

# 2009 Drought Water Bank



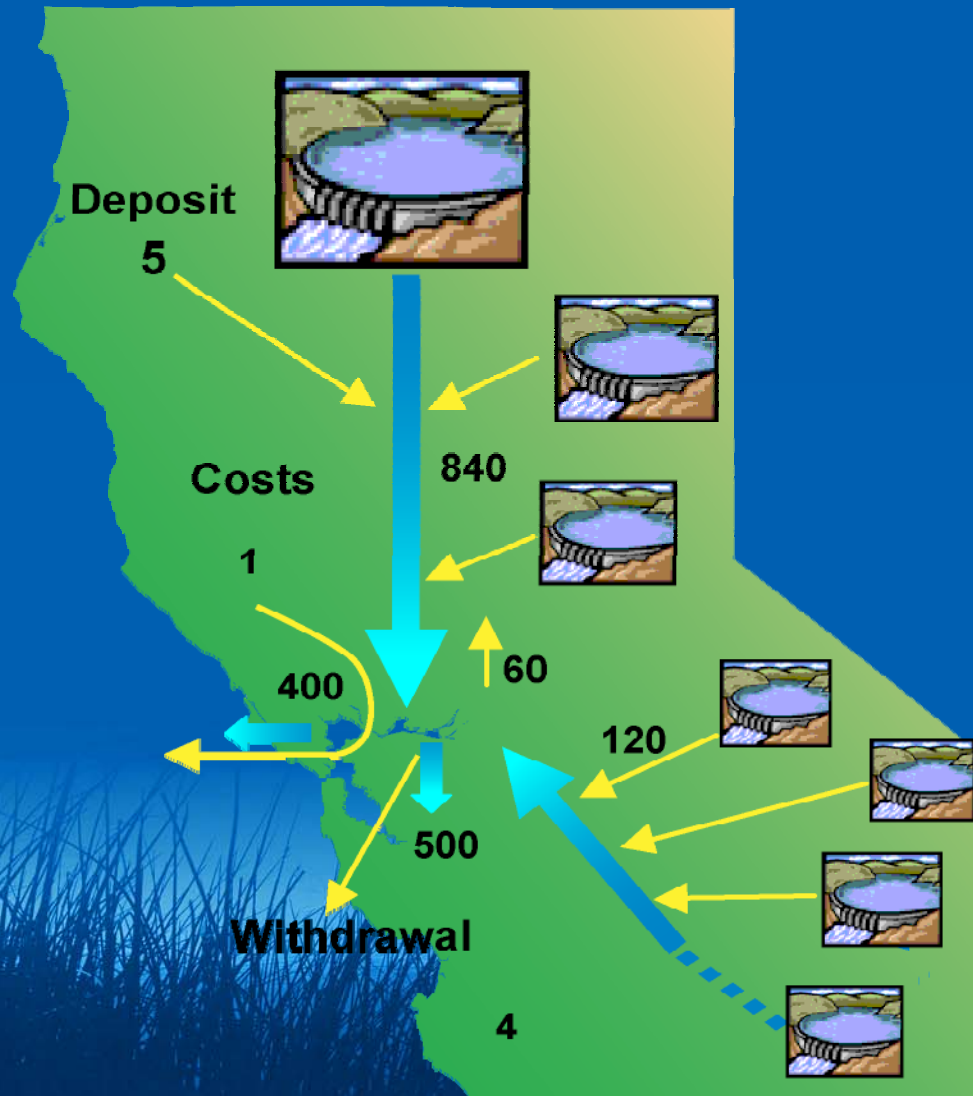
Teresa Geimer, DWR



# What is a Drought Water Bank

- DWR will transfer water from areas North of the Delta to areas South and West of the Delta
  - Water Bank is open to all entities that can provide to or obtain water from the Delta directly or indirectly
  - DWR buys water from willing sellers with commitments from buyers
  - DWR sells water to participating buyers
  - DWR provides environmental coverage for Water Bank activities
- Water Purchases for the Drought Water Bank
  - Negotiate water transfer agreements
  - Define types of water transfers, recognizing legislative guidance in the Water Code
  - Evaluate water transfers from statewide perspective

# Water Transfers- Making Sure the Check Clears the "Bank"



# Types of Transfers

- Surface Water
  - Stored Water
  - Reduction in Direct Use of Surface Water
    - Cropland Idling
    - Crop substitution
- Groundwater
  - Groundwater substitution
  - Banked groundwater

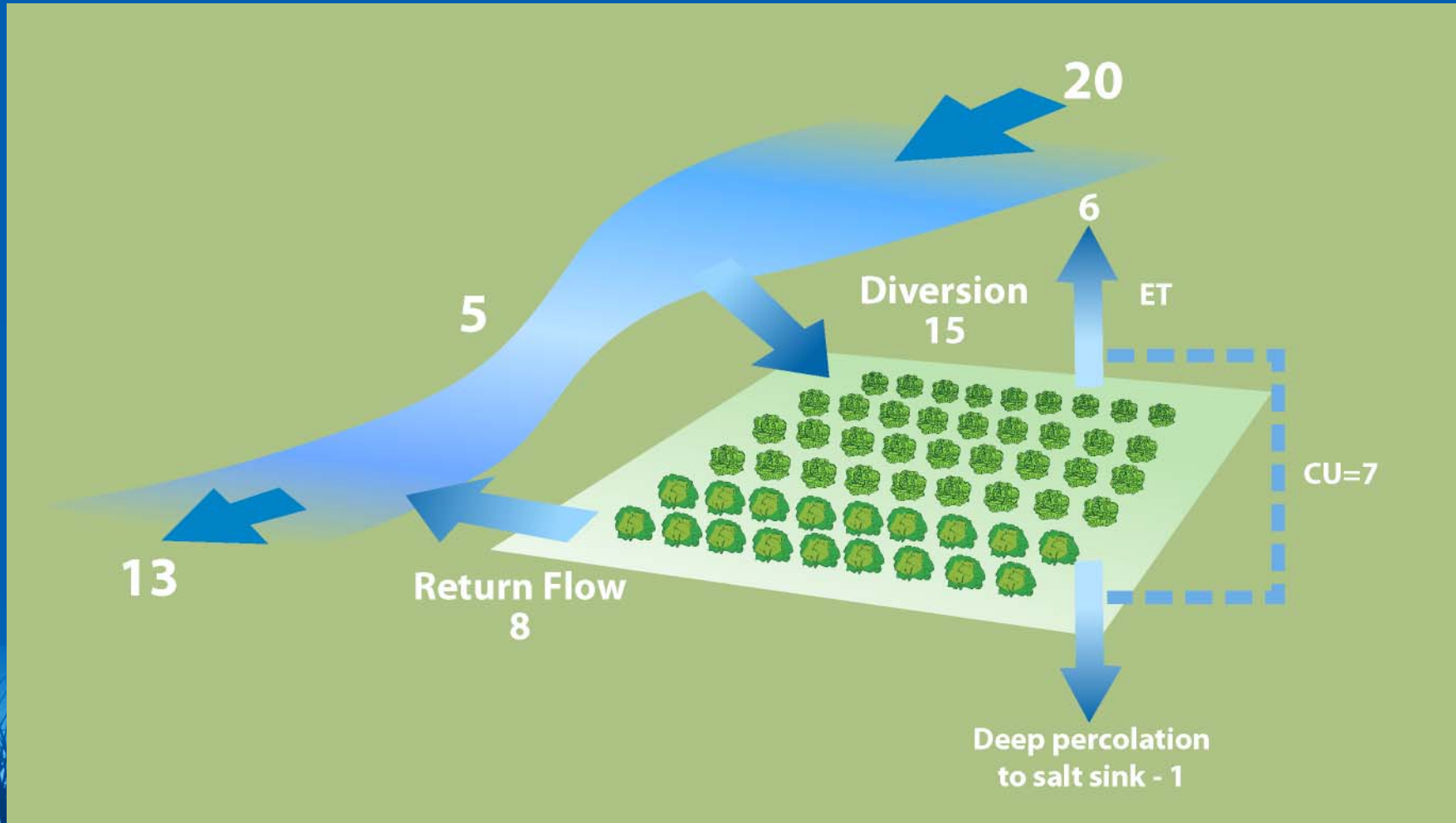
# Water Transfer White Papers

- Provide some practical examples of how to make water transfers work.
- First drafted in 2002 and updated in 2008
- See [www.watertransfers.water.ca.gov](http://www.watertransfers.water.ca.gov)
  - Cropland Idling/Crop substitution
  - Groundwater substitution



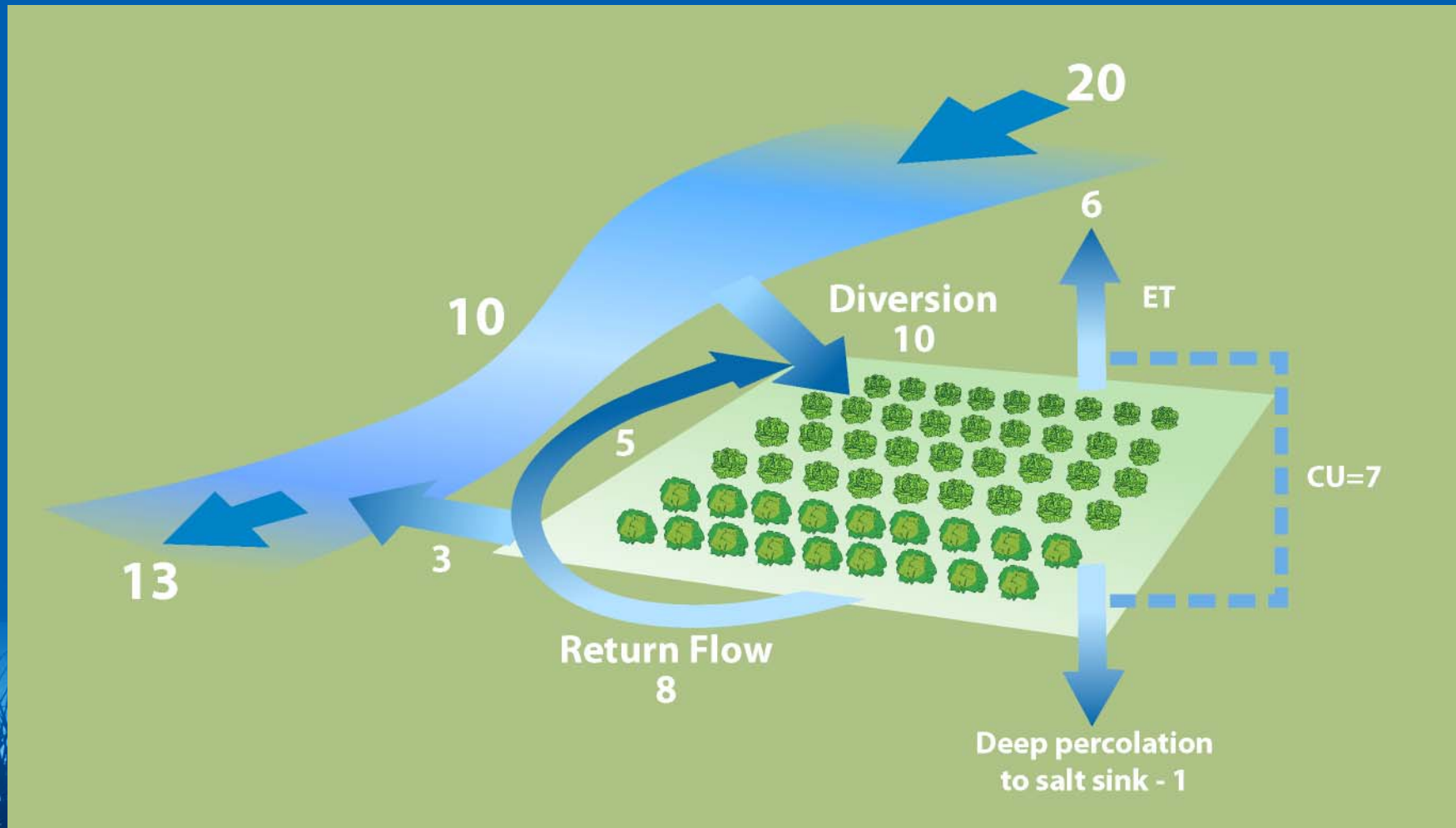
# Agricultural Water Use

*Without water conservation*



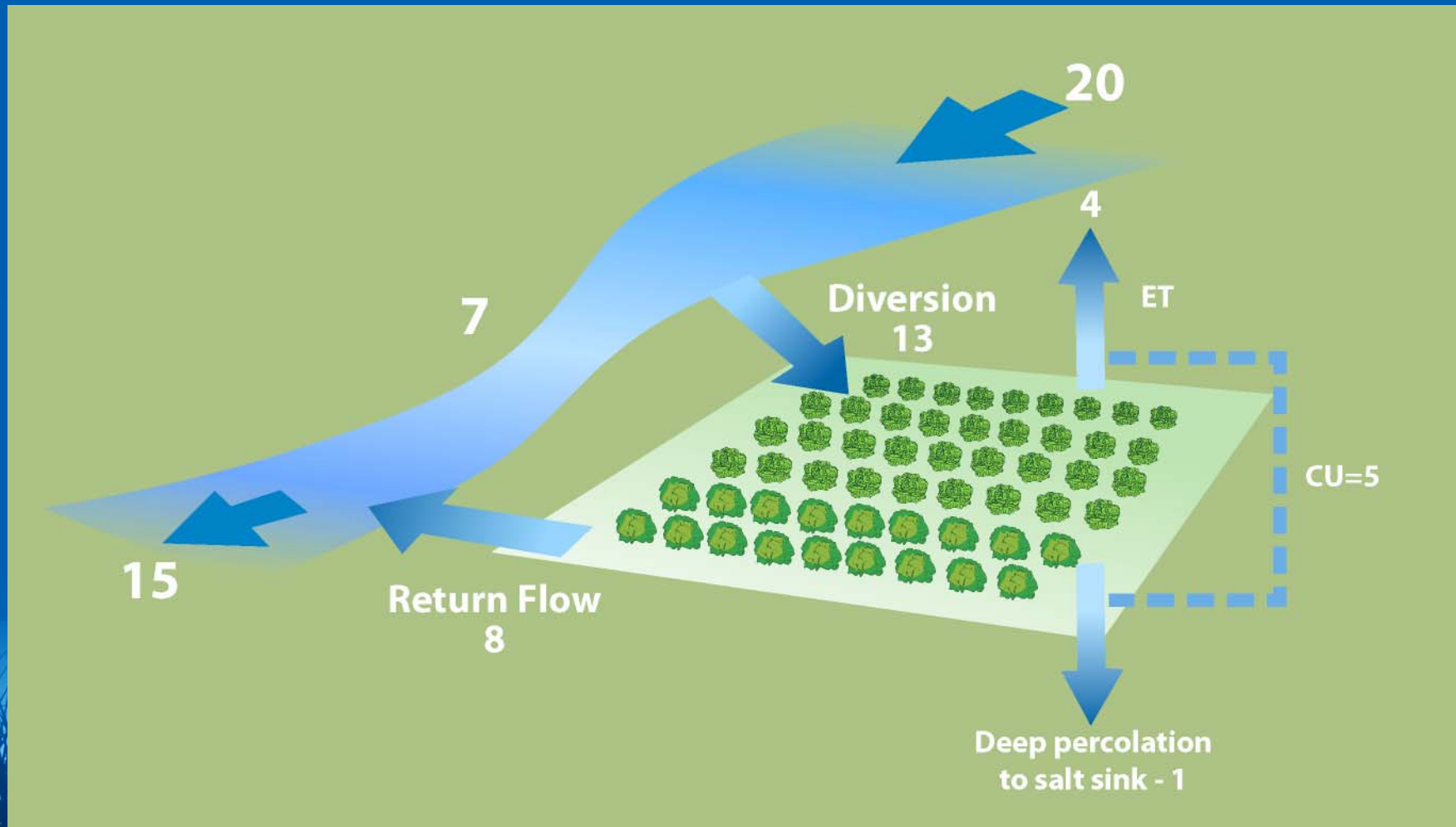
# Agricultural Water Use

*With water conservation* (No change in consumptive use)

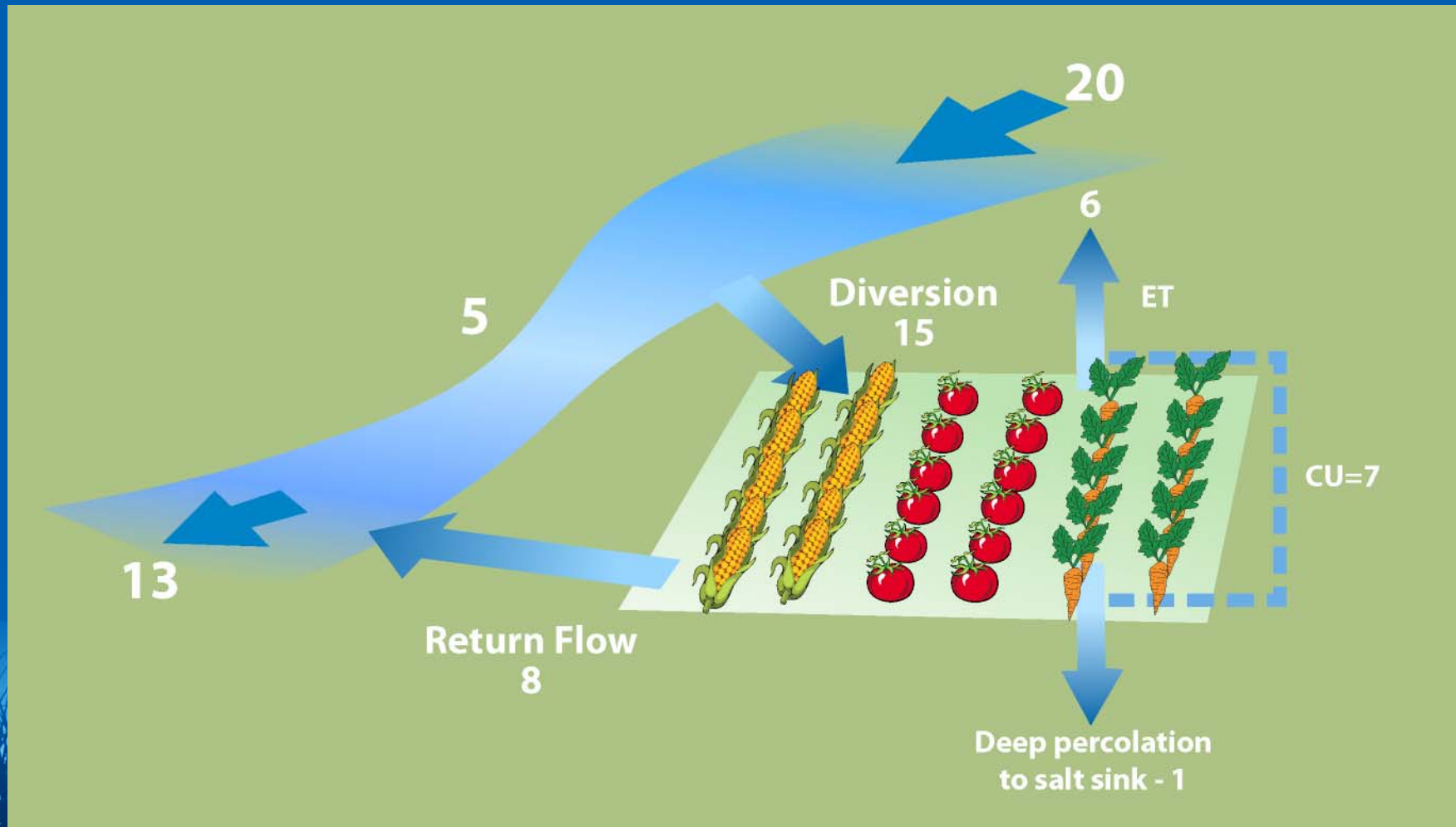


# Agricultural Water Use

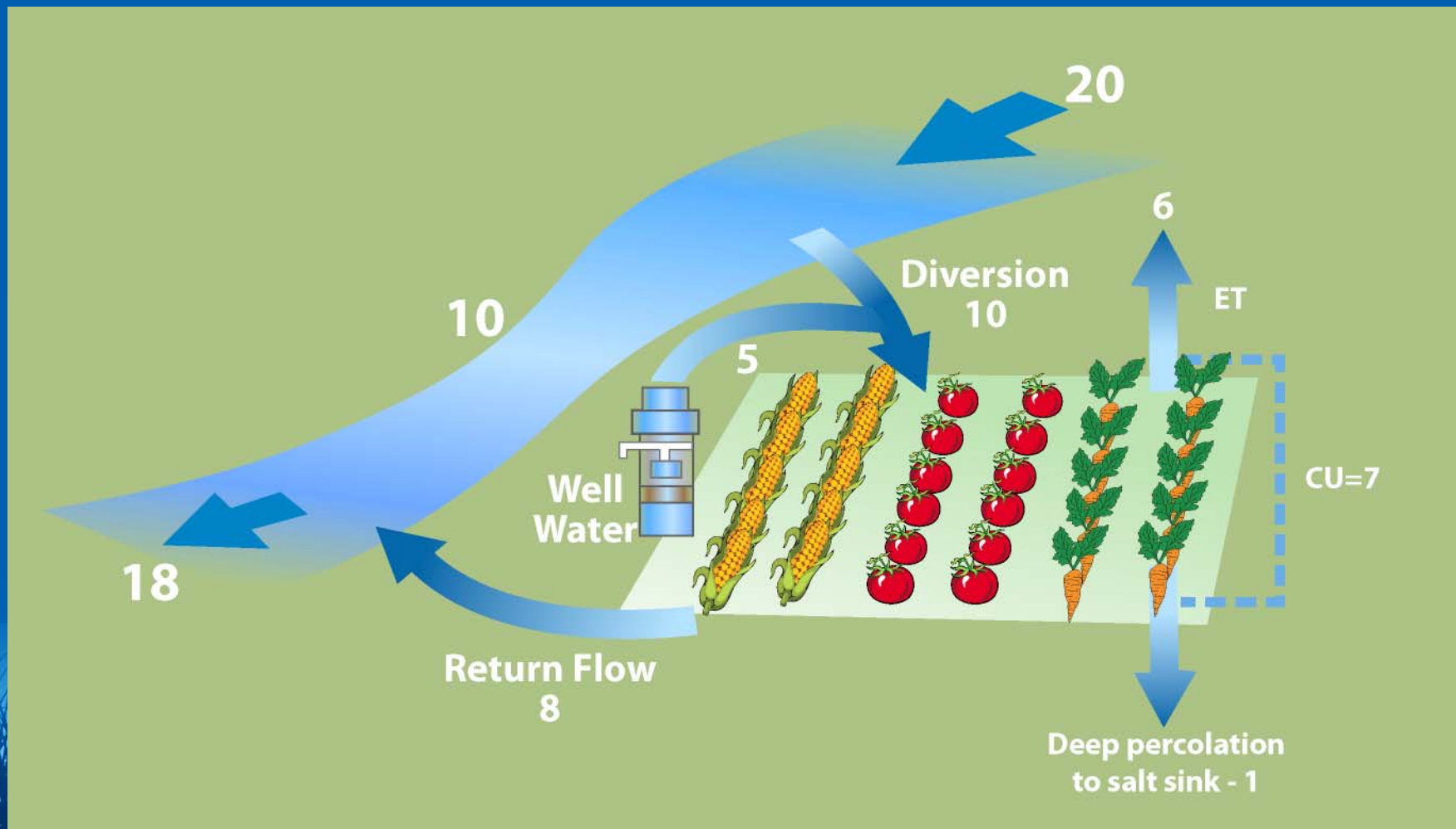
*With water conservation* (With change in consumptive use)



# Groundwater Substitution Transfers (Base Conditions)



# Groundwater Substitution Transfers (With Groundwater Pumping)



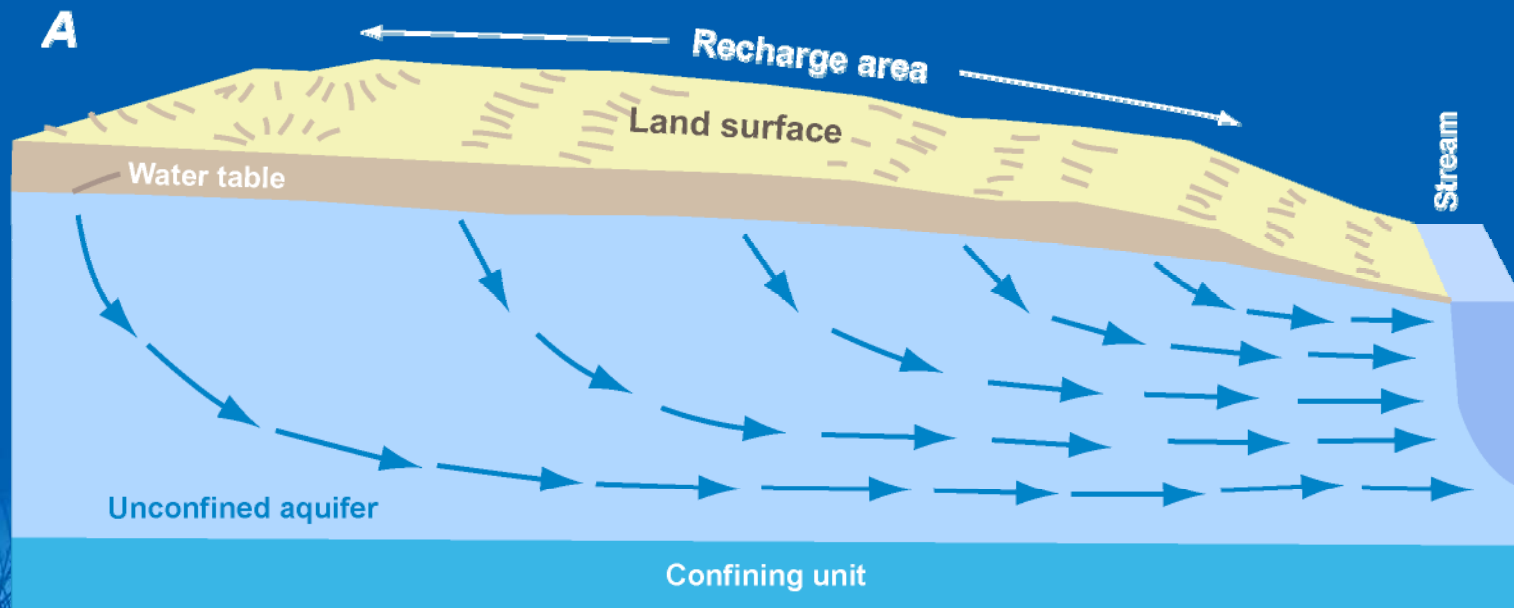
# How Does A Sacramento Valley Groundwater Substitution Transfer Work?

- Irrigators stop surface water diversions
- Irrigators pump an equivalent amount of groundwater to replace surface water
- More surface water is available downstream
- Groundwater recovers at the expense of streamflow



# Normal Groundwater Flow

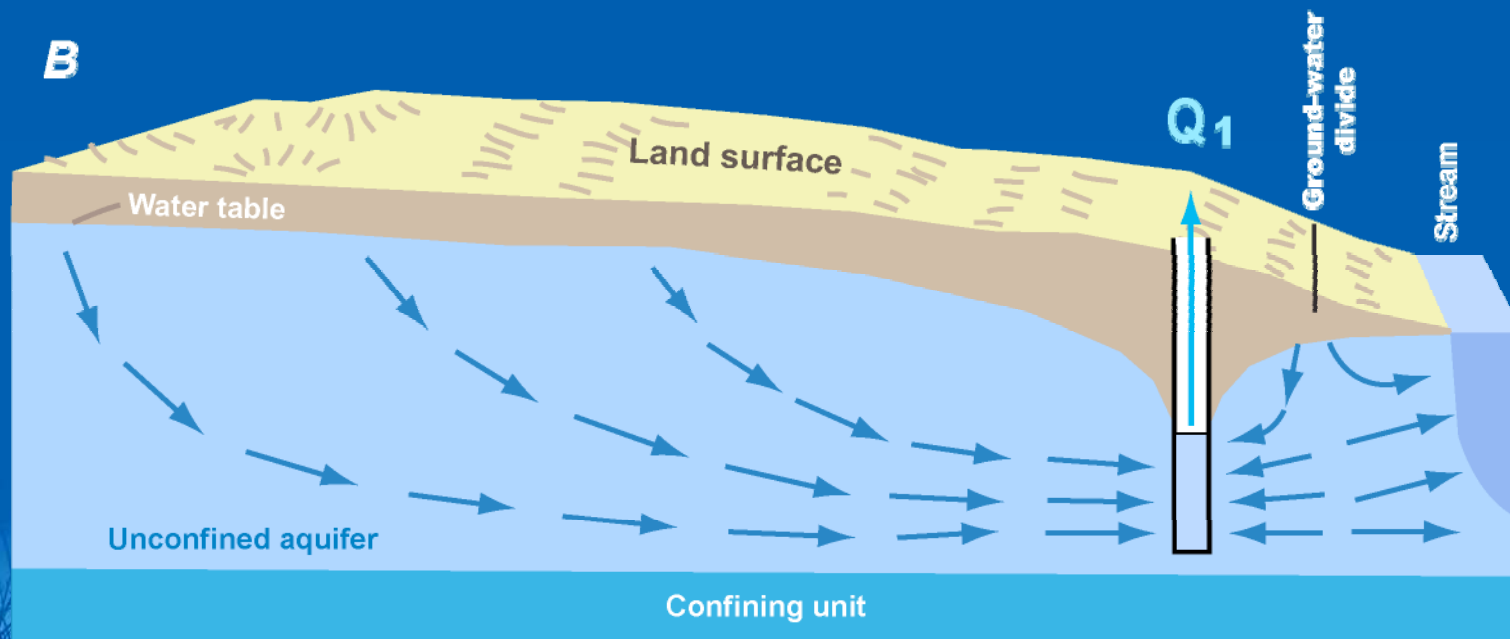
- No groundwater pumping



USGS Circular 1139

# Groundwater Flow

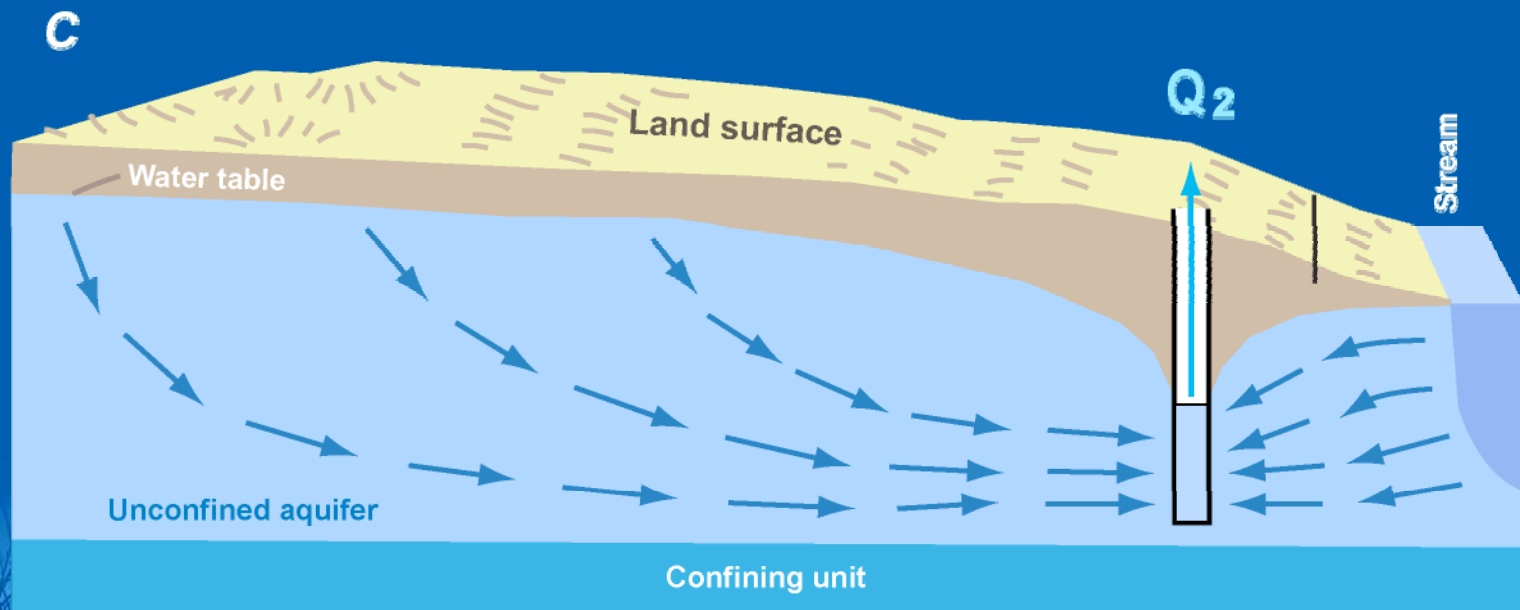
- With low groundwater pumping



USGS Circular 1139

# Groundwater Flow

- With high groundwater pumping

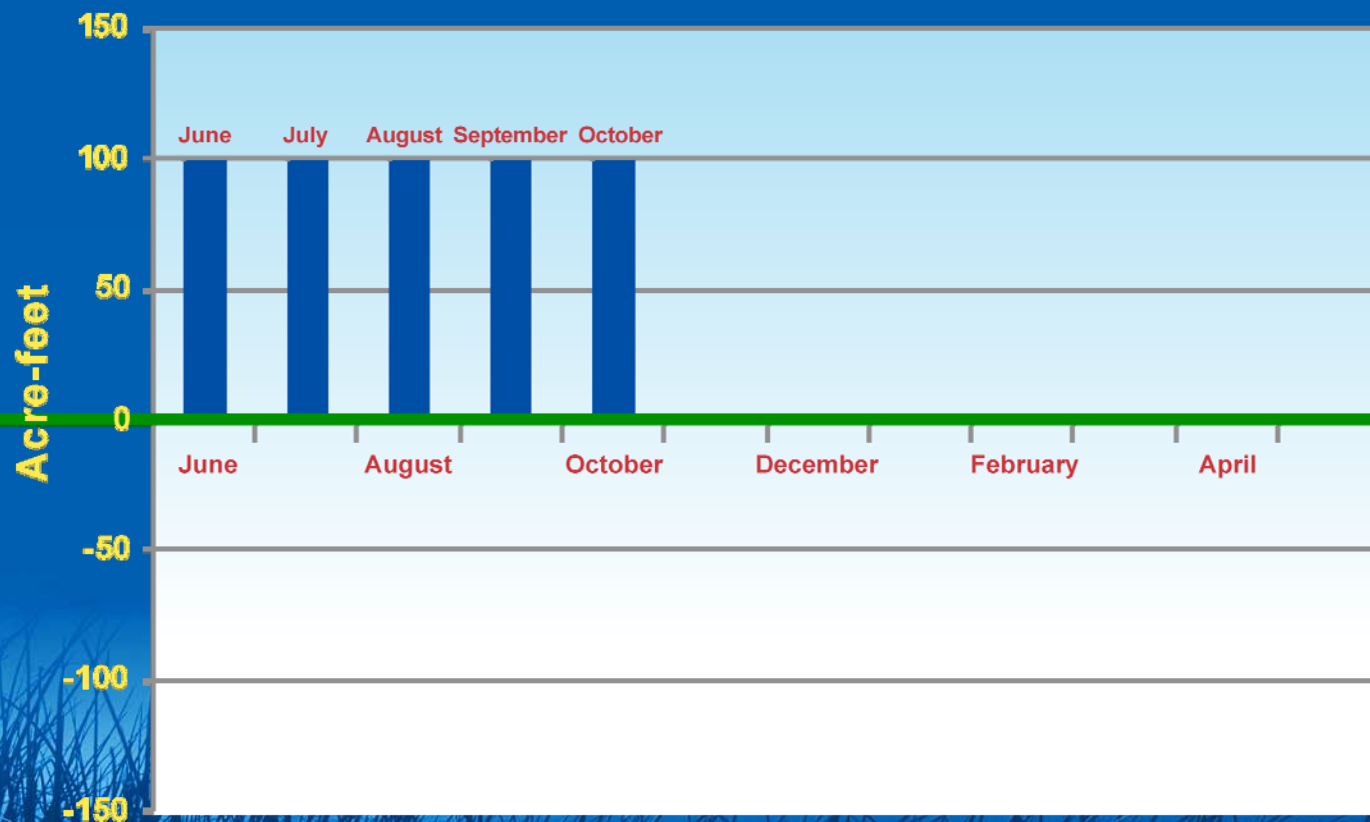


USGS Circular 1139

# Irrigators Stop Stream Diversions

- Downstream flow increases
- Irrigators pump groundwater to replace diversions

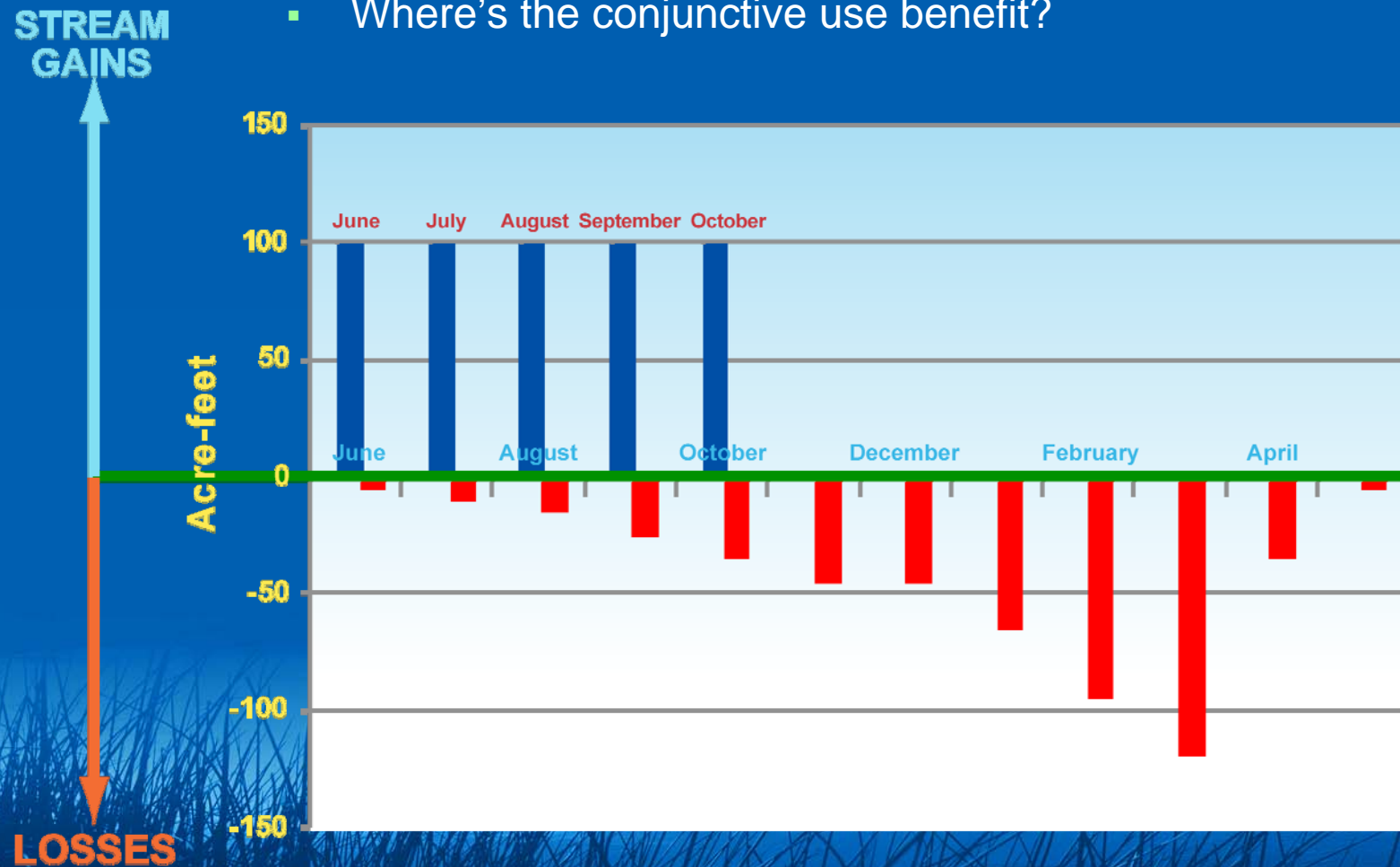
STREAMFLOW  
GAINS



LOSSES

# Groundwater Recovers

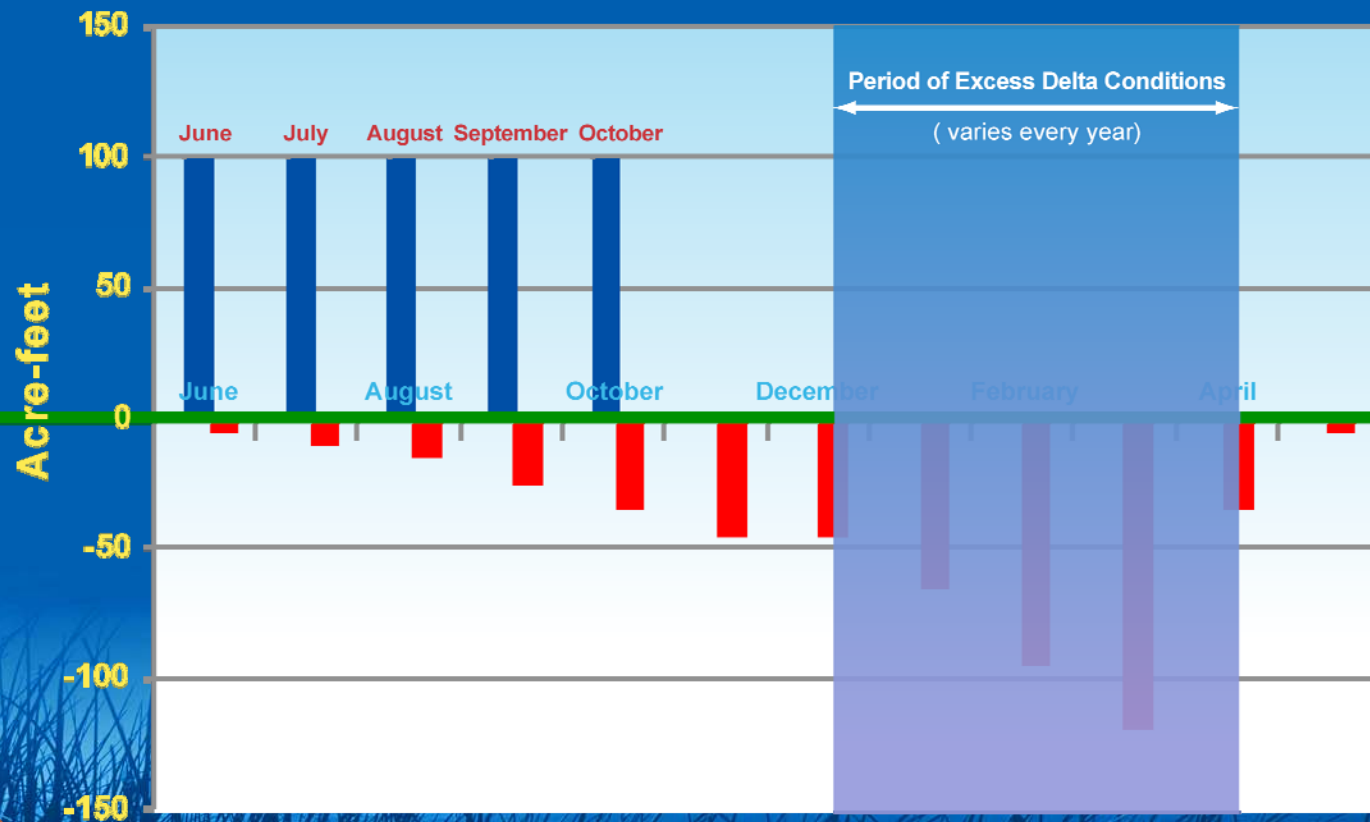
- Assume groundwater levels fully recover
- Then streamflow losses equal groundwater pumping
- Where's the conjunctive use benefit?



# Additional Water Supply

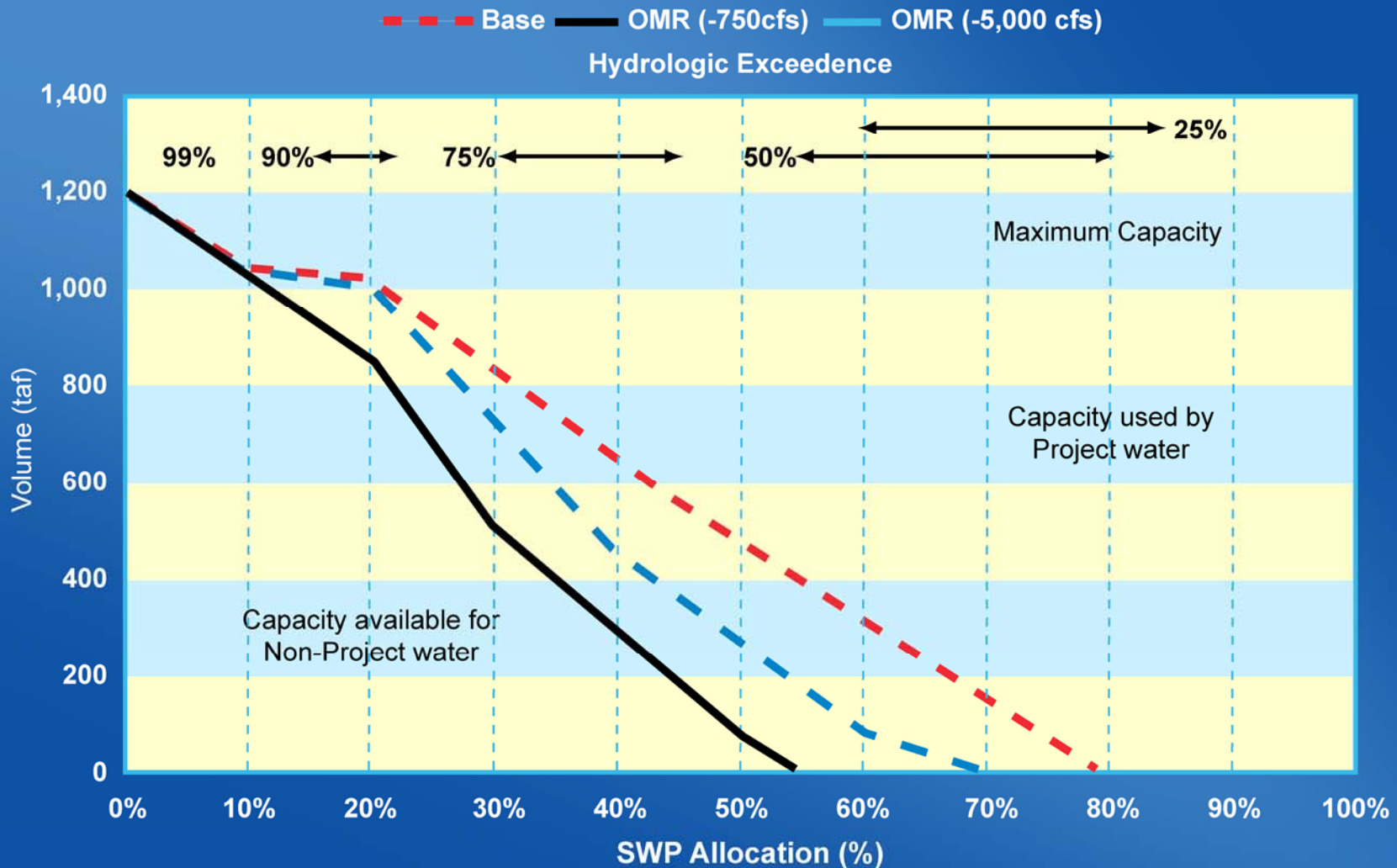
- “Excess Delta Conditions” are times of high flow in the Sacramento River
- Water that would have been “lost” to ocean is captured by natural groundwater recharge

STREAM  
GAINS



LOSSES

# Total Estimated Conveyance Capacity at Banks Between July - September 2009



\* Based on September's Allocation Analysis for 2009 (dated 9/16/2008)

\*\* Assumed maximum capacity of 6,680 cfs at Clifton Court Forebay

\*\*\* Capacity may be further reduced up to a maximum of 128 TAF for the CVC Contractors

# Drought Water Bank Schedule

October 15, 2008 – request interested buyer of water from the Water Bank notify DWR  
25 Agencies have expressed interest

November 1, 2008 – request interested seller of water to the Water Bank notify DWR

30 Agencies have expressed interest

(Note: notification of interest does not commit the buyer or seller to the program. It allows time for DWR to get environmental coverage for all potential buyers and sellers.)

# Drought Water Bank Schedule

December 1, 2008 – DWR signs Notice of Determination, and Reclamation submits EA for NEPA coverage and Biological Assessment to USFWS for developing a Biological Opinion for the Water Bank.

Buyer and Seller contracts may be executed once the NOD is signed. Buyers will pay \$75/AF where \$70 goes towards their water purchase and \$5 is for DWR administrative costs for the Water Bank.

Actual water deliveries to participating buyers are expected July 1 through September 2009.

(Note: There is a 50% chance there will be no transfer capacity in SWP facilities to deliver Water Bank water to participating buyers. DWR is committed to conveying and storing Water Bank water whenever possible and needed by the program.)

# Benefits of the Drought Water Bank

- Providing environmental coverage to Water Bank participants at no cost to participants.
- Providing conveyance priority at SWP facilities if needed.
- Providing storage of transfer water if needed and hydrological conditions allow it.
- Reclamation participation for facilitation of CVP transfers
  - NEPA coverage
  - Transfer approval
  - Conveyance
  - Storage

# Issues

- Giant Garter Snake and rice cropland idling
  - Reclamation and DWR are working with DFG and USFWS on Biological Opinion for the program.  
*(Expected by 1/1/09)*
  
- County notification where transfer water is made available.
  - DWR encourages sellers to the Water Bank to work with counties when developing their transfer proposal for the Water Bank.
  - Once a transfer proposal is submitted to the Water Bank, DWR will notify the county.

# Issues

- Determining how much transfer water is available from groundwater substitution water transfers.
- The increasing difficulty to back up transfer water in reservoirs for release when the water can be pumped from the Delta.



**Questions?**

