Division 512 Rulemaking Questions Received During

This document will be amended if more questions are received during the public comment period.

Question: I rely on municipal water; will these rules affect me?

Answer: As a municipal water supply customer, the proposed rules may indirectly impact you. A portion of the rules limits municipal and quasi-municipal water systems to an initial annual quantity of water that is 110% of the maximum single-year amount used by the system between 2020 and 2024. This limit will go into effect in 2028. Then, every 6 years through 2058, the Department will review and adjust the annual limit to 110% of the maximum quantity used in any single year during the previous 6 years. The adjustments made during each 6 years may increase or decrease, depending on the water demand during the preceding 6-year period. These adjustments may limit water available for growth and development during each 6 years. Depending on local water demands, the municipality may explore options such as adjusting rates to incentivize water conservation.

Question: How can I determine if a CGWA subarea boundary crosses my property line?

Answer: The Department has created the **Harney Basin Critical Groundwater Area Process Interactive Map**, available on the **Division 512 Rulemaking Website.** This map allows users to zoom in on a specific subarea, enabling the use of the Public Land Survey System feature. This feature allows users to view section lines in relation to subarea boundaries.

Question: How are domestic wells and groundwater-dependent streams and springs impacted by the proposed management scenario?

Answer: Impacts of the proposed scenario, including those on domestic wells and groundwater-dependent streams and springs, can be found in the **Rules Advisory Committee (RAC) Meeting Number 14 PowerPoint presentation**. The presentation is also available on the **Division 512 Rulemaking Website.** See also the memo, **Evaluation of Division 512 RAC Alternate PTW Scenario**, also available on the Division 512 Rulemaking website. This memo describes the modeled impacts of the Department's proposed management scenario compared to those of an alternative suggested by some RAC members during the final RAC meeting in mid-May.

Question: How did the Department choose the management scenario outlined in the proposed rules?

Answer: The Department used the "Groundwater model of the Harney Basin, southeastern Oregon" by S.B. Gingerich, D.E. Boschmann, G.H. Grondin, and H.J. Schibel, 2024, U.S. Geological Survey Scientific Investigations Report 2024-5017 to inform the rulemaking process. Department staff developed a program to interact with the model, identifying the maximum amount of pumping that could occur within the defined subareas and achieve the specified groundwater level goals. During the RAC process, the Department conducted over 100 simulations of various management scenarios to determine the values used in the proposed rules.

Question: How did the Department evaluate changes to discharge to springs and streams under their proposed scenario?

Answer:
The Department used the Harney Basin groundwater model to evaluate changes in discharge to springs and streams under the proposed scenario. The most current and accurate evaluation of impacts to streams and springs is published in the memo titled "**Evaluation of Division 512 RAC Alternate PTW Scenario**" posted on the Department's Division 512 Rulemaking website: **https://www.oregon.gov/owrd/programs/policylawandrules/OARS/Pages/Division-512-Rulemaking.aspx**.

There was an apparent discrepancy between estimates of groundwater discharge to springs and streams that was presented in slides 180-181 of the RAC 14 PowerPoint slides, compared with values reported in the USGS Harney model report (Gingerich and others, 2024). The reduction in lowland discharge from pre-1980 to 2018 in the model report was larger than the corresponding reduction from 1980 to 2060 in the RAC 14 PowerPoint slides. If it was appropriate to compare those two reductions, it could have suggested that discharge to springs and streams increased under the Department's proposed scenario, but that is not the case. Lowland discharge to springs and streams decreases about 14% from the average of years 2017 and 2018 until year 2058 or 2060. There are a few key reasons we have identified that explain why these numbers should not be compared:

1. The USGS used the base period for evaluation as the average of 1930-1980 discharge, while the numbers presented by WRD use the single year of 1980 as the base period.
2. The USGS compared the base period with 2018 values only. The year 2018 was a year with abnormally low recharge and resultant discharge, which results in the USGS model report identifying larger decreases in spring and stream discharge than if they were to have considered a year with more normal recharge.
3. The forward-looking model projections assume constant average recharge for the entire model period from 2019-2098.
4. Department staff made a calculation error in the spring and stream discharge results presented in the RAC 14 PowerPoint (slides 180-181) that led to changes that are about 5 percentage points smaller (less reduction from 1980) than they should be. This has been corrected, and updated numbers are published in the memo titled **"Evaluation of Division 512 RAC Alternate PTW Scenario**" posted on the Department's Division 512 Rulemaking website: https://www.oregon.gov/owrd/programs/policylawandrules/OARS/Pages/Division-512-Rulemaking.aspx

In the memo "Evaluation of Division 512 RAC Alternative PTW Scenarios", why does discharge to springs and streams remain stable or even increase from 2022 to 2058 in the Northeast-Crane Subarea, while the groundwater levels decline there over the same period?

Answer: The model cells in the Northeast-Crane subarea that have spring & stream discharge are generally experiencing different conditions than the ones with wells. The figures below demonstrate this effect. Figure 1 shows the modeled discharge to springs and streams in March of 2028:

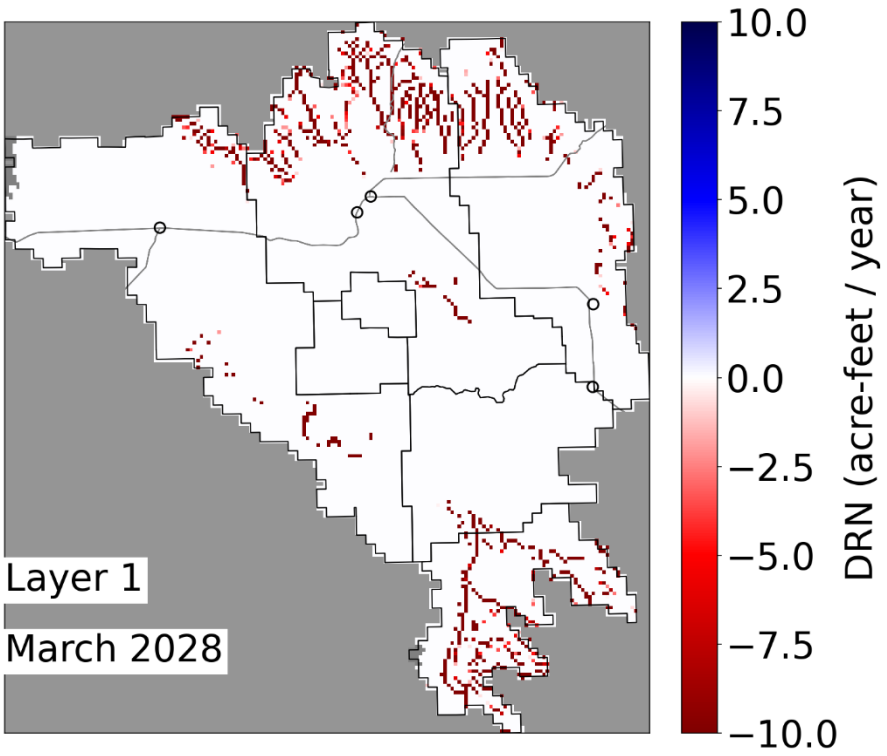


Figure 1: Modeled discharge to springs and streams in March of 2028.

Discharge to springs and streams appear as red, negative numbers in MODFLOW because the DRN package models that discharge as a loss from the groundwater system. In Northeast-Crane, you can see that those discharge cells are mostly in the uplands or right along that boundary. Those are the same areas where groundwater levels are rising in 2028 ("after 0 years" following the start of curtailment), as shown in Figure 2 in blue:

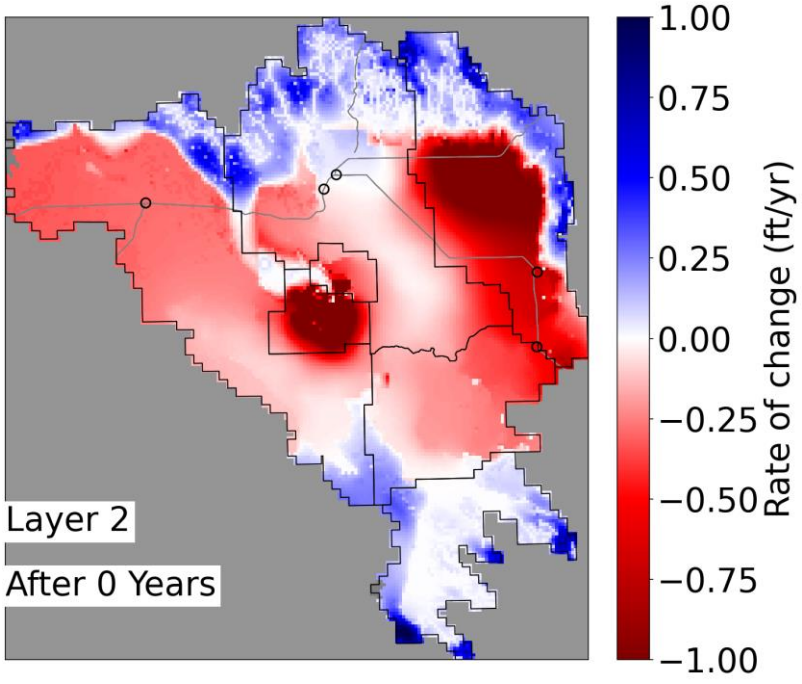


Figure 2: Modeled interannual rate of change in water levels in year 2028 in layer 2 of the model.

So, most of the NE-Crane lowlands show declining groundwater levels (red) while the uplands show rising levels. Those rising upland levels are driven primarily by the modeled recharge in the future scenario (average recharge over the period of 1982 to 2016), which was higher than the average recharge during the period about 2000 through 2018. Those rising water levels caused discharge to springs and streams to increase. Most of those spring & stream discharge cells are in the uplands so are excluded from the lowland budget components displayed in Table 2 of the memo (which is I think the one you meant to refer to). At the divide between uplands and lowlands, most modeled streams transition from upland discharge to mountain-front (lowland) recharge, as shown in Figure 7 of the

model report, reproduced below:

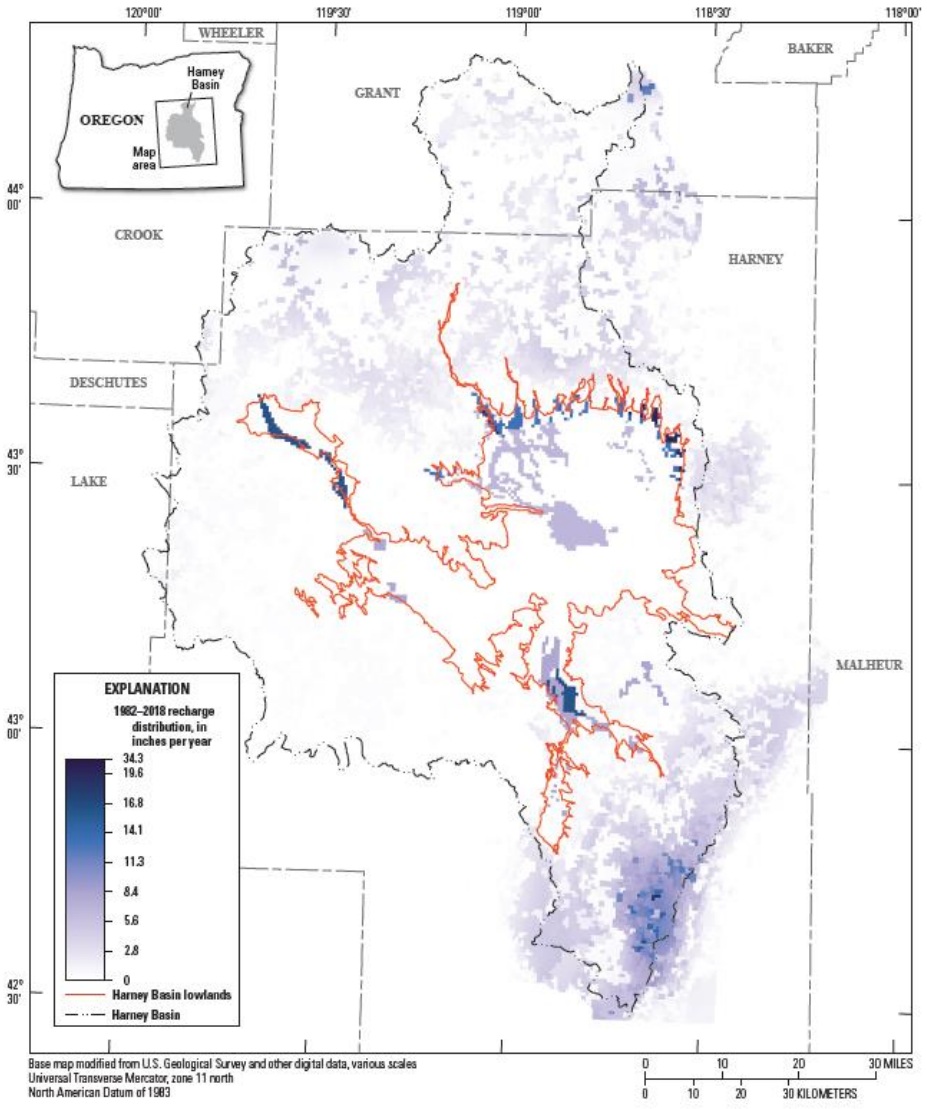


Figure 7. Distribution of average 1982–2016 recharge for the Harney Basin Groundwater Model (Gingerich, 2024), Harney Basin, southeastern Oregon.

One potential interpretation is that the spring & stream discharge in NE-Crane *lowlands* represent an edge effect due to the limited model resolution compared with the detailed representation of the upland-lowland boundary. In other words, some cells with groundwater discharge to springs & streams may have been included in the lowland budget even when that discharge is driven primarily by upland groundwater levels. In any case, they exist near the boundary and are impacted less by declines closer to the center of the basin, which is where most of the well-cells exist. Most of the lowland NE-Crane cells with spring & stream discharge (near the upland-lowland divide) are typically experiencing different water-level conditions than most of the cells with wells in them (closer to the center of the basin). For contrast, the Lower Blitzen, Silver Creek, and Silvies subareas all include spring & stream discharge cells in their more central lowlands that are affected by the same lowland groundwater level changes that appear in well-cells.

Question: In the memo "Evaluation of Division 512 RAC Alternate PTW Scenarios", does the column need to be 2018 or 1980?

Answer: The caption is wrong; it should read" Annual natural evapotranspiration in lowland portions of each subarea, in units of kaf/yr. Results are presented for 2018 under the historical pumpage scenario, as well as for 2058 from the WRD Proposal and RAC Alternate scenarios.

Question: How did you consider irrigators who purchase properties after 2024 in the initial allotment process defined in OAR 690-512-0060?

Answer: We have discussed our thought process around the initial allotment in a few places. Please see the following videos.

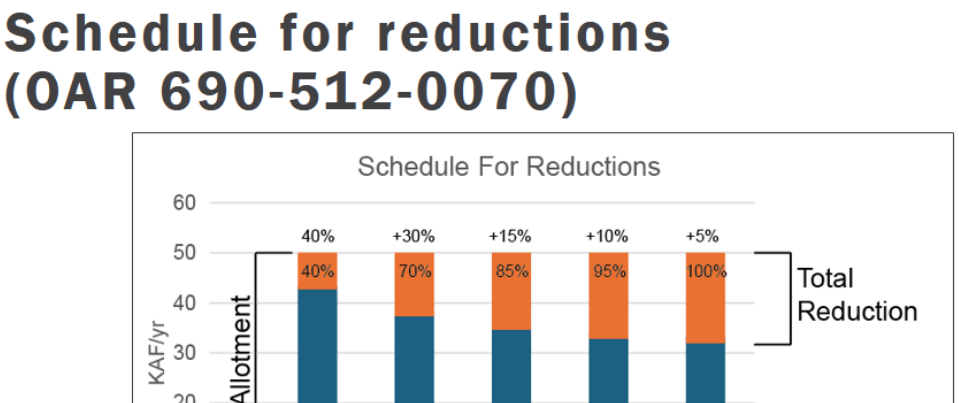
1. In this informational session video, there is a high-level explanation of the process and why we are determining actual use as defined in OAR 690-512-0060.
2. During our RAC Number 15 Day 1 meeting, we had a good conversation on determining initial allotment.

Outside of the Division 512 rules, forfeiture under ORS 540.630 may be initiated whenever water is not beneficially used for 5 years in succession. OWRD may be presented with evidence of non-use from any person; the burden is put on the water right holder to prove that water has been used beneficially over the five-year period in which the non-use is alleged. In the case of land purchased in 2024, the key here is that property transfers cannot be used as a rebuttal. For example, if the previous owner used only 50% of their land between 2020 and 2024, the unused 50% would still be subject to forfeiture.

Question: How would Junior water rights be curtailed under OAR 690-512-0070 Scheduling Water Use Reduction to Meet the Permissible Total Withdrawal?

Answer: The graphic below shows the total reduction proposed to get to sustainable groundwater pumping or Permissible Total Withdrawal (PTW). The total reduction needed is the difference between the PTW and the estimated amount of pumping occurring today. The example shown in the graphic below is a subarea that pumps 50,000 acre-feet per year, and the PTW is approximately 32,000 acre-feet per year. The total reduction needed is 18,000 acre-feet by 2052, so this means that in 2028, 40% of those 18,000 acre-feet (about 7,200 acre-feet) needs to be curtailed in 2028. In the following check-in period in 2034, assuming we stay on the expected trend, an additional 30% of the 18,000 acre-feet (5,400 acre-feet) would be reduced, and so on, until the full 18,000 acre-feet has been curtailed by 2052. The process we are describing in OAR 690-512-0070 involves the volume of reductions in pumping that the Department will implement every six years, starting in 2028.

The 40% reduction in 2028 is 40% of the total reduction. The remaining volume of water allowed to be pumped in 2028 will be allotted, starting with the senior water rights and then proceeding to the junior water rights. When there is no more water to distribute, the remaining juniors who did not receive a volume of water will be cut off.



Question: If I own unimproved lot in the SWMPA boundary, do I need to install a flowmeter?

Answer: If your property is unimproved and does not have a well, then you will not be required to install a flowmeter.