9935 Auburn Folsom Road | Granite Bay, CA 95746 | 916-791-0115 | sjwd.org

SAN JUAN WATER
SINCE 1854

May 31, 2022

Dylan Wood
Environmental Scientist
California Department of Fish and Wildlife
Dylan.Wood@wildlife.ca.gov

Dear Mr. Wood,

Thank you for providing the Department of Fish and Wildlife's (DFW) comments pertaining to San Juan Water District's (SJWD's) proposed 2022 Temporary Water Transfer (Transfer). By this letter, SJWD provides its responses to DFW's May 17, 2022 comment email regarding the Transfer.

SJWD will be transferring water through groundwater substitution – an approved transfer method by the California Department of Water Resources (DWR) and United States Bureau of Reclamation (Reclamation) as described in the *Technical Information for Preparing Water Transfer Proposals* (*Water Transfer Whitepaper*) released in December 2019. In this instance, two of SJWD's retail agencies – Fair Oaks Water District (FOWD) and Citrus Heights Water District (CHWD) – will use groundwater from the North American Subbasin (**Attachment 1**) in lieu of the transferred surface water that would otherwise be delivered to them for their use. DFW's comments express concerns related to four general issues: (i) groundwater dependent ecosystems (GDE); (ii) cumulative impacts from this groundwater substitution transfer; (iii) the streamflow depletion factor (SDF); and (iv) groundwater monitoring and mitigation. We address all of these issues below as they apply to the North American Subbasin and groundwater conditions considered in a more localized context for SJWD, FOWD, and CHWD.

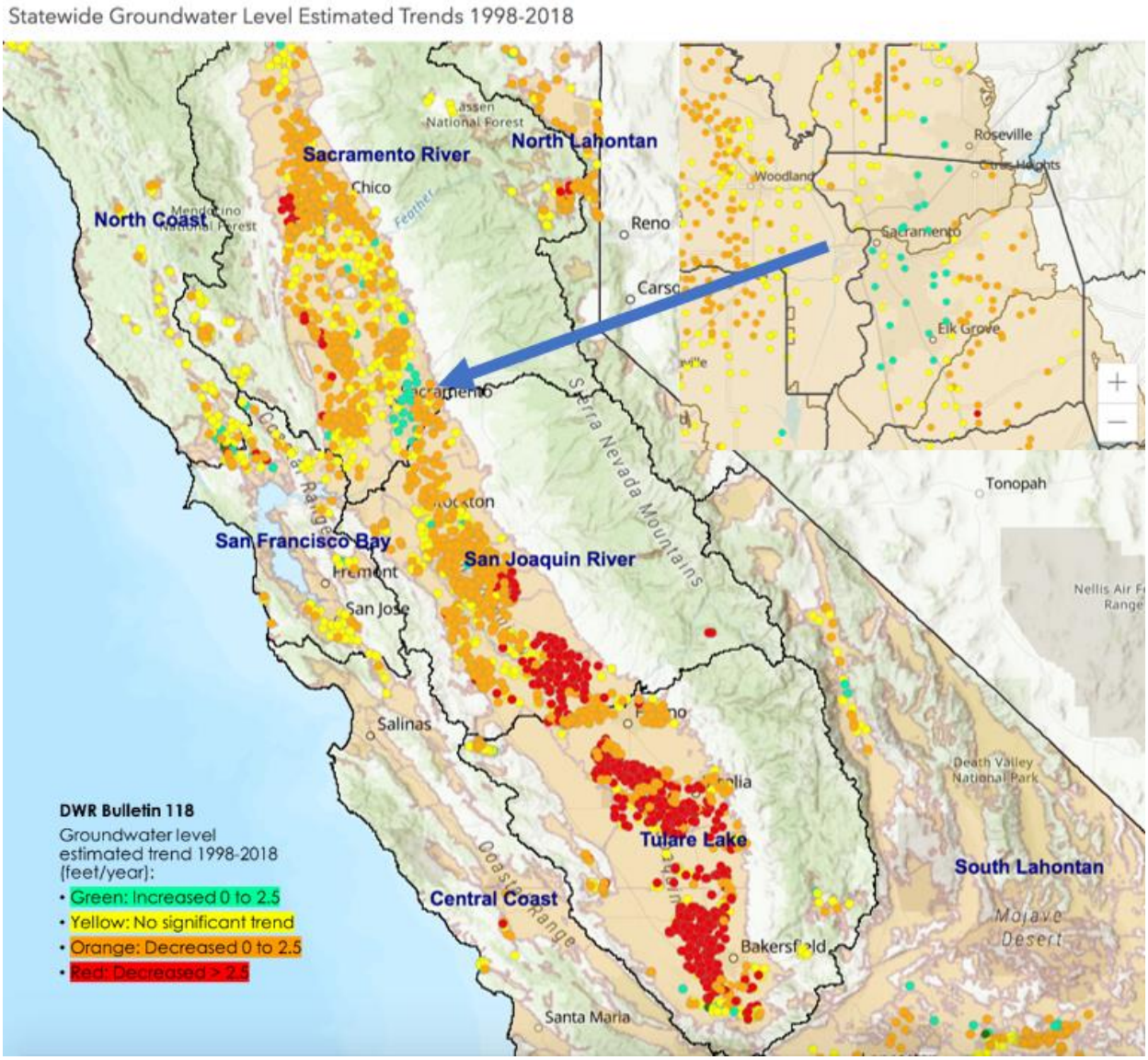
North American Subbasin Conditions

The North American Subbasin is actively managed by all the numerous water agencies overlying the basin. Specifically, the Sacramento Groundwater Authority (SGA) has prepared and implemented groundwater plans that are focused on conjunctive use in its portion of the basin, including SJWD's, CHWD's and FOWD's service areas, since its inception in 1998. These plans were developed to help achieve the Water Forum Agreement's co-equal objectives of providing a reliable and safe water supply for the region's economic heath and planned development through 2030 and preserving the fishery, wildlife, recreational and aesthetic values of the lower American River.[1]

[1] https://www.waterforum.org/wp-content/uploads/2014/08/Water-Forum-Agreement-Update-2015-FINAL-FOR-PRINT2.pdf at 8.

SGA continues its planning as the exclusive Groundwater Sustainability Agency (GSA) in this area. It adopted and submitted a Groundwater Sustainability Plan (GSP) covering the North American Subbasin to DWR in 2022. Water agencies in the region have been conjunctively managing their surface and ground water resources through almost 25 years of active collaboration with impressive results, as illustrated by **Figure 1**. This map details recent statewide groundwater level trends and clearly depicts the Sacramento region as one of the very few areas in the state of California showing *improved* regional groundwater conditions.

Figure 1. DWR Long-Term Groundwater Level Trend Analysis



The area depicted with the green dots encompassing Sacramento covers the location of a regional groundwater substitution transfer, which includes SJWD's proposed transfer.

DFW contends that "historical baseline groundwater pumping" from which to measure impacts may harm GDE's. SGA's management and continued improvement to long-term groundwater levels in its jurisdictional area demonstrates that GDE's have experienced improved habitat conditions as a consequence of increased groundwater levels in the region, which are now well above the GSP's GDE thresholds. As such, DFW's recommendation to alter the baseline condition from which to measure potential impacts of SJWD's proposed transfer activity is misplaced.

SJWD, FOWD, and CHWD also obtained a GSP consistency determination from SGA (**Attachment 2**). This letter, which is from the Executive Director of SGA, but which is on the letterhead of its sister agency, the Regional Water Authority, acknowledges that SJWD's proposed transfer comports with SGA's GSP and SGMA's sustainability criteria incorporated therein.

Finally, the SDF of 13%, as used in previous regional groundwater substitution transfers, has been demonstrated to be appropriate as prior transfers with the same depletion factor having not resulted in material negative impacts to, or prevented improvement in the health and sustainability of, the regional groundwater system.

The regional groundwater substitution Transfer partners, working through SGA, have also prepared a draft Groundwater Mitigation and Monitoring Plan (Plan, included as **Attachment 3**) that addresses the methodologies that will be used to monitor conditions and identify any impacts from this transfer, as well as trigger and inform appropriate mitigation activities should such impacts occur and mitigation become necessary. The Plan is subject to approval by DWR prior to commencement of Transfer operations. The key characteristics of the Plan are outlined below. The Transfer participants will, as applicable to each participating agency:

- Monitor in real time, through active SCADA systems, instantaneous water level measurements to show groundwater levels on a weekly timestep. These monitoring actions are ongoing functions of the GSP and will be calibrated against threshold water level elevations.

- Monitor groundwater pumping with calibrated instantaneous flow meters to show groundwater pumping on a weekly timestep.

- Continue to monitor water quality derived from each drinking water well to ensure compliance with all Tittle 22 water quality requirements administered by the State Board's Division of Drinking Water.

- Report groundwater measurement results to the California Department of Water Resources on a monthly basis as well as prepare a final report evaluating impacts, if any, resulting from the Transfer.

- Coordinate among designated points of contact at each participating agency and SGA for monitoring and reporting of Transfer-related data.

- Reduce future groundwater extractions, if necessary, to ensure full recharge of any impacts resulting from the Transfer, consistent with the GSP. These actions will be addressed in the final Transfer report.

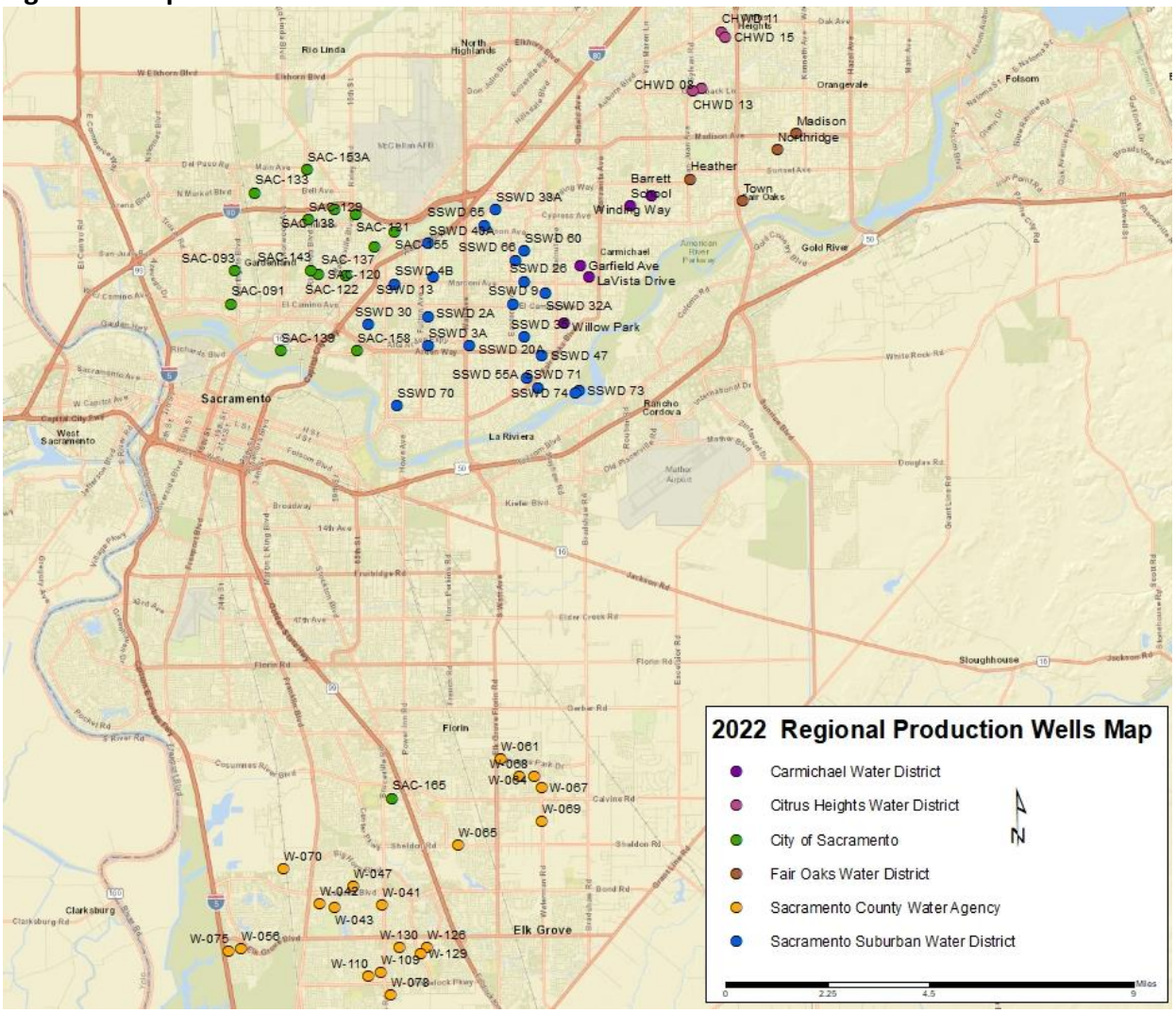
Ultimately, the region's long-term collaborative groundwater management and planning, groundwater-level improvements, and continued conjunctive management of regional water resources have improved groundwater conditions in the North American Subbasin. Specifically, as a result of these effective and successful efforts, the proposed Transfer is expected to have no impacts to the regional subbasin(s) from which groundwater substitution water will be pumped that would impact GDE's, fish and wildlife resources, cumulative impacts, or streamflow depletion. Moreover, a robust monitoring and mitigation plan, that already supports these long-term regional planning efforts, is in place to identify and address any unforeseen issues arising from this transfer should they occur.

(Discussion continues on next page)

Localized Groundwater Conditions

Figure 2 shows the groundwater wells that will be used in this groundwater substitution transfer. As shown in **Figure 2**, CHWD's and FOWD's wells are widely dispersed in the eastern portion of the North American Subbasin, with all except one well greater than a mile from the American River. The single well relatively close to the American River is still greater than 0.5 miles distant. None of the wells are "adjacent" to the American River.

Figure 2. Map of Groundwater Production Wells for Transfer



CHWD and FOWD wells that will be used for this transfer are shown in the northeast quadrant of this map. These wells are specifically identified in Table 1 as follows:

Table 1. Groundwater Production Wells for CHWD and FOWD

Local Well Designation	Latitude [N]	Longitude [W]	Total Well Depth	Screen Interval Top	Screen Interval Bottom	April 2022 Depth to Water
CHWD 08	38.6794	-121.2861	479	294	400	159
CHWD 11	38.6974	-121.2776	335	210	325	169
CHWD 13	38.6784	-121.2899	380	230	370	176
CHWD 15	38.6956	-121.2761	420	220	410	163
FOWD Heather	38.6504	-121.2910	630	275	610	199
FOWD Town	38.6433	-121.2697	605	250	585	185
FOWD Northridge	38.6596	-121.2555	475	308	470	212
FOWD Madison	38.6647	-121.2475	566	326	556	218

As can be seen in **Table 1**, all of the wells are constructed in the deeper part of the aquifer, well below any influence on the American River. Also note that the current static depth to water in every well exceeds 150 feet, so there is no potential impact on GDEs.

The 13% SDF is more than sufficient to support regional groundwater management efforts and protect the increased groundwater levels in the North American Subbasin. As depicted in **Figure 1**, the long-term trend for groundwater levels in the North American Subbasin has been an increase not a decrease, and that is expected to continue. The SGA's Water Accounting Framework also serves to support maintaining the improved groundwater levels in the basin.[2]

Further evidence that the 13% SDF is conservatively high can be seen through a review of American River stage information in comparison to groundwater levels adjacent to the river. **Figure 3** shows the location of the American River stage gage at Fair Oaks (AFO) and the location of monitoring wells 1516 and 1518. SGA has monitored these wells since late 2017 as part of SGMA compliance activities. The wells were chosen due to their proximity to the river and because they are paired perpendicular to the river, so that a gradient from the river to the groundwater basin can be establised and monitoried. Well 1516 is less than 300 feet from the riverbank, while well 1518 is less than 1,000 feet from the riverbank.

[2] https://www.sgah2o.org/programs/groundwater-management-program/water-accounting-framework/

Figure 3. Location of American River Stage Gage (AFO) and Monitoring Wells 1516 and 1518

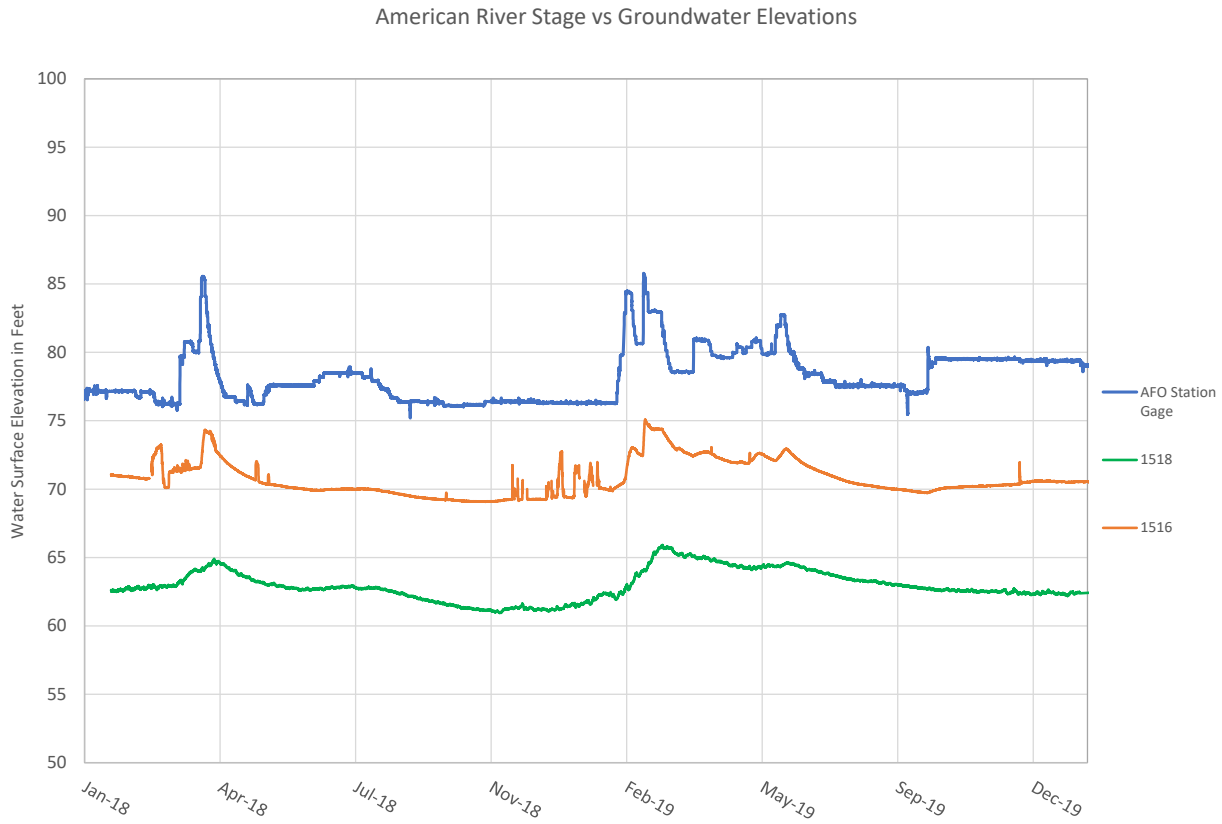
(Source map Google Earth)

Figure 4 below shows the elevations of the river stage and the associated monitoring wells from 2018 through 2019. **Figure 4** shows that the American River is a losing reach at this point and that the groundwater gradient is toward the north in the groundwater basin. **Figure 4** also shows that groundwater elevations are highly reliant on the river stage (in other words, as the wetted perimeter of the river channel increases, seepage to the groundwater basin increases). However, note that the gradient between wells 1516 and 1518 generally remains stable throughout the time period. If pumping from the groundwater basin was inducing additional seepage from the American River, the depth in well 1518 should have gone down earlier and more dramatically than in well 1516. However, this is not the case.

Note that in 2018 FOWD and CHWD participated in a groundwater substitution transfer. There is no evidence in these graphs that the extractions caused significant additional depletion of the river. The 13% SDF from the *Water Transfer Whitepaper* assumed additional seepage for a period of nine years following the transfer. The graph in **Figure 4** shows that water levels, to

the degree that they were even influenced by the Transfer pumping, were actually higher in spring 2019 than in spring 2018 prior to the transfer. Therefore, there would have been no additional stream depletion from the Transfer beyond that point.

Figure 4. American Stage in Comparison to Nearby Groundwater Elevations



In conclusion, the information depicted here shows that the 13% SDF should be considered the maximum factor to be applied against groundwater substitution transfers in the SGA region as even a lower depletion factor could be accommodated without apparent long-term impacts to groundwater levels. The long-term trend for groundwater conditions in the North American Subbasin continues to improve and the monitoring and mitigation plan reflects the concerted and successful efforts of the participating agencies and SGA to support and maintain improved groundwater conditions in the region.

Lower American River Flows

The potential changes in streamflow, water quality, timing of diversion or use, return flows, and effects on legal users of water will be insignificant or non-existent and therefore will not cause adverse economic, physical, or environmental effects. The total transfer of surface water from the lower American River is a small increment of the water that will be bypassed from direct diversion along the American River during the transfer period of July 1 through November 30. Cumulatively, the bypass of direct diversion or rediversion of the water rights held by the San

Juan Water District would equate to no more than an estimated 16 cfs daily of additional flow in the lower American River between July 1 and September 30 and no more than approximately 13 cfs in October and November. The Transfer water will be released over several months on the same pattern that it would have been diverted and used by the Sellers. The Transfer water left in the lower American River will comprise an increasingly small increment of water as it flows downstream when compared to the flows in the lower American River, Sacramento River and the Delta.

As explained below, the Transfer involves a very small quantity of water as compared to the volumes of water moving through these river systems. **Table 2** presents the average daily Delta outflow, river flows, and SWP and CVP pumping rates as average flow rates during the period July through November, which includes the proposed transfer period. The data presented in **Table 2** averages flows from 2015 through 2021. This information provides context for SJWD's approximate average flow increase increment of 16 cfs in July through September from the transfer and 13 cfs for October through November.

Table 2. Representative Average Monthly Flow Conditions for Various Locations along the Proposed Transfer Pathway (all values in cfs) [3]

Location	July	August	September	October	November
Lower American River	1,145	939	641	687	614
Sacramento River at Freeport	7,200	7,303	7,447	12,035	8,370
Delta Inflow	8,899	8,635	8,217	13,434	10,041
Combined SWP/ CVP Pumping	1,040	1,296	2,588	3,351	5,209
Delta Outflow	3,328	3,545	1,542	13,127	2,816

The combined regional transfer water will not be transferred all at once, but will be left in the lower American River and conveyed across the Delta to Banks and the North Bay Intake at the rate of approximately 70 cfs (approx.140 acre-feet per day) over the three-month July through

[3] Lower American Flow Data from – USGS Station - http://cdec.water.ca.gov/dynamicapp/staMeta?station_id=AFO and Central Valley Operations Reports - https://www.usbr.gov/mp/cvo/pmdoc.html

September 2021 period and approximately 40 cfs (80 acre-feet per day) in the October and November 2021 period. The Transfer during this period would increase flow volumes and flow rates by only a very small amount compared to the total in any of the water bodies listed. Thus, while the exact operations required to implement the proposed Transfer cannot be stated with precision the Transfer will not affect streamflow or water quality. And, given that the Transfer is consistent with the historic and documented diversion rates of the SJWD and the other Sellers, the Transfer will not affect the timing of diversion or use. The use of groundwater in-lieu of the surface diversions will not change the patterns and use of water by Sellers' customers. Thus, to the extent they exist, any return flows to the American River and Sacramento River would remain unchanged. This action is unrelated to any changed release or operating decisions made by the United States Bureau of Reclamation. This Transfer is in no way being proposed as a form of reservoir reoperation of federal facilities.

Because of the minimal changes to existing conditions, other legal users of water will not be adversely affected by the proposed Transfer. The only effects of the Transfer on other legal users of water will be a slight increase in river flows from the current points of diversion along the Lower American River to the proposed points of diversion and rediversion at the SWP Facilities. It should be noted that any increases in flows resulting from the Transfer will be well within historical average flows and, if anything, provide a benefit by putting water in the river that otherwise would not be there.

Thank you again for your comments.

Sincerely,

Paul Helliker

Paul Helliker
General Manager

5-021.64 SACRAMENTO VALLEY - NORTH AMERICAN

Basin Boundaries

Summary

The North American groundwater subbasin lies in the eastern central part of the Sacramento Valley groundwater basin. The northern boundary of the subbasin is the Bear River and the Yuba/Placer County Line. The eastern boundary is the edge of the alluvial basin, where little or no groundwater flows into or out of the groundwater basin from the rock of the Sierra Nevada. The southern boundary is the American River and the western boundary is the Sacramento and Feather Rivers.The boundary is defined by 11 segments detailed in the descriptions below.

Segment Descriptions

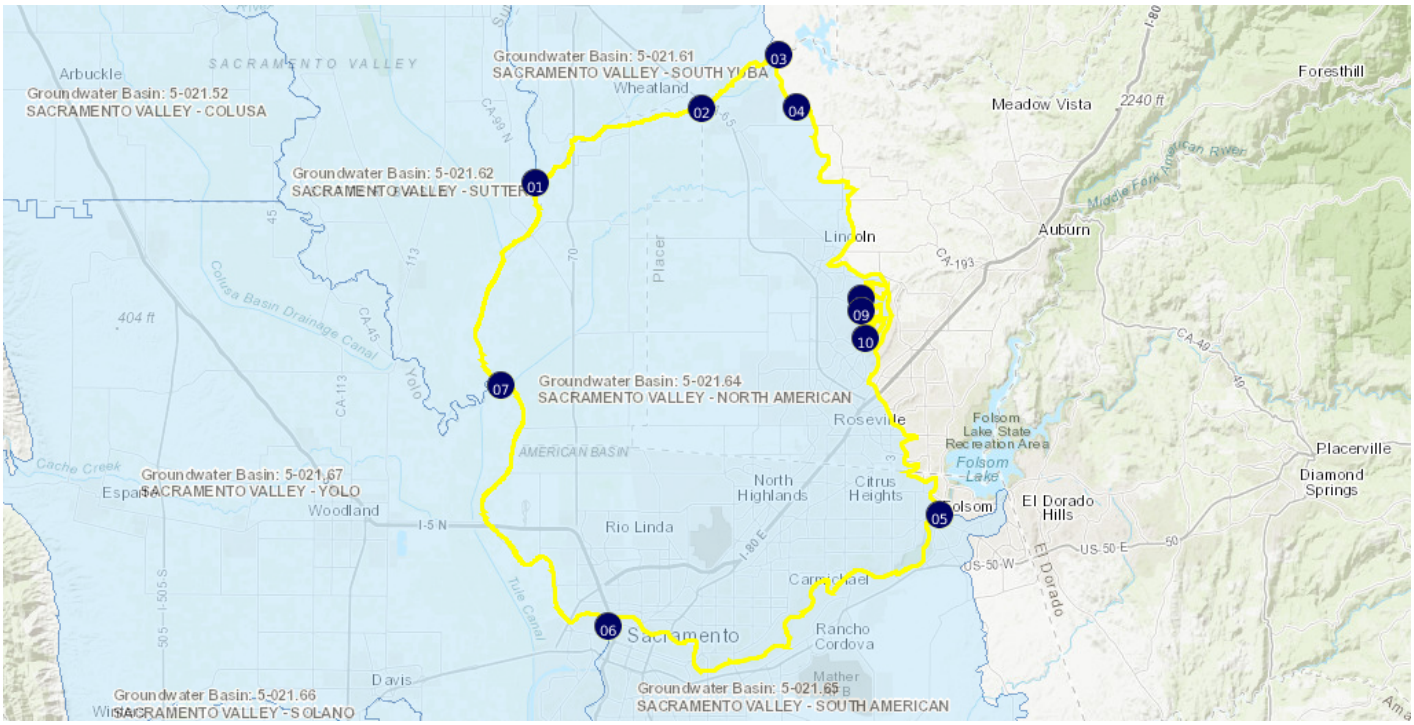
Segment Label	Segment Type	Description	Ref
1-2	I Stream	Begins from point (1) and follows the Bear River to point (2).	{a}
2-3	I County	Continues from point (2) and follows the Placer/Yuba County line to point (3).	{b}
3-4	E Alluvial	Continues from point (3) and generally follows the contact of Quaternary alluvium and Tertiary nonmarine deposits with granitic and volcanic rocks of the Sierra Nevada to point (4).	{c}
4-5	E Alluvial	Continues from point (4) and generally follows the contact of Quaternary alluvium and Tertiary nonmarine deposits with granitic and volcanic rocks of the Sierra Nevada to point (5).	{d}
5-6	I Stream	Continues from point (5) and follows the American River to point (6).	{a}
6-7	I County	Continues from point (6) and follows the Yolo County line to point (7).	{b}
7-1	I Stream	Continues from point (7) and follows the Sacramento then Feather River to the end at point (1).	{a}
8-8	E Non-Alluvial	Starts from point (8) and generally follows the contact of Tertiary nonmarine deposits with granitic rocks and ends at point (8).	{e}
9-9	E Non-Alluvial	Starts from point (9) and generally follows the contact of Tertiary nonmarine deposits with granitic rocks and ends at point (9).	{e}
10-10	E Non-Alluvial	Starts from point (10) and generally follows the contact of Tertiary nonmarine deposits with granitic rocks and ends at point (10).	{e}

Significant Coordinates

Point	Latitude	Longitude
1	38.939424473	-121.580819122
2	38.99645406	-121.414767149
3	39.037967572	-121.338380784
4	38.997738471	-121.320471903
5	38.681559392	-121.176915204
6	38.594075098	-121.507979595
7	38.782426125	-121.615152878
8	38.849882894	-121.25475384
9	38.839345704	-121.254907382
10	38.818610845	-121.251496297

Map

5-021.64 SACRAMENTO VALLEY - NORTH AMERICAN



https://sgma.water.ca.gov/webgis/?appid=160718113212&subbasinid=5-021.64

References

Ref	Citation	Pub Date	Global ID
{a}	United States Geological Survey (USGS), National Hydrography Dataset, Flowline Dataset for California, note: Coordinated effort among the United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS), the United States Geological Survey (USGS), and the Environmental Protection Agency (EPA).URL: http://nhd.usgs.gov/data.html	2/1/2016	1
{b}	California Department of Forestry and Fire Protection (Cal Fire), California Counties and Paired Dataset (cnty15_1).URL: http://frap.fire.ca.gov/data/frapgisdata-subset	2/14/15	2
{c}	California Geological Survey (CGS), Geologic Atlas of California Map No. XX, Chico Sheet, 1:250,000.	1962	12
{d}	California Geological Survey (CGS), Geologic Atlas of California Map No. XX, Sacramento Sheet, 1:250,000.	1965	19
{e}	California Geological Survey (CGS), Regional Geologic Map No. 1A, Sacramento Quadrangle, 1:250,000, D.L. Wagner, C.W. Jennings, T.L. Bedrossian, and E.J. Bortugno.URL: http://www.quake.ca.gov/gmaps/RGM/sacramento/sacramento.html	1981	5

Footnotes

- I: Internal
- E: External

ATTACHMENT 2

Regional Water Authority
Building Alliances in Northern California

5620 Birdcage Street
Suite 180
Citrus Heights, CA 95610

Tel: (916) 967-7692
Fax: (916) 967-7322
www.rwah2o.org

April 28, 2022

Transmitted via e-mail

Dear Ms. Lee, Mr. Ewart, Mr. Gray, Mr. Helliker, Mr. Straus and Mr. York,

This is in response to your 2022 Water Transfer Notification dated April 21, 2022. Your letter indicates that your agencies intend to extract up to an additional 12,000 acre-feet of groundwater from the North American Subbasin between July 1, 2022 and November 30, 2022 to participate in a proposed groundwater substitution transfer.

The California Department of Water Resources 2019 Water Transfer White Paper (draft) requires consultation with the appropriate Groundwater Sustainability Agency (GSA) to determine consistency with the applicable Groundwater Sustainability Plan (GSP). The Sacramento Groundwater Authority (SGA) serves as the GSA for all of the area from which the pumping will occur, as well as serving as the administering agency for the North American Subbasin GSP.

After review of the proposed groundwater extractions, SGA finds that the actions are consistent with the GSP. The volumes of groundwater extraction and the potential for transfers as a part of a conjunctive use program for the subbasin were fully considered in GSP development and found to be consistent with the long-term sustainability of the groundwater resource. We also find that the proposed operations are consistent with the SGA Water Accounting Framework adopted by SGA in 2010.

Please feel free to contact Rob Swartz of my staff at rswartz@rwh2o.org or 916-607-9208, if you need any additional information.

Sincerely

James Peifer
Executive Director

Monitoring and Mitigation Program

This is a regionally-coordinated groundwater substitution transfer from areas north and south of the American River in Sacramento County. The following entities are participating in the proposed transfer either by providing surface water for delivery to the Buyers and/or pumping and delivering groundwater in lieu of the foregone surface water to meet local demands that otherwise would have been served with the transferred surface water:

- Carmichael Water District (CWD) *Seller and groundwater pumper*
- City of Sacramento (COS) *Seller and groundwater pumper*
- Sacramento County Water Agency (SCWA) *groundwater pumper*
- Sacramento Suburban Water District (SSWD) *groundwater pumper*
- San Juan Water District (SJWD) *Seller*
- Citrus Heights Water District (CHWD) *groundwater pumper*
- Fair Oaks Water District (FOWD) *groundwater pumper*

The proposed transfer is being coordinated by the Regional Water Authority (RWA), which is the designated Regional Water Management Group by the Department of Water Resources (DWR) under the Integrated Regional Water Management (IRWM) Program. RWA is coordinating this transfer because of its potential to incentivize expanded conjunctive use operations within its IRWM planning area as a means of ensuring future water resources sustainability. RWA is coordinating with the Sacramento Groundwater Authority (SGA) and Sacramento Groundwater Authority (SCGA), which act as the respective Groundwater Sustainability Agencies (GSAs) over the transfer area in the North American and South American subbasins. This coordination will ensure that the monitoring plan objectives for the transfer proposal and the groundwater sustainability objectives of the GSAs are met.

Monitoring Well Network

The locations of the transfer and monitoring wells for the participating agencies are shown in Figure 1. There are 68 transfer wells and 24 monitoring wells that will each be monitored for the transfer. Location and construction information for each well will be uploaded to the WTIMS system.

Groundwater Pumping Measurements

Each of the transfer wells in the transfer is equipped with a calibrated instantaneous and totalizing flow meter. Each respective seller will be responsible for taking flow meter readings prior to initiation of pumping and at least monthly and as close to the end of the month as practical for the duration of the transfer period.

Groundwater Levels

Water levels at monitoring wells will be collected in compliance with the December 2019 Water Transfer White Paper (White Paper). Each well has a trigger elevation and an associated well within 2 miles that will be monitored for the transfer. If monitoring of groundwater levels indicates that triggers established in the Monitoring Plan for transfer or associated wells have been exceeded, Seller will reduce or suspend pumping until the levels recover to above triggers associated with a specific pumping well and associated monitoring well.

SSWD has identified one transfer well (Well 65) that cannot be accessed for water elevations during the transfer. Well 65 has Well 33A that will be monitored and is less than 0.5 miles away; the well has similar construction. If the associated well encounters a trigger level, pumping at Well 65 will be reduced or cease pumping until such time as the associated well is in compliance. Attachment 1 to this Monitoring Program document is a table of all pumping and monitoring wells, their coordinates, top and bottom screen depths, trigger depths to water, and associated monitoring wells.

Shallow Groundwater Levels

There are no concerns with deep rooted vegetation associated with potential groundwater-dependent ecosystems (GDEs) in the transfer area. To assess this, the DWR-provided coverage of Natural Communities Commonly Associated with Groundwater (NCCAG) dataset was evaluated. Each well was then assigned a 0.5-mile buffer to assess for nearby potential GDEs. None of the wells evaluated fell within the criteria of supporting deep-rooted vegetation and having groundwater levels between 10 to 25 below ground surface.

Groundwater Quality

Each of the transfer wells is a municipal supply well that meets Title 22 water quality requirements as administered by the State Water Resources Control Board Division of Drinking Water. Each participating agency is prepared to submit a three-year summary of specific conductance and total dissolved solids upon request by DWR. Known contaminant plumes are shown in Figure 2. These are not anticipated to be affected by transfer pumping for the following reasons: 1) the proposed pumping is well within the bounds of past pumping practices by the participating agencies; and 2) detailed, site-specific contaminant capture modeling has been conducted at the Aerojet and McClellan contaminant plumes by the respective responsible parties – results indicate effective capture with planned municipal groundwater use.

Land Subsidence

Land subsidence is not a concern in the groundwater substitution area. Agencies in the region participated with DWR in its 2017 GPS Survey of the Sacramento Valley Subsidence Network. The report compared the elevations of the valley-wide network in 2017 to the benchmark elevations established in 2008. The results of the survey clearly demonstrate that subsidence is not an issue on the eastern side of the valley, particularly in the Sacramento municipal area. Locations of the benchmarks and the elevation difference from 2008 to 2017 are shown in Figure 3.

In addition to the recent DWR work, SGA extensively analyzed available information with respect to subsidence during development of its 2014 Groundwater Management Plan (GMP) in the transfer area north of the American River. Subsidence is not considered a concern in the SGA area as only slightly more than 2.2 feet of total subsidence was estimated between 1947 and 1991 based on USGS measurements associated with about 90 feet of groundwater level decline (rate of 0.02 feet subsidence per foot of drawdown). There was no documented damage associated with this estimated subsidence. Additionally, the 1990s represented the lowest point of groundwater elevations in the area. Since that time, local agencies have committed to a conjunctive program through the historic Water Forum Agreement of 2000. Over the past 20 years, water levels have increased in the basin relative to their historic lows.

RWA will collect water level measurements from the participating agencies and compare them to the trigger values at these wells. RWA will report these results to DWR on a regular basis. If monitoring of groundwater levels indicates that triggers established in the Monitoring Plan for transfer or associated wells have been exceeded, Seller will reduce or suspend pumping until the levels recover to above triggers associated with a specific pumping well and associated monitoring well. If any groundwater elevations exceed these thresholds, additional monitoring and mitigation measures will occur. For monitoring, nearby wells will be checked to see if there is a regional extent to the drawdown or if it is very localized to the well. If the drawdown is regionally extensive, additional monitoring will occur. DWR's Sacramento-valley wide land subsidence monitoring network for potential land surface elevation monitoring (see Figure 3) is available. A measurement by a licensed land surveyor will be collected at the soonest practical time following identification of an exceedance in a threshold groundwater elevation at the benchmark nearest the monitoring well with the exceedance. An additional measurement will be taken one month later. Based on those results, RWA will consult with DWR on additional potential subsidence monitoring or mitigation measures, including possible reduction or cessation of pumping.

Coordination Plan

Each of the seller agencies has designated a point of contact (POC) that has been identified in their respective transfer proposals submitted through WTIMS. The POC will be responsible for

communication with the well operators and other decision makers, and for the monitoring and reporting of transfer-related data. The POCs are:

CWD
Cathy Lee
(916) 483-2452
cathy@carmichaelwd.org

COS
Brett Ewart
(916) 808-1725
bewart@cityofsacramento.org

SJWD
Paul Helliker
(916) 205-8316
phelliker@sjwd.org

Also, each of the participating agencies is closely coordinating with the RWA as the regional IRWM manager. RWA will coordinate and prepare necessary groundwater and subsidence monitoring, and mitigation plan requirements, as stipulated in the DWR conveyance agreements. RWA's point of contact is:

RWA
Rob Swartz
(916) 967-7692
rswartz@rwah2o.org

Evaluation and Reporting

Each of the participating agencies will collect data, evaluate the data, and provide summary tables of data to the Project Agencies through the WTIMS site during and after the transfer. Additionally, the data will be provided to RWA for evaluation of potential impacts at the regional level. Water level data will be provided to RWA for the purposes of developing contour maps of pre-transfer, end of transfer, and recovered groundwater elevations in March following the transfer. Each of the participating agencies will coordinate with RWA in the preparation of a final report to identify any potential transfer related impacts.

Mitigation Process

If monitoring of groundwater levels indicates that triggers established in the Monitoring Program for the transfer or associated monitoring wells have been exceeded, the applicable Seller will reduce or suspend pumping until the levels recover to above triggers associated with a specific pumping well and associated monitoring well.

Seller shall be the contact for third-parties claiming impacts to their groundwater pumping operations purportedly caused by Seller's groundwater pumping pursuant to this Agreement. Seller shall forward any third-party impact report and Seller's proposed response to DWR within ten business days of Seller's receipt of the report. This reporting will trigger the following actions:

1. Seller will meet, within two business days or as soon thereafter as the claimant is available, with the claimant to develop a full understanding of the basis for the reported impact.
2. Seller will contact DWR to report the claimed impact and the basis for the claim, within 5 business days.
3. Seller, the claimant, and, if necessary, a representative of DWR, will investigate the reported impact to determine the extent of the impact and the linkage between the operation of the wells participating in the transfer and the impact. This investigation will include analysis of groundwater level, groundwater quality, and groundwater production data and any other relevant information.
4. Based on the results of the investigation, Seller will determine whether mitigation measures are necessary. The mitigation measures may include cessation of pumping, reduction in hours of pumping, lowering pump bowls of affected well(s), providing a temporary alternative water supply, or other measures determined to be appropriate during the course of discussion and investigation. Seller shall develop the mitigation measures through consultation with the claimant. Seller shall provide a copy of the mitigation measures to DWR. Seller will strive to develop the agreed upon mitigation measures within 10 business days of meeting with claimant.
5. Seller shall implement the agreed upon mitigation measures and monitor the results of its implementation to confirm that its mitigation efforts have succeeded in substantially reducing or eliminating third-party impacts. Seller maintains adequate financial resources to cover impact assessment studies and other reasonably anticipated mitigation needs. Because mitigation measures center on reduction or cessation of pumping, the financial requirements for implementing these measures is nominal.

If, after investigation, Seller agrees that an adverse impact occurred during its water transfer, Seller shall take measures to avoid the same impact during Seller's future water transfers. Note that the same wells participated in the 2018 and 2020 transfers, with no documented impacts from transfer pumping.

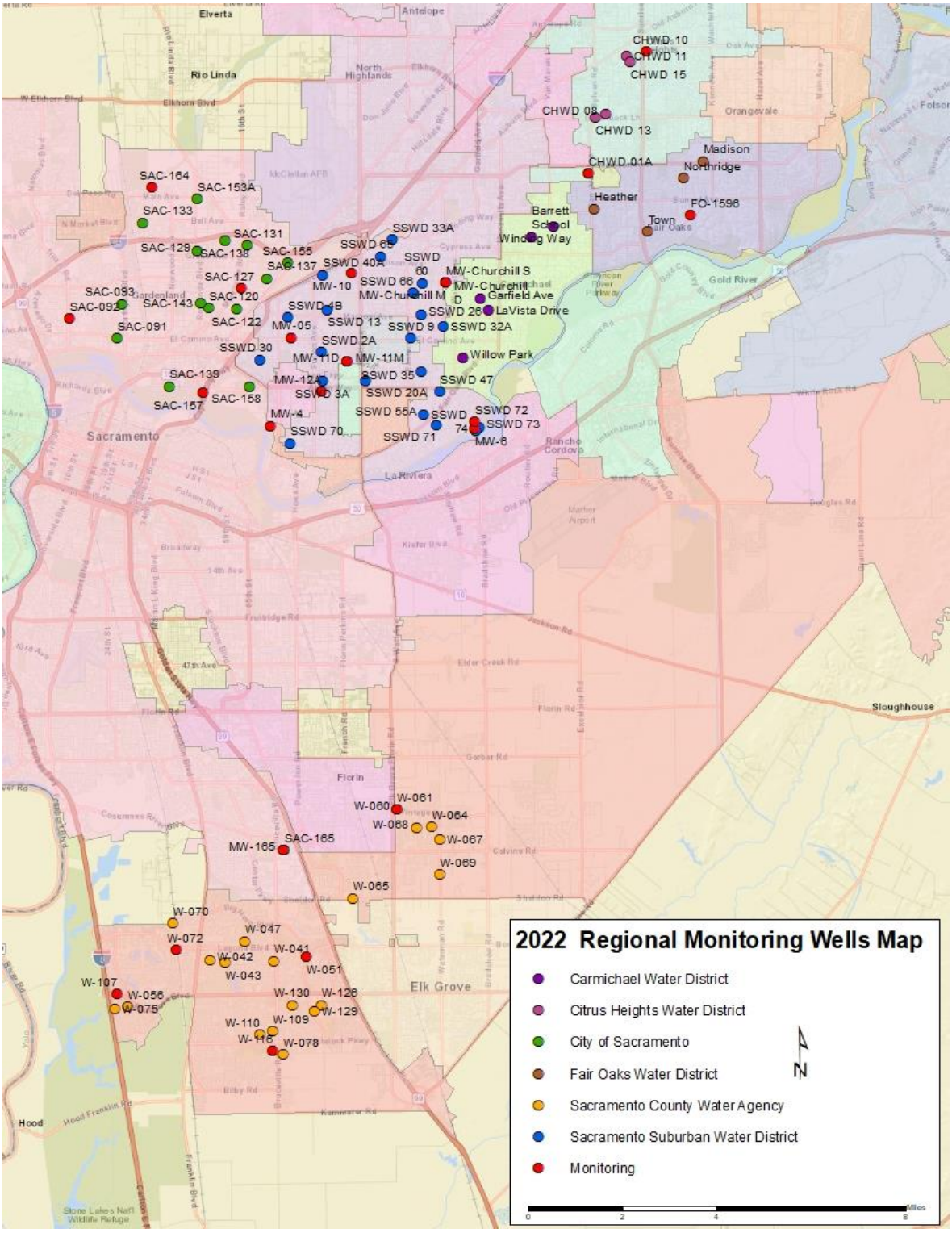


Figure 1. Location map of transfer production and monitoring wells

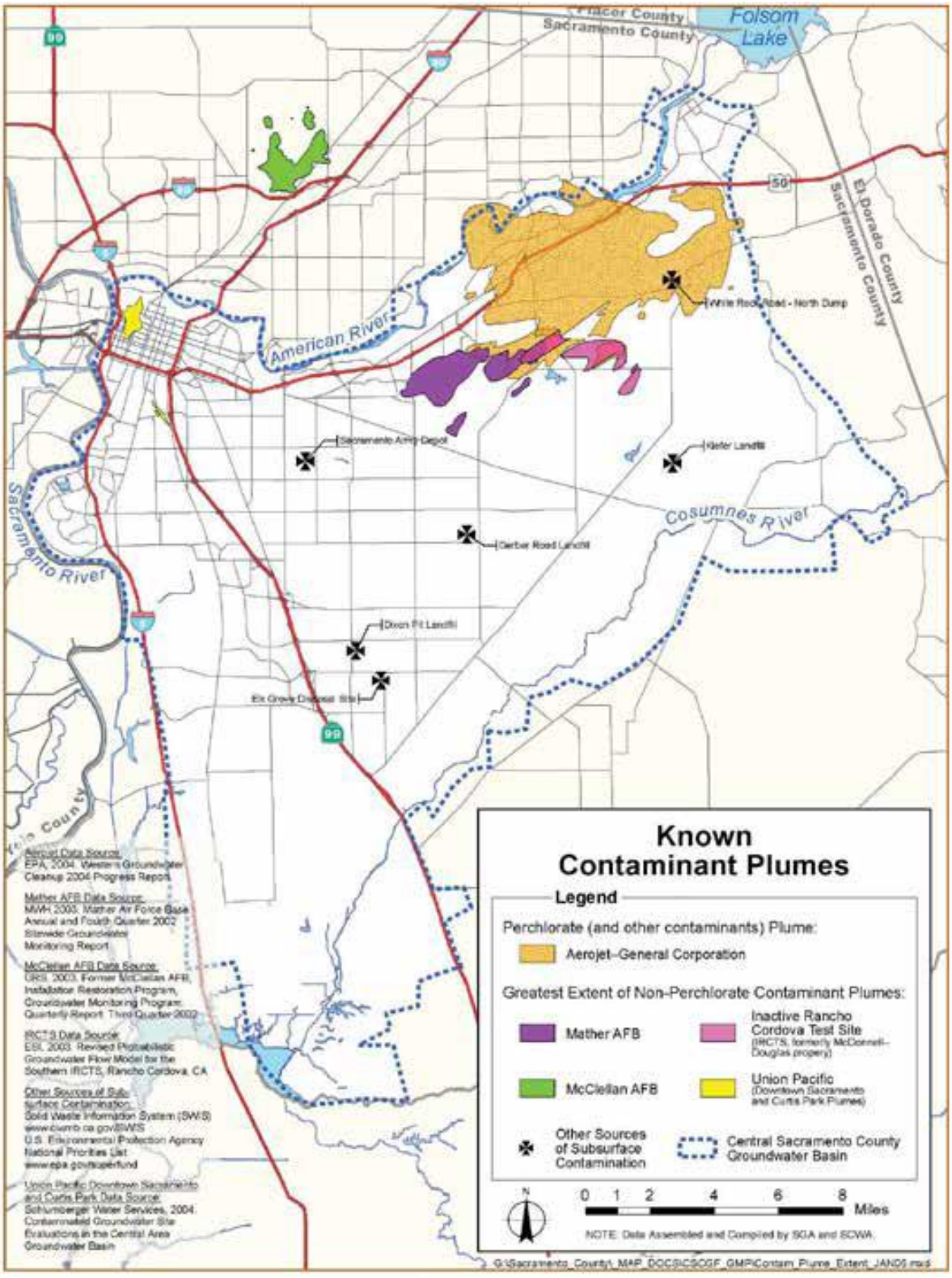


Figure 2. Extents of known regional contaminant plumes

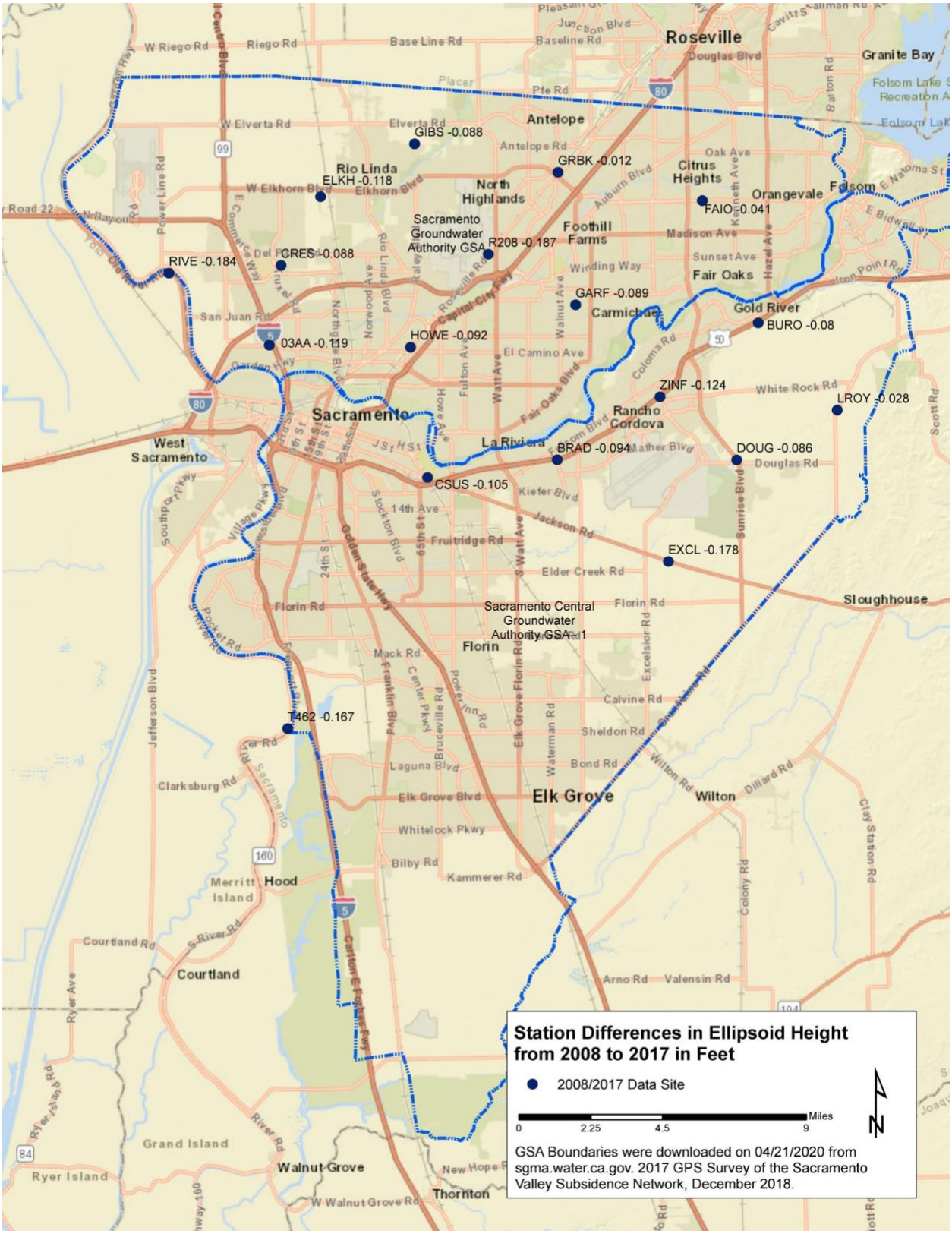


Figure 3. DWR Sacramento-valley-wide land subsidence monitoring network benchmark in transfer area

Attachment 1

Table of Transfer Extraction and Monitoring Wells

DRAFT – SUBJECT TO ADDITIONAL REVIEW AND COMMENT BY DEPARTMENT OF WATER RESOURCES

Local Well Designation	Well Purpose	Latitude [N]	Longitude [W]	Total Well Depth	Screen Interval Top	Screen Interval Bottom	Threshold (depth to water)	Associated Monitoring Well
SSWD 2A	Production	38.6069	-121.3982	420	170	415	123	MW-11M (258-268); MW-11D (332-365)
SSWD 3A	Production	38.5978	-121.3980	430	220	425	120	MW-11M (258-268); MW-11D (332-365)
SSWD 4B	Production	38.6175	-121.4116	580	200	570	210	MW-05 (345-424)
SSWD 9	Production	38.6110	-121.3634	270	170	225	125	MW-11M (258-268)
SSWD 13	Production	38.6198	-121.3961	374	350	368	123	MW-05 (345-424); MW-10; 2A; 4B; 40A
SSWD 20A	Production	38.5978	-121.3813	475	194	400	138	MW-11M (258-268)
SSWD 26	Production	38.6181	-121.3591	360	194	283	149	MW 10 (210-262)
SSWD 30	Production	38.6046	-121.4227	460	370	410	211	MW-05 (345-424)
SSWD 32A	Production	38.6145	-121.3504	355	254	355	145	MW-Churchill M (230-270)
SSWD 33A	Production	38.6412	-121.3704	320	198	318	131	MW 10 (210-262)
SSWD 35	Production	38.6005	-121.3591	316	152	312	155	MW-11M (258-268)
SSWD 40A	Production	38.6305	-121.3978	780	270	742	200	MW-05 (345-424)
SSWD 47	Production	38.5945	-121.3519	350	145	346	154	MW-11M (258-268); MW-11D (332-365)
SSWD 55A	Production	38.5873	-121.3584	368	182	358	153	MW-11M (258-268); MW-11D (332-365)
SSWD 60	Production	38.6279	-121.3586	435	165	430	146	MW 10 (210-262)
SSWD 65	Production	38.6362	-121.3751	347	187	342	141	MW 10 (210-262); SSWD 33A
SSWD 66	Production	38.6249	-121.3623	398	170	393	169	MW 10 (210-262)
SSWD 70	Production	38.5788	-121.4110	285	160	280	140	MW 12A (200-280); MW-4 (55-65)
SSWD 71	Production	38.5841	-121.3534	425	165	415	114	SSWD 72 (320-875); MW-6 (62-72)
SSWD 73	Production	38.5832	-121.3368	640	315	630	151	SSWD 72 (320-875)
SSWD 74	Production	38.5823	-121.3382	645	195	635	151	SSWD 72 (320-875)
MW-4	Monitoring	38.5841	-121.4185	65	55	65	47	N/A
MW-05	Monitoring	38.6113	-121.4100	424	345	424	99	N/A
MW-6	Monitoring	38.5828	-121.3385	72	62	72	50	N/A
MW-10	Monitoring	38.6310	-121.3864	265	210	262	114	N/A
MW-11M	Monitoring	38.6038	-121.3882	278	258	268	94	N/A
MW-11D	Monitoring	38.6038	-121.3882	375	332	365	94	N/A
MW-12A	Monitoring	38.5947	-121.3985	285	200	280	68	N/A
SSWD 72	Monitoring	38.5849	-121.3385	885	320	875	106	N/A
SAC-091	Production	38.6115	-121.4786	344	170	324	76	SAC-092 (116-308)

SAC-093	**Production**	**38.6220**	**-121.4766**	**328**	**146**	**292**	**54**	**SAC-092 (116-308)**
SAC-120	**Production**	**38.6207**	**-121.4426**	**440**	**233**	**420**	**103**	**SAC-092 (116-308)**
SAC-122	**Production**	**38.6202**	**-121.4316**	**422**	**230**	**400**	**108**	**SAC-127 (161-401)**
SAC-129	**Production**	**38.6383**	**-121.4467**	**401**	**136**	**295**	**108**	**SAC-127 (161-401)**
SAC-131	**Production**	**38.6399**	**-121.4274**	**280**	**150**	**270**	**128**	**SAC-127 (161-401)**
SAC-133	**Production**	**38.6470**	**-121.4684**	**514**	**235**	**510**	**108**	**SAC-164 (222-625)**
SAC-137	**Production**	**38.6296**	**-121.4198**	**410**	**80**	**245**	**127**	**SAC-127 (161-401)**
SAC-138	**Production**	**38.6414**	**-121.4359**	**375**	**113**	**370**	**121**	**SAC-127 (161-401)**
SAC-139	**Production**	**38.5966**	**-121.4582**	**255**	**90**	**250**	**74**	**SAC-157 (132-372)**
SAC-143	**Production**	**38.6222**	**-121.4458**	**330**	**140**	**330**	**127**	**SAC-092 (116-308)**
SAC-153A	**Production**	**38.6543**	**-121.4468**	**626**	**260**	**616**	**130**	**SAC-164 (222-625)**
SAC-155	**Production**	**38.6343**	**-121.4115**	**427**	**175**	**427**	**148**	**SAC-127 (161-401)**
SAC-158	**Production**	**38.5963**	**-121.4269**	**328**	**113**	**313**	**96**	**SAC-157 (132-372)**
SAC-165	**Production**	**38.4533**	**-121.4142**	**1193**	**1063**	**1183**	**TBD**	**SAC-165a (1080-1180)**
SAC-092	**Monitoring**	**38.6176**	**-121.4972**	**435**	**116**	**308**	**38**	**N/A**
SAC-127	**Monitoring**	**38.6267**	**-121.4295**	**401**	**161**	**401**	**90**	**N/A**
SAC-157	**Monitoring**	**38.5944**	**-121.4451**	**377**	**132**	**372**	**55**	**N/A**
SAC-164	**Monitoring**	**38.6580**	**-121.4646**	**635**	**222**	**625**	**73**	**N/A**
SAC-165a	**Monitoring**	**38.4531**	**-121.4149**	**1201**	**1080**	**1180**	**73**	**N/A**
W-041	**Production**	**38.4192**	**-121.4186**	**256**	**176**	**236**	**198**	**W-51 (200-249)**
W-042	**Production**	**38.4197**	**-121.4437**	**245**	**173**	**245**	**132**	**W-51 (200-249)**
W-043	**Production**	**38.4187**	**-121.4377**	**252**	**122**	**232**	**130**	**W-51 (200-249)**
W-047	**Production**	**38.4254**	**-121.4299**	**250**	**108**	**218**	**110**	**W-51 (200-249)**
W-056	**Production**	**38.4054**	**-121.4761**	**265**	**168**	**243**	**31**	**W-072 (152 - 192) Alt: W107 (150 - 214)**
W-061	**Production**	**38.4657**	**-121.3700**	**914**	**744**	**896**	**288**	**W-060 (110 - 190); W-068 (842-906)**
W-064	**Production**	**38.4601**	**-121.3562**	**920**	**780**	**920**	**280**	**W-060 (110 - 190); W-068 (842-906)**
W-065	**Production**	**38.4383**	**-121.3873**	**250**	**150**	**220**	**131**	**W-060 (110 - 190)**
W-067	**Production**	**38.4563**	**-121.3533**	**1087**	**918**	**1072**	**210**	**W-060 (110 - 190); W-068 (842-906)**
W-068	**Production**	**38.46**	**-121.3625**	**921**	**842.00**	**906.00**	**136**	**W-060 (110 - 190)**
W-069	**Production**	**38.4455**	**-121.3533**	**880**	**559**	**870**	**295**	**W-060 (110 - 190); W-068 (842-906)**
W-070	**Production**	**38.4311**	**-121.4583**	**740**	**252**	**730**	**65**	**W-072 (152 - 192) Alt: W107 (150 - 214)**
W-075	**Production**	**38.4047**	**-121.4810**	**270**	**162**	**248**	**31**	**W-072 (152 - 192) Alt: W107 (150 - 214)**
W-078	**Production**	**38.3904**	**-121.4153**	**1337**	**855**	**1300**	**275**	**W-116 (1117 - 1314)**

W-109	**Production**	**38.3976**	**-121.4193**	**1368**	**1092**	**1329**	**260**	**W-116 (1117 - 1314)**
W-110	**Production**	**38.3966**	**-121.4241**	**1350**	**1167**	**1298**	**231**	**W-116 (1117 - 1314)**
W-126	**Production**	**38.4055**	**-121.4003**	**1440**	**995**	**1430**	**220**	**W-116 (1117 - 1314)**
W-129	**Production**	**38.4036**	**-121.4030**	**1430**	**1074**	**1420**	**220**	**W-116 (1117 - 1314)**
W-130	**Production**	**38.4055**	**-121.4115**	**1493**	**1050**	**1465**	**110**	**W-116 (1117 - 1314)**
W-051	**Monitoring**	**38.4203**	**-121.4057**	**265**	**200.00**	**249.00**	**96.5**	**N/A**
W-060	**Monitoring**	**38.4657**	**-121.37**	**220**	**110**	**190**	**66.5**	**N/A**
W-072	**Monitoring**	**38.4227**	**-121.4568**	**350**	**125.00**	**325.00**	**58**	**N/A**
W-107	**Monitoring**	**38.4092**	**-121.4799**	**310**	**150.00**	**214.00**	**58**	**N/A**
W-116	**Monitoring**	**38.3916**	**-121.4195**	**1342**	**1117**	**1314**	**80**	**N/A**
CHWD 08	**Production**	**38.6794**	**-121.2861**	**479**	**294**	**400**	**TBD**	**CHWD 01A (256-450)**
CHWD 11	**Production**	**38.6974**	**-121.2776**	**335**	**210**	**325**	**TBD**	**CHWD 10 (200-326)**
CHWD 13	**Production**	**38.6784**	**-121.2899**	**380**	**230**	**370**	**TBD**	**CHWD 01A (256-450)**
CHWD 15	**Production**	**38.6956**	**-121.2761**	**420**	**220**	**410**	**TBD**	**CHWD 10 (200-326)**
FOWD Heather	**Production**	**38.6504**	**-121.2910**	**630**	**275**	**610**	**220**	**Winding Way (170-595)**
FOWD Town	**Production**	**38.6433**	**-121.2697**	**605**	**250**	**585**	**230**	**Winding Way (170-595)**
FOWD Northridge	**Production**	**38.6596**	**-121.2555**	**475**	**308**	**470**	**323**	**FO-1596 (333-343)**
FOWD Madison	**Production**	**38.6647**	**-121.2475**	**566**	**326**	**556**	**310**	**FO-1596 (333-343)**
CHWD 01A	**Monitoring**	**38.6613**	**-121.2930**	**455**	**256**	**450**	**TBD**	**N/A**
CHWD 10	**Monitoring**	**38.6986**	**-121.2697**	**331**	**200**	**326**	**TBD**	**N/A**
FO-1596	**Monitoring**	**38.6481**	**-121.2531**	**343**	**333**	**343**	**182**	**N/A**
CAR-Willow Park	**Production**	**38.6049**	**-121.3427**	**271**	**221**	**269**	**159**	**MW-Churchill M (230-270)**
CAR-Garfield Ave	**Production**	**38.6230**	**-121.3360**	**637**	**130**	**637**	**164**	**MW - Churchill S (130-150); MW-Churchill D (490-510)**
CAR-LaVista Drive	**Production**	**38.6194**	**-121.3326**	**500**	**230**	**495**	**164**	**MW-Churchill M (230-270)**
CAR-Barrett School	**Production**	**38.6419**	**-121.3154**	**488**	**356**	**482**	**203**	**MW-Churchill D (490-510)**
Winding Way	**Production**	**38.6451**	**-121.3066**	**600**	**170**	**595**	**175**	**MW-Churchill M (230-270); MW-Churchill (490-510)**
MW-Churchill S	**Monitoring**	**38.6280**	**-121.3493**	**170**	**130**	**150**	**120**	**N/A**
MW-Churchill M	**Monitoring**	**38.6280**	**-121.3493**	**290**	**230**	**270**	**121**	**N/A**
MW-Churchill D	**Monitoring**	**38.6280**	**-121.3493**	**530**	**490**	**510**	**122**	**N/A**