State of Oregon
Department of Environmental Quality Memorandum

Date: July 5, 2019

To: Environmental Quality Commission

From: Richard Whitman, Director

Subject: Agenda item F, Action item: Initiate Outstanding Resource Water designation for Crater Lake
July 18-19, 2019, EQC meeting

Why this is important

DEQ received a petition in April 2019 to designate Waldo Lake, and its associated wetlands, as Outstanding Resource Waters. In reviewing that petition, DEQ staff considered the opportunity to add Crater Lake, a unique waterbody in Oregon, to the rulemaking process for designation as a way to ensure a corresponding level of protection for Crater Lake, the centerpiece of the only National Park in Oregon. Crater Lake is the deepest lake (1,949 feet) in the United States. The lake has no streams flowing into or out of it. All water that enters the lake is eventually lost from evaporation or subsurface seepage. According the U.S. Park Service, the lake is one of the most pristine in the world.

DEQ recommendation and proposed motion language

DEQ recommends that the commission direct DEQ to include Crater Lake in the Outstanding Resource Waters designation rulemaking process with Waldo Lake and its associated wetlands, and adopt appropriate policies to protect Crater Lake under that designation.

Proposed motion language:

> *"I move that the Oregon Environmental Quality Commission direct DEQ to include Crater Lake in the Outstanding Resource Waters designation rulemaking along with Waldo Lake and its associated wetlands, and develop appropriate policies to protect Crater Lake at the same time."*

Background information

"Outstanding Resource Waters" are waters designated by the EQC where existing high quality waters constitute an outstanding state or national resource based on their extraordinary water quality or ecological values or where special water quality protection is needed to maintain critical habitat areas (OAR 340-041-0002(44)). In addition, the commission's rules identify the following as priority areas for an ORW designation:

(A) Those in State and National Parks;
(B) National Wild and Scenic Rivers;

(C) State Scenic Waterways;
(D) Those in State and National Wildlife Refuges; and
(E) Those in federally designated wilderness areas.

Further, EPA rules also specifically identify protection of water quality for waters within national parks as a priority for state protection from degradation.

> 40 CFR 131.12 (a) The State shall develop and adopt a statewide antidegradation policy. The antidegradation policy shall, at a minimum, be consistent with the following:
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> * * *
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> **(3)** Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

Crater Lake is a very clear, deep lake contained within a volcanic crater. The lake is a unique and highly valued natural resource in Oregon Crater Lake is fully contained within Crater Lake National Park, the state's only national park. While there are few threats to Crater Lake at this time, and the National Park Service currently manages the lake to maintain its pristine nature, the proposed designation and adoption of a policy to protect Crater Lake from degradation will complement and reinforce a shared state and federal objective of protecting this waterbody.

The NPS "Foundation Document" for Crater Lake (https://www.nps.gov/crla/getinvolved/upload/CRLA_Foundation-Document_emailsize-508.pdf) (the basis for the Park Service's management planning), identifies the following as among the fundamental resource values for the park:

> "Crater Lake National Park's world-renowned caldera holds one of the clearest, bluest, and deepest lakes in the world. Its clarity and color is due in great part to the lack of suspended particulates and extremely low organic productivity. It contains significant and active hydrothermal features, which, among other lake qualities, have made it one of the most extensively monitored lakes of its size in the world. Its impressive scale and geographic setting within the high Cascade Mountains create lasting memories and inspire visitors."

The National Park Service has a long-term monitoring program for water quality and other environmental characteristics of the lake, which (because of

the relative lack of anthropogenic land use impacts) makes the lake an important laboratory for long-term baseline water quality conditions.

The following is a summary from the Crater Lake Institute of the importance of the lake in terms of its quality:

> "Crater lake is a world-class laboratory for studying lakes because of its pristine condition. Because it is preserved in a national park it is expected that there will be minimal future onsite impacts from human activities. The lake provides scientists and park managers with a gauge for assessing changing environmental conditions external to the Park. Long-term monitoring of Crater Lake has been used to develop a baseline of information about the natural dynamics and complexity of the lake. This baseline will serve as a reference when studying the impacts of global climate change and human activities, such as agriculture and urban growth, on other lakes. Scientists working with the U.S. Geological Survey, the National Park Service, and Oregon State University have systematically studied Crater Lake for the last two decades. Long-term monitoring of this lake is a priority of Crater Lake National Park and will continue far into the future."

http://www.craterlakeinstitute.com/general-natural-history-articles/natural-history-flora-and-fauna-articles/two-decades-of-research-at-crater-lake/2/

Crater Lake also is highly significant to Native American tribes. The Klamath Tribes, which include the Klamath, Modoc and Yahooskin band of the Snake, knew Crater Lake as *gii-was,* meaning "a sacred place." The Cow Creek Umpquas also knew and respected Crater Lake. Native Americans experienced the collapse of Mount Mazama about 7,700 years ago, and have many stories about the creation of Crater Lake and its many features. Crater Lake was used as a place for vision quests and prayer, and the surrounding areas were important for their resources and cultural traditions.

Please see the two figures on the next page for the geographic location of Crater Lake, and some detail on the Crater Lake National Park area.

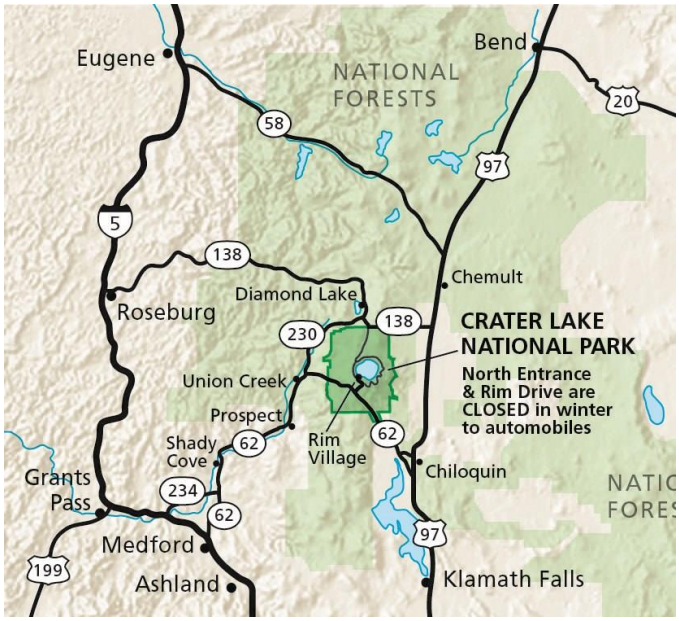

Figure 1. Location of Crater Lake, Oregon. From: National Park Service brochure, online

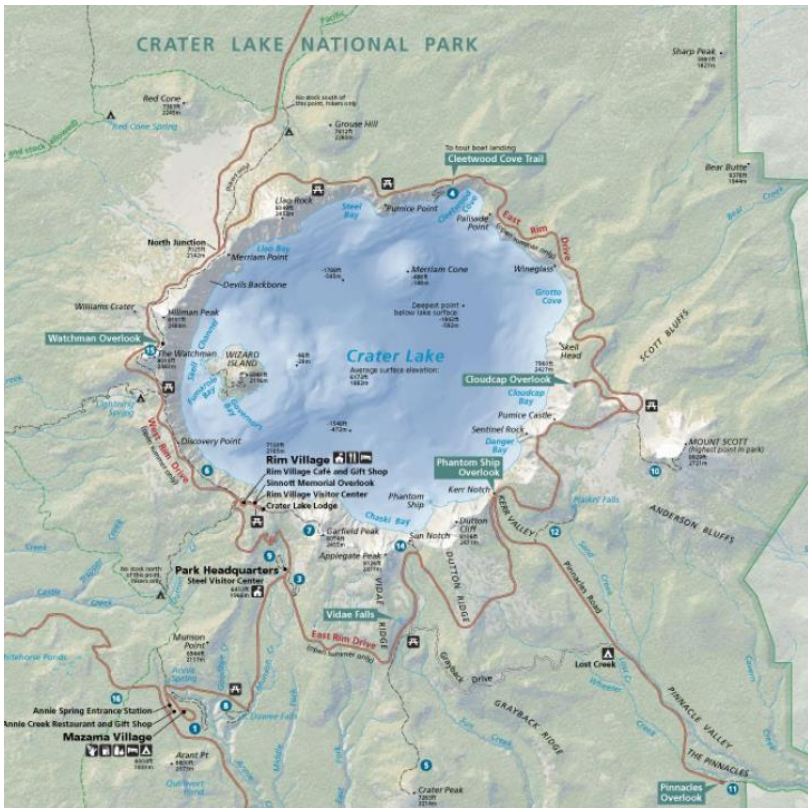

Figure 2. Detail of Crater Lake, Oregon. From: http://www.craterlakeinstitute.com/what-to-do/directions-and-maps/more-of-crater-lake/

EQC involvement and next steps

Based on the outstanding quality of its waters, the importance of the lake for long-term research on global processes affecting water quality, and the cultural significance of the lake, DEQ recommends that the commission direct DEQ to include Crater Lake in the Outstanding Resource Waters designation rulemaking process with Waldo Lake.

If approved for rulemaking by the EQC, DEQ will work with the Park Service and other interested partners to develop appropriate and its associated wetlands, and adopt appropriate specific antidegradation policies to protect water quality in the lake, taking into consideration the Park Services General Management Plan. DEQ would then provide that information to the rulemaking Advisory Committee for review and comment.

This information will also be made available, together with the proposed rule, for public comment. DEQ would then make a final recommendation to the commission concerning whether to designate Crater Lake as an Outstanding Resource Water and, if so, what specific policies should accompany such a designation.

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