Portland Water Bureau

2025 Seasonal Water Supply– Retrospective
Prepared: March 30, 2026, Portland Water Bureau

Summary
The 2025 Seasonal Supply year provided challenges in successful management of the drinking water system to meet the needs of all customers.

- 2025 saw a **below average winter snowpack.** There was an early start of snow accumulation in the watershed, but January saw below average snow accumulation bringing the snow pack to below average levels; spring melt out occurred earlier than average.
- Overall precipitation was below average for 2025, the spring in particular saw a warm-dry period in April and May; overall conditions resulted in an **early start to drawdown on May 27**, lasting until October 10 when fall rains started refilling the reservoirs.
- May through September 2025 had below average precipitation, **resulting in below average streamflows**. As a result, both Critical Spring and Critical Fall streamflows were implemented.
- The early start to drawdown and near record low streamflows lead to a 3.6 BG **groundwater augmentation run** to supplement the Bull Run supply from July 22 to October 22.
- Heavy fall rains resulted **in elevated turbidity in the Bull Run reservoirs** and a switch to 100% groundwater from December 19-26.

Weather
The accumulation of substantial snowpack during the snow season of 2024-25 started in late November. From that time through the rest of the snow season, snow accumulation was less than average. Peak snow accumulation occurred in late March, when Blazed Alder (elevation 3650') and North Fork (elevation 3060') reached 90 and 69% of median snow water equivalent (SWE; the depth of liquid water if the snowpack were completely melted) values. Snowmelt was completed in early May, approximately three weeks earlier than average. Figure 1 shows snow water equivalent at the three snow monitoring sites in the watershed.

Precipitation during 2025 was, overall, slightly below average at Headworks. Total rainfall for the calendar year was 74 inches at Headworks, approximately 94% of annual average rainfall from 1899-2024. Wetter than average months of February and March transitioned to a much drier than average April. May precipitation rebounded to average levels. Precipitation over the June through September period was overall below average, although August precipitation was slightly above average. Substantial rains returned in October. Figure 2 shows monthly precipitation at Headworks for 2025.

Demand
Historic winter base demand (November – March) peaked between 1979 and 1991 at an average of approximately 100 million gallons per day (MGD). Since then, winter base demand has declined, with demand over the past 5 years approximately 22% lower at an average of about 78 MGD. In 2025, annual average demand was 91 MGD, lower than the previous 5-year average of 92 MGD. Figure 3 shows demand from 2025 and the preceding five-year average. These demand numbers reflect the total

amount of water supplied to Portland retail and wholesale customers and are not equivalent to the total amount of water that is metered and billed.

Bull Run Supply
Consistent drawdown of the Bull Run Reservoirs began on May 27, which is significantly earlier than the historical average onset of drawdown in early July. The reservoirs reached their minimum storage on October 10, when 3.3 (34%) of 9.8 billion gallons (BG) of usable storage remained in the reservoirs. The reservoirs completed filling on November 6. Figure 4 shows the 2025 drawdown of the Bull Run Reservoirs.

Groundwater Use
Each year, the Portland Water Bureau (PWB) plans to operate the Columbia South Shore Well Field either as a maintenance operation to exercise equipment and identify repair needs or for supply augmentation. In 2025, the early start of reservoir drawdown and continued dry weather resulted in the maintenance operation being replaced by a groundwater augmentation run from July 22 to October 22, 2025. A total of 3.6 BG of groundwater were blended with Bull Run surface water to augment system supply. Groundwater was also operated due to elevated turbidity in the Bull Run from December 19 to 26, 2025, during which time groundwater was the sole source of supply. Total groundwater capacity was below system demands due to the unavailability of several production wells. As a result, wholesaler offloads from Rockwood and Gresham of approximately 6 MGD were utilized along with groundwater to meet system demands. The 8-day turbidity run produced a total of 0.49 BG of groundwater to replace the Bull Run supply until turbidity levels decreased.

At the start of 2025, Production Wells (PW) 6 and 37 were unavailable due to maintenance issues experienced during the 2024 supply augmentation run. During the 2025 augmentation run, PW13 and PW1 failed and were taken out of service. During the turbidity run in December, PW36 experienced a failure and was also taken out of service.

Groundwater Use Model
The Groundwater Use Model was run in the spring of 2025 before drawdown began. The model does not incorporate weather forecasts and is therefore run only once each year. Subsequent application of the Groundwater Use Model involves comparison of the actual course of drawdown to the groundwater pumping curves generated by the model. Figure 5 shows the groundwater pumping curves that were developed, along with the actual reservoir volumes that were observed during the drawdown season. During drawdown, if the actual storage volume in the Bull Run Reservoirs drops below a groundwater pumping curve, then the pumping rate corresponding to that curve is recommended to augment supply.

Instream Flows and Fish Habitat Management
PWB managed water releases downstream of Bull Run Reservoir 2 to meet minimum flow requirements and water temperature targets for the lower Bull Run River, which are required by the Bull Run Water Supply Habitat Conservation Plan (HCP).

Per requirements as defined in the HCP, lower Bull Run flows stayed at or above 120 cubic feet per second (cfs) January through May. Because reservoir drawdown started in May, downstream releases were reduced according to the critical spring flow commitments of Measure F-2 of the HCP beginning June 4. From July through September, summer flow minimum requirements of 20 cfs were observed. Summer flow releases were actively managed each day to meet the water temperature goal of keeping the 7-day average daily maximum water temperatures measured at Larson's Bridge, below the

temperature target, which moves according to temperatures observed at the Little Sandy River. August and September cumulative tributary inflows to Bull Run reservoirs were below the tenth percentile of historic flows, which allowed for implementation of reduced flow releases in October and November. Critical fall flows per Measure F-2 of the HCP were implemented October 1-21, after which normal flows according to Measure F-1 were released. Minimum downstream flows were a percentage of tributary inflows for all of October and November. In December, minimum flows returned to 120 cfs.

PWB met the HCP downstream water temperature targets for 2025 with the exception of a 14-day period October 21 through November 3. This was due to the exhaustion of cold bottom water in Reservoir 2 and resultant loss of thermal stratification. Figure 6 shows the temperature of the Lower Bull Run River. During the temperature management season, PWB presented the 2025 water temperature information to the Oregon Department of Environmental Quality, the National Marine Fisheries Service, and the Oregon Department of Fish and Wildlife.

Cold-water Transfer

In 2025, PWB completed a cold-water transfer to move the bottom-most cold water from Reservoir 1 downstream into Reservoir 2, where it was available for release to town or downstream. The transfer started on August 4 and continued through September 17, releasing a total of 3.2 BG of bottom water from Reservoir 1 via the Dam 1 fixed cone valves (using the 895' elevation gates) into Reservoir 2. The temperature effect of these releases was most apparent in the upper and middle elevations of Reservoir 2.

Water Efficiency and Conservation

Water Efficiency programs and services continue to be one component of Portland's approach to meeting customer water use demands. Programs available in the 2025 supply season included:

- Distributed water saving devices and information through community events, partner workshops, and customer requests.
- Provided rebates to replace inefficient toilets with WaterSense labeled toilets for residential, commercial, and multi-family customers.
- Provided rebates to replace an irrigation controller with a WaterSense weather-based model in addition to rebates for retrofit of inefficient sprinkler nozzles.
- Provided rebates to commercial customers to replace water-cooled equipment and to support other water efficiency projects.
- Published a Customer Newsletter with water conservation information that was included in all bills that were sent out in the summer.
- Income-qualified customers received critical leak repairs through the Water Leak Repair Program. PWB partners with the African American Alliance for Homeownership (AAAH),Community Energy Project (CEP) and Multnomah County to coordinate repairs. In 2025, new funding from the Portland Clean Energy Community Benefits Fund (PCEF) expanded the program to more than double the number of customers served. Eligible customers received repairs or replacement of service-lines, toilets, faucets, in-home pipes, outdoor spigots, and inefficient clothes washers.
- Data logging and on-site water use assessments for commercial and large multi-family customers.

- Community engagement and outreach through workshops and participation in community events including Community Services Network Resource Fairs, Jade Night Market, Sunday Parkways, and collaboration with the ReBuilding Center on DIY plumbing workshops.
- The PWB is a member of the Regional Water Providers Consortium (RWPC), and an active participant in the Conservation subcommittee. The bureau achieves public education and communication goals through the RWPC's regional conservation programming. Below is a summary of key offerings completed in Summer 2025:

    - The 2025 multimedia campaign included a diverse media mix of broadcast television and radio; cable television; digital content on streaming services, websites, newsletters, how-to videos, and social media; ads placed on TriMet buses; and story placement in five regional publications. The Consortium ran ads that focused on water conservation and emergency preparedness tips in English and Spanish on television, radio, cable, and several digital platforms. All multimedia campaign elements can be viewed and listened to on the Consortium Newsroom webpage. Provided the Weekly Watering Number (WWN) on www.regionalh2o.org and via a weekly listserv, and text message from April-September. The WWN is the amount of water in inches to apply to lawns and gardens based on local weather conditions and evapotranspiration.

Conclusions

Despite challenges during the 2025 supply season, PWB was able to meet all in-town and in-stream demands using its baseline resources—Bull Run Reservoirs, streamflow, conservation, and groundwater – and contingency wholesaler offloads. Several key points from the supply planning season include:

Groundwater

As captured above, groundwater was instrumental in meeting system demands in 2025 with a supply augmentation run of 93 days and a supply replacement run due to elevated turbidity of 8 days, contributing a total of 4.1 BG of groundwater to supply. Issues at PW1, PW6, PW13, PW36 and PW37 kept these wells out of service.

Demand

Demands were near average for most of 2025, with a short period of increased demand in early May and June. Cooler temperatures saw lower demands in late July and August. 2025 saw a peak day demand of 128 MGD, the lowest peak day demand in over 50 years.

In summary, the bi-weekly meetings of the Supply Planning Group were integral to the successful management of supply operations. The group balances multiple objectives to ensure a reliable high-quality water supply for all users while effectively managing costs.

Figure 1. Snow water equivalent (SWE) at snow telemetry (SNOTEL) monitoring sites in Bull Run during Water Year (WY) 2025

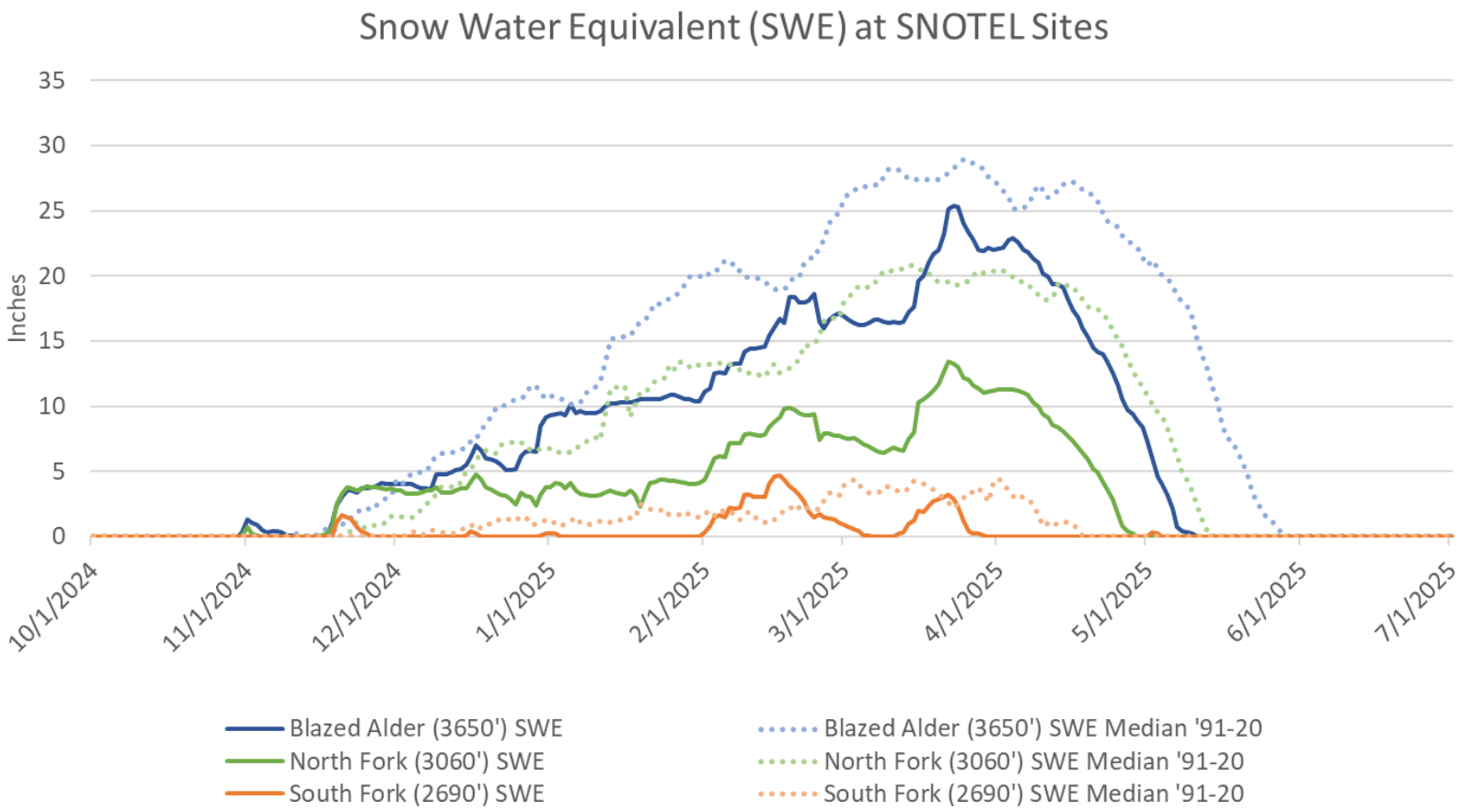

Figure 2. Monthly precipitation totals in inches at Headworks in 2025 compared to long-term medians

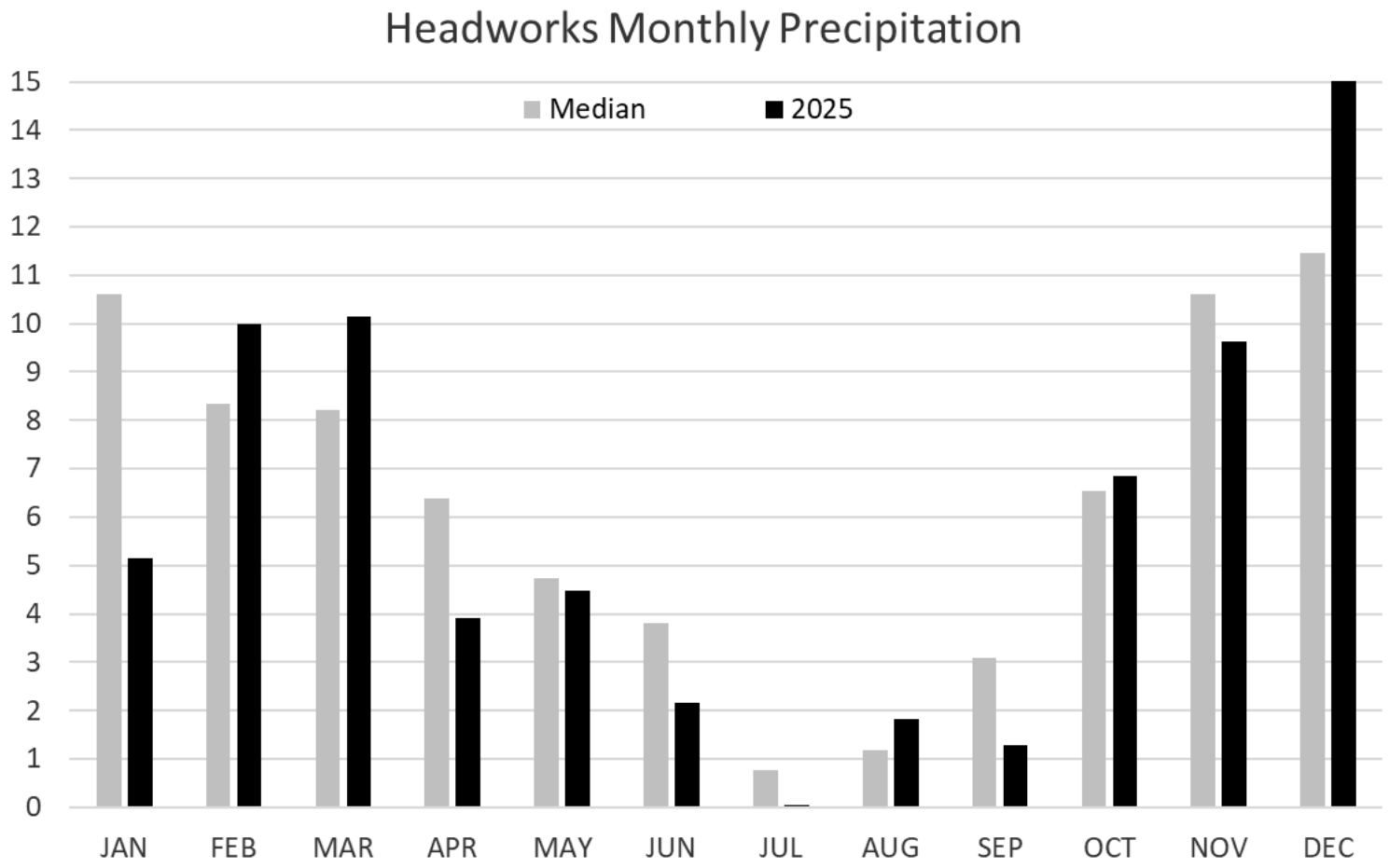

Figure 3. Production demand in 2025 compared to the previous five years average

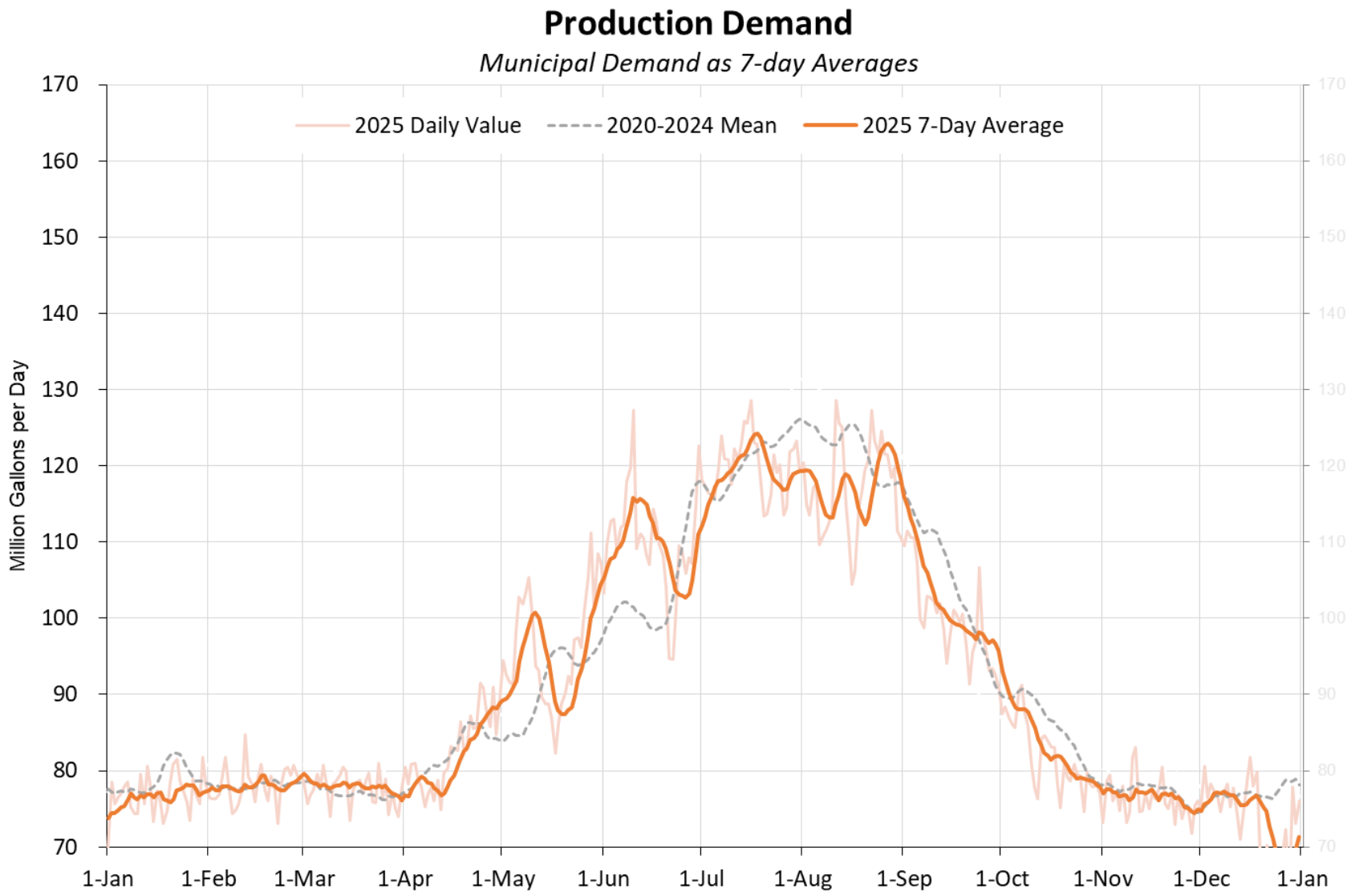

Figure 4. Bull Run Reservoir total usable storage in 2025, showing drawdown and refill

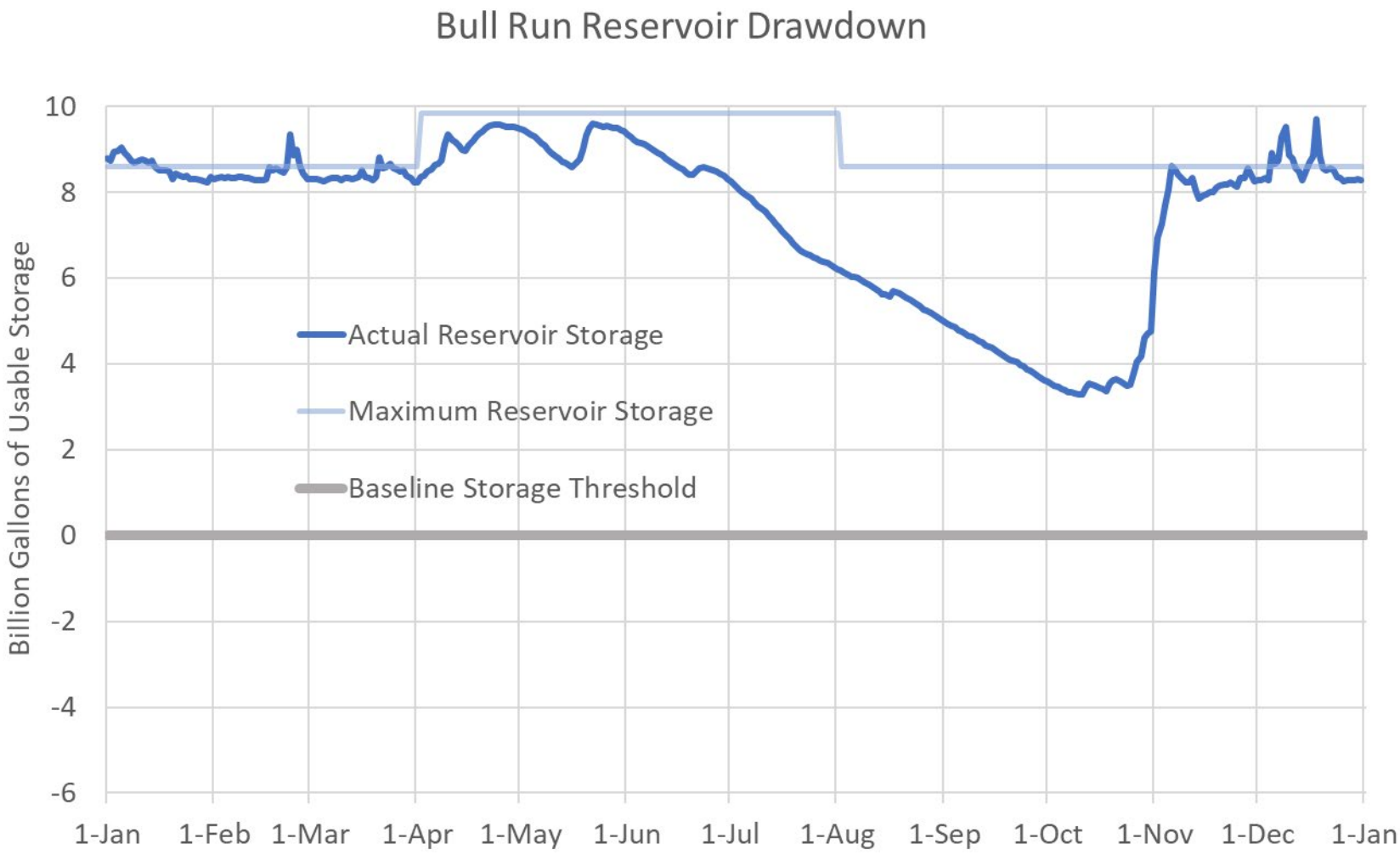

Figure 5. Bull Run Reservoir total usable storage, storage without the use of groundwater, and groundwater decision curves for 2025

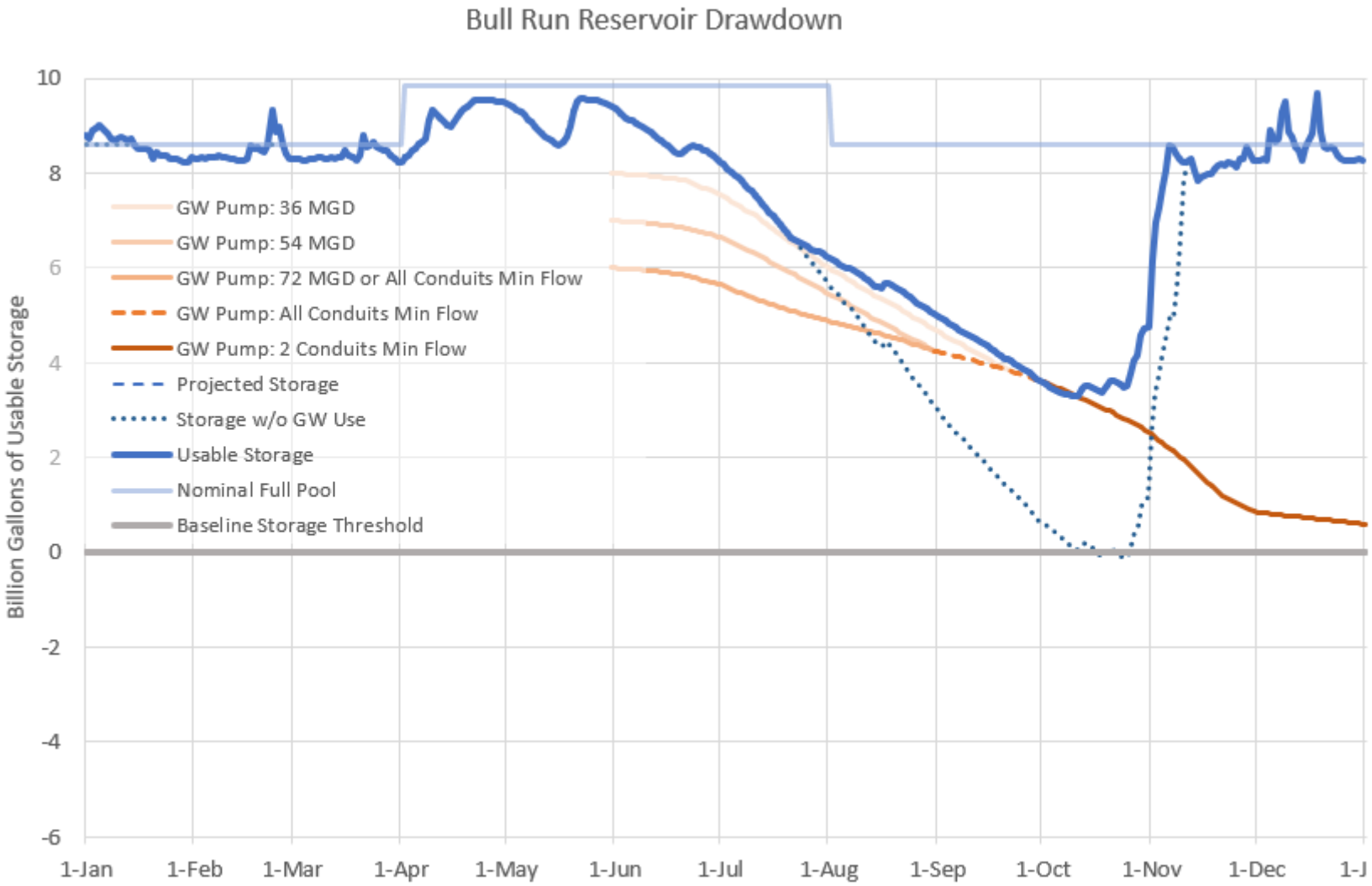
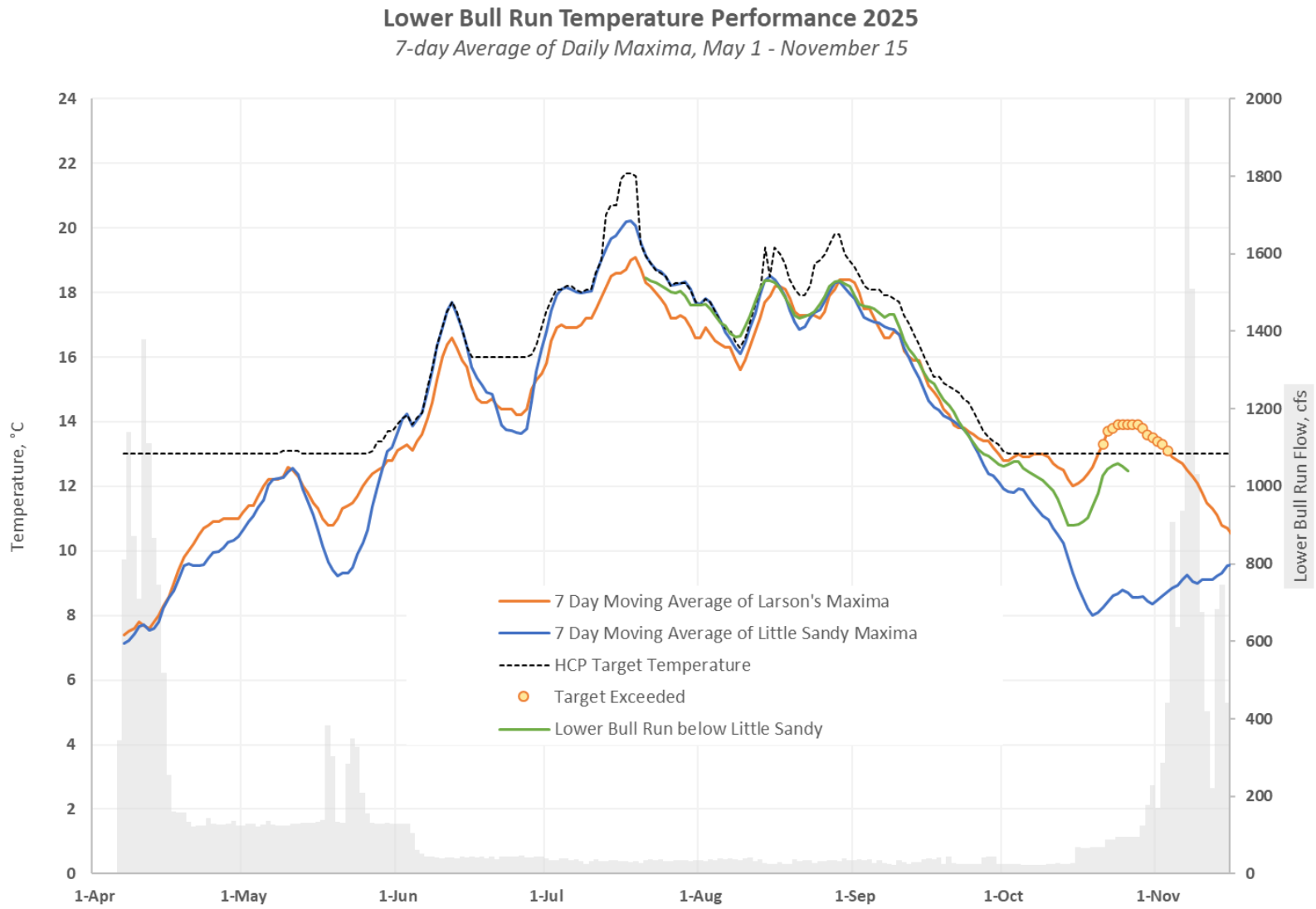
Figure 6. Water temperature of the Lower Bull Run River, May-November 2025