

FLOOD-MAR

Using Flood Water for Managed Aquifer Recharge to Support Sustainable Water Resources

The recent cycle of multi-year drought followed by a wet year and flooding, and the passage of SGMA, has provided a unique opportunity to discuss and inform long-term State policies related to flood management and groundwater management. The California Department of Water Resources (DWR), and other State, federal, regional, and local entities, are actively exploring opportunities to determine how flood management, land use, and groundwater management can be integrated to their mutual benefit. DWR recognizes the need to rehabilitate and modernize water infrastructure in California, and the infrastructure investment that will be needed to foster long-term sustainability and adaptation to climate change.



The *System Reoperation Study* Phase 3 report recommended DWR “evaluate potential for using flood water for managed groundwater recharge on farmland and working landscapes for flood protection, drought preparedness, aquifer remediation, and ecosystem restoration. DWR will work with flood managers, land owners, and Groundwater Sustainability Agencies to determine opportunities to implement managed groundwater recharge projects that use excess flood flows as the source water.” A white paper and plan of study, currently under development by DWR, represent an initial step to progress this recommendation.

The draft white paper explores past efforts and future opportunities to utilize flood water for managed aquifer recharge (Flood-MAR) to reduce flood risk and replenish groundwater aquifers. The white paper also identifies gaps in data and knowledge for Flood-MAR implementation. A companion plan of study will identify analytical and field studies to help fill these gaps.

DESCRIPTION OF CONCEPT

Flood-MAR is an integrated resource management strategy that uses high flows (or flood water, see figure to right) resulting from, or in anticipation of, rainfall or snowmelt for groundwater recharge on agricultural lands and working landscapes.

The fundamental factors for implementing this resources management strategy include:

- Site suitability, including landowner willingness.
- Source water availability.
- Water conveyance to recharge areas.
- Governance and project feasibility.
- Recharge methods.
- Groundwater recovery.



