



MEMORANDUM

TO: Water Resources Commission
FROM: Justin Iverson, Groundwater Section Manager *JI*
SUBJECT: Agenda Item E, June 14, 2018
Water Resources Commission Meeting

Harney Basin Groundwater Study and Planning Update

I. Introduction

This informational report provides an update on the Department's work in the Greater Harney Valley area, including progress on the groundwater study and the place-based planning effort.

II. Background

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. As a result, no new permits could be issued without harming existing water users or appropriating water beyond the capacity of the resource. Consequently, beginning in 2015, the Department stopped issuing new groundwater permits in the area pending completion of a more detailed groundwater study.

The Department then began significant outreach to the local community to build awareness of the situation, seek input, and initiate efforts to address water needs for the area. In April 2016, the Commission established the Greater Harney Valley Groundwater Area of Concern (GHVGAC) in the Malheur Lakes Basin Program Rules (OAR Chapter 690, Division 512). The purpose of the rules were to ensure that groundwater in the GHVGAC is appropriated within the capacity of the resource and to maintain reasonably stable groundwater levels to protect existing water users. The rules:

- Established the GHVGAC within a portion of the Malheur Lake Basin, classifying groundwater in the Greater Harney Valley for exempt uses only (i.e., exempt groundwater uses are not limited).
- Provided a path forward for pending groundwater permit applications if they are able to meet certain criteria outlined in the rules.

- Required the Department to complete a Groundwater Study by 2020 and to convene a local Groundwater Study Advisory Committee, jointly appointed by the Department and the Harney County Court.

In addition, in 2016, the Department awarded a grant to the Harney County Watershed Council to undertake a place-based integrated water resources planning effort following the 2015 Draft Place-Based Planning Guidelines.

III. Groundwater Study Data Update

Consistent with the rules, the Department has been working on a groundwater basin study in cooperation with the USGS. As shown in Table 1 below, Groundwater Section staff have significantly increased the amount of data collected in the Harney Basin since the study began. Attachment 1 shows a map of the GHVGAC and observation well network. The Harney County Watershed Council also collects water-level data from additional wells in the basin to support the study.

Table 1: Summary of Water Level Monitoring Activities in the Harney Basin

Date	1/2018	1/2014
Total Wells Field-Located	567	51
Total Water-Level Synoptic Wells	236	-
Total Water-Level Quarterly Wells	118	23
Spring 2017 Water Level Synoptic Measurements	213	-
Fall 2016 Water Level Synoptic Measurements	242	-
Total Water Levels Measured 2015 (by OWRD staff)	400	-
Total Water Levels Measured 2016 (by OWRD staff)	672	-
Total Water Levels Measured 2017 (by OWRD staff)	688	
Continuous Recorder Instruments Installed	21	2
New Observation Wells Constructed	9	-

OWRD and USGS staff have also conducted several “seepage runs” along surface water bodies to assess groundwater-surface water interaction; collected water quality data for analysis to support definition of source and age of water throughout the basin; and evapotranspiration data from vegetation to assess groundwater discharge from the system. OWRD has also commissioned the Department of Geology and Mineral Industries to undertake detailed geologic mapping of certain areas in the basin. The University of Nevada, Reno - Desert Research Institute is also researching evapotranspiration using remote sensing techniques.

Additional fieldwork is planned during the remainder of the study, though the intensity of the field effort will subside as staff shift their focus to analyzing and synthesizing data and preparing the basin study report. Staff expect to have a draft of the report available for review by the Study Advisory Committee and scientific peer reviewers at the USGS in late 2019.

Other partners in the basin, such as the Department of Environmental Quality, local high school students, the Nature Conservancy, and the Harney Basin Wetlands Initiative are engaged in other activities that will broaden the understanding of groundwater in the basin.

IV. Groundwater Study Advisory Committee Coordination

The Groundwater Study Advisory Committee (SAC) has been established to foster an open exchange of information, data, and ideas between Harney County residents, interested parties, and the groundwater study team. The Committee has developed and agreed upon a charter and selected a chair, County Commissioner Mark Owens. The SAC continues to meet quarterly and has met six times since the Commission was last briefed. All meetings are announced online, in the local paper, and to a mailing list of 141 recipients. Meeting summaries and materials are online at: www.oregon.gov/owrd/Pages/Place/Malheur_Lake_Basin.aspx.

Each Advisory Committee begins with a presentation followed by a work session. Presentations have ranged from topics such as standards and protocols for measuring groundwater levels to local partners' observations of the water system. During work sessions, technical updates are provided from OWRD, USGS, and local partners. The Advisory Committee has also taken short trips in the basin to look at geologic outcroppings as well as to a local well to learn more about groundwater level measurements.

Questions raised by the group are tracked and addressed over time. OWRD and USGS continue to receive positive feedback from the Advisory Committee on the process, content, and preparation that goes into each meeting.

V. Place-Based Planning

In 2016, the Harney County Watershed Council and Harney County Court co-convened a collaborative water planning effort to develop a shared understanding of the water system, assess current and future instream and out-of-stream water needs and demands, and develop integrated solutions to meet water needs. This planning effort is supported with \$150,000 in financial assistance from OWRD as well as planning and technical assistance provided by OWRD staff. Members of the place-based planning process who also serve on the Groundwater Study Advisory Committee are helping to make sure that the two processes are connected.

Over the past year and a half the planning group has accomplished the following:

- Conducted extensive outreach to community members and statewide stakeholders who have an interest in water in the Harney Basin.
- Created an inclusive, collaborative process with diverse water interests.
- Developed a set of Working Agreements that describes how members of the collaborative will work together.
- Built trust and relationships between different water interests in the Harney Basin.
- Hired a project manager and a local project coordinator to ensure that the process runs smoothly.

- Designed a new website to ensure the process is open and transparent:
<http://hcwatershedcouncil.com/community-based-water-planning/>.
- Developed a model of the water system to orient members of the collaborative and organize information.
- Convened four working groups who are compiling and summarizing existing information and developing recommendations for the full collaborative to consider.
- Provided a forum for local stakeholders to share their knowledge and answer questions about water in the basin.
- Invited numerous content experts to deliver presentations to the full collaborative or working group on important water-related topics.
- Developed topic specific “backgrounders” that provide a concise overview of working group discussions and findings.
- Shared lessons learned and challenges with other communities and diverse audiences across the state.

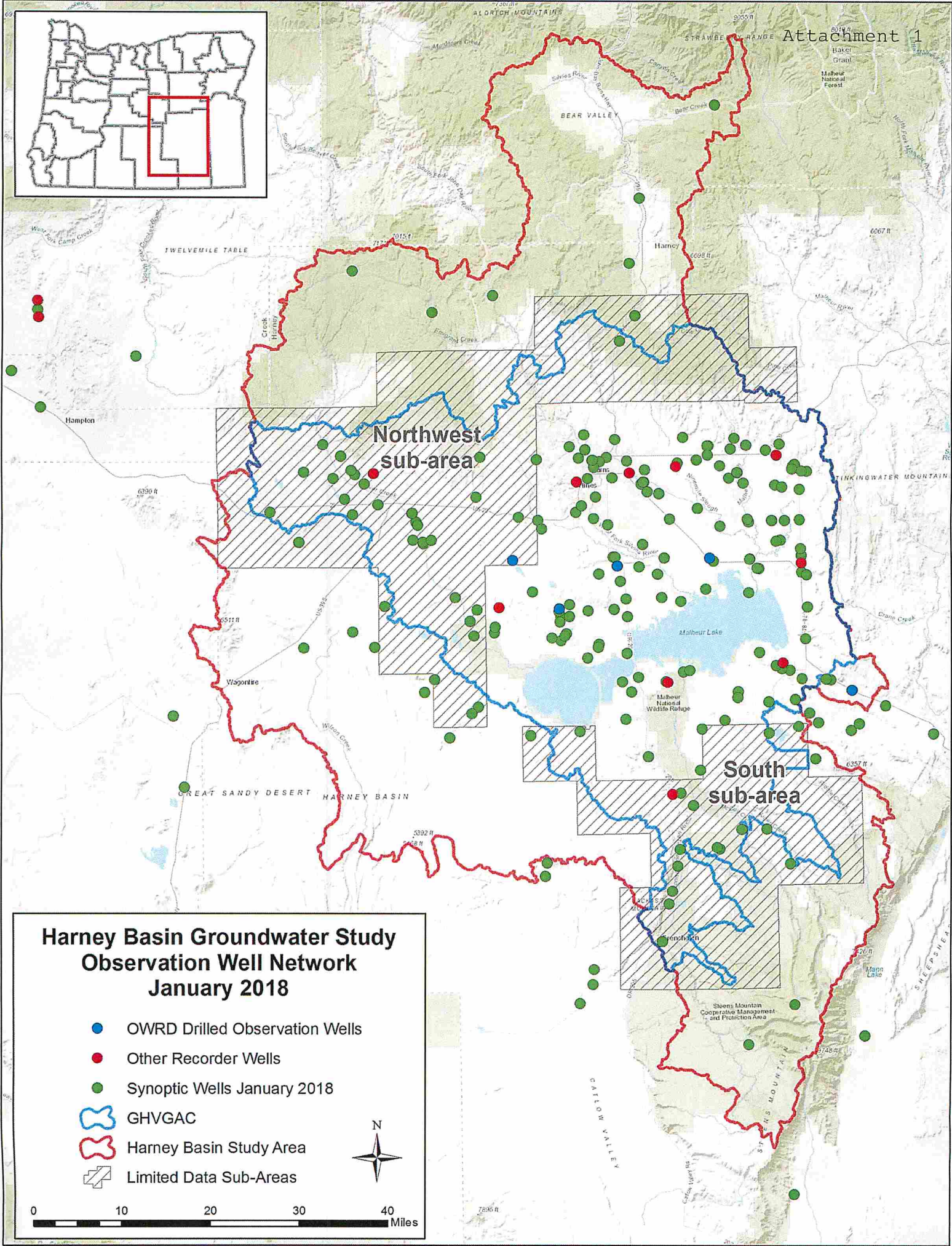
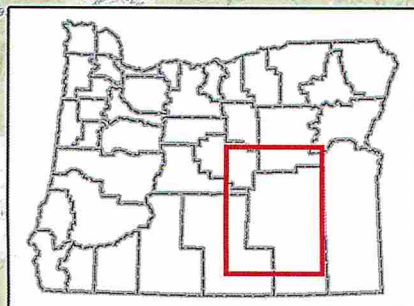
VI. Conclusion

The Department is actively coordinating with the local Study Advisory Committee, and making significant progress on the study. Place-based planning is also underway, helping a diverse group of stakeholders understand the water situation in the basin and identify actions to meet the water needs of the community, the economy, and the environment.

Attachments:

1. Observation Well Locations within the Harney Basin (January 2018)

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Harney Basin Groundwater Study Observation Well Network January 2018

- OWRD Drilled Observation Wells
- Other Recorder Wells
- Synoptic Wells January 2018
- GHVGAC
- Harney Basin Study Area
- Limited Data Sub-Areas

