



Santa Clara Valley Water District

File No.: 20-0562

Agenda Date: 8/11/2020

Item No.: 5.1.

BOARD AGENDA MEMORANDUM

SUBJECT:

Update on 2020 Water Supply Conditions and Initial 2021 Outlook Scenarios.

RECOMMENDATION:

Receive, review, and discuss information on water supply conditions.

SUMMARY:

On January 31, 2017, the Santa Clara Valley Water District (Valley Water) Board of Directors (Board) adopted a resolution to continue the call for a 20 percent reduction in water use and to limit the irrigation of ornamental landscapes with potable water to no more than three days per week. The resolution is in effect until further notice. This memorandum provides an update on water use reduction, 2020 water supply conditions, and initial 2021 outlook scenarios.

Water Use Reduction

During the most recent drought, the community and local water retailers did an excellent job in reducing water use, as shown in Table 1 below. Normally water use reductions achieved during a drought would dissipate over time once the drought is over. However, locally we are not seeing this. 2019 data indicates that water retailers in Santa Clara County achieved a 21 percent reduction in water use compared to 2013. Preliminary 2020 data through May indicates that water retailers achieved a 17 percent reduction in water use compared to 2013. If the remaining monthly reductions in 2020 reach 22 percent, the year-end cumulative reductions will meet the current 20 percent end of year target.

Table 1. Annual Retailer Water Savings

Calendar Year	2014 ¹	2015	2016	2017	2018	2019
Annual Retailer Water Savings (compared to 2013)	13%	27%	28%	21%	20%	21%

¹ Retailer reporting to Valley Water began February 2014.

Valley Water is currently in the process of updating its long-term demand projections to account for this persistent water savings. The updated projection will be presented to the Board in the fall as part

of the Water Supply Master Plan Monitoring and Assessment Plan (MAP) item.

2020/21 Winter Outlook

As of May 2020, El Niño conditions remain neutral, signifying that neither El Niño nor La Niña is currently prevailing. As of June 2020, the National Oceanic and Atmospheric Administration (NOAA) predicts equal chances of above average, average, or below average precipitation for northern California for winter 2020-21. Therefore, it is still too early to predict whether water year 2020-21 will be wet, median, or dry.

2020 Water Supply Conditions

Despite dry conditions in 2020, the local water supply outlook is good due to healthy groundwater storage, adequate imported water supplies, and out-of-county groundwater storage.

- Groundwater conditions in the Santa Clara and Llagas Subbasins are very healthy. In particular, the Santa Clara Plain, which is the northern part of the Santa Clara Subbasin that covers North County, has been practically full since 2018. Heading into 2020, countywide groundwater storage was about 357,000 acre-feet (AF), which is well within the Stage 1 (Normal) of Valley Water's Water Shortage Contingency Plan (anything above 300,000 AF is considered Stage 1). Groundwater storage for the end of 2020 is estimated to be 350,000 AF, indicating continued healthy storage reserves.
- January to June 2020 managed groundwater recharge in the Santa Clara Plain, Coyote Valley, and Llagas Subbasin were 87 percent, 81 percent, and 103 percent of the five-year averages, respectively. Staff continues to closely track groundwater conditions through regular groundwater level measurements and subsidence monitoring, which indicate local groundwater subbasins are in good shape.
- According to the June 23, 2020 U.S. Drought Monitor for California, Santa Clara county drought severity ranges from "Abnormally Dry" to "Moderate Drought", depending on the location within the county.
- As of July 1, 2020, local reservoirs storage is at 63 percent of the 20-year average for this time of year and 55 percent of restricted storage capacity. Storage in key northern California reservoirs, Oroville and Shasta, is 75% and 86% of average for this time of year, respectively. Local (San Jose) rainfall for the 2020 water year, starting October 2019, is 8.82 inches or 62 percent of average to date.
- The current 2020 State Water Project (SWP) allocation is 20 percent, which provides 20,000 acre-feet of SWP supply to Valley Water. The 2020 South-of-Delta Central Valley Project (CVP) allocations are currently 20 percent for agriculture and 70 percent for M&I, which

provides 97,620 acre-feet to Valley Water.

- Local and imported supplies are less constrained than in the historical drought. Due to the improved water supply conditions, Valley Water continues with reduced recharge operations in North County, in collaboration with regulatory agencies, because the two groundwater subbasins in the county are in very good condition.
- As of May 31, 2020, current storage in Semitropic is 347,760 AF, or 99 percent of capacity. Valley Water's maximum capacity is 350,000 AF, and its five-year average storage quantity is 253,818 AF.

In summary, the water supply conditions of Valley Water are still in good shape despite a dry winter 2020. These conditions are favorable with respect to the pending drawdown of Anderson Reservoir, which was ordered by the Federal Energy Regulatory Commission (FERC) to start on October 1, 2020.

2021 Water Supply Outlook Scenarios

Although it is still early, staff has developed initial water supply planning scenarios for 2021, including conditions that may unfold if 2021 is a dry year. As part of Valley Water's annual operations planning, staff further refines scenarios and operational plans as additional information becomes available (most importantly, following the release of imported water allocations in the spring).

Each year, Valley Water raw water operators plan for and schedule a quantity of surface water carryover (for use in the following calendar year) in San Luis Reservoir. This is based on projected demands, recharge operations, imported water allocations, imported water transfers and exchanges, Semitropic Bank withdrawal, and utilization of local supplies in the current year.

2020-to-2021 Carryover Targets and Semitropic Bank Withdrawals

On February 20, 2020, FERC issued an order (FERC Order) to start the drawdown of Anderson Reservoir no later than October 1, 2020. The FERC Order will result in limited access to local surface supplies and little if any emergency supplies next year. Given that current year dry conditions would deepen any impact of a dry 2021, imported transfer water may be expensive and difficult to acquire next year if dry conditions continue. Therefore, a Semitropic withdrawal of 15,000 AF is planned for calendar year 2020 in order to augment the amount of imported water Valley Water will store in San Luis Reservoir at the end of 2020 for use in calendar year 2021. This will provide additional surface supplies to help meet treatment plant demands in the event 2021 is dry. Depending on the level of demand, water quality conditions in Anderson Reservoir, and allowable Coyote Reservoir storage levels, actual carryover amounts may range from 40,000 to 60,000 AF for 2020 going into 2021.

With this level of carryover and the projected supplies and demands (including a Semitropic take of 31,500 AF in 2021), the end of year 2021 local groundwater storage will likely remain in Stage 1 (Normal) of Valley Water's Water Shortage Contingency Plan, even if 2021 is a dry year.

A wet 2020-2021 winter and spring could result in the loss of all or a portion of Valley Water's

carryover if San Luis Reservoir fills and spills. "Spill" means that, after San Luis Reservoir fills completely, any water volume stored by Valley Water that is above its allocated share of storage space in the reservoir may be lost. However, carrying over water in San Luis Reservoir provides an insurance policy to reduce the risk of shortage should dry conditions persist for the next several years. The negative impact of a water shortage in the absence of emergency supplies will likely outweigh the cost of water spilled in a wet year, when water is plentiful and when a loss of water would not have material impact on water supply operations.

Next Steps

Staff is planning to bring to the Board the following:

- In Fall 2020: a Water Supply Master Plan update according to the monitoring and assessment plan (MAP), and updated demand forecasts; and
- In Spring 2021: an updated assessment of water supply conditions.

FINANCIAL IMPACT:

All costs associated with the operations described in this memo are included in the Board approved FY 2019-20 and FY 2020-21 budgets.

CEQA:

The recommended action does not constitute a project under CEQA because it does not have a potential for resulting in direct or reasonably foreseeable indirect change in the physical environment.

ATTACHMENTS:

Attachment 1: PowerPoint

Attachment 2: July 2020 Water Tracker

UNCLASSIFIED MANAGER:

Aaron Baker, 408-630-2135