

OVERVIEW OF THE COSUMNES SUBBASIN GROUNDWATER SUSTAINABILITY PLAN

September 1, 2021

The Sustainable Groundwater Management Act of 2014 (SGMA) requires all groundwater basins in California to be managed under a groundwater sustainability plan (GSP) approved by the state. Groundwater basins that fail to comply with this mandate could be placed under a state-managed plan that would impose well and water use fees to cover the cost of groundwater management decisions, potentially including metering and rationing.

The local agencies responsible for groundwater management in the Cosumnes Basin have spent the last 5 years crafting a GSP that complies with SGMA. The purpose of the plan is to restore groundwater levels in the basin over the next 20 years to 2015 levels. This will require reversing current downward trends, initially through modest reductions in annual extractions. Over time, expected hotter annual temperatures and more variable rainfall will require additional measures, including using winter flood water from the Cosumnes and American Rivers to recharge groundwater supplies.

The GSP's key management tool is a water budget. This budget will track the water coming in and the water going out of the basin using data from monitoring groundwater levels and computer modeling. As described in the GSP, the water coming in consists of rainfall, leakage from rivers and streams, subsurface flows from neighboring groundwater basins, and surface water applied to the land for irrigation or recharge purposes. The water going out includes underground flows to neighboring basins, seepage into rivers and streams, pumping extractions, and losses due to a combination of plant uptake of water and evaporation into the air.

The GSP indicates that the groundwater pumping is causing groundwater elevations to fall about 1 foot/year on average. This rate of decline is expected to increase as projected increases in annual air temperatures and reductions in annual rainfall volumes occur over the 20-year duration of the GSP. One of the key indicators of unchecked declines in groundwater levels will be the condition of the domestic wells in the basin, which are generally located at relatively shallower depths than agricultural and urban wells and are therefore sensitive to further declines in groundwater levels. A second important indicator will be the health of the vegetation located near waterways where groundwater elevations are high enough to interact with surface water and provide nourishment to the vegetation.

In order to reverse the current downward trend in groundwater elevations, the GSP identifies a series of management actions that are designed to grow in scope and intensity over time. During the initial five years of the GSP, the main effort will consist of a modest reduction in

groundwater pumping through voluntary fallowing of pastureland in the basin. Also during this period, the Sacramento Regional Sanitation District is expected to implement a large-scale recharge program north of the Cosumnes River that will increase subsurface flows into Cosumnes Basin. This measure in combination with voluntary fallowing will be the initial steps aimed at reducing the groundwater deficit.

During the subsequent fifteen-year period, the GSP anticipates an opportunity to further reduce the deficit by using winter floodwater from the Cosumnes and American Rivers for groundwater recharge in the Cosumnes Basin. This could greatly reduce the current annual deficit and set the stage for restoring groundwater levels to 2015 levels. The scope and feasibility of this recharge program is yet to be fully fleshed out. However, this overall approach to managing groundwater supplies is strongly supported by the state and is being pursued actively by regional and local water management agencies. Grant funding from the State for recharge projects will be available in 2022.

There are significant costs associated with implementing the plan, including monitoring groundwater conditions, updating modeling, meeting all state reporting requirements, and implementing the fallowing and recharge programs. The draft GSP estimates administrative and project costs during the first five years to be an annual cost of up to \$1.2 Million. As the draft GSP indicates, funding is expected to come from a number of sources, including fees charged to water users, contributions from local and regional agencies, state grants, and banking and selling a small amount of fallowed water. The sources of funding to cover these costs will be developed through a fee study that will be conducted over the next 10 months and will be used as a basis for the groundwater agencies in the basin to create a long-term fee program supporting the sustainable management of groundwater in the basin.

