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Mr. Dane Mathis
State of California
Department of Water Resources
3374 East Shields Avenue
Fresno, CA 93726

Dear Mr. Mathis,

Per your email of October 5, 2015, this letter provides supplemental comments on DWR's Draft List of Critically Overdrafted Basins (Draft List) on behalf of the Paso Robles Water Integrity Network (PR-WIN), a group comprised of overlying land owners in the Paso Robles Groundwater Basin (PRGWB).

I. Absence of Overdraft in Published Studies During the Base Period

Although DWR's methodology was designed to identify groundwater basins that experienced "critical conditions of overdraft" during the base period (1989-2009), **none** of the multiple studies that have been conducted and published on the PRGWB indicate that extractions during the base period exceeded natural recharge. Excerpts from several of these studies are provided below. Each of these studies should be carefully reviewed by DWR before including the PRGWB on the final list of critically overdrafted basins.

A. Paso Robles Groundwater Basin Study (Fugro West, 2002)

This study provided a comprehensive look at the Basin, and attempted to define the lateral and vertical extent of the aquifer, groundwater flow and movement, and water quality conditions. Based on the available data, the study compiled a hydrologic budget that estimated a perennial yield of 94,000 AF per year, with total pumping at 82,600 AF per year, or 88% of supply.

B. Paso Robles Groundwater Basin Study, Phase II: Numerical Model Development, Calibration, and Application (Fugro West 2005)

This study was used to help create a numerical model for the Basin and, in doing so, revised the perennial yield estimate for the Basin up to 97,700 AF per year. Total pumping was still

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C. Evaluation of Paso Robles Groundwater Basin Pumping – Water Year 2006 (Todd Engineers, 2009)

This study, published in 2009, attempted to estimate groundwater pumping for the year 2006, building on previous studies. Estimated basinwide pumping in 2006 was 88,154 AF, or about 90% of the perennial yield of 97,700 AF. Accordingly, as of the year 2006, no overdraft had occurred. This study was partially the product of the 2005 PRIOR Agreement, and the study noted that: "Key elements of the [PRIOR] Agreement are a **clear acknowledgement that the basin is not in overdraft now**…." (*Id.* at 1.)

The study also found that, while irrigated agricultural acreage in the Basin had increased by 100% between 1997 and 2006, agricultural pumping only increased by 20%, because of the offset caused by the shift from planting alfalfa (a high water use crop) to vineyards, which used less water. (*Id.* at 9.)

The study concluded that, even assuming *no* water management or conservation (and no supplemental projects such as the Nacimiento Pipeline, which has since started deliveries), **overdraft would not occur until the year 2017**. (*Id.*)

D. Paso Robles Groundwater Basin Water Balance Review and Update (Fugro 2010)

This report took another look at past data for water years 1998 through 2009 (the end of DWR's base period). The report concluded that pumping was "*approaching*" the "average annual perennial yield"—while cause for concern from a planning standpoint, this is a far cry from the demonstrated critical conditions of overdraft required for inclusion on DWR's Draft List.

E. Paso Robles Groundwater Basin Management Plan (March 2011) ["2011 Management Plan"]

This document is crucially important because, not only does it represent the culmination of 40 years of study of the PRGWB, it also is the document that contains the figure depicting a significant lowering of groundwater levels that apparently caused the PRGWB to be added to the Draft List. We do not believe that depiction (Figure 3-3) is reliable for the reasons set

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forth in our earlier comment letter. In addition, the following citations from that same study show that the PRGWB was not in overdraft during the base period:

- On page 16, the report notes that is primary goal is to: "Alert stakeholders to the state of the Basin and the actions needed to keep this Basin in balance and ***avoid heading into the projected state of overdraft.***" This statement, combined with the rest of the information in the report, shows that overdraft had not yet been reached in this Basin as of 2011. DWR's base period for the Draft List only goes through 2009.

- "The demands on the groundwater basin listed on Table 3-5 show that in 1997, the total annual demand of 76,404 acre-feet per year was about 78 percent of the perennial yield. By 2006, demands had increased to 89,473 acre-feet per year representing about 92 percent of the perennial yield." **Projected demand was not expected to significantly exceed available supply until the year 2025**. – Pg. 33

Simply put, none of these published reports support a finding that the PRGWB was already subject to *critical conditions of overdraft from 1989-2009.* In fact, not a single bit of the data published on the PRGWB supports that.

<u>Inconsistent Application of Critical Overdraft Criteria: Comparison to Unlisted Basins</u>

The methodology that was used in the decision to include the PRGWB on the draft list was not applied consistently to other similarly situated groundwater basins. For example, the Coachella Groundwater Basin experienced an estimated overdraft of 70,000 acre-feet per year from 2000 to 2009. (Coachella Valley Water Management Plan Update (2012), Pg. ES-4.) The storage capacity of that basin is approximately 30 million acre-feet, but it lost approximately 630,000 acre-feet of stored groundwater between 2000 and 2009. (*Id.* at Pgs. 4-8-4-9.) Furthermore, the Coachella Valley Groundwater Basin has seen several "undesirable results," such as severe water quality degradation, subsidence, and substantial declines in groundwater elevation. (*Id.* at Pgs. 5-3, 5-20, Figure 4-2.) Another example, the Salinas River Groundwater Basin, has been extracting between 17,000 and 24,000 acre-feet per year in excess of total recharge. (State of the Salinas River Groundwater Basin Report (2014), Pg. ES-1) This basin has an estimated storage capacity of 19.8 million acre-feet, but has pumped approximately 480,000 acre-feet out of storage during the base period. (*Id.* at Pg. ES-4, ES-7 [3.3 million acre-feet available in storage].) Declining groundwater elevations in that basin have caused seawater intrusion to occur up to eight miles inland. (*Id.* at Pg. ES-2,

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ES-8.) Significantly, an April 30th, 2014 publication by DWR entitled "Public Update for Drought Response: Groundwater Basins with Potential Water Shortages and Gaps in Groundwater Monitoring" identified the Salinas River Valley as being at risk of water shortages.

When the numbers for the PRGWB are compared to the two basins described above, it raises serious questions about the application of DWR's methodology to particular groundwater basins. There was no net reduction in groundwater storage capacity in the PRGWB during the base period. (*See supra*.) Alternatively, during the base period, the Coachella Valley and Salinas River groundwater basins saw reductions of 630,000 acre-feet and 480,000 acre-feet, respectfully. Also, both basins have experienced significant "undesirable results" as a result of this decline in storage: the Coachella Valley Groundwater Basin has seen widespread subsidence, declining groundwater elevations, and water quality impacts; the Salinas River Groundwater Basin has seen declining groundwater elevations and seawater instruction. The undesirable results alleged to be occurring in the PRBWB are dwarfed by the undesirable results that have been actually observed in the unlisted basins described above. This disparity clearly indicates that DWR's stated methodology was not uniformly applied when determining a particular basin's critical overdraft status.

Conclusion

The serious inconsistencies in the application of DWR's methodology, combined with the lack of data demonstrating overdraft in the PRGWB, suggests that DWR should revisit its decision to include the PRGWB on the Draft List.

Sincerely,

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