



AGENCY: City Council
MEETING DATE: October 12, 2021
DEPARTMENT: City Manager/Public Works
PRESENTED BY: T. Miller
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AGENDA ITEM SUMMARY

TITLE:

Receive Report and Consider Adoption of City Council Resolution Downgrading Water Conservation Stage from Stage 4 Water Crisis to a Stage 2 Water Warning

ISSUE:

The City of Fort Bragg Municipal Code Chapter 14.06, Water Conservation, updated on July 12, 2021, provides the City Manager with the discretion to determine whether the system's water supplies and sources available are sufficient to meet the current customer demands on the system after considering all relevant factors. The City Manager shall consider, among other things: 1) any variations in the reliability of the water supplies available to the system; 2) availability of well or other nonpotable water to meet the nonpotable demands on the water system; 3) weather forecast and other factors that impact flows in the City's surface water sources; and 4) the success, or lack thereof, of previous declarations of a less stringent water conservation stage in meeting the water-use reductions sought by the City.

Chapter 14.06 provides that the City Manager will determine the stage of water conservation. The City Manager is recommending the City Council downgrade the current Stage 4 Water Crisis to a Stage 2 Water Alert. Recent rainfall, although limited has increased the water flows in the Noyo River allowing the City to pull more water from the Noyo and divert flows from Waterfall Gulch to restore the water storage level in the Summers Lane Reservoir. Additionally, the City took possession of the Desalination-Reverse Osmosis Treatment System on September 24th and has completed the setup and testing of the unit to ensure that it is ready to treat brackish salt water during the next cycle of high tides.

ANALYSIS:

At the start of September, the flows in the Noyo River were at record lows, which meant that even during low tides the amount of water the City was able to pump from the river was limited and during high tides the water could not be treated by the City's Water Treatment Plant because of the saline content. By the end of September, flows in the Noyo River were above 2015 and 2020 levels allowing the water operators to pump more water than was necessary to meet daily supply. As a result, diversions from Waterfall Gulch were diverted to restore storage in the Summers Lane Reservoir. Moreover, the City now has the capacity to pump and treat brackish salt water during high tide cycles. As of writing this staff report, the Summers Lane Reservoir is nearly at capacity and continuing to be replenished.

The Summers Lane Reservoir started September full but as water from the reservoir was used to subsidize the limited amount available in the Noyo River it dropped to about 70% of capacity. Predictions a month ago, showed little sign of rain and indicated that water storage in Summers Lane Reservoir would drop to 50% by the end of September and continue to

be depleted through October. While staff felt relatively confident that the Desalination-Reverse Osmosis Treatment System would arrive before the end of September and be operational by the first of October, this was an unknown, given supply chain issues and shipping back logs, and was not taken into account in these more conservative predictions.

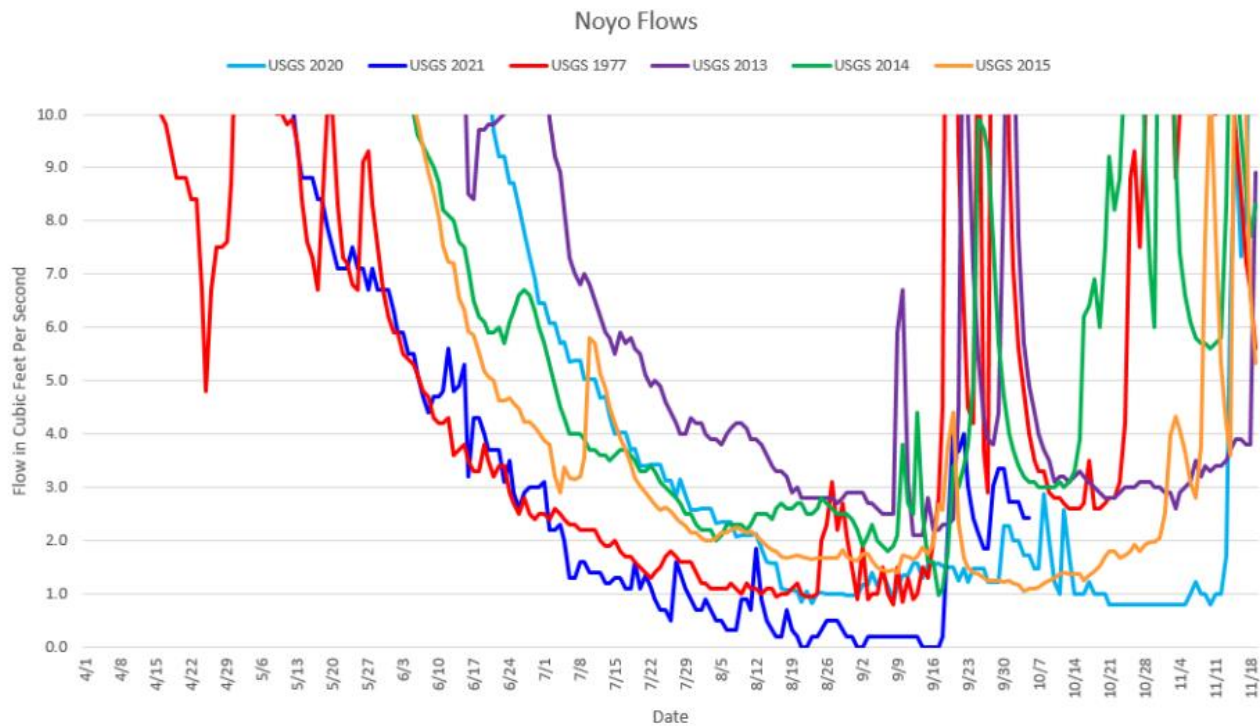
Water Supply Available

As explained before, the City of Fort Bragg's water supply system relies solely on three surface water sources: Waterfall Gulch (tributary to Hare Creek), Newman Gulch (tributary to Noyo River), and the Noyo River (diversion at Madsen Hole). In 2015, the City's water supply system could only store small amounts of water that provided enough to maintain proper water system pressure and to provide a safety margin for fire-fighting flows. Six years later, the City has made progress with water storage with the addition of a 1.5 million gallon finished water storage tank and the Summers Lane Reservoir with a raw water capacity of 14.7 million gallons. This brings our total water storage capacity to 22.6 million gallons, which is approximately 30 days of storage with average daily use, including water loss during production of 750k gallons.

During the winter and spring, pumping of the Noyo River is used only to supplement the Waterfall Gulch and Newman Gulch sources. The two tributary sources generally provide a higher quality of raw water and gravity-feed to the water treatment plant, whereas water from the City's Noyo River diversion must be pumped. As summer progresses and the flows in the tributary streams diminish, the Noyo River diversion is used more frequently and in greater quantities. In July, Waterfall Gulch and Newman Gulch provide approximately 40% of the City's water needs and 60% of summer water supply comes from the Noyo River. As the water levels in the Noyo River drop and the high tide levels rise, increased salinity levels in the Noyo River impact the City's ability to pump from this water source.

Most of the year, the City's three surface water sources meet or exceed the City's daily usage. During these times, the 22.6 million gallons of storage is regularly replenished and remains at capacity. Excess water continues to feed the river or streams down water from the source. Thus, while year round conservation saves money and builds good habits that benefit our environment, unlike water systems heavily dependent on water drawn from reservoirs, it does not save water that would be made available later. This means that balancing daily use versus daily supply is very important and reductions do not help the City unless they are needed at that point in time.

Flows in the Noyo River in the late summer and early fall depend on rainfall received, much more so than the Waterfall Gulch and Newman Gulch sources. Flows in the Noyo River typically hit the lowest levels in August and remain there until there is rainfall. Although not significant, the recent rain was sufficient to increase the Noyo River flows to levels above 2015 and 2020. Additionally, the cooler days and nights reduce evaporation and the trees and plants take less water from the Noyo River.



In addition to the Desalination-Reverse Osmosis Treatment System, the treated water from the FBUSD irrigation well should be available to the City in October to further supplement water supply, if needed.

Success of Prior Conservation Stages

Water usage for August 2021 was 17.96 million gallons, lower than any other August on record (records start in 1980). It is a 33.2% reduction from August 2019, the base year for our conservation comparisons. The City Council declared a Stage 3 Water Emergency on August 9 and implemented the Stage 3 Water Conservation Requirements on August 10. Stage 3 targeted a 20-30% reduction in seasonal water use. The 33.2% reduction for August, certainly exceeded this conservation goal that was only in effect for 2/3rds of the month.

Residents, businesses and visitors continued with strong conservation measure in September. September use was at 16.58 million gallons and was a 32% reduction from September 2019. The City had halted outside city water sales on July 18, 2021 because of the significant increase in demand that was impacting the water supply available to the City customer base. Outside sales were restored on September 8, 2021, after the City of Ukiah, Fort Bragg and Mendocino County entered into a Mutual Aid Agreement that provided water from Ukiah to be trucked to Fort Bragg and emptied into the Summers Lane Reservoir. These outside sales were responsible for additional use of 375,000 gallons in September. However, to date, the amount of water delivered from Ukiah exceeds the amount resold, so there is no reason to halt or reduce sales this fall.

Stage 2 Water Warning Conservation Restrictions

1. Wasteful use of water is prohibited. All water usage must be for beneficial uses.
2. During any water use, water shall stay confined to the customer's property and is not allowed to run off onto adjoining property, public sidewalks, streets or parking lots. Water use should not exceed the point of saturation.
3. Landscape irrigation is limited to two days per week and is only allowed on Tuesdays and Saturdays from 12am to 9am and 6pm to 11:59pm. Drip irrigation is allowed on any day of the week.
4. Washing of streets, parking lots, driveways, sidewalks, buildings and other hardscape surfaces is prohibited, except with an approved exemption form.
5. All pools, spas and ornamental fountains shall be equipped with a recirculating pump and shall be leak proof.
6. Restaurants shall serve water only upon specific request.
7. Hotels and lodging establishments shall not provide patrons with stays of three days or less daily laundering of towels, sheets and linens. Lodges must prominently display notice of this requirement in each room.
8. All Water leaks must be repaired as soon as feasible but no later than three days after notification.

RECOMMENDED ACTION:

Adopt a Resolution downgrading from the Stage 4 Water Crisis and Stage 4 Conservation measures to a Stage 2 – Water Warning which target a 10-20% decrease in seasonal water usage from the most recent non-drought year (2019).

ALTERNATIVE ACTION(S):

1. Do not adopt Resolution.
2. Provide alternative direction to staff.

FISCAL IMPACT:

Reduced water usage will impact Water Fund revenues during the time frame customers practice water conservation, however, the water fund's reserves and fund balance can absorb the loss.

GREENHOUSE GAS EMISSIONS IMPACT:

Reduced water usage will have an incremental reduction in pumping and water treatment, which will result in a small decrease in the use of electricity and resulting greenhouse gas emissions.

CONSISTENCY:

N/A

IMPLEMENTATION/TIMEFRAMES:

Compliance with a Stage 2 Water Conservation Measures would be immediate allowing an easing up from the Stage 4 Conservation measures.

ATTACHMENTS:

1. Resolution
2. Noyo River Flows Graphs

NOTIFICATION:

N/A