

**OREGON ADMINISTRATIVE RULES CHAPTER 690
DIVISIONS 8, 9, 300, 410**

**DRAFT STATEMENT OF NEED, RACIAL EQUITY IMPACTS, AND ECONOMIC &
FISCAL IMPACTS**

NEED FOR THE RULE(S)

Water is a finite and critical resource. In some parts of the state, water pumped and used from underground aquifers is far outpacing what nature can replace through natural water and precipitation cycles. While Oregon’s statutes require water to be managed sustainably (ORS 537.525), scientific data confirms that groundwater depletion is occurring at a rapid and unsustainable rate (e.g., Garcia et al. 2021; Gingerich et al. 2022), with climate change contributing to further groundwater declines (OWRD 2015). As a result, some parts of the state are experiencing dry wells and water scarcity which impacts families, farmers, industry and recreation (Oregon Secretary of State 2023). Much of the water in streams during summer months comes from groundwater sources. As groundwater sources decline, less surface water becomes available in streams, rivers, and lakes to meet the needs of existing surface water users and to support healthy fish, aquatic habitat, and recreation.

After decades of groundwater declines, the Oregon Water Resources Department (OWRD) is responding to the modern water realities experienced by Oregonians and confirmed by science. To limit the long-term impact of unsustainable groundwater depletion around the state, OWRD is working to modify longstanding practices and rules governing new groundwater right applications. With a forward-looking approach that considers the needs of future generations, OWRD is working to safeguard existing surface water and groundwater users and the livelihoods they support, while managing groundwater resources more sustainably.

The Ground Water Act of 1955 outlines the state’s policy goals for issuing new groundwater rights and prioritizes the preservation of the public welfare, safety and health (ORS 537.621 and 537.525). The Act presumes that a new groundwater allocation will preserve the public welfare, safety and health if four criteria are met: (1) the proposed use is allowed in the applicable basin program; (2) water is available; (3) other water rights will not be injured; and (4) the proposed use complies with the rules of the Oregon Water Resources Commission (ORS 537.621). This rulemaking focuses on number (2), water is available. These rules propose redefining the criteria for making a finding of groundwater availability based on (1) the presence of reasonably stable water levels (ORS 537.525(7)), (2) avoidance of substantial interference with existing rights to appropriate surface water (ORS 537.525(9)), and (3) a finding that the proposed groundwater pumping rate is likely to be obtainable given the expected yield of the proposed well(s) (ORS 537.525(10)).

Implementation of the Ground Water Act of 1955 and the definition of “water is available” in Division 300 further relies on rules in Divisions 8 (Statutory Ground Water Terms, last updated 1990), 9 (Ground Water Interference with Surface Water, last updated 1988), and 410 (Statewide Water Resource Management, last updated 1992). Some of the definitions, policies, and

principles are outdated and require revisions to align with best available scientific understanding, management objectives prescribed by the Act, and the Commission’s policy objectives.

DOCUMENTS RELIED UPON, AND WHERE THEY ARE AVAILABLE

Anderson Perry & Associates, Inc., 2020, Greater Harney Valley Area Water Feasibility Study for Harney County, Oregon.

Barlow, P.M., and Leake, S.A., 2012, Streamflow depletion by wells—Understanding and managing the effects of groundwater pumping on streamflow, U.S. Geological Survey Circular 1376, available at https://pubs.usgs.gov/circ/1376/pdf/circ1376_barlow_report_508.pdf.

Dalgaard, S., 2022, State of Water Justice in Oregon: A Primer on How Oregon Water Infrastructure Challenges Affect Frontline Communities Across the State, White Paper prepared for the Oregon Environmental Council and the Oregon Water Futures Project, available at <https://www.oregonwaterfutures.org/water-justice-report>.

Dieter, M.A. et al, 2018, Estimated use of water in the United States in 2015, U.S. Geological Survey Circular 1441, available at <https://pubs.usgs.gov/publication/cir1441>.

ECONorthwest, 2019, Economic Contributions of Oregon’s Commercial Marine Fisheries, Report prepared for Oregon Department of Fish and Wildlife, available at <https://econw.com/project/economic-contributions-of-oregons-commercial-marine-fisheries/>.

Executive Order No. 23-4, 2023, Establishing Statewide Housing Production Goal and Housing Production Advisory Council (January 10, 2023), available at <https://www.oregon.gov/gov/eo/eo-23-04.pdf>.

Garcia, C.A. et al., 2021, Hydrologic Budget of the Harney Basin Groundwater System, Southeastern Oregon, U.S. Geological Survey Investigations Report 2021-5128, available at <https://pubs.usgs.gov/publication/sir20215128>.

Gingerich, S.B. et al., 2022, Groundwater Resources of the Harney Basin, Southeastern Oregon, U.S. Geological Survey Investigations Report 2021-52013, available at <https://pubs.usgs.gov/publication/sir20215103>.

OAR 690-310-0110.

OAR 690-310-0130.

OAR 690-315-0090.

Oregon Office of Rural Health, 2023, Spreadsheet of Oregon Zip Codes, Towns, Cities and Service Areas and their ORH Urban/Rural/Frontier Designation, accessible at <https://www.ohsu.edu/oregon-office-of-rural-health/about-rural-and-frontier-data>.

ORS 183.336.

ORS 536.310(12).

Oregon Water Resources Department, 2015, Oregon Statewide Long-Term Water Demand Forecast, White Paper prepared by MWH for OWRD, available at https://www.oregon.gov/owrd/Documents/OWRD_2015_Statewide_LongTerm_Water_Demand_Forecast.pdf.

Oregon Secretary of State, 2023, Advisory Report: State Leadership Must Take Action to Protect Water Security for All Oregonians (Report 2023-04), available at <https://sos.oregon.gov/audits/Documents/2023-04.pdf>.

Perkowski, M. 2023, Oregon water protest backlog grows despite \$3 million reduction project, Capital Press (October 30, 2023), available at

- https://www.capitalpress.com/ag_sectors/water/oregon-water-protest-backlog-grows-despite-3-million-reduction-project/article_2a638d10-7768-11ee-b8d6-93ac22d44974.html.
- Pilz, D. et al., 2023, The Business Case for Investing in Water in Oregon, White Paper prepared for OWRD, available at https://www.oregon.gov/owrd/WRDPublications1/230721_FINAL_Business_Case_for_Water_in_OR.pdf.
- Rosenberger, R.S., 2018, Total Net Economic Value from Residents' Outdoor Recreation Participation in Oregon, Final Report prepared for Oregon State University, available at <https://www.oregon.gov/oprd/PRP/Documents/SCORP-2018-Total-Net-Economic-Value.pdf>.
- Scandella, B., 2024a, Analysis of Oregon wells correlated with precipitation. DRAFT Memo to OWRD Groundwater Allocation Rulemaking Team (January 16, 2024).
- Scandella, B., 2024b, Susceptibility of Oregon wells to being dried by declining water levels. DRAFT Memo to OWRD Groundwater Allocation Rulemaking Team (January 16, 2024).
- Scandella, B. and Iverson, J., 2021, Oregon Groundwater Resource Concerns Assessment (OWRD White Paper), available at https://www.oregon.gov/owrd/WRDReports/2021_Groundwater_Resource_Concerns_Report.pdf.
- Theis, C.V., 1940, The Source of Water Derived From Wells; Essential Factors Controlling the Response of an Aquifer to Development, published by American Society of Civil Engineers, Civil Engineering (p. 277-280), available at <https://water.usgs.gov/ogw/pubs/Theis-1940.pdf>.
- United States Department of Agriculture, 2023, Draft Programmatic Environmental Assessment, Harney Valley Groundwater Conservation Reserve Enhancement Program, available at https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdfiles/State-Offices/Oregon/pdfs/draft_pea_proposed_harney_valley_groundwater_crep_final5423.pdf.

STATEMENT IDENTIFYING HOW ADOPTION OF RULE(S) WILL AFFECT RACIAL EQUITY IN THIS STATE

The Oregon Water Resources Department (OWRD) extended invitations to several Oregon non-profit organizations focused on racial justice and equity in the context of water, as well as broader environmental, economic, and social issues. OWRD asked these organizations for additional recommendations and extended more RAC invitations. OWRD also invited all nine federally recognized Tribes to serve on the RAC. The final RAC composition included members from Oregon's Tribal communities, environmental and social justice organizations, local governments, farmers, ranchers, domestic well owners, well drillers, economists, climatologists, consultants, and water rights experts.

The RAC discussed the issue of racial equity in the context of this rulemaking, noting that data were lacking to quantify impacts adequately, but agreed that a qualitative assessment was feasible.

RAC members also offered the following comments:

- Because everyone relies on food and clothing, to the extent the rulemaking impacts agriculture, everyone should be impacted equally.
- Some Tribes may benefit from the rulemaking due to the senior nature of their water rights.
- If new water rights become more difficult to acquire, some local governments may have more difficulty providing new affordable housing which may adversely impact historically disadvantaged communities.

The proposed rule changes will protect existing water rights holders; however, the rules update the criteria for issuing new groundwater rights which will impact future water rights applicants. Because the proposed rule changes are likely to result in the issuance of fewer new water rights, existing racial inequities would likely be exacerbated due to prior appropriation laws. Future water rights may be available through purchase; however, it is expected that as the cost of acquiring new rights rises, those costs will be passed on to water users, consumers and ratepayers, while economic benefits will continue to accrue for existing water rights holders.

The proposed rules would not apply to existing or future exempt uses outlined in statute (ORS 537.211), including domestic wells. However, domestic well owners would benefit from the proposed changes because the new rules will alleviate the impacts of declining groundwater levels that have led to the need for deepening wells and in some cases caused wells to run dry. Many rural households rely on private domestic wells for drinking water; many residents in these rural communities are of low-income and/or renters, often disproportionately represented by people of color (S. Dalgaard 2022). Examples of Oregon counties with both rural communities and sizeable non-white populations include Malheur (41%), Umatilla (36%), Polk (24%), and Multnomah (32%) (S. Dalgaard 2022; Oregon Office of Rural Health 2023).

The proposed rule changes also will result in greater protection of surface water from further over appropriation while alleviating groundwater level declines. The public’s interest in instream water rights and equitable beneficial uses, including fishing, wildlife habitat, culture, recreation, and water quality, should benefit from the rulemaking.

Further public comments on this rulemaking and its impact on racial equity in the state is encouraged throughout the posted public comment period.

FISCAL AND ECONOMIC IMPACT:

The Oregon Water Resources Department (OWRD) is updating the review process for new groundwater applications, to ensure sustainable use of groundwater resources while protecting existing surface and groundwater rights holders. If adopted, the proposed rule changes are likely to have both positive and negative economic impacts; however, failure to enact new rules also is likely to lead to both positive and negative economic consequences.

According to Pilz et al. (2023), approximately 48% of Oregon’s total economic output and 44% of the state’s employment rely on water-dependent businesses. Notably, these estimates are conservative, because they do not include the economic contributions from recreation, commercial fishing, or power generation (Pilz et al. 2023). Approximately 22% of all of

Oregon's water withdrawals come from groundwater; just over 80% of those groundwater withdrawals are for irrigation purposes (Dieter et al. 2018).

Pilz et al. (2023) examined the state's water-dependent businesses, revealing the following regarding overall contributions to the state's economy:

- Economic modeling suggests industry (includes manufacturing, health care/hospitals, colleges/universities, hotels/motels, restaurants/food service, car washes, dry-cleaning/laundry, landscaping/horticulture, breweries/wineries, waste remediation) contributes \$88.8 billion annually;
- In 2017, freshwater-related outdoor recreation contributed \$63.2 billion (citing Rosenberger 2018);
- Economic modeling suggests irrigated agriculture contributes \$7.3 billion annually; and
- In 2017, coastal commercial salmon fishing contributed \$28.4 million (citing ECONorthwest 2019).

The proposed rule changes will protect the substantial investment Oregon has made in these and other water-dependent businesses because the revised process will protect existing uses by limiting issuance of new groundwater rights to when water is available for appropriation. However, because OWRD anticipates issuing fewer new groundwater rights through the updated process, some new water-dependent businesses may face challenges securing new consumptive water rights while other new businesses that rely on adequate river flows and lake levels may benefit from adoption of the proposed rules. For example, the proposed rules may impede the growth of irrigated agricultural because expansion of irrigated acreage may be constrained in the absence of new water rights. On the other hand, water-dependent recreation and tourism as well as commercial fishing may experience growth due to healthier aquatic ecosystems.

Failure to act through rule changes also may result in adverse economic impacts, including those stemming from the cost of remedial action needed to address groundwater level declines and reduced streamflow. The cost of measures needed to remediate the impacts of groundwater overallocation on domestic and irrigation well users in the Harney Basin are a good example. According to Pilz et al. (2023), private wells in Harney County have experienced dramatic declines in static groundwater levels by as much as 140 feet and in some cases wells have gone dry. Anderson Perry & Associates (2020) estimate as many as 1,086 households in unincorporated parts of the County rely on exempt wells for their domestic water. Pilz et al. (2023) estimated the full economic impact of providing an alternative water supply source to these 1,086 households in the event of well failure to range between \$7.5 million and \$10.5 million. With respect to irrigation use, the United States Department of Agriculture estimates a cost of more than \$58 million to retire 20,000 acres of groundwater irrigated cropland in the Harney Basin Conservation Reserve Enhancement Program (CREP).

The average cost to assist homeowners with dry domestic wells under the Department's Well Abandonment Repair and Replacement Fund is \$26,500 per well. The Department estimates that approximately 40,000 more domestic wells are at risk of going dry in the absence of this rulemaking (Scandella 2024b (DRAFT)), translating to hundreds of millions of dollars in total

costs. Moreover, in the absence of the rulemaking, other domestic wells may go dry seasonally, requiring domestic owners to rely on alternatives, again translating to additional costs.

Consequently, the costs associated with failure to act through this rulemaking will be borne by state and federal agencies that seek to address the impacts of overallocation, as well as the costs to existing water users and domestic well owners that must make changes because of their supplies not being sustainable.

COST OF COMPLIANCE

(1) Identify any state agencies, units of local government, and members of the public likely to be economically affected by the rule(s).

Additional costs to OWRD stemming from the rulemaking are difficult to quantify. Because OWRD most likely will issue fewer groundwater rights due to the rule changes, OWRD may see an early uptick followed by a decline in applications for new ground water rights and start cards for new well construction where water remains available for allocation. OWRD cannot estimate the associated revenue impacts as it is not possible to determine how many applications will be received after the rules are adopted. OWRD estimates that each new groundwater right application fee may range between \$2,000 and \$7,500 depending on the amount of volume requested. However, these fees only cover roughly half the cost of administering the review process.

OWRD may experience an increase in the number of transfer applications in areas where groundwater is not available for allocation to new water rights; however, OWRD cannot forecast how many transfers may be requested. OWRD estimates that each new transfer application fee ranges between \$1,840 (to change the location of a single well involving a small water volume) to \$5,860 or more (for changes involving multiple well locations, multiple water rights, and/or large volumes of water). Notably, these application fees only cover slightly more than half the cost of administering the water rights transfer review process.

OWRD also anticipates increased legal costs associated with challenges to the new rules as well as disputes over denial of new water rights applications; however, the Department cannot predict how many of those may occur. OWRD estimates that each contested case hearing costs the Department between \$50,000 and \$100,000 (Perkowski 2023).

Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, and other state agencies may experience additional costs in terms of time and effort to interpret and apply the new rules (e.g., Division 33 reviews). These agencies also may experience increased legal costs associated with disputes over denial of new water rights applications; some but not all these legal costs are passed on to OWRD.

Local governments also may experience additional costs associated with the implementation of the new rules, including the need to explore additional water conservation and efficiency measures and/or acquire existing water rights through the transfer process rather than develop new rights to meet future demands. Ratepayers may experience higher water bills because of

rising costs associated with local government providing water for residential and commercial use. Rising costs also may require local governments to revise their comprehensive plans by rebalancing projected water supply needs to ensure they are able to meet conflicting demands, including provision of affordable housing. OWRD notes that even in the absence of the new rules, acquisition of new groundwater through either application or purchase and investing in new infrastructure to access those new rights is perhaps not as cost-effective as either enhancing conservation and efficiency measures or transferring the type of use, place of use, and/or point(s) of diversion/appropriation authorized under existing water rights.

OWRD cannot estimate how many cities may be affected, because the Department cannot predict how many cities would seek to apply for a new water right and would be successful under the current as compared with the proposed rules. A preliminary review of approved Water Management and Conservation Plans (WMCPs) submitted by municipalities suggests that few of those relying on groundwater to meet at least half of their water supply needs will need to acquire new groundwater rights within the next 20 years, as outlined by OAR690-086-0180(8). Notably, several WMCPs predate the most recent 2020 U.S. Census data as well as the Covid-19 pandemic and may not reflect the most current population and employment trends (either positive or negative). With few exceptions, these WMCPs also predate the Oregon Governor's recent affordable housing goals (see Executive Order No. 23-04 and House Bill 2001(2023)), which may necessitate municipalities updating comprehensive plans and WMCPs to rebalance economic priorities to achieve these goals. However, OWRD notes that the goals are not mandates, do not apply to municipalities of fewer than 10,000 residents, and affordable housing production targets are not required until 2025.

With respect to municipalities, the likelihood of approval under the current as compared with the proposed rules will vary depending on many factors, including the requested aquifer location and the quantity of the requested use. Also noteworthy, municipal water rights applicants are somewhat unique because unlike most new water rights applicants, municipalities may reserve unappropriated water for future economic development (ORS 537.140, 537.356, 537.358), may reserve for needs 20 years into the future with the possibility of extensions to further develop a water right permit in response to changing economic circumstances (ORS 537.230, OAR 690-315-0090), are exempt from forfeiture (ORS 540.610), and receives preference under the public interest presumption that prioritizes water for human consumption over other purposes when other proposed uses of water mutually conflict or when available water supplies are insufficient to meet human consumption needs (ORS 536.310(12), OAR 690-310-0110, OAR 690-310-0130). Because the new rules protect existing water rights holders, municipalities with existing water rights will benefit from the rulemaking. Also, because the new rules will result in the issuance of fewer new groundwater rights based on groundwater availability for allocation, the unique treatment municipalities receive during water rights application reviews suggests that municipalities may not be impacted as much as other water use sectors seeking new groundwater rights.

The Oregon Ground Water Association (OGWA) has suggested that the well construction industry may experience adverse economic impacts due to the rulemaking because fewer groundwater rights issued in the future may mean fewer new wells constructed, particularly for irrigation purposes. Oregon has approximately 90 well construction companies employing just

over 100 licensed water well drillers. OWRD notes that these rules do not impact the construction of exempt use wells, nor do they impact well reconstruction, deepening, or abandonment. Moreover, there is a significant backlog of customers waiting for construction of authorized wells such that these rules are not expected to impact the well construction industry in the near-term.

In response to OGWA input, OWRD has compiled the following information pertaining to the construction of new irrigation wells to access new groundwater rights issued for the purpose of irrigation:

Year	Number New Wells Constructed to Access New Groundwater Rights Issued for the Purpose of Irrigation
2014	154
2015	170
2016	121
2017	101
2018	100
2019	93
2020	91
2021	55
2022	50

Since 2014, the number of new wells constructed to access new groundwater rights for the purpose of irrigation has declined by approximately 68%. The reasons for the decline are complex. For purposes of providing a range of potential economic impacts, OWRD has chosen a high value of 100 new irrigation wells constructed to support new groundwater rights (the number predating the Covid-19 pandemic) and a low value of 50 new wells constructed (the most recent number).

For any new well construction, costs are highly variable, depending on the location, depth, diameter, materials, and nature of the proposed groundwater well itself, as well as a drilling contractor’s operating expenses including wages, benefits, and overhead. During the RAC process, OGWA suggested that new well construction may range between \$50,000 and \$1M, averaging about \$140,000 per new irrigation well, which translates to \$7M (for 50 new wells) to \$14M (for 100 new wells) in direct statewide well construction revenue.

OWRD anticipates many new groundwater rights under the proposed rules will be denied. OWRD has compiled the following information examining the range of potential economic impacts on well construction arising from issuance of fewer new groundwater rights supporting irrigation use:

Hypothetical Reduction in New Wells Constructed to Access New Groundwater Rights Issued for the Purpose of Irrigation	Hypothetical Reduction in Revenue Generated Statewide (assuming \$140K/well & 50 wells)	Hypothetical Reduction in Revenue Generated Statewide (assuming \$140K/well & 100 wells)
25%	\$1.75M	\$3.5M
50%	\$3.5M	\$7.0M
75%	\$5.25M	\$10.5M
90%	\$6.3M	\$12.6M

In other words, the hypothetical economic impact on well construction associated with the issuance of fewer groundwater rights for the purposes of irrigation may range from approximately \$1.75M in reduced revenue statewide to \$12.6M in reduced revenue statewide.

However, the continued over-allocation of Oregon’s groundwater resources has led to more existing domestic wells going dry, which has increased business for Oregon’s well drillers. The rules are likely to also reduce the number of domestic wells that go dry. As a result, there may be additional revenue reductions; however, given that well drillers have been unable to keep up with demand; it may not actually affect revenues.

(2) Effect on Small Businesses:

(a) Estimate the number and type of small businesses subject to the rule(s);

ORS 183.336 requires agencies to use available information to estimate the number and type of small businesses likely to be subject to the proposed rules. A small business is defined as “ a corporation, partnership, sole proprietorship or other legal entity formed for the purpose of making a profit, which is independently owned and operated from all other businesses, and which has 50 or fewer employees.” Example of types of small businesses that may be impacted either positively or negatively by the proposed rules include well drillers, private water systems, small farms, ranches, nurseries, vineyards, recreational outfitters, recreational guides, commercial fishing, mining, consultants, and law firms.

OWRD cannot estimate how many of these and other water-dependent business entities may be affected, because the Department does not have information available to predict how many persons or entities would seek to apply for a new water right and would be successful under the current as compared with the proposed rules. The likelihood of approval under the current as compared with the proposed rules also will vary depending on the requested aquifer location and the quantity of the requested use. Furthermore, OWRD cannot predict the desired expansion of irrigated agriculture, manufacturing, commercial fishing, outdoor recreation, and other water-dependent businesses.

(b) Describe the expected reporting, recordkeeping and administrative activities and cost required to comply with the rule(s);

In response to the new rules, OWRD will update the water rights application to reflect that no new water rights will be issued if an affirmative finding of groundwater availability cannot be made. In some cases, applicants may be permitted to collect additional data and other information to support their applications, which may contribute to the overall cost of obtaining a new water right under the new rules. However, OWRD does not anticipate that the cost of ongoing reporting, recordkeeping, or administrative activities will increase because of the rulemaking.

(c) Estimate the cost of professional services, equipment supplies, labor and increased administration required to comply with the rule(s).

Currently, water rights applicants rely on consulting services. Under the new rules, applicants may increase their reliance on these services. However, OWRD does not anticipate that the cost of equipment supplies, labor or administration will increase because of the rulemaking.

DESCRIBE HOW SMALL BUSINESSES WERE INVOLVED IN THE DEVELOPMENT OF THESE RULE(S):

The Rules Advisory Committee included members representing small businesses most likely to be affected by this rulemaking, including farmers, ranchers, wineries, nurseries, irrigators, well drillers, and consultants.

WAS AN ADMINISTRATIVE RULE ADVISORY COMMITTEE CONSULTED? Yes