

Considerations for Future Projects

Key considerations for local agencies interested in implementing similar projects are provided below:

- Diversions of floodwater for recharge: diversions for groundwater recharge can occur under two pathways - with a water right and without a water right.
 - **With a water right - Permits for Groundwater Recharge.**
 - Existing water rights - existing water rights or contracts may allow diversions for recharge. Local agencies should consult their legal counsel when considering this pathway.
 - New water rights - new standard water rights can be applied for via the State Water Resources Control Board (State Water Board) website. A streamlined pathway is offered for Groundwater Sustainability Agencies interested in standard groundwater recharge water rights.
 - Temporary permits for groundwater recharge - 180-day and 5-year temporary permits can be applied for to divert high flows for groundwater recharge.
 - Early coordination with all regulatory agencies is crucial (e.g., compliance with California Environmental Quality Act, streambed alteration permits, protective screens), so that all permitting questions can be addressed prior to the desired implementation and diversion time frames.
 - **Without a water right.**
 - CWC Section 1242.1 - Local agencies should review the Technical Guidance document developed by the State Water Board prior to a flood event and take proactive steps to establish or identify projects that can utilize CWC Section 1242.1. For assistance with identifying flood thresholds for CWC Section 1242.1, please reach out to DWR by emailing recharge@water.ca.gov
 - Flood projects - Single purpose flood risk reduction projects do not require a water right. More information is available in the California Code Section 1242.1 Guidance linked under "Resources and More Information".
- Executive Orders: be aware of and understand whether any Executive Orders are in place that modify regulatory requirements for floodwater diversions for recharge. For example, Executive Order N-16-25 currently suspends certain CWC Section 1242.1 requirements.
- Early local coordination and collaboration: early conversations with willing landowners or local project opportunities really help with local readiness when high flow events occur.
- Equipment purchases or rental: for projects that require the purchase and/or rental of equipment, early coordination with vendors may avoid increased costs during a high flow event, as well as help to establish a spot in a "first-come, first-serve" market. It also helps vendors anticipate future inventory needs.



What's Next?

Implementation of the FDRE Initiative emergency contracts will continue through June 2026. Although all current funding for this Initiative has been exhausted, DWR is gathering interest and need from local agencies for future funding opportunities by asking interested parties to fill out the FDRE Future Interest Survey at the displayed QR code. Local agencies are encouraged to inform their local elected officials of the importance of these projects to garner continued support.

FDRE projects that proactively address local needs help to (1) reduce flood risk to local communities by increasing local diversion and flood attenuation capacity; (2) prepare for hotter, drier years and increasing water supply uncertainty; and, (3) support sustainable groundwater management in accordance with the Sustainable Groundwater Management Act of 2014. Local agencies and others are encouraged to reach out to DWR with suggestions on how to best assist implementation of projects that align with the FDRE Initiative.

Resources and More Information

- Additional resources and information can be obtained from the following sources:
- **Groundwater Recharge and Related Activities** (DWR)
 - **Flood Emergencies and DWR Response in 2023** (DWR)
 - **California Water Code Section 1242.1 Guidance** (State Water Board)
 - **Permits for Groundwater Recharge** (State Water Board)
 - **DWR Sustainable Groundwater Management Office** (DWR)
 - **Basin Characterization Exchange Hub** (DWR)



Interested in participating in the FDRE Initiative in the future? Fill out the interest form.



Background

In early 2023, California experienced historic precipitation that caused flooding across the State. In response, the California Department of Water Resources (DWR) secured limited, one-time funding and launched the Temporary Flood Diversion Equipment and Recharge Enhancement emergency effort in April 2023 (2023 Emergency Effort). This effort established seven emergency contracts with local agencies in the Tulare Lake Region to provide funds for temporary pump rentals and/or agricultural land clearing ("rip and chip"). Thirty (30) temporary pumps and 1 siphon were deployed and diverted over 11,000 acre-feet from local waterways into recharge basins or onto working lands, providing additional flood risk reduction and groundwater recharge in the region. Additionally, 291 acres of agricultural lands were cleared to prepare the land for delivery of future floodwater to facilitate groundwater recharge.



Building on the success of the 2023 Emergency Effort, DWR secured additional one-time funding and launched the Flood Diversion and Recharge Enhancement (FDRE) Initiative in December 2023. The FDRE Initiative expands on the 2023 Emergency Effort by providing funding to more local agencies across the state and supporting a wider range of activities over multiple seasons.



Goal of the FDRE Initiative

The FDRE Initiative aims to expand local capacity for reducing flood risk and enhancing groundwater recharge, particularly near vulnerable communities. By supporting activities such as temporary pump rental or purchase, land clearing, temporary conveyance improvements, and temporary basin construction, the FDRE Initiative helps local agencies to more readily divert higher volumes of floodwater from local waterways during high flow events and infiltrating that water for groundwater recharge. Proactive collaboration between DWR and local agencies will help to mitigate impacts of both future storm events and drought by using floodwater to replenish local aquifers.

FDRE Initiative Successes

DWR executed emergency contracts with 14 local agencies across the state in 2024 as part of the FDRE Initiative. As of July 2025, local agencies have purchased 11 temporary pumps, rented 6 temporary pumps and 1 siphon, and diverted over 9,500 acre-feet of water. Construction has been completed on 2 temporary flood/recharge basins, while 3 additional basins are in progress. Over 15,000 linear feet of temporary conveyance improvements have been completed, and 4 temporary interties have been installed. Finally, over 600 acres of land have been cleared and are ready to receive future flood diversions. Work under the emergency contracts is ongoing through June 2026, with further tasks planned. More project details are provided on the next page.

The FDRE Initiative also supports the following activities:

- Diversion of floodflows under California Water Code (CWC) Section 1242.1, which allows for diversions of floodflows without a water right (see additional information in the Considerations section). Dunnigan Water District, an FDRE Initiative participant, was the first in the state to make these diversions;
- Execution of the Basin Characterization Exchange, a meeting series and network space for the basin characterization community to exchange ideas, share lessons learned, define needed guidance, and highlight research topics via monthly meetings; and
- Collaboration with the Northern California Water Association to convene the Sacramento Valley FDRE Workgroup, which is focused on developing actionable recommendations to promote diversion of floodwater and groundwater recharge in the Sacramento Valley.

"This new emergency funding from the DWR is being used to fund the operation of a temporary pump that's installed at a Fresno Metropolitan Flood Control District Basin"

"This allows us to do additional groundwater recharge that would otherwise not be possible"
- Adam Claes, Fresno Irrigation District Manager

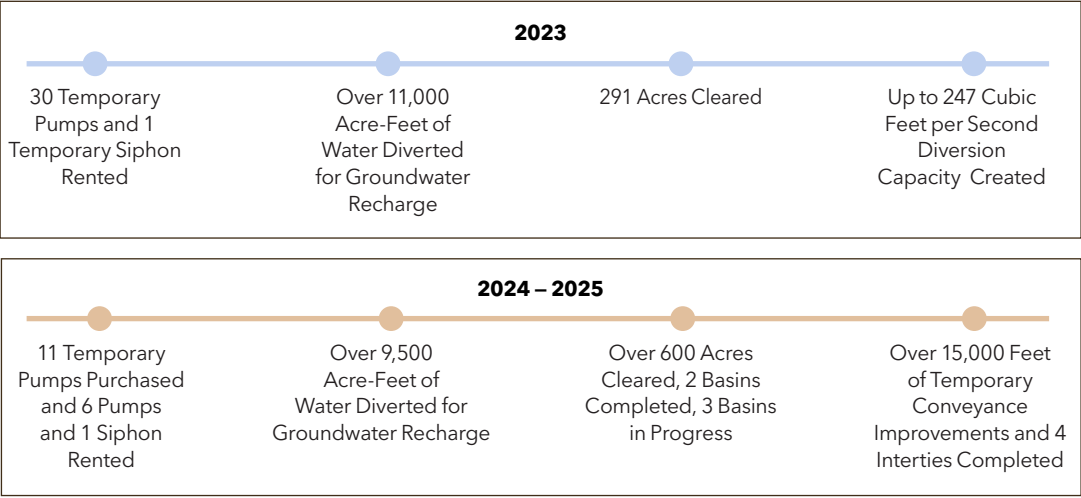
"This is an old 120-acre site we bought, had pistachios over here, vines right there, almonds to the west, and it was all ripped out through the rip and chip program, put some berms around it, put water in the underground, and we did it in less than a year"

"We have been adding ponds over the years in a slow build it as you can afford it process. But then... State comes along and makes grant money available to help pay for some of this cost allowing us to expedite recharge to benefit over 5,000 growers and ten disadvantaged cities and unincorporated communities that depend on groundwater."
- Phil Desatoff, Consolidated Irrigation District Manager

"Working with the DWR, James Irrigation District has been utilizing the pumping program to rent a pump to be able to put some water into a basin that unless we had access to this pump we wouldn't be able to do"

"We're able to put more water into the underground, recharge the aquifer, and prevent flooding"
- Manny Amorelli, James Irrigation District Manager

"At Terranova Ranch, the help from DWR on multiple pump rentals made it possible for us to not only help prevent flooding downstream, preventing rural communities from damage, but also enabled us to recharge just under 19,000-acre feet of water during the 2023 flooding. Thank you DWR"
- Don Cameron, Vice President and General Manager of Terranova Ranch, Inc.



FDRE INITIATIVE PROJECTS, 2024 TO 2026

Local Agency Or District Name	2023 Emergency Effort		FDRE Initiative				Map Legend
Arvin-Edison WSD			✓		✓	✓	1
Colusa County WD			✓				2
Consolidated ID	✓		✓	✓	✓		3
Dunnigan WD			✓			✓	4
Fresno ID	✓		✓	✓	✓		5
Friant Water Authority			✓			✓	6
James ID	✓						7
Kaweah Delta WCD	✓	✓	✓	✓	✓		8
Kings County WD	✓						9
McMullin Area GSA	✓	✓					10
Merced ID			✓				11
North San Joaquin WCD			✓				12
Shafter-Wasco ID			✓		✓		13
Tulare ID	✓		✓				14
United WCD			✓				15
City of Visalia				✓			16
Westlands WD				✓			17

Hyperlinks to local agency websites are available in the online version of this brochure at <https://water.ca.gov/Programs/Groundwater-Management/Groundwater-Recharge>.

TABLE KEY

2023 Emergency Effort = Temporary Flood Diversion Equipment and Recharge Emergency Effort

FDRE Initiative = Flood Diversion and Recharge Enhancement Initiative

GSA = Groundwater Sustainability Agency

ID = Irrigation District

WCD = Water Conservation District

WD = Water District

WSD = Water Storage District

- Temporary Flood Diversion Equipment (Pumps, Protective Screens, etc.)
- Land Clearing
- Temporary Flood Basins
- Temporary Conveyance Enhancements



For additional information and inquiries please contact: recharge@water.ca.gov