



AGENCY:	City Council
MEETING DATE:	May 11, 2015
DEPARTMENT:	Public Works
PRESENTED BY:	T. Varga

AGENDA ITEM SUMMARY

TITLE:
RECEIVE REPORT REGARDING THE CITY'S WATER SUPPLY

ISSUE:

Staff will provide an overview of the City's current water situation to inform the City Council and the community of current circumstances related to the extended drought, projected challenges for the City's water supply this summer, and actions being taken to address the issue.

RECOMMENDED ACTION:

This is an informational item. No Council action is requested.

ALTERNATIVE ACTION(S):

Not necessary.

ANALYSIS:

Water Production Today

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 is at Madsen Hole). While the City's water supply system can store small amounts of water, the current storage volume is only enough to maintain proper water system pressure and to provide a safety margin for fire-fighting flows. The City does not yet have the ability to store raw water seasonally.

Current water production from the three City sources is:

Waterfall Gulch, 110 gallons per minute (gpm)

Newman Gulch, 190 gpm

Noyo River pumping, 300-400 gpm, on average (as needed)

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 they 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. Combined, the three sources can provide an average of 150 million gallons a month to meet typical demands.

Water Usage

Recently, total citywide water usage has ranged from a winter low of 83 million gallons per month to a summer high of 110 million gallons per month. Of this, Residential usage represents 55% to 60% of

the total through most of the year except during the summer when it dips to about 52%. The next largest usage class is the Hospitality sector which includes lodging, and businesses providing food and drink. This sector represents 15% of water usage throughout the year. This rises to about a 17% share during the summer. The North Coast Brewery is the largest water user in town and represents approximately 4.5% of overall water usage. The Mendocino Coast Hospital uses about 2% of water production. The remaining large water users, (less than 1% of overall water usage individually), are either residential uses or part of the Hospitality sector. Large water users in Noyo Harbor have reduced their water usage by nearly one half over the last year and now use less than 2% of water production.

Water Production in Summer 2015

Despite a nearly average rainy season this winter, raw water production from Waterfall Gulch and Newman Gulch recovered only minimally over the winter. Noyo River flows are similar to those of last year (24 cubic feet per second as of May 1, 2015). With the rainy season coming to an end, projected water supplies are expected to be much like last year's. Consequently, as happened last year, the month of August will see water supplies reach minimum levels again. While challenging, it is expected that adequate water supplies will be available to serve Fort Bragg's water customers.

Water supplies will remain low until the rainy season starts again in October or November. However, following Labor Day, the month of September and subsequent months will see a large drop in water demand. With the end of the vacation season, water demand for visitor services decreases and overall community water needs will likewise decrease. This helps to make the reduced raw water supply more manageable.

Water Conservation

Fort Bragg water customers have been steadily reducing water usage over the past four drought years. Water usage from 2013 to 2014 dropped 7% on average. For the first three months of 2015, compared to the same period last year, an additional savings of 12% has been realized. Most impressive was last summer's record low in water usage. These reductions have been accomplished voluntarily by the community.

To place these accomplishments in context, Fort Bragg's daily water usage can be compared to other communities in the State. Approximately 410 larger, urban water suppliers have submitted water usage information to the State Water Board. The City of Fort Bragg is not quite large enough to meet the definition of an urban water supplier, but the comparison is illuminating. If the City were included in this ranking, it would have the fourth lowest water usage rate at 48.6 gallons per capita per day (gpcd). The three cities with a lower per capita water usage are: Arcata, San Francisco, and Santa Cruz. That puts Fort Bragg in the top 1% in a very good way.

Fort Bragg can take pride in its miserly use of water compared to our neighbors. While mandates and goals are very important, the critical issue for our community is to recognize the physical limitations of our water supply. This will set our first priorities in managing water during the drought.

For the past two decades, Fort Bragg has implemented extensive water conservation programs. Many homes have already been retrofitted with low flush toilets and low flow plumbing fixtures. Less than 10% of the lawns in town are regularly irrigated. A significant number of yards have gone the extra step of landscaping with native plants or even xeriscaping. During regular maintenance of the City's water system, fire hydrants and water mains need to be flushed to ensure that they work properly and to keep the City's water pure. Whenever possible, this flush water is captured for re-use. Irrigation of public areas was reduced by approximately 85% last summer. City staff has implemented an

aggressive leak detection program and placed a cover over the City's raw water ponds. Unaccounted water usage, primarily leaks and evaporation, now amounts to only 7% of the City's total water usage.

What Does the Future Hold?

The most important project to improve the City's water security is the proposed Summers Lane Reservoir which will be constructed near the existing Newman Reservoir at the north end of Summers Lane. Design and permitting for the reservoir are completed, and the State Division of Water Resources is processing a change petition to allow the City to store its Waterfall Gulch water in the reservoir. Timber harvesting and initial site preparation are anticipated to take place this summer and construction of the reservoir is slated for 2016. The reservoir will store 45 acre-feet (14.7 million gallons) of water in an above-ground impoundment covering approximately 2.5 acres. The City received a \$700k grant for the reservoir from Prop 84 drought relief funding through the North Coast Regional Partnership. Additional funds for construction will come from the City's Water Enterprise fund.

Governor Brown mandated additional cuts in residential water usage through an executive order issued in January 2015. State Water Board regulations implementing this order were approved on May 6, 2015. The bulk of the regulations apply only to urban water suppliers (i.e., those supplying 3,000 or more connections). The City of Fort Bragg serves approximately 2,800 connections and is considered a non-urban water supplier. The new regulations require non-urban water suppliers to either reduce their usage by 25% from 2013 levels, based on a specialized formula, or to limit outdoor, residential watering to no more than two evenings a week. For practical considerations, staff recommends that the irrigation limit be imposed at this time with the commitment to maximize water conservation as much as practical. It is worth noting that if Fort Bragg were subject to the urban supplier's requirements our reduction goal would only be 8% in recognition of our community's already low water usage rate. Staff will bring forward an update to Fort Bragg Municipal Code Chapter 14.06 – "Water Conservation" to incorporate State mandates and other water conservation measures in the near future.

Based on our analysis of how water is used in Fort Bragg, the City's primary focus for further water conservation will be for residential customers and for the Hospitality sector. In addition, we will continue to work closely with the North Coast Brewery.

In addition to the reduction in outdoor irrigation for residential customers, other efforts can be pursued. Staff is working to revise the format of the City's water billing statements to more simply explain monthly water usage compared from one year to the next, to better explain water rates, and to better encourage water conservation. As an extension of this work, our leak detection program will be refined to identify smaller leaks and fix them sooner. Outreach programs will be stepped up. Information on re-use of grey water, and rainfall capture techniques will be more widely distributed; and groundwater recharge methods will be included. Low Impact Development (LID) tools will continue to be incorporated into private development as well as public projects.

In the Hospitality sector, the State is encouraging lodging businesses to reduce water usage for laundry by giving customers the option to wash towels and bedding a little less often. Food and beverage businesses have been asked to provide drinking water only at customer request and to maximize the efficiency of their washing processes. These measures will be included in the City's Water Conservation ordinance update.

FISCAL IMPACT:

The City's water conservation efforts have a fiscal impact on the Water Enterprise Fund as user fees decline as water consumption falls. The City's FY 2015/16 Budget revenue projections take this into

account. The Summers Lane Reservoir project is included in the City's Capital Improvement Program and will be fully funded in the FY 2015/16 Capital Projects Budget.

IMPLEMENTATION/TIMEFRAMES:

The update of Chapter 14.06 – Water Conservation will be presented in time for implementation by summer.

ATTACHMENTS:

None.

NOTIFICATION:

None.