HARTT Laura A * WRD

From: Gen Hubert <gen@deschutesriver.org>
Sent: Tuesday, June 6, 2023 3:59 PM
To: HARTT Laura A * WRD
Subject: RE: REMINDER: Please provide input on GW Allocation Draft Rules by COB tomorrow (June 7)
Attachments: GW Allocation RAC comments 2pg DRC 06.06.2023.pdf

Laura,

Please find Deschutes River Conservancy Groundwater Allocation RAC comments attached.

Feel free to contact me if you have any questions or if you have difficulty with the attached pdf file.

Best,

Gen

Genevieve Hubert
Senior Program Manager
Deschutes River Conservancy
www.deschutesriver.org

From: HARTT Laura A * WRD <Laura.A.HARTT@water.oregon.gov>
Sent: Tuesday, June 6, 2023 9:04 AM
Subject: REMINDER: Please provide input on GW Allocation Draft Rules by COB tomorrow (June 7)

Good morning, RAC members,

Thank you all for yet another productive RAC meeting. This is a quick reminder that we would like to receive any input you might have on the draft rules reviewed to date (Divisions 8, 9, 300, 400, and 410) by COB tomorrow, June 7. This will give us time to review and incorporate your feedback prior to our next RAC meeting on June 21, 8:30 am – noon (hybrid, Salem/Zoom). We also will be sending out pre-meeting materials next week.

Thank you! Laura

Laura Hartt (she/her/hers)
Water Policy Analyst
725 Summer St NE Suite A l Salem OR 97301 l Phone 971-720-0963 l Laura.A.Hartt@water.oregon.gov

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DESCHUTES RIVER
CONSERVANCY

June, 6, 2023

Oregon Water Resources Department
Laura Hartt - Water Policy Analyst / Rules Coordinator
725 Summer St. NE, Suite A
Salem, OR 97301

via email to: Laura.A.Hartt@water.oregon.gov

Ms. Hartt:

The Deschutes River Conservancy is a non-profit based in Bend, Oregon. The Deschutes River Conservancy (DRC) restores streamflow and improves water quality in the Deschutes Basin using a coordinated, collaborative and voluntary approach. Founded in 1996 as a consensus-based, multi-stakeholder organization, the DRC's Board of Directors includes diverse representation from tribal, environmental, irrigated agriculture, and hydropower interests as well as federal, state and local government.

Thank you for the opportunity to participate in and provide comment on the Groundwater Allocation Rulemaking with a seat on the Rules Advisory Committee (RAC). The Deschutes Basin, like many throughout the state, faces unique challenges and barriers in its effort to balance water needs to support agriculture, rivers and communities while maintaining resiliency. A changing climate and growing populations only increase the urgency of this work.

We, with our partners, in the Deschutes Basin have a long history of collaborative success developing and implementing water conservation and water marketing projects that restore streamflows, support agriculture and help meet the needs of growing cities. We recently completed the Upper Deschutes River Basin Study, in partnership with the state and the Bureau of Reclamation, which quantified current and future water supply and demand, analyzed tools for addressing shortages, and evaluated scenarios for meeting long-term needs. These studies have left us data-rich. The Basin Study is succeeded by the Deschutes Basin Water Collaborative, a group of 46 stakeholders currently working to use this information to develop a comprehensive Deschutes Basin Water Plan that prioritizes integrated implementation strategies. The group will look to support policies that advance these strategies. In the Deschutes, we believe we are on track to be a model for how we can solve water issues for rivers, aquifers and communities at the basin level through close collaboration.

We appreciate rules that are protective of existing water right holders, both in and out of stream, and the forward-looking sustainability approach to reviewing groundwater allocations. We agree with a statement from earlier meetings that it is easier to decline new water use applications upfront rather than to walk back or regulate use off after water users have made investments, especially when the reality is that water is not available without injury to senior water rights in groundwater-surface water systems which are often hydrologically connected.

Extensive studies of the Deschutes basin draw explicit connections between surface water and groundwater and the potential for further groundwater withdrawals to impact streams. The Deschutes Groundwater Mitigation Program strives to attenuate these impacts. While the economic impact of growing communities and agriculture

are often easily determined, the economic impact and importance of stream flows are often overlooked. Stream flows support commercial and cultural (Tribal) fisheries, guiding activities, recreation interests both on and near water ways, boating and other water sports, fishing, navigation, water quality, aesthetic, and intrinsic values. These public and economic interests relating to stream flow often have a soft voice and should not be overlooked. Proceeding in a protective or cautious manner with new groundwater allocations could help avoid economic damage and conflict that further over appropriation or over drawing may cause to those in agriculture, industry, instream, and other uses that rely on both groundwater and surface water and have more senior water rights.

We appreciate the additional clarity provided across rules and the supporting presentations by OWRD staff that have given insight into the science behind these rules.

May 10 RAC

690-008-0001(8)(b) "impairment". Is this (8) or is this (9)? Please review number sequencing, but also please provide additional information to define "The groundwater level being drawn down to the economic level of the senior appropriator(s)… How is economic level determined?

May 31 RAC

690-009-0020(4) – Please review the use of the term "substantial evidence exits" as an evidentiary standard should not be used in rule. Could the term "best available science (or best available information) determines…" be used in place of substantial evidence?

690-009-0050(2)(a) – Please clarify "Department shall determine whether any control would provide relief to the surface water supply in an effective and timely manner." Relating to Travis Brown (OWRD) presentation, particularly slides 41-43, depletion can extend over time, even after pumping has stopped and can also be impacted by distance from the stream. Can you please clarify "effective and timely manner?"

690-009-0050(2)(b) – "The Department shall control the use of wells greater than one mile from a surface water source only through a critical groundwater area determination…" What if the science shows that in a certain basin (not with critical groundwater determination), wells greater than one mile from a surface water source still impact the surface water source? If science shows that wells greater than one mile from a surface water source may impact the surface water source, does the basin need a critical groundwater area determination prior to any control or regulation? Can clarity be provided here?

Thank you for your consideration of these comments and for allowing DRC the opportunity to participate and comment during this rulemaking.

With sincere appreciation,

Genevieve Hubert
Senior Program Manager
Deschutes River Conservancy
gen@deschutesriver.org

HARTT Laura A * WRD

From: Jaeger, William K <wjaeger@oregonstate.edu>
Sent: Tuesday, June 6, 2023 4:57 PM
To: HARTT Laura A * WRD
Subject: RE: REMINDER: Please provide input on GW Allocation Draft Rules by COB tomorrow (June 7)

Hi Laura,

Here are my comments in response to the meetings up to and including May 10th, 2023.

I'm struck by the way the presentations and discussions in our first two RAC meetings have reinforced for me the central role of uncertainty; just how difficult is the task of managing a resource with the kinds of variability and uncertainty exhibited by groundwater. Given these enormous obstacles, deciding whether groundwater is available, reasonably stable, or declining would seem to be the most important determination to want to get right. This is critical for resource sustainability, but more directly it is central to the responsibility under the prior appropriations doctrine to prioritize protecting existing appropriative rights.

As I see it, this is all about information: accessing all relevant information, choosing which kinds of information to rely on, and processing and interpreting information in order to make the best possible decisions. In this case, 'best possible decisions' needs to take account of the fact that with groundwater there is currently no year-to-year built-in automatic adjustment mechanism to attenuate overdrawn groundwater.

I find it instructive to consider similarities and differences across resources and management approaches. In the case of surface water rights, adjustments to shortages are resolved by imposing adjustments on junior rights holders who understand they may get regulated off. In riparian water right systems, all water right holders have to adjust proportionally to fluctuations in availability. In Oregon's coastal fisheries, catch-shares are similar to this in that all fishers adjust proportionally to fluctuations in fish stocks and total allowable catch. But in Oregon's groundwater system, there is no practical way to enforce the seniority system due to a lack of information, due to uncertainty. This means that a 'false positive' (concluding that there is water available to accommodate additional appropriators when there is not) introduces an additional burden on, and takes resources away from, preexisting groundwater right holders – including ones with more than 100 years of seniority. And that burden is nearly irreversible without extraordinary intervention. It creates a ratchet effect.

So, the proposed rules for determining if water levels are declining (50 feet below the highest known water level; decline of 0.5 foot per year relative to previous averaging periods of 5 to 20 years; at least 25 feet deeper than the first measure representative annual high-water level) seem to fall short of what is needed in several ways.

First, they do not seem to make full use of all relevant available information. The desire to keep the approach simple and transparent with this kind of rule-of-thumb seems laudable, but far less important than doing everything possible to make the right determination, to maximizing the approach's predictive accuracy. (Moreover, the public seems to have no problem understanding statistical probabilities when they hear about poll numbers for elections with qualifiers about being accurate to "plus or minus four percentage points.")

Where there is time series data available, including for multiple wells in proximity and over a long period of time, there are many possible statistical approaches to estimating trends, divergence from (stable) trends, and in particular to compute a statistical "confidence bound" around the evidence for a stable versus a downward trend. Indeed, with data from multiple wells over many years one can employ "panel data" techniques that are the gold standard in many econometrics applications where one has observations over time and also across units (wells in this case). This can maximize the statistical power and precision of the modeled trends. One can also account for the spatial dynamics among proximate wells (spatial econometrics is one label for this; hydrologists use similar kinds of models). The general point is that making the best use of all the data available seems paramount.

Second, in addition to making use of as much information as possible about past water levels, these judgements need to take account of all relevant information, not just past well levels. In particular, rising temperatures due to climate change are altering evapotranspiration in forests, other vegetation, and for agriculture. Studies for Oregon seem to indicate rising temperatures will increase evapotranspiration by 10 to 20 percent over the next 20-30 years. Isn't it the case that this will mean increased groundwater pumping to serve existing groundwater irrigation water rights? These demands will create the potential for substantial interference. With this in mind, I find myself wondering about the following question: if water masters are responsible for protecting the priority interests of water rights including those established more than 100 years ago, shouldn't our current perspective include looking toward being able to protect existing water right interests 100 years from now? If so, then invoking the precautionary principle would seem to come down hard on the side of protecting existing water rights in the face of climate change.

Finally, the overwhelming dearth and inadequacy of data with which to make accurate groundwater management decisions is a gaping hole that does serious harm. When trying to manage a complex, uncertain, and highly variable resource, information is critical to making good resource management decisions. I'll return to my comparison with another resource that also has extreme uncertainty and variability, Oregon's coastal fisheries. Many of these are currently managed under 'catch-share' systems (with individual transferable quotas). These fisheries are efficiently managed to the benefit of both fishers and their communities. And they achieve that because they have excellent information to assess the stocks and harvests of the resource, to improve the accuracy of stock assessments, to set harvest levels in order to maximize the value of the resource for everybody involved. They achieve this because participants have mandatory reporting requirements. They have to share their data. It seems incongruous that usufructuary rights to Oregon's groundwater resources do not stipulate similar reporting requirements about pumping and well levels, so that OWRD can have the information needed to make good decisions that benefit current groundwater users, future groundwater users, and all Oregon's communities.

Bill Jaeger
OSU Applied Economics

From: HARTT Laura A * WRD <Laura.A.HARTT@water.oregon.gov>
Sent: Tuesday, June 6, 2023 9:04 AM
Subject: REMINDER: Please provide input on GW Allocation Draft Rules by COB tomorrow (June 7)

Good morning, RAC members,

Thank you all for yet another productive RAC meeting. This is a quick reminder that we would like to receive any input you might have on the draft rules reviewed to date (Divisions 8, 9, 300, 400, and 410) by COB tomorrow, June 7. This will give us time to review and incorporate your feedback prior to our next RAC meeting on June 21, 8:30 am – noon (hybrid, Salem/Zoom). We also will be sending out pre-meeting materials next week.

Thank you! Laura

Laura Hartt (she/her/hers)
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HARTT Laura A * WRD

From: phggek at bctonline.com <phggek@bctonline.com>
Sent: Wednesday, June 7, 2023 4:47 PM
To: HARTT Laura A * WRD
Subject: Re: REMINDER: Please provide input on GW Allocation Draft Rules by COB tomorrow (June 7)

Laura,

Following are my comments:

I have commented verbally more than once during our previous RAC meetings that I believe these proposed new rules, if adopted, will effectively result in a moratorium on new groundwater permits in the State. I am stating it again here, in writing, for the record. One of my biggest concerns is that the rules, as proposed, will allow the Department to deny any new groundwater use if it is determined that there is a hydraulic connection between the proposed new well and any other water source and that by pumping that well there will be *any* (i.e., a single drop or even molecule) impact on the other source. I am confident we can still issue new groundwater permits in many areas without causing undue harm or injury to senior water right holders, which should be the objective of the new rules. These proposed rules will not achieve that objective.

Following are some more specific comments I have on the proposed rules:

1. 1. Regarding proposed 690-008-0001(8)(a): This rule sets the bar at *any* amount of depletion, which could be one molecule. I suggest revising this rule to read "(a) Measurable depletion of a surface water source that:"

2. 2. Regarding proposed 690-008-0001(8)(a)(E): "Instream water" right should be deleted from this rule since the Department's policy for issuing instream water rights is based on 50% exceedance flows, which is a different standard than applied when reviewing groundwater applications.

3. 3. Regarding proposed 690-009-0020(3), which is the definition for "Hydraulic Connection" or "Hydraulic Interconnection," there needs to be some qualifying language in this definition so that it cannot be interpreted to mean something like movement of a single molecule of water over 1000 years. I suggest the definition be changed to the following: *"Hydraulic Connection" or Hydraulic Interconnection" means saturated conditions exist that allow a significant amount of water to move over a relatively short period of time between two or more sources of water, either between groundwater and surface water or between groundwater sources.*

4. 4. Regarding proposed 690-009-0040(4): This proposed rule uses the term "over the full term of the proposed or authorized groundwater use." This term should be defined, or the rule should specify a time period.

5. 5. I would like to hear some further explanation of why surface water availability for instream water rights is determined based on a stream's 50% exceedance flows. It seems that this favors instream water rights over groundwater rights because the 80% exceedance flows (i.e., lower flows) are used in all instances when evaluating proposed new groundwater uses.

6. 6. The proposed rules under 690-009-0050 seem to give the Department more authority to regulate existing groundwater appropriations. If so, I would like to hear some discussion of how the Department intends to exercise this increased authority.

7. 7. In RAC Meeting 3, we were told that Meeting 4 would be dedicated to going over how all of the proposed new rules fit or work together. I hope this will include a detailed discussion of how the review process will proceed under the proposed rules, from beginning to end, for hypothetical examples of applications, including some that would be approved and some that would be denied.

Regards,

Gregory E. Kupillas, R.G., C.W.R.E.
Pacific Hydro-Geology Inc.

From: "laura a hartt" <Laura.A.HARTT@water.oregon.gov>
Sent: Tuesday, June 6, 2023 9:03:38 AM
Subject: REMINDER: Please provide input on GW Allocation Draft Rules by COB tomorrow (June 7)

Good morning, RAC members,

Thank you all for yet another productive RAC meeting. This is a quick reminder that we would like to receive any input you might have on the draft rules reviewed to date (Divisions 8, 9, 300, 400, and 410) by COB tomorrow, June 7. This will give us time to review and incorporate your feedback prior to our next RAC meeting on June 21, 8:30 am – noon (hybrid, Salem/Zoom). We also will be sending out pre-meeting materials next week.

Thank you! Laura

Laura Hartt (she/her/hers)
Water Policy Analyst
725 Summer St NE Suite A l Salem OR 97301 l Phone 971-720-0963 l Laura.A.Hartt@water.oregon.gov

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HARTT Laura A * WRD

From: Lisa Brown <lisa@waterwatch.org>
Sent: Wednesday, June 7, 2023 4:26 PM
To: HARTT Laura A * WRD; LIEBE Annette I * WRD
Cc: Kimberley Priestley
Subject: Groundwater Allocation Rulemaking: WaterWatch's initial comments on Divisions 8, 9 and 410
Attachments: Div 9-RAC3_WW initial comments_6-07-2023 .docx; Div 410-RAC3_WW initial comments_6-07-2023.docx; Div 8 Updated (051023)_limited initial WW comments_updated 6-07-2023.docx

Hi,
Please find attached WaterWatch's initial comments on the draft Division 9 and Division 410 rules and updated comments on Division 8 (updates highlighted in teal). We plan to submit additional comments regarding connections between the rule sections at the next opportunity. Let me know if there are any questions.

Thank you.

Best,
Lisa Brown
Staff Attorney
WaterWatch of Oregon
O: 503.295.4039 x102

Water Resources Department
Chapter 690
Division 9

GROUND WATER INTERFERENCE WITH SURFACE WATER

690-009-0010
Basis for Regulatory Authority, ~~and~~ Purpose, and Applicability

(1)The right to reasonable control of the ground waters of the State of Oregon has been declared to belong to the public. Through the provisions of the Ground Water Act of 1955, ORS 537.505 to 537.795, the Water Resources Commission has been charged with administration of the rights of appropriation and use of the ground water resources of the state. ~~These rules govern the use of ground waters, pursuant to 537.730 and 537.775, where the ground water is hydraulically connected to, and the use interferes with, surface waters.~~

(2)These rules establish criteria to guide the Department in determining whether a proposed or existing groundwater use will impair, substantially interfere, or unduly interfere with a surface water source. These rules apply to all wells, as defined in ORS 537.515 (9), and to all proposed and existing appropriations of groundwater, except ~~the exempt uses under ORS 537.545~~ where otherwise stated. ~~The authority under these rules may be locally superseded where more specific direction is provided by the Commission after the effective date of adoption of these rules.~~

Statutory/Other Authority: ORS 537
History:
WRD 17-1988, f. & cert. ef. 11-4-88

690-009-0020
Definitions

Unless ~~the context requires~~ stated otherwise, as used in these rules:

~~(1) "Confined Aquifer" means an aquifer in which ground water is under sufficient hydrostatic head to rise above the bottom of the overlying confining bed, whether or not the water rises above land surface.~~

~~(2) "Commission" means the Water Resources Commission.~~

(3)~~"Confining Bed": means a layer of low permeability material immediately overlying a confined aquifer.~~

(41) "Department" means the Water Resources Department , its Director, and all personnel employed by the Department.~~, and consists of the Director of the Department and all personnel employed in the Department including but not limited to all watermasters appointed under ORS 540.020 (536.039)~~.

(2) "Effective and timely manner" is a determination made on a case-by-case basis considering the best available information and reasonably accepted hydrogeologic methods and taking into consideration whether regulation will result in the addition of any water to the surface water source during the relevant time period.

Commented [LB1]: For instance, "Proposed groundwater use" does not include exempt uses.

Commented [LB2]: I think if the definitions don't apply in a specific instance, it should be stated.

~~(5) "Director" means the Water Resources Director.~~

(~~3~~6) "Hydraulic Connection" or "Hydraulic Interconnection" means saturated conditions exist that allow water to move between two or more sources of water, either between groundwater and surface water or between groundwater sources.~~means that water can move between a surface water source and an adjacent aquifer.~~

(4)"Potential for ~~Substantial~~ Interference", or "PSI", means that ~~substantial evidence exists to determine that~~ a groundwater use, either individually or cumulatively, will cause streamflow depletion based on the assessments described in OAR 690-009-0040, and therefore may cause or has caused impairment to, substantial interference with, or undue interference with a surface water source, based on the definitions in OAR 690-008-0001.

(5)"Proposed groundwater use" means an application to appropriate groundwater pursuant to ORS 537.621 that is under consideration with the Department.

(6) "Streamflow depletion" means a reduction in the flow of a surface water source due to pumping a hydraulically connected groundwater source. Streamflow depletion encompasses both:

(a)captured groundwater that would otherwise discharge to a surface water source; and,

(b)induced infiltration from a surface water source to recharge the hydraulically connected groundwater source.

~~(7) "Unconfined Aquifer" means an aquifer in which the hydrostatic head at the upper surface of the ground water is atmospheric.~~

Statutory/Other Authority: ORS 537
History:
WRD 17-1988, f. & cert. ef. 11-4-88

~~690-009-0030~~
~~General Policy~~

~~The following rules establish criteria to guide the Department in making determinations whether wells have the potential to cause substantial interference with surface water supplies and in controlling such interference. The rules apply to all wells, as defined in ORS 537.515 (7), and to all existing and proposed appropriations of ground water except the exempt uses under 537.545. The authority under these rules may be locally superseded where more specific direction is provided by the Commission after the effective date of adoption of these rules.~~

~~Statutory/Other Authority: ORS 537~~
~~History:~~
~~WRD 17-1988, f. & cert. ef. 11-4-88~~

690-009-0040
Determination of Hydraulic Connection and Potential for Substantial Interference

Commented [LB3]: Is there a reason to retain the term "potential for substantial interference"?

If the issue is (in part) avoiding injury to senior surface water rights, then "substantial" does not meet the statutory prohibition against issuing water rights that cause injury.

A fix that may not disrupt interconnectedness of rules would be to change the term to "Potential for Interference" throughout.

Commented [LB4]: This is an evidentiary standard that does not belong here. The sentence provides the needed info on what the determination will be based on.

(1)Hydraulic connection and the potential for substantial interference with a surface water source shall be determined by the Department according to these rules. These determinations shall be based upon the application of generally accepted hydrogeologic principals using best available information concerning the hydrologic system of interest and the well(s) under consideration.

(a)Any information that is provided by those potentially affected ~~parties~~ or interested shall be considered in the process of making these determinations.

(b)Best available information can includes, but is not limited to, pertinent water well reports, aquifer test analyses, hydrologic and geologic studies and reports, groundwater and surface water elevation data, available numerical and analytical groundwater flow models, and any other information that is used in applying generally accepted hydrogeologic principals and methodologies.

(2)A determination of hydraulic connection is a prerequisite for a determination of the potential for substantial interference.

(3)A determination of the potential for substantial interference with a surface water source shall at a minimum include application of the generally accepted hydrogeological principles described in the papers named in the following subsections to the specific use and wells under consideration:

(a)"The Source of Water Derived from Wells: Essential Factors Controlling the Response of an Aquifer to Development" by C. V. Theis, 1940; and,

(b)"Streamflow Depletion by Wells – Understanding and Managing the Effects of Groundwater Pumping on Streamflow" by P. M. Barlow and S. A. Leake, 2012.

(4)The potential for substantial interference with a surface water source exists if ~~substantial evidence indicates~~ the well(s) under consideration will, over the full term of the proposed or authorized groundwater use, obtain water from streamflow depletion.

(5)For the purposes of reviewing an application ~~issuing a permit~~ for a proposed groundwater use, a finding of potential for substantial interference with a surface water source ~~may~~ means that water is not available for the proposed groundwater use if the interference is with a surface water that meets any of the ~~use will impair, substantially interfere, or unduly interfere with a surface water source as per the~~ definitions in OAR 690-008-0001(8)(a)(A)-(C), is over-appropriated as defined in OAR 690-400-0010(11)(a), or does not have water available as defined in OAR 690-300-0010(57)(a). ~~, and OAR 690-400-0010~~.

(6)For the purposes of groundwater controls in OAR 690-009-0050, a finding of potential for substantial interference with a surface water source may precede the control actions described in that rule.

~~For the purposes of permitting and distributing ground water, the potential for substantial interference with surface water supplies shall be determined by the Department.~~

~~(1)The Department shall determine whether wells produce water from an unconfined or confined aquifer. Except for wells that satisfy the conditions in section (2) of this rule the Department shall further determine whether the aquifer is hydraulically connected to the surface water source. The basis of the determination shall be information provided on the Water Well Report for any well in question. If there is no Water Well Report available or if the information provided is inadequate, the Department~~

Commented [LB5]: There won't be "parties" at the application stage. This should be written broadly enough to include comments that WRD receives during the public comment period (from the applicant or others).

Commented [LB6]: WaterWatch strongly supports clearly communicating in the rules that studies, reports, and models will be utilized.

Should a qualifier be added to describe the studies/reports and flow models, e.g. peer reviewed, published or "that apply generally accepted hydrogeologic principals and methodologies"? If not, suggest "can include" instead of "includes."

Commented [LB7]: Neither of these contain definitions of the stated terms.

~~shall make the determination on the basis of the best available information. Such information may~~

include other Water Well Reports, topographic maps, hydrogeologic maps or reports, water level and other pertinent data collected during a field inspection, or any other available data or information that is appropriate, including any that is provided by potentially affected parties.

(2)All wells located a horizontal distance less than one-fourth mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source, unless the applicant or appropriator provides satisfactory information or demonstration to the contrary. Department staff may provide reasonable assistance to the applicant or appropriator in acquiring the satisfactory information.

(3)The Department shall determine the horizontal distance between any well in question and the nearest surface water source on the basis of the edge of the surface water source as also determined by the Department.

(4)All wells that produce water from an aquifer that is determined to be hydraulically connected to a surface water source shall be assumed to have the potential to cause substantial interference with the surface water source if the existing or proposed ground water appropriation is within one of the following categories:

(a)The point of appropriation is a horizontal distance less than one-fourth mile from the surface water source; or

(b)The rate of appropriation is greater than five cubic feet per second, if the point of appropriation is a horizontal distance less than one mile from the surface water source; or

(c)The rate of appropriation is greater than one percent of the pertinent adopted minimum perennial streamflow or instream water right with a senior priority date, if one is applicable, or of the discharge that is equaled or exceeded 80 percent of time, as determined or estimated by the Department, and if the point of appropriation is a horizontal distance less than one mile from the surface water source; or

(d)The ground water appropriation, if continued for a period of 30 days, would result in stream depletion greater than 25 percent of the rate of appropriation, if the point of appropriation is a horizontal distance less than one mile from the surface water source. Using the best available information, stream depletion shall be determined or estimated by the Department, employing at least one of the following methods:

(A)Suitable equations and graphical techniques that are described in pertinent publications (such as "Computation of Rate and Volume of Stream Depletion by Wells," by C.T. Jenkins, in Techniques of Water-Resources Investigations of the United States Geological Survey: Book 4, Chapter D1);

(B)A computer program or ground water model that is based on such or similar equations or techniques.

(5)Any wells, other than those covered in section (4) of this rule, that produce water from an aquifer that is determined to be hydraulically connected to the surface water source may be determined by the Department to have the potential to cause substantial interference with the surface water source. In making this determination, the Department shall consider at least the following factors:

~~(a)The potential for a reduction in streamflow or surface water supply; or~~

~~(b)The potential to impair or detrimentally affect the public interest as expressed by an applicable closure on surface water appropriation, minimum perennial streamflow, or instream water right with a senior priority date; or~~

~~(c)The percentage of the ground water appropriation that was, or would have become, surface water; or~~

~~(d)Whether the potential interference would be immediate or delayed; or~~

~~(e)The potential for a cumulative adverse impact on streamflow or surface water supply.~~

~~(6)All wells that produce water from an aquifer that is not hydraulically connected to a surface water source shall be assumed not to interfere with the surface water source.~~

~~[Publications: Publications referenced are available from the agency.]~~

Statutory/Other Authority: ORS 537
History:
WRD 17-1988, f. & cert. ef. 11-4-88

690-009-0050
Ground Water Controls

These rules apply to the control or regulation of groundwater where it is determined that an existing groundwater appropriation will cause or has caused substantial or undue interference with a surface water source as described in OAR 690-009-0040.

(1) The Department shall review existing ground water appropriations to determine the potential to cause substantial interference with a surface water source on a case-by-case basis, in accordance with OAR 690-009-0040, whenever ~~the Department has cause to believe that~~ substantial interference with a surface water source ~~is suspected to exist by the Department~~may exist.

(2) Whenever the Department determines that substantial interference with a surface water supply exists, the Department shall control those groundwater appropriations that have been determined under section (1) of this rule to have the potential to cause substantial interference. The controls shall be similar to or compatible with, but not more restrictive than controls on the affected surface water source, in accordance with the relative dates of priorities of the ground water and surface water appropriations:

(a) Prior to controlling the use of any well greater than 500 feet from a surface water source, the Department shall determine whether any control would provide relief to the surface water supply in an effective and timely manner. The Department shall make the determination on the basis of the best available information, employing at least one of the following methods: ~~set forth in OAR 690-009-0040(4)(d);~~

(A)Suitable equations and graphical techniques that are described in pertinent publications (such as "Computation of Rate and Volume of Stream Depletion by Wells," by C.T. Jenkins, in Techniques of Water-Resources Investigations of the United States Geological Survey: Book 4, Chapter D1);

(B)A computer program or ground water model that is based on such or similar equations or techniques

~~(b) The Department shall control the use of wells greater than one mile from a surface water source only through a critical ground water area determination in accordance with ORS 537.730 through 537.740.~~

(3)As necessary, the Department shall determine the horizontal distance between any well in question and the nearest surface water source on the basis of the edge of the surface water source as also determined by the Department.

Statutory/Other Authority: ORS 537
History:
WRD 17-1988, f. & cert. ef. 11-4-88

Water Resources Department
Chapter 690
Division 410

STATEWIDE WATER RESOURCE MANAGEMENT

690-410-0010
Groundwater Management

(1) Policy — The groundwaters of the State of Oregon belong to the public. The reasonable control, protection, and use of groundwater is governed by the state on behalf of the public. Groundwater shall be managed to promote efficient and sustainable use for multiple purposes. Groundwater overdraft and contamination shall be prevented to avoid health hazards, environmental damage, and costly correction programs. Interference between groundwater uses and competing groundwater and surface water uses shall be prevented and/or controlled to protect the water resource and existing rights. The state shall pursue restoration of contaminated groundwaters to protect present and future uses. Coordinated action by federal, state and local agencies, Indian tribes, and special districts, along with public education, shall be fostered to promote the effective management, protection and beneficial use of groundwater.

(2) Principles — Programs to achieve the policy in section (1) of this rule shall be guided by the following principles:

(a) Groundwater and surface water shall be managed conjunctively where to do so will protect water resources, existing water rights, and the public interest;

(b) Rules governing well construction, maintenance, and abandonment shall provide minimum standards for protection of the public welfare, safety, and health and the groundwaters of the state;

(c) Water well constructors, owners, and operators are responsible to construct, alter, maintain, operate, and abandon wells, and any holes through which the groundwater may be contaminated, in accordance with minimum statewide standards and shall undertake measures necessary to prevent waste, undue interference, contamination, or harm to the groundwater;

(d) Low-temperature geothermal fluids are part of the groundwater resources of the state and are subject to applicable laws and plans. These fluids are developed primarily for thermal characteristics and may require special management approaches to promote beneficial use, protect the environment and achieve other policy directives;

(e) Special-area designations (i.e., critical groundwater management areas, serious water management areas, basin plan restriction areas) may be warranted under conditions such as:

(A) Past, existing or probable excessive groundwater level declines or overdraft;

(B) Substantial interference between two or more wells or between groundwater and surface water uses (including public instream uses), or between groundwater appropriation and geothermal appropriation under ORS Chapter 522; and

(C) Groundwater contamination.

(f) Special-area designations shall be invoked when site-specific standards and regulations are no longer sufficient to solve or prevent the problem(s). The invoking of special-area designations shall be accompanied by recommended monitoring, reporting, or regulating activities to prevent, correct or control existing or potential declines, overdraft, interference or contamination. Existing groundwater appropriations, which are generally protected from infringement, may be controlled if any of the conditions listed in subsection (2)(e) of this rule are found to exist;

(g) Groundwater appropriation for artificial recharge is a beneficial use and can be approved if such action will not:

(A) Cause significant adverse effects on the quantity or quality of the supplying and receiving water sources; or

(B) Harm the public interest.

(h) Ongoing collection, analysis, and distri-bution of hydrogeologic information are necessary to manage groundwater for maximum beneficial use and to protect the public welfare, safety, and health;

(i) Public education programs, research, and demonstration projects are needed to increase citizen awareness of groundwater issues in this state; and

(j) Adequate and safe supplies of groundwater for human and livestock consumption are given priority over other uses during times of shortage.

Statutory/Other Authority: ORS 536
Statutes/Other Implemented: ORS 536
History:
WRD 12-1992, f. & cert. ef. 9-9-92
WRC 6-1992(Temp), f. & cert. ef. 3-19-92
WRD 8-1990, f. & cert. ef. 6-25-90

690-410-0020
Hydroelectric Power Development

(1) Policy — Development and production of hydroelectric power is a beneficial use. However, construction and operation of hydroelectric facilities have had significant adverse impacts on the state's natural resources. New hydroelectric development shall be permitted if it can be demonstrated that there will be no harm to the state's anadromous salmon and steelhead fish resource and habitat, and no net loss of the state's other natural resources. Relicensing of existing facilities, which have adversely impacted, or may preclude the recovery of, anadromous fish resources shall include measures to restore, enhance or improve the anadromous fish resource. The relicensing of any facility shall include measures to prevent the net loss of other natural resources resulting from future operation of the facility.

(2) Principles — Programs to achieve the policy in section (1) of this rule shall be guided by the following principles:

(a) Hydroelectric power can provide valuable economic and social benefits when the natural resources of the state are protected from potential adverse impacts;

(b) Proposed or relicensed projects that can be developed consistent with Oregon's resource protection standards should be encouraged. New development shall be consistent with the provisions of the Columbia River Basin Fish and Wildlife Program as adopted by the Northwest Power Planning Council pursuant to PL 96-501;

(c) Mitigation shall be required for harm to Oregon's natural resources caused or likely to be caused by new permitted hydroelectric power development. These natural resources include but are not limited to anadromous fish, wildlife, water quality, scenic and aesthetic values, historic, cultural and archeological sites;

(d) On relicensing of existing facilities, measures for restoration, enhancement or improvement for past harms to Oregon's anadromous and steelhead resource shall be considered and implemented; and

(e) The state shall ensure that the laws of the state and the rules of the Commission concerning hydroelectric power development are satisfied at every stage of any hydroelectric power project. The state shall assert these laws and rules when participating in federal proceedings involving hydroelectric power. Participation in these proceedings by state agencies shall be fostered through the Strategic Water Management Group (SWMG).

Statutory/Other Authority: ORS 536
Statutes/Other Implemented: ORS 536
History:
WRD 8-1990, f. & cert. ef. 6-25-90

690-410-0030
Instream Flow Protection

(1) Policy — Benefits are provided by water remaining where it naturally occurs. Protecting streamflows which are needed to support public uses is a high priority for the state. The long term goal of this policy shall be to establish an instream water right on every stream, river and lake which can provide significant public benefits. Where streamflows have been depleted to the point that public uses have been impaired, methods to restore the flows are to be developed and implemented. These activities shall be consistent with the preservation of existing rights, established duties of water, and priority dates, and with the principle that all of the waters within the state belong to the public to be used beneficially without waste.

(2) Principles — Programs to achieve the policy in section (1) of this rule shall be guided by the following principles:

(a) The Commission shall consider the needs of both instream and out-of-stream uses when reviewing future appropriations and developing streamflow restoration programs;

(b) Preservation of instream flows needed to support the purposes of State Scenic Waterways is a high priority for the state;

(c) Statewide and local programs should be implemented to restore and enhance streamflow and lake levels to provide public uses. Priority of restoration shall be established by the Water Resources Commission. The Commission shall consult with the Department of Fish and Wildlife, Environmental Quality, Parks and Recreation and the public, to identify those waterways where the greater public benefit could be obtained from additional streamflow restoration;

(d) The Department shall actively encourage the purchase, lease and gift of existing water rights for transfer to instream water rights, and the construction of environmentally sound multi-purpose storage projects;

(e) Streamflow restoration programs shall be designed to encourage cooperation and coordination between instream water interests and out-of-stream water users; and

(f) Instream water rights are preferred, over the establishment of new minimum perennial stream-flows, to protect instream public uses.

Statutory/Other Authority: ORS 536
Statutes/Other Implemented: ORS 536
History:
WRD 13-1990, f. & cert. ef. 8-8-90

690-410-0040
Interstate Cooperation

(1) Policy — The state will seek to cooperate with other states in planning, developing, managing, and resolving conflicts involving surface or groundwater resources. Interstate cooperation shall be actively pursued to benefit the public interest, welfare, health, economy and safety of Oregon's citizens.

(2) Principles — Programs to achieve the policy in section (1) of this rule shall be guided by the following principles:

(a) Existing laws, agreements, water rights, individual state interests and resource conditions shall guide and limit interstate cooperation in order to protect the public interest;

(b) Cooperation is preferred, but not required, over unilateral action, litigation, arbitration, or adjudication;

(c) The meaning, intent and purpose of interstate cooperation as embodied in this policy also applies to federally recognized Indian Tribes, and their governments, located wholly or partially within this state.

Statutory/Other Authority: ORS 536
Statutes/Other Implemented: ORS 536
History:
WRD 8-1990, f. & cert. ef. 6-25-90

690-410-0050
Water Resources Protection on Public Riparian Lands

(1) Policy — The water-related functions of riparian areas on public lands shall be protected. On public lands, management activities in riparian areas shall be planned to maintain or improve riparian conditions that support water-related functions, consistent with the constitutional or statutory purposes of the public land.

(2) Principles:

(a) The policy in section (1) of this rule is established based on the following principles:

(A) Land and water management are integrally related;

(B) Proper land management can provide for many commodity uses for riparian areas while protecting water resources;

(C) The Legislature has made it a goal of the people of the state to enhance Oregon's waters through the management of riparian areas and associated uplands;

(D) The state's integrated, coordinated water policy needs to address water-related aspects of land management; and

(E) Implementation will be through the programs of public land management agencies having responsibility over riparian lands.

(b) To implement the policy in section (1) of this rule, public land management agencies shall be advised to consider and accommodate the following principles.

(A) Protect water-related riparian functions through public land management plans and practices. Water-related riparian area functions include any or all of the following as applicable to the specific water body segment: providing streambank stability; contributing coarse woody debris to dissipate flood energy and create aquatic habitat; maintaining water tables in relatively close proximity to the ground surface; carrying and storing flood flows; filtering runoff waters of sediment and potential pollutants; insulating streams from summer and winter temperature extremes; and supporting the ecosystem of the adjacent water resource;

(B) Build databases of riparian area condition, by watershed, sufficient to make the planning and management decisions to implement this policy. The condition of riparian areas shall be determined on the basis of the types of functions listed in paragraph (2)(a)(A) of this rule as known from the best scientific information available;

(C) Monitor the effectiveness of riparian area management and rehabilitation activities within a watershed in accordance with land management plans or programs;

(D) Evaluate the effects of proposed management or rehabilitation activities, taking into account known conditions or riparian areas and uplands within the whole watershed and, to the extent practical, the cumulative impacts of ongoing and proposed management activities;

(E) Mitigate activities in riparian areas which are undertaken in accordance with land management plans. In mitigating activities, actions which avoid and minimize impacts as described in the mitigation definition found in OAR 690-400-0010(9)(a) and (b) are preferred;

(F) Undertake mitigation when emergencies require action that damages riparian areas;

(G) Schedule, implement and monitor efforts to improve impaired water-related functions of riparian areas, considering the natural recovery potential of affected resources and the benefits expected from the recovery. Give preference to improvement strategies which take advantage of natural processes; and

(H) Enforce statutes, rules, and regulations that require federal land management agencies to exercise their management and trustee responsibilities to restore, maintain and enhance the riparian areas of the state. (ORS 541.355(2)(b)(C)).

(3) Applicability:

(a) The policy and principles in sections (1) and (2) of this rule shall not apply to:

(A) Privately-owned lands, including those served by a public corporation, such as an irrigation district; or

(B) Facilities constructed for the conveyance of water, including but not limited to irrigation ditches or canals.

(b) Nothing in the policy and principles in sections (1) and (2) of this rule shall preclude operating or using reservoirs, ponds, wetlands created for treating water, or other water facilities in accordance with the purposes for which they were authorized, built or permitted.

Statutory/Other Authority: ORS 536
Statutes/Other Implemented: ORS 536
History:
WRD 22-1990, f. & cert. ef. 12-14-90

690-410-0060
Conservation and Efficient Water Use

(1) Policy — The elimination of waste and improving the efficiency of water use are high priorities. Use of water without waste is required by state statute and the prior appropriation doctrine. Programs to eliminate waste shall be implemented. In addition, improving the efficiency of water use through implementation of voluntary conservation measures can help restores instream flows and provide for future needs including public uses and continued economic development. Priority shall be given to developing subbasin conservation plans and providing public assistance in areas of known over-appropriation of surface water, ~~and~~ overdrawn groundwater, and of water quality problems.

(2) Principles — Programs to achieve the policy in section (1) of this rule shall be guided by the following principles:

(a) Water users shall construct, operate and maintain their water systems in a manner which prevents waste and minimizes harm to the waters of the state and injury to other water rights;

(b) Major water users and suppliers shall prepare water management plans under the guidance of schedules, criteria and procedures which shall be adopted by rule. The plans shall evaluate opportunities for conservation and include a quantification of losses of water from the systems, an evaluation of the effectiveness and costs of alternative measures to reduce losses, and an implementation schedule for all feasible measures. During the planning processes, consideration shall be given to the environmental impacts from and time needed for implementation of system modifications. The Department shall assist water users and suppliers in the preparation of the water management plans;

(c) The Commission shall encourage and facilitate the development of subbasin conservation plans throughout the state by local advisory committees. Subbasin conservation plans shall include measures to assist water users in eliminating waste, other methods to improve water use efficiency in the subbasin, funding proposals to implement the measures and procedures to protect water dedicated to instream uses from further diversion. Priority shall be given to development of subbasin conservation plans in serious water management problem areas, critical groundwater areas and other areas where water supplies are not sufficient to meet demands. The Commission shall adopt rules to guide formation of broad-based committees, the preparation of subbasin plans, and the submittal of plans to the Commission for approval;

(d) When wasteful practices are identified in water management plans and subbasin conservation plans, the Commission shall adopt rules prescribing statewide and subbasin standards and practices that ensure beneficial use without waste. The rules shall recognize that conditions vary for different parts of the state and for different uses;

(e) A conservation element shall be developed and included in each basin plan when a major plan review and update is performed;

(f) The collection, analysis and distribution of information on water use and availability are necessary to ensure that the waters of the state are managed for maximum beneficial use and to protect the public welfare, safety and health. The ability to measure flows at authorized points of diversion is essential to the management of water and the elimination of waste;

(g) The Commission shall support public education programs, research and demonstration projects to increase citizen and water user awareness of water conservation issues and measures in the state; and

(h) The Commission shall support programs to provide economic assistance to water users to implement desired conservation measures, particularly where the benefits of implementing the measures are high.

Statutory/Other Authority: ORS 536
Statutes/Other Implemented: ORS 536
History:
WRD 22-1990, f. & cert. ef. 12-14-90

690-410-0070
Water Allocation

(1) Policy. The waters of the state shall be allocated within the capacity of the resource and consistent with the principle that water belongs to the public to be used beneficially without waste. Water shall be allocated among a broad range of beneficial uses to provide environmental, economic, and social benefits. The waters of the state shall be protected from over-appropriation by new out-of-stream uses of surface water or from being overdrawn by new uses of groundwater.

(2) Principles. Programs to achieve the policy in section (1) of this rule shall be guided by the following principles:

(a) The surface waters of the state shall be allocated to new out-of-stream uses only during months or half-month periods when the allocations will not contribute to over-appropriation. However, when a stream is over-appropriated, some additional uses may be allowed where public interest in those uses is high and uses are conditioned to protect instream values;

(b) The groundwater of the state shall be allocated to new beneficial uses ~~when~~ only if water is available for a proposed use as per the definitions in OAR 690-300-0010, OAR 690-400-0010, and OAR 690-008-0001, and subject to other applicable standards. ~~the allocations will not contribute to the over-appropriation of groundwater sources~~. Restrictions on allocations of water for exempt groundwater uses may be considered when a groundwater source is over-~~appropriated~~drawn;

(c) New allocations of water for the purpose of filling storage facilities may be allowed notwithstanding subsection (a) of this section. Protection may be afforded to all water rights and instream uses by establishing storage filling seasons in basin rules, by considering the need for minimum pass-through flows on water rights, or establishing by rule other conditions consistent with the state policy on water storage as a prerequisite for allocation. In setting a storage season, consideration shall be given to avoiding periods of the year when flows are low and seldom exceed the needs of water rights and when additional flows are needed to support public uses;

(d) A determination that a stream is over-appropriated does not affect the allocation of legally stored water from existing or future facilities;

(e) When surface water or groundwater is known to be contaminated, it may be allocated to new uses only if the Commission determines, after consultation with the Department of Environmental Quality (DEQ) or the Oregon State Health Division (OSHD), that the use does not pose a significant hazard to human health or the environment. Groundwater allocation may be restricted if the Department determines that use would likely result in the spread of existing groundwater contamination;

(f) Water shall not be allocated if the proposed use would injure the exercise of existing water rights or permits;

(g) The Scenic Waterways Act declares that the highest and best uses of the waters within State Scenic Waterways are fish, wildlife, and recreation. Allocations to new out-of-stream uses in State Scenic Waterways shall be consistent with the Scenic Waterways Act. Allocations to new out-of-stream uses in and above State Scenic Waterways shall not interfere with the maintenance of flow levels necessary for the purposes of Scenic Waterways;

(h) When instream flow needs are not protected by instream water rights, new out-of-stream allocations may be limited or conditioned to protect public uses;

(i) When allocating water for new uses, the Commission shall assure compliance with the Statewide Planning Goals and compatibility with local comprehensive plans in accordance with the Department's certified State Agency Coordination Program;

(j) When classifying allowable new uses of water or establishing reservations, the Commission shall seek consistency with management plans for public lands and resources, and with state, regional, and local resource management and economic plans;

(k) Conservation, storage development, water right transfers, and leases are means to maximize beneficial uses and to meet the changing needs of society and shall be encouraged and facilitated;

(l) Future allocation of water for out-of-basin diversions shall be allowed only if consistent with this policy and the conditions specified in existing statute and rule.

Statutory/Other Authority: ORS 536.025, 536.220 & 536.300
Statutes/Other Implemented: ORS 536.025, 536.220 & 536.300
History:
WRD 10-1992, f. & cert. ef. 7-31-92

690-410-0080
Water Storage

(1) Policy. Water storage options are an integral part of Oregon's strategy to enhance the public and private benefits derived from the instream and out-of-stream uses of the state's water resources. Storage can provide increased water management flexibility and control. Storage can be enhanced through means ranging from natural processes to engineered structures. The state shall facilitate and support project planning and development. The state shall actively pursue funding when storage is determined to be a preferred alternative to meet the water needs of instream and out-of-stream beneficial uses.

(2) Principles. Programs to achieve the policy in section (1) of this rule shall be guided by the following principles:

(a) Water resource planning in the state shall consider storage along with other available alternatives to meet water management goals;

(b) When determining whether storage is a preferred alternative, due regard shall be given to public interest, needs and priorities, and legal, social, economic and environmental factors;

(c) The state shall encourage high priority storage projects and facilities through the reservation of unappropriated water for future economic development;

(d) Storage shall be planned and implemented in a manner to protect and enhance the public health, safety and welfare, and the state's natural resources;

(e) The state shall encourage enhancement of watershed storage capacity through natural processes using non-structural means;

(f) The state shall promote the maximization of benefits derived from storage facilities by evaluating existing and potential storage capacities, authorized uses and operational practices;

(g) Criteria for evaluating impacts of storage projects shall include the following factors:

(A) Purpose (e.g., type, location and extent of use, benefits);

(B) Legal (e.g., state, federal and local legal requirements);

(C) Social (e.g., recreational, public support, cultural, historic);

(D) Technical (e.g., siting issues, public safety and structural integrity);

(E) Financial (e.g., project financing including site costs, cost sharing and repayment, and operating, maintenance and rehabilitation costs);

(F) Economic (e.g., project benefit/cost analysis);

(G) Land use (e.g., ownership, comprehensive plans, coordination);

(H) Environmental (e.g., impacts on streamflows, fisheries, wildlife, wetlands, habitat, biological diversity, water quality and opportunities for mitigation);

(I) Other (e.g., direct and indirect impacts).

(h) The state shall encourage and give high priority to storage that optimizes instream and out-of-stream public benefits and beneficial uses. Multi-purpose storage is to be preferred over single-purpose storage and upstream storage is to be preferred over downstream storage;

(i) The state shall cooperate with federal agencies, local governments and private entities in identifying and protecting high priority storage sites for development of projects. The state shall promote appropriate land use protection for high priority storage sites;

(j) The state shall support and participate in programs to finance planning and development of high priority storage;

(k) The Water Resources Department shall coordinate interagency recommendations to sponsors, developers or operators of high priority storage projects.

Statutory/Other Authority: ORS 536.025, 536.220 & 536.300
Statutes/Other Implemented: ORS 536.025, 536.220 & 536.300
History:
WRD 10-1992, f. & cert. ef. 7-31-92

Water Resources Department
Chapter 690
Division 8

STATUTORY GROUND WATER TERMS

690-008-0001
Definition and Policy Statements

A number of terms are used in the statutes, ORS 537.505–537.795, prescribing the management of ground water in Oregon. These rules define terms to qualify and clarify the statutes. In all statutes and rules employed in the management of ground water by the Water Resources Department and Commission, the following definitions shall apply, unless the context requires otherwise:

(1) "Aquifer" means a geologic formation, group of formations, or part of a formation that contains saturated and permeable material capable of transmitting water in sufficient quantity to supply wells or springs and that contains water that is similar throughout in characteristics such as potentiometric head, chemistry, and temperature~~a water-bearing body of naturally occurring earth materials that is sufficiently permeable to yield useable quantities of water to wells and/or springs~~.

(2) "Critical Ground Water Area Boundary" means a line established in a critical ground water area order on a map that surrounds an area in which one or more of the statutory criteria for critical area declaration are met and which is located either:

(a) Physically by coincidence with natural features such as ground water reservoir boundaries, hydrologic barriers, or recharge or discharge boundaries; or

(b) Administratively by surrounding an affected area when that area does not coincide with an area bounded by natural features.

(3) "Customary Quantity" means the rate or annual amount of appropriation or diversion of water ordinarily used by an appropriator within the terms of that appropriator's water right.

(4) "Declined Excessively" means any cumulative lowering of the water levels in a ground water reservoir or a part thereof which:

(a) Precludes, or could preclude, the perpetual use of the reservoir; or

(b) Exceeds the economic pumping level; or

(c) Constitutes a decline determined to be interfering with:

(A) A surface water diversion having a priority date senior to the priority dates of the causative ground water appropriations; or

(B) A surface water body that has been administratively withdrawn with an effective date senior to the priority dates of the causative ground water appropriations unless the causative ground water appropriations are for uses that are exceptions to the withdrawals; or

(C) An adopted minimum stream flow or instream water right, or closure having an effective date senior to the priority dates of the causative ground water appropriations; or

(D)) A surface water body which has a classification that is senior to the priority date of the causative ground water appropriation(s) and the use or uses to which the ground water is being put are not included in the classification.

(d) Constitutes a lowering of the annual high water level within a ground water reservoir, or part thereof, greater than 25 ~~50~~ feet below the highest known water level; or

(e) Results in ground water pollution; or

(f) Constitutes a lowering of the annual high water level greater than 15% of the greatest known saturated thickness of the ground water reservoir. the saturated thickness shall be calculated using pre-development water levels and the bottom of the ground water reservoir, or the economic pumping level, whichever is shallower.

(5) "Declining Groundwater Levels" means that, for a well:

(a) The representative annual high water level for the year under evaluation:

(A)indicates an average rate of decline in representative annual high water levels of at least 0.5 foot feet per year over all immediately preceding averaging periods between 5 and 20 years that can be evaluated; or

(B)is at least 25 feet deeper than the first measured representative annual high water level. If Department determines that preceding water level data in nearby wells accessing the same aquifer are sufficient to establish the water level elevation as it would have existed earlier in the subject well, then that water level may be used to represent the annual high water level.

(b)In the absence of more recent data, a finding of declining water levels may be presumed to persist for a maximum of 5 years if based on the average rate of decline as in (a)(A) above, or indefinitely if based on decline from the first measurement, as described in (a)(B) above.

(c)This definition may be superseded by a basin program rule adopted pursuant to the Commission's authority in ORS 536.300 and 536.310, but such a definition must also indicate declining groundwater levels whenever they would be indicated by this statewide rule. A superseding definition must also be consistent with the superseding definition of "Reasonably Stable Water levels" in OAR 690-008-0001(10) such that water levels cannot simultaneously be both reasonably stable and declining.

Commented [LB1]: Following up on the 5-10 meeting, I offer two comments about this provision:

1. 25 feet seems high as a way to define reasonably stable or declining groundwater levels. For example, it seems that a decline of 25 feet in a domestic well would strike one as declining long before it hit 25. I would suggest 10.

2. I do not think this should be defined in relation to the depth/thickness of an aquifer, as was suggested at the 5-10 meeting.

First, that doesn't make sense given the term that is being defined. A decline is not less of a decline just because the aquifer is deeper.

Second, often the depth of the aquifer is unknown, so it using the depth as a standard would set up an impossible standard.

Third, using a percentage instead of a depth in feet will fail to protect domestic well owners, springs, surface water users, etc. Dropping an aquifer more than 25' just because it is deeper will not be protective of the public welfare, safety and health, nor would it protect "adequate and safe supplies of ground water for human consumption" (ORS 537.525(5)). It would not fulfill the statutory policy of the Groundwater Act.

(~~5~~6) “Economic Pumping Level” means the level below land surface at which the per-acre cost of pumping equals 70 percent of the net increase in annual per-acre value derived by irrigating. (The value is to be calculated on a five year running average of the per-acre value of the three, if there are that many, prevalent irrigated crops in the region minus the five year running average of the per-acre value of the three, if there are that many, prevalent regional non-irrigated crops.)

(~~6~~7) “Excessively Declining Water Levels” (Note: “Excessively” as used in ORS 537.730(1)(a) is taken to modify both “are declining” and “have declined”) means any ongoing lowering of the water level in a ground water reservoir or part thereof which:

(a) Precludes, or could preclude, the perpetual us of the reservoir; or

(b) Represents an average downward trend of three or more feet per year for at least 10 years; or

(c) Represents, over a five year period, an average annual lowering of the water level by 1% or more of the initial saturated thickness as determined by observation or investigation in the affected area; or

(d) Results in water quality deterioration.

(~~7~~9) “~~Overdraw~~Excessively deplete” , “excessively depleted~~overdrawn~~”, or “excessively depleting~~o verdrawing~~” means to pump or otherwise extract groundwater from an aquifer, groundwater reservoir, or part thereof when~~artificially produce water, in any one year period, from a ground water reservoir, or part thereof, at an annual rate that~~:

(a)One or more representative wells exhibit declining groundwater levels as per OAR 690-008-0001(5)~~Exceeds the average annual recharge to that ground water supply over the period of record~~; or,

(b) The use of groundwater by existing water rights substantially interferes with surface water sources as per OAR 690-008-0001(8)(a)~~Reduces surface water availability resulting in:~~

~~(A)One or more senior appropriators being unable to use either their permitted or customary quantity of surface water, whichever is less; or~~

~~(B)Failure to satisfy an adopted minimum streamflow or instream water right with an effective date senior to the causative ground water appropriation(s).~~

(c)~~Reduces the availability of surface waters that have been:~~

~~(A)Withdrawn with an effective date senior to the priority dates of the causative ground water appropriations; or~~

~~(B)Restrictively classified with an effective date senior to the priority date(s) of the causative ground water appropriations.~~

~~(10) (~~8) “Impairment”, “impair”, “substantial interference”, “substantially interfere”, “undue interference”, or “unduly interfere” ~~“Substantial or Undue Interference” ~~means the spreading of the

cone of depression of a well to intersect a surface water ~~body~~ source or another well, or the reduction

of the ground water gradient and flow as a result of pumping or otherwise extracting groundwater from an aquifer, which contributes to:

(a) Depletion of a surface water source ~~A reduction in surface water availability to an extent~~ that:

(A) is already over-appropriated during any period of the year; or

(B)is administratively or statutorily withdrawn; or

(C)is restrictively classified; or

(D)is the source for o~~O~~ne or more ~~senior~~ existing surface water ~~appropriators~~ rights ~~are unable to use either their permitted or customary quantity of water, whichever is less~~ that have been regulated off due to insufficient supply to satisfy senior surface water rights or is subject to a rotation agreement to address limited surface water supplies; or

(E~~B~~) ~~An adopted~~ has a minimum perennial streamflow or instream water right ~~with an effective date senior to the causative ground water appropriation(s) cannot be satisfied~~ that is unmet during any period of the year.

(b) The ground water level being drawn down to the eco~~-~~nomic level of the senior appropriator(s); or

(c) One or more of the senior ground water appropriators being unable to obtain either the permitted or the customary quantity of ground water, whichever is less, from a reasonably efficient well that ~~fully penetrates~~ adequately accesses the aquifer where the aquifer is relatively uniformly permeable. ~~However, in aquifers where flow is predominantly through fractures, full penetration may not be required as a condition of substantial or undue interference~~.

(10) "Reasonably Stable Groundwater Levels" means that, for a well:

(a) The representative annual high water level for the year under evaluation:

(A) indicates an average rate of decline in representative annual high water levels of less than 0.5 feet per year over any immediately preceding averaging period between 5 and 20 years; and

(B) is less than 25 feet deeper than the first measured representative annual high water level. If the Department determines that preceding water level data in nearby wells accessing the same aquifer are sufficient to establish the water level elevation as it would have existed earlier in the subject well, then that water level may be used to represent the annual high water level.

(b)In the absence of more recent data, a finding of reasonable stability may be presumed to persist for a maximum of 5 years.

(c)This definition may be superseded by a basin program rule adopted pursuant to the Commission's authority in ORS 536.300 and 536.310, but such a definition may not indicate reasonably stable groundwater levels when they would not be indicated by this statewide rule. A superseding definition

Commented [LB2]: It is inconsistent with the Ground Water Act and with the other rules to require "full penetration" of the aquifer as a prerequisite to a finding of well interference. The requirement for a "race to the bottom" prior to a finding of injury is contrary to the requirement to maintain reasonably stable groundwater levels and to allocate the resource only within the capacity of the resources.

Commented [LB3]: Same comment as on definition of "declining groundwater levels" -

Following up on the 5-10 meeting, I offer two comments about this provision:

1. 25 feet seems high as a way to define reasonably stable or declining groundwater levels. For example, it seems that a decline of 25 feet in a domestic well would strike one as declining long before it hit 25. I would suggest 10.

2. I do not think this should be defined in relation to the depth/thickness of an aquifer, as was suggested at the 5-10 meeting.

First, that doesn't make sense given the term that is being defined. A decline is not less of a decline just because the aquifer is deeper.

Second, often the depth of the aquifer is unknown, so it using the depth as a standard would set up an impossible standard.

Third, using a percentage instead of a depth in feet will fail to protect domestic well owners, springs, surface water users, etc. Dropping an aquifer more than 25' just because it is deeper will not be protective of the public welfare, safety and health, nor would it protect "adequate and safe supplies of ground water for human consumption" (ORS 537.525(5)). It would not fulfill the statutory policy of the Groundwater Act.

must also be consistent with the superseding definition of "Declining Groundwater Levels" in OAR 690-008-0001(5) such that water levels cannot simultaneously be both reasonably stable and declining.

(~~9~~11) "Substantial Thermal Alteration" means any change in water temperature of a groundwater reservoir, or a part thereof, which:

(a) Precludes, or could preclude, the perpetual heating or cooling use of the groundwater reservoir; or

(b) Constitutes a change in the mean annual temperature within a groundwater reservoir, or part thereof, greater than 25 percent of the highest recorded naturally occurring Celsius (C) temperature.

(~~10~~12) "Substantial Thermal Interference" means the spreading of the radius of thermal impact of a low-temperature geothermal production well or low-temperature geothermal injection well to intersect a surface water body or another well, or the reduction of temperature or heat flow as a result of pumping or injection, which contributes to change in groundwater or surface water temperature to an extent that one or more senior appropriators of the low-temperature resource are unable to use water for the purpose(s) designated in the associated water right.

(~~11~~13) "Wasteful Use (of ground water)" means any artificial discharge or withdrawal~~n~~ of ground water from an aquifer that is not put to a beneficial use described in a permit or water right, including leakage from one aquifer to another aquifer within a well bore.

Statutory/Other Authority: ORS 537

History:

WRD 18-1990, f. & cert. ef. 12-14-90

WRD 21-1988, f. & cert. ef. 12-14-88

HARTT Laura A * WRD

From: Dave Wildman <dwildman@andersonperry.com>
Sent: Wednesday, June 7, 2023 4:02 PM
To: HARTT Laura A * WRD
Subject: Input on GW Allocation Draft Rules - RAC #3

Hello Laura,

The incorporation of information provided by potentially affected parties being considered in the process of making determinations of hydraulic connection and potential for substantial interference in section 690-009-0040 is much appreciated.

Although not a specific comment based on the draft rules presented, I would like to provide a bigger picture comment based on the information provided by OWRD staff at the Groundwater RAC Meeting No. 3. Of particular interest to me were the charts showing streamflow flow distribution versus crop requirements and water derived from streamflow depletion versus water from storage. It appears that given the current state of our potential aquifer over-allocations in some basins, recharging our aquifers should be a priority. A collective effort involving OWRD, Business Oregon, DEQ, OHA-DWS and other state agencies to help promote and fund projects involving aquifer recharge and/or storage and recovery would help lead us down a path to help replenish our aquifers. Perhaps this can be promoted through the OWRD's existing Water Project Grants and Loans Program.

Thank you.

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