

# Bringing Water Data to the Forefront in Oregon

## The Oregon Water Data Portal Project

Alexander Merino • February 2023

We know that Oregon has more than 100,000 miles of rivers and streams, 360 miles of coastline along the Pacific, and more than 1400 named lakes. But how much do we actually know about the water that we rely upon for our basic needs? Sure, we might be familiar with the big names like the Columbia River and the Pacific Ocean, and we might have opinions on where the best kayaking, waterfall viewing, or flyfishing spots are located, but what do we know about the water we drink every day? What about impacts of algal blooms on our estuaries? Or how well we are tracking changes that affect the lake your family loves to visit every summer? What happens to our water supplies in the event of a flood or a dam failure? The truth is, there are many questions about water in Oregon that we have a hard time answering because the data we need isn't easy to find. These types of water questions are just a few of the topics that the Oregon Water Data Portal (OWDP) seeks to address.

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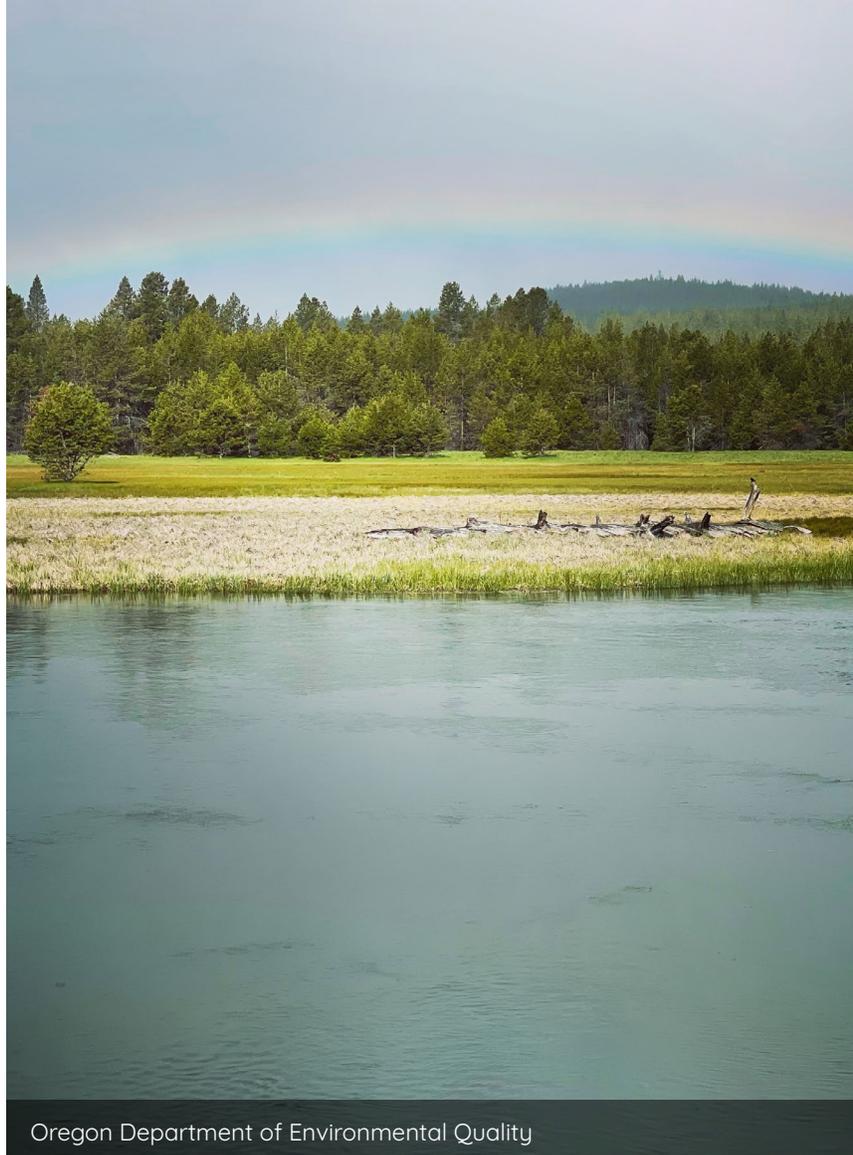
### THE OREGON WATER DATA PORTAL: A SINGLE SOURCE FOR WATER INFORMATION IN OREGON

We envision the OWDP as a single point of access on the Internet, where people can find data about Oregon’s water — from how much of it there is in certain regions, to how clean it is, how it is transported to communities, to how much is needed to support fish, wildlife, and habitat. It will have the types of data and information about water and infrastructure that can inform water resource decision-making in Oregon. The portal will make it easier for the public and Oregon

state agencies to find, integrate, and analyze data. The OWDP will be responsive to recommendations from [Oregon's 2017 Integrated Water Resources Strategy](#) (IWRS), the [2020 Oregon's 100-Year Water Vision](#), and the Oregon Secretary of State's [2023 Water Security Advisory Report](#) by pulling together data currently stored across many different agencies, and supporting the use of those data to answer important water questions.

By using modern data management practices and technologies, the OWDP will increase the accessibility and utility of data reported by regulated entities and agencies. It will also improve the security of public water data managed by state agencies. Some examples of the types of water management challenges that the OWDP will help agencies address include:

- Tracking the capacity and condition of dams, canals, and other critical public water infrastructure.
- Developing a standardized portal to support the interoperability and accessibility of reported data between agencies.
- Integrating existing and new groundwater data to characterize aquifers to support aquifer-specific groundwater budgets.
- Forecasting water availability and demand under climate and population change scenarios.
- Developing a statewide assessment of Publicly Owned Treatment Works infrastructure improvement needs to ensure compliance with the Clean Water Act and address future water quality and climate challenges.
- Documenting outcomes of water planning efforts, such as instream flow conservation programs.



Oregon Department of Environmental Quality

## FOUNDATIONAL WORK: PLANNING AND SCOPING THE OREGON WATER DATA PORTAL PROJECT

The project has already come a long way, from a few sentences of a legislative mandate to a budding ecosystem of interconnected agencies across the state of Oregon. As of January 2023, the OWDP Project Team has made excellent progress towards many of the stated goals of Stage 1. Work has included outreach and engagement with a wide variety of interested groups, taking a closer look at water data that is currently held or managed by different agencies, new data that might need to be gathered or updated from older datasets, identifying different ways to prioritize how data is shared through the portal, and evaluating different technology solutions that could provide the framework for the portal. Information about these activities is summarized below to provide insight into the types of work currently being conducted to support the OWDP.

- **Engagement and Listening Sessions:** the OWDP Project Team conducted a series of Tribal Government and stakeholder engagement and listening sessions. The goal of these sessions was to hear from users, Tribes, and stakeholders about water data issues including: data needs and gaps, challenges in accessing existing data, concerns about portal development and data management.
- **Data Inventory:** The OWDP Project Team compiled an initial draft data inventory of currently existing water data sets held by the 17 Oregon state agencies with water-related missions or functions. The inventory includes available information on the managing agency, data type, and current need and condition. The inventory does not include or address federal or local water agency data (unless those data are reported to state agencies). Further development of the content of the data inventory will continue as the project moves forward.
- **Data Needs Assessment:** The OWDP Project Team began a Data Needs Assessment to identify the data sets that are essential to respond to consistent water data-related questions, but either do not exist or have low “readiness” (e.g., not readily available in digital or interoperable formats, only available across fragmented spreadsheets). We will continue to develop the Data Needs Assessment as the project moves forward.
- **Data Prioritization Framework:** The OWDP Project Team collaborated with the Internet of Water team at Duke University to develop a preliminary

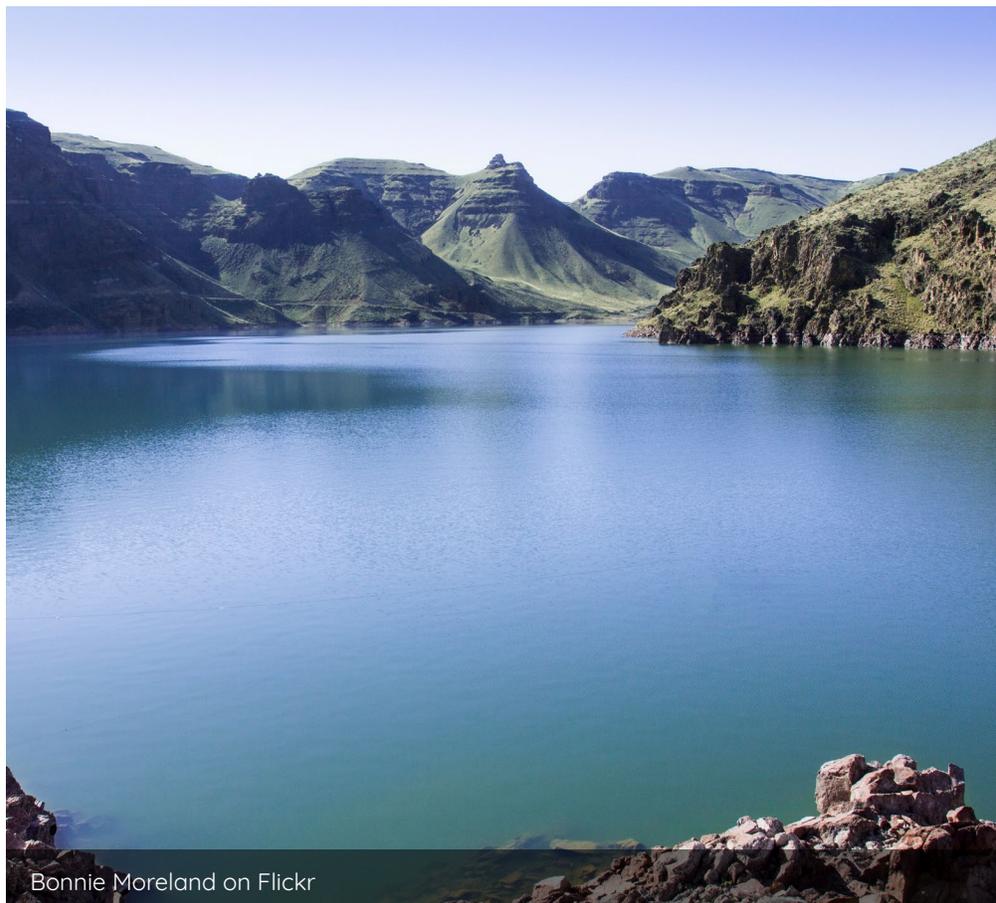
framework to prioritize data for incorporation in the OWDP. This framework was informed by stakeholder, user, and Tribal Government engagement (see above).

- **Technical Team Engagements and Report:** The OWDP Project Team engaged with peers from Texas, New Mexico, and California, who have initiated and managed similar water data modernization projects.

## MOVING FORWARD: A COLLABORATIVE APPROACH TO WATER DATA INFRASTRUCTURE MODERNIZATION

For the remaining period of initial project funding (to conclude in June 2023) the OWDP Project Team will continue improving the draft data inventory and planning of the portal and its technical components. The team will also focus on developing scenarios for how data might be pulled together to answer specific water-related questions from Portal users and identifying technological options to deliver useful water information and data visualization tools for decision-making. Further evaluation of data readiness and supporting information will be continued as part of the recommended tasks for future work. The OWDP project team is hoping to have a pilot portal up and running in 2024.

Despite challenges working across state agencies, there's been an enormous amount of success thus far. The relationships that are being forged between agencies and individuals will have a lasting impact on the state for many years to come. A project like this will propel Oregon and its many water-related agencies into the twenty first century. It's



as much of a modernization project for agencies as it is for water data because the project can't be completed without broad agency collaboration and participation.

The project team has been instrumental in moving the project thus far and deserves special thanks. Support and guidance from IoW has been particularly valuable in helping chart a new path forward for water data in Oregon. And to the individual contributors from each agency and organization, the subject matter experts, and everyone else who has had a hand in the project - though your names may only end up tucked away in an appendix or a footnote, unbeknownst to the public, your dedication and hard work will have lifelong impacts for many generations to come.

All in all, we're proud of the progress we've made so far on the OWDP project, and we're confident that the final product will be an incredibly valuable resource for the state of Oregon. We're excited to continue sharing updates as the project progresses, and we encourage you to [reach out to us](#) if you have any questions or would like to learn more.

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