



**Public Benefits  
Provided by  
Groundwater Storage**

# Eligible Projects

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- a) CALFED Surface storage projects
- b) Groundwater storage projects and groundwater contamination prevention or remediation projects that provide water storage benefits.
- c) Conjunctive use and reservoir reoperation projects.
- d) Local and regional surface storage projects that improve the operation of water systems in the state and provide public benefits.

# Public Benefit Categories

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- 1. Ecosystem improvements**
- 2. Water quality improvements**
- 3. Flood control benefits**
- 4. Emergency response**
- 5. Recreational purposes**

# Special Requirements

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- ▶ A project shall not be funded pursuant to this chapter unless it provides **measurable improvements to the Delta ecosystem or to the tributaries to the Delta.**
- ▶ At least 50 percent of total public benefit has to be ecosystem improvements



# Ecosystem Improvements

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- Changing the timing of water diversions,
- Improvement in flow conditions,
- Improvement to temperature,
- Other benefits that contribute to restoration of aquatic ecosystems and native fish and wildlife



# Ecosystem Improvements

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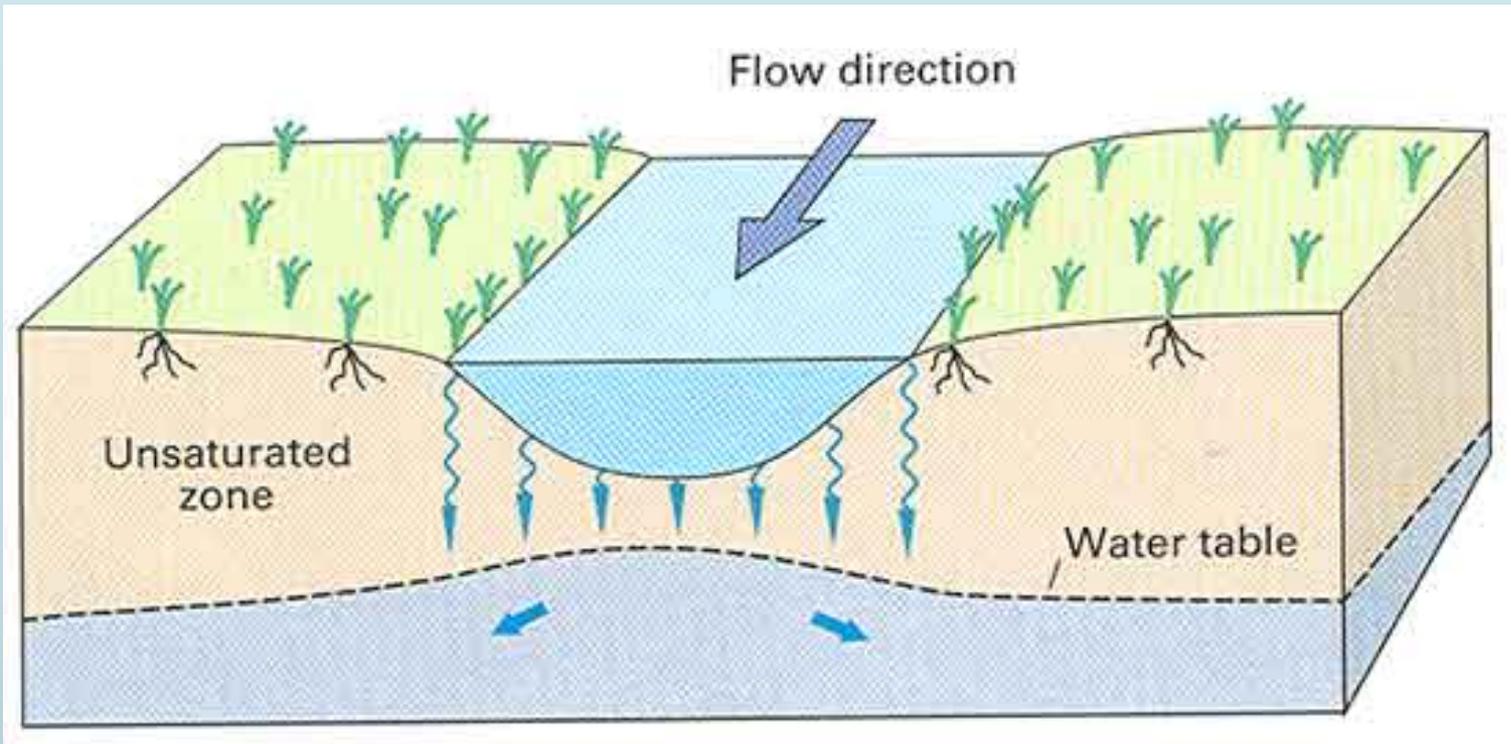
- Benefits to wildlife at the spreading basins



Recharge Basin - Anaheim Lake, Orange County WD

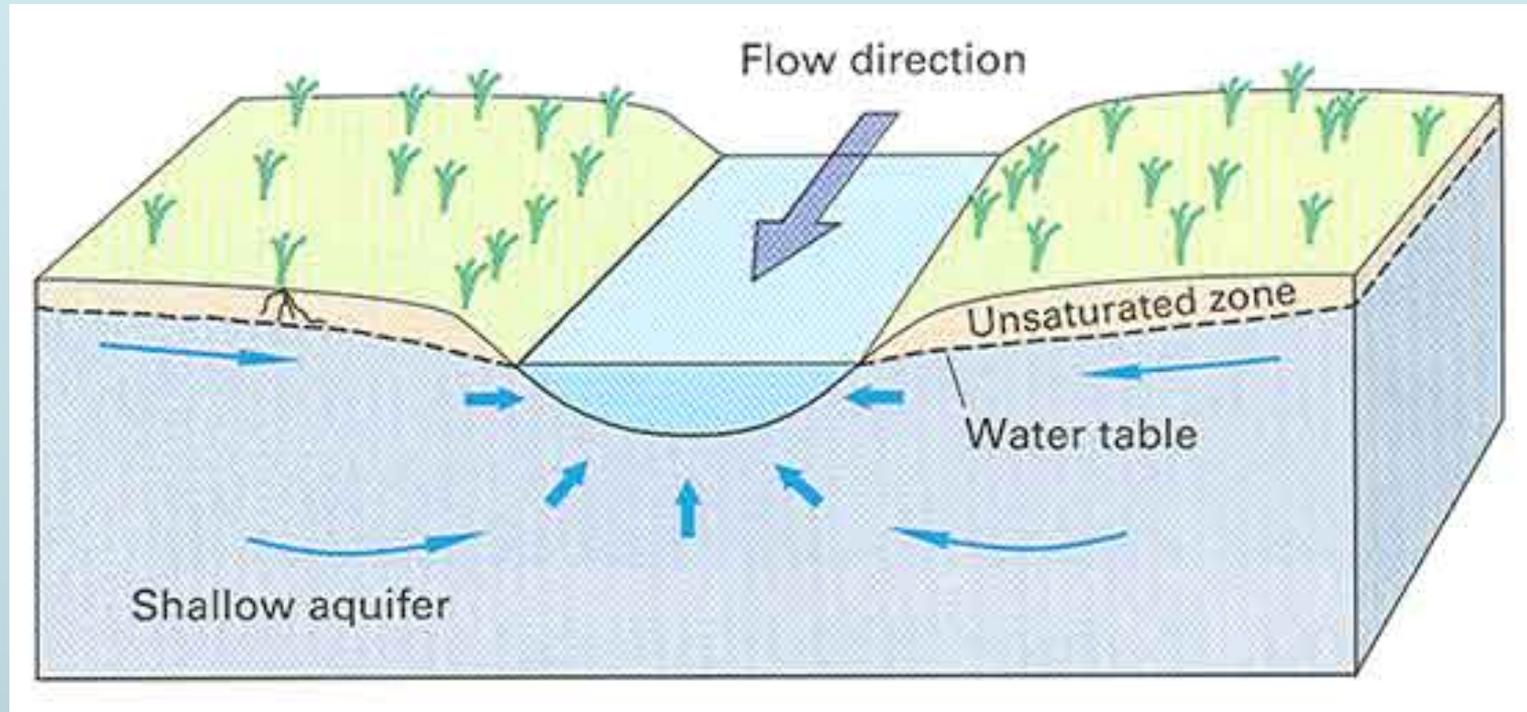
# Establish Groundwater to Stream Connectivity

## Disconnected Stream



# Groundwater Project Could Improve Flow in Stream

## Gaining Stream



# Improving Cold Water Pool and Stream Flows

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By operating a groundwater basin in conjunction with surface storage:

- ▶ Improve cold water pool
- ▶ Stream flows



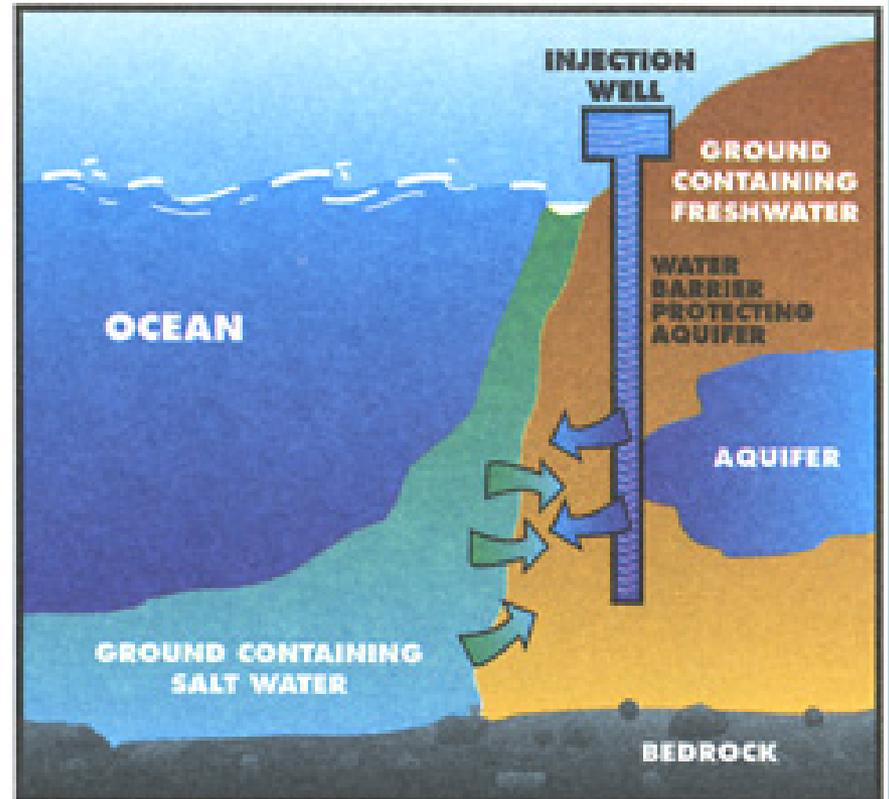
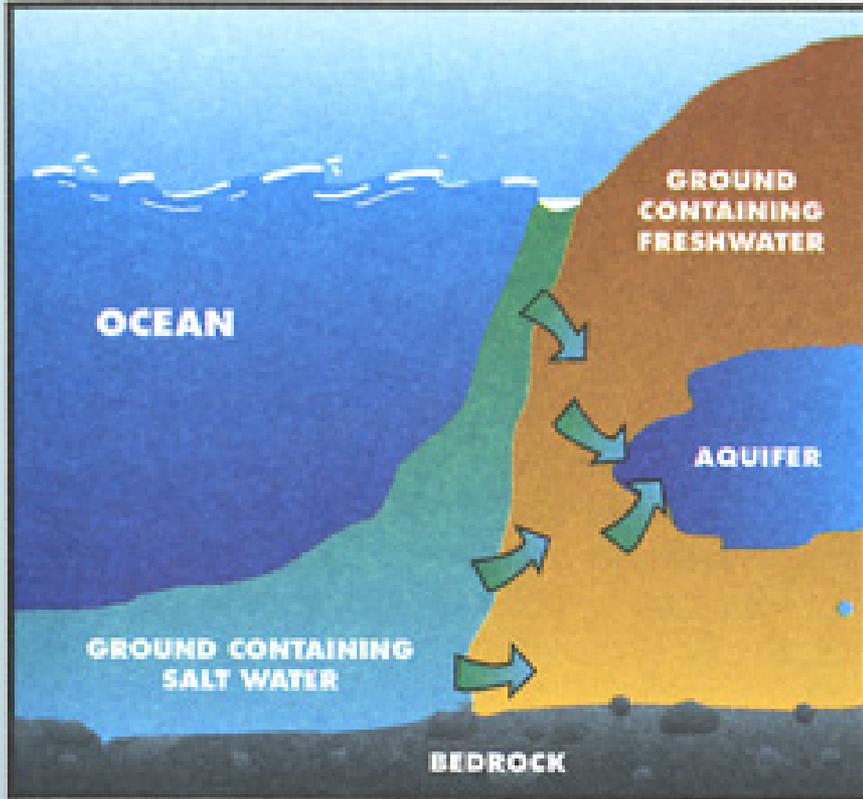
# Water Quality Improvements

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**Water quality improvements** in the Delta, or in other river systems, that provide significant public trust resources, or that **clean up and restore groundwater resources.**



# Water Barrier to Reduce Sea Water Intrusion



West Basin Water Recycling Facility

# Contamination Remediation (examples)

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## Contamination can result from:

- ▶ Over application of fertilizer or pesticides,
- ▶ Industrial spills
- ▶ Leakage from landfills, etc.

## Some techniques for remediation

- ▶ **Biological**: bioaugmentation, bioventing, etc.
- ▶ **Chemical**: ozone and oxygen gas injection, ion exchange, etc.
- ▶ **Physical treatment**: pump and treat



# Recovery of Over Drafted Basins

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## Chapter 2: Findings

(h) Sustainable water management in California depends upon reducing and reversing overdraft and water quality impairment of groundwater basins. Investments to expand groundwater storage and **reduce and reverse overdraft** and water quality impairment of groundwater basins provide **extraordinary public benefit** and are in the public interest.



# Flood Control and Recreation Benefits

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- ▶ Divert flood flows to bypass that could recharge an aquifer
- ▶ Hunting, fishing opportunities in flood bypass



# Emergency Response

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Emergency response, including, but not limited to, *securing emergency water supplies and flows for dilution and salinity repulsion following a natural disaster or act of terrorism.*

- ▶ *Water stored in ground **pri** natural disasters or act of*



# Questions & Comments

