ACCELERATING GROUNDWATER RECHARGE

An affordable and practical water management tool

WHAT IT IS
Sustainable Conservation and its partners are leading a project that puts into practice an affordable and practical water management tool – on-farm groundwater recharge using floodwater and other available surface water – that can be used to move groundwater basins on the east side of the San Joaquin Valley (San Joaquin County to Kern County) toward a sustainable balance of groundwater pumping and replenishment.

The project enlists the support of farmers, industry groups, water districts, researchers, agencies, and food and beverage corporations to help ensure the continuity of our Golden State water supply for the environment and people. This work benefits agriculture, community drinking water, improved groundwater quality, and flood protection for rural communities.

WHY IT’S NEEDED
Long-term groundwater overdraft and years of drought in the San Joaquin Valley are threatening the reliability of drinking water for local communities and irrigation water for crop production.

Additionally, the new California Sustainable Groundwater Management Act (SGMA) requires local Groundwater Sustainability Agencies (GSAs) to develop plans to manage groundwater supplies to ensure long-term sustainable yields. Replenishing depleted groundwater supplies will be essential to achieving this balance.

The current default for groundwater recharge – dedicated recharge basins – is costly, and would require the purchase and retirement of many additional acres of productive land in order to capture the infrequent but large flood flows needed to achieve balance. (continued)
On-farm recharge is an innovative solution to get water into the ground without taking agricultural land out of production. Accelerating the replenishment of groundwater supplies through on-farm recharge can also reduce the need of GSAs to restrict groundwater pumping.

Access to information and decision support tools about the feasibility of on-farm recharge will enable GSAs to consider, adopt, and justify this solution as a cost-effective and immediate option to include as part of their Groundwater Sustainability Plans.

WHAT WE’RE DOING
The project is enlisting farmers with previous experience applying available floodwater on their cropland in excess of the crop’s water demand, along with farmers who are willing to use available floodwater to accelerate groundwater recharge.

Field experience and monitoring from these farmers’ lands will assist in developing needed scientific information about the acceptable timing, duration and amount of water that can be recharged under different cropping systems without affecting water quality or crop health.

The project findings will be used to develop decision-support tools to guide other farmers in assessing the viability and suitability of their lands and crops for on-farm recharge, and enable Groundwater Sustainability Agencies (GSAs) to assess how on-farm recharge can contribute to achieving groundwater sustainability goals.