Steel Visitor Center** at Park Headquarters is open daily 9:00 am–5:00 pm. A 22-minute film is shown every half hour. It explores the park's significance and the lake's violent, volcanic past.

The **Rim Visitor Center** at Rim Village is open 9:30 am–5:00 pm late May to late September.

Exhibits

The **Sinnott Overlook**, perched on a rock ledge behind the Rim Visitor Center, features an indoor exhibit room and an open parapet with spectacular lake views. The overlook has a relief model and exhibits on the park's geology and lake research. Ranger talks are presented daily June 21–September 2 (see page 3). The overlook is open daily from mid-June through October (weather permitting). Hours are 9:30 am–6:30 pm in July and August, 9:30 am–5:00 pm in June and September, and 10:00 am–4:00 pm in October. The overlook is located down a steep, historic walkway with stairs and, unfortunately, is not accessible to people with limited mobility.

Crater Lake Lodge features exhibits on tourism and the history and renovation of the lodge. The exhibits are open daily, around-the-clock, May 17–October 13. They are on the ground floor, west of the lobby.



Crater Lake National Park belongs to everyone. We all share responsibility in protecting it. Please take a moment to become familiar with these regulations. For a full list of the park's rules, visit www.nps.gov/crla/parkmgmt/lawsandpolicies.htm.

Drones
Operating remote-controlled aircraft in the park is prohibited.

Feeding Animals
Do not feed wildlife, including birds and squirrels. Exposing them to our food alters their behavior, is bad for their health, and can be dangerous for you. Store food properly. Generally, this means in your vehicle or a campground food locker. Backcountry campers should hang their food or use a bearproof canister.

Guns
Firearms are allowed in the park in accordance with Oregon state laws. They are prohibited, however, in all park buildings.

Hiking and Climbing
Stay on trails. This prevents erosion, protects vegetation, and protects other hikers. Hiking and climbing inside the caldera are strictly prohibited. The only exception is the Cleetwood Cove Trail, the only safe and legal access to the lake shore. Serious injuries and deaths have occurred from falls inside the caldera. The walls consist of unstable rocks and soils.

Marijuana
Possession of marijuana is prohibited. Oregon state laws allowing the use of marijuana do not apply in the park, an area of federal jurisdiction.

Overnight Parking
The park is open 24 hours, but overnight parking is not allowed, except in the park's campgrounds, for guests at the park's motels, and for backpackers (permit required).

Park Features
Leave rocks, plants, animals, and artifacts undisturbed for others to enjoy. It is prohibited to collect, deface, disturb, or destroy natural or

cultural features. Do not approach, touch, feed, or disturb wildlife.

Pets
Pets are welcome in the park, but only in certain areas. Pets on leash are allowed on the Godfrey Glen Trail, Lady of the Woods Trail, Grayback Drive, and Pacific Crest Trail. Leashes must not exceed 6 feet (1.8 meters), and only one pet per hiker is allowed. Pets are not permitted on other trails, or off-trail. Pets on leash (or otherwise physically restrained) are also allowed in picnic areas, campgrounds, parking lots, and up to 50 feet (15 meters) away from paved roads. Popular places to walk a dog include Rim Village and Mazama Campground. Pets are not allowed inside buildings, including Crater Lake Lodge and The Cabins at Mazama Village. The above rules do not apply to service animals here to assist people with disabilities. Solid waste must be picked up immediately and disposed of properly, in a trash can or toilet.

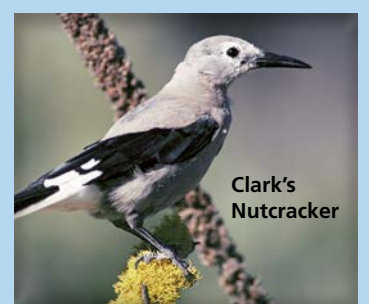
Water Sports
Snorkeling, scuba diving, and long-distance swimming are not allowed in Crater Lake. In 2012, after reviewing the threats posed by aquatic invasive species, the park placed a ban on the use of snorkels, wet

suits, diving gear, flotation devices, and other equipment that might serve as a vector for the introduction of non-native organisms. This includes rafts, canoes, and kayaks. Swimming is allowed at Cleetwood Cove and at Wizard Island, using standard swim suits.



Golden-Mantled Ground Squirrel

Help keep wildlife wild.
Please DO NOT FEED!



Clark's Nutcracker



Boat Tour on Crater Lake



Sunset over Crater Lake



Trolley Tour on Rim Drive

Activities

Backcountry Camping

Over 95% of the park is managed as wilderness. Although some areas are closed to backcountry camping (for example, there is no summer camping with a view of the lake), exploring the park's old-growth forests and volcanic landscapes can be a rewarding experience.

All campers not staying in the park's developed campgrounds must obtain a backcountry permit. The only exception is through-hikers on the Pacific Crest Trail, who may instead sign the trail register as they enter the park. Permits are free and are available at the Ranger Station at Park Headquarters between 9:00 am and 5:00 pm daily.

Bicycling

Bicycling is allowed on paved roads and the unpaved Grayback Drive. Bikes are not allowed on trails, with one exception: the Pinnacles Trail. Park roads are narrow with heavy automobile traffic. Helmets are required for riders under 16 years of age and strongly recommended

for all cyclists. The closest place to rent bikes is Diamond Lake Resort, 5 miles (8 km) north of the park.

Bicycling on park roads is physically demanding. The most popular trip is the 33-mile (53-km) Rim Drive, featuring spectacular views but also long climbs that gain a total of 3,800 feet (1,158 meters) in elevation. For a flatter, more relaxing ride, try the paved, 11-mile (18-km) bike path that circles Diamond Lake.

Fishing

Originally, Crater Lake contained no fish. Between 1888 and 1941, however, 6 species were introduced. Today, only rainbow trout and kokanee salmon remain. Fishing is allowed at the bottom of the Cleetwood Cove Trail, where you'll find a short stretch—about 0.25 miles (0.4 km)—of rocky shoreline. Wizard Island, reachable by tour boat, is also open to fishing.

Fishing licenses are not necessary. There are no restrictions on the size, number, or type of fish taken. Fish may be released or kept. To prevent the introduction of non-native organisms, *no organic bait of any kind may be used*. This includes fish eggs, PowerBait, and live or dead fish. Fishing is limited to artificial lures and flies only.

Sky Gazing

With clean air and unobstructed views, the rim of Crater Lake is a great place to observe astronomical events. Discovery Point is a favorite spot to watch the sunrise. For sunsets and moonrises, try Watchman Overlook or hike to the top of Watchman Peak. Ask at a visitor center for sunrise and sunset times.

Swimming

Swimming is allowed in Crater Lake, but the water is cold! Most people swim for just a few minutes. Swimming is permitted only at Cleetwood Cove and at Wizard Island, which requires a tour boat to reach. The shoreline at both locations is rocky; there are no beaches. Snorkeling, scuba diving, and wet suits are not allowed (see page 2).

Wildlife Viewing

The park is home to many animals, but they can be difficult to spot. The most visible animals are deer and squirrels. Herds of elk are sometimes seen in the meadows along Rim Drive. Bobcats and mountain lions are present but rarely seen. Lucky observers might spot a fox, black bear, marmot, pika, wolf, porcupine, or bald eagle. Dawn and dusk are the best times to look.

Trolley Tours

Rim Drive is one of America's most scenic roads, but it's hard to appreciate the views with your eyes on the asphalt. Fortunately, you can leave the driving to someone else. Ranger-guided trolley tours circle Crater Lake daily. Tours begin and end at Rim Village, spend 2 hours traveling clockwise around the lake, and stop at a minimum of 5 scenic overlooks. See below for departure times and ticket prices. The buses are enclosed, climate-controlled, wheelchair accessible, and seat 25 passengers. They resemble old streetcars, but they run on modern technology: most are powered by compressed natural gas and emit 30-40% less pollution than gasoline-powered vehicles. The trolleys are owned and operated by The Shuttle Inc. of Klamath Falls.

Kids: You Can Become a Junior Park Ranger!



Are you between 6 and 12 years old? Do you want to learn while having fun at Crater Lake National Park? Here are 2 different ways:

- Pick up a free activity book at either visitor center. Explore the park, complete the activities, then return the book to a ranger to earn a Junior Ranger BADGE.

- Meet behind the Rim Visitor Center at 11:30, 1:00, 2:30, or 4:00 pm (June 21–Sept. 2) and participate in a free, 20-minute activity. Complete one activity to earn a Junior Ranger PATCH.



Boat Tours

Join a park ranger for a cruise around Crater Lake. See the box below for departure times and ticket prices. Boat tours on Crater Lake are operated by Crater Lake Hospitality in partnership with the National Park Service.

Tickets

Each boat holds 37 passengers. 18 tickets for each tour are available for advance purchase, either online at www.travelcraterlake.com or by calling 866-292-6720. The remaining 19 tickets for each tour are available from self-serve kiosks inside Crater Lake Lodge and the Annie Creek Gift Shop. These tickets go on sale exactly 24 hours in advance of each tour. Sales continue until the tour is sold out or until 2 hours remain before departure. At that time, if a tour is not sold out, remaining tickets can be purchased from a ticket booth (open daily at 7:45 am) at the top of the Cleetwood Cove Trail, until 45 minutes before departure. Ticket holders should arrive at the trailhead at least 45 minutes before their tour to allow time to hike down the 1.1-mile (1.7-km) trail to the lake.

Types of Tours

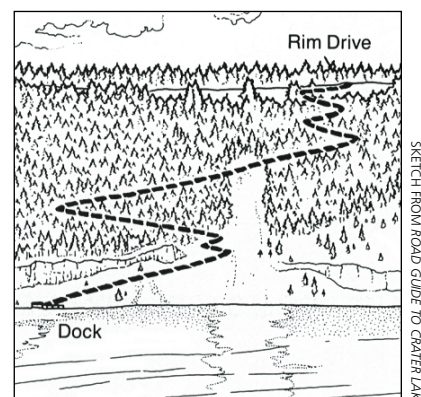
Standard tours are 2 hours long. They are ranger-narrated and circle the entire lake (but do not stop at Wizard Island). Wizard Island Tours are 5 hours long. They consist of a standard tour plus a 3-hour stay on the island, where passengers disembark to hike, swim, fish, or relax on their own. Wizard Island Shuttles are 4 hours long. They include a 1-hour (round-trip) ride to the island plus a 3-hour stay there. They do not circle the entire lake and do not include a narrated tour. Finally, for people wishing to spend 6 hours on Wizard Island, up to 6 tickets on the 8:30 am shuttle are available for that purpose. These tickets must be purchased in advance, online or by phone. See page 4 for details on the island's two hiking trails.

What to Bring

- Bring plenty of drinking water. Bottled water is available for purchase at both ends of the Cleetwood Cove Trail.
- Bring a lunch or snack, especially if visiting Wizard Island. Light snacks are available for purchase at the top of the Cleetwood Cove Trail.
- Sunscreen, sunglasses, and a hat are recommended for sun protection. The boats are not covered.
- Bring a jacket. Weather on the lake can be windy and chilly.
- Wear sturdy footwear, especially if visiting Wizard Island.

Hiking to Cleetwood Cove

The Cleetwood Cove Trail is the only legal access to the shore of Crater Lake. The hike is steep and strenuous: in 1.1 miles (1.7 km) it drops 700 feet (213 meters) in elevation. Walking back up is equivalent to climbing 65 flights of stairs! The trail is recommended only for those in good physical condition. It should not be attempted by anyone with heart, breathing, or walking problems. It is not accessible for people with mobility impairments. Hikers should wear sturdy shoes and carry water. Vault toilets are located at the top and bottom of the trail. Depending on snow conditions, the trail is usually open from mid-June to late October.



The Cleetwood Cove Trail drops 700 feet (213 meters) to the lake shore.

Ranger-Led Activities		Dates & Times																																			
Ranger Talks at Rim Village Join a ranger to deepen your understanding of Crater Lake. Topics vary; check posted schedules. Meet at the Sinnott Overlook for the talks at 12:00, 1:30, and 3:00. The 4:00 talks happen at Crater Lake Lodge, either on the back porch or by the fireplace in the Great Hall. (20 minutes)	June 21–Sept. 2 June 21–Sept. 2 June 21–Sept. 2 May 17–Oct. 13	12:00 pm (Additional talks may be offered) 1:30 pm 3:00 pm (Sept. 3–30. Check posted schedules.) 4:00 pm ♿																																			
Junior Ranger Activities ♿ Kids participate in a ranger-led activity to learn about Crater Lake and earn a Junior Ranger patch. Meet behind the Rim Visitor Center. Geared for ages 6 to 12. (20 minutes)	June 21–Sept. 2 June 21–Sept. 2 June 21–Sept. 2 June 21–Sept. 2	11:30 am 1:00 pm 2:30 pm 4:00 pm																																			
Afternoon Hikes Hike with a ranger to discover Crater Lake. Trails vary by day of the week. See page 4 for trail details and trailhead locations. Be sure to carry drinking water. Monday, Thursday: Sun Notch ♿ (1 hour, easy, great views of the Phantom Ship) Tuesday, Friday, Sunday: Plaikni Falls ♿ (1.5 hours, easy, walk to a hidden waterfall) Wednesday, Saturday: Annie Creek (2 hours, moderate, explore a scenic canyon)	July 10–Sept. 15	2:00 pm																																			
Watchman Peak Sunset Hikes Ascend to a breathtaking viewpoint and watch the sun go down over the Cascade Mountain Range. Meet at Watchman Overlook, a parking area with wooden fences 3.8 miles (6.1 km) northwest of Rim Village. Flashlights are not needed. See page 4 for trail details. (1.5 hours)	July 19–25 July 26–Aug. 7 August 8–17 August 18–26	7:30 pm Aug. 27–Sept. 4 7:15 pm Sept. 5–13 7:00 pm Sept. 14–15 6:45 pm 6:30 pm 6:15 pm 6:00 pm																																			
Evening Programs ♿ Relax under the stars as you learn about the park. Check posted schedules for topics. Meet at the Mazama Campground Amphitheater, between loops D and E. (45 minutes)	June 21–July 31 August 1–21 Aug. 22–Sept. 2	9:00 pm (Additional programs may be offered Sept. 3–30.) 8:30 pm 8:00 pm (Check posted schedules.)																																			
Rim Drive Trolley Tours ♿ <table border="1"> <thead> <tr> <th colspan="2">Ticket Prices</th> </tr> </thead> <tbody> <tr> <td>\$29</td> <td>Adult (age 14 to 59)</td> </tr> <tr> <td>\$26</td> <td>Senior (age 60 and up)</td> </tr> <tr> <td>\$18</td> <td>Child (age 6 to 13)</td> </tr> <tr> <td>Free</td> <td>Young Child (under 6 years)</td> </tr> </tbody> </table> Ask about family and group discounts	Ticket Prices		\$29	Adult (age 14 to 59)	\$26	Senior (age 60 and up)	\$18	Child (age 6 to 13)	Free	Young Child (under 6 years)	Circle the lake on a ranger-narrated tour of Rim Drive. See the top of this page for more information. Tickets are sold from a trolley parked by the Community House in the middle of Rim Village. Tickets may be purchased the day of the tour, or the day before, from 9:00 am to 3:00 pm. To reserve tickets further in advance, call 541-882-1896 or visit www.craterlaketrolley.net . Tours cover a variety of topics. (2 hours)	10:00 am 11:00 am 12:00 pm June 28–30 & Sept. 16–30* 1:00 pm 2:00 pm 3:00 pm 10:30 am 12:00 pm 1:30 pm 3:00 pm																									
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Crater Lake Boat Tours <table border="1"> <thead> <tr> <th colspan="3">Ticket Prices</th> </tr> </thead> <tbody> <tr> <td>Standard Tour</td> <td>\$44</td> <td>Adult (age 13 and up)</td> </tr> <tr> <td></td> <td>\$30</td> <td>Child (age 3* to 12)</td> </tr> <tr> <td>Wizard Island Tour</td> <td>\$55</td> <td>Adult</td> </tr> <tr> <td></td> <td>\$37</td> <td>Child</td> </tr> <tr> <td>Wizard Island Shuttle</td> <td>\$28</td> <td>Adult</td> </tr> <tr> <td></td> <td>\$18</td> <td>Child</td> </tr> </tbody> </table> Ranger-narrated boat tours offer a unique perspective on Crater Lake. See the right-hand side of this page for details. Note: Taking a boat tour requires hiking down—and back up—one of the steepest trails in the park. Tours cover a variety of topics. (2 hours) *Kids must be at least 3 years old to take a boat tour. Noise, sun, wind, and waves make tours very unpleasant for infants.	Ticket Prices			Standard Tour	\$44	Adult (age 13 and up)		\$30	Child (age 3* to 12)	Wizard Island Tour	\$55	Adult		\$37	Child	Wizard Island Shuttle	\$28	Adult		\$18	Child	July 11–Sept. 8	<table border="0"> <tr> <td><u>Standard Tours</u></td> <td><u>Wizard Island Tours</u></td> </tr> <tr> <td>9:30 am</td> <td>9:45 am</td> </tr> <tr> <td>10:00 am</td> <td>12:45 pm</td> </tr> <tr> <td>12:00 pm</td> <td></td> </tr> <tr> <td>1:15 pm</td> <td><u>Wizard Island Shuttles</u></td> </tr> <tr> <td>3:30 pm</td> <td>8:30 am</td> </tr> <tr> <td>3:45 pm</td> <td>11:30 am</td> </tr> </table>	<u>Standard Tours</u>	<u>Wizard Island Tours</u>	9:30 am	9:45 am	10:00 am	12:45 pm	12:00 pm		1:15 pm	<u>Wizard Island Shuttles</u>	3:30 pm	8:30 am	3:45 pm	11:30 am
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Activities are free of charge except for trolley & boat tours. Programs are subject to cancellation due to weather or unforeseen circumstances.

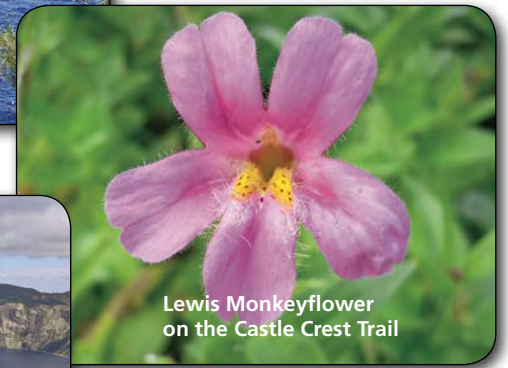
SKETCH FROM ROAD GUIDE TO CRATER LAKE



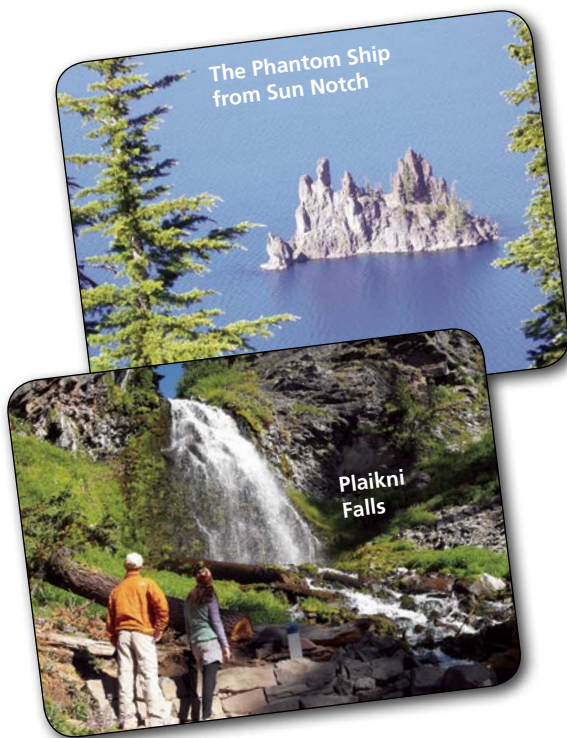
Let's Go Hiking!

Hi, I'm Ranger Madeline. We have 90 miles (145 km) of hiking trails here at Crater Lake. Our most popular day hikes are listed on this page. If you are visiting in June or early July, be aware that some trails might still be closed by snow. Please help us protect this special place by following a few important rules:

- ⚡ No hiking or climbing inside the caldera! The walls are dangerously steep and unstable. The one exception is the Cleetwood Cove Trail, the only legal access to the lake shore.
- ⚡ Leave all rocks, plants, animals, and artifacts undisturbed for the enjoyment of future hikers.
- ⚡ Overnight backpacking requires a permit, available at Park Headquarters between 9:00 am and 5:00 pm. Some areas are not open to backcountry camping.
- ⚡ Pets are allowed on the Godfrey Glen Trail, Lady of the Woods Trail, and Pacific Crest Trail. Pets must be leashed; only one pet per hiker (see page 2).
- ⚡ To protect vegetation and prevent erosion, please stay on the trails.

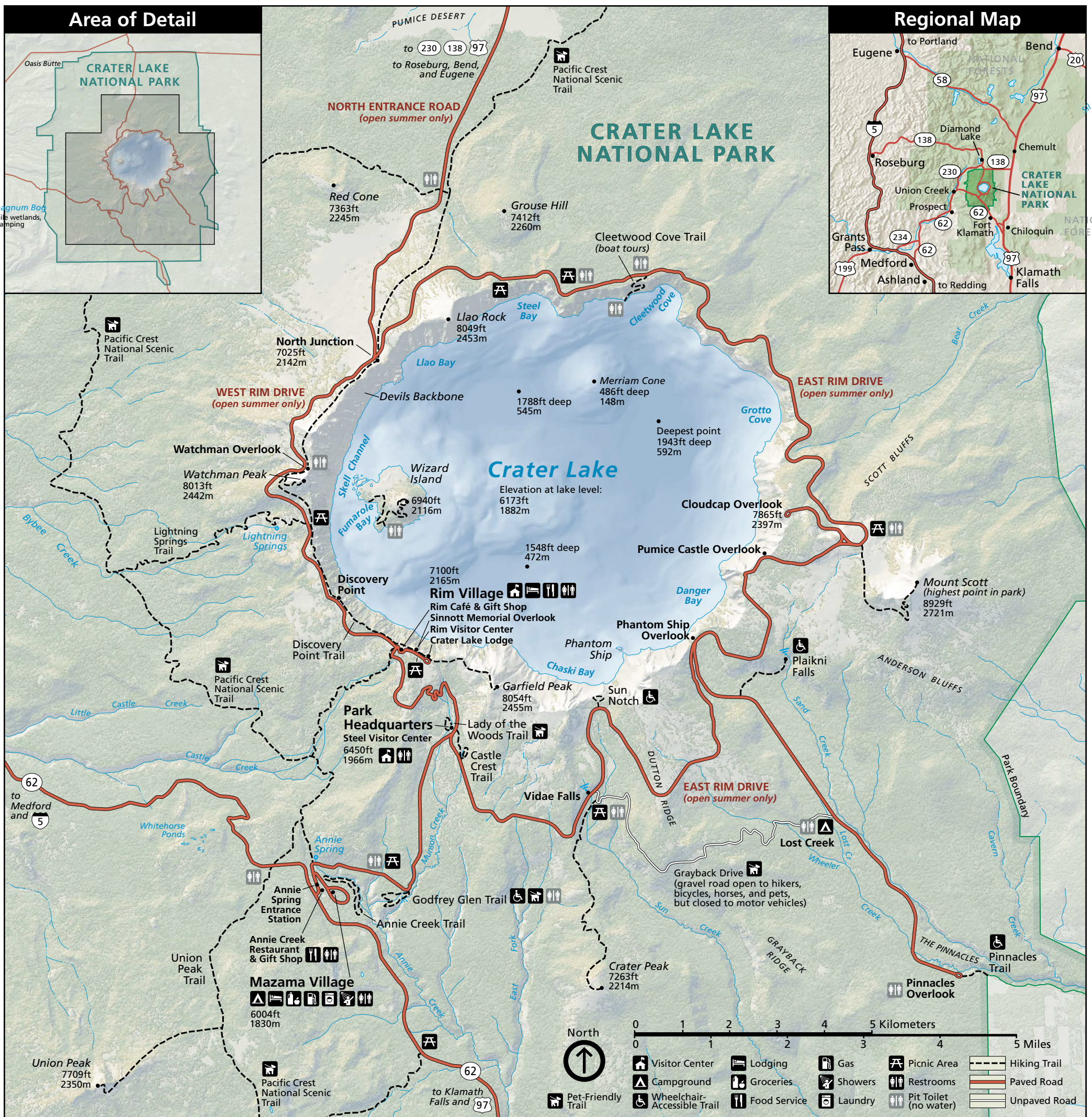


Castle Crest	Lady of the Woods	Sun Notch	Trail	The Pinnacles	Godfrey Glen	Plaikni Falls
0.5 miles (0.8 km) loop trail	0.7 miles (1.1 km) loop trail	0.8 miles (1.3 km) loop trail	<i>Roundtrip</i>	0.8 miles (1.3 km)	1.1 miles (1.8 km) loop trail	2.0 miles (3.2 km)
100 feet (30 meters)	120 feet (37 meters)	150 feet (46 meters)	<i>Elevation Gain</i>	10 feet (3 meters)	50 feet (15 meters)	100 feet (30 meters)
20 minutes	30 minutes	30 minutes	<i>Time</i>	30 minutes	30 minutes	1 hour
Flowers, Meadow, Creek	Historic Architecture	Views of Phantom Ship	<i>Highlight</i>	Volcanic Spires	Peaceful Forest	Waterfall, Flowers
Loop trail through a lush meadow. Abundant wildflowers in July. The trail is rocky and slippery in places. Self-guiding brochures are available at the trailhead.	Loop trail around Park Headquarters. Self-guiding brochures, available at the trailhead, describe how early park architects integrated their designs with the natural landscape.	Short uphill walk through a meadow to the rim of Crater Lake. Great views of the Phantom Ship. Use caution near cliff edges. Accessible to strong wheelchair users with assistance.	<i>Description</i>	Easy walk along the rim of Pinnacle Valley. Great views of volcanic spires. Use caution near cliffs. Trail ends at park boundary. Accessible to wheelchair users with assistance. Open to bicycles.	Easy stroll through an old-growth forest, with some canyon views. Dirt path; accessible to wheelchair users with assistance. Self-guiding brochures are available at the trailhead.	Easy walk through an old-growth forest to a waterfall. Many flowers in July. The first ¾ is accessible to wheelchair users with assistance, but the final, short climb to the falls might be too steep.
East Rim Drive, 0.5 miles (0.8 km) east of Park Headquarters. Can also access from the Steel Visitor Center.	Behind the Steel Visitor Center, on the south side of the building.	East Rim Drive, 4.4 miles (7.1 km) east of Park Headquarters.	<i>Trailhead Location</i>	End of the Pinnacles Road, 6 miles (9.7 km) southeast of the Phantom Ship Overlook.	2.4 miles (3.9 km) south of Park Headquarters.	Pinnacles Road, 1.2 miles (1.9 km) southeast of the Phantom Ship Overlook.
The flowers here are nourished by springs emerging from the hillside.	The trail's name refers to a sculpture of a woman carved into a boulder along the trail.	This U-shaped valley was carved by glaciers that once flowed down Mt. Mazama.	<i>Nature Note</i>	The Pinnacles are chimneys formed when hot ash cooled after the big eruption.	Trail is named after William Godfrey, a ranger who died in a blizzard here in 1930.	Snowmelt, not Crater Lake, is the source of Plaikni Falls' water.
Easy				Easy		



Discovery Point	Trail	Fumarole Bay	Watchman Peak	Annie Creek
2.0 miles (3.2 km)	<i>Roundtrip</i>	1.7 miles (2.7 km)	1.6 miles (2.6 km)	1.7 miles (2.7 km) loop trail
100 feet (30 meters)	<i>Elevation Gain</i>	150 feet (46 meters)	420 feet (128 meters)	200 feet (61 meters)
1 hour	<i>Time</i>	1 hour	1 hour	1½ hours
Lake Views	<i>Highlight</i>	Swimming, Fishing	Panoramic Views	Creek, Canyon, Flowers
Trail along the rim of Crater Lake through a pretty forest of whitebark pines and mountain hemlocks. Great views of the lake and Wizard Island. Use caution near cliff edges.	<i>Description</i>	Rocky trail on Wizard Island leading to a shallow cove with clear water. Upon reaching Fumarole Bay, the maintained trail ends but a rough path continues to the far end of the cove.	Moderate ascent to a fire lookout above Wizard Island. Spectacular views in all directions. Great place to watch the sunset. Trail may be closed until mid-July due to snow.	Moderately strenuous hike through a deep, stream-cut canyon. Lots of water, wildflowers, and sometimes wildlife. Self-guiding brochures are available at the trailhead.
West end of Rim Village, where the paved walk becomes a dirt path. Can also start from Discovery Point.	<i>Trailhead Location</i>	Wizard Island dock, reachable only by boat tour or shuttle from Cleetwood Cove. See page 3 for information.	3.8 miles (6.1 km) northwest of Rim Village. Park at the viewpoint surrounded by wooden fences.	Mazama Campground, behind the amphitheater (between loops D and E). Limited parking in E Loop.
Gold prospector John Wesley Hillman first spotted Crater Lake near this point in 1853.	<i>Nature Note</i>	Abundant lichen on the tree trunks is an indication of excellent air quality.	Built in 1932, the peak's historic fire lookout is still used by rangers today.	The canyon is carved into a layer of ash—200 feet (60 m) thick—from the big eruption.
Moderate				

Wizard Summit	Cleetwood Cove	Garfield Peak	Trail	Mount Scott	Crater Peak	Union Peak
2.2 miles (3.5 km)	2.2 miles (3.5 km)	3.6 miles (5.8 km)	<i>Roundtrip</i>	4.4 miles (7.1 km)	6.5 miles (10.5 km)	9.8 miles (15.8 km)
760 feet (232 meters)	700 feet (213 meters)	1,010 feet (308 meters)	<i>Elevation Gain</i>	1,250 feet (381 meters)	765 feet (233 meters)	1,600 feet (448 meters)
1½ hours	1½ hours	2 to 3 hours	<i>Time</i>	3 hours	3½ hours	5 to 6 hours
Views, Summit Crater	Swim, Fish, Boat Tours	Panoramic Views	<i>Highlight</i>	Panoramic Views	Forest, Views, Solitude	Panoramic Views
Rocky climb to the top of Wizard Island. Spectacular lake views, interesting geology. A 0.3-mile (0.5-km) path leads around the 90-foot-deep (27-meter) crater at the summit.	The only legal access to the shore of Crater Lake. Strenuous trail with a steep grade, leading to a rocky shoreline and tour boat dock. See page 3 for details.	Rocky climb to a high peak. Spectacular views along the way and at the top. Diverse plant life, many wildflowers. Top section may be closed until mid-July due to snow. Use caution near cliff edges.	<i>Description</i>	Gradual ascent of the park's highest peak. Great views in all directions. Best in the morning, when the light is ideal for lake viewing. May be closed until mid-July due to snow.	Moderate-to-strenuous hike to the summit of a small volcano. No lake views, but fine views of the Klamath Basin to the southeast. A peaceful walk through forests and meadows.	Long forest walk followed by a very steep climb. Great views from the top and interesting geology, but no view of Crater Lake. Top section may be impassable until mid-July due to snow.
Wizard Island dock, reachable only by boat tour or shuttle from Cleetwood Cove. See page 3 for information.	North side of the lake, 11 miles (17.6 km) from Rim Village if traveling clockwise on Rim Drive.	East end of Rim Village. Follow the paved promenade behind Crater Lake Lodge.	<i>Trailhead Location</i>	East Rim Drive, 14 miles (22.5 km) east of Park Headquarters.	East Rim Drive, 3 miles (4.8 km) east of Park Headquarters at the Vidae Falls Picnic Area.	Highway 62 at the Pacific Crest Trailhead, 1 mile (1.6 km) west of the Crater Lake road junction.
The dead trees at the summit were killed by dwarf mistletoe, a parasitic plant.	In August, the average water temperature at the lake's surface is 59°F (15°C).	Rocky slopes along the trail are home to American pikas and yellow-bellied marmots.	<i>Nature Note</i>	Mount Scott is the park's highest peak—8,929 feet (2,721 meters) in elevation.	Upper Klamath Lake is the largest in Oregon, but its average depth is only 14 feet.	Union Peak is the core of an old volcano eroded by ice-age glaciers.
Strenuous				Strenuous		



Highlights of the Rim Drive

Rim Drive is a 33-mile (53-km) road that encircles Crater Lake. It is one of America's most scenic byways, with spectacular views in all directions. The full loop is typically open from early July to late October. It can be driven, without stopping, in about an hour, but plan on at least 2 to 3 hours to enjoy the varied sights. The road is narrow, so buses and motorhomes should use caution. There are more than 30 scenic pullouts along the route, many of which have roadside exhibits. Be sure not to miss these 7 "must-see" stops. For more information, pick up the excellent *Road Guide to Crater Lake National Park* (48 pages, \$7.95) at either visitor center.



East Rim Drive

Discovery Point

Imagine seeing Crater Lake by accident. It was near this spot, on the back of a mule in 1853, that gold prospector John Hillman became the first European-American to stumble across what he called "Deep Blue Lake."

Watchman Overlook

This pullout offers an unmatched view of Wizard Island, a cinder cone that erupted out of Crater Lake approximately 7,300 years ago. To find this unmarked pullout, drive 3.8 miles (6.1 km) west of Rim Village and look for a viewpoint lined with wooden fences.

Cloudcap Overlook

This overlook sits at the end of a 1-mile (1.6-km) spur road, the highest paved road in Oregon. Whitebark pines cling for survival here, dwarfed and contorted by the harsh winds.

Pumice Castle Overlook

Stop here to see one of the park's most colorful features: a layer of orange pumice rock that has been eroded into the shape of a medieval castle. Watch carefully for this unmarked viewpoint, located 1.1 miles

(1.8 km) west of the Cloudcap Overlook junction and 2.4 miles (3.9 km) east of the Phantom Ship Overlook.

Phantom Ship Overlook

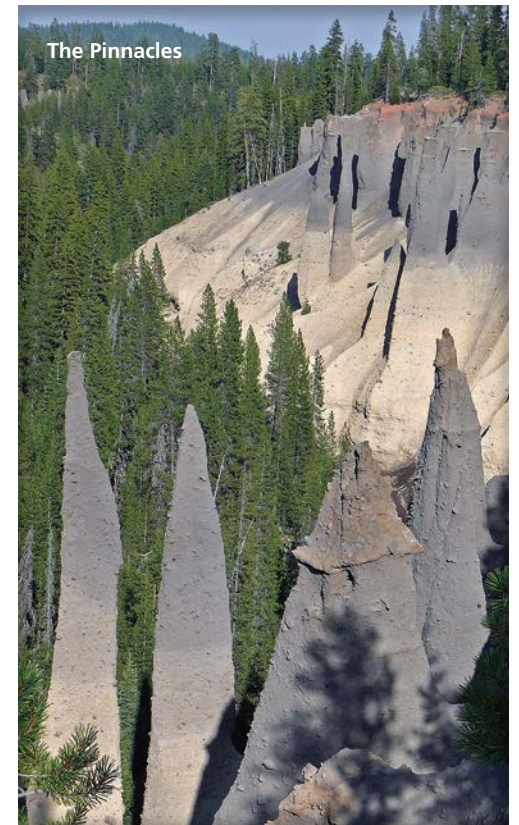
Nestled against the shore, Crater Lake's "other island" escapes detection by many park visitors. Though it resembles a small sailboat, the island is as tall as a 16-story building. It's made of erosion-resistant lava, 400,000 years old—the oldest exposed rock within the caldera.

Pinnacles Overlook

This overlook is well worth the 6-mile (10-km) detour from Rim Drive. Colorful spires, 100 feet (30 meters) tall, are being eroded from the canyon wall. The Pinnacles are "fossil fumaroles" where volcanic gases once rose up through a layer of volcanic ash, cementing the ash into solid rock.

Vidae Falls

Look for this cascading waterfall between Phantom Ship Overlook and Park Headquarters. A spring-fed creek tumbles over a glacier-carved cliff and drops 100 feet (30 meters) over a series of ledges. In summer, wildflowers flourish in the cascade's spray.



The Pinnacles

Introduced Fish and Their Impact on Crater Lake

“Through the ages Crater Lake has been without fish, and we have the intense satisfaction of knowing it is stocked at last.” So wrote William Steel, in the summer of 1888, upon introducing the first fish to the waters of Crater Lake. Steel, who would later become the park’s second superintendent, had just walked 47 miles bearing a bucket of 200-plus rainbow trout fingerlings collected from the Rogue River. By the time he reached the lakeshore, only 37 had survived the hot journey, but others would soon follow. From 1888 to 1941, more than 1.7 million rainbow trout, steelhead trout, brown trout, cutthroat trout, silver salmon, and kokanee salmon would be planted by Steel and other park officials to “improve” the lake’s recreational value. What consequences, if any, have these non-native fish wrought on the lake’s native aquatic residents? And is there anything we can do to return the lake to its former natural state?

Since 1941, when stocking ended, only two types of fish—rainbow trout and kokanee salmon—have maintained their presence in the lake. They are self-sustaining, but their numbers fluctuate greatly. Each year, park biologists estimate the total fish population by performing an acoustic (sonar) survey from the park’s research boat. In 2018, they calculated that the lake held about 62,000 fish. They also catch some fish each year, using gill nets, to determine the relative abundance and size of each type. (Sound waves can’t distinguish between the two species.) Since 1986, when studies began, they’ve discovered that the fish population rises and falls, quite dramatically, in a cycle that repeats every 10 years or so. Most of the variation comes from big swings in the number of kokanee salmon.

Kokanee salmon are a form of sockeye salmon that do not travel to the ocean. Smaller than their sea-going cousins, most adults are less than a foot long. Kokanee feed on tiny, floating animals called zooplankton; in Crater Lake, their favorite food is the “water flea” *Daphnia pulicaria*, the largest of the lake’s zooplankton species. When kokanee numbers are low for several consecutive years, daphnia become abundant. The few kokanee in the lake have plenty to eat, grow to good size, and reproduce successfully. This leads to a population boom: hundreds of thousands of young, hungry salmon that, over the next few years, eventually consume virtually all of the lake’s daphnia. Without food, the kokanee population then crashes; most of the young fish starve before they reach sexual maturity. In time, daphnia densities recover in the absence of predation, and the cycle starts again.

The rainbow trout population is somewhat more stable. This owes partly to the fact that their diet is more diverse. Rainbows feed on aquatic insects (such as mayflies, caddisflies, and stoneflies) and on terrestrial insects that happen to land on the water (including bees, wasps, moths, and flying ants). Large rainbow trout will also eat small kokanee salmon. During a kokanee boom, when young kokanee are abundant, the lake’s trout grow noticeably bigger. Another factor allowing them to resist sharp population swings is that they live a relatively long time (often more than a decade) and can reproduce throughout their lifespan. Kokanee salmon die after spawning.

So, over the past 131 years, have rainbow trout caused substantial harm to the lake’s aquatic insect communities? And have kokanee salmon,

through their periodic depletion of daphnia, significantly altered the lake’s ecological balance? Researchers aren’t sure. Since the lake wasn’t studied prior to the stocking of fish, we don’t know what conditions were like before the fish arrived. Presumably there’s a ripple effect each time 99% of the lake’s daphnia disappear; they are the dominant member of its plankton community, which consists of 12 species of zooplankton and more than 160 species of phytoplankton (microscopic algae). But that, so far, has been hard to assess. One thing is quite certain, however: there’s a third introduced species in Crater Lake that’s currently doing widespread damage to the lake’s native fauna.

In 1915, at the behest of William Steel, 15,000 crayfish were planted in Crater Lake to provide food for the introduced trout. Over the past few decades—possibly because warmer water temperatures have reduced their winter mortality rate—crayfish have been thriving. They’ve been increasing in number and expanding their presence along the shore. About 80% of the shoreline is now crayfish territory, and they’ve been found living at depths of up to 820 feet (250 meters). Like miniature vacuum cleaners, they eat almost everything in their path. In crayfish-patrolled areas, the number of worms, insects, and other bottom-dwelling organisms has declined by an estimated 80%. More worrisome, the diversity of species has dropped. Snails, for example, are almost entirely absent from crayfish zones. So too are the lake’s endemic salamanders—*Mazama newts*—which may be headed for extinction.

Lately, in areas where the crustaceans have multiplied, researchers have noticed something else. Rainbow trout have been switching their diet from insects to crayfish—and have been growing much larger as a result. Park biologists periodically analyze the stomach contents of the fish that they catch. In Cleetwood Cove, only 1 out of 11 trout captured in 1986-87 was found with crayfish in its belly. In 2014-15, 8 out of 9 fish caught in the same location had enjoyed a recent crayfish meal. In 1986-87, the trout captured at Cleetwood Cove weighed an average of 0.6 pounds (262 grams). In 2014-15, they averaged 1.5 pounds (687 grams) and were 50% longer. One trout pulled from the lake, a few years earlier, was found to have 23 crayfish in its digestive tract! A century after the fact, William Steel’s vision is coming to fruition: the crayfish he requested for the lake are finally providing food for the trout that he stocked.

Since rainbow trout are the lesser of the two evils, should we consider planting even more of them? Might they devour and eliminate all the crayfish from the lake? In a word, no. Crayfish have too many places to hide in Crater Lake, in crevices between rocks and at depths that trout won’t dare to venture. The unfortunate truth is that all three species—crayfish, rainbow trout, and kokanee salmon—are almost definitely here to stay. In an ideal world, we’d remove them, or at least restrict their numbers, but there is currently no feasible way to accomplish that goal given our existing technology (except for poisoning the lake, which would cause greater harm than good). For now, we can’t do much more than study what’s happening, and remind ourselves that the best way to control invasive species is to prevent their introduction in the first place.

To that end, in the fall of 2012 the park placed a ban on recreational snorkeling, scuba diving, and long-distance swimming in Crater Lake. Standard swimsuits are still allowed, but the use of wetsuits, masks, fins, and snorkels is prohibited, along with other gear that could serve as vectors for the accidental introduction of non-native organisms. Many potential invaders, such as zebra mussels, are microscopic in their larval form and could easily hitch a ride to Crater Lake in equipment that contains residual moisture. While this ban limits our ability to enjoy certain activities in the lake, it’s our best hope of avoiding further disruption to the lake’s natural processes and protecting its native plants and animals.



Black bears can be brown in color, causing them to be mistaken for grizzly bears. Grizzlies once lived here, but they were hunted to local extinction in the 1890s.

Viewing Bears in the Park

For much of the park’s history, bears were easy to spot. They congregated at open garbage dumps near Park Headquarters, dining on human food scraps. Bears associated people with food, and they’d approach—sometimes aggressively—looking for handouts. One year, bears injured two people and caused 54 reports of property damage to tents, vehicles, and park facilities.

In 1971, the park began trucking its garbage to a landfill and no longer tolerating the feeding of wildlife. As a result, our bears have returned to their naturally shy and reclusive ways, and we haven’t had an adverse bear-human encounter in decades. Please do your part by not leaving food unattended. When camping, store food in your vehicle (in sealed containers or coolers) or in the bear-proof locker provided at your campsite.

These days, spotting a bear in the park requires some luck. Most sightings are by motorists who see a bear crossing the road. Bears tend to hide from hikers, but they do leave evidence of their activity. Look for piles of scat, areas of disturbed soil (from bears digging up roots, rodents, and mushrooms), and logs and rocks that have been flipped over (by bears in search of insects).

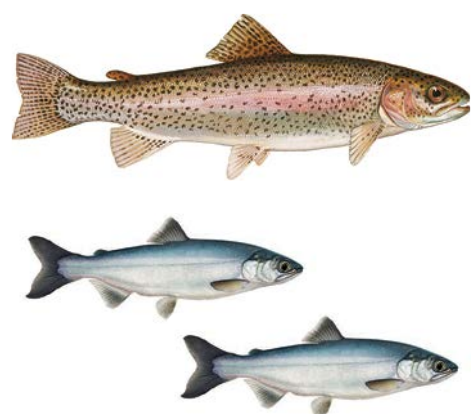


If you see a silver boat on the lake this summer, you’ve spotted the park’s research vessel. In this photo, biologists are collecting zooplankton (tiny animals suspended in the water column). Most of the lake’s plankton species live well below the surface, hiding from harmful ultraviolet rays.

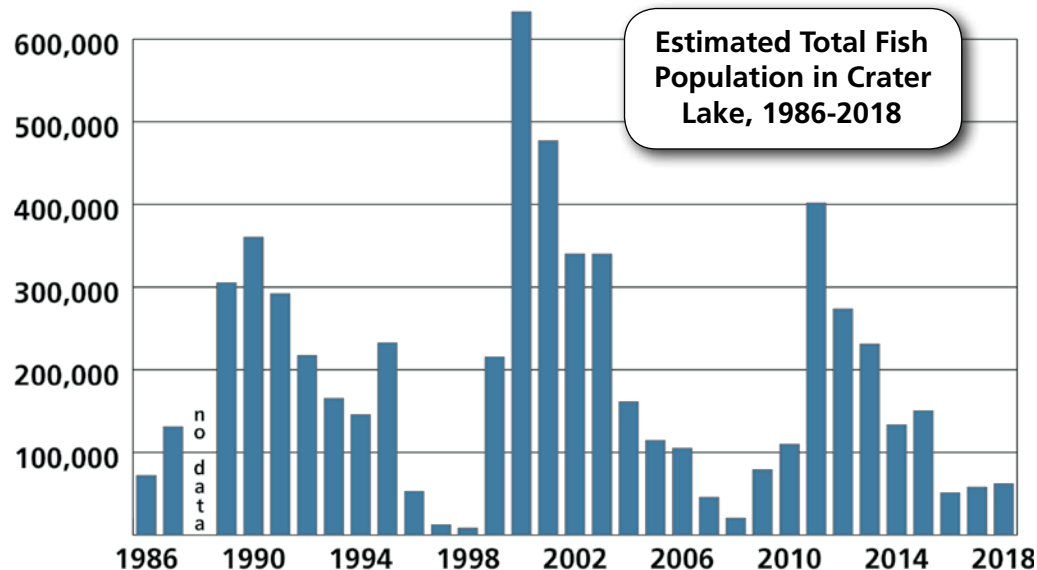
The lake’s largest zooplankton species is *Daphnia pulicaria*. It’s only the size of a sesame seed (about 2 mm long); this photo is enlarged. During the day, daphnia are most abundant at depths of 200 to 260 feet (60 to 80 meters). As a result, so are the kokanee salmon that consume them.



Crayfish are native to Oregon but not to the park. In 1915, they were planted in Crater Lake as trout food. Lately, they’ve begun to displace some of the lake’s native species. Most are less than 6 inches (15 cm) long, but they can live for up to 15 years.



Originally, Crater Lake contained no fish, but the lake was stocked from 1888 to 1941 for recreational fishing. On calm days, rainbow trout (top) can be seen in the clear waters of Cleetwood Cove, eating insects and crayfish near the shore. Kokanee salmon (bottom) are usually tougher to spot, since they feed in deeper areas. When the kokanee population explodes, however, and they run out of food, schools of skinny, starving kokanee can be seen swimming laps around the lake, along the shore, searching in vain for an outlet stream.



The number of fish in Crater Lake fluctuates greatly. In 1998, the estimated number of trout and salmon (combined) was only 8,400. Two years later, it was 633,000—75 times as large! Most of these additions were kokanee salmon. Every 10 years or so, kokanee multiply in number until they virtually exhaust the lake’s supply of daphnia, their favorite food. Then, the population crashes, and it doesn’t rebound until the daphnia recover. We’ll likely see the next peak in this “boom and bust” cycle in just a few years.



Wanna Try Your Luck?

Fishing is allowed in Crater Lake—no license required! But there are some challenges involved. First, you’ll need to hike down the Cleetwood Cove Trail, the steepest trail in the park. Next, you’ll need to balance yourself on a boulder along the rocky shoreline, or take a tour boat

to the equally rocky Wizard Island; there are no beaches, and fishing from watercraft is not permitted. And since organic bait is prohibited (to prevent the introduction of other non-native species), you’ll need to use artificial lures—no worms, eggs, or PowerBait.

Despite these restrictions (and the relative scarcity of fish for a lake of this size), the fishing here can be pretty good. The fish aren’t easily spooked, and time of day doesn’t matter much. The fish are drawn to flashy lures they can see from afar, so spinners and spoons work better than flies. The closest shops that sell fishing gear are the Mazama Village Camper Store (17 miles from the Cleetwood Cove Trailhead) and the Diamond Lake Marina Store (21 miles away). Even if the fish aren’t biting, you won’t leave empty-handed: you’ll take away memories of casting your line into one of the world’s most beautiful bodies of water.

Black Bears Tracked by GPS

The Park's Males Roam Farther Than Expected

Crater Lake National Park is thought to be home to about 50 black bears. Until recently, we knew very little about their summer movements and winter slumbers, but from 2011 to 2013, ten of the park's bears were outfitted with GPS collars that recorded their travels. (The bears were tracked by the same satellites that help you navigate the world on your smartphone.) The full results of the study have still yet to be published, but we are excited to share some provisional data and preliminary findings.

In the summer of 2011, NPS biologists trapped and collared 10 black bears at locations around the park. An earlier study had found that roughly 70% of the park's bears are female (a ratio that's indicative of a healthy population), so for this project the park decided to track 7 females and 3 males. The collars recorded each bear's position once every two hours using GPS. They also emitted a VHF radio signal that allowed the team to monitor the bears' general location during the

study (with a portable antenna) and to find the collars after they unlatched (the collars were programmed to drop off after two years). The biologists retrieved the collars in the summer of 2013 and downloaded the GPS data.

One goal of the study was to understand the size and scope of each bear's "home range"—basically, where it spent the majority of its time in a given year. The females, with an average home range of 21 square miles (55 km²), tended to stay in the vicinity of where they were first seen. The males, on the other hand, had home ranges averaging 466 square miles (1,206 km²), more than 20 times as large. While this disparity was expected, park biologists were surprised to discover just how far beyond the park the males traveled (see the map below). None of the males agreed to be interviewed for this article, but our best guess is that they journeyed to lower elevations to feed on acorns and fatten themselves up for the winter. They left the park in August or September and returned in November or December.

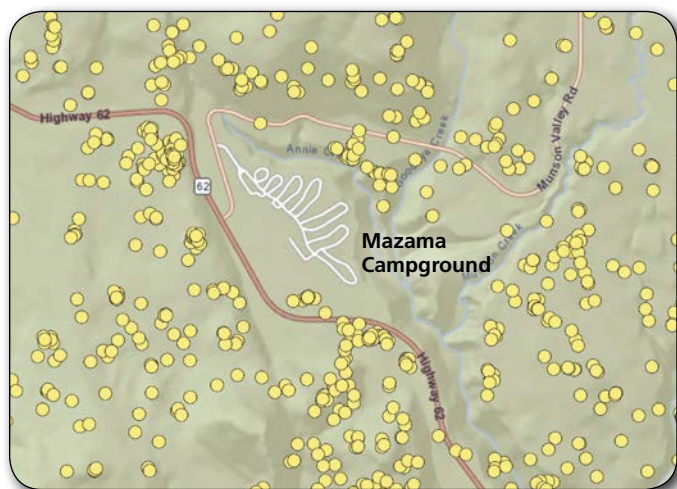
Another project goal was to learn when and where the bears hibernated. No matter how far they roamed, the bears all returned to the park to overwinter. The GPS data was not precise enough to pinpoint their den locations, but biologists did manage to find two of them. Both were in giant ponderosa pine trees, hollowed out by fire but still alive. The amount of time spent in hibernation varied from 3 to 6½ months, with an average duration of just under 5 months. Biologists could tell when the bears had denned because the GPS collars lost contact with the satellites and stopped recording coordinates. Bears entered their dens between October and January, with the majority doing so in November. They emerged between March and May, with April being the most common month.

Overall, bears seem to be flourishing in Crater Lake National Park. The park is playing an important role in protecting females and helping maintain black bear numbers in the region. (Hunting for bears is allowed beyond

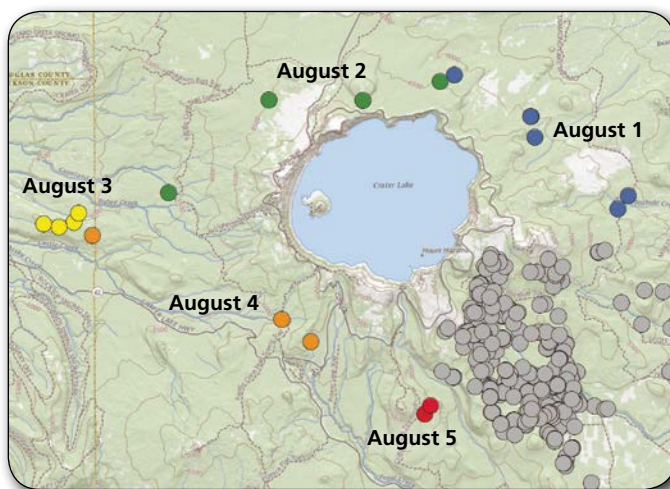


Ten bears were trapped, tranquilized, fitted with GPS collars, and weighed. This female was the smallest, weighing 120 pounds (54 kg). The heaviest was a 285-pound (129-kg) male. To keep them relaxed and comfortable during the process, they were blindfolded and given oxygen.

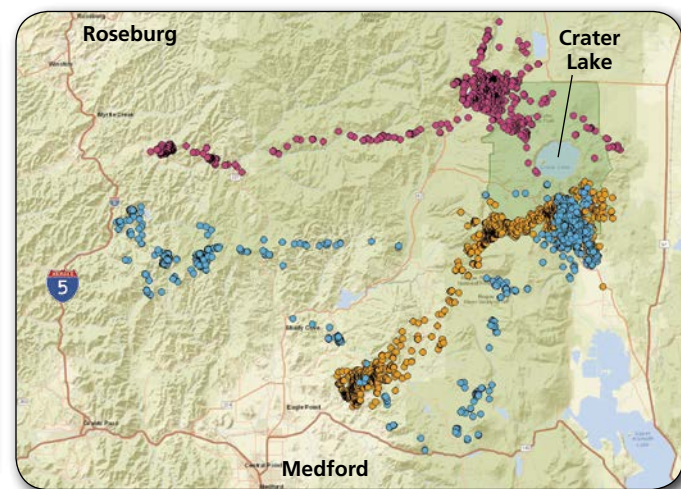
the park's borders.) The presence of roads and trails does not seem to be limiting how bears move across the landscape, although they are avoiding areas of concentrated human activity—which is a good thing. With so many species across the globe in decline or under threat, it's reassuring to know that some wild animals are still thriving in our modern world.



The park's bears seem to avoid areas frequented by people. This female had a home range that encompassed Mazama Village, but in the summer she never entered the campground. The circles represent her GPS positions from July and August of 2012 and 2013.



This female, like the others, had a small home range (gray circles). But she took a surprising trip in August of 2012, walking counter-clockwise all the way around the lake! The colored circles trace the 5 days of her journey.



In the fall, the three males ventured far outside the park, presumably to feed on acorns. Each color represents the movements of a different bear. One traveled nearly all the way to Interstate 5 and made a loop of more than 200 miles (322 km).

How Did Crater Lake Get Its Name?

"Crater Lake" might seem like an obvious name for this park's central body of water, but it was hardly the first name to be applied here—and it has proven, over the years, to be somewhat controversial. To what does the name actually refer? And does it accurately reflect the lake's true origins? This year marks the sesquicentennial (150th anniversary) of the expedition that bestowed the moniker, so let's recount the events that led to the christening and attempt to shed light on these longstanding questions.

The first party of European Americans to stumble across the lake, in 1853, dubbed it "Deep Blue Lake." The second, in 1862, simply called it "Blue Lake." Over the next few years, it would be hailed by other visiting groups as "Great Sunken Lake," "Hole-in-the-Ground,"

and "Lake Majesty." The Klamath Tribes, whose ancestors witnessed the lake's formation, know it as "Giwias." (Unfortunately, the meaning of that appellation has been lost to time.)

James McCall Sutton was a resident of Jacksonville, Oregon, a gold-rush town 60 miles southwest of the lake. Sutton had met some of the lake's early visitors, and had read stories about it in *The Oregon Sentinel*, the local newspaper at which he was a writer and editor. Determined to see the ballyhooed gulf for himself, he organized a midsummer excursion in 1869 for a group of five men, five women, and six children.

The trip was, more accurately, an expedition. The party traveled slowly in three horse-drawn wagons on a primitive road blazed four

years earlier by the US Army (a route now followed by Highway 62). They endured lightning storms, yellowjacket swarms, wildfire smoke, creek crossings, and a rough and rocky road punctuated with tree stumps. They reached the lake on August 3rd, after an eight-day journey, maneuvering their wagons off-road to climb the last three miles to the rim.

"To say that this wonderful lake is grand, beyond description, is to give no idea of its magnificence," Sutton reported, in an article he penned later that month for *The Oregon Sentinel*. "Everyone gazes at it for the first time in almost tearful astonishment." Almost immediately, however, the party's silence was broken by exclamations from the women. "Look out for the children! Stand back Cora! Look out for Zetta! Come back Jimmy! Come back Peter!"

None of the kids went over the brink, but before long, the men did, intentionally. In their wagons, they'd brought along a supply of wooden planks, nails, and tar. Wrote Sutton: "Each man now shouldered up a portion of our boat material, and after a few timid glances down the fearful incline, started boldly over the loose, crumbling bank, starting beves of loose boulders at every step, at the eminent danger of any one who dared venture ahead of the party." They spent the afternoon assembling their rowboat at the shore.

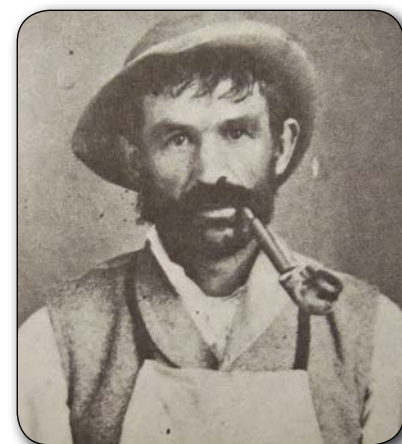
The next day, they launched their vessel into a stiff headwind and rowed for an hour to reach the lake's

conical island, two miles distant. "This island is but a loose pile of cinders," lamented Sutton, though they succeeded in scrambling to its summit. There, they discovered a "basin-like crater," 90 feet deep, with a snowbank at the bottom, and they proclaimed themselves the first humans ever to set foot on the isle. They scrawled their names on a scrap of paper, which they placed in a glass bottle and left inside the crater.

Sutton had hoped to circumnavigate the lake and measure its depth at different points, but "owing to the frail nature of our boat, and strong wind," the party chose to forgo that objective. Still, they did take one sounding, half a mile from the island, and determined the water to be 550 feet deep. "Could we have reached the deepest part, no doubt we would have found it 1,500 or 2,000 feet deep." Sutton's prediction would be confirmed in 1886 when the lake was plumbed by scientists from the US Geological Survey.

The adventurers returned to Jacksonville in mid-August. When Sutton's two-part story about the expedition, "Trip to Crater Lake," ran in the August 21st and 28th editions of *The Oregon Sentinel*, it marked the first time the name "Crater Lake" had appeared in print. Sutton was thus credited with naming the lake, although it's not clear he ever claimed that distinction. Either way, his entertaining account seems to have cemented the name in the public consciousness.

(continued on back page)



Historians credit James M. Sutton (1830-1878) with giving Crater Lake its present name. His 1869 article in *The Oregon Sentinel* marked the first time the name was seen in print. Born in Illinois, Sutton traveled to Oregon at the age of 20 in search of gold. Later he ran a drugstore, served as a postmaster, and worked as a writer and newspaper editor.

OREGON'S GREAT CURIOSITY

Several of our citizens returned last week from a visit to the Great Sunken Lake. It is thought to average 2,000 feet down to the water all round. The walls are almost perpendicular, running down into the water and leaving no beach. No living man ever has, and probably never will, be able to reach the water's edge. It lies silent, still, and mysterious in the bosom of the hills, like a huge well scraped out by the hands of the giant geni of the mountains. The lake is certainly a most remarkable curiosity.

In the 1860s, newspapers began trumpeting the existence of a mysterious lake at the crest of the Cascade Mountains. Vivid language was their only tool; the lake wouldn't be photographed until 1874. This passage comes from an 1865 story in *The Oregon Sentinel*.



Sutton's party may have been the first to launch a boat on Crater Lake, cross to Wizard Island, and climb to its summit. There, they discovered a crater 90 feet deep and 470 feet across. The island is a cinder-cone volcano that emerged from the lake around 7,300 years ago.

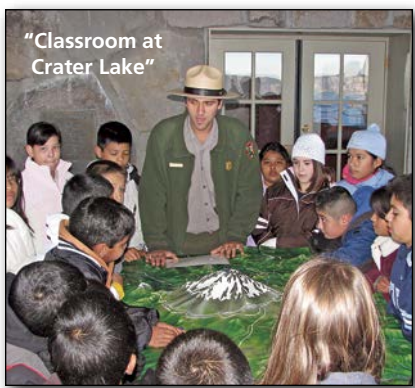
Support Your Park—



Volunteer Ski Patrollers



Kari Bertram of Coeur d'Alene, Idaho, spotted this red fox in Mazama Village. Red foxes are not always red—most at Crater Lake have fur ranging from silver to black.



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 throughout the year to help staff visitor centers and present interpretive programs. Opportunities are advertised several times each year at www.volunteer.gov. Volunteers are provided free housing in exchange for 3 months of service. To assist with special projects or volunteer periodically, join The Friends of Crater Lake, a non-profit organization founded in 1993. Members remove non-native plants, build and maintain trails, contact visitors, operate a winter information desk at Rim Village, and assist with special events. Learn more at www.friendsofcraterlake.org. Or join the Crater Lake Ski Patrol, which has been assisting winter visitors and maintaining the park's cross-country ski trails since 1983. Members, identifiable by their bright red parkas, receive training in wilderness first aid, survival skills, search and rescue, map and compass use, and avalanche safety in exchange for at least 6 days of service. For more information, visit www.craterlakeskipatrol.weebly.com.

Report Your Wildlife Sightings

Scientists need your help! If you spot any interesting animals during your Crater Lake visit, or if you witness any unusual behavior, please let us know! Your observations will help us learn which animals live in the park and how they use it. In 2018, park visitors and employees submitted 112 reports of 43 different species, including the black-backed woodpecker, sage thrasher, short-horned lizard, bobcat, mountain lion, wild forget-me-not moth, and gray wolf. To share your sighting, send an email to craterlake@nps.gov or find a ranger at a visitor center. Let us know the date and precise location of your encounter, a detailed description of what you saw, as well as your name and contact info, in case we have follow-up questions. And if you captured any photos, send them along (ideally with permission for us to use them in reports and publications). Photographic evidence can be very important in confirming the identity of some species. Just remember that approaching, feeding, or disturbing wildlife is strictly prohibited—so please keep your distance. Thanks for your participation!

Buy Crater Lake License Plates

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 Crater Lake plates at any time, not just when buying a new vehicle or renewing your registration. Visit any Oregon 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. The center opened in 2006 and consists of two renovated historic structures near Park Headquarters: the original Superintendent's Residence and Chief Naturalist's Residence. These buildings now provide living and working space for visiting scientists, teachers, and artists. The Science and Learning Center draws researchers and educators to Crater Lake from around the world, encouraging them to use the park as an outdoor laboratory and classroom. For more information about the Science and Learning Center and its programs, visit www.nps.gov/rlc/craterlake.

Contribute to the Crater Lake Trust

The Crater Lake National Park Trust is a nonprofit organization that raises private funds to support park projects and connect the park with surrounding communities. Each year, for example, it helps fund field trips to the park for more than 5,000 grade-school students. In a program called "Classroom at Crater Lake," kids engage in hands-on science and learn about wildlife, old-growth forests, and winter ecology. For most of the kids, it's their first visit to the park. To learn more about the Trust and its activities, visit www.craterlaketrust.org. Share your love of the park by making a tax-deductible gift.

Share Your Comments

Whether you have a compliment, concern, or suggestion, we'd like to hear from you! This is your national park, and we value your input on how best to manage it. You can provide feedback in several ways. Ask for a comment form at a visitor center, send an email to craterlake@nps.gov, or write to: Superintendent, Crater Lake National Park, PO Box 7, Crater Lake, OR 97604.

How Did Crater Lake Get Its Name? *(continued from page 7)*

So what inspired the moniker? Well, that's been a persistent mystery. In his article, Sutton offers no explanation, which has led some observers to conclude that the "crater" in the title refers not to the basin in which the lake rests but to the cavity the men found at the summit of the island. Two pieces of evidence support this theory. First, while Sutton's article twice refers to the island's "crater," it not once uses the term to describe the larger reservoir. Second, a contemporary of Sutton's, Orson Stearns, recalled in an 1896 memoir that Sutton had "renamed the lake after the crater discovered in the top of Wizard Island."

Still, it seems more likely that the crater on Sutton's mind was indeed the one occupied by the lake. His lack of commentary on the subject suggests that the more obvious

explanation is the correct one. And, while he may not have labeled it a "crater," he clearly recognized the lake's volcanic setting, noting that the water was "entirely surrounded by walls of light-colored basalt, scoria, and almost every conceivable variety of volcanic productions." Further, Sutton refers to the island as "Crater Lake Island." Had its summit truly inspired the naming of the lake, wouldn't he have called it something else—"Crater Island," perhaps? (It would not acquire the name "Wizard Island" until 1885.)

The other enduring controversy about the Sutton expedition relates to the meaning of the word "crater." In modern geologic parlance, a "crater" is a vent (like the one on Wizard Island) formed from the ejection of volcanic material. The lake, properly

speaking, sits inside a "caldera," a depression formed from the collapse of a volcanic peak. So, some would argue, shouldn't we call it "Caldera Lake"? Perhaps, but in the 19th century, the term "caldera" was not commonly used, even among geologists. It had been added to the lexicon by a German geologist in 1825 but was not yet widespread. It's hard to fault Sutton's word choice, especially since geologists had yet to visit the lake and come to understand that it was the legacy of a catastrophic implosion.

James Sutton died at the age of 48 and is buried in Ashland, Oregon. We may never know for sure how Crater Lake got its name, but thanks to Sutton's writing, we know a lot about the thrills and travails experienced by the members of his pioneering expedition 150 years ago.

Climate Chart

Summers at Crater Lake are short but generally warm and sunny. July, August, and September are your best bets for clear, dry weather. In May, June, and October, sunny days alternate with periods of rain and snow. Winters are long and snowy. Storms from the Pacific Ocean dump an average of 43 feet (13 meters) of snow at Park Headquarters. The park's tremendous snowfall is a result of its position at the crest of the Cascade Mountains.

Data is from Park Headquarters, 1931-2017.

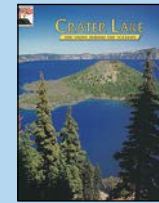
FAHRENHEIT	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Daily High (°F)	34	35	37	42	50	58	69	69	63	52	40	34
Average Daily Low (°F)	18	18	19	23	28	34	41	41	37	31	23	19
Average Snowfall (inches)	100	81	83	45	19	4	0.2	0.1	3	21	61	93
Avg. Snow Depth (inches)	79	101	115	111	76	24	1	0	0	2	16	47
Avg. Lake Surface Temp. (°F)	39	38	38	38	40	45	54	59	56	50	45	41

CELSIUS	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Daily High (°C)	1	2	3	6	10	15	21	21	17	11	4	1
Average Daily Low (°C)	-8	-8	-7	-5	-2	1	5	5	3	-1	-5	-7
Average Snowfall (cm)	254	206	211	115	49	9	0.5	0.3	7	53	155	237
Avg. Snow Depth (cm)	201	256	292	281	193	60	3	0	1	6	42	120
Avg. Lake Surface Temp. (°C)	4	3	3	3	4	7	12	15	13	10	7	5

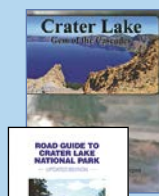
Shop in the Visitor Center Bookstores

When you shop in the Steel Visitor Center or Rim Visitor Center, all proceeds from your purchase are invested back into the park. The bookstores are operated by the Crater Lake Natural History Association, a nonprofit organization established in 1942 to support the park's educational and scientific programs. The association funds a variety of important projects, including the printing of this visitor guide. Some of the bookstores' offerings are described below. For a complete list of merchandise and to buy items online, visit www.craterlakeoregon.org. You can also order by calling 541-594-3111.

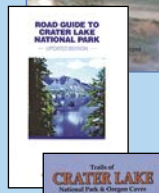
Recommended Reading



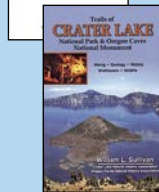
Crater Lake: The Story Behind the Scenery
Large photos with detailed captions accompany the text of this popular book. 48 pages, \$11.95.



Crater Lake: Gem of the Cascades
A comprehensive guide to the park's geologic story, written by a former park ranger. 168 pages, \$15.95.



Road Guide to Crater Lake National Park
Consult this guide as you circle the lake for a deeper understanding of the park's features. 48 pages, \$7.95.



Trails of Crater Lake & Oregon Caves
A detailed guide to 24 hikes. 112 pages, \$14.95.



Crater Lake Topo Map
Recommended for trips into the park's backcountry. Waterproof and tearproof. 1:55,000 scale. \$11.95.



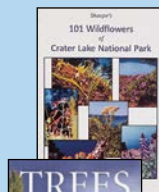
Plants & Animals of Crater Lake Nat'l Park
This folding, waterproof guide will help you identify the park's most visible species. 11 pages, \$6.95.



Volcanoes
Folding, waterproof guide to volcanoes, lava rocks, and plate tectonics. 11 pages, \$7.95.



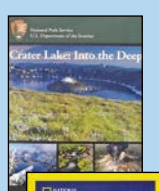
Star & Planet Guide
Rotating "planisphere" for locating stars, planets, and constellations in the night sky. \$7.99 small, \$11.99 large.



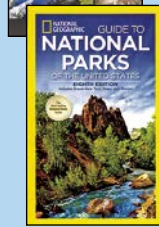
101 Wildflowers of Crater Lake Nat'l Park
Detailed descriptions and vivid photos of the park's most common flowers. 74 pages, \$14.95.



Trees To Know in Oregon
Tree identification is easy and enjoyable with this photo-packed, fact-filled guide. 153 pages, \$18.00.



Crater Lake: Into the Deep DVD
Own the film shown at the visitor center. Discover the park's significance and explore the lake's violent past. 22 minutes, \$14.99.



Guide to the National Parks of the United States
This best-selling book from National Geographic features 380 stunning photos and 80 color maps. 480 pages, \$28.00.

