Oregon
Kate Brown, Governor

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Joint Subcommittee on General Government
Testimony on Proposed Amendments to House Bill 4012A

Thank you for the opportunity to provide information on Oregon's approach to groundwater management. The Department has not had sufficient time to review the amendments to House Bill 4012A, so the Department has not prepared written testimony that addresses the amendments.

Oregon's Water Laws
Oregon's water laws are based on the doctrine of prior appropriation. This means that in times of low streamflows, the water right holder with the oldest priority date can call for the quantity of water specified in his or her water right without regard for the needs of junior water right holders. Oregon water law requires groundwater to be regulated along with surface water when it is determined that regulation of a well will benefit a senior surface water right holder that has made a valid call for water. The regulation must provide a benefit to the senior users in a timely and effective manner.

Fundamentals of Groundwater Science
Groundwater discharge supports surface water flows, as evidenced by streams and springs that continue to flow all summer without upstream storage, rainfall, or melting snowpack. When groundwater is pumped from a well in locations where groundwater supports surface water flows, stream flows are reduced. This is referred to as stream depletion. Key factors that influence the amount of stream depletion include distance between the well and the stream, pumping rate, and duration of pumping, along with the nature of the aquifer and the specific well construction.

Determination of Stream Depletion and Regulation of Wells
The degree and timing of stream depletion is a function of many factors, among them being how easily water flows between the aquifer and the stream, the distance of the pumping well to the stream, well construction, pumping rate, and pumping duration. The Department evaluates these factors, and any other relevant information, when determining whether regulation of a junior groundwater right will provide timely and effective relief to the senior user.

As noted by the United States Geological Survey, the most common methods of calculating stream depletion are analytical and numerical methods. In areas of complex geology, with areas of varying permeability and degrees of aquifer confinement, the most robust approach to understanding the impacts of pumping wells on streams is via a numerical method.

Data are essential to making decisions about water allocation, distribution and management, and the Department recognizes that there are many areas of the state in which additional data collection is needed. The Department will not regulate a well unless it has data to support its determination and is confident in its assessment that control of that well will provide timely and effective relief to the senior user.

Regulation of Wells in the Klamath Basin
The Klamath Basin is one such area in which the state has spent significant resources on groundwater data collection and monitoring, and the Department is confident that it has sufficient information to understand the groundwater flow system and the impacts of pumping wells on the surface water. The Department has used both numerical methods to understand the flow of groundwater in the basin, the

basin hydrogeology, and the cumulative effects of multiple pumping wells on streams. The Department has also used analytical calculations to determine the timing of stream depletion for each individual well.

The Department has taken a conservative approach to regulation of groundwater in the Klamath Basin, using the best information available and sound principles of hydrogeology in making regulation decisions. This is clearly demonstrated by the fact that the Department started with approximately 230 hydraulically connected wells that could impact streamflow. Through the application of scientific principles and basin specific aquifer data, the Department narrowed the list of wells subject to regulation to less than 40 wells.

Conclusion

The Department believes that its approach honors and protects senior water rights in the prior appropriation system, while also protecting junior water right holders by ensuring that regulation of their well will provide timely and effective relief to the senior users. As a reminder, the Department regulates junior users on behalf of senior users; failure to regulate a junior user shifts the burden of the water shortage to the senior user.

The –A3 amendments propose to replace, or augment, the Department's existing approach to regulation of groundwater for a surface water right. Assuming the data could be obtained, the additional data collection and analysis would increase the cost and time to regulate groundwater users in response to a call by senior users. The Department has not had sufficient time to review the amendments to House Bill 4012A, but on its initial review the Department has several questions about provisions in the amendments. The Department would welcome the opportunity to work with the proponents after the Department has had the opportunity to review the amendments in more depth.

Thank you for the opportunity to provide information.

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