

Potential for Voluntary Agreements: Situation Assessment for the Silver Creek Subarea

Background

Between January and June 2025 a situation assessment was performed to understand the potential for voluntary agreements in the Silver Creek Subarea. As a part of this situation assessment, 9 groundwater users in the Silver Creek Subarea were interviewed to gather observations on groundwater conditions in their subarea, better understand their irrigation operations and opportunities for voluntarily reducing water use, elicit their feedback on the draft rules, and to assess their interest in forming a voluntary agreement. Information was also gathered from meetings of the Rulemaking Advisory Committee, public hearings, and available written materials. Three initial meetings have been held with groundwater users in this area and a first draft of a voluntary agreement has been drafted for the Upper Silver Creek part of the Silver Creek Subarea. There is also interest in forming a second and separate voluntary agreement for the Harney Lake part of the Silver Creek Subarea. A draft of the voluntary agreement for the Upper Silver Creek is expected in September 2025 with a desire to bring it before the Water Resources Commission in December. A summary of the key takeaways is included here. Identifying information about the interviewees has been removed. All information collected from interviewees is kept confidential. The groundwater users have requested that no drafts of voluntary agreements be shared without their unanimous consent.

Interest in Forming a Voluntary Agreement

- Nearly all groundwater users interviewed in the Upper Silver Creek area are strongly interested in entering into a voluntary agreement. One groundwater user is interested, but wants to take their time to learn more before engaging deeply. Two groundwater users in this area have yet to be contacted. An initial draft of a voluntary agreement has been drafted.
- The two groundwater users interviewed in the Harney Lake are strongly interested in entering into a voluntary agreement and have volunteered to help reach out to and organize their neighbors. Additional outreach is needed to determine if a majority of groundwater users in this area are interested in entering into a voluntary agreement.

Groundwater Conditions in the Upper Silver Creek Subarea

- Groundwater users would like to delineate the Upper Silver Creek Area as a distinct groundwater management area for purposes of forming a voluntary agreement. This area follows the boundaries proposed by the Department in the 15 subareas map and extends south to just north of Moon Reservoir.
- There are approximately 7 distinct groundwater operations in the Upper Silver Creek.
- The Upper Silver Creek Area is recharged by precipitation in the uplands and recharge from Silver Creek. This area is distinct from the Silvies River and Donner Und Blitzen River areas. There is variability in the subsurface, with many different theories and questions about the directional flow of groundwater, the saturated thickness and yield of the various aquifers, recharge potential of Dry Mountain, recharge potential of the floodplains, the hydraulic connection with other parts of the basin, the role of faults in the flow of water, and many

other things. The groundwater in this area is believed to be fairly modern, with interest in confirming the date of water from various wells.

- Much of the groundwater use within this area happens within or on the margins of the floodplain of the Silver Creek.
- Groundwater users interviewed are not concerned about groundwater level declines in this area and believe groundwater levels to be quite stable. Groundwater level declines have been minimal and are not uniform across the Upper Silver Creek Subarea. Some wells have increased during their period of record. Some wells have risen above reference levels set by the Department. Some wells chosen by the Department to be representative appear to be anomalous and are not considered representative by groundwater users interviewed. There are questions about the Department's selection process and concern that it might be biased towards inclusion of concerning data with the purposes of reinforcing certain narratives about this part of the basin.
- There is a desire to better understand hydraulic connection between the Silver Creek area and the Weaver Springs area. Prior to the deep drawdowns in Weaver Springs area, which changed the hydraulic gradient and started drawing water towards it from surrounding areas, groundwater users wonder how much water from the Upper Silver Creek area was actually recharging Weaver Springs. They believe that much of the water in Weaver Springs was ancient or pre-modern water with minimal ongoing recharge from the Silver Creek area until pumping occurred.
- Groundwater users are not aware of any domestic well users in the immediate area who have observed concerning declines, had to deepen their well due to declines, or expressed concern. There is an interest in ensuring adequate and safe supplies for human and livestock consumption and an assertion that current groundwater conditions and use meet this standard.
- There is a desire to engage with groundwater scientists to better understand aquifer properties in the Upper Silver Creek area, especially where claims made by scientists do not corroborate local knowledge. This presents an opportunity for partnership to better understand the groundwater system, but groundwater users sense a hesitance from the Department to actively engage them on their outstanding questions or uncertainties. They feel that their contributions and questions have largely been ignored or that Department staff spend an inordinate amount of time defending the science or defending their decisions rather than engaging groundwater users to develop a shared understanding. The groundwater users do not trust Department scientists to present the data and science in a neutral way and have a desire to engage with other scientists at the USGS or with universities.
- According to groundwater users the connection between groundwater pumping and downstream springs has not been well established. There have been repeated requests for more information or conversations with the Department to better understand available data and assumptions made in the model, but to-date these conversations have not occurred despite repeated requests.
- There are questions and uncertainty about the hydraulic connection between the pumping in the Upper Silver Creek area and springs in the Warm Springs Valley. The water discharged at Warm Springs Valley is warm and has also been shown to be "ancient" or pre-modern

water. There are questions about the travel times associated with these flow paths and whether there may be much deeper flow paths or flows coming from outside the basin boundaries that have not been accounted for.

- Groundwater users question whether their pumping is responsible for changes in spring discharge at Double O springs. There is interest in and concern for springs, but without clear evidence definitively linking irrigation in the Upper Silver Creek area to these downstream changes, there is concern expressed by groundwater users in this area that they are being wrongly targeted. There is a belief that the flow at Double O springs is more greatly affected by the change in groundwater flow and hydraulic gradient caused by significant cones of depression in the Weaver Springs area and potential pumping in the Dog Mountain area or other factors (geologic pathways for flow, faults, hydrologic alteration, climatic events from hundreds or thousands of years ago, upland management (e.g., juniper encroachment), drought, etc. If actions are taken, groundwater users want to make sure it will actually result in the desired outcome. Measurements of spring discharge have not been consistent over time and there may be many factors affecting spring discharge that groundwater users would like to further examine.
- Conversations between some groundwater users, the Wildlife Refuge, and The Nature Conservancy have resulted in more questions and a desire to learn more about how the different parts of the basin are connected with the purpose of developing shared strategies that can benefit all groundwater uses. There are questions about the relative priority dates of downstream springs and whether upstream users can by law be regulated in favor of downstream uses without a water right or with a junior priority date.
- There are not any undeveloped water rights that could be developed according to groundwater users who were interviewed. There may be some groundwater rights with lapsed extensions that are no longer able to develop. There are questions about outstanding water rights in this area.

Groundwater Conditions in the Harney Lake Area

- Fewer groundwater users were interviewed in the Harney Lake Area. More interviews are planned. There are an estimated 6 groundwater users in this area.
- Generally speaking, comments mirror those of the groundwater users in the Upper Silver Creek area, but there is an assertion by groundwater users in both areas that the groundwater conditions are different between the Upper Silver Creek and Harney Lake areas and it makes sense to treat them as separate areas.
- Much of the irrigation in the northern parts of this area occurs through flood irrigation from Moon reservoir with some pivots using groundwater for irrigation. There appears to be more variability in the quality and quantity of water depending on where you are at in this area, with lots of questions about that variability.
- Groundwater users believe that groundwater in this area is generally stable, with some pockets of water that did not appear to have a sustainable yield.
- There are questions about the hydraulic connection between this area and the Weaver Springs area as well as the hydraulic connection with downstream springs in the Warm Springs valley and Double O springs. Groundwater users recognize the importance of the

springs to the Wildlife Refute. There is a lot of interest in making sure that flows to springs are understood and maintained.

- Groundwater users are not aware of any domestic well users in the immediate area who have observed concerning declines, had to deepen their well due to declines, or expressed concern. There is an interest in ensuring adequate and safe supplies for human and livestock consumption and an assertion that current groundwater conditions and use meet this standard, with the exception that there are some parts of the area where natural water quality is not always suitable for drinking.

Agricultural Operations and Opportunities for Voluntary Water Reductions

- Groundwater use varies from groundwater user to groundwater user depending on their soil, where they are located, interannual variability in weather, microclimate, irrigation technology, level of experience, capacity, crops, proximity to surface water, and many other factors. Some groundwater users report being able to grow their crops with an average of 2.1 acre feet while some need closer to 2.7 acre feet. Everyone agreed that it is helpful to have the full allocation of 3 acre feet to account to allow for flexibility in water management depending on the conditions and needs from year to year.
- Groundwater users interviewed all have pivots and make investments in their irrigation infrastructure, including updated spray packages, as they have the financial means to invest.
- Some groundwater users grow crops and have livestock, some just grow crops. Some groundwater users primarily use what they grow for their own livestock and would have to purchase feed if they were not producing it. Much of what is produced stays within the local, state, and regional economy and is important source of high-quality feed for local ranching communities.
- Everyone interviewed is deeply rooted in the community and has a desire to include their children and grandchildren in their operations and to have the younger generations inherit their operations. They are concerned that this may no longer be possible with the proposed regulations.
- Groundwater users noted that their operations not only provide for them and their families, but also contribute to their identity and sense of belonging in their community. They feel a strong sense of duty to contribute to regional, national, and international food security. They are proud of the contributions they make to the local community and economy. Working on their farms is how they spend all of their time and they are deeply dedicated to the agricultural way of life. It is more than a way to make a living, it is their full-time job, their hobby, their social life, their home, and their family life. Most of them have not considered other lines of work and do not have an interest or desire in pursuing opportunities outside of their current operations as it provides a sense of fulfillment and purpose and they are good at what they do.
- Groundwater users offered up the following actions for reducing water use:
 - Temporary fallowing
 - Crop rotations / delayed planting
 - Alternate crops
 - Irrigation technology / sprinkler packages

[REDACTED]

Requests for Information

Groundwater users requested the following information to aid in their development and implementation of a voluntary agreement:

- What are the four wells that would need to be deepened according to the Department’s model? Can the Department provide specific information about wells that have had to deepen or might need to deepen in this Subarea?
- What is the estimated water use/pumpage and wetted acres in the Upper Silver Creek area for each year between 2020-2024 and on average between these years? What is the

estimated water use/pumpage and wetted acres in the Harney Lake area for each year between 2020-2024 and on average between these years?

- What data (quality and quantity) can the Department share about the Double O springs and springs in the Warm Springs Valley? What are the water rights associated with these springs?
- What data, parameters, and assumptions are included in the model regarding groundwater levels, aquifer characteristics, and spring discharge, specifically as it relates to the linkage between pumping in the Silver Creek Subarea and the springs in the Warm Springs Valley? There is a desire to meet and discuss with the USGS.
- What information can the Department provide about the role of faults on groundwater flow? What are the remaining uncertainties about groundwater flow?
- For observation wells that the Department is not actively monitoring and that are locked, is it possible for groundwater users to access those so we can take measurements?
- What data will the Department use to analyze groundwater level trends? How does the Department make a determination that a well is “representative”? What if we have additional data that tells a different story? What if we believe that some of the wells that have been chosen as representative are not actually representative?
- What is the Department’s definition of public welfare, health, and safety? What does it take into consideration when determining if an action enhances public welfare, health, and safety?

Process Overview

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| October-December 2024 | Review OWRD guidance; collect contact information and begin outreach; research voluntary agreements and develop templates; develop materials to support development of voluntary agreements; review and summarize relevant information from RAC meetings; gauge landowner interest in voluntary agreements; identify 2-3 subareas for development of voluntary agreements. |
| January-June 2025 | Conduct outreach and organize groundwater users, conduct a situation assessment for the Silver Creek Subarea, including one-on-one interviews with groundwater users; host scoping meetings to begin drafting of voluntary agreements; develop initial draft of voluntary agreements. |
| June-September 2025 | Review, revise, and refine voluntary agreements; continue outreach to groundwater users; connect groundwater users with resources to continue drafting a voluntary agreement; present intent to file a voluntary agreement to the Water Resources Commission at their September meeting. |
| September-December 2025 | Initiate coordination with the Water Resources Department to review the voluntary agreement and proactively work through any issues; prepare for presentation to the Water Resources Commission at their December meeting. |

December 2025-Onward Assuming adoption at the December Commission meeting, support ongoing implementation and coordination of the Voluntary Agreement.