

CITY OF NAPA CITY COUNCIL
AGENDA REPORT

ADMIN CALENDAR
AGENDA ITEM 14.A.
Date: August 18, 2015

To: Honorable Mayor and Members of City Council

From: Jacques R. LaRochelle, Public Works Director

Prepared by: Joy Eldredge, Water General Manager

Subject: Report on Watersheds and Local Municipal Water Supply Reservoirs

ISSUE STATEMENT:

Receive a Report on Watersheds of City of Napa Local Municipal Water Supply Reservoirs

DISCUSSION:

The City of Napa (City) relies on two local surface reservoirs: Lake Hennessey (31,000 acre feet (AF)) and Milliken Reservoir (1,390 AF) for its drinking water supplies in addition to entitlements from the State Water Project (21,900 AF.) These surface water supplies are the critical drinking water supply for the customers of the City that total 84,000 people throughout Napa Valley.

The Hennessey watershed drainage area is composed of approximately 34,000 acres reaching as far north as Angwin. Of this total area, the City owns just 2,822 acres. The water treatment plant is full conventional treatment with filtration. Since 1947 when Conn Dam was constructed to create Lake Hennessey, there have been a considerable number of privately owned acres within the watershed that have been developed to support houses, vineyards and some wineries. Land use changes within the watershed area result in a degradation of water quality that runs off from the watershed and is gathered in the drinking water reservoirs. In 2015 with the increase in the health of the economy and popularity of Napa, there has been an uptick in vineyard conversions.

The Milliken watershed drainage area is composed of 6,200 acres of which the City owns nearly 2,200 acres. This watershed has historically experienced minimal development when compared to the larger Hennessey Watershed. The Milliken treatment plant is a direct filtration plant that has limited treatment capabilities. The water source is pure, flowing through the undeveloped rocky canyon that additional treatment trains beyond filtration and chlorination have not been necessary to meet drinking water standards. There has been an increase in pressure for development and vineyard conversion in the last five years with the establishment of Circle S Ranch Project and two recently proposed vineyard projects.

The Water Division continues to strive to meet increasingly stringent water quality regulations and is regulated against more constituents and compounds than any point in history. This trend of stricter regulations is going to continue into the future. The City is currently in the third stage of monitoring under the unregulated contaminant monitoring rule (UCMR3) that requires sampling and analyses for contaminants that have not been considered in the past, and currently have no maximum contaminant level (MCL) but may lead to a future regulatory limit depending on the pervasiveness in municipal drinking water supplies. It is noted that contaminants that are found to be pervasive in municipal drinking water supplies nationwide end up on the Contaminant Candidate List (CCL.) The items that are on the Draft CCL4 list include compounds that are derivatives of pesticides, herbicides, and hormones. Protecting the existing lands and limiting the increase in agricultural and land development, human inhabitants and recreational activity in the watershed is of utmost importance to maintaining the quality of the City's municipal drinking water supply.

The surface water treatment rule (SWTR) requires that all domestic water suppliers conduct a watershed survey every five years to evaluate potential contaminant sources within its watersheds that may impact drinking water quality. The last update in 2012 identified potential contaminants in the watershed including but not limited to wastewater from the Pacific Union College treatment plant, urban runoff from Angwin, recreational uses, and agricultural activities. In 2012 it was recognized that vineyard conversion and development activities had slowed due to the economy and that fertilizer and pesticide application practices have improved since 2007. However, the amount of vineyard development activity has increased significantly in 2015.

In an effort to reduce the further degradation of the drinking water supply staff identifies short term and long term items for implementation.

SHORT-TERM

Hennessey and Milliken Watersheds

Update the Watershed Sanitary Survey as required every five years in 2017 and review baseline data, identify changes to water quality, reasons for water quality changes and make recommendations for mitigating and restoring water quality.

Continue to gather water quality data at the creek inlets to determine the amounts of phosphates, nitrogen and nutrients being introduced into Lake Hennessey and Milliken Reservoir today and monitor any increases in the future.

Continue to clear brush on City watershed property and restrict public access to trails when fire danger is elevated. A fire in either watershed may render the water supply unusable. An influx of organic matter charred trees and natural matter washed into the supply makes the water treatment process unable to treat to today's drinking water standards.

Lake Hennessey Recreation

The Lake Hennessey Reservoir has been used for recreational purposes including fishing and boating. Bodily contact has been prohibited for over 30 years. The threats to water quality associated with recreation are personal care and pharmaceutical

products (PCPPs) in the water, increased fire danger, petroleum and hydrocarbons from motorized boats, and the introduction of invasive species in the water.

Bodily contact. Bodily contact has been prohibited for decades, yet watershed caretakers remove individuals throughout the summer season for not obeying the clearly posted rules.

Goal: Issue monetary fines to dissuade violators from not respecting the posted rules.

Boating. Boating is permitted on the lake to include motor boats and canoes.

Goal: Restrict the types of boats on the lake to a maximum of 10hP motor and prohibit boats with two-stroke motors on the lake.

Invasive Species. Invasive species such as the Quagga Mussel and the New Zealand mud snail are very real threats to municipal water supplies. The invertebrates, once introduced into the water body reproduce uncontrollably as they filter all nutrients from the water, clog intakes and prevent the pumping of water to the treatment process. The New Zealand mud snail has been discovered in nearby Putah Creek downstream of Lake Berryessa. Many boaters that recreate in Lake Hennessey also visit Lake Berryessa.

Goal: reduce number of large boats that visit multiple reservoirs, post self-inspection information prior to launch, require CA Department of Fish and Wildlife certification of invasive species awareness with boater registration.

LONG-TERM

Hennessey and Milliken Watersheds

Implement recommendations and update the Watershed Sanitary Survey as required every five years and review baseline data, identify changes to water quality, reasons for water quality changes and make recommendations for mitigating and restoring water quality.

Establish a revised County Ordinance to increase restrictions on development in sensitive watershed areas to limit the water quality impacts to the watershed.

Update the Municipal Code to authorize financial penalties for violations of unauthorized watershed recreational uses.

Require development in watershed to monitor the creek water quality upstream and downstream of the project runoff and submit data directly to the Water Division.

Impose mitigation measures on development in sensitive watershed areas that is shown to degrade water quality in order to contribute to watershed protection investments and water treatment improvements.

FINANCIAL IMPACTS:

No action is proposed. Degradation of raw water quality results in costs to water rate payers to invest in water treatment processes to meet water quality regulations.

CEQA:

The Public Works Director has determined that the Recommended Action described in this Agenda Report is not subject to CEQA, pursuant to CEQA Guidelines Section 15060(c).

DOCUMENTS ATTACHED:

None

NOTIFICATION:

None

RECOMMENDED ACTION:

Staff recommends that the City Council move, second and approve each of the actions set forth below, in the form of the following motion. Move to:

Receive the Report on Watersheds and City of Napa Local Municipal Water Supply Reservoirs.