



Bend, Culver, La Pine, Madras, Maupin
Metolius, Prineville, Redmond, Sisters

Executive Summary

June 6, 2024

The nine cities that make up Central Oregon Cities Organization (COCO) have a combined population of over 150,000 and rely largely on groundwater to meet their water supply needs. COCO is disappointed that the Oregon Water Resources Department's (OWRD) proposed Groundwater Allocation rules do not address the obligations and requirements for municipal water providers as well as the unique hydrogeologic framework of the Upper Deschutes Basin. Below are a few highlights of COCO's concerns followed by detailed comments:

- **COCO has heard repeatedly that even though groundwater pumping is a small part of the puzzle in the Upper Deschutes, it's the only element of the water budget OWRD staff feel as though they control. COCO's question is: to what benefit and at what cost?** In the Upper Deschutes basin, a moratorium on the issuance of new groundwater permits and cessation of groundwater pumping will do little to help achieve the Commission's desired policy objective to "arrest or reverse groundwater level declines." And over the next 20 years, new canal piping projects, funded in part by OWRD, will eliminate more artificial recharge in the central part of the Upper Deschutes Basin than all the groundwater pumping in the Upper Deschutes Basin for all purposes combined. The Commission is poised to make the future water supply for Central Oregon's growing communities beholden to artificially elevated groundwater levels benefitting from a century of artificial recharge.
- **The proposed rules, as currently written, are ambiguous and do not provide certainty with respect to implementation.** For example, the proposed rules provide no framework for how OWRD will account for the impacts of human activities on groundwater levels and contain several terms and criteria that are not defined and without examples. The proposed rules do provide an off-ramp to develop basin-specific rules, however, the proposed rules offer a pathway burdened with vague and inappropriate criteria and no commitment to staffing and funding.
- **Despite COCO's requests, there remains no accounting of the cost of alternatives to obtaining new groundwater rights under the terms of the Deschutes Basin mitigation program.** And OWRD continues to erroneously identify, as the primary alternative to obtaining new groundwater rights, the acquisition of other existing groundwater rights for transfer, despite there being no pathway for the approval of a groundwater right transfer in the Upper Deschutes basin.
- **OWRD and the Commission have not adequately addressed the impact of the rules in the context of Oregon's statewide planning goals and acknowledged comprehensive plans.**

Introduction

Groundwater from the Upper Deschutes Basin is a major source of water supply for members of the Central Oregon Cities Organization (COCO), established in 1998. COCO member cities have a strong interest in this water source and take pride in being responsible stewards of the resource. The nine member cities have a combined population of over 150,000 people. COCO's purpose is to promote common interests of the cities in Central Oregon, including issues related to water. For over 25 years COCO has been an active participant in basin-wide collaboratives, including the Deschutes Water Alliance, the Basin Study Work Group, and the current Deschutes Basin Water Collaborative. Through this active collaboration COCO has demonstrated its commitment to finding basin-wide solutions and has spearheaded numerous successful legislative efforts to improve Deschutes Basin water management. It is with this foundation of experience and spirit of collaboration that COCO provides the following comments on the Oregon Water Resources Department's (OWRD) hearing draft rules issued March 1, 2024.

In April 2023, OWRD initiated a rulemaking with the objective of updating groundwater allocation rules to be more sustainable and protective of existing water users, both instream and out-of-stream. OWRD's proposed rules address two key considerations relating to groundwater resources in Oregon: interactions between groundwater and surface water, and groundwater level declines. With respect to the latter, OWRD staff expressed on numerous occasions that the Water Resources Commission identified domestic water supply wells going dry as a major concern and that their goal is to adopt rules that will "arrest or reverse" groundwater declines statewide.

COCO supports OWRD's efforts to manage and protect the groundwater resource in the Upper Deschutes Basin. COCO understands that losing the use of domestic water supply wells is devastating to those who depend on them for water. And COCO's member cities are all too familiar with the increased cost of drilling water supply wells. However, COCO is concerned that—**in the Deschutes Basin specifically—the Department's proposed rules will have little or no impact on groundwater levels, while putting at risk the ability of COCO's members to meet their obligations to plan for the water supply needs of the fastest growing region in the State.**

COCO has four major points of concern, including the unsuitability of the rules in the Deschutes Basin, uncertainty about how the rules will be implemented, the impact on the ability of cities to plan for their future water needs, and the restrictions the rules impose on a basin specific groundwater allocation rulemaking.

- 1) **The Deschutes Basin is unique. Unlike in other basins around the state, applying the proposed one-size-fits-all rules to the Upper Deschutes Basin will have little impact on groundwater levels.**

One of COCO's overarching criticisms of the proposed rules and associated rulemaking process is that OWRD has walked back its commitment to place-based planning. Rather than relying on numerous peer-reviewed studies and hydrologic models developed for the Upper Deschutes Basin, the proposed groundwater allocation rules are a one-size-fits-all, state-wide approach. The result will be a set of groundwater allocation rules that do not make sense for the Upper Deschutes Basin, and it will require multiple years of locally driven rulemaking to get it right.

Groundwater levels in wells near the Cascades, upgradient of irrigation canals, closely reflect variability in annual precipitation. In wells more distant from the Cascades, the response of groundwater levels to precipitation is attenuated. Recent groundwater level trends seen at these wells reflect a long-term precipitation deficit. In the center of the Deschutes Basin, where groundwater level declines are most significant, at least 75 percent (an overwhelming majority) of groundwater declines have been caused by an extended period of lower precipitation that began in the early 1990s. The Upper Deschutes Basin receives over 4,000 cubic feet per second (cfs) of annual recharge. Groundwater pumping is equivalent to approximately 2 percent of the annual groundwater recharge. Moreover, the Deschutes aquifer has a saturated thickness of approximately 1,000 feet within a single geologic formation. (Gannett et al., 2017). **This is fundamentally different from other basins in Oregon, where groundwater declines are occurring because pumping exceeds annual recharge.**

The abundance of available research on the Deschutes Aquifer is the result of an investment the state made over 20 years ago to engage in an in-depth study of the aquifer. While OWRD has come under criticism for failing to collect, analyze, and use groundwater data in its groundwater allocation decisions, the Upper Deschutes is a shining counterexample: the State worked with the USGS to develop a comprehensive model of the aquifer and developed a regulatory program to ensure that the effects of groundwater pumping on the basin's Scenic Waterways would be offset through a program to mitigate the impact of pumping on surface water for new permits.

Despite all that work, the Upper Deschutes Basin will now be subject to limits on the issuance of new groundwater permits which do not make sense for the Basin's massive, unconfined aquifer. The publications from OWRD's own studies illustrate the futility of regulating groundwater pumping as a tool for managing groundwater levels. Figure 16, from Gannett and Lite 2013, one of multiple follow-up studies to the work of USGS and OWRD, shows effects of increases in groundwater pumping from 1994 through 2008 on water levels at a well in the La Pine subbasin. The Commission should take note that Figure 16 shows that there was no discernable impact of increased groundwater pumping from 1994 through 2008 in this area. There hasn't been a significant increase in groundwater pumping since 2008, either. Had OWRD acted earlier to stop issuance of all new groundwater permits, disallowed new exempt water supply wells—and even curtailed all existing pumping—water levels would be the same as they are today.

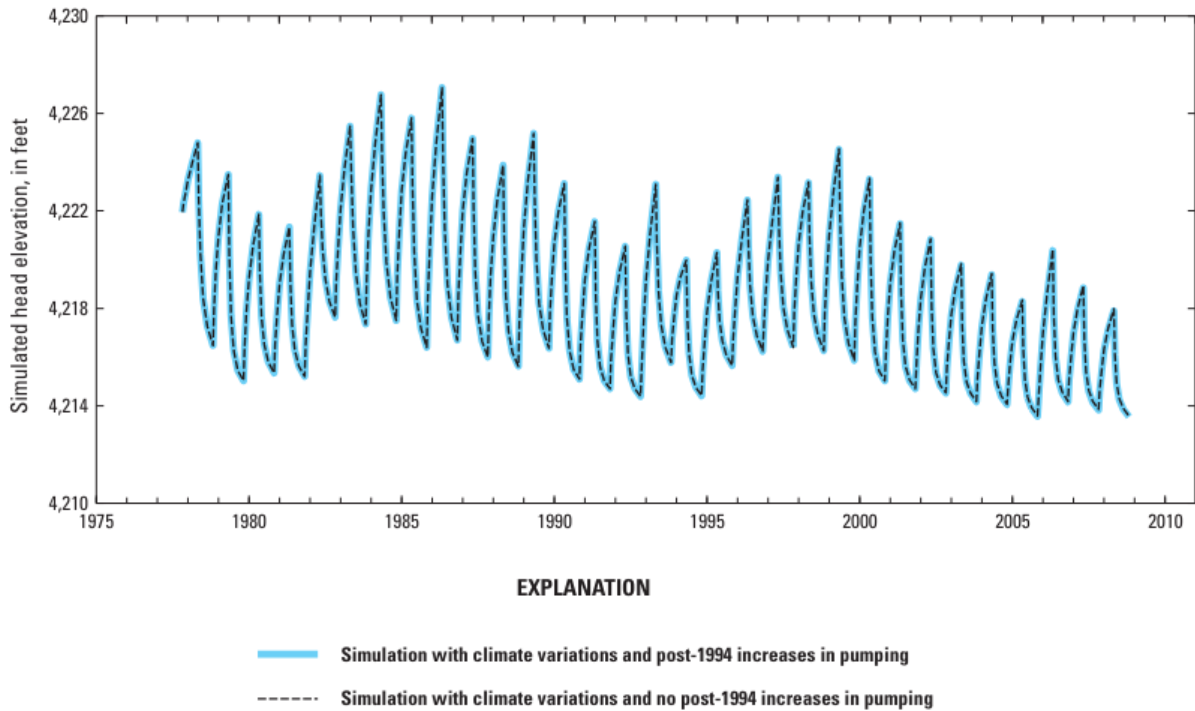


Figure 16. Simulated head elevations in observation well 21S/11E-19CCC, a 100-foot deep well in the La Pine subbasin, central Oregon. Lines showing simulated head elevations with and without post-1994 pumping increases are coincident on the graph, indicating very limited impact from post-1994 pumping increases. Effects of post-1994 canal lining are too small to show at the scale of this graph. Location of observation well is shown in [figure 4](#).

Likewise, Figure 24 shows the impacts of increased groundwater pumping from 1994 through 2008 on water levels in a well near Redmond. Again, there have not been significant increases in groundwater pumping since 2008, as COCO members have aggressively ramped up water conservation efforts. Moreover, there has been little increase in groundwater pumping for other uses either, as the scarcity and cost of mitigation credits under the Deschutes Basin Groundwater Mitigation program *already acts as a significant constraint on new groundwater appropriations*. As shown in the chart, had the Department acted to freeze groundwater pumping at 1994 levels water levels would only be a few feet higher than they are now.

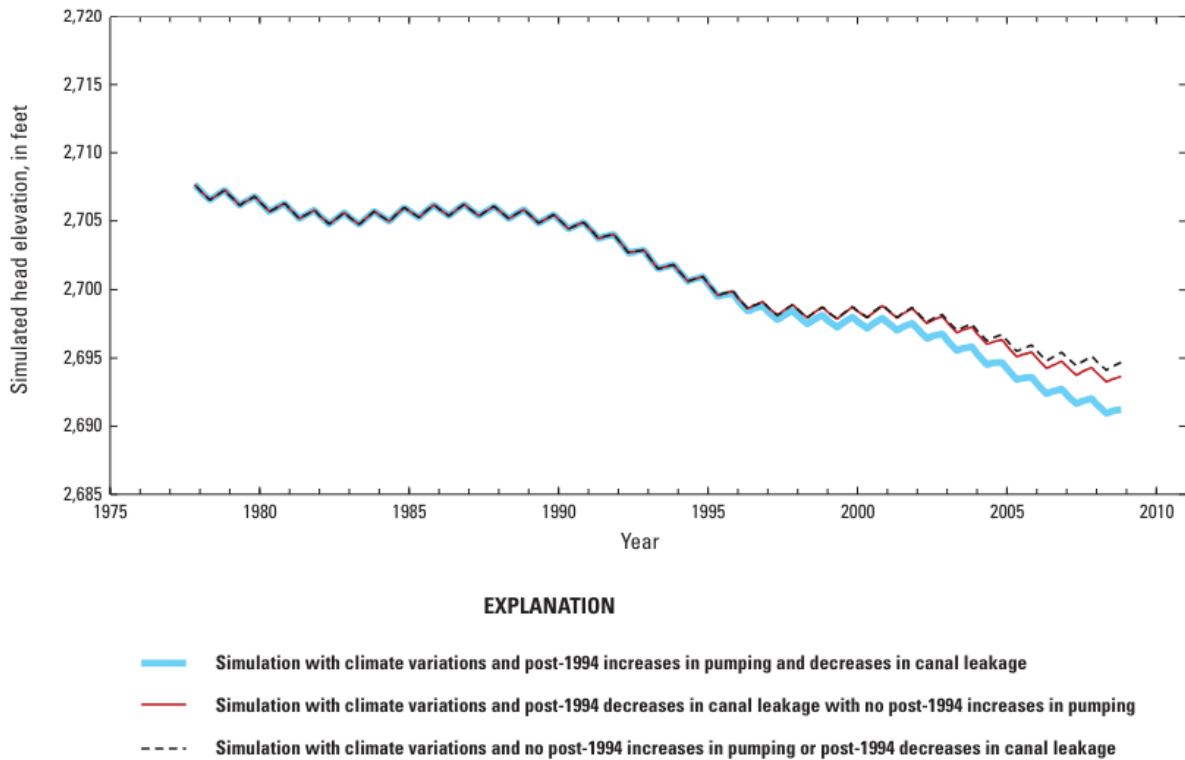
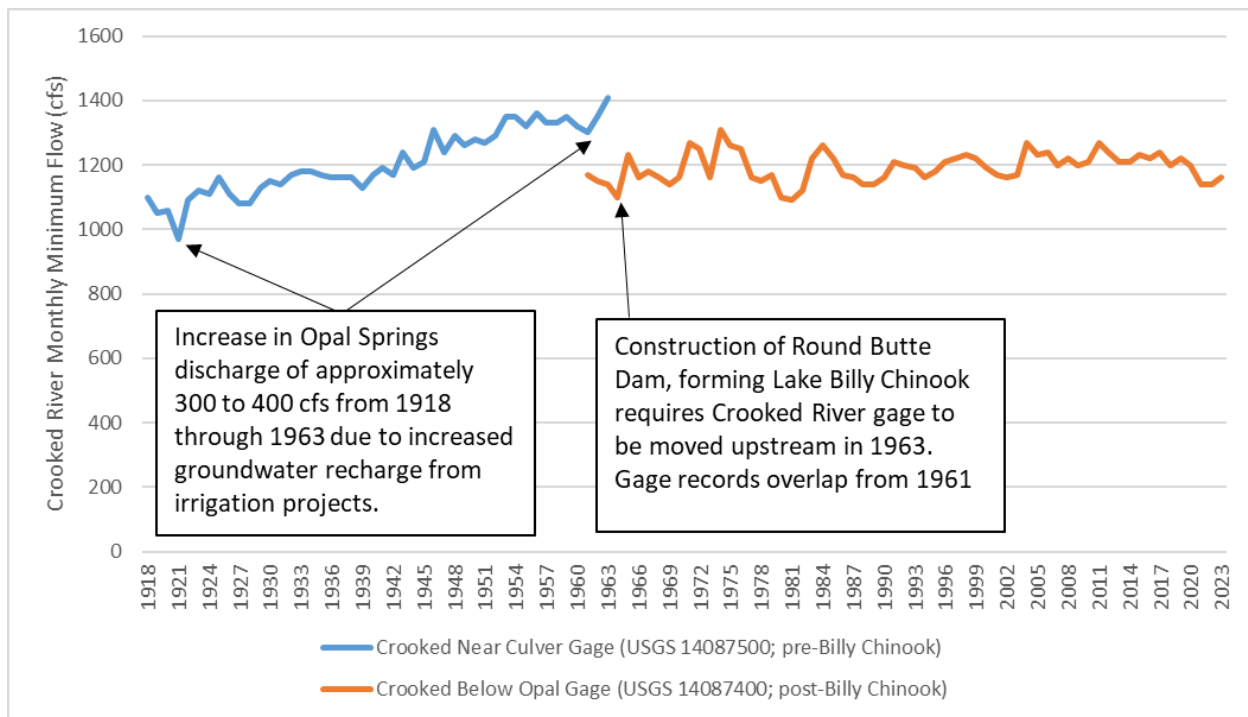


Figure 24. Simulated head elevations in well 15S/13E-18ADD1 near Redmond, Oregon.

In fact, groundwater levels remain much higher now than they were over a century ago. The figure below shows the discharge of the Crooked River above Lake Billy Chinook from 1918 through the present. This data documents the significant increase in spring discharges in the Lower Crooked River that have resulted from canal construction and associated leakage and on-farm losses. According to OWRD’s own study, total groundwater pumping in the entirety of the Upper Deschutes Basin averages 76 cfs per year. As shown in the figure, increased discharge just to the Crooked River between Osborne Canyon and Opal Springs increased by 4 to 5 times that amount from 1918 through 1963.



Since 2008, OWRD has funded the piping of many miles of irrigation canals up-gradient of the Redmond well in Figure 24. These projects, some of which have been completed and some of which are in progress, will eliminate over 50,000 acre-feet of recharge annually, equivalent to the total volume of all groundwater pumping in the Upper Deschutes basin—including exempt wells, permits that pre-date the mitigation program, and permits that require mitigation. COCO supports piping irrigation canals and using those improvements in efficiency to shore-up water supplies for instream use and junior water users, as COCO’s partners at the Deschutes Basin Board of Control are doing. Funding canal piping projects in Central Oregon is critical. But for OWRD to use entirely foreseeable declines in groundwater levels due to canal piping as the basis for limiting the ability of the fastest growing cities in the state to obtain new groundwater rights is unacceptable.

2) There is considerable uncertainty about how the proposed rules would be interpreted by OWRD staff.

Throughout the Rules Advisory Committee (RAC) process, COCO heard from OWRD staff that one of their goals was to provide clear, consistent, and quantitative criteria for establishing if water is available for new groundwater allocations. While COCO appreciates this goal, several of the proposed rule provisions are ambiguous and it is unclear how the rules will be applied in the Upper Deschutes Basin. For example, the proposed definition of “Reasonably Stable Groundwater Levels” (proposed 690-008-0001(9)) indicates that annual high-water levels are to be measured at “one or more representative wells in a groundwater reservoir or part thereof...”

COCO has received mixed messages from OWRD staff regarding how they plan to identify “representative wells” when calculating Annual High Water Levels. COCO has heard that OWRD intends to limit its analysis to “spatially relevant wells,” which seems to imply certain limitations on proximity. The significance of such limitations on proximity are unclear in the Upper Deschutes, where OWRD has, until recently, recognized that there is a single, large, hydraulically connected aquifer. That finding was the basis for the Deschutes Basin

Groundwater Mitigation Program. The potential for individual OWRD staff members to interpret the rules differently and introduce dramatic shifts in how water availability is analyzed creates an unacceptable level of uncertainty for COCO.

Similarly, the same definition indicates that, to measure total decline, the “reference level shall be the highest known water level unless Annual High Water Levels have been increased measurably by human activity, in which case the department may set a different reference level using best available information,” again without definition or example. COCO assumed, in previous comments, that the rule reference to “human activity” referred to cases exactly like those in the Upper Deschutes Basin, where OWRD is supporting efforts to eliminate long-standing sources of artificial recharge that have elevated groundwater levels and spring discharges. But during discussion with COCO, and at a recent Groundwater Advisory Committee (GWAC) meeting OWRD cited a desire for the rules to accommodate the influence of surface water reservoir management on adjacent wells, and that staff do not have any framework in mind for evaluating cases like those in the Upper Deschutes Basin.

Secretary of State auditors and the public have identified a lack of information about groundwater systems as a primary reason for the over-allocation of groundwater resources in other parts of the State. Policymakers and the public have argued in support of funding groundwater studies to provide sufficient information for OWRD staff to make scientifically sound decisions about how to allocate scarce groundwater resources. It is discouraging that, in a basin where we have already funded so much research and collaboratively developed regulatory programs in response to that information, there remains so much ambiguity in how that science is interpreted and how the proposed rules will be implemented.

Proposed rule revisions: The proposed rules should be revised to include examples and eliminate ambiguity in terms and concepts under the proposed definition of “Reasonably Stable Groundwater Levels,” (proposed 690-008-0001(9)) including “representative wells” and “increased measurably by human activity.” Definitions should recognize that “human activity” that increases or decreases water levels can also affect the *rate* of water level decline. These terms and concepts are uniquely relevant in the Upper Deschutes Basin. It is astonishing that after multiple years of effort, eight RAC meetings, and over ten months that we are without concrete examples of how the rules will be implemented, and that the impact of the proposed rules on COCO members remains unclear.

COCO requests that the proposed rules under 690-008-0001(9)(a)B specifically address how “human activity” will be considered in establishing Annual High Water Levels in order to address and acknowledge the long-term effects of artificial recharge and canal piping on water levels in the Upper Deschutes Basin. COCO’s access to groundwater supplies in the future should not be subject to maintaining artificially elevated water levels. The proposed rules currently put that burden on the applicant. The impacts of “human activity” should also be considered in the rate of decline considerations in 690-008-0001(9)(a)(A).

3) While doing little to influence groundwater levels, the proposed rules will impose significant costs for COCO members.

A. OWRD’s analysis of the costs to municipal water suppliers; and identification of water supply alternatives are not adequate.

The Cost of Compliance statement that accompanies the public notice of the proposed rulemaking describes but does not quantify the potential costs that municipalities will bear because of the proposed groundwater allocation rules. The cost of compliance statement identifies challenges like the “need to explore additional water conservation and efficiency measures and/or acquire existing water rights through the transfer process.” No attempt is made to quantify the ‘how’ and ‘why’ of these costs or to recognize the unique challenges in the Upper Deschutes Basin faced by COCO members. This demonstrates an unwillingness to fully consider municipal water issues in this rulemaking.

The success of water conservation efforts is typically measured in reductions in *per capita* demands on an *annual* basis. But COCO members’ operations are constrained by the *maximum instantaneous* rates of their water rights. Water conservation measures may help to realize small reductions in the maximum instantaneous rate of demand, but due to the nuances of the timing of customer water use and water system operations, water suppliers can’t rely on the implementation of specific water conservation measures to obviate the need for a new water right in all circumstances. In short, cities will not be able to conserve their way out of this situation.

Without the ability to pump at a higher rate, under a future permit, continuing to meet peak water demands and retain sufficient reservoir storage to meet fire flow needs will require a significant expansion of treated water storage infrastructure. Reservoirs are expensive to construct and maintain. One COCO city recently spent over \$20 million to construct a new treated water storage facility. Storage reservoirs also require significant amounts of land and need to be paired with booster pumps. In short, expansion of finished water storage is an expensive and inefficient way for cities to limit the maximum instantaneous rate of their demands. Importantly, this approach won’t result in any reduction in groundwater pumping demands. It will only shift the timing of those demands.

As an alternative, OWRD suggests that cities can acquire other existing groundwater rights for transfer to municipal use. But OWRD doesn’t identify how many other groundwater rights are available, who owns them, or what they are for. Nor has anyone identified whether any such rights are subject to transfer. Based on OWRD’s own study of the Deschutes Aquifer, OWRD’s hydrogeologists had previously approved transfers of groundwater rights over large distances. But OWRD’s recent technical findings now suggest that OWRD believes the Upper Deschutes Aquifer is not homogeneous, leaving a lack of clarity as to what water rights, if any, can actually be transferred to use by COCO cities. Even if there were such clarity, how much would these water rights cost to obtain?

OWRD’s suggestion that COCO members could transfer existing groundwater rights to municipal use also makes no mention of the fact that OWRD has completely ceased processing all groundwater transfers in the Upper Deschutes Basin at the request of the Confederated Tribes of the Warm Springs (CTWS) while CTWS and OWRD develop a process to review the impact of proposed transfers on CTWS’s treaty reserved water rights. In light of the concerns CTWS has raised, OWRD’s statement that COCO members can simply “acquire existing water rights through the transfer process rather than develop new rights to meet future demands” is not accurate and an oversimplification. COCO understands that CTWS’ concerns may lead to the creation of an intergovernmental panel to establish the criteria for evaluating injury to

CTWS' treaty reserved water rights. It has been suggested that this, in turn, may require additional study of the Upper Deschutes Aquifer. COCO supports CTWS efforts to ensure that OWRD evaluates the potential for injury to their water rights consistent with the language in their settlement agreement with the State. Nevertheless, COCO members will be wary to invest the time and resources to evaluate transfers of existing water rights to municipal use without a clear understanding of OWRD's hydrogeologic and legal framework for evaluating groundwater transfers in the Upper Deschutes Basin. The proposed rules appear to simply focus on how to say "no" without providing any clarity on potential, specific water supply alternatives such as transfers.

Specific requests: The Cost of Compliance statement provided with the public notice of the proposed rules (page 10 of 31) should be revised to: a) quantify the costs to water suppliers of re-engineering water systems to meet future demands without access to new water rights (e.g., expanding treated reservoir storage), and b) clearly state that OWRD does not currently have a process in place to approve the transfer of groundwater rights for other uses to municipal use in the Upper Deschutes Basin.

B. Increased housing density and associated reduction in irrigated area will not obviate the need for new water rights.

Over the past several years, the Legislature, Governor, and local officials have worked to remove artificial and costly barriers to expanding housing supply, including eliminating limitations on density, parking minimums, height restrictions, and even relaxing the constraints of Urban Growth Boundaries (UGBs) in specific cases. These policy changes are intended to help cities build *more housing units more quickly*. This is urgently needed, and COCO cities welcome the expansion of housing supplies. With such high demand for housing, COCO cities had already begun to experience a shift toward higher density residential unit construction.

During a Water Resources Commission meeting in November 2023, both an OWRD staff member from Central Oregon and the Department of Land Conservation and Development (DLCD) told the Commission that anticipated higher density, multi-family development patterns would reduce irrigated area in Central Oregon cities, in turn reducing municipal water demands and eliminating the need for new water rights. While COCO members appreciate the impact of increased density on *per capita* water demands, the OWRD and DLCD commenters misapplied this metric when they implied that reductions in per capita water use would significantly reduce cities' 20-year projected demands at buildout of their existing UGBs, the metric of interest when requesting a new water right.

A more appropriate unit for evaluating water demands at buildout of the existing UGB is *gallons per acre*. Charts in the attached **Appendix** show water use at several housing developments in Redmond on a per unit and per acre basis, respectively.

In short, if recent housing reforms are successful in encouraging both more rapid construction of new housing units and construction of a greater number of housing units within the existing UGB, that will likely have meaningful positive impacts on housing affordability, but it will result in COCO cities growing more rapidly than previously projected. Because water demands on a per-acre basis will increase, water demands at buildout of the existing UGB will likely be higher than forecast, all other things being equal.

This is exactly the pattern that has already begun to appear in Redmond’s population and water demand data. In its 2015 forecast Portland State University projected that Redmond’s population would grow to 39,812 by 2035, an average annual growth rate of 1.81 percent. Redmond expects to exceed that population within a year, having grown nearly three times as quickly as projected over the past decade, even as total water demands have grown at one-third the rate of the water service population. In the end, demands grew at about the same rate as projected, even as per-capita demands were reduced by nearly 20 percent.

Year	Total Annual Demand (MG)	Estimated Water Service Population	Gallons Per Capita Per Day (gpcd)
2014	2093.7	26770	214
2023	2439.1	38208	175
Annualized Growth Rate (%)	1.70%	5.08%	-2.90%

To reiterate: over the past several years, there has been much hard work to remove artificial and costly barriers to expanding housing supply, including eliminating limitations on density, parking minimums, height restrictions, and even relaxing the constraints of UGBs in specific cases. The Commission’s application of the proposed ‘one-size fits all’ groundwater allocation rules to the Upper Deschutes Basin—where they will have little impact on groundwater levels—stands in opposition to all those efforts.

Specific Requests: The Cost of Compliance statement that accompanies the public notice of the proposed rulemaking includes the following language: “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.” COCO requests that OWRD revisit this language in light of the more rigorous evaluation of the relationship between housing supply and water demand shown in the Appendix.

C. The proposed rules fail to consider the legal and state-policy requirements placed on cities.

Both the Water Resources Commission and the Department have an obligation as described in its 1990 State Agency Coordination Program and associated administrative rules in OAR Chapter 690, Division 5 to “comply with the statewide planning goals by taking actions which are compatible with acknowledged comprehensive plans....” (OAR 690-005-0030). This rulemaking has not addressed planning goals relevant to COCO members, including:

Goal 9, which requires cities to plan for adequate land and public services for economic growth and development opportunities over the next 20 years.

Goal 10, which requires cities to provide adequate housing and provide for the appropriate public facilities to support housing development.

Goal 11, which requires the cities to provide public services, including water service and plan for long range public service needs.

Goal 14, which requires cities to plan for increased urbanization.

COCO remains deeply disappointed that neither the OWRD staff nor the Commission have addressed in any meaningful manner these unique legal requirements on cities as the proposed rules were developed. At no point during the rulemaking process did the RAC or OWRD staff focus on these respective Goals and whether the new rules were in alignment with statewide planning goals

COCO members are already subject to myriad forms of OWRD oversight. We measure and report water use, static water levels in wells, and are required to develop and implement Water Management and Conservation Plans (WMCPs), which are approved by OWRD. The WMCP rules impose requirements that limit water loss, require specific kinds of fee structures, conservation messaging, and implementation of other kinds of conservation programs.

Specific Requests: The proposed rules should also acknowledge that cities will require access to additional water rights to meet the needs of growing populations and to comply with their own acknowledged comprehensive plans. COCO is not seeking a free pass; we are seeking rules that acknowledge the science of the Upper Deschutes Basin, as well as the economic, social (housing) policy objectives of the Legislature and the Governor. As stated previously, COCO members understand that meeting the legal and policy objectives placed on COCO cities through the allocation of additional groundwater will require careful consideration of place-based and relevant resource concerns, rigorous requirements for water conservation and management, and rigorous conditions for long-term monitoring. The Commission must direct staff to evaluate the proposed rules in light of the legal requirement to comply with statewide planning goals and each city's acknowledged comprehensive plan.

- 4) **While COCO recognizes that OWRD tried to provide an opportunity for basin-specific rulemaking to supersede the statewide rules, this element of the proposed rules is not adequate.**

After multiple comments by COCO, OWRD staff included a provision allowing for the Commission to adopt a basin-specific definition of “Reasonably Stable Groundwater Levels” through a basin program rule. Initially, this basin specific opportunity included various caveats as to maximum allowable groundwater decline and rates of decline. After considering RAC input from COCO and others that these caveats and sidebars would hamper, not enhance, a locally-drive place-based planning approach (especially in the Deschutes Basin, given the hydrogeologic framework and the need for basin stakeholders to have the flexibility to develop place-based solutions in the context of all the basin water planning efforts already underway), OWRD staff provided draft rules at RAC meeting #7 and the final RAC meeting #8 without the previous stipulations.

Unfortunately, without any additional discussion or process OWRD staff inserted into the public hearing draft rules language making specific stipulations about future basin-program

rulemakings. This language, which was never discussed with the RAC, requires that basin program rules “must consider...the anticipated impacts” of the new definition on:

- A) The number of wells that may go dry; and
- B) The character and function of springs and groundwater dependent ecosystem; and
- C) The long term, efficient and sustainable use of groundwater for multiple beneficial purposes.

COCO members have numerous questions about these required elements. What do B) and C) mean? What kind of analysis will be required? Does the information even exist? How would a place-based planning group use this “guidance” in developing rules? In the Deschutes Basin are these questions not already part of the discussion on how to improve the Deschutes Basin Groundwater Mitigation Program?

Moreover, with respect to criteria A), requiring consideration of “the number of wells that may go dry” would require an Upper Deschutes Basin specific rulemaking process to engage in a misleading analysis of local conditions.

The Department’s intent in referencing “the number of wells that may go dry” will perpetuate disinformation about how the proposed rules will affect water levels in the Upper Deschutes Basin. The language of Criteria A is a reference to the Department’s February 10, 2024, memo, “Susceptibility of Oregon wells to being dried by water level declines.” Table 1 of the memo identifies thousands of wells that “would be dried” by declines of various thresholds, including some 8,000 wells in Deschutes County that “would be dried” by declines of 50 feet. **The discussion states that “[the] analysis helps to illuminate the cost of increasing the allowable total decline in the proposed definition of Reasonably Stable Groundwater Levels.”**

The reality is that in the Upper Deschutes Basin the Commission’s adoption of updated groundwater allocation rules will have little or no influence on the number of wells that would go dry. The analysis in the memo does not consider at all whether pumping of groundwater, or regulation thereof, would or even could have any influence on groundwater levels. Indeed, of the 8,000 wells the Department identifies that “would be dried by a decline of 50 feet,” in Deschutes County it appears that the overwhelming majority are located in the La Pine Subbasin in Townships 20 to 22 South, Range 9 to 11 East. There are 6600 wells in this area that were completed less than 50 feet into the saturated section of the aquifer. Yet OWRD’s own research shows that pumping is such a small part of the water budget in this area that it has no influence on water levels (again, see figure 16 from Gannett and Lite 2013, above)

This illustrates one of the key missteps in the analysis described in the Department’s memo: an extensive history of the aquifer provides little reason for a well driller to penetrate the aquifer by more than 50 feet. By counting all wells that *don’t* penetrate the aquifer by 50 feet or more as “susceptible to declines of 50 feet,” the analysis also so labels any well deliberately constructed to reasonable depths within *aquifers reasonably assumed not to be susceptible to declines of 50 feet*. As a result, this methodology inevitably vastly overstates the real potential for wells to go dry as a result of increasing the total decline threshold in the proposed definition of Reasonably Stable Groundwater Levels.

Given the lack of applicability to criteria (A) in the upper Deschutes Basin and the ambiguity of criteria (B), these last-minute rule additions—which were inserted without adequate

stakeholder vetting in the RAC process—are a significant rulemaking process misstep that needs to be addressed. More importantly, for OWRD to require such elements in a basin program rulemaking unnecessarily binds future Commissions and presupposes that the Department’s own place-based planning process would otherwise be deficient at identifying and navigating stakeholder concerns. COCO continues to believe that such sideboards for a place-based groundwater allocation rulemaking are not needed; however, if the Commission desires “guidance” for a future locally based rulemaking option under proposed 690-008-0001(9)(d), COCO requests that the Commission adopt the following considerations in lieu of what is currently proposed:

- (A) High public interest in potable water supply;
- (B) Whether other OWRD requirements already cap or otherwise limit groundwater allocations;
- (C) The existence of a mitigation program that offsets impacts of groundwater pumping on surface water;
- (D) The influence of human activities on groundwater levels;
- (E) Groundwater pumping as a share of the total water budget.

Specific Requests: The proposed rules impose unnecessary and unclear requirements on the basin program rulemaking process, requiring consideration of the anticipated impacts of the new definition on “the number of wells that may go dry” and character and function of springs and groundwater dependent ecosystems. This proposed rule language was added at the last minute without sufficient process and vetting, and needlessly binds future Commissions and placed-based planning efforts. These stipulations should be removed from any rules adopted by the Commission. However, if these sidebars remain, COCO requests that the Commission replace the currently proposed considerations with those suggested by COCO to better reflect the reality of an Upper Deschutes Basin place-based planning process. Specifically, COCO requests the following changes to OAR 690-008-0001(9)(d) as follows:

The limits in part (a) of this definition may be superseded by limits defined in a basin program rule adopted pursuant to the Commission's authority in ORS 536.300 and 536.310. Any proposed superseding basin program definition must consider, at a minimum: ~~the anticipated impacts of the new definition on:~~

- (A) High public interest in potable water supply;**
- (B) Whether other OWRD requirements already cap or otherwise limit groundwater allocations;**
- (C) The existence of a mitigation program that offsets impacts of groundwater pumping on surface water;**
- (D) The influence of human activities on groundwater levels;**
- (E) Groundwater pumping as a share of the total water budget**

Summary

Groundwater from the Upper Deschutes Basin is a major source of water supply for COCO member cities. We have a strong interest in this water source and take pride in being responsible stewards of the resource. We support OWRD’s efforts to manage and protect the groundwater resource in the Upper Deschutes Basin. But it is disappointing that after multiple years of input to OWRD the proposed rules reflect little consideration of COCO’s concerns and suggestions. The fastest growing region in the state is left with no real alternatives for water

supply and can only pursue a vague framework for locally based groundwater allocation rulemaking that is without staffing, funding, and any timeline for initiation or completion.

Sincerely,

Ed Fitch
Chair, Central Oregon Cities Organization

A handwritten signature in black ink, consisting of a large, stylized loop on the left and a long, horizontal stroke extending to the right.

Cc: COCO Members

**Appendix: Additional Discussion Regarding Relationship between Density,
Water Demand, and Population Growth**

The graphics below shows a few important trends:

- 1) Figure 1 shows that new housing developments subject to a recent development code modification that allow no more than 25 percent of irrigable area to be covered in turf reduce per unit (Prairie Crossing, Redtail Ridge, in part) reduced water use by 30 to 50 percent compared to similar developments that are approximately 20 years old (NW Rim Area).
- 2) Figure 1 shows that multi-family developments are even more efficient on a per-unit basis. Note that this analysis includes all common areas associated with each development, including irrigated areas around multi-family units, to ensure an apples-apples comparison of land use types.

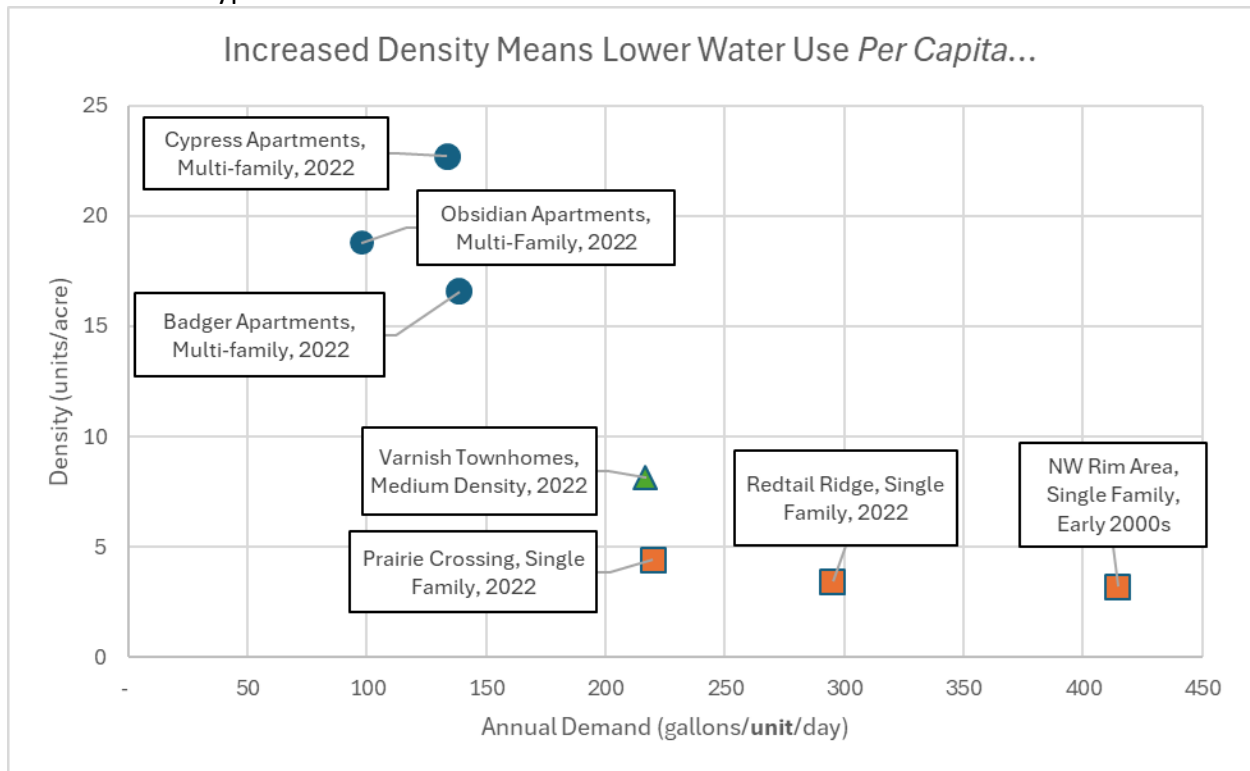


Figure 1: Housing density and water demand per unit in Redmond housing developments.

- 3) Figure 2 shows that water use is higher on a *per-acre* basis in dense developments.
- 4) Figure 3 shows the actual and projected rates of population growth in Redmond over the past decade. Central Oregon is a wonderful place to live. There is significant pent-up demand for new housing. Note that this chart is not intended to criticize the Portland State population forecasts, but it's important to recognize that they have consistently under-projected Redmond's population growth. It appears that, instead of just shifting forecast population growth from less dense to more dense housing types, adding more dense housing types accelerates population growth beyond initial projections. This reflects exactly the increase in housing supply that policies encouraging construction of denser housing types envisioned.

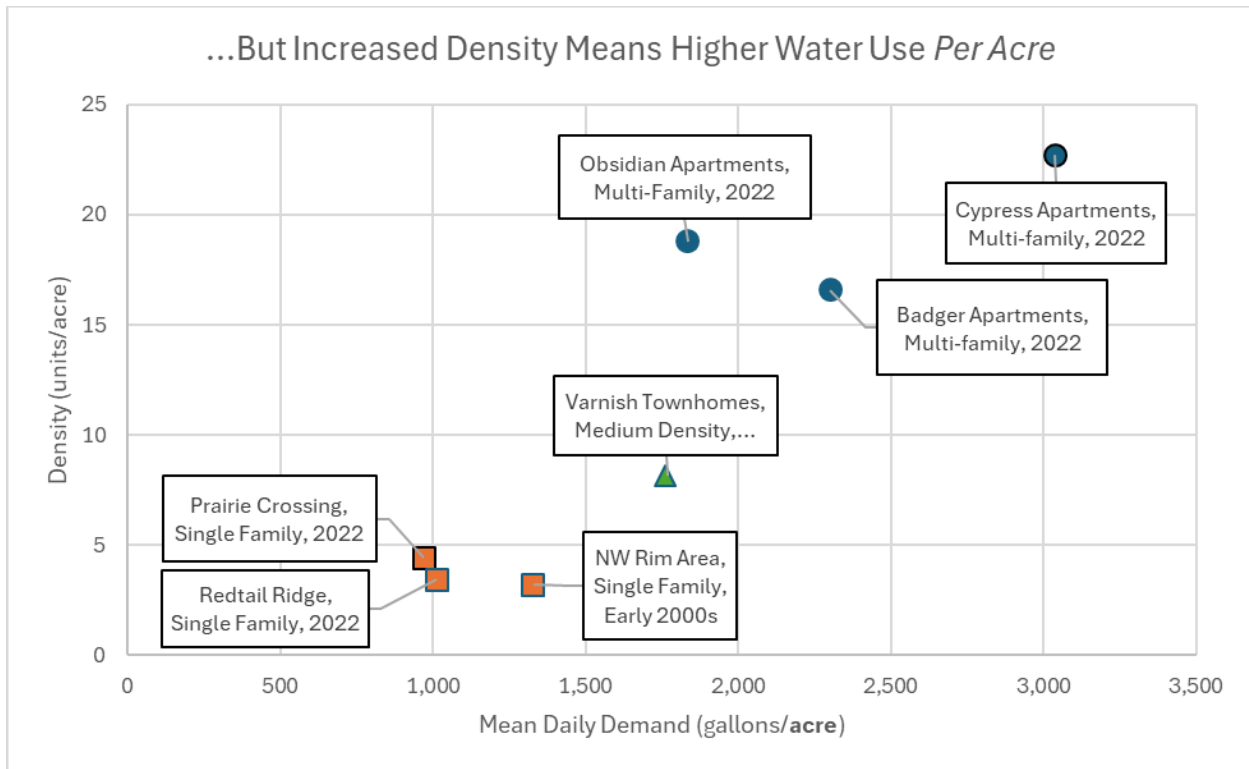


Figure 2: Housing density and water demand per acre in Redmond housing developments.

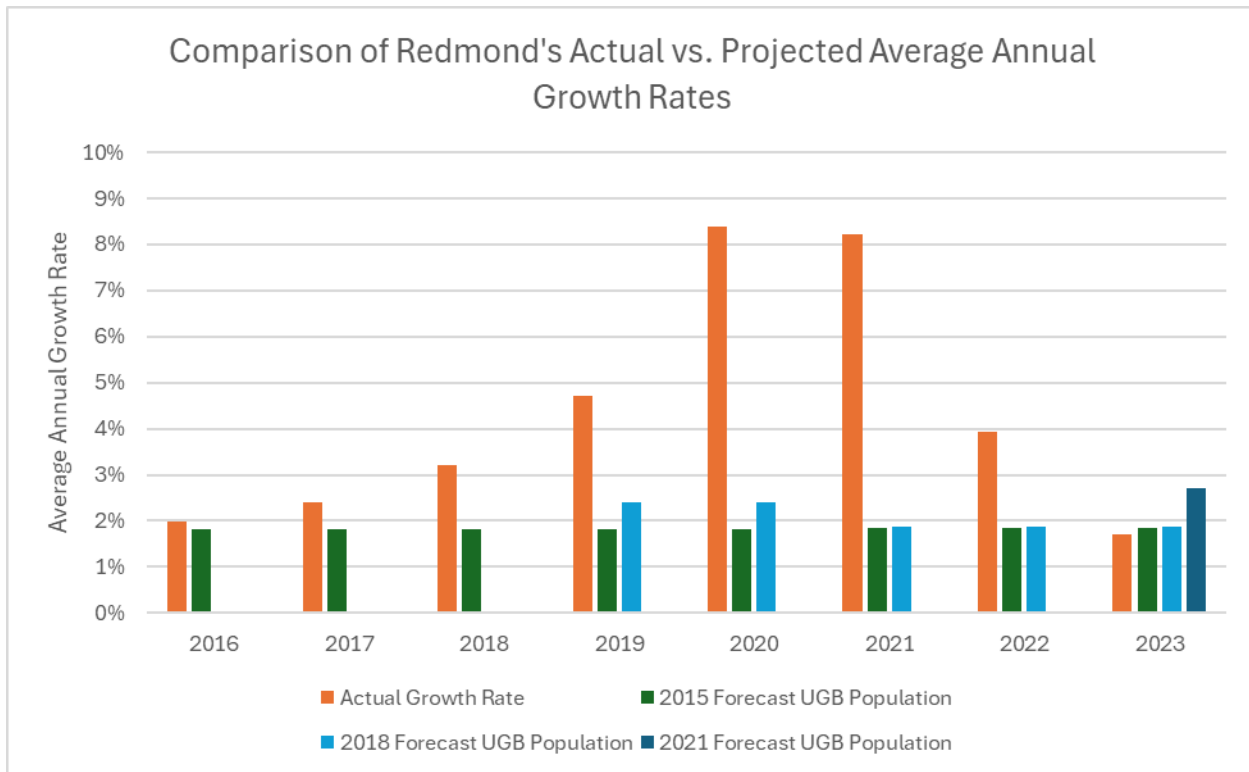


Figure 3: Forecast and actual rates of population growth in Redmond, 2016 – 2023.

5) Figure 4 illustrates the relationship of water demand and population growth to total and per-capita water demands. While water use is becoming more efficient *per capita*, owing in part to increases in density, total water demands have continued to grow at about the same rate the population had been forecast to grow a decade ago.

Year	Total Annual Demand (MG)	Estimated Water Service Population	Gallons Per Capita Per Day (gpcd)
2014	2093.7	26770	214
2023	2439.1	38208	175
Annualized Growth Rate (%)	1.70%	5.08%	-2.90%

Figure 4: Growth of Redmond’s water service population, annual water demand, and per-capita water demand, 2014 through 2023.