



Via e-mail

July 8, 2021

Members of the Advisory Committee
Salinas Valley Basin Groundwater Sustainability Agency
P.O. Box 1350
Carmel Valley, CA 93924

Re: Moratorium on new Deep Aquifer pumping pending completion of study

Dear Members of the Advisory Committee:

The Advisory Committee should recommend that the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) enact a pumping moratorium on new Deep Aquifer wells permitted after July 1, 2021 in the 180/400-Foot Aquifer Subbasin pending completion of the proposed Deep Aquifer study. The reasons for this proposal are set out in LandWatch's June 9, 2021 letter to the SVBGSA Board of Directors, attached hereto as Exhibit 1.

Despite Monterey County Water Resources Agency's (MCWRA's) 2017 and 2020 recommendations for a moratorium on new Deep Aquifer wells, pumping from the Deep Aquifers has accelerated dramatically. Pumping in 2019 reached 10,347 AFY, despite the findings in the 2003 WRIME study that pumping even 4,000 AFY would aggravate seawater intrusion in the overlying aquifers and potentially contaminate the Deep Aquifers themselves. Groundwater levels in the Deep Aquifers have in fact fallen substantially since 2014, increasing the downward hydraulic gradient between the Deep Aquifers and the 400-Foot Aquifer and inducing vertical migration of impaired groundwater.

LandWatch believes that Priority Management Action Number 5 in the 180/400-Foot Aquifer Subbasin Groundwater Sustainability Plan (180/400 GSP) requires that the GSA take action. Priority Management Action Number 5 provides categorically that new Deep Aquifer pumping will not be allowed until the study is completed:

SVBGSA will support extension of Ordinance 5302 immediately. Deep Aquifers pumping will only be allowed after MCWRA completes its study of the Deep Aquifers' sustainable yield.

(180/400 GSP, p. 9-20, emphasis added.) The 180/400 GSP explains that the GSA itself has the authority to halt extractions from the Deep Aquifer, citing California Water Code §10726.4 (a)(2). (*Id.* at 9-20.)

SGMA requires that a GSP "shall include a description of the projects and management actions the Agency has determined will achieve the sustainability goal for the basins." (23 CCR § 354.44(a), emphasis added.) The management actions must be described in detail and must be "supported by best available information and best available science." (23 CCR § 354.44(b), (c).) Here, the 180/400 GSP identifies specific measurable objectives and expected benefits from Priority Management Action Number 5, including reduced seawater intrusion, reduced

vertical migration of contaminants, attainment of groundwater storage objectives, and avoidance of unreasonable groundwater elevations. (180/400 GSP, pp. 9-19 to 9-20.)

Management actions are not just a paper exercise. The GSA must actually implement the management actions that the GSP identifies as necessary to sustainability. The GSA must periodically evaluate “whether the actions under the plan are meeting the plan’s management objectives and whether those objectives are meeting the sustainability goal in the basin.” (Water Code, § 10728.2.) DWR must also find that the GSA is actually implementing its projects and management actions. (23 CCR § 355.6(c)(2).)

Despite this, the GSA’s legal counsel has argued the GSA has no “independent duty” to restrict pumping in the Deep Aquifers, despite the County’s failure to take the very action on which the GSP’s conclusions were predicated. (Les Girard, memorandum to SVBGSA Board of Directors, June 30, 2021, p. 2.) Mr. Girard argues that the GSP assumed that the *County* would impose the necessary moratorium and that “there is nothing in the text indicating that the SVBGSA will impose its own moratorium or extraction limitations, only that the SVBGSA will support a further moratorium imposed by the County of Monterey.” (*Id.*)

This strained and formalistic reading of the GSP ignores the substantive basis of the GSP’s sustainability conclusions, which is that *no new pumping from the Deep Aquifers will be allowed until the study is completed*. The GSA cannot reasonably find that the “actions under the plan are meeting the plan’s management objectives” (Water Code, § 10728.2) if those actions have been aborted by a third party’s failure to act. The GSA should use its authority and accept its duty to take the action necessary to meet the GSP’s stated objectives and to obtain its express benefits.

Sincerely,



Michael D. DeLapa
Executive Director

Cc: SVBGSA Board of Director, board@svbgsa.org
Donna Meyers, meyersd@svbgsa.org
Gary Petersen, peterseng@svbgsa.org

EXHIBIT 1

Landwatch letter to SVBGSA Board, June 9, 2021

June 9, 2021

Via e-mail

Members of the Board of Directors
Salinas Valley Basin Groundwater Sustainability Agency
P.O. Box 1350
Carmel Valley, CA 93924
Via email board@svbgsa.org

Re: Failure to implement the Salinas Valley Groundwater Basin 180/400-Foot
Aquifer Subbasin Groundwater Sustainability Plan

Dear Members of the Board:

We write to object to the failure of the Salinas Valley Groundwater Basin Groundwater Sustainability Agency (SVGBGSA) to take effective steps to implement a critical part of the Salinas Valley Groundwater Basin 180/400-Foot Aquifer Subbasin Groundwater Sustainability Plan (GSP).

The GSA has failed to implement “Priority Management Action # 5” in the GSP, which calls for a moratorium on additional well drilling in the Deep Aquifers in the 180/400-Foot Aquifer Subbasin pending completion of a study to determine their sustainable yield. Since its January 2020 adoption of the GSP, the SVGBGSA has not taken action to effect that moratorium and neither Monterey County nor the SVGBGSA have begun the study of the Deep Aquifers.

The County and the SVGBGSA have allowed new wells and increased pumping in the Deep Aquifers to impair water quality and to mine a groundwater resource. In May 2020, Monterey County permitted its moratorium on Deep Aquifer wells to expire, but the SVGBGSA failed to impose pumping restrictions, despite its authority to do so under Water Code Section 10726.4(a)(2). Since then, Monterey County has resumed issuing permits for Deep Aquifer wells. In 2020, 5 additional high capacity Deep Aquifer wells were constructed, and as of May 3, 2021, there were at least two additional permit applications pending. Pumping from the Deep Aquifers is now more than two and a half times the level that was projected to induce seawater intrusion in the upper aquifers and potentially intrude contaminated groundwater into the Deep Aquifers themselves.

The SVGBGSA should take immediate action to implement the GSP by prohibiting pumping from any new wells constructed in the Deep Aquifers. If the SVGBGSA fails to implement the GSP, the Department of Water Resources should compel it to do so under its authority to ensure that an adopted GSP “is being

implemented in a manner that will likely achieve the sustainability goal for the basin.” (23 CCR § 355.6(a).) In determining whether GSP implementation is consistent with SGMA, DWR is charged to consider whether “the Agency is implementing projects and management actions consistent with the Plan.” (23 CCR § 355.6(c)(2).) Here, it is clear that the continued permitting and construction of new wells in the Deep Aquifers is inconsistent with the GSP, which calls for a continued moratorium on such wells. Because the SVGBGSA has determined that a moratorium is needed to protect the Deep Aquifers pending completion of a study to determine sustainable yield, the failure to complete the study or to halt new wells demonstrates a failure to protect and manage the aquifers using the “best available science.” (23 CCR § 355.4(b)(1).)

A. Background

There are a number of subbasins and “management areas” in the Salinas Valley Groundwater Basin. Although the full areal extent of the Deep Aquifers is unknown, the Deep Aquifers are located in the 180/400 Foot Aquifer Subbasin and the Monterey Subbasin, which are both coastal subbasins in the Pressure Subarea. There are several aquifers in these subbasins, denoted by their depth. Relevant historically productive aquifers in the coastal area include the 180-Foot Aquifer, the 400-Foot Aquifer, and the Deep Aquifers. (Brown and Caldwell 2015, MCWRA 2017.) The coastal areas of the 180-Foot Aquifer and the 400-Foot Aquifer suffer from seawater intrusion due to overdraft, which lowers the groundwater level below sea level. Since these aquifers are open to the sea, the seawater intrudes when the freshwater level has been lowered and no longer provides a barrier. (Geoscience 2013.)

The Deep Aquifers are poorly understood, but they are believed to be at least two separate aquifers. (WRIME 2003, p. 2-31; MCWD 2016, p. 37.) “The hydrostratigraphy, vertical and horizontal extents, and potential recharge areas for the Deep Aquifers are poorly known.” (SVGBGSA 2020, p. 4-29; see also WRIME 2003, pp. 2-31 to 2-32.) However, the Deep Aquifers are believed to contain ancient water and there is currently no known source of recharge other than leakage of groundwater from aquifers above the Deep Aquifers, i.e., the 180-Foot and 400-Foot Aquifers. (WRIME 2003, p. 2-32; MCWRA 2020, pp. 35, 37; MCWD 2016, p. 37; MCWRA 2017 p. 53.) The “continued pumping of this old water represents mining of a groundwater resource.” (MCWRA 2020, p. 37.)

The first production well in the Deep Aquifers was installed in 1974. (MCWRA 2017, p. 47.) From 1974 through the 1990s, new agricultural production wells went deeper and deeper to avoid seawater intrusion in the upper aquifers. (MCWRA 2017, p. 48.)

The use of the Deep Aquifers for groundwater production has been driven by the need to drill deeper in order to avoid seawater intrusion, with wells being installed to subsequently deeper elevations with fresh-water-bearing materials.

(MCWRA 2017, p. 47.) Five agricultural production wells were drilled between 1974 and 1995. (MCWRA 2021, Figure 2.) In 1998, the Castroville Seawater Intrusion Project (CSIP) began to deliver recycled water to replace coastal pumping. (MCWRA 2017, p. 37.) Thus, for a period after 1998, agricultural pumping from the Deep Aquifers largely ceased and groundwater levels recovered. (MCWD 2016, p. 38; MCWRA 2017, pp. 27, 49-50.) No new agricultural wells were drilled in the Deep Aquifers from 1996 to 2005. (MCWRA 2021, Figure 2.) At that point, the only significant user of the Deep Aquifers was the City of Marina, whose wells in the 180- and 400-foot aquifers had become contaminated by seawater. (MCWD 2016, p. 45.)

A 2003 study for MCWD concluded that increasing pumping of the Deep Aquifers from the 2002 baseline level of 2,400 AFY to 4,000 AFY would (1) induce further seawater intrusion into the upper aquifers (the 180-Foot and 400-Foot Aquifers), which were vertically connected, and (2) risk contamination of the Deep Aquifers themselves. (WRIME 2003, pp. 4-7, 4-11 to 4-12.)

Unfortunately, construction of new agricultural production wells resumed in 2006 and accelerated in 2017-2020. (MCWRA 2021, Figure 2.) Today there are 57 Deep Aquifer wells in the 180-Foot and 400-Foot Aquifer Subbasin, including at least 32 agricultural wells. (*Id.*) Reported groundwater pumping has increased four-fold since 2002, from 2,416 AFY to 10,347 in 2019. (*Id.*)

So far, the Deep Aquifers are not believed to have been *directly* seawater intruded as a result of aquifer openings to the ocean. However, vertical flow from upper aquifers occurs, especially from wells that have been perforated multiple aquifers or are not properly sealed. This leakage permits migration of impaired groundwater between the upper aquifers and also to the Deep Aquifers. MCWRA reported in 2017 that this migration is induced and accelerated by over-pumping the Deep Aquifers.

WRIME (2003) and Feeney and Rosenberg (2003) suggest that the predominant source of recharge to the Deep Aquifers is leakage from the overlying Pressure 180-Foot and Pressure 400-Foot Aquifers. Both of these aquifers have extensive areas of documented seawater intrusion overlying the Deep Aquifers. Continued pumping, and especially increased pumping, in the Deep Aquifers has the potential to induce additional leakage from the impaired overlying aquifers.

(MCWRA 2017, p. 54; *see also* MCWRA 2017, pp. 52, 53; MCWRA 2017, pp. 34-37 [discussing advancing seawater intrusion in the 400-Foot Aquifer due to vertical migration from the 180-Foot Aquifer].) MCWRA reported in 2017 that, despite efforts to limit inter-aquifer migration, “water quality data now show regional impacts from groundwater pumping are overriding the preventative measures implemented on the basis of site-specific hydrogeology, allowing for continued inter-aquifer migration of groundwater and advancement of seawater intrusion.” (MCWRA 2017, p. 37.)

MCWRA again warned in 2020 that the vertical migration of upper aquifer water that is induced by additional pumping of the Deep Aquifers may carry contaminated groundwater to lower aquifers:

As discussed in Section 5.2.9 of the 2017 Recommendations report, groundwater obtained through pumping of wells in the Deep Aquifers is thought to be recharged primarily by leakage from the overlying 180-Foot and 400-Foot Aquifers (Feeney and Rosenberg, 2003). Increasing groundwater pumping in the Deep Aquifers will likely result in increased leakage from overlying aquifers with impaired groundwater.”

(MCWRA 2020, p. 35.) MCWRA reported in 2020 that Deep Aquifer groundwater levels have been falling since 2014, are well below sea-level, and that induced vertical migration of contaminated water to the Deep Aquifers themselves is in fact occurring:

As is the case with the 180-Foot and 400-Foot Aquifers, groundwater levels in the Deep Aquifers are predominantly below sea level. Beginning around 2014, groundwater levels in the Deep Aquifers began declining and are presently at a deeper elevation than groundwater levels in the overlying 400-Foot Aquifer based on comparisons of multiple well sets at selected locations, meaning that there is a downward hydraulic gradient between the impaired 400-Foot Aquifer and the Deep Aquifers (Figure 16 and Figure 17). This decrease in groundwater levels coincides with a noticeable increase in groundwater extractions from the Deep Aquifers (Figure 16 and Figure 17). The potential for inducing additional leakage from overlying impaired aquifers is a legitimate concern documented by previous studies and is something that would be facilitated by the downward hydraulic gradient that has been observed between the 400-Foot Aquifer and Deep Aquifers.

Seawater intrusion has not been observed in the Deep Aquifers. However, the Agency has documented the case of one well, screened in the Deep Aquifers, that is enabling vertical migration of impaired groundwater into the Deep Aquifers. The Agency is working with the well owner on destruction of this well

(MCWRA 2020, p. 31.)

B. Increasing Deep Aquifer well construction and pumping led to two-year moratorium on new Deep Aquifer wells from May 2018 to May 2020 to give the County time to conduct a study to determine sustainable yield.

By 2016, there were more than 40 wells in the Deep Aquifers, including high production agricultural wells, and pumping had reached 8,900 AFY – more than twice the 4,000 AFY level that the 2003 WRIME study concluded would induce seawater intrusion to the upper aquifers and put the Deep Aquifer itself at risk. (MCWRA 2017, pp. 47, 52.) In a 2017 study, MCWRA recommended a moratorium on new wells in the upper aquifers in the so-called “Area of Impact,” the coastal area already suffering from

seawater intrusion. MCWRA also recommended a moratorium on new wells in the Deep Aquifers pending a sustainability study, noting that the moratorium on upper aquifer wells would drive people to drill more wells in the Deep Aquifers.

The recommendation to prohibit construction of new wells in the Area of Impact and, following the enhancement and expansion of CSIP, to cease groundwater pumping within the Pressure 400-Foot Aquifer in the Area of Impact, has the potential to result in increased pumping in the Deep Aquifers. History has shown that once well construction and/or pumping is prohibited in a given area, people are very likely to drill wells to the next deepest water-bearing zone which, in this case, would be the Deep Aquifers. The construction and pumping of more wells in the Deep Aquifers will induce further leakage from the impaired overlying aquifers (Pressure 180-Foot and Pressure 400-Foot Aquifers), potentially degrading the water quality of the Deep Aquifers.

(*Id.*, p. 54.) MCWRA recommended a ban on Deep Aquifer wells continue until completion of a study because the Deep Aquifers are poorly understood.

Scant data exists on the hydraulic properties of the Deep Aquifers. The areal extent, quantified rates of recharge, and estimates of water available for extraction are all topics that are poorly understood when it comes to the Deep Aquifers. Investigation of these and related topics should be completed before pursuit of groundwater from the Deep Aquifers continues.

(*Id.*, p. 54.) MCWRA specifically recommended that there be no exception for “replacement wells,” i.e., wells that replace an existing well that fails due to water quality problems of structural failure. (*Id.*, p. 60.)

At the direction of the MCWRA Board of Directors and the County Board of Supervisors, a working group was convened for 90 days to develop an interim urgency ordinance. (Monterey County 2018a [Ordinance 5302, recital 6].) Based on some of this group’s recommendations, in May 2018, the County enacted Urgency Ordinance No. 5302 imposing a 45-day moratorium on new wells in the 180, 400, and Deep Aquifers in the "Area of Impact," generally northwest of Davis Road. The ordinance also prohibited any new well in the Deep Aquifers outside the Area of Impact. As planned, on June 26, 2018, the Board adopted Ordinance No. 5303 which extended Ordinance No. 5302 until May 21, 2020, thus providing for a two year moratorium. (Monterey County 2018a, b [Ordinances 5302 and 5303].)

The announced intent of the moratorium in Ordinances 5302 and 5303 was to give the County and the SVGBGSA time to study the Deep Aquifer and develop further regulations within two years.

This ordinance's temporary prohibition on drilling of new wells in the identified areas is necessary due to the current and immediate threat to the public health,

safety, and welfare that would result from new wells in the Area of Impact and Deep Aquifers, pending the development of a plan for the sustainable management of the 180/400 Foot Aquifer Subbasin and the study and implementation of other steps to address seawater intrusion in the Pressure 180-Foot and Pressure 400-Foot Aquifers. *It is the intent and purpose of this interim ordinance to enact a ban that is only temporary in order to provide time for the County to study and develop appropriate regulations.* The areas where this ordinance applies will be the subject of study and development of further regulations, within two years of adoption of this ordinance, to address the sustainability of the groundwater supply. Pursuant to the Sustainable Groundwater Management Act (SGMA), the Salinas Valley Basin Groundwater Sustainability Agency and the Marina Coast Water District Groundwater Sustainability Agency must adopt Groundwater Sustainability Plans (GSPs) for sustainable management of the critically overdrafted 180/400 Foot Aquifer by January 31, 2020. Additionally, pursuant to Policy PS 3.1 of the 2010 Monterey County General Plan, the County is conducting a five-year comprehensive study of the Zone 2C assessment area of the Salinas Valley Groundwater Basin, including development of an integrated comprehensive hydrogeologic model to assess the ability of the Salinas Valley Groundwater Basin to provide a sustainable supply of water for land use activities projected to year 2030 under the General Plan and to 2040 for the GSP planning horizon. Additionally, on April 24, 2018, the Board of Supervisors endorsed a number of other measures recommended by the Ninety-Day Working Group for addressing seawater intrusion, such as destruction of certain identified wells. *A temporary halt on drilling of new wells in the denoted areas under this ordinance will enable the County to study and develop policies and regulations in connection with the Groundwater Sustainability Plans and results of the General Plan study and to implement other recommended actions.* Absent this ordinance, applicants could continue to obtain well permits that could exacerbate seawater intrusion without the guidance of regulations to be developed for the sustainable management of the Salinas Valley Groundwater Basin.”

(Monterey County 2018a, emphasis added [Ordinance 5302, recital 8].)

C. Despite MCWRA’s recommendations to the contrary, the County continues to permit so-called “replacement wells” in the Deep Aquifers.

Contrary to MCWRA’s 2017 recommendation, the 2018-2020 moratorium in Ordinances 5302 and 5303 exempted “replacement wells,” i.e., wells drilled to replace the water supply previously obtained from wells that have failed due to seawater intrusion or structural collapse. (Monterey County 2018a [Ordinance 5302, Section 5.A.4 and 5]; see MCWRA 2017, p. 45.) Thus, the County continued to permit Deep Aquifer wells during the moratorium as long as they were considered replacement wells. (MCWRA 2020, p. 29.) Indeed, as the moratorium was about to lapse in May 2020, MCWRA found that exemption for replacement wells had actually increased well construction in the Deep Aquifers above the previous rate of well construction.

The exemption for replacement wells has brought about an increase in the number of wells installed in the Deep Aquifers on an annual basis. Prior to approval of Ordinance No. 5302, typically one or two wells were installed in the Deep Aquifers in a given year. Prior to 2006, many years had no new Deep Aquifers wells being drilled. In comparison, four new wells were installed in the Deep Aquifers in 2018: two replacement wells and two wells that were permitted prior to approval of Ordinance No. 5302. In 2019, four replacement wells were drilled in the Deep Aquifers (Figure 14) and so far in 2020, one replacement well has been drilled in the Deep Aquifers.

(MCWRA 2020, p. 29.)

In its May 2020 report to the Monterey County Board of Supervisors, issued just as the two-year moratorium was set to expire, MCWRA recommended continuing the Ordinance's restrictions, *and also prohibiting replacement wells*. (MCWRA 2020, p. 6.) The report noted the existence of the "previously unseen phenomenon" of seawater intrusion via vertical migration from the 180-Foot Aquifer to the 400-Foot Aquifer. (*Id.*, p. 1; see *id.* pp. 15.) The report explains that the "downward groundwater gradient between the 180-Foot Aquifer and 400-Foot Aquifer . . . acts as a driving force for vertical migration or inter-aquifer seawater intrusion." (*Id.*, p. 25.) This finding is consistent with earlier warnings that increased pumping of the Deep Aquifers *also* creates a downward gradient that may induce seawater intrusion into the upper aquifers. (See, e.g., MCWRA 2017, p. 54; WRIME 2003, pp. 4-7, 4-11 to 4-12.) MCWRA's 2020 report also documented at least one case of vertical migration of contaminated groundwater to the Deep Aquifer. (*Id.*, p. 31.)

Indeed, MCWRA's 2020 report found that "[i]ncreasing groundwater pumping in the Deep Aquifers will likely result in increased leakage from overlying aquifers with impaired groundwater." (*Id.*, p. 35.) And the report noted that replacement wells are in fact resulting in substantially increased Deep Aquifer pumping:

As discussed in Section 4.3, eleven replacement wells have been permitted for installation in the Deep Aquifers; seven of these have been constructed as of April 2020. All eleven replacement wells are proposed for agricultural irrigation use. . . . If all eleven replacement wells were to pump an equivalent annual volume of groundwater from the Deep Aquifers as the wells they are replacing in the 400-Foot Aquifer, as most applicants have indicated is their intention, an additional 2,400 acre-feet per year of groundwater would be extracted from the Deep Aquifers (Figure 19). This added pumping would be an increase of 23% over the 2019 annual extractions from the Deep Aquifers. Additionally, there are two wells in the Deep Aquifers that were permitted prior to passage of Ordinance No. 5302 that are also not yet operational, but which will also contribute to increasing future groundwater extractions from the Deep Aquifers once they are brought into production.

(MCWRA 2020, p. 34.)

MCWRA's 2020 report recommended that the prohibitions continue until such time as the Deep Aquifers can be studied to determine its sustainable yield. (MCWRA 2020 pp. 26-27.) MCWRA explained that the conditions described in the Findings and Declarations of Ordinance Nos. 5302 and 5303, which supported the moratorium adoption, continue to exist and worsen, and thus continue to pose an immediate threat to the public peace, health and safety. MCWRA's findings in support of its recommendation to ban new Deep Aquifer wells, including new replacement wells include the following:

- “Wells are being installed in the Deep Aquifers at an increasing rate through use of the exemption for replacement wells allowed by Ordinances No. 5302 and No. 5303.
- “Groundwater extractions from the Deep Aquifers have increased 21% since the 2017 Recommendations report was released.
- “Extractions from the Deep Aquifers are expected to increase an additional 23% over 2019 extractions once all replacement wells that have been permitted thus far become operational.
- “Isotope analysis of water from the Deep Aquifers indicates that it is not derived from recent recharge (Hanson et al., 2002). Though stored groundwater may not be the primary source of current extractions in the Deep Aquifers, continued pumping of this old water represents mining of a groundwater resource.
- “There continues to be a scant amount of data on many facets of the Deep Aquifers geologic, hydrologic, and geographic properties. With the addition of new agencies that will be managing aspects of the Deep Aquifers, a comprehensive understanding of the Deep Aquifers is essential for near-term decision making and long-term water resources planning.”

(MCWRA 2020, p. 37.) Despite MCWRA's recommendation to extend the moratorium and to prohibit replacement wells, the Board of Supervisors allowed the moratorium to lapse at their May 19, 2020 meeting. (Monterey County, 2020b [Board Order].)

With the May 2020 lapse of the moratorium, the County was able to process applications to permit Deep Aquifer wells and began doing so. The County briefly suspended new well permitting from August 2020 to December 2020 when the California Supreme Court held in *Protecting Our Water and Environmental Resources v. County of Stanislaus* (2020) 10 Cal.5th 479, 497 that well permits are not automatically exempt from CEQA review as “ministerial” actions. (Monterey County, 2020a [Ordinance 5339].) However, that 90-day moratorium continued to allow issuance of replacement well permits. (*Id.*) And that 90-day moratorium was allowed to lapse in December 2020. The County continues to issue Deep Aquifer replacement well permits and to do so without any CEQA review, relying on CEQA's exemption for “emergency” projects.

As of May 2021, 57 total wells have been installed in the Deep Aquifers, of which 25 were installed in the past 10 years, 14 in the past three years, and 5 in 2020. (MCWRA 2021, pp. 1, 4 [Figure 1].) As noted, MCWRA has concluded that the increased pumping of Deep Aquifer wells has been lowering Deep Aquifer groundwater levels since 2014, increasing the vertical gradient between the Deep Aquifer and the overlying 400-Foot Aquifer, and inducing migration of contaminated groundwater into the Deep Aquifers. (MCWRA 2020, pp. 31, 35.)

D. Neither the County nor SVGBGSA has commenced or funded the Deep Aquifer study recommended over three years ago.

As of May 2020, two years after the moratorium that was enacted to enable the County to study the Deep Aquifer, MCWRA reported that no funding had yet been identified for a Deep Aquifer study. (MCWRA 2020, p. 35.) As of March 21, 2021, neither the County of Monterey nor the SVGBGSA had actually funded, much less commenced, the Deep Aquifer study recommended by MCWRA in October 2017, over three years earlier. (SVGBGSA 2021, p. 7 [“Time to start the conversation on how to get this done!”].)

E. The 180/400-Foot Aquifer Subbasin Groundwater Sustainability Plan provisions to protect the Deep Aquifers have not been implemented.

The GSP does not adequately assess or address the Deep Aquifers because, it acknowledges, there is insufficient data. The GSP acknowledges that the “hydrostratigraphy, vertical and horizontal extents, and potential recharge areas for the Deep Aquifers are poorly known.” (SVGBGSA 2020, p. 4-29.) Accordingly, it defers analysis to the future:

- “An aquifer properties assessment and deep aquifers investigation will be conducted to address key data gaps.” (*Id.*, p. ES-16; see p. 10-5.)
- “MCWRA does not produce groundwater elevation maps of the Deep Aquifers. Insufficient data currently exist to map flow directions and groundwater elevations in the Deep Aquifers. This is a data gap that will be addressed in GSP implementation.” (*Id.*, p. 5-14.)

Absent this data, the minimum thresholds were not meaningfully devised to protect the Deep Aquifer. For example, Table 8-2 sets the minimum threshold for chronic lowering of groundwater levels at -10 feet for the *single* Deep Aquifer well for which the GSP reports data. (*Id.*, p. 8-15.) But this minimum threshold has already likely been exceeded because MCWRA found that Deep Aquifer groundwater levels have been declining since 2014. (MCWRA 2020, p. 31.) Or, for example, the minimum threshold for seawater intrusion was set based on MCWRA’s mapping of the 500 mg/l chloride concentration seawater intrusion front. (SVGBGSA 2020, p. 8-32.) But MCWRA has not mapped or measured seawater intrusion in the Deep Aquifers. So, the GSP arbitrarily set the minimum threshold for seawater intrusion in the Deep Aquifers at the “line defined by

Highway 1.” (*Id.*, p. 8-6.) Since there is a no reported direct ocean connection to the Deep Aquifer, setting the minimum threshold for saline contamination as if seawater would advance from the ocean is meaningless. The acknowledged path of saline contamination that puts the Deep Aquifer at risk is vertical migration from upper aquifers. (*Id.*, pp. 5-42, 9-20.)

The only management action identified in the GSP to address risks to the Deep Aquifer is “Priority Management Action 5: Support and Strengthen Monterey County Restrictions on Additional Wells in the Deep Aquifers,” which was proposed in January 2020 when the County still had a moratorium on Deep Aquifer wells. Under this management action, SVGBGSA was supposed to ensure that the moratorium was extended until the Deep Aquifer sustainable yield is determined:

SVBGSA will work with Monterey County to extend this ordinance to prevent any new wells from being drilled into the Deep Aquifers until more information is known about the Deep Aquifers’ sustainable yield. MCWRA plans to complete this study of the Deep Aquifers over the next three years, when funding becomes available. SVBGSA will comment on the MCWRA study of the Deep Aquifers to ensure that the study and the resulting permanent regulations will promote groundwater sustainability as defined in this GSP.

(SVGBGSA 2020, p. 9-19.) The plan provides that “SVBGSA will support extension of Ordinance 5302 *immediately*. Deep Aquifers pumping will only be allowed *after* MCWRA completes its study of the Deep Aquifers’ sustainable yield.” (*Id.*, p. 9-20, emphasis added.) The plan notes that SVGBGSA has the authority to halt extractions from the Deep Aquifer:

California Water Code §10726.4 (a)(2) provides GSAs the authorities to control groundwater extractions by regulating, limiting, or suspending extractions from individual groundwater wells or extractions from groundwater wells in the aggregate (CWC, 2014).

(*Id.* at 9-20.)

The purported benefits of this management action were to be improved groundwater levels and groundwater storage and reduction of vertical migration of impaired groundwater from overlying aquifers. (*Id.* pp. 9-19 to 9-20.)

As noted, the County has allowed the moratorium to lapse and continues to permit Deep Aquifer wells. However, the SVGBGSA has not exercised its acknowledged authority to restrict Deep Aquifer pumping. The promised study of sustainable yield has neither commenced nor been funded. Groundwater levels in the Deep Aquifers continue to decline and the vertical migration of impaired groundwater from overlying aquifers is in fact occurring.

The SVGBGSA must now take action to implement the GSP by restricting pumping from Deep Aquifer wells pending completion of the Deep Aquifers study. Although the SVGBGSA cannot deny a well construction permit, it can restrict or ban pumping. (Water Code, §10726.4 (a)(2).) Thus, SVGBGSA should bar pumping from any new wells in the Deep Aquifers, which will have the same practical effect as would a County moratorium on well permits.

If the SVGBGSA is unwilling to take action to enforce its GSP, the DWR should use its authority to ensure that an adopted GSP “is being implemented in a manner that will likely achieve the sustainability goal for the basin.” (23 CCR § 355.6(a).) Although DWR *must* evaluate GSP implementation every five years, DWR “*may* evaluate the implementation of a Plan *at any time* to determine whether the Plan is consistent with the objectives of the Act and in substantial compliance with this Subchapter.” (23 CCR § 355.6(f), emphasis added.)

In determining whether GSP implementation is consistent with SGMA, DWR is charged to consider whether “the Agency is implementing projects and management actions consistent with the Plan.” (23 CCR § 355.6(c)(2).) Here, it is clear that the continued permitting and construction of new wells in the Deep Aquifers is not consistent with the GSP, which calls for a continued moratorium on such wells. Because the SVGBGSA has determined that a moratorium is needed to protect the Deep Aquifers pending completion of a study to determine sustainable yield, the failure to complete the study and to halt new wells constitutes a failure to protect and manage the aquifers using the “best available science.” (23 CCR § 355.4(b)(1).)

Neither the SVGBGSA nor DWR should wait to take action. Continued investments in very expensive Deep Aquifer wells is damaging the aquifer and creating expectations of continued water use that are very likely unsustainable and imprudent.

Yours sincerely,

M. R. WOLFE & ASSOCIATES, P.C.

A handwritten signature in blue ink, appearing to be 'JF', is written over a light blue rectangular background.

John Farrow

JHF:hs

Cc: Donna Meyers, SVGBGSA, meyersd@svbgsa.org
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References

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