



Frequently Asked Questions

Underground storage: purpose, permits, floods, importance of groundwater recharge

What is a beneficial use of diverted water?

In California and most other western states, you need a water right to divert or exert control over water. To obtain one, you must file an application with the State Water Board that describes what the water will be used for and why the water right is needed. That description is also known as a beneficial use. Beneficial uses are important because they help protect other water users and the environment from wasteful and harmful diversions.

What are some examples of beneficial uses?

There are many different types of beneficial uses associated with water rights. In California, the most common are for domestic, irrigation, and municipal supplies. Other examples include power generation, industrial use, water quality protection, recreation. A single water right can have multiple beneficial uses.

What is groundwater recharge?

Groundwater recharge is the process of adding water to an underground aquifer. The term is used to describe a broad range of activities including natural recharge from rain and snow, river water that percolates underground, and other incidental and intentional actions. Natural recharge results when any water on the ground enters an aquifer. A lot of natural recharge happens during storms and flooding. Incidental recharge is the byproduct of a water project where some water taken for a different use is lost to seepage and enters the groundwater supply. Examples of this would be water entering aquifers from unlined canals, excess irrigation, or flood management activities where intentional actions to increase recharge are not taken. Intentional recharge, often called managed recharge, is the purposeful recharge of groundwater. Managed recharge examples include dedicated recharge ponds or injection wells.

Is groundwater recharge considered a beneficial use?

There often is confusion regarding groundwater recharge and beneficial uses. While the act of recharging groundwater in and of itself is not a beneficial use, groundwater recharge *can* lead to beneficial uses – it is the final use of the recharged water that is important. For example, if recharged water is intended for later domestic use, irrigation, or to maintain stream flows during summer, it is *those* purposes that describe the



beneficial uses of the recharge activity. On its own, without any further use of the diverted water, groundwater recharge is not considered a beneficial use under state law. The board has approved recharge activities for numerous types of beneficial uses, including maintaining water quality (preventing seawater intrusion), and enhancing summer baseflows, irrigation and municipal supplies.

Is underground storage the same thing as groundwater recharge?

No. Under California water law, underground storage is not the same as groundwater recharge – although recharge activities are needed to store water underground. Underground storage is a legal term that refers to surface water that is intentionally diverted and placed underground. Groundwater recharge is a physical action or activity that results in additional groundwater. The difference between underground storage and recharge is important when considering if a water right is needed.

Underground storage provides protection to water right holders because the water stored underground is still considered surface water and cannot be extracted or used by someone who does not have a right to it. On the other hand, recharged groundwater is available to all overlying groundwater users in a groundwater basin, even if those users are miles away from the point of recharge.

Underground storage can have immense benefits for people and the environment by reducing flood pressures on surface water systems, offsetting the use of percolating groundwater, and protecting ecosystems by keeping more surface water in a stream at different times of the year. These benefits, however, are tied to the legal protections and management authority that come with a water right. An underground storage water right also helps protect existing (senior) water right holders and the environment by ensuring that diversions do not take water that is already claimed by other water right holders or isn't needed by fish and wildlife.

The terms “underground storage” and “groundwater recharge” are sometimes used interchangeably, but there are differences. The main distinction is that any type of recharge activity where the diverter wants to maintain control over the recharged water generally requires a water right and is best defined legally as underground storage.

What are the limits on diverting surface water to recharge groundwater?

Before surface water can be diverted for groundwater recharge, it must be determined that the water isn't already claimed and needed by another right-holder or downstream user. Downstream users may include cities with millions of people, millions of acres of irrigated farmland (more than any other state), and environmental protection. Existing water rights have already been granted to tens of thousands of diverters; fish, birds, plants, and entire ecosystems also rely on water flowing in our streams and creeks. So,

seeing water flowing does not mean that the water hasn't been allocated for another beneficial use.

Determining if water is available for recharge requires a water availability analysis that evaluates users, environmental needs, and how much water is likely to be available based on precipitation records. In some cases, the water availability analysis is simple, like during periods with flood flows. But for much of the year, the water availability analysis is difficult and must consider hundreds or thousands of existing rights and uses, sometimes extending hundreds of miles downstream.

Who gets credit for recharging groundwater?

A water right is required to get state credit, or a legal claim, for surface water diverted to underground storage. State water right permitting generally does not credit diverters for natural recharge, or incidental recharge that results from flood management actions.

Individual Groundwater Sustainability Agencies (GSAs) can create local crediting systems to acknowledge efforts to recharge groundwater basins. While such local crediting systems can be important and effective incentives for reaching groundwater sustainability, local crediting systems are not the same as a water right. Diverters do not have a legal claim to any of the water that is recharged without a water right.

How can I obtain a water right for underground storage?

There are several different options for obtaining a water right for underground storage. In each case, you apply to the State Water Board's Division of Water Rights for a standard or temporary permit:

- **Standard** permits are appropriate for long-term projects or those without an urgent need. Approval can take several years, but a [streamlined application process](#) is available for GSAs or local agencies that are implementing the Sustainable Groundwater Management Act (SGMA) if they accept certain terms and conditions.
- **Temporary** permits are conditional, time-limited approvals to divert and use surface water that has not been claimed by a right-holder. [180-day and five-year permits](#) (if you are a GSA or local agency) are available. Temporary permits are junior to all water rights and include terms and conditions that prohibit diversions when the demands of other right-holders may not be met. Temporary permits are usually processed more quickly than standard permits.

Can floodwaters be diverted and stored underground without a permit?



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On July 10, 2023, Gov. Gavin Newsom approved an [update to state law](#), which allows people to divert and store floodwaters underground without a permit during emergency flood events.

The law requires rigorous tracking and reporting and restricts where the water can be applied to protect water quality. Diversions must use existing infrastructure or temporary pumps, and protective measures are required to minimize impacts to aquatic life. Those intending to divert under the law must file the following three items with the State Water Board and any applicable GSAs:

- Notice of diversion (at least 48 hours before diverting, if possible, but no later than 48 hours after diversions begin).
- Preliminary Report (no later than 14 days after diversions begin).
- Final Report (no later than 15 days after diversions end).

Additional information, including reporting requirements and access to forms and reports received is available on the board's [Flood Recharge Diversions website](#).

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