Oregon
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MEMORANDUM

TO: Water Resources Commission

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SUBJECT: Agenda Item C, January 26, 2017
Water Resources Commission Meeting

Groundwater Work Plan Update

I. Introduction

The Commission directed staff to develop a groundwater work plan at its October 2016 meeting. This is an informational report on the status of work plan development.

II. Background

At the October Commission meeting, staff presented an overview of groundwater management in Oregon and outlined recently completed and ongoing groundwater work. The Commission directed the Department to develop a long-term groundwater work plan that identifies priority actions and objectives, as well as potential timelines and associated costs. A sub-committee composed of Commissioners Eric Quaempts and Meg Reeves was designated to work with staff during development of the workplan.

The work plan is intended to serve as a tool to help prioritize future activities and inform policy and budget discussions. It will help the Department effectively implement future groundwater studies, while continuing to deliver on its ongoing commitments. These needs were also discussed in the Secretary of State's audit report and by the Integrated Water Resources Strategy (IWRS) Policy Advisory Group, which called for a long-term groundwater work plan with clear objectives and metrics.

III. Discussion

Since the October meeting, staff have met to sketch out a potential outline of the work plan, using the framework of the Integrated Water Resources Strategy to help organize the text. Staff have also met by phone with the Water Resources Commission subcommittee members to get their input on the work plan.

Major sections of the work plan are proposed to follow the outline of the IWRS and include: groundwater basin studies; assessment of groundwater administrative areas; data collection, analysis, and sharing; scientific modeling tools; modernized well construction and compliance; protection of groundwater resources during permitting and enforcement; development of a groundwater mitigation program; and assistance with groundwater storage projects.

The work plan is meant to serve as a vehicle to set out specific priorities and objectives, as well as timelines and milestones to reach those objectives. . It will identify and prioritize tasks, timelines, and expected costs outlining what can be accomplished within existing resources and what will require additional investments.

At the January meeting, staff seek Commission feedback on potential priorities and work plan scope. To assist with the discussion, the attached document lays out a significant number of IWRS actions that connect to the groundwater program. From that list, staff recommend focusing on eight high priority actions and offer a brief narrative to further explain what that action involves and how the work plan generally could address the action.

IV. Conclusion

Staff will continue to communicate with the subcommittee and also meet with stakeholders throughout 2017 to get their ideas and input. The Department will brief Commissioners on its continuing progress at subsequent Commission meetings, and will plan to bring a more detailed draft of the work plan to the Commission's May 2017 meeting.

Attachment 1: Draft WRD Groundwater Work Plan Priorities

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Attachment 1: Draft WRD Groundwater Work Plan Priorities

This draft uses the framework of the Integrated Water Resources Strategy as its foundation. Where the IWRS is a high-level document that describes what generally needs to happen, other documents—such as this work plan—discuss the "who, when, and how" in more detail.

The Department expects to check in regularly with the Water Resources Commission on progress made under this work plan.

In the accompanying box, you will see a number of recommended actions from the IWRS that are closely associated with groundwater resources and groundwater management. It is a rather lengthy list, and as a result this work plan focuses on just a few of the highest priorities, spelling out objectives, timelines / milestones, resource needs, and potential challenges for each.

Groundwater-Related Recommended Actions Listed in the IWRS and Proposed for the 2017 Update

1A. Conduct Additional Groundwater Investigations
1B. Improve Water Resources Data Collection and Monitoring
1C. Coordinate Interagency Data Collection, Processing, and Use in Decision-making
2B. Improve Water-Use Measurement and Reporting
2C. Determine Pre-1909 Water Right Claims
3B Determine Needs of Groundwater-Dependent Ecosystems
4C. Promote strategies that increase / integrate energy and water savings
5A. Support Continued Basin-Scale Climate Change Research Efforts
5B. Assist with Climate Change Adaptation and Resiliency Strategies
5 (Proposed) Prepare for Extreme Events
6A. Improve Integration of Water Information into Land-Use Planning (and vice versa)
7A. Develop and Upgrade Water and Wastewater Infrastructure
9B Undertake Place-Based Integrated Water Resources Planning
9C. Partner... In Long-Term Water Measurement
10A. Improve Water-Use Efficiency and Water Conservation
10B. Improve Access to Build Storage
10D. Reach Environmental Outcomes with Non-Regulatory Alternatives
10 (Proposed) Ensure Adequate Permitting Capacity
10 (Proposed) Ensure Adequate Field Capacity
11A. Improve watershed health, resiliency, and capacity for natural storage
11 (Proposed) Develop a Long-Term Groundwater Workplan
12A. Ensure the Safety of Oregon's Drinking Water

Topmost issues are as follows, not yet in priority order:

- **Conduct additional groundwater investigations** (IWRS 1A). Oregon has a need for additional basin studies to further understand the relationship between groundwater and surface water, and the availability of both. Conducting groundwater investigations is a priority for the state, which typically evaluates groundwater resources at the basin scale through cooperative, cost-share programs. These groundwater investigations typically result in a conceptual model of the basin,

including a description of the geology of the basin and a water budget showing overall volumes of groundwater recharge, discharge, and dynamic storage, as well as a numerical groundwater flow model that is used make predictions regarding the outcome of potential future management or physical scenarios. The Department has completed cooperative basin studies in three basins in Oregon (Deschutes, Willamette, and Klamath) and is currently working with the USGS on a study in the Harney Basin.

  - *The work plan will highlight and prioritize additional basins for subsequent groundwater studies, propose timelines and milestones for their completion, and identify data that should be collected now to support future basin studies in these areas.*

- **Assess and adjust groundwater administrative areas** (IWRS 1A). The State of Oregon has more than 20 groundwater administrative areas, designated because water levels were declining at unsustainable levels. These areas should be periodically re-evaluated to assess water level trends, boundary accuracy, and whether these designated areas are meeting the goals of groundwater stabilization, groundwater recovery, and protection of existing water users.

  - *The work plan will set out a process for evaluating existing designated areas and highlight the areas of the state where the Department needs to dedicate resources to determine whether additional groundwater designations are required, and if so, to what degree.*

- **Improve groundwater data collection, analysis, and sharing** (IWRS 1B, 1C, 2B, 5A). Oregon's surface water and groundwater resources, by their very nature, are ever-changing. By day, month and year, water resources managers need up-to-date information in order to manage the resource and make sound decisions. This requires measuring baseline conditions and evaluating trends over time and the effectiveness of our water management programs. Monitoring priorities have been identified in the Department's 2016 *Monitoring Strategy.*

  - *This work plan will highlight the resources necessary to expand and maintain the state's monitoring networks and to collect and share data.*

- **Invest in updated scientific modeling tools** (IWRS 1C). Increasingly, communities are asking state agencies for technical assistance in modeling future scenarios related to climate change, energy and economic development, and the implications of various land use policies on water resources and management. These scenarios are helpful for demonstrating what the range of results would be if a community were to invest in one water project instead of another, or if it were to invest in a combination of projects. Many of these data-intensive efforts are typically outside the financial and technical capacity of local government.

- *The work plan will describe and prioritize the tools and scientists needed for creating and testing future scenarios to support decision-making and prioritizing investments in water resources projects.*

- **Modernize well construction and compliance program** (IWRS 7A, 12A). Oregon's well construction standards are designed to protect groundwater resources and the public by preventing contamination, waste, and loss of artesian pressure. With several thousand drilled each year, state oversight is critical to ensure wells are constructed using proper methods, materials, and equipment. The state licenses and bonds water well constructors to ensure they have the equipment, knowledge, and experience required for proper well construction. In addition, any construction, alteration, deepening, or abandonment of a well must be done in accordance with groundwater laws and general standards.

    - *This work plan will lay out what can be done within existing resources and authority and highlight the areas where additional investments and updated statutes and rules are needed to modernize the well construction and compliance program.*

- **Improve protection of groundwater resources during the permitting and enforcement process** (IWRS 10). As Oregon's water resources near full allocation, decision-making and permit writing becomes ever more complicated. Caseworkers must refer to water availability data, rules, and reviews from other agencies to make decisions. Department staff are required to have technical skills, consult with colleagues and other agencies, and serve as the point of contact for customers who are trying to conduct business efficiently. The tools they use to complete their work are customized to fit the agencies' mission and purpose.

    - *This work plan will lay out the steps necessary to incorporate groundwater considerations more effectively into permitting and enforcement processes.*

- **Develop a groundwater mitigation program** (IWRS 10D). In many parts of Oregon, groundwater interacts directly with surface water. Oregon water law recognizes this important connection as a fundamental aspect of the water code, and the State manages groundwater-surface water sources as one, where appropriate. This is called conjunctive management. Generally, the Water Resources Department denies or limits groundwater applications in instances where use from a groundwater aquifer can substantially interfere with a surface water source that is already fully appropriated or protected by a Scenic Waterway designation. One example of conjunctive management is based on the hydraulic connection between groundwater and surface water within the Deschutes Groundwater Study Area. Because of this connection, new groundwater withdrawals must now be mitigated with a similar amount of water placed instream, to offset the impact to surface water flows. Defined mitigation programs would be beneficial elsewhere in the state, but do not currently exist.

- *This work plan will identify areas where defined mitigation programs are needed and the components necessary to create groundwater mitigation programs in these locations.*

- **Assist communities with groundwater storage projects.** (IWRS 10B, 11A). Oregon can improve access to groundwater storage by encouraging the increased use of Aquifer Storage and Recovery (ASR) and Artificial Recharge (AR) for water storage. The use of these techniques is gaining interest, particularly in the northwest and north central regions of Oregon, due to the smaller environmental footprint, cost, and potential associated benefits to water quality. Areas of the state designated as "groundwater limited" or "critical groundwater areas" should also be evaluated for ASR and AR projects. The State has issued limited licenses to 16 entities for testing the use of ASR and 6 for testing AR. It takes time and resources for the state to assist communities who are interested in pursuing these groundwater storage techniques.

The work plan will describe the technical assistance the Department can currently provide to communities who are interested in pursuing these techniques.

Each of these issues will be discussed in more detail in subsequent draft work plans. Note that proposed milestones are contingent upon budget, other workloads, litigation response, etc.