

FUTURE OF NATURAL RESOURCE MANAGEMENT IN CALIFORNIA



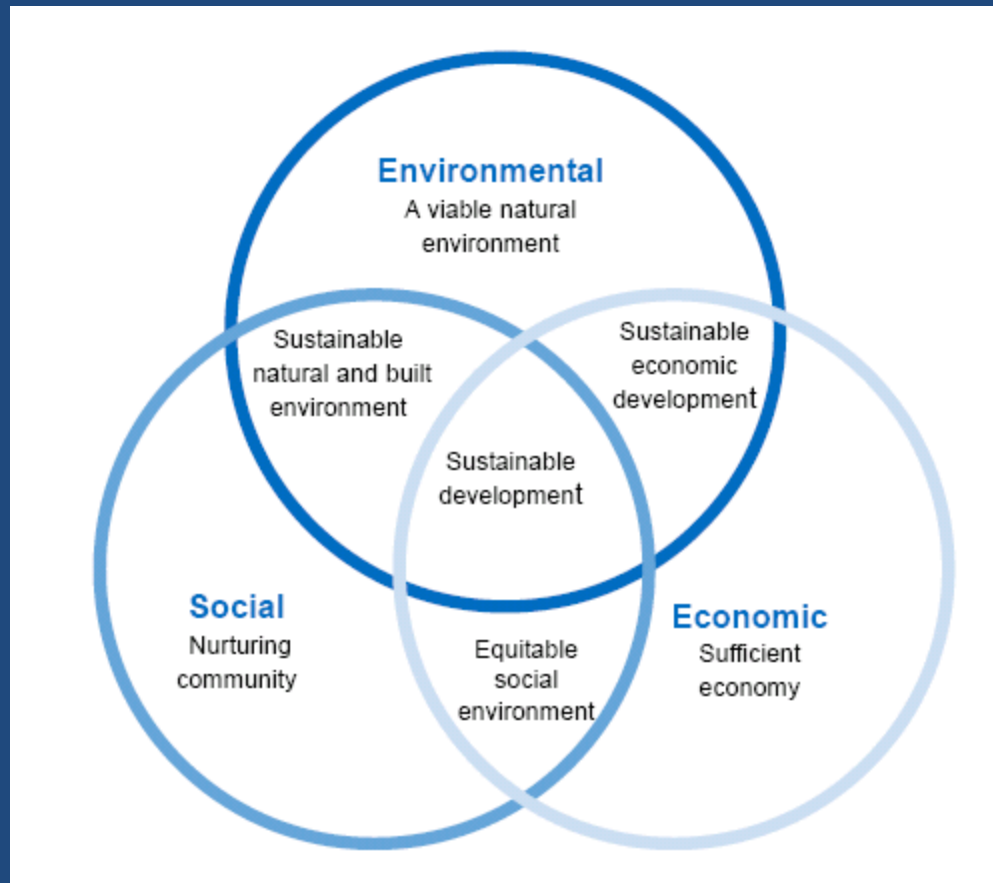
Department of Water Resources
Environmental Stewardship Policy
Total Resource Management
October 29, 2010 Memorandum

“Environmental stewardship is a concept of responsibility to manage and protect natural resources (water, air, land, plants and animals) and ecosystems in a sustainable manner that ensures they are available for future generations.”

- **Sustainability Defined**

United Nations: "Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs."

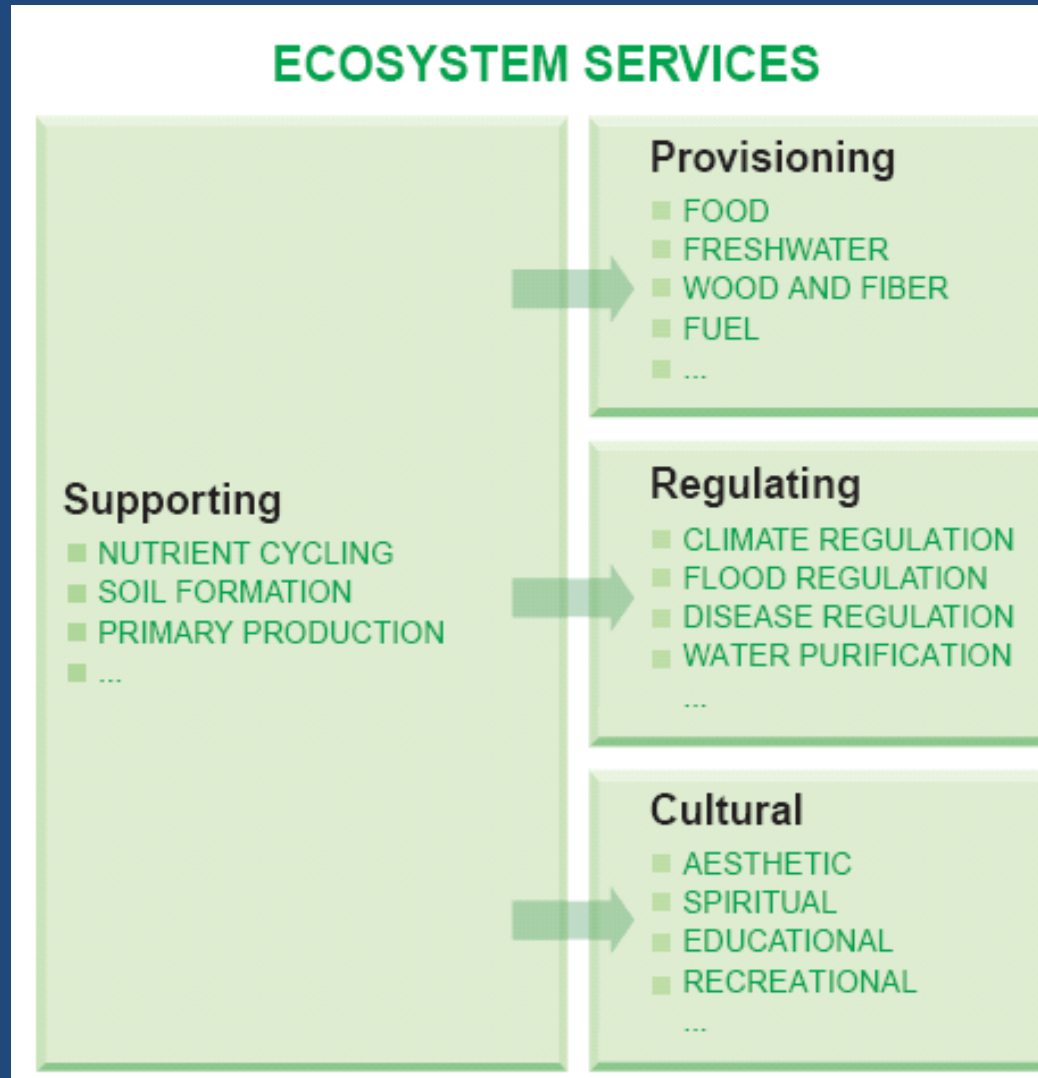
Simple: A system is sustainable when its operation does not break it down over time. In other words, resources that are consumed are replenished.



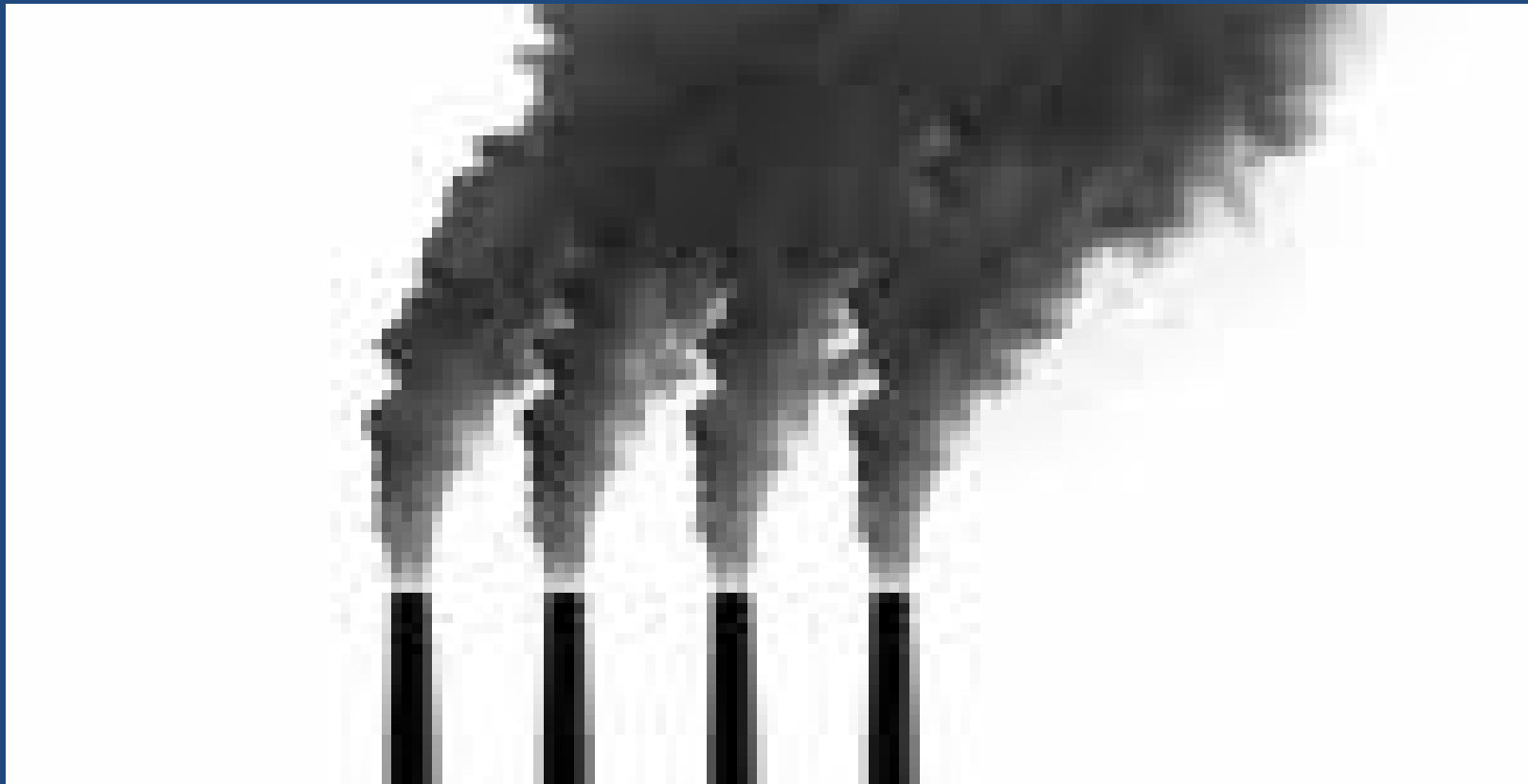
- Ecosystem services are the “conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfill human life” (Daily, 1997) by “purifying air and water, detoxifying and decomposing waste, renewing soil fertility, regulating climate, mitigating droughts and floods, controlling pests, and pollinating plants” (Salzman, Thompson, and Daily, 2001).

ECOSYSTEM SERVICES

The benefits people obtain from ecosystems



STOVE PIPE APPROACH

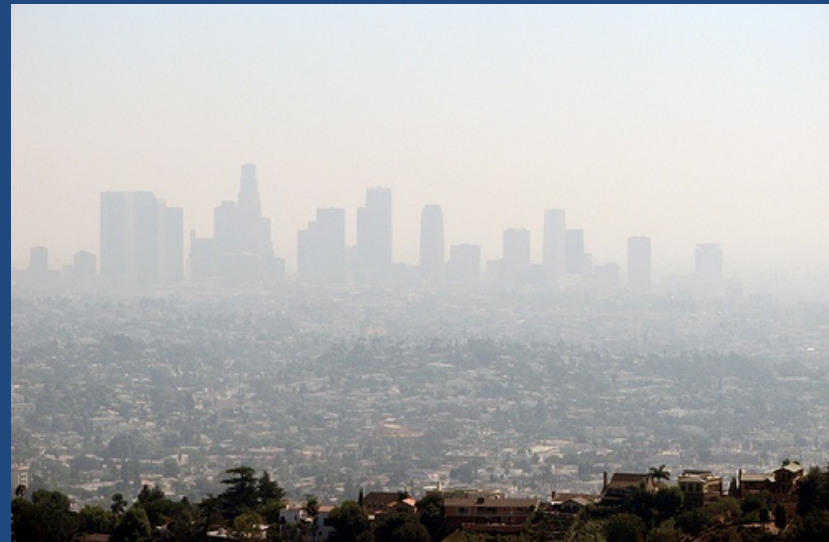


Fish and Game/Air Board/Water Board/Public Health

MANAGEMENT DECISIONS HAVE CONSEQUENCES



MULTIPLE RESOURCES APPROACH

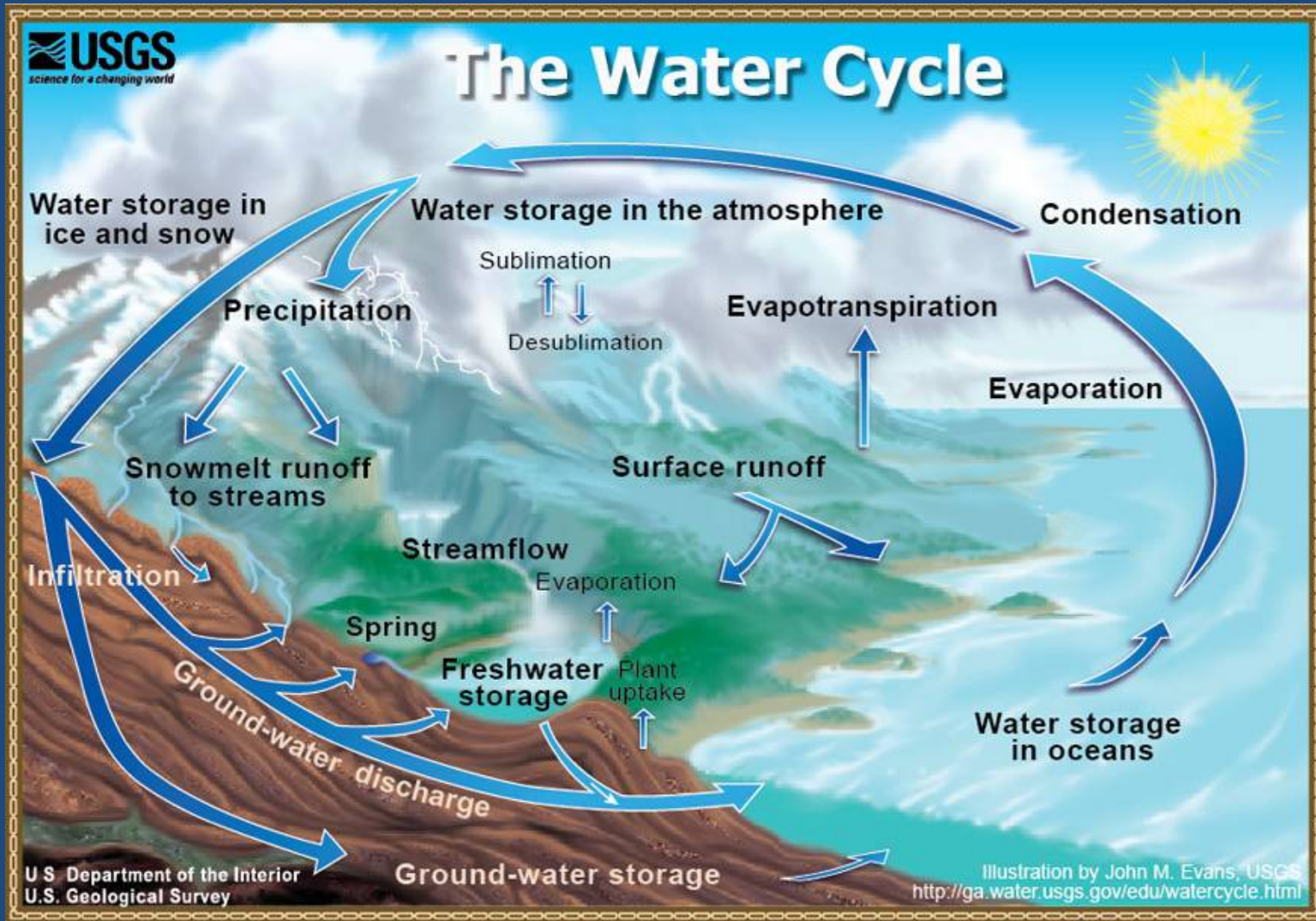


Integration of Multiple Objectives

- salmonid recovery
- protection & enhancement of beneficial uses of water
 - water supply & quality
 - public health
 - watershed health/green infrastructure
- economic vitality of communities
- local autonomy & intra-regional cooperation
- climate mitigation
 - energy/forest carbon/biomass/fire
- climate adaptation
 - ecosystem & human community resiliency
- stormwater/flood management
- local land use planning



NATURAL SYSTEMS' APPROACH



CEQA CHALLENGES

CEQA Section 15333- Small Habitat Restoration Projects

Restoring of Natural Function

Pre-Project Last Chance Creek, Alkali Flat, 2003



Restoring Natural Function

Post-Project Last Chance Creek, Alkali Flat, May 2005



Integrated Regional Water Management Success Story



Integrated Natural Resources Management

Sonoma County & North Coast Green Infrastructure Initiatives

What Do We Need Moving Forward?



- support local leadership
- future bonds & legislation – incentivize integration of multiple objectives/consider other factors in addition to population
- flexible, secure, long term funding
- integrate natural resource management into local and general plans
- integrated planning offsets need for regulation
- importance of Integrated Natural Resources Management in rural communities



Why is there need for change in our approach to resource management?



A new understanding of the consequences of land use activities



Drivers of water policy change

- Population increase
- Urban landscaping
- Newly irrigated lands and changing cropping patterns
- Groundwater overdraft
- Polluted waters
- Environmental awareness
- Legal intervention
- Advances in science and our understanding of natural systems
- Climate change

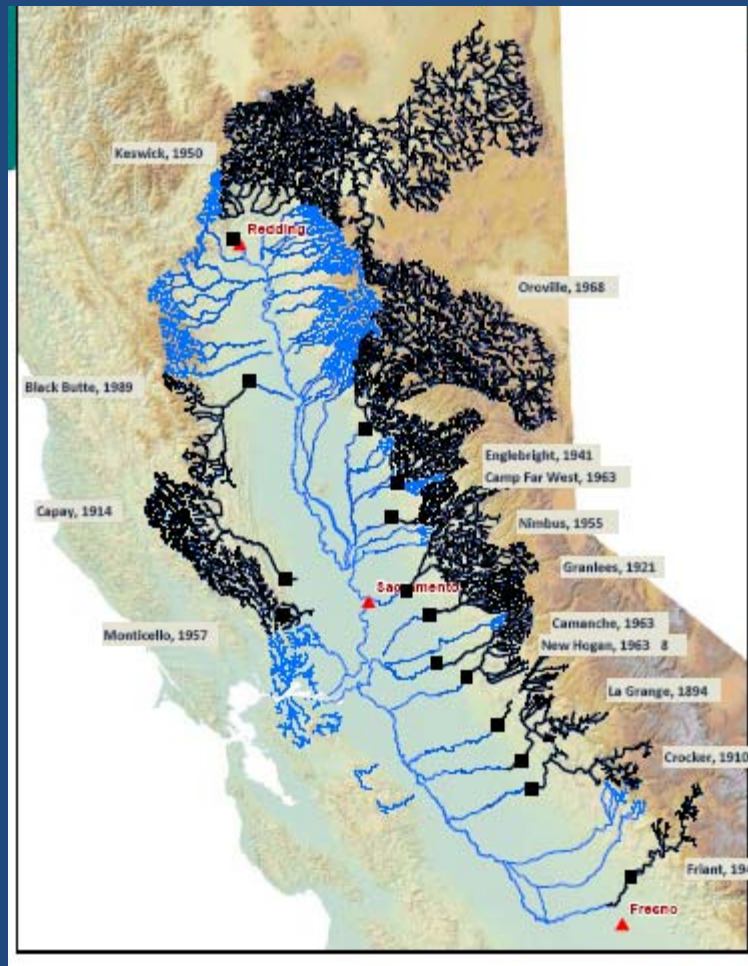
Listed Anadromous (ocean-going) and Pelagic (open water) Delta fish



- Winter-run Chinook Salmon – CESA endangered 1989; FESA endangered 1990
- Delta smelt – FESA/CESA threatened 1993; CESA endangered (candidate) 2009
- Steelhead – FESA threatened 1998 (no CESA listing)
- Splittail – FESA threatened 1998 (FESA delisted 2003; not CESA listed)
- Spring-run Chinook salmon – FESA/CESA threatened 1999
- Green Sturgeon – FESA threatened 2006 (no CESA listing)
- Longfin smelt – CESA candidate 2009



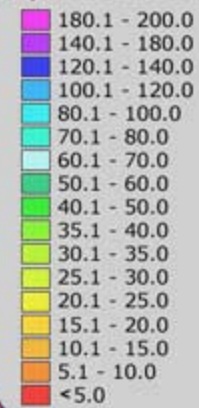
Central Valley Steelhead loss of habitat from dam construction



Average Annual Precipitation in California

(With Water and Shaded Relief)

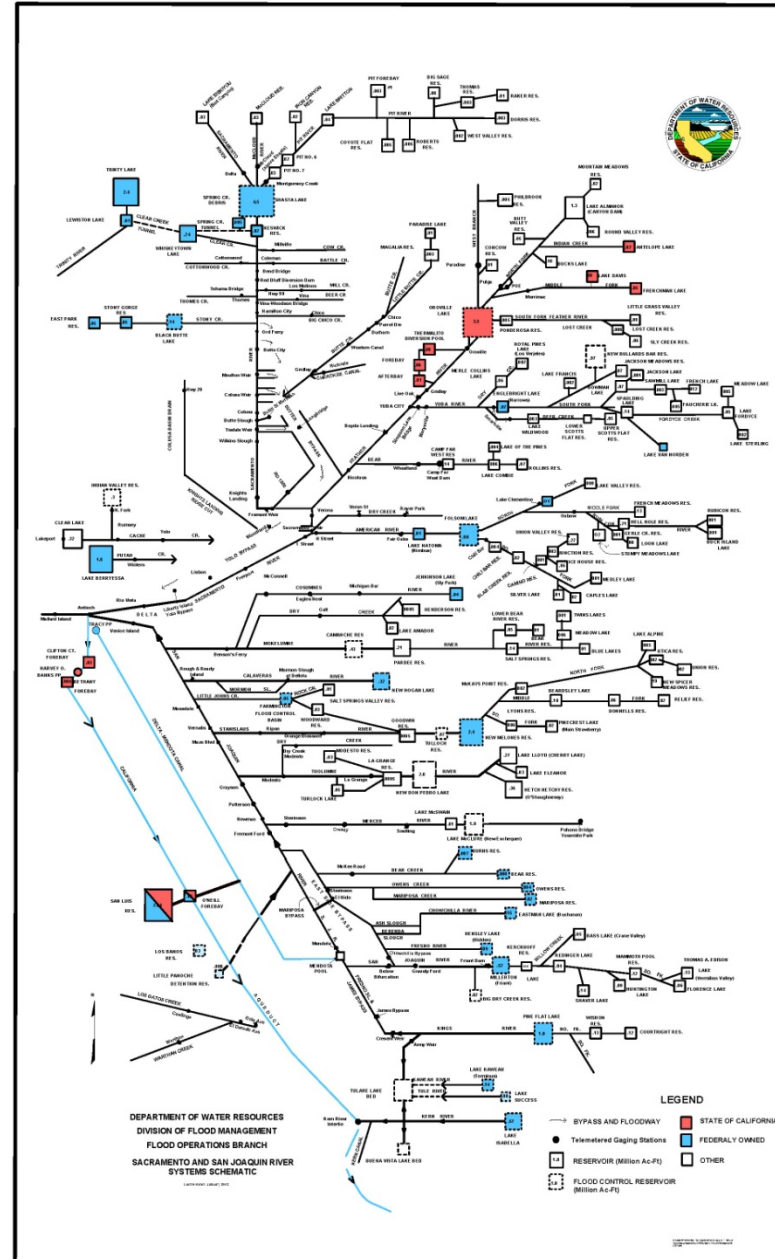
Precipitation in Inches



100 miles

Modified from the *National Atlas*

The rivers as water supply systems



Future water supply sources and strategies

- More focus on conjunctive use and groundwater banking, less on surface diversions
- Increased interest in recycled water from both sectors
- Recognition of conservation as part of water supply portfolio, rather than public outreach
- Increased interest in desalination
- Increased interest in integrated regional water management planning: new state directive; means to access funding
 - Conservation programs are a significant component
 - All regions need to use water more efficiently in all sectors

Senate Bill SBx7-7 2009

- **Agricultural Water Conservation**
- Agricultural water suppliers shall prepare and adopt agricultural water management plans by December 31, 2012, and update those plans by December 31, 2015, and every 5 years thereafter.
- On or before July 31, 2012, agricultural water suppliers shall:
 - Measure the volume of water delivered to customers. The Department of Water Resources shall adopt regulations that provide for a range of options that agricultural water suppliers may use to comply with the measurement requirement.
 - Adopt a pricing structure for water customers based at least in part on quantity delivered.
 - Implement additional efficient management practices.
- Effective 2013, agricultural water suppliers who do not meet the water management planning requirements established by this bill are not eligible for state water grants or loans.

Local solutions in partnership with state, federal and NGO's partners



Innovative resource management



Adaptation



FOR MORE INFORMATION

CALIFORNIA NATURAL RESOURCE AGENCY WEBSITE:

http://www.resources.ca.gov/meeting_regarding_the_future_of_natural_resources_management.htm

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