



## MEMORANDUM

FC 14 (01-02-07)

**TO:** Board of Directors

**FROM:** Water Storage Exploratory Committee

**SUBJECT:** Water Storage Exploratory Committee Meeting Summary for October 14, 2020

**DATE:** October 27, 2020

This memorandum summarizes agenda items from the regular meeting of the Water Storage Exploratory Committee held on October 14, 2020.

### **Attendees:**

Valley Water Board Members in attendance were: Director Gary Kremen-District 7, Director Richard P. Santos-District 3, and Director John L. Varela-District 1.

Valley Water Staff in attendance were: Emmanuel Aryee, Aaron Baker, Erin Baker, Glenna Brambill, Debra Butler, Keila Cisneros, Andrew Garcia, Vincent Gin, Christopher Hakes, Brian Hopper, Cindy Kao, Michele King, Kathleen Low, Michael Martin, Ryan McCarter, Heath McMahon, Metra Richert, Donald Rocha, Eli Serrano, Ranithri Slayton, Charlene Sun and Beckie Zisser.

Guests in attendance were: John Weed (Alameda County Water District-ACWD), Maureen Martin, Ph.D., and Marguerite Patil (Contra Costa Water District-CCWD), Steve Jordan and Danielle McPherson (BAWSCA), Laura Reeves (Tanner Pacific, Inc.).

Public in attendance were: Director Tony Estremera and Director Linda J. LeZotte (Valley Water), Renee Crawford, Phil Gregory, Chuck Hammerstad, Doug Muirhead, and CM Tompkinson.

### **ACTION ITEMS:**

#### **4.1 SEMITROPIC GROUNDWATER BANK UPDATE**

Ms. Cindy Kao and Mr. Andrew Garcia reported on the following information:

#### **Summary from Agenda Memo:**

On December 11, 2019, the Santa Clara Valley Water District (Valley Water) Water Storage Exploratory Committee was provided an update regarding the Semitropic Groundwater Bank (Semitropic). This memorandum provides additional information following further staff analysis of Semitropic Water Storage District's (SWSD) Groundwater Sustainability Plan (GSP) and the *1997 Agreement Between Santa Clara Valley Water District and Semitropic Water Storage District and Its Improvement Districts for a Santa Clara-Semitropic Water Banking and Exchange Program* (Agreement).

Staff had previously reported on challenges associated with withdrawing water from Semitropic in dry years due to limited exchange capacity with the State Water Project, potential water quality concerns due to arsenic concentrations identified in SWSD's groundwater wells, and general concerns regarding operational uncertainties associated with SGMA implementation. Additional, more specific, concerns related to the SWSD GSP are described below.

#### **Concerns related to Semitropic GSP**

- The SWSD GSP projects an average annual deficit of 166,000 acre-feet per year and corresponding depletion in groundwater storage. Semitropic predicts GSP implementation will effectively bring the deficit to 0 AFY by 2040. Historically, long term overdraft in the subbasin has been observed even with the offsetting effects of imported contract and banked supplies. Between

Spring 2006 and Spring 2020, measured water levels declined an average of 7.6 feet per year in SWSD.

- No Sustainable Management Criteria were set specifically for water quality or land subsidence in the SWSD GSP, instead water levels are used as a proxy. The SWSD GSP proposes to continue allowing groundwater level decline past historic lows which could increase pumping energy costs and diminish groundwater quality, as discussed further below. No determination has been made as to the potential for continued subsidence.
- The SWSD GSP restricts water allocations to landowners and requires fallowing of land, but it also proposes to allow continued projected water level declines into 2030 and 2040, in some instances 160 to 260 feet below 2015 historic low water levels. A depth to water hydrograph is provided in **Attachment 1**. These measures could have operational implications on recovery of water by pump-back by local landowners on behalf of banking partners.
- For successful GSP implementation, Valley Water staff anticipates SWSD will need to navigate development, implementation, and enforcement of groundwater extraction fees and individual landowner water budgets as well as successfully secure at least 70,000 AF per year of supplemental supplies. SWSD is targeting appropriating this water from the Kings River.

#### California State Determination of Plan Adequacy

The Department of Water Resources (DWR) has two years to review submitted GSPs to determine whether the plan satisfies the SGMA requirements. Depending on DWR's review and final determination, several potential outcomes may unfold:

- a) DWR may approve SWSD's GSP as presented,
- b) DWR may deem the SWSD GSP's targeted water levels and action triggers not acceptable, in which case SWSD may need to apply more stringent measures or secure additional supplemental supplies to meet acceptable targets and avoid impact to the Semitropic banking operations,
- c) The State Water Resources Control Board may intervene and identify actions needed to correct undesirable results, which could include adjudication.

It is unclear how these outcomes may impact SWSD's groundwater banking operations. However, Valley Water legal counsel's assessment is that the agreement between Valley Water and SWSD has several protective provisions for recovery of Valley Water's stored water, and that Valley Water should expect the SWSD to fully comply with the Agreement, even with the implementation of the GSP. For example:

- the trust relationship provision(s) are for the benefit of Valley Water and protecting the ability to recover stored water,
- SWSD cannot enter into other agreements that interfere with the rights of Valley Water under the Agreement, and
- Semitropic must defend and indemnify Valley Water against claims concerning (a) the distribution of water; (b) any contest by a landowner concerning the allocation of benefits; and (c) SWSD's facilities or operations. Semitropic's obligation to defend and indemnify Valley Water could be interpreted as including claims related to SGMA operations or any water rights adjudication in the basin.
- If SWSD is unable to return stored water, SWSD is required to purchase the stored water that it is unable to return under the Agreement, but at a price that may be lower than the actual value of the water.

Detections of 1,2,3, TCP in groundwater wells

SWSD has reported elevated concentrations of 1,2,3 trichloropropane (TCP) in some of its groundwater wells. TCP is a chemical that was included in a nematode fumigant made by Shell Oil and Dow Chemical companies and applied liberally to the Central Valley's vast farmland from the 1950s through the 1980s. It is a persistent pollutant in groundwater and has been classified as "likely to be carcinogenic to humans" by the EPA. There is currently insufficient information to conclude whether the detections in the SWSD wells could impact banking operations over the long term. Staff is seeking additional information to better understand potential implications.

**Background**

The Semitropic Groundwater Bank provides storage for Valley Water's wetter year supplies and is a primary source of supplemental dry year supplies. Valley Water has rights to 350,000 acre-feet (AF) of storage capacity (a 35 percent share of the total capacity) within the Semitropic bank. Since 1997, Valley Water has spent approximately \$116 million towards storage and recovery operations, storing nearly 600 thousand acre-feet (TAF) and recovering 260 TAF of supplies, primarily in wet and dry years, respectively. By the end of 2020, 340 TAF of SWP and CVP supplies will be held in Valley Water's storage account for withdrawal during future dry years.

Valley Water relied on the Semitropic Groundwater Bank for a majority of its supplemental water supplies during the critically dry years of 2014 and 2015 and may need to rely on Semitropic to provide supplemental supplies during the pending drawdown of Anderson Reservoir and the resulting limited access to local surface supplies and emergency supplies.

**Next Steps**

Semitropic has proven to be a cost-effective way to regulate wet year supplies to provide critical dry year water, but there are several risks associated with its continued operation. Valley Water would benefit from diversifying its storage programs to invest in other banking programs that may have fewer or different risks to increase its overall supply reliability.

- Valley Water should continue to utilize the Semitropic Groundwater Bank in the near term and potentially long-term, as development and implementation of the SWSD GSP and evolution of water quality issues are closely followed.
- Considering increased risks, Valley Water should explore additional new banking programs that are cost-effective and have reliable dry-year delivery mechanisms

The Committee (Directors Kremen, Santos and Varela) discussed the following: interplay between the GSA-Water Storage District, Kern County Water Authority and regulatory/political structure of the bank and who owns what, GSP, contract expiration 2035, 123-TCP's/PFAS/water quality, need a closed session to discuss the legal issues/concerns, balance sheets/purchases, contaminants/canal standards, Semitropic's obligation to share that the water is viable, additional cost effective water banking programs, meetings with user groups/participants/partnerships, SGMA, and potentially going on a visit or meeting with Semitropic-building relationships (zoom meeting).

Mr. John Weed noted DWR's work around process with zero allocation events, semitropic water delivered (drought years), and credit for water pumped and being able to take credit from San Luis. Secondly, water from Semitropic is not going to local consumers but rather it is going south.

Ms. Cindy Kao, Mr. Vincent Gin and Mr. Brian Hopper were available to answer questions.

The Committee took no action.

## 4.2 POTENTIAL GROUNDWATER BANKING PROJECTS (COMPARISON MATRIX)

Mr. Andrew Garcia reported on the following information:

### Summary from Agenda Memo:

Santa Clara Valley Water District (Valley Water) staff have been exploring different groundwater banking opportunities as well as surface storage projects to diversify and potentially expand its storage capabilities. This effort is relevant given that implementation of the Sustainable Groundwater Management Act (SGMA) and water quality issues may affect

Long term operations of the Semitropic groundwater bank, while projections of climate change impacts detailed in California's Fourth Climate Change Assessment Technical Reports indicate that future water supplies will likely come in concentrated and shorter wet periods that will result in large surpluses of water that may require additional storage facilities to capture. At the same time, sea level rise will likely increase salinity intrusion into the Delta, which may reduce the availability of SWP and CVP supplies during drier years, increasing Valley Water's reliance on stored supplies.

At the January 15, 2020 meeting of the Water Storage Exploratory Committee, a draft concept for a groundwater bank "comparison matrix" was presented, to help guide Valley Water's discussions and banking project review in a consistent format. Attachment 1 is an updated version of this comparison matrix incorporating information on four prospective projects that are currently under investigation:

- AVEK 'High Desert' Groundwater Bank
- Buena Vista WSD Groundwater Bank
- Pleasant Valley WD Groundwater Bank
- Mid-Valley Groundwater Bank

Each of these projects have been tentatively rated against one another based on the best available information using the evaluation criteria in Attachment 2. These ratings will be updated when better information becomes available and as Imported Water Unit staff work to refine banking project terms and the evaluation criteria.

The Committee (Directors Kremen, Santos and Varela) discussed the following: ratings/water quality, criteria, contractual controls/political/regulatory, reservoir projects participation/transferability, costly decisions to make, updating the matrix as much as possible (evaluate wider range of investments of the portfolio, expand framework and criteria) for the next meeting, and commended staff for these presentations.

Mr. John Weed encouraged the Committee to contact Irvine Ranch WD, which bailed on Semi-Tropic and purchased land for a fully controlled (owned) Water Bank. He suggested modeling this approach.

Ms. Cindy Kao, Mr. Vincent Gin, and Mr. Aaron Baker were available to answer questions.

The Committee took no action.

The next Water Storage Exploratory Committee meeting is Friday, October 30, 2020, at 12:00 p.m.

If you have any questions or concerns, you may contact me at, [gbrambill@valleywater.org](mailto:gbrambill@valleywater.org) or 1.408.630.2408.

Thank you.

Glenna Brambill, Management Analyst II,  
Board Committee Liaison  
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