



CITY OF SANTA BARBARA

COUNCIL AGENDA REPORT

AGENDA DATE: March 27, 2018

TO: Mayor and Councilmembers

FROM: Water Resources Division, Public Works Department

SUBJECT: Stage Three Drought Update

RECOMMENDATION:

That Council receive an update on the status of the current drought, drought-response capital projects, and continuing conservation efforts.

DISCUSSION:

Drought Update

Council declared Stage One and Stage Two Drought Conditions on February 11, 2014, and May 20, 2014, respectively, as a result of unprecedented drought conditions. On May 5, 2015, in response to the driest consecutive four-year period on record, Council declared a Stage Three Drought Emergency. Since then, the Stage Three Drought condition has been amended with appropriate conservation targets and water use regulations in response to current and forecasted supply conditions.

The City's 2011 Long Term Water Supply Plan (LTWSP) outlines the City's adopted water supply planning policies for managing drought situation. The LTWSP planned for a 10 - 15 percent planned demand reduction during drought conditions. However, the current drought has been historic, resulting in drier conditions for a longer duration than previous drought periods on record. As a result, the City has increased the required demand reductions to range up to 40 percent, on a temporary emergency basis, based on local water supply conditions. Most recently, on March 21, 2017, the Stage Three Drought condition was amended to decrease the City's water conservation target to a 30 percent reduction in response to February rains, which filled Gibraltar Reservoir and increased storage in Lake Cachuma.

This drought update will cover the following items:

- Water Supply Outlook/Weather Forecast;
- Water Quality;
- Drought Response Capital Projects;

- Supplemental Water purchases; and
- Conservation Efforts.

Water Supply Outlook/Weather Forecast

The current three-month outlook from the National Oceanic and Atmospheric Administration predicts below average rainfall for the Central Coast through mid-June. Despite above-average rainfall in January and February 2017 and two notable rainstorms in January and March 2018, the average rainfall for the last six years still remains one of the lowest on record. Consistent with the City's Long Term Water Supply Plan, depleted surface water supplies were replaced with increased groundwater production, increased use of water imported through the State Water Project, and reactivation of the desalination plant. As a result of increased pumping during the drought, groundwater levels are near historic lows.

A three-year supply planning outlook indicates that the City is still in a drought and must continue to conserve. Above-average rainfall in February 2017 filled Gibraltar Reservoir and increased storage in Lake Cachuma to 50 percent. The City and other Cachuma Member Units saw an increase from a zero percent annual allocation to 40 percent annual allocation from Lake Cachuma for this water year. As a result of the modest improvements, the City's water conservation target was reduced from 40 percent to 30 percent, and the mandatory turfgrass watering ban was modified to reflect a voluntary turfgrass water ban. The City was able to meet 2017 peak summer water demands using this water supply strategy. In addition, groundwater wells were turned off to rest the groundwater basins, while water from Gibraltar Reservoir, Lake Cachuma, and the City's desalination plant are being used to supply City customers. This strategy will enable water demands to be met through 2019, assuming there continues to be a minimum 30 percent reduction in customer water use.

A new water year began on October 1, 2017, marking the beginning of the seventh water year since Cachuma last spilled in May 2011. Even though the water year officially starts in October, the City typically receives most of its rainfall from January to March. As with every new water year, the City's water supply planning charts have been updated to reflect actual water used during the previous 2017 water year (October 1, 2016 to September 30, 2017), and the supply strategy has been extended one additional year through 2020 for drought planning purposes. The projections currently show additional water shortages in 2020, assuming no significant inflow to Gibraltar and Cachuma over the next three years. Staff will return to Council in May 2018, after the end of the current rainy season, to discuss both demand management and supply strategies that would provide sufficient supply through 2020.

Water Quality

City staff is prepared for this winter's potential water quality impacts from runoff from the Rey Fire, Whittier Fire, and recent Thomas Fire. Following the 2007 Zaca Fire, the City made significant investments to its management of water, treatment, and distribution,

which has put the City in the best position to deal with difficult surface water quality. Major changes that address water quality include the addition of ozone treatment, an active carbon feed system, circulation and aeration of water in its treated water reservoirs, and pretreatment of surface water in Lauro Reservoir. In addition, the frequency of surface water monitoring has been increased to help with adaptive water management of the City's diverse water supply portfolio. At this time, the January 9 and March 2, 2018, storms have not significantly affected the City's ability to treat surface water.

Drought Response Capital Projects

The desalination plant continues to operate in full production. While overall the facility is finished and operating, there still remain punch list items that the contractor must complete before full acceptance. The temporary repairs to the intake pipeline have shown no signs of leaking, but staff continues to work with the contractor to identify a long-term repair solution. With work winding down, staff has been pushing the contractor to identify when the facility would be safe for an open house to give an opportunity for the public to tour the facility.

Supplemental Water Purchases

The State Department of Water Resources has issued a 2018 State Water Project delivery allocation of 20 percent. In order to maximize 100 percent of the City's capacity for imported water deliveries to Lake Cachuma, staff will be participating in the 2018 Supplemental Water Purchase Program facilitated by the Central Coast Water Authority (CCWA). Staff is currently pursuing up to 1,500 AF of delivered supplemental water purchases through the CCWA program. The amount of water actually purchased could be reduced if the State Water Project allocation increases, or if local supply conditions improve at Gibraltar or Cachuma. The purchased water can be directly delivered to Lake Cachuma, used to repay outstanding water debt owed to the Antelope Valley East Kern Water Agency, or put into groundwater banking programs for future use.

Conservation Efforts

The City's 12-month running average water conservation reduction at the end of February 2018 was 38 percent, compared to 2013 water demands. Conservation is measured based on the City's water production meters (not retail customer meters used for water billing). This approach is consistent with State reporting requirements for conservation, since production meters account for overall water loss occurring in the system. As part of the City's ongoing meter replacement program, several production meters will be replaced in the coming months. Staff will be evaluating the effect on reported conservation numbers after new meter installations are complete.

With the Stage Three Drought declaration in effect and the need for a 30 percent reduction, the Water Conservation Program has continued its enhanced public information campaign of targeted outreach to specific user types, including:

- weekly messaging through social media, online news outlets, and industry contacts;
- presentations to community and industry groups;
- printed materials with drought messaging;
- targeted utility bill messaging;
- drought signage throughout the City; and
- additional training and workshops.

PREPARED BY: Joshua Haggmark, Water Resources Manager/DC/sp

SUBMITTED BY: Rebecca J. Bjork, Public Works Director

APPROVED BY: City Administrator's Office