

California Water Plan Update 2009

San Joaquin River Regional Report Overview & Outline

2009 Regional Workshops

California **Water Plan** Update **2009**

INTEGRATED WATER MANAGEMENT



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3

Public Review Draft

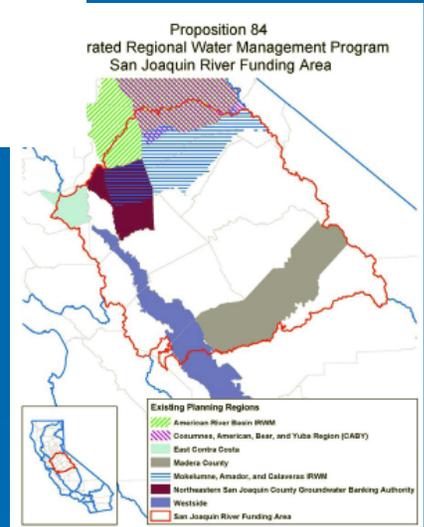
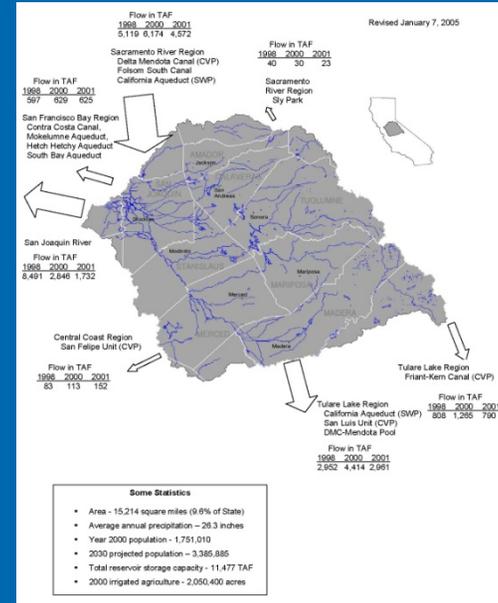
January 2009

Regional Report Outline

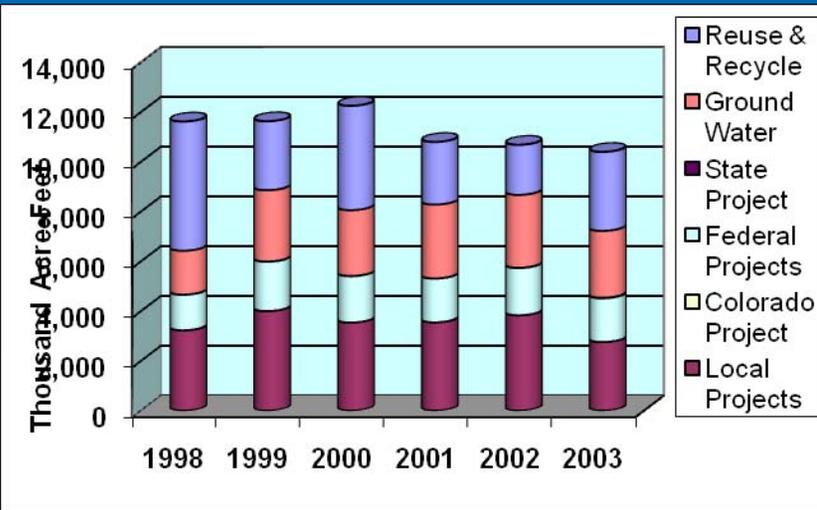
Setting



Relationship with other Regions



Current Water Conditions



Regional Planning & Management

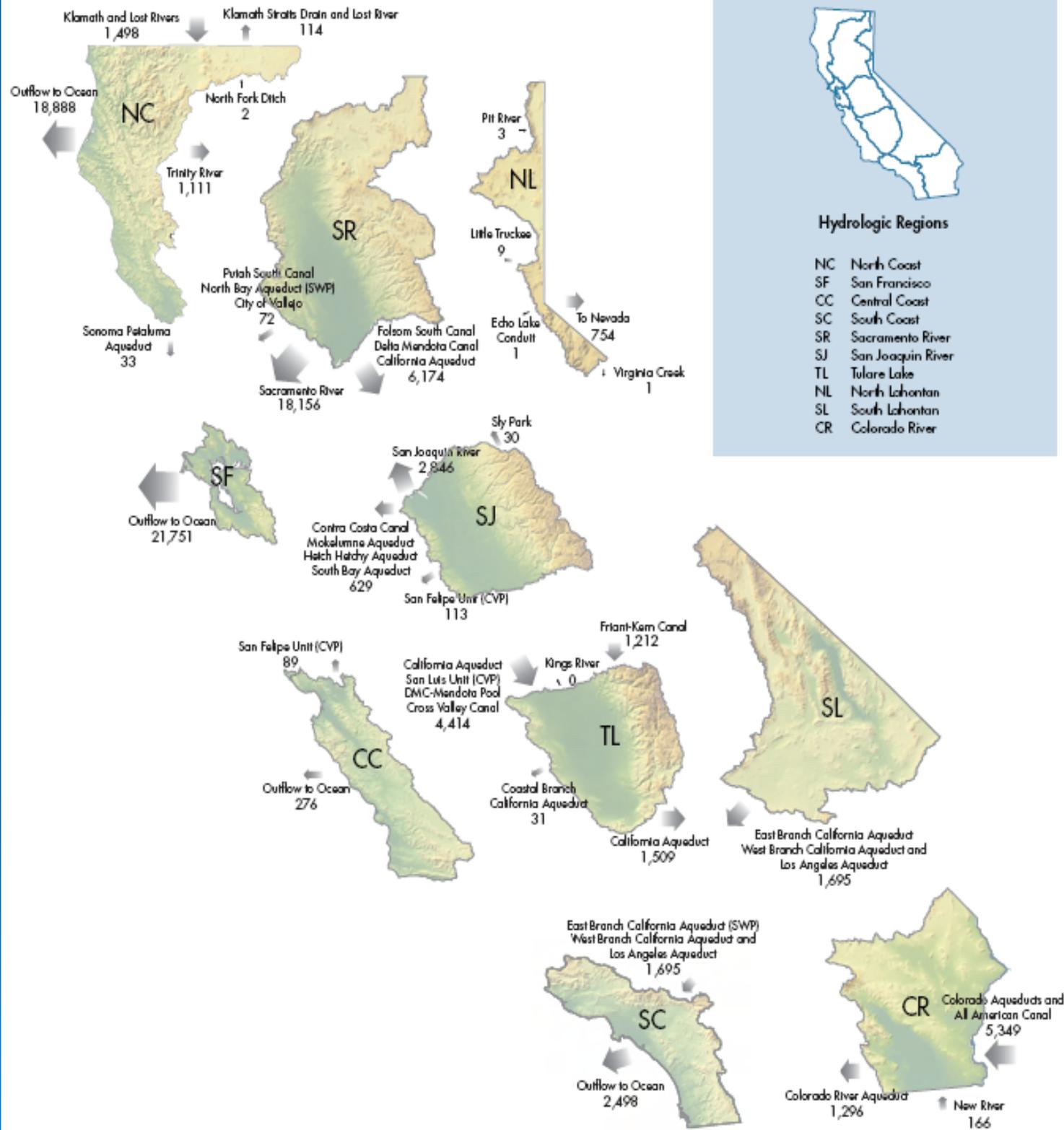


Water Portfolios

Looking to the Future

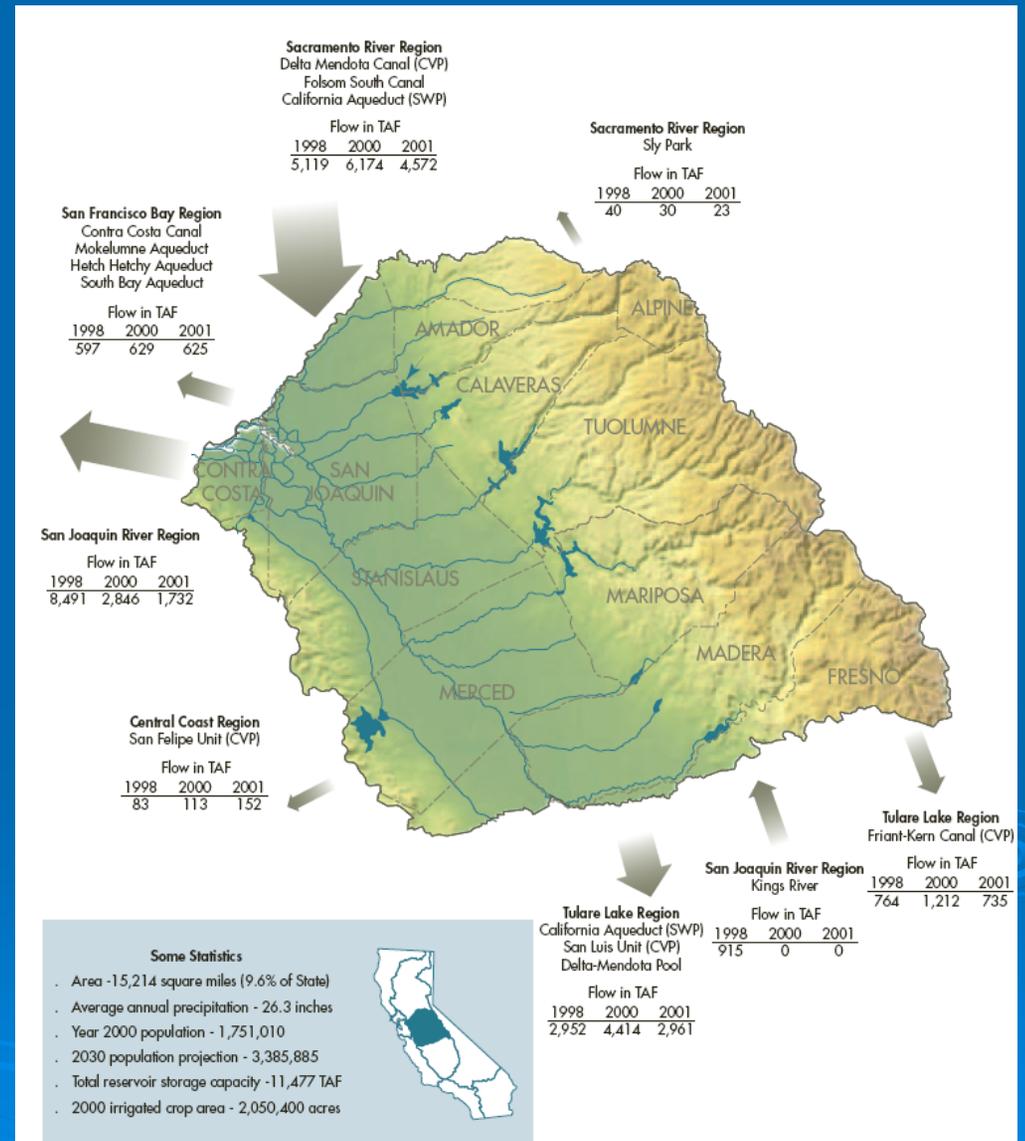
Selected References

Relationship to other Regions



San Joaquin River Region Setting

- The region contains a portion of Sacramento County and extends south from just below the northeastern corner of Sacramento County and east to include the southern third of El Dorado County; almost all of Amador County; the western slope of Alpine County; the remainder of San Joaquin County; all of Calaveras, Tuolumne, Stanislaus, Mariposa, Merced, and Madera counties; a portion of Fresno County; and a sliver of San Benito County.

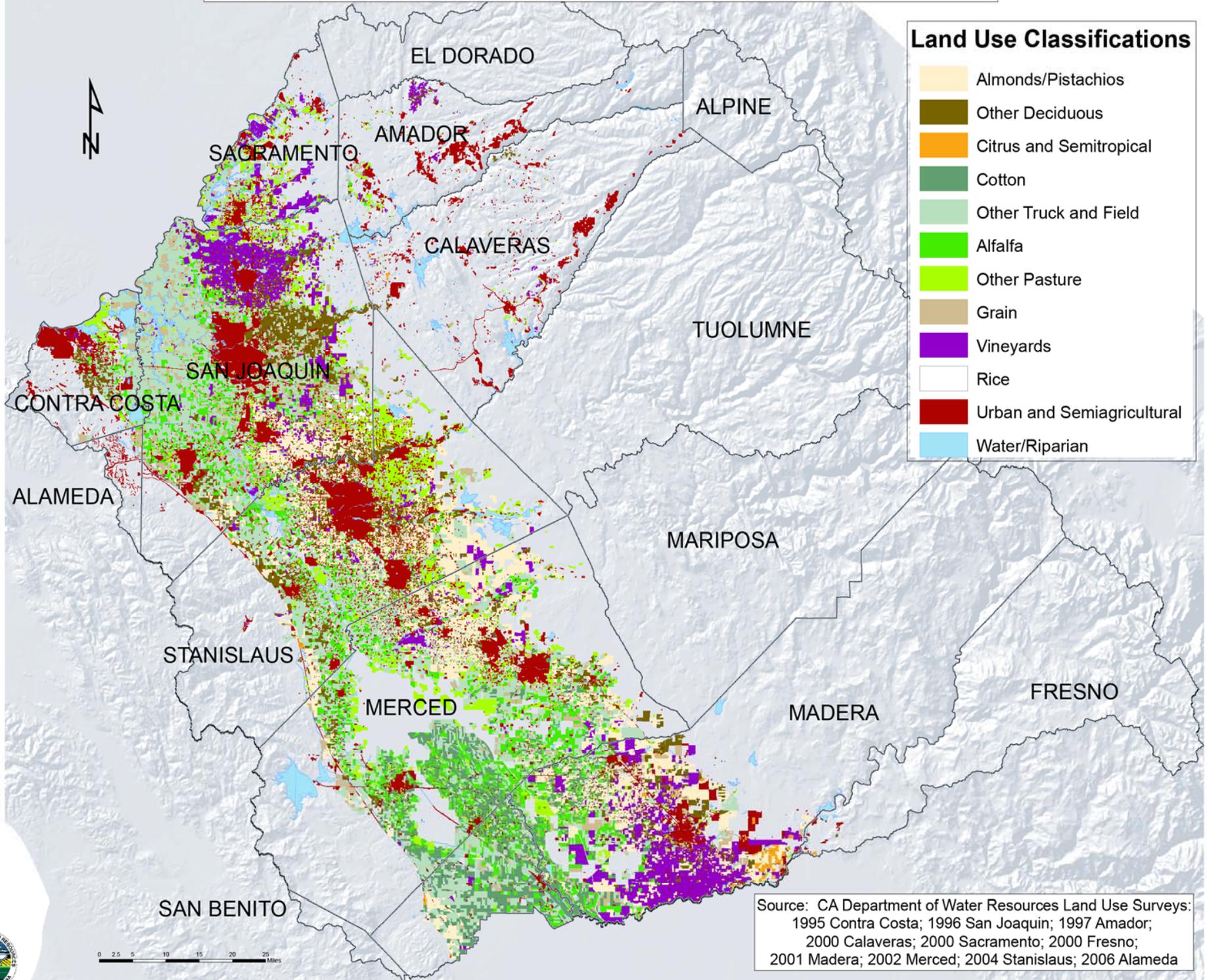


The San Joaquin River Hydrologic Region includes all of the San Joaquin River drainage area extending from Madera County in the south to the Delta in the north. Arrows indicate annual flows entering and leaving the region for water years 1998, 2000, and 2001.

San Joaquin River Region Setting

- The headwaters of the SJR begin near the 14,000 foot crest of the Sierra Nevada
- The river is 300 miles long with an average annual unimpaired runoff of about 1.8 million acre-feet
- The river flows from the western slope of the Sierra Nevada mountains and then turns northwestward on the San Joaquin Valley floor toward the Delta where it meets the Sacramento River.
- The two rivers converge in the 1,153-square-mile Delta.
- Historically, more than 40 percent of the state's annual run-off flows to the Delta via the Sacramento, San Joaquin, and Mokelumne rivers.

Land Uses in the San Joaquin River Region 1995-2006



0 2.5 5 10 15 20 25 Miles

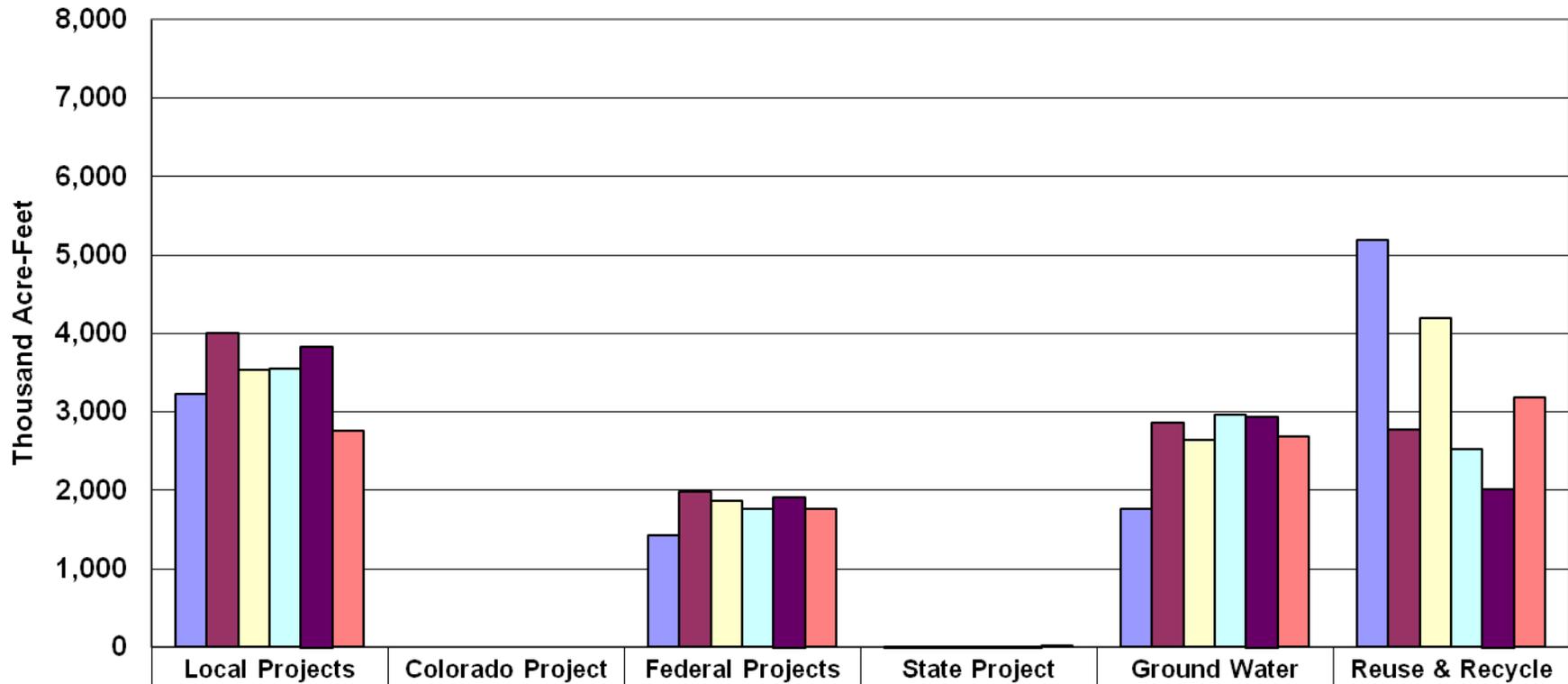
Regional Water Conditions

- The Mokelumne River and its tributary the Cosumnes River originate in the central Sierra Nevada, along with the more southerly Stanislaus and Tuolumne rivers.
- From the Coast Range: Del Puerto Creek (near Patterson); Orestimba Creek (near Newman); and Panoche Creek
- The Merced River flows from the south central Sierra Nevada and enters the San Joaquin near Newman.



San Joaquin River Region Water Conditions

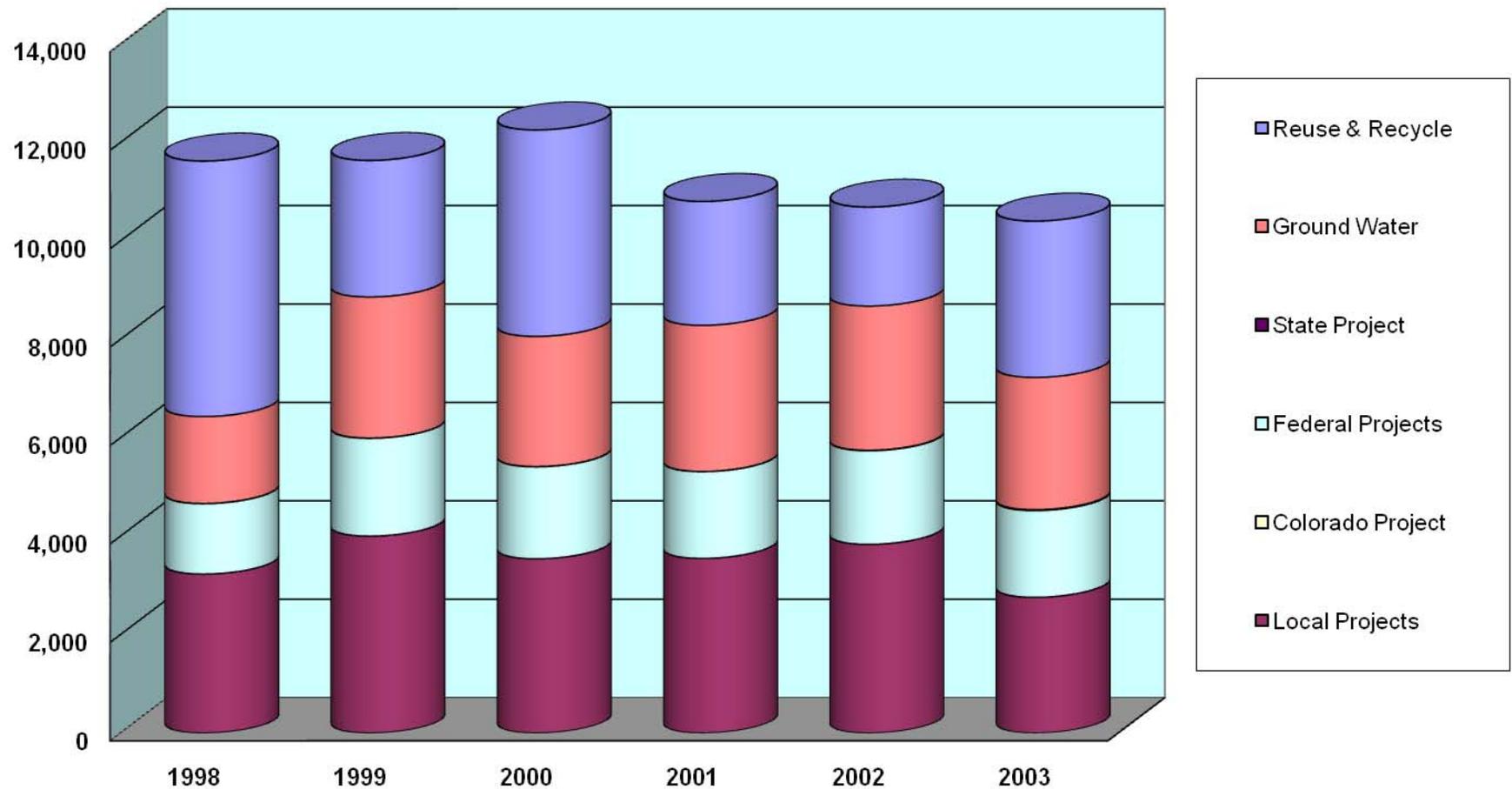
San Joaquin River Region Dedicated Water Supplies
For Water Years 1998 through 2003



	Local Projects	Colorado Project	Federal Projects	State Project	Ground Water	Reuse & Recycle
1998	3,230	0	1,431	4	1,766	5,192
1999	4,002	0	1,988	5	2,867	2,773
2000	3,541	0	1,869	5	2,646	4,194
2001	3,549	0	1,764	4	2,969	2,518
2002	3,834	0	1,904	9	2,930	2,011
2003	2,757	0	1,765	17	2,688	3,176

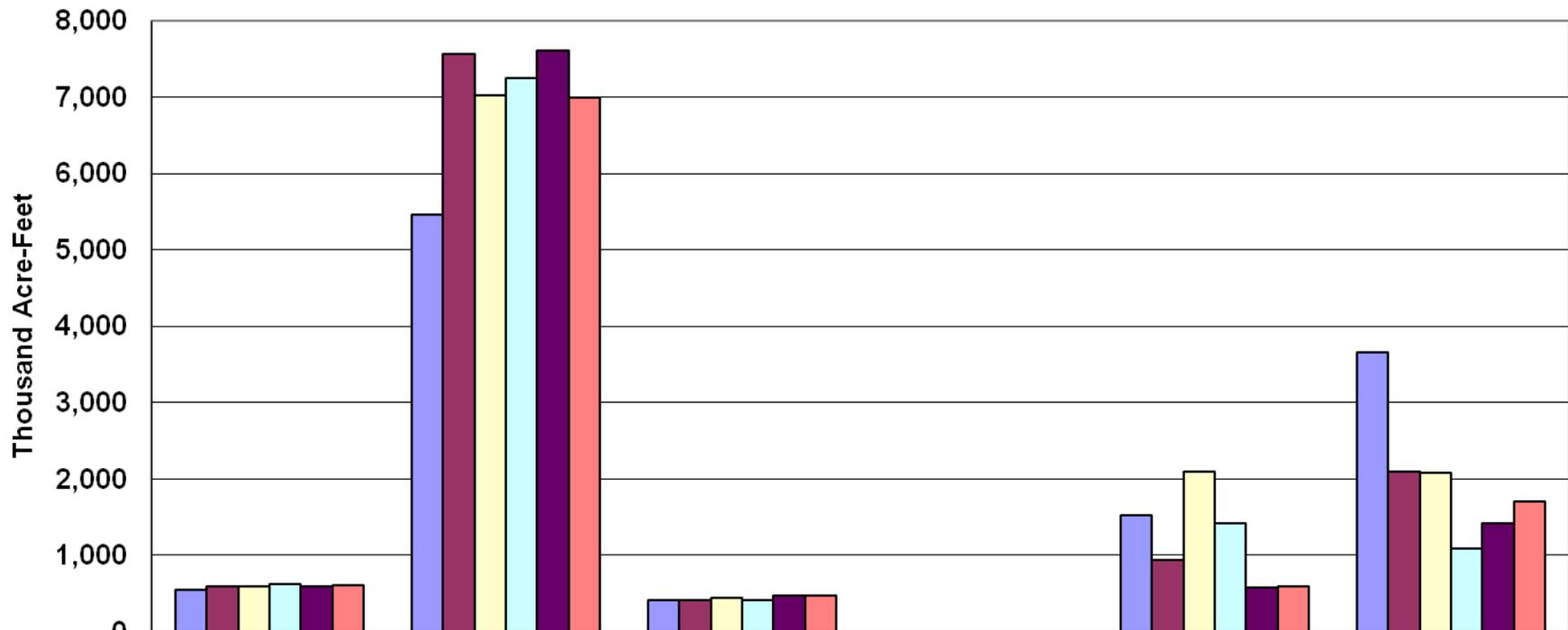
San Joaquin River Region Water Conditions

San Joaquin River Region Dedicated Water Supplies
For Water Years 1998 through 2003



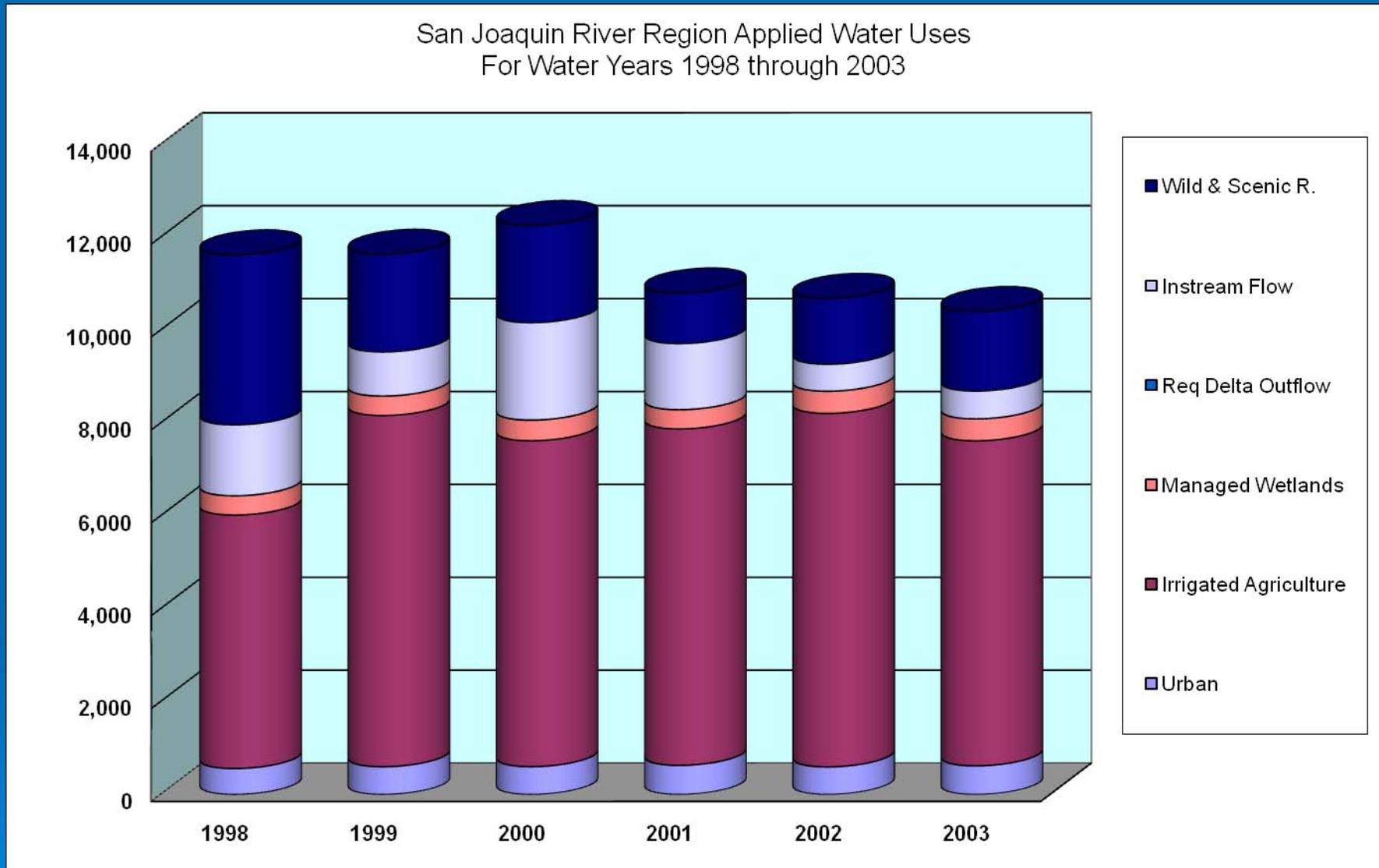
San Joaquin River Region Water Conditions

San Joaquin River Region Applied Water Uses
For Water Years 1998 through 2003

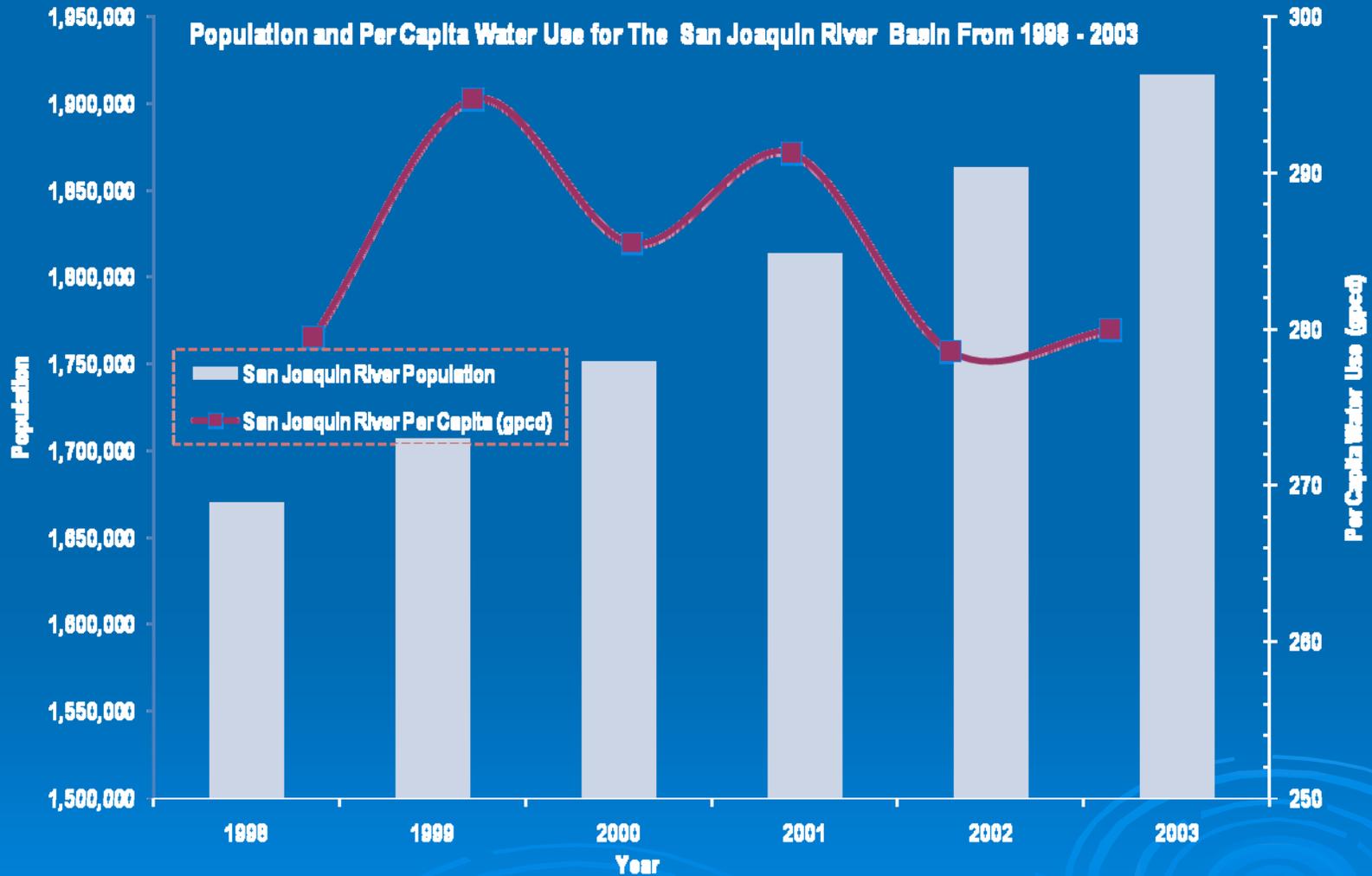


	Urban	Irrigated Agriculture	Managed Wetlands	Req Delta Outflow	Instream Flow	Wild & Scenic R.
1998	560	5,458	415	0	1,529	3,661
1999	599	7,562	419	0	951	2,103
2000	600	7,018	445	0	2,099	2,094
2001	629	7,243	415	0	1,424	1,091
2002	595	7,612	477	0	583	1,420
2003	618	6,998	473	0	600	1,714

San Joaquin River Region Water Conditions



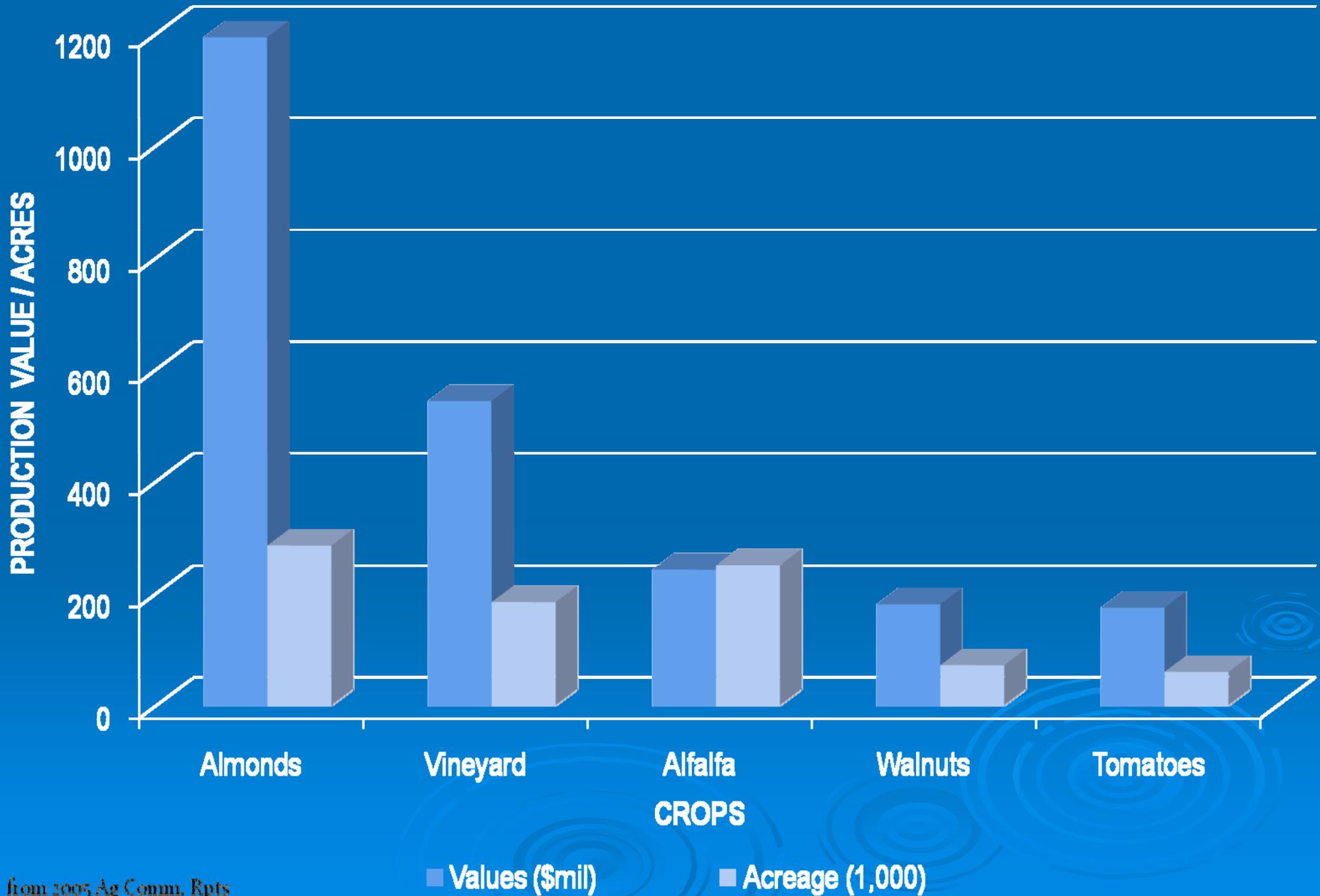
San Joaquin River Region Water Conditions



Agricultural Land Use

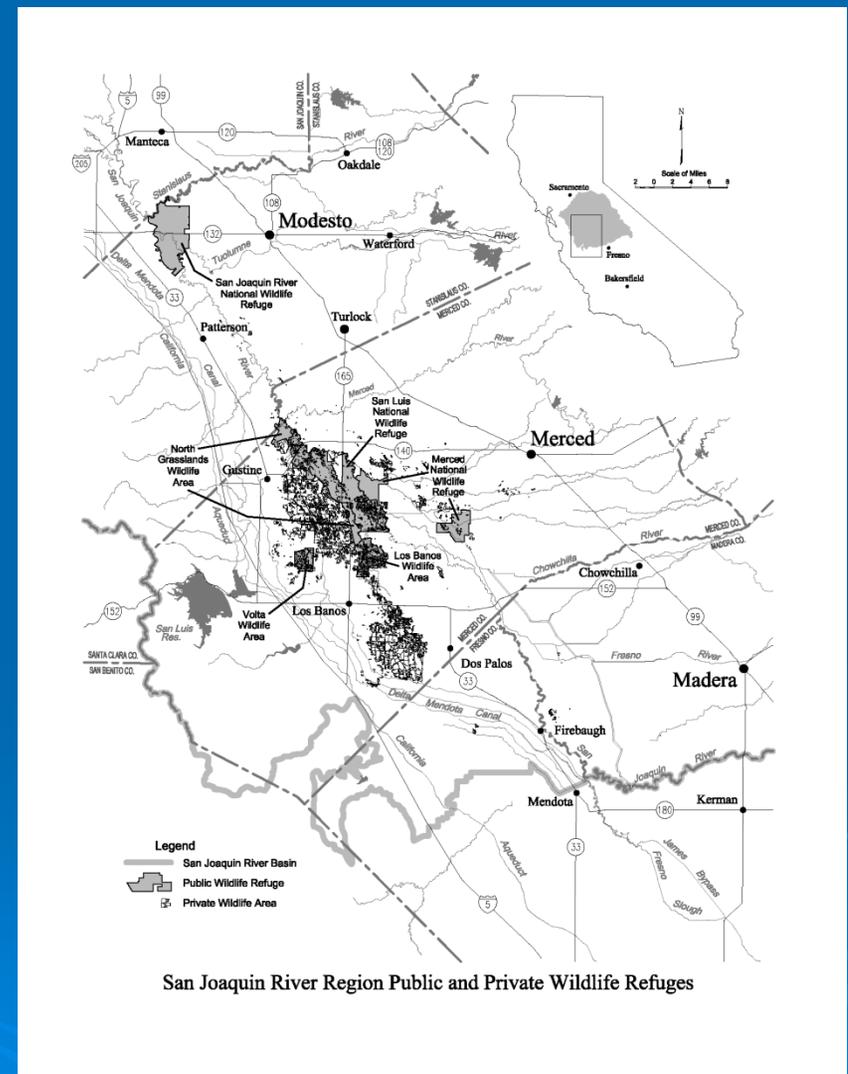
- Agriculture remains the dominant economic force of the San Joaquin River Hydrologic Region.
- The region contains roughly 2-million acres of irrigated cropland.
- The region has a high diversity of crops including permanent orchards and vineyards, grains, hay, and pasture.

Leading Five Crops in Value With Acreage San Joaquin River Region



Managed Wetlands Within the San Joaquin River Region

- San Luis NWR
 - 26,609 acres
- San Joaquin River NWR
 - 6,642 acres
- Merced NWR
 - 8,280 acres
- Los Banos Wildlife Area
 - 6,217 acres
- Volta Wildlife Area
 - 2,891 acres
- North Grasslands Wildlife Area
 - 7,069 acres
- Grasslands Private Gun & Duck Clubs
 - About 36,000 acres



Flood Management

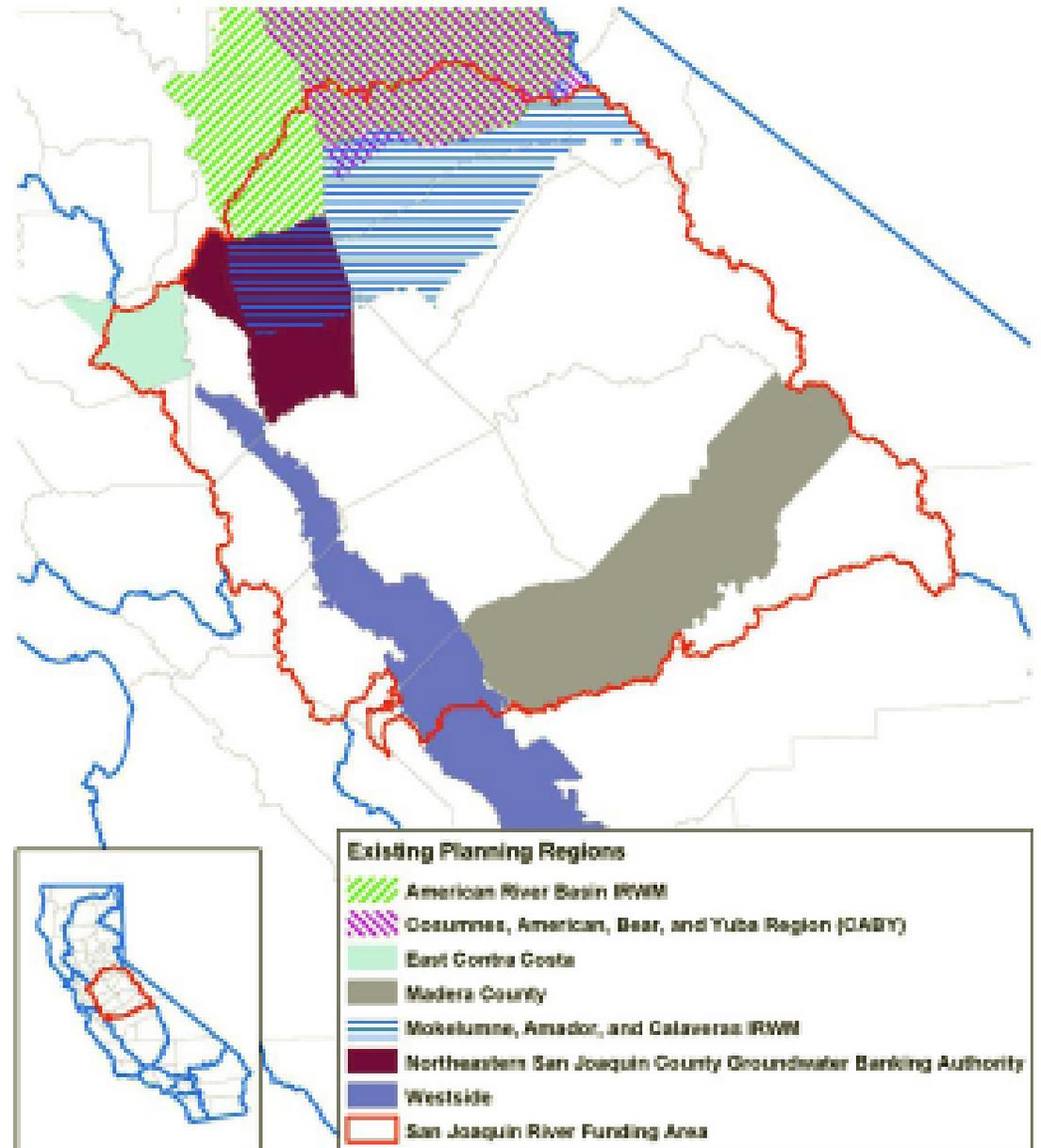
- Historic Floods—TYPES, STREAMS, NOTABLE EVENTS
- Flood Hazards—SPECIFIC PROBLEMS
- Flood Governance—PARTICIPATING AGENCIES
- Flood Risk Management
 - *Structural Approaches*—FACILITIES, COORDINATION, MAINTENANCE
 - *Land Use Management*—FLOODPLAIN RESTORATION, REGULATION, FLOOD INSURANCE
 - *Disaster Preparedness, Response, and Recovery*—INFORMATION AND EDUCATION, EVENT MANAGEMENT

SJR & SR Delta Biological Opinions

- In May 2007, U.S. District Judge Oliver W. Wanger found that rules governing the smelt were flawed and needed to be rewritten.
- U.S. Fish and Wildlife Service issued new Biological Opinion in December 2008.
- Westlands Water District joined forces with the San Luis & Delta-Mendota Water Authority in March to stop the federal government from enforcing the new Biological Opinion.
- In April of 2008, a federal judge rejected the OCAP (Operating Criteria and Plan) from the NMFS for endangered winter-run Chinook salmon, spring-run Chinook salmon and Central Valley steelhead. New rules were due in March, but the judge delayed the requirement for 3 months.

San Joaquin River Region Water Planning & Management

Proposition 84 Integrated Regional Water Management Program San Joaquin River Funding Area



Select IRWM Plans

➤ Mokelumne/Amador/Calaveras IRWMP

- Highway 4 Corridor Regional Water/Wastewater Project
- Inter-Regional Groundwater Banking Project
- Bear River Reservoir Expansion Project
- Enlarge Pardee Reservoir

➤ Madera County IRWMP

- San Joaquin River Restoration
- Water banking
- Merced ID water conveyance system
- Temperance Flat Dam

Select IRWM Plans

- Westside Integrated Water Resources Plan
 - Westside Regional Drainage Plan
 - San Luis Reservoir Low-Point Improvement Project
 - San Joaquin River Exchange Contractors Water Authority and SLDMWA Water Transfer Program
 - Southwest Stanislaus County Regional Drainage Management Project

Regional Acceptance Process & Integrated Regional Water Management Process

RAP and IRWM provide a vehicle for funding of management strategies

- Prop 50, Prop 84, Prop 1E
- Expedited Prop 84 Implementation Grant Round
 - RAP – Submittals due April 29th
 - RAP Approval – Fall 2009
 - Expedited Implementation Grants – winter 2009/winter 2010
 - Long Term Prop 84 IRWM Process – 2010 - 2012
 - Two implementation cycles \$350 million each
 - Two planning cycles \$15 million each
 - Proposition 1E
 - One cycle appropriated - \$150 million

Regional Challenges

- Developing a program to replace surface water supplies used in the San Joaquin River Restoration
- Meeting Vernalis TMDL standards
- Solving Grasslands Area drainage problems
- Stabilizing groundwater levels in areas where levels continue to fall or groundwater overdraft is ongoing
- Securing water supplies for recharge and water banking projects like Madera Ranch or those proposed by Northeastern San Joaquin County Groundwater Banking Authority
- Raising the level of flood protection to 200 years in Lathrop, Manteca, Merced, Modesto, and Stockton

Accomplishments

- Completion of numerous integrated regional management, watershed, and conservancy plans that target problems and issues
- Greater dissemination of flood management information and the resulting discussion of risks and needed improvements
- Mokelumne Water Forum signs memorandum of understanding with DWR in 2005 to seek regionally beneficial stakeholder solutions to resolve conflicts
- Modesto and Eastern San Joaquin Groundwater Basin Groundwater Management Plans
- Governor's Delta Vision Blue Ribbon Task Force issues Delta Vision: Our Vision for the California Delta (2007) and Delta Vision Strategic Plan-Final (Oct 2008)

Climate Change

- Annual Delta exports are expected to be reduced by approximately 7% 10% by midcentury and by 21% 25% at the end of the century.
- Reservoir carryover storage is expected to be reduced by 15% 19% by mid century and by 33% 38% at the end of the century.
- The SWP and CVP are expected to be more vulnerable to operational interruption.

2009 Limited Drought Survey

- In the region, the following entities were contacted: Madera County Resources Management Agency and the Stanislaus & Tuolumne River Groundwater Basin Association
 - In general the southern half of the region appears to be experiencing some serious groundwater impacts from the drought while the northern half is not.
 - Groundwater level trends in the Madera area are downward and are falling at a rate of around five feet per year. Many of the county water districts are experiencing water level declines earlier in the year than in previous years. They are bracing for a difficult year.
 - The response from the Stanislaus & Tuolumne River Groundwater Basin Association was markedly different. They report that groundwater levels are rising in the Modesto area as a result of the delivery of surface water to the city. Other areas in the basin are stable.

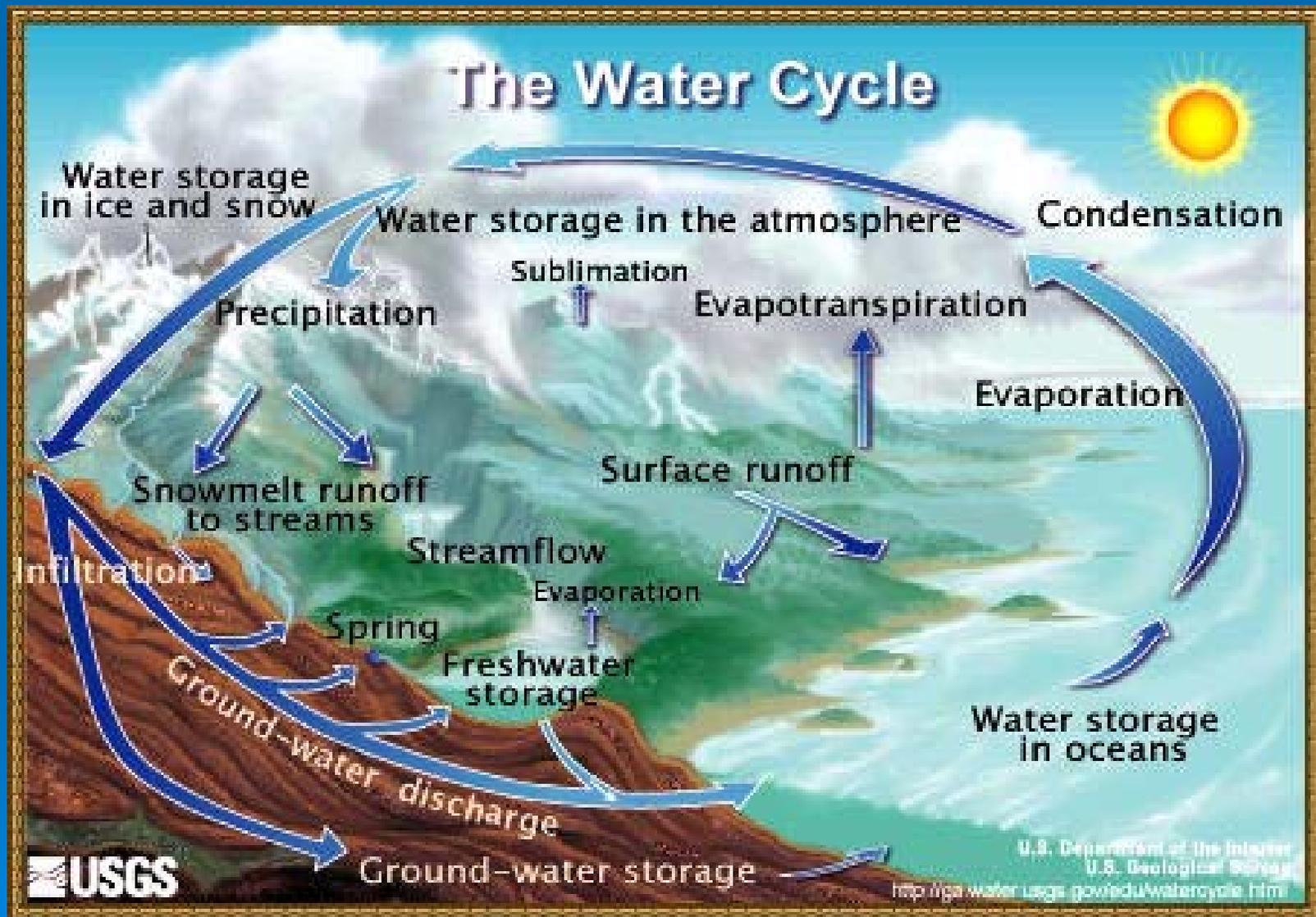
References

- DWR's Water Plan Meeting Materials website
 - <http://www.waterplan.water.ca.gov/materials/index.cfm>
- Climate Change
 - <http://www.water.ca.gov/climatechange/articles.cfm>
- DWR Drought website
 - <http://www.water.ca.gov/drought/>

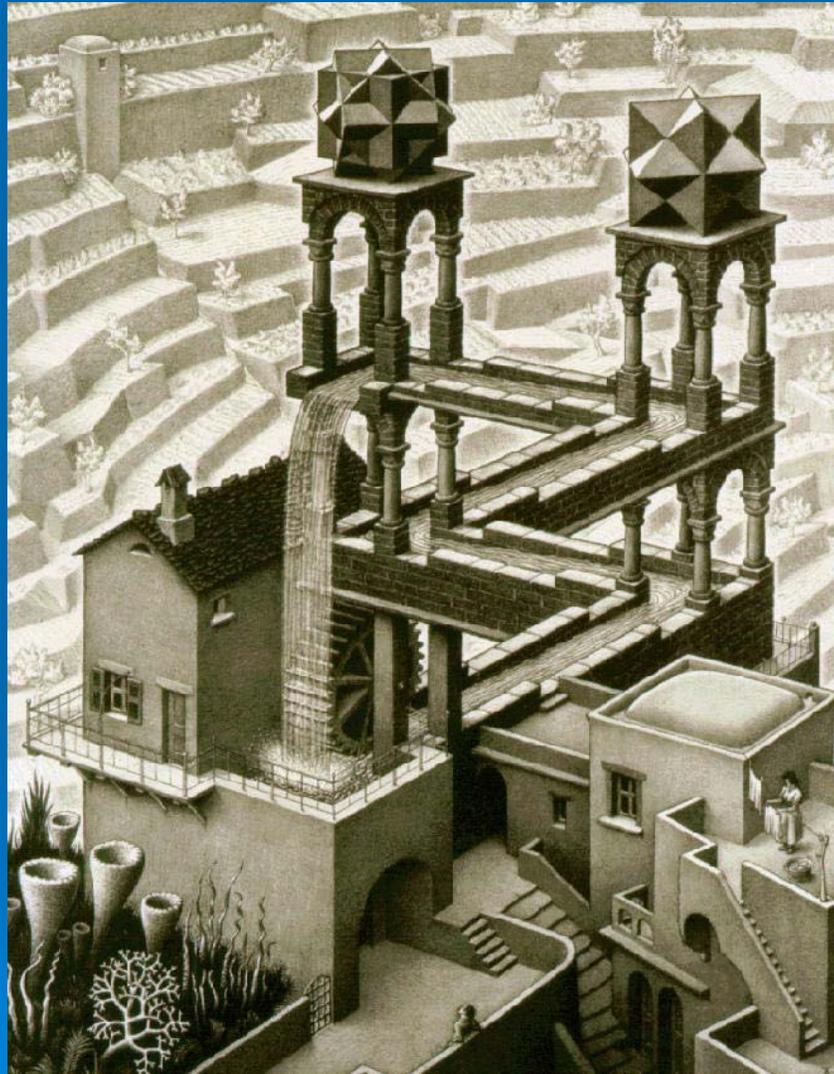
References

- DWR's IRWMP website
 - http://www.grantsloans.water.ca.gov/grants/implementation/prop84/integregio_fundingarea.cfm
- Westside Integrated Water Resources Plan
 - http://www.sldmwa.org/authority_documents.htm
- Madera County IRWMP
 - <http://www.madera-county.com/supervisors/water-plan.html>
- Mokelumne/Amador/Calaveras IRWMP
 - <http://www.ccwd.org/macirwmp.html>

Looks Familiar



Solution to Our Water Supply Problems



Agenda Item 10

Resource Management Strategies

San Joaquin Region



27 Resource Management Strategies

A Range of Choices

Reduce Water Demand

- Agricultural Water Use Efficiency
- Urban Water Use Efficiency

Improve Operational Efficiency & Transfers

- Conveyance – Delta
- Conveyance – Regional/Local
- System Reoperation
- Water Transfers

Increase Water Supply

- Conjunctive Management & Groundwater Storage
- Desalination – Brackish & Seawater
- Precipitation Enhancement
- Recycled Municipal Water
- Surface Storage – CALFED
- Surface Storage - Regional/Local

Improve Flood Management

- Flood Risk Management

Improve Water Quality

- Drinking Water Treatment and Distribution
- Groundwater/Aquifer Remediation
- Matching Quality to Use
- Pollution Prevention
- Salt & Salinity Management
- Urban Runoff Management

Practice Resource Stewardship

- Agricultural Lands Stewardship
- Economic Incentives (Loans, Grants, and Water Pricing)
- Ecosystem Restoration
- Forest Management
- Land Use Planning & Management
- Recharge Areas Protection
- Water-Dependent Recreation
- Watershed Management

Some Examples

- The IRWMPs in the region include a mix of resource management strategies. See Table 7-6 of the San Joaquin River Regional Report.
 - Mokelumne/Amador/Calaveras IRWMP
 - Inter-Regional Groundwater Banking Project
 - Enlarging Pardee Reservoir
 - Madera County IRWMP
 - Merced ID water conveyance system
 - Madera Lake Area Groundwater Storage
 - Water Meters
- 

More examples

- Westside Integrated Water Resources Plan
 - Grasslands Bypass
 - San Joaquin River Exchange Contractors Water Authority and SLDMWA Water Transfer Program
 - Arroyo Pasajero Flood Control Project



Regional Report Contact Information

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