

# California Water: Corps IWRM System Perspective

## System Operations

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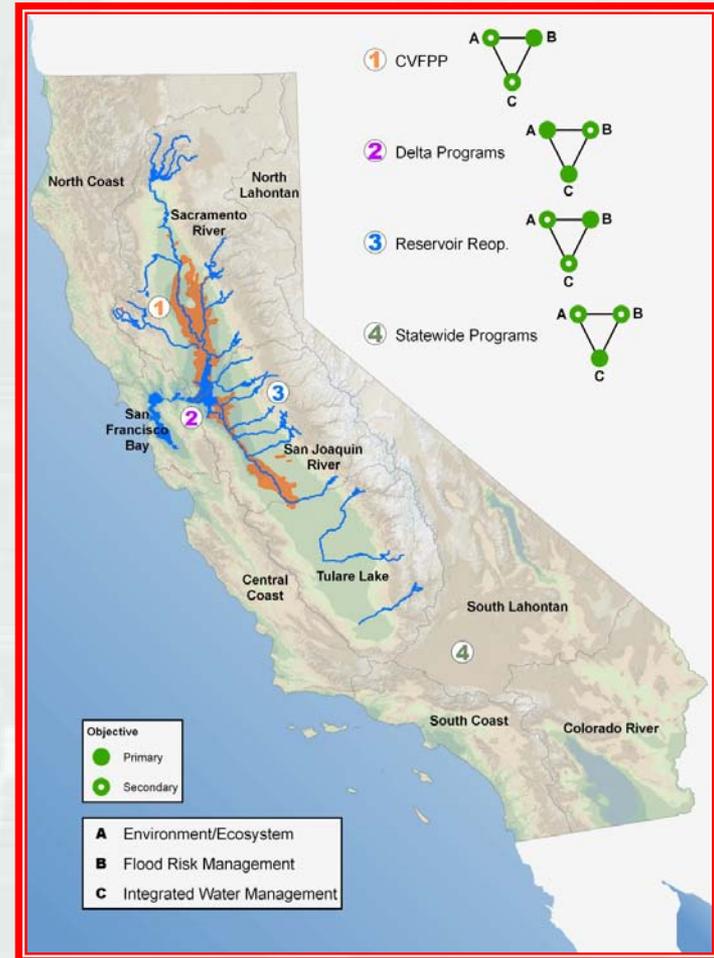
US Army Corps of Engineers  
**BUILDING STRONG**



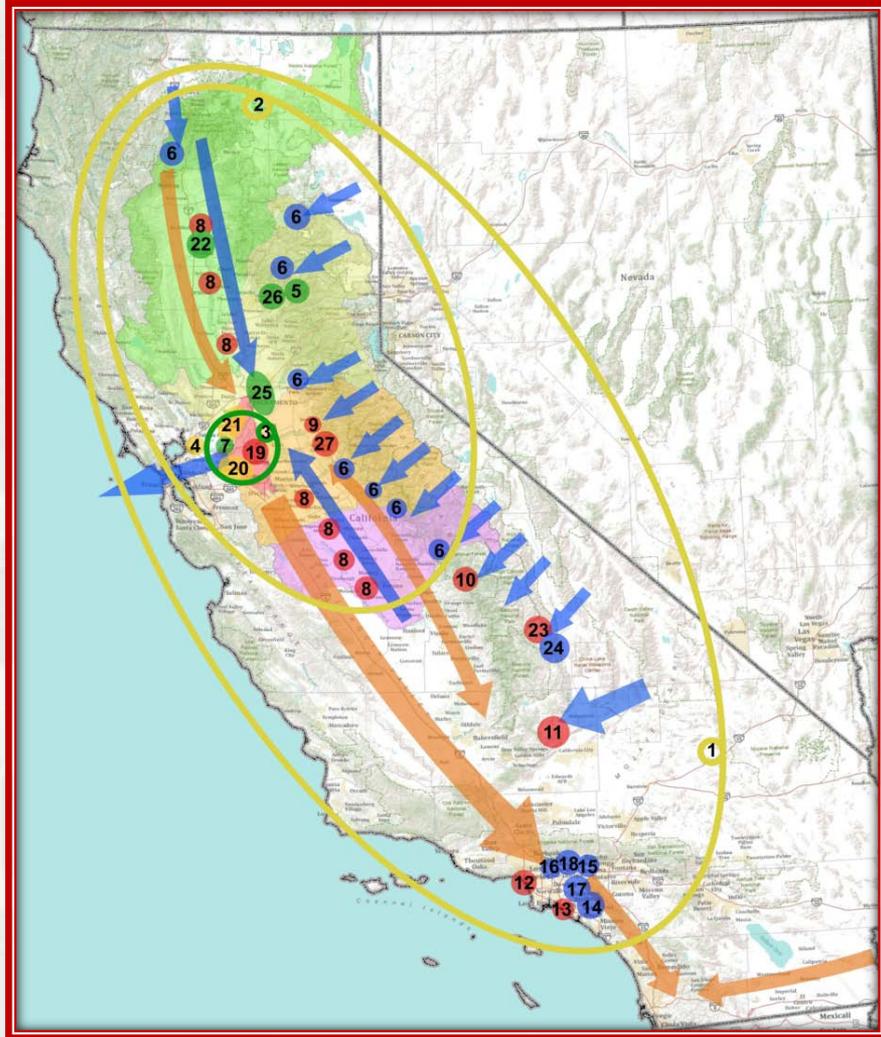
**CORNERSTONE OF THE SOUTHWEST!**

# INTEGRATED WATER RESOURCE MGT (IWRM)

- Future reality will likely include less resources, more demands and greater challenges.
- Business as usual won't suffice
- Must pursue an integrated, coordinated systems approach: **Flood Risk Reduction, Water Supply & Ecosystem Restoration.**



# CA WATER IRWM SYSTEM



*Priority Initiatives that, in combination, significantly improve:*

- Ecosystem
- Flood Risk Management
- Water Supply
- Conservation
- Navigation
- Recreation
- System (reservoir) Operations

- **Key:**
  - Blue Arrows – Natural Flow Paths
  - Orange Arrows – Conveyance Systems
  - Yellow Dots – Navigation BL or Other
  - Green Dots – Ecosystem BL
  - Red Dots – Flood Damage Reduction BL
  - Blue Dots – Reservoir Operations/O&M



# **USACE ROLE IN SYSTEM (RESERVOIR) OPERATIONS**

- **Water Control Plans are required for all Corps projects & non-Corps reservoirs defined by Sec 7 of the Flood Control Act of 1944 (58 Stat 890)**
- **Regulate use of flood ‘storage’ space**
- **Addresses regime of pool elevations & conditions**



# SACRAMENTO WATERSHED



<u>Dam</u>	<u>Operator</u>	<u>Gross Pool Volume AF</u>	<u>Max Flood Volume AF</u>
Black Butte	Corps	160,000	137,000
Folsom	US Bureau	977,000	400,000
Indian Valley	Yolo FC & WCD	300,600	40,000
New Bullards Bar	Yuba Co Water	960,000	170,000
Oroville	CA DWR	3,538,000	750,000
Shasta	US Bureau	4,552,000	1,300,000
		10,487,600	2,797,000



# RECENT USACE RE-OP ACTIVITY

- **Scarce O&M resources reduce scale & delay ability to update**
- **Dam Safety concerns limit conservation pool & impact releases, and are a priority demand on funds (Success, Isabella, Warm Springs, Coyote Valley)**
- **Selected facilities undergoing major review (eg Folsom)**
- **Several incorporating environmental restoration (Whittier Narrow, Prado)**



# POTENTIAL CHALLENGES & BENEFITS

## Challenges

- Costly (O&M funded)
- Resource intensive
- Political
- Congressional Authorization
- Coordination
- Corps Mission?
- Water rights issues?

## Potential Benefits

- Improved public safety
- Compliance
- Reflect current hydrology & climate
- Raise trade-offs
- System optimization

