Critical Groundwater Area Rule Language Explainer

This document is a supporting document to the proposed Harney Basin Critical Groundwater Area rule language. Its purpose is to outline the rule language into different sections and explain what the rule language means. The proposed rule language is outlined into several different rules. They are as follows:

1. **OAR 690-512-0010: Definitions**

   Rule Summary: Defines terms used in the Division 512 rules, including terms used in the Harney Basin Critical Groundwater Area language.

2. **OAR 690-512-0020: Administrative Boundaries**

   Rule Summary: Defines the administrative boundaries within the Malheur Lake Administrative Basin, including the exterior boundary of the Harney Basin Critical Groundwater Area

3. **OAR 690-512-0040: Harney Basin Critical Groundwater Area**

   Rule Summary: Characterizes the Harney Basin Groundwater Reservoir and defines the seven subareas within the Harney Basin Critical Groundwater Area. This rule also requires the Oregon Water Resources Department (OWRD) to conduct a periodic review of conditions in the critical groundwater area at least once every ten years and a review of the rules once every three years.

4. **OAR 690-512-0050: Permissible Total Withdrawal for Each Subarea Within the Harney Basin Critical Groundwater Area**

   Rule Summary: Sets the total permissible withdrawal for the seven subareas in the Harney Basin Critical Groundwater Area.

5. **OAR 690-512-0060: Determination of Total Use for all Groundwater Rights and Initial Allocation**

   Rule Summary: Describes how OWRD determines the initial allocation for each groundwater right within the critical area.

6. **OAR 690-512-0070: Scheduling Water User Reductions to Meet the PTW**

   Rule Summary: Describes how the OWRD will reduce groundwater use at each 6-year interval over 24 years.

7. **690-512-0080: Adaptive Management of the Harney Basin Critical Groundwater Area**

   Rule Summary: Describes how OWRD will adaptively manage the Harney Basin Critical Groundwater Area

OAR 690-512-0010: Definitions

Section(s)	Rule Explainer
(1) "Adaptive Management Checkpoint" means the end of the scheduled 6-year interval at which the Department adaptively manages the groundwater resource and adjusts the schedule for reduced groundwater use. (2) "Groundwater Level Change Envelope" means the trajectory for groundwater levels within each subarea relative to the groundwater levels in 2028 that are modeled with the Harney Basin Groundwater Model. (3) "Initial Allocation" means the quantity of water authorized for use by each groundwater right upon completion of the contested case. (4) "Permissible Total Withdrawal" means the total volume of groundwater allowed to be pumped annually within a subarea of the critical groundwater area. The unit of measurement for the permissible total withdrawal is acre-feet. (5) "Subarea" means a portion of the critical groundwater area defined for administrative purposes. (6) "Target Groundwater Level Trend" means the goal for the rate of change in groundwater levels within a subarea of the critical groundwater area.	**(1) <u>Adaptive Management Checkpoint</u>** • This checkpoint is at the end of each 6-year check-in, at which the department may adjust the scheduled reductions. **(2) <u>Groundwater Level Change Envelope</u>** • This defines the groundwater level change values that the Department will use to evaluate the groundwater levels and adjust the schedule reductions. **(3) <u>Initial Allocation</u>** • The amount of water that each groundwater user can use upon completion of the contested case. The allocation process is defined in OAR 690-512-0060 of these rules. **(4) <u>Permissible Total Withdrawal</u>** • The total volume of water that is allowed to be pumped per subarea. **(5) <u>Subarea</u>** • Is an area defined for administrative purposes within the Harney Basin Critical Groundwater Area. **(6) <u>Target Groundwater Level trend</u>** • The goal for the rate of decline for the Harney Basin Critical Groundwater Area. The Department's goal is ~~a~~ durable stability of groundwater levels after 30 years.

OAR 690-512-0020: Administrative Boundaries

Section(s)	Rule Explainer
(1) The Greater Harney Valley Groundwater Area of Concern (GHVGAC) is defined for administrative purposes and **is** described and shown in Exhibit 1. (2) The boundaries of the Harney Basin Groundwater Reservoir are coincident with the hydrologic Harney Basin as shown in Exhibit 2. (3) The boundary of the Harney Basin Critical Groundwater Area is defined as the GHVGAC boundary shown in Exhibit 1 and contains, in part, the Harney Basin Groundwater Reservoir.	**(1) <u>Greater Harney Valley Groundwater Area of Concern (GHVGAC)</u>** • The GHVGAC was established during the 2016 rulemaking and can be found in Exhibit 1 of the rules. A large portion of the groundwater pumping occurs within the GHVGAC area. **(2) <u>Characterizing the Harney Basin Groundwater Reservoir</u>** • This section defines the Harney Basin Groundwater Reservoir required by the critical groundwater area statutes. **(3) <u>Boundary of Harney Basin Critical Groundwater Area</u>** • This section defines the Exterior boundaries of the Harney Basin Critical Groundwater Area.

OAR 690-512-0040: Harney Basin Critical Groundwater Area

Section(s)	Rule Explainer
(1) The target groundwater level trend within the Harney Basin Critical Groundwater Area is a median groundwater level decline rate of no more than 0 feet per year in each subarea. The median will be calculated for each subarea using representative wells with sufficient data as determined by the Department. (2) A review of the Harney Basin Critical Groundwater Area rules shall be completed once every 3 years. The review shall be presented at a Commission meeting which has been publicly noticed and provides opportunity for public comment. (3) A review of the conditions in the Harney Basin Critical Groundwater area shall be completed no less frequently than once every 10 years and the findings reported at a Commission meeting which has been publicly noticed and provides opportunity for public comment.	**(1) <u>Defining the goal for the Harney Basin Critical Groundwater Area</u>** • The goal for the Harney Basin Critical Groundwater Area is to achieve durable stability of groundwater levels defined as a median rate of decline of 0 feet per year. **(2) <u>Three-year review of the effectiveness of the rules</u>** • The Department will review the need for the Critical Groundwater Area rules every three years. The Department is required to present its findings to the Water Resources Commission. **(3) <u>Ten-year review of the conditions in the basin.</u>** • At least every 10 years, the Department will evaluate the groundwater conditions to determine if the Critical Groundwater Area designation is still needed.

OAR 690-512-0040: Harney Basin Critical Groundwater Area

Section(s)	Rule Explainer
(4) Except as defined in rule 690-512-0030(#) Classifications, the Department will not accept new applications for groundwater permits within the Harney Basin Critical Groundwater Area. (5) The Harney Basin Critical Groundwater area defined in section 690-512-0020(5) shall be divided into seven subareas for the purpose of management as shown in Exhibit 3. a. The Dog Mountain subarea is shown in Exhibit 4. b. The Lower Blitzen – Voltage subarea is shown in Exhibit 5. c. The Northeast – Crane subarea is shown in Exhibit 6. d. The Silver Creek subarea is shown in Exhibit 7. e. The Silvies subarea is shown in Exhibit 8. f. The Upper Blitzen subarea is shown in Exhibit 9. g. The Weaver Springs subarea is shown in Exhibit 10.	**(4) <u>Closing the basin to any future appropriation</u>** • A Critical Groundwater Area Designation authorizes the department to close the basin to any new groundwater rights. **(5) <u>Subarea delineation</u>** • Defines the seven subareas within the Harney Basin Critical Groundwater Area.

OAR 690-512-0050: Permissible Total Withdrawal for Each Subarea Within the Harney Basin Critical Groundwater Area

Section(s)	Rule Explainer
(1) The permissible total withdrawal for the Dog Mountain subarea shall be 4,200 acre-feet per year. (2) The permissible total withdrawal for the Lower Blitzen-Voltage subarea shall be 8,300 acre-feet per year. (3) The permissible total withdrawal for the Northeast-Crane subarea shall be 35,000 acre-feet per year. (4) The permissible total withdrawal for the Silver Creek subarea shall be 15,200 acre-feet. (5) The permissible total withdrawal for the Silvies subarea shall be 21,200 acre-feet per year. (6) The permissible total withdrawal for the Upper Blitzen subarea shall be 76 acre-feet per year. (7) The permissible total withdrawal for the Weaver Springs subarea shall be 4,800 acre-feet per year.	**(1) – (7) Permissible total withdrawal for each subarea** • This rule sets the total volume of water allowed to be pumped annually per subarea (Permissible Total Withdrawal) in the Harney Basin Critical Groundwater Area.

OAR 690-512-0060 Determination of the Total Use for All Groundwater Rights and Initial Allocation

Section(s)	Rule Explainer
(1) To establish a schedule for reductions in groundwater use, the Department will determine an initial allocation for each groundwater right within the critical groundwater area which will be implemented through an order after completion of the contested case process as required in OAR 690-010. The initial allocation shall not exceed the total quantity of water authorized on the water right. (2) In determining the initial allocation for each groundwater right with an irrigation use, the Department will: a. Use a duty of 2.7 acre-feet per acre for groundwater rights for primary and supplemental irrigation and b. Consider the historical, beneficial use when identifying the number of acres that will be allocated water. (3) The initial allocation for municipal and quasi-municipal rights shall be a quantity of water equal to 110% of the greatest single-year quantity reported to the Department in the six years preceding the adoption of these rules.	**(1) Determining the initial allocation** • The Department will determine the initial allocation for each groundwater right within the critical groundwater area starting in 2028 or upon completion of the contested case. • OAR 690-010 Are the rules for designating a critical groundwater area. • To reduce groundwater use, OWRD must initiate a contested case where all groundwater users in the basin will be invited to be parties to the contested case. At the end of the contested case process, an administrative law judge may issue an order to regulate groundwater use. **(2) Determining initial allocation for an irrigation groundwater right** • Irrigation rights will be given a duty of 2.7 acre-feet per acre. • The number of acres that will be allocated will be determined by historical beneficial use. **(3) Initial allocation for municipals and quasi-municipal** • The initial allocation for municipal and quasi-municipal rights will be 110% of the greatest single-year quantity in the six years preceding the adoption of rules to allow for growth.

OAR 690-512-0070 Scheduling Water Use Reductions to Meet the PTW

Section(s)	Rule Explainer
(1) Notwithstanding adjustments made by the adaptive management methodology defined in OAR 690-512-0080, upon consideration of all water rights and determining the initial allocation for each: a. Water use within the Weaver Springs subarea will be scheduled to be reduced to the permissible total withdrawal with 75% of the total reduction being scheduled for 2028 and the remaining 25% of the reduction scheduled for 2034. b. Water use within all remaining subareas of the Critical Groundwater Area will be scheduled for reduction to the permissible total withdrawal with 40% of the total reduction scheduled in 2028, 30% of the total reduction scheduled for 2034, 15% of the total reduction scheduled for 2040, 10% of the total reduction scheduled for 2046, and 5% of the total reduction scheduled for 2052. c. The schedule for reductions will be based on the relative priority dates of the water rights within each subarea, with the most junior water rights being curtailed first.	a. **Scheduled reductions for Weaver Springs** • The Weaver Spring subarea will have 75% of the total reductions scheduled to be reduced to the permissible total withdrawal in 2028 and another 25% 6 years later in 2034. b. **Schedule reductions for the other six subareas** • For the other six subareas~~,~~ there will be a 40% reduction in 2028, a 30% reduction in 2034, a 15% reduction in 2040, a 10% reduction in 2046, and a 5% reduction in 2052. c. **Prior Appropriation** • All reductions will be based on prior appropriation.

OAR 690-512-0070 Scheduling Water Use Reductions to Meet the PTW

Section(s)	Rule Explainer
d. Municipal and quasi-municipal water use will be evaluated at each adaptive management checkpoint and the schedule of reductions may be adjusted so that the allocation for each municipal or quasi-municipal right is increased or decreased to 110% of the greatest single year quantity reported to the Department in the preceding 6 years. The allocation shall not exceed the total quantity of water authorized on the water right. e. Uses exempt under ORS 537.545 are not subject to reduction. f. Corrective control orders reducing use will not be enforced until the completion of the contested case process specified in OAR 690-010-0170 through 230. g. If reductions in use are unable to be implemented as scheduled in 2028, then at the time when reductions in use are implemented through regulatory orders, all reductions scheduled to be implemented by that point in time will be enforced including any adjustments that should have occurred at the adaptive management checkpoints defined in 690-512-0080.	**d. Scheduled reductions for municipal and quasi-municipal** • At each 6-year checkpoint, the allocation for each municipal and quasi-municipal will be increased or decreased by 110% of the greatest single-year quantity reported. **e. Exempt uses** • Exempt uses are not subject to regulation. • ORS 537.545 are uses for groundwater that do not require a permit. **f. Corrective Control Orders** • ORS 537.735 authorizes OWRD to use corrective control provisions within the critical groundwater area, including reducing groundwater use. Groundwater reductions cannot be done until the contested case process is OAR 690-010-0170 to 230. **g. Adjustments after the contested case is completed** • If the contested case process is not completed and runs past an adaptive management checkpoint, all reductions scheduled up to that point and any adjustment that should have occurred will be implemented upon completion of the contested case.

OAR 690-512-0080 Adaptive of the Harney Basin Critical Groundwater Area

Section(s)	Rule Explainer
(1) Weaver Spring subarea is exempt from the adaptive management process as defined in this rule. (2) Groundwater level changes will be evaluated using representative wells with sufficient data as determined by the Department. a. For each representative well the groundwater level change will be evaluated based on a reference groundwater level determined by the Department. The reference groundwater level for a well shall be the spring high static water level measurement in calendar year 2028, if one exists. Otherwise, the Director may establish the reference groundwater level based on an analysis of other water-level data. b. For each representative well, the groundwater level change will be calculated as the difference between the current spring high static water level at the adaptive management checkpoint and the reference groundwater level.	**(1) <u>Exclusion of Weaver Springs</u>** • Excludes the Weaver Springs subarea from adaptive management. **(2) <u>Evaluating groundwater level changes</u>** • a. - A reference level will be set for each representative well in a subarea. The reference level will either be the annual spring high water level or will be determined by the department if the annual spring high information is not available. • b. - The groundwater level change will be determined by subtracting the reference level from the annual spring high at the adaptive management checkpoint.

OAR 690-512-0080 Adaptive of the Harney Basin Critical Groundwater Area

Section(s)	Rule Explainer
(3) The median groundwater level change for each subarea will be evaluated at each adaptive management checkpoint using representative wells with sufficient data as determined by the Department. (4) The groundwater level change envelope for each subarea is defined in Exhibit 11.	**(3) <u>Determination of the median groundwater levels</u>** • Representative wells will be used to determine the median groundwater level change for each subarea. Representative wells can include wells in the observation network and those requiring annual static water level measurements. **(4) <u>Groundwater level change envelope</u>** • Exhibit 11 defines the groundwater level change envelope for each subarea.

OAR 690-512-0080 Adaptive of the Harney Basin Critical Groundwater Area

Section(s)	Rule Explainer
(5) At each adaptive management checkpoint, the Department will compare the median groundwater level change for each subarea defined in OAR 690-512-0040 with the groundwater level change envelope. If the median groundwater level change for a subarea is: a. Below the 10th percentile, the scheduled quantity of reduction will be doubled. b. Between the 10th and 25th percentiles, the scheduled quantity of reduction will be increased by one and a half times. c. Between the 25th and 75th percentiles, no adjustment will be made. d. Between the 75th and 90th percentiles, the scheduled quantity of reduction will be halved. e. Above the 90th percentile, the scheduled quantity of reduction will be reduced to zero. (6) At the end of each adaptive management checkpoint and after the Department has completed sections 1 through 4 of this rule, the Department will hold at least one public meeting at a location within the critical groundwater area boundary at which the Department will present: f. The findings of the evaluation of groundwater level changes. g. The comparison to the groundwater level change envelope. h. Any adjustments to the scheduled reductions.	**(5) <u>Adjustments to the scheduled quantity of reductions</u>** • Every 6 years, OWRD will compare a subarea's median groundwater level change to the model-generated groundwater level change envelope and adjust based on where the median static water level falls in the envelope. **(6) <u>Announcement of adjustments</u>** • OWRD will hold a public meeting in the Critical Groundwater Area and present the findings and the planned adjustments.

OAR 690-512-0080 Adaptive of the Harney Basin Critical Groundwater Area

Section(s)	Rule Explainer
(7) No sooner than 2058, the Department will evaluate the groundwater level decline rate to identify if the target groundwater level trend has been achieved. The groundwater level decline rate will be calculated using the Sen's slope method using annual high measurements for representative wells with sufficient data as determined by the Department from the 6 years preceding the evaluation. (8) After the evaluation in section 7 of this rule, if the target water level trend has not been achieved and all scheduled reductions have not been implemented, the Department will evaluate groundwater conditions and implement additional reductions as needed to achieve the target water level trend. Pumping in each subarea shall not be reduced below the permissible total withdrawal as defined in OAR 690-512-0050.	**(7) – (8) Evaluating if the goal has been met** • On the year 2058 OWRD will evaluate the groundwater trends to determine if a zero rate of decline has been achieved. • The Sen's slope method will be used to determine the rate of decline, using wells with sufficient data from the preceding 6 years. • If the goal has not been met, and the scheduled reductions have not been fully implemented, OWRD will do an assessment, and additional reductions will be implemented. • The reductions will not exceed the permissible total withdrawal.