



December 15, 2021

Stanislaus and Tuolumne Rivers Groundwater Basin Association (STRGBA)
1231 11th Street
Modesto, CA 95354
Via email

Re: Comments on the STRGBA Groundwater Sustainability Plan (GSP) for the Modesto Subbasin.

To Whom It May Concern:

The Tuolumne River Trust (TRT) and the California Sportfishing Protection Alliance (CSPA) write to comment on the STRGBA Groundwater Sustainability Plan (GSP) for the Modesto Subbasin. Overall, TRT and CSPA appreciate the attention and detail that has gone into the development of the GSP. We also commend STRGBA and Todd Groundwater for conducting an open and transparent process with many opportunities for public engagement.

TRT and CSPA believe there is room for improvement in setting more ambitious goals to achieve groundwater sustainability. We encourage STRGBA to aim to exceed baseline conditions established on January 1, 2015, which was several years into an extended drought that led to overreliance on groundwater and depleted groundwater reserves.

To help fund a more ambitious plan, we propose that STRGBA engage with the San Francisco Public Utilities Commission (SFPUC) to explore opportunities for collaboration on infrastructure improvements, water use efficiency, and groundwater banking. We believe the SFPUC would be very interested in helping to fund projects in the Modesto Subbasin in exchange for water credits or a water insurance policy to be used in the case of drought.

The SFPUC uses an extremely conservative drought planning scenario that couples the drought of record (1987-92) with the driest two-year period on record (1976/77) to create a manufactured 8.5-year design drought. This is in spite of the fact that the SFPUC's recent Long-Term Vulnerability Assessment suggests the likelihood of occurrence of the design drought is extremely low.

In recent years, the SFPUC and its wholesale customers have reduced overall demand dramatically. Rationing and alternative supplies allow them to stretch their water supplies even further. The SFPUC's 10-Year Financial Plan projects that water sales will remain flat for at least the next decade, largely due to hefty rate increases on the horizon that will encourage

greater efficiency. Nonetheless, despite its enviable position, the SFPUC is seeking greater assurance that it won't run out of water.

MID Infrastructure Improvements

In addition to the Projects and Management Actions identified in Chapter 8 of the GSP, TRT and CSPA believe there are further opportunities to reduce water loss and groundwater pumping. An MID presentation on February 28, 2012 titled "Comprehensive Water Resources Management Plan" stated, "The average amount of water to be retained annually [from infrastructure upgrades] will be between 25,000 and 40,000 acre feet," and, "The total estimated cost of all anticipated improvements will be about \$115 million."

Amortized over 20 years, the cost of each acre-foot saved would be about \$200. While expensive for farmers in the MID service area (almost 10 times what they currently pay), \$200 is only one-tenth of what SFPUC customers pay for treated Tuolumne River water. It would be much cheaper for the SFPUC to help fund projects in Stanislaus County than develop alternative water supplies in the Bay Area.



Specific Infrastructure Categories & Costs

Benefits				Broad Categories	Initial Costs* (2010 Million \$)
General	Water Retention	Safety	Farmer Service		
	X		X	Main Canal Reservoir (head of Lateral 3), controls, Main Canal modifications	\$10 M
		X		Dry Creek Flume	\$10 M
	X		X	Laterals 6 and 8 Reservoirs, interceptor, and return lines	\$22 M
	X	X	X	SCADA, telemetry improvements	\$10 M
		X		Trash screens on highway crossings	\$ 1 M
			X	Removal of bottlenecks	\$ 3 M
X				CEQA/EIR	\$ 3 M
	X		X	Waterford area improvements	\$ 6 M
	X		X	Laterals 4 and 5 Reservoir, interceptor, and supply pipelines	\$25 M
	X		X	Laterals 3 and 7 Reservoir, interceptor, and supply pipelines	\$25 M

*Initial costs include engineering, mobilization, contingency

Source: MID Comprehensive Water Resources Management Plan, 2/28/2012

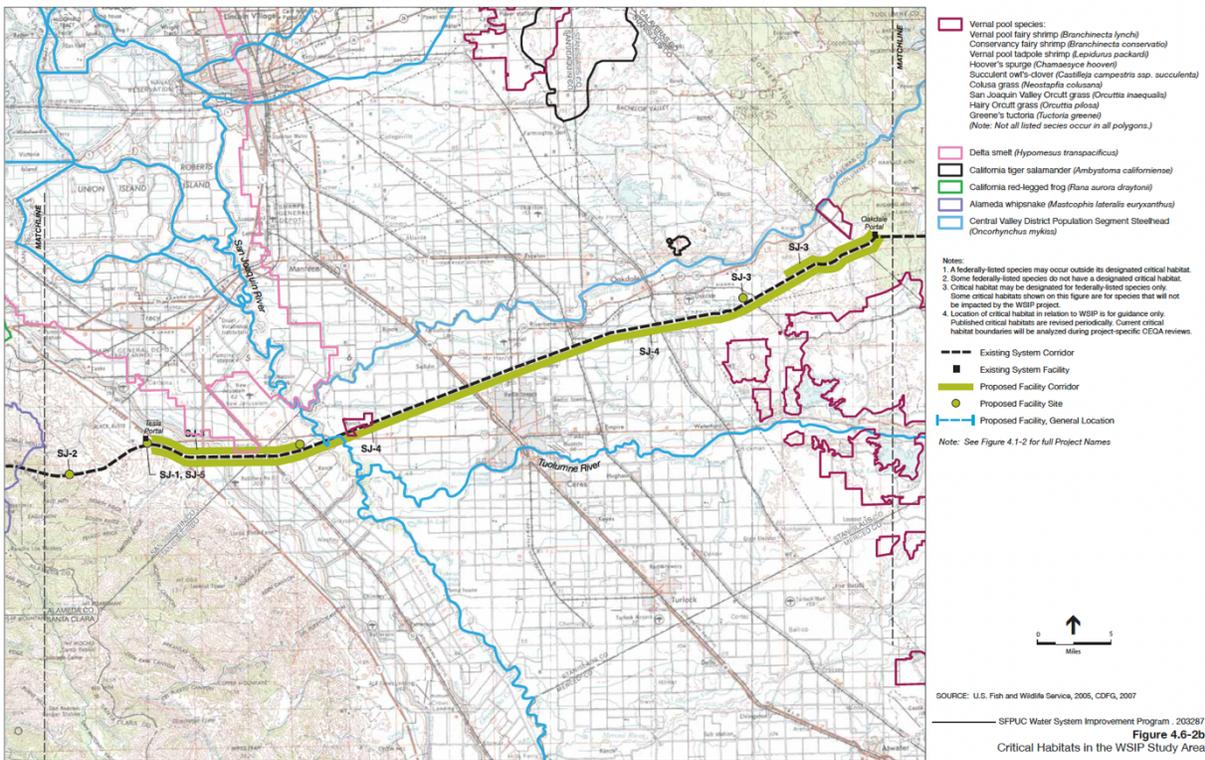
Furthermore, MID's 2020 Agricultural Water Management Plan (AWMP) states that MID's on-farm irrigation improvement program "provides up to 50% funding for physical improvements

and management practices” and “when state grants are available, MID has contributed up to 67% of the projects’ cost.”¹

This program has tremendous potential. For example, after the South San Joaquin Irrigation District (SSJID) initiated a pilot project to automate and pressurize an irrigation system, water and energy use decreased by 30% and crop yield increased by 30%.² However, funding is needed to improve on-farm infrastructure to achieve greater water use efficiency, and could be secured through an agreement with the SFPUC.

Establishing a Groundwater Water Bank

The SFPUC could help fund the in-lieu and direct groundwater recharge projects identified in the GSP. Another possibility is that the SFPUC could use the Hetch Hetchy aqueduct, which runs the length of the Modesto Subbasin, to deliver water to areas with good groundwater recharge potential. An additional benefit of such a program could be to restore, enhance or create vernal pool habitats for threatened species.



Source: SFPUC WSIP, 2008

¹ MID AWMP, p. 85.

² Stantec (2015). “South San Joaquin Irrigation District Water Delivery System Recognized with Grand Award for Engineering Excellence” – <https://www.stantec.com/en/projects/united-states-projects/s/south-san-joaquin-irrigation-district-division-9-irrigation-enhancement>

To incentivize the SFPUC's participation in groundwater recharge projects, a groundwater water bank could be established to operate in a similar fashion to the Don Pedro Water Bank. The SFPUC would essentially pre-pay water for use by parties in the Modesto Subbasin (especially in dry years), and be allowed to redeem banked credits at Hetch Hetchy by diverting additional water there during droughts. Similar to the Don Pedro Water Bank, no water from the Modesto Subbasin would be directly transported to the San Francisco Bay Area. Water users in the Modesto Subbasin would instead rely on groundwater already banked by the SFPUC, while the SFPUC could divert a defined amount of water at Hetch Hetchy above its normal allocation as a junior diverter.

Floodplain Inundation / Groundwater Recharge

Finally, we support the following recommendation from the National Marine Fisheries Service (NMFS) that STRGBA explore the possibility of recharging groundwater through floodplain inundation:

NMFS recommendation for future Projects and Management Actions: We suspect that groundwater recharge projects are likely to be an important action implemented as part of the effort to achieve groundwater sustainability in the Modesto subbasin. NMFS encourages the GSA to consider implementing recharge projects that facilitate floodplain inundation while offering multiple benefits, including downstream flood attenuation, groundwater recharge, and ecosystem restoration. Managed floodplain inundation can recharge floodplain aquifers, which in turn slowly release stored water back to the stream during summer months. These projects also reconnect the stream channel with floodplain habitat, which can benefit juvenile salmon and steelhead by creating off-channel habitat characterized by slow water velocities, ample cover in the form of submerged vegetation, and high food availability. As an added bonus, these types of multi-benefit projects likely have more diverse grant funding streams that can lower their cost as compared to traditional off-channel recharge projects. NMFS stands ready to work with any GSA interested in designing and implementing floodplain recharge projects.³

Thank you for the opportunity to comment on STRGBA's GSP for the Modesto Subbasin.

Sincerely,



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³ NOAA's National Marine Fisheries Service Comments on the Developing Groundwater Sustainability Plan for the Modesto Subbasin, September 29, 2021.