

Crater Lake

National Park
Oregon

National Park Service
U.S. Department of the Interior



Crater Lake, photograph by Ray Atkeson

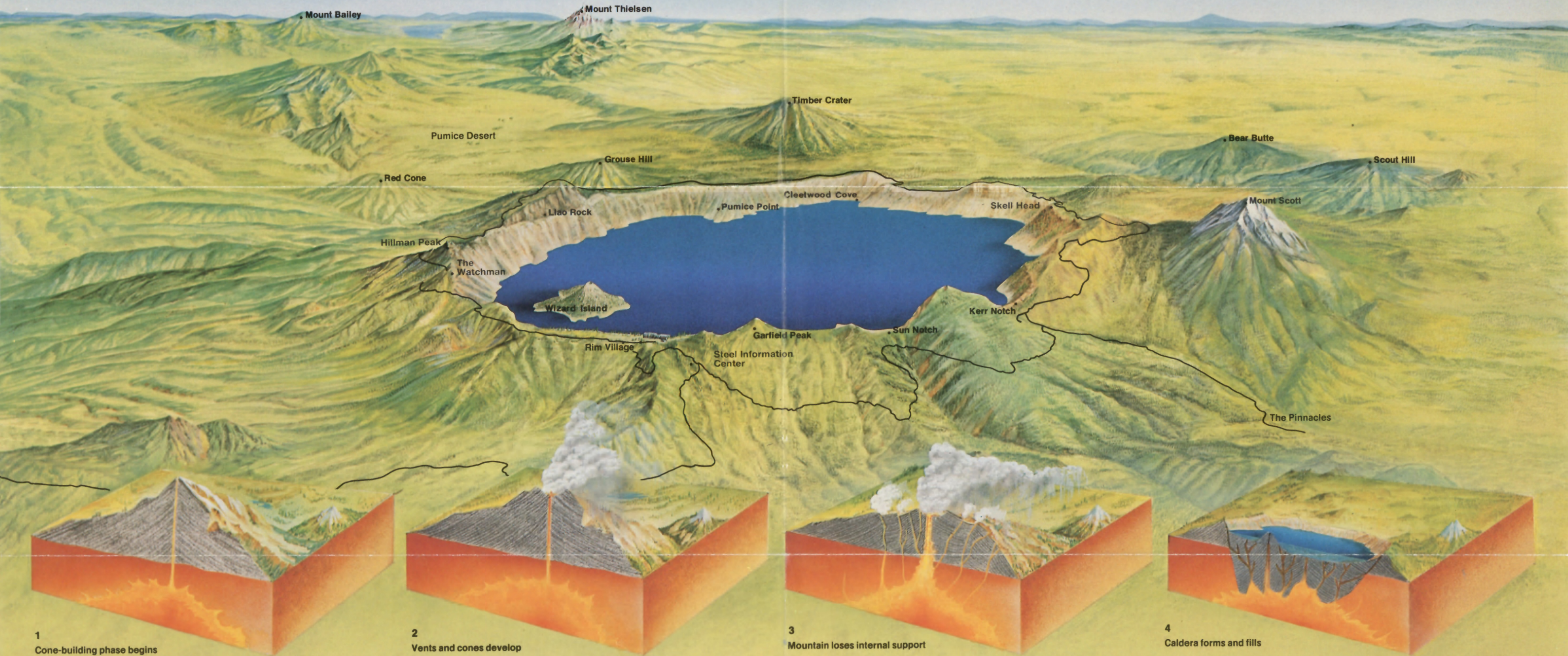
Rolling mountains, volcanic peaks, and evergreen forests surround this enormous, high Cascade Range lake, recognized worldwide as a scenic wonder. Crater Lake was established as a national park in 1902 after 17 years of lobbying by William Gladstone Steel. He had learned of Crater Lake as a Kansas schoolboy reading a newspaper used to wrap his lunch. On sunny summer days, neither words nor photographs can capture Crater Lake's remarkable blueness. For much of the year—usually October to July at higher elevations—a thick blanket of

snow encircles the lake. Snowfall provides most of the park's annual 66 inches of precipitation. Crater Lake rarely freezes over completely; it last did in 1949. Heat from the summer sun stored in the immense body of water retards ice formation throughout the winter. On the earth clock, natural forces only recently constructed this landscape. Lava flows first formed a high plateau base on which explosive eruptions then built the Cascade volcanoes. Humans probably witnessed the cataclysmic eruption of Mount Mazama about 7,700 years ago. Shamans

in historic time forbade most Indians to view the lake, and Indians said nothing about it to trappers and pioneers, who for 50 years did not find it. Then, in 1853, while searching for the Lost Cabin Gold Mine, some prospectors, including John Wesley Hillman, happened onto Crater Lake. Soundings with piano wire by a U.S. Geological Survey party in 1886 set the lake's depth at 1,996 feet, close to sonar findings of 1,932 feet officially recorded in 1959. The most recent and accurate sonar survey, conducted in 2000, showed the lake depth to be 1,958 feet. The

clean, clear, cold lakewater contained no fish until they were introduced by humans from 1888 to 1941.

Today, rainbow trout and kokanee salmon still survive in Crater Lake. Wildflowers bloom late and disappear early here, thriving in wet, open areas. Birds and other animals often seen are ravens, jays, nutcrackers, deer, ground squirrels, and chipmunks. Present but seldom seen are elk, black bears, foxes, porcupines, pine martens, chickaree squirrels, and pikas.



Artist Jaime Quintero's painting creates for you a non-existent overlook on a perfectly clear, pollution-free, mid-summer day when the atmosphere is perfectly oxygen balanced at 4 p.m. The painting is not selective, as your eye is, but shows a wide-angle view. The vertical and horizontal scales are identical, with no exaggeration. The cross section of the rim and lake (below) cuts through Wizard Island to take in the lake's deepest part.

Block Diagrams The four insets show volcanism stages (above, left to right) leading to Mount Mazama's collapse:

- 1 Cone-building began a half million years ago. Magma from Earth's interior spewed out.
- 2 Lesser magma vents and cones developed on the mass, weakening it.
- 3 About 7,700 years ago so much mass blew out of the cone that the mountain had no support and collapsed.
- 4 It created the caldera that Crater Lake now occupies.

A Vast Volcanic Region The plateau base of the Cascade Range was built as Earth's crust folded and uplifted, pushing seas westward. Molten rock pushed toward the surface, creating both violent eruptions and the welling up of lava through enormous cracks. In recent geologic time—the past 750,000 years—explosive eruptions built a string of volcanoes on this plateau base. This Cascade Range of volcanoes extends from Canada's Mount Garibaldi to Lassen Peak in northern California. One of these great volcanoes, Mount Mazama, now holds Crater Lake.

Mount Mazama For half a million years this mighty volcano produced massive eruptions interrupting long periods of quiet. Ash, cinders and pumice exploded upward, building the mountain to a height of about 12,000 feet. Parasitic cones on Mazama's flanks created Mount Scott and Hillman Peak. Glaciers periodically covered the flanks of Mount Mazama and carved out U-shaped valleys such as Munson Valley and Kerr Notch. About 7,700 years ago the climactic eruptions of Mount Mazama occurred. Ash from these eruptions lies scattered over eight states and three Cana-

dian provinces; some 5,000 square miles were covered with 6 inches of Mazama's ash. In the park's Pumice Desert (see map) ash lies 50 feet deep. The eruptions were 100 to 200 times greater than those of Mount St. Helens in 1980. The Mazama magma chamber was emptied and the volcano collapsed, leaving a huge bowl-shaped caldera. The high mountain was gone. At first the caldera's floor was too hot to hold water. Renewed volcanism sealed the caldera and built the Wizard Island and Merriam cones, volcanoes within a volcano.

The Lake Forms As volcanic activity subsided, water began to collect. For the past 5,000 years the volcano has not stirred. Springs, snow, and rain began to fill the caldera. As the lake deepened and widened, evaporation and seepage balanced the incoming flow. The depth now varies less than 3 feet annually in this, the nation's deepest lake.

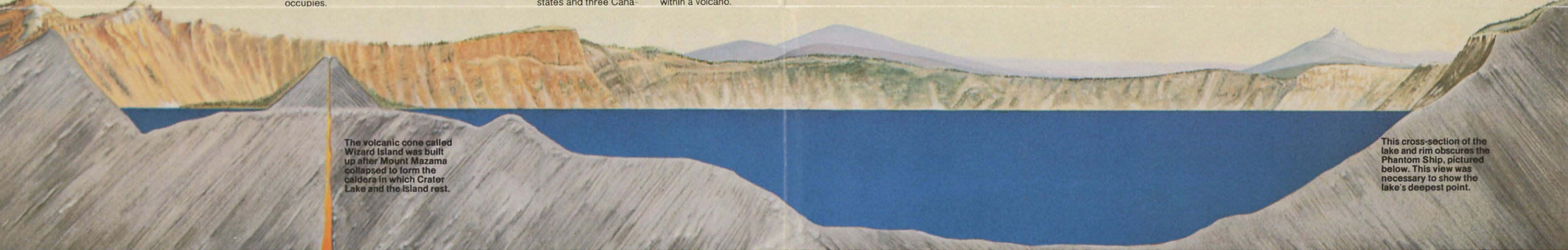
A Closed System No stream runs into or out of the lake, so it is considered a closed ecological system. From its beginning Crater Lake contained no fish. Six species were introduced in historic time. Of these, two remain: rainbow trout and kokanee salmon. To protect the natural system, fish are no longer stocked. Obtain fishing regulations from park rangers.

Why So Blue? Light gets absorbed color by color as it passes through clear water. First the reds go, then orange, yellow, and green. Last to be absorbed are the blues. Only the deepest blue gets scattered back to the surface where you see it as the color of the water. The water is of course no more blue than the sky is blue.

The Name In 1869 Crater Lake was named by James Sutton, editor of the *Oregon Sentinel* of Jacksonville, Oregon. He named it after the small crater at the top of Wizard Island, the cinder cone in the lake that rises some 764 feet above the water.

Facts and Figures Crater Lake is the deepest lake in the United States, the second deepest in the Western Hemisphere, and the seventh deepest in the world. Here are some statistics to take home with you:

Maximum lake depth	1,958 ft
Average lake depth	1,500 ft
Maximum lake width	6 mi
Lake surface elevation	6,176 ft
Wizard Island elevation	6,940 ft
Wizard Island height above water	764 ft
Hillman Peak, highest point on rim	8,151 ft
Mount Scott, highest point in park	8,929 ft
Union Peak	7,709 ft
Rim Village elevation	7,100 ft
Precipitation, yearly average	66 in
Snowfall, yearly average	44 ft
Maximum snow depth at Park Headquarters	21 ft
Park size	183,224 acres



Discovering Crater Lake and its Nature



Fawn



Klamath Indian



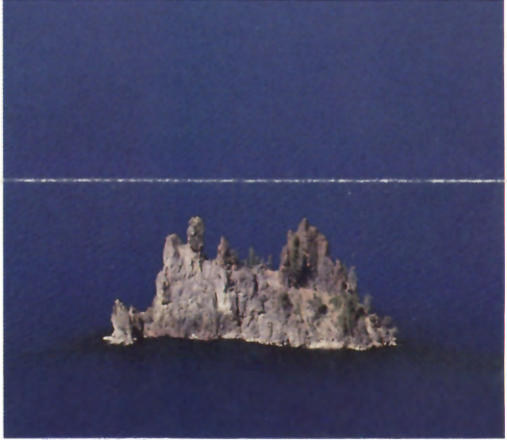
Crater Lake Lodge



Common monkeyflower



Launching the Starr, 1903



Phantom Ship



Cross-country skiing

Facilities and Services

Visitor Centers The Steel Information Center is open year-round. It offers information, backcountry permits, exhibits, map and publication sales, and first aid. The Rim Village Visitor Center, open June through September, provides information and map and publication sales.

Sinnott Memorial A paved pathway near the Rim Village Visitor Center leads to the memorial overlook; open daily in summer. Here you find an unobstructed view of the lake. Park rangers present short geology talks.

Ranger-led Activities Summer campfire programs are presented at the Mazama Campground amphitheater. Topics change nightly. Ranger-led hikes and special activities for children are offered.

Boat Tours From late June to mid-September, narrated boat tours are offered by a concessioner and the National Park Service. The 1¼-hour tour, which leaves from Cleetwood Cove, circles the inside of the caldera with a stop at Wizard Island and a close-up look at Phantom Ship.

Camping Camp at Mazama or Lost Creek Campgrounds, or in the backcountry by permit. Campgrounds open when snow melts in early summer and are closed by snow in September/October. Use only dead and down wood for campfires. Mazama Campground, in Mazama Village, has 213 sites, restrooms, water, showers, a laundry, a dump station, a convenience store, and some hook-ups. Lost Creek Campground, located 3 miles from Rim Drive on the Pinnacles road, has 16 sites (tents only), water, and flush toilets.

The Park in Winter

Rim Drive is closed by snow from mid-October to early July. Vehicle access is available only from Oregon Route 62 to Rim Village. Cross-country skiing and snow play are encouraged only on unplowed roadways. When skiing along the rim, watch for icy spots, snow cornices, and avalanche areas. Pets may not leave plowed roadways and must be on a leash.

Parking is allowed only at plowed parking lots; overnight parking by written permission only. Camping in parking lots is prohibited. Back-

country permits are required for overnight snow camping. There is no gasoline available from mid-October through May.

Snowmobiles are permitted only on the north entrance road; see map on this brochure.

Regulations

Hiking or climbing inside the caldera rim to reach the lake is permitted only on the Cleetwood Trail. Pets must be on leashes at all times in the park, and they are not permitted on the

trails. Wild birds and other animals are part of the natural system and are protected within the park. Do not feed them. Dependency on human food may ruin wild animals' ability to survive the long winter season.

Park regulations require that rocks, plants, wildlife, and artifacts be left undisturbed for their natural and scientific values and for others to enjoy. You are responsible for knowing and following all park regulations.

Exploring Crater Lake

Vistas Oregon 62 and the south access road lead to a year-round lake view; the north entrance road and Rim Drive are closed from mid-October to late June. Rim Drive is a 33-mile road that circles the caldera rim. Pullouts along the way provide scenic lake views. From the Rim Drive a spur road leads to the Pinnacles area of volcanic spires. The north entrance road crosses the Pumice Desert. The south access road follows Annie Creek Canyon.

Lodging, Meals, and Gifts Crater Lake Lodge, with dining and 71 guest rooms, is open from late May to mid-October. Motel units are available at

Mazama Village from early June to mid-October. For reservations write to Crater Lake Lodge, Inc., 1211 Avenue C, White City, Oregon 97503, or call 541-830-8700.

Snacks, meals, and gifts are sold daily in Rim Village. Winter hours at the village are 10 a.m. to 4:30 p.m., snow conditions permitting. Hours are extended in summer. The store at Mazama Village sells groceries and limited supplies from early June to mid-October.

Visitor Services Daily visitor services at park headquarters include information, first aid, back-

country permits, and map and publication sales. A post office in Steel Information Center is open Monday through Saturday year-round.

Trails Trails ascend Garfield Peak (1.7 mi), The Watchman (0.8 mi), and Mt. Scott (2.5 mi), and offer spectacular views. Cleetwood Trail (1 mi) provides the only access to the lake. The Pacific Crest Trail traverses the park, and connecting trails crisscross the backcountry. The Park Headquarters Historic Trail (0.3 mi) is near the Steel Information Center. Brochures are available for the Godfrey Glen (1 mi), Annie Creek Canyon (1.7 mi), and Castle Crest Wildflower (0.5 mi) trails.

Gasoline Sales Unleaded gasoline is available next to the camper store at Mazama Village from early June to mid-October. Gasoline is not available in the park during the rest of the year.

Safety Precautions Drive within posted speed limits and wear seatbelts—they are required by regulation in all national parks. Do not cross rock walls and barriers along the caldera rim; volcanic rock is unstable and could crumble beneath your feet. Automobile drivers and bicyclists should be cautious of one another on the narrow Rim Drive. Mountain bikes are allowed only on open, paved roads and the unpaved Grayback Drive.



More Information Crater Lake National Park is part of the National Park System, one of more than 380 areas that are important examples of the nation's natural and cultural heritage. Visit our website at www.nps.gov. For information about this park contact:
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604-0007
541-594-2211
www.nps.gov/crla
For emergencies while in the park dial 911.

©GPO: 2001-472-470/00458 Reprint 2001
Printed on recycled paper

