



INFORMATION REPORT

DATE: April 23, 2019

TO: City Council

DEPARTMENT: Water

SUBJECT: 2019 Annual Water Supply and Demand Assessment

APPROVED:

DATE:

Every year during the winter season, the Water Department monitors local rainfall, runoff, and reservoir storage levels and prepares a series of written statements that describe current water conditions and discuss the water supply outlook for the year ahead. Towards the end of the wet season, an analysis is conducted to forecast water supplies, compare supplies with expected demands, and estimate the amount of storage in Loch Lomond Reservoir at the end of the dry season. The reason for performing this exercise is to determine whether any restrictions on water use are needed to help preserve reservoir storage, as they were in 2018 and every year between 2012 through 2015 in response to historic drought conditions.

This year, the water supply outlook is optimal. Rainfall was abundant. The San Lorenzo River and local streams are flowing strong. Loch Lomond Reservoir is full and still spilling. Cumulative runoff from the San Lorenzo River registers 160 percent of average, making Water Year 2019 technically classified as Wet.

Across California, hydrologic conditions have improved dramatically from one year ago. Except for a small portion of southern California, virtually the entire state is mapped drought-free for the first time in nearly a decade.

The assessment of water supply and demand this year indicates that the Loch Lomond Reservoir will remain full through the month of June and will end the dry season in late 2019 at approximately 90 percent of capacity. In most years, the reservoir is usually drawn further down. This year, the combination of good flowing supplies and continuing low water demand system-wide means that treatment plant operators won't have to depend on the reservoir as much as they normally do during the peak summer season to meet the community's daily water needs, at least until later in the year. Accordingly, there is no reason the City needs to declare a shortage or impose temporarily restrictions on water use for 2019.

The forecast summarized above includes several assumptions and uncertainties about water supply and demand, as well as system operations. First, on the supply side, diversions from the City's North Coast sources for many years now have been strictly limited to support aquatic

habitat for threatened steelhead trout and endangered Coho salmon under an agreement with the California Department of Fish and Wildlife. That is not expected to change. Fishery bypass flows on the San Lorenzo River vary during the month and type of year depending on life cycle needs. This year, summer bypass flows at the City's main river intake at Tait Street will be highest ever experienced, reflecting the spirit of the agreement that calls for setting aside more water for fish at times like these when it is available. The Live Oak Wells are scheduled to go online in June, after an aquifer storage and recovery testing period at the Beltz 12 well site that is currently underway wraps up. It should be noted that, neighboring water suppliers that rely exclusively on groundwater have not seen the same recovery that the City has in its surface water sources. They are continuing to work to develop long-term solutions to achieve sustainable groundwater management.

On the water demand side, there has been little change in system wide water use over the last three years. Staff is projecting that demand will actually decline slightly, due to the recent switch over to recycled water at the Pasatiempo golf course. Santa Cruz customers continue to be highly conservative in their use of water; overall water demand today remains more than 20 percent lower than it was in 2013, before the recent drought. All these variables discussed above will be tracked through the dry season to improve forecasting accuracy. And as always, all reports of water waste received from field staff or the general public will continue to be tracked and followed up on appropriately on in accordance with Water Department policy.

Submitted by:

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Water Director

Attachments:

- Figure 1: Monthly Rainfall, City of Santa Cruz
- Figure 2: Cumulative Rainfall City of Santa Cruz
- Figure 3: Mean Monthly Streamflow, San Lorenzo River at Big Trees
- Figure 4: Cumulative Runoff and Water Year Classification
- Figure 5: U.S. Drought Monitor, April 16 2019
- Figure 6: 2019 Water Supply and Demand Assessment
- Figure 7: Projected Reservoir Drawdown