4.1 Critical Water Issues

The following critical water issues were identified based on the needs for water in the Upper Deschutes Basin, as defined in Chapter 3 of this Plan. The potential solutions identified in Sections 4.2 through 4.5 seek to address one or more of these critical water issues.

Instream/Environmental:

- In the Upper Deschutes River, seasonal impoundment and release of water from Wickiup Reservoir for irrigation supply results in unnaturally low flows in the winter and unnaturally high flows in the summer, which contributes to scouring and instream habitat loss for fish and wildlife including redband trout and the threatened Oregon spotted frog.
- In the Middle Deschutes River, seasonal irrigation diversions at Bend result in unnaturally low downstream flows in the summer.
- **[NEEDS DISCUSSION]** Should this Plan include Tumalo Creek issues and outcomes?

Irrigation:

- Irrigation districts with junior priority dates lack a reliable supply of water during the summer, particularly in dry years.

Municipal:

- Municipal water providers need to meet long-term projected water demands of a rapidly growing population.
- Agreement is needed on what types of flow restoration projects can generate mitigation credits through the Deschutes Groundwater Mitigation Program to help municipal water providers meet these long-term demands.
- The Deschutes Groundwater Mitigation Program has a cumulative total cap of 200 cubic feet per second to enable issuance of final orders on approved groundwater permit applications and it sunsets on January 2, 2029.
- Significant groundwater declines in some areas may prevent the issuance of new groundwater rights under new OWRD groundwater allocation rules even with available mitigation credits.

Groundwater:

- Groundwater levels have declined over the past few decades, reducing spring discharge that supports groundwater dependent ecosystems as well as Deschutes River flows, and potentially impacting water availability for well water users.
- Additional data is needed to better understand the impact of groundwater level declines on interconnected surface water, groundwater dependent ecosystems, and well users and to inform future water management decisions to protect aquifer conditions.

Exempt Wells/Land Use:

- Additional data is needed to better understand the magnitude of exempt well water use, and the spatial extent of its impacts, to help inform management decisions that could be made to reduce their impact on groundwater levels and on other wells.
- **[NEEDS DISCUSSION]** Should we include Option 1 or Option 2?

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- **Option #1:** Since OWRD groundwater allocation rules may make it more difficult for cities to access new groundwater supplies, there is concern among some stakeholders that this may result in increased development occurring outside of established urban growth boundaries with water supplied by unregulated exempt wells.
- **Option #2:** Currently there are roughly 24,000 (number from 2023 OWRD estimate provided in Chapter 3) exempt wells within the Deschutes Basin Groundwater Study Area.

Water Quality:

- Temperature is a surface water quality parameter of concern for fish and wildlife needs in many stream reaches throughout the Upper Deschutes Basin. Some reaches are listed for dissolved oxygen and pH in addition to temperature.
- Septic wastewater systems are contributing to nitrate contamination in shallow groundwater in some parts of the basin.

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