

Groundwater Recharge in Los Angeles County

Using local sources of water to satisfy local needs

In the past, the Los Angeles region has experienced flooding that has claimed lives and severely damaged property. In 1915, to help prevent these tragedies from happening again, the California State Legislature adopted the Los Angeles County Flood Control Act, which established the Los Angeles County Flood Control District.

The two main purposes of the Flood Control District are to provide:

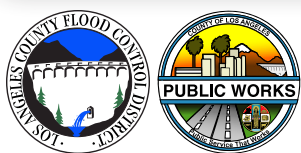
- Flood risk management
- Water conservation measures

What is an aquifer?

An aquifer is an underground reservoir made up of pervious soil through which water can easily move. The water contained within these permeable and porous soils is called groundwater. A well is a hole drilled into the ground to penetrate the aquifer to extract the groundwater.

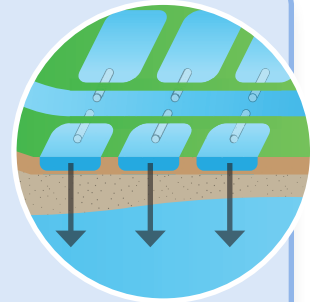
What is a groundwater basin?

Groundwater basins are underground reserves of water that may be composed of one aquifer or a series of aquifers. These aquifers are formed when water from rain, lakes, rivers or streams percolate into the ground. One-third of the water supply in Los Angeles County is provided by groundwater.



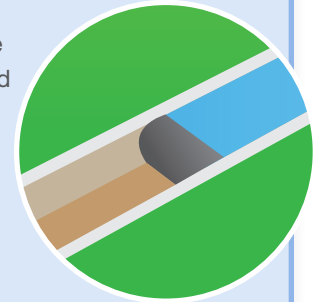
Spreading facilities

The Flood Control District operates 27 spreading facilities that total 2,436 acres. Water from reservoirs, storms, recycled and imported sources is made to infiltrate into the ground, supplementing the natural groundwater recharge process.



Rubber dams

A rubber dam is a structure that can be inflated across a river or channel to hold water back for later use or to allow it to recharge groundwater basins. During flood flow conditions, the rubber dam is deflated, allowing stormwater to be conveyed downstream.



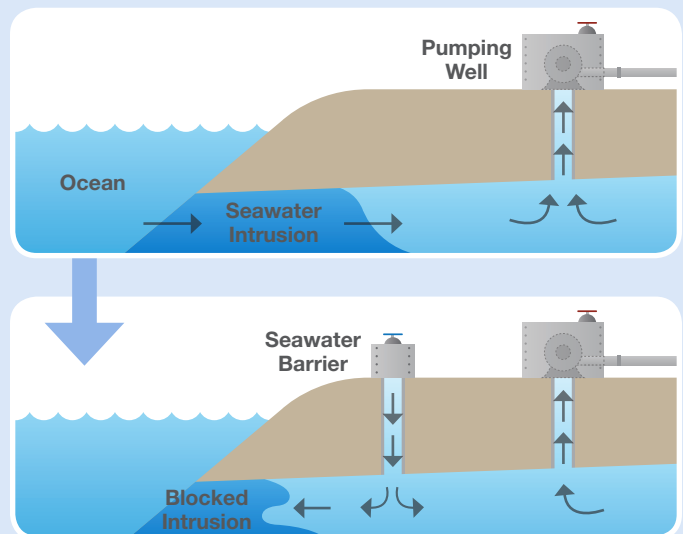
Seawater barriers

Seawater barriers are designed to stop seawater from contaminating groundwater supplies. The Flood Control District currently operates three key seawater barrier systems.

Concept behind a seawater barrier:

Large and dense populations, such as Los Angeles, need large amounts of water to live, often turning to groundwater for all or part of their demand. The extensive pumping required to extract water from underground aquifers can cause seawater to flow inland, contaminating the pumped aquifers. This condition became a very noticeable problem in Los Angeles County by the 1950s.

To push the seawater back, groundwater elevations are raised using injection wells along the coast. Fresh water injected at the seawater barrier reverses seawater intrusion and protects groundwater resources.



Los Angeles County Water Conservation Facts

280,000 acre-feet of stormwater is conserved annually by capturing it and infiltrating it into groundwater aquifers.

This provides the yearly needs of **550,000** families of four

1/3 of the local water supply in Los Angeles County is provided by groundwater.

This water conserved can provide water for **2.2 million** people.

The annual value of this water is approximately **\$550 million**.

The Water Conservation System

1

Stormwater is slowed or stopped by dams and creates artificial lakes called reservoirs. **Reservoirs** hold water back to prevent downstream flooding. In addition, the water held in reservoirs can be later released incrementally to help recharge groundwater more efficiently than if the water continued as runoff.

2

When water is released, it may be diverted to **spreading grounds**, which are specifically designed to infiltrate water into underground aquifers to replenish groundwater.

3

Natural-bottom channels provide an opportunity to infiltrate the water released from behind dams.

4

Rubber dams are inflatable dams that span the width of channels or rivers and allow water to pool behind them. This water can be held back for in-river groundwater recharge or diverted to an adjacent spreading grounds.

5

Water found within the groundwater basin is pumped by wells into Los Angeles County's **water system**, providing a local supply of water for drinking and other purposes such as irrigation.

