



Oregon

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MEMORANDUM

TO: Water Resources Commission

FROM: Ivan Gall, Interim Deputy Director
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SUBJECT: Agenda Item A, September 28, 2023
Water Resources Commission

Overview of the Harney Basin and Agency Work in the Basin

I. Introduction

Prior to the formal meeting, the Commission will tour parts of the Harney Basin. This report provides high-level information about the Harney Basin and the Department's work in the basin, including actions the Department is pursuing to help address groundwater declines in the area. *This is an informational report.*

II. Integrated Water Resources Strategy Recommended Actions

- 1 A-C – Understanding water resources today
- 11. E – Develop additional groundwater protections
- 9. A – Continue to undertake place-based integrated water resources planning
- 10. A – Improve water-use efficiency and water conservation
- 10. D – Reach environmental outcomes with non-regulatory alternatives
- 9. C – Partner with federal agencies, tribes, and neighboring states in long-term water resources management
- 10. F – Provide an adequate presence in the field

III. Background

The 5,243-square-mile Harney Basin is located in northern Harney County and a portion of southern Grant County in the Malheur Lake Administrative Basin. The major rivers in the basin include the Donner Und Blitzen, North Fork Malheur, Silver Creek, and the Silvies River. Malheur Lake and Harney Lake are the major lakes in the area, and the area is well known for its wetland complexes that support wildlife, including the Malheur Wildlife Refuge.

In recent years, the Department has spent extensive time working in the basin and seeking to partner with the community to address its water challenges. OWRD has provided updates on the Harney Basin to the Commission several times in recent years, including:

- Updates in Director's Reports from May 2020, November 2020, February 2021, March 2022, November 2022 and February 2023
- June 2023, Item F - Groundwater Portion of Harney Community-Based Water Planning Collaborative's Place-Based IWR Plan
- June 2022, Item J - Harney Basin Groundwater Study: Report Summary and Next Steps
- June 2021, Item H - Harney Basin Groundwater Management Update
- February 2019, Item B - Greater Harney Valley Groundwater Area of Concern
- June 2018, Item E - Harney Basin Groundwater Study and Planning Update
- January 2017, Item D - GHVGAC Update
- April 2016, Item A - OAR 690, Division 512 Rules - Malheur Lake Basin
- February 2016, Item D - Division 512 Overview
- June 2015, Item A - Harney County Overview

IV. Surface Water Distribution and Regulation

The 2023 water year was good for the Harney Basin with snowpack being above average with a cool, wet spring. Surface water distribution and associated regulation has been a challenge in the basin for some time given the very level topography and primitive nature of irrigation systems. Regulation to benefit senior surface water rights occurs regularly each year on the North Fork Malheur, Silver Creek, and the Silvies River. The primary regulated system in the basin is the Silvies River, where regulation generally begins in mid-March each year.

Several meetings have been held with users on the Silvies system to discuss drought and other issues impacting the distribution of water. As a result of the discussions to date, a Harney Basin Distribution Status page is on the Department's website to keep users informed of regulation details. The page is updated weekly, as needed. OWRD plans to continue to meet with landowners in the basin to discuss their concerns and plan for future dry years.

There has been significant effort over the past few years to make efficiency upgrades and install measurement devices on a number of dams, ditches, and canals in the area. This has increased the Department's ability to distribute water and track use. Many of the improvements have been funded by the local landowners and the Natural Resources Conservation Service. The watermaster has had to address illegal groundwater use in the past, as well as non-compliance with groundwater permit conditions. To date these issues have been resolved relatively efficiently.

V. Groundwater Challenges in the Basin

In 2015, initial groundwater level data analysis and aquifer recharge estimates indicated annual groundwater use and other discharge likely exceeded annual recharge in the Greater Harney Valley Area. This data justified closing the basin to further allocation (OAR 690-512-0020). However, members of the community requested, and the Department agreed, that additional

information on how the aquifers were responding to development throughout the Harney Basin would best inform the need for further restrictions.

The Harney Basin Groundwater Study, conducted cooperatively by the Department and U.S. Geological Survey (USGS) began in 2016 and was completed in April 2022. The study improved, expanded, and in many cases quantified the Department's understanding of the hydrogeology of the Harney Basin. The study confirmed the Department's 2015 understanding: groundwater in the Harney Basin has been over-appropriated. On average, approximately three out of every four units of groundwater pumped in the Harney Basin is derived from pre-modern water (before 1953). Groundwater level declines can result in dry or low producing domestic wells, which is another issue some residents in the Harney Basin face, in addition to needing water for other uses, such as agriculture. Action is needed to stabilize groundwater level declines.

VI. Dual Approach to Stabilize Groundwater Level Declines

The results of the Groundwater Study indicate that corrective actions are needed to stabilize the groundwater levels within the basin. Stabilization is critical to meet the groundwater needs of senior users, domestic wells, and groundwater dependent ecosystems. OWRD believes that this will be best accomplished through an integrated approach including both voluntary and regulatory actions.

On the regulatory side of this integrated approach, OWRD has several groundwater management tools. OWRD is working with a Rules Advisory Committee to amend the Malheur Lake Basin Program Rules (OAR 690-512). These rules govern surface and groundwater use and allocation within the Malheur Lake Administrative Basin. The amendment to the Division 512 rules will address declining groundwater levels in the Malheur Lake Administrative Basin by classifying groundwater for specific uses in portions of the basin, designating portions of the basin as a Critical Ground Water Area (CGWA), and designating a Serious Water Management Problem Area (SWMPA) in portions of the basin. These three groundwater management tools will help to address groundwater declines by preventing further development in the recharge areas of the basin, reducing groundwater usage through curtailments, and providing water use monitoring through metering and reporting. A CGWA designation will also help provide the framework to enable and encourage voluntary agreements between groundwater users to reduce overall groundwater use.

On the voluntary side of addressing groundwater declines, there are currently two tools being considered or implemented. To encourage voluntary reductions in groundwater use OWRD has partnered with the community and the Natural Resources Conservation Service to develop the Harney Valley Conservation Reserve Enhancement Program (CREP). The program is now accepting applications for enrollment. This is a voluntary program that aims to remove land irrigated with groundwater from agricultural production to reduce pressure on the resource. In return, landowners are paid an annual rental rate for 14-15 years along with additional incentives for well abandonment and reduction of use near groundwater dependent ecosystems.

The community has also expressed an interest in exploring voluntary agreements under ORS 537.745, which provides that “voluntary agreements among ground water users from the same ground water reservoir” approved by the Commission may control in lieu of a groundwater order or rule, such as those issued in critical groundwater areas. Voluntary agreements have not been utilized in Oregon, as such there is not a good understanding about the requirements and approach. In August, OWRD staff hosted a hybrid informational session to share what we know about voluntary agreements, what we still need to know, and state what information will be provided during the rulemaking process that can be used by members of the community to develop voluntary agreements. OWRD will be seeking to provide greater clarity through rulemaking and is evaluating whether to accomplish that through the Division 512 rulemaking or statewide rule.

VII. Harney Community Based Water Planning Collaborative

At the June Commission meeting, the Harney Community Planning Collaborative presented their work to develop the groundwater portion of their place-based integrated water resources plan. This plan identifies a number of actions to address declining groundwater levels, some of which overlap with agency efforts (e.g., establishing a CREP program, exploring voluntary agreements, providing financial assistance to domestic well owners, etc.). OWRD will continue to work with the Harney Community Based Water Planning Collaborative to implement the groundwater portion of their place-based plan and develop the surface water portion of the plan. Refer to the June meeting materials for more information about this work.

VIII. Financial Assistance for Domestic Dry Wells

As in other parts of the state, some domestic wells have been impacted by drought and groundwater level declines in the Harney Basin. Financial assistance is available through the statewide Water Well Abandonment, Repair and Replacement Fund (WARRF) to help eligible individuals repair, replace, and abandon household wells in areas impacted by drought or wildfire. OWRD currently offers grants of up to \$40,000 for low-to-moderate income well owners whose household wells have been affected by drought or wildfire.

Another funding program, called the Harney Well Remediation Fund, is currently being setup and is specific to the Harney Basin. The fund was authorized by House Bill 3092 (2021), which allows OWRD to pay for up to 75% of the total cost of replacing, repairing, or deepening a personal domestic well affected by groundwater declines in the Greater Harney Valley Groundwater Area of Concern, not to exceed \$10,000. OWRD is also authorized to pay up to \$3,500 for the cost of abandoning the replaced well. OWRD is working to setup this fund in the next six months and will be keeping the Commission and community apprised of progress.

IX. Conclusion

The Harney Basin is challenged with an arid climate and declining water levels, and the need for water for drinking water, agriculture, and groundwater dependent ecosystems which support a vibrant economy and community. An integrated approach of voluntary and regulatory actions is

necessary for OWRD and the community to address groundwater level declines. Multi-stakeholder, interagency coordination, and sufficient funding will continue to be critical to meet the challenges facing the Harney Basin.

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