

Water Blueprint



for the San Joaquin Valley

WaterBlueprintCa.com

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The San Joaquin Valley – A Unique Resource

- unique soils, climate and water resources
- a dazzling range of crops and livestock products that feed America
- valuable watersheds, wetlands, wildlife refuges and endangered species habitats that should be preserved & enhanced



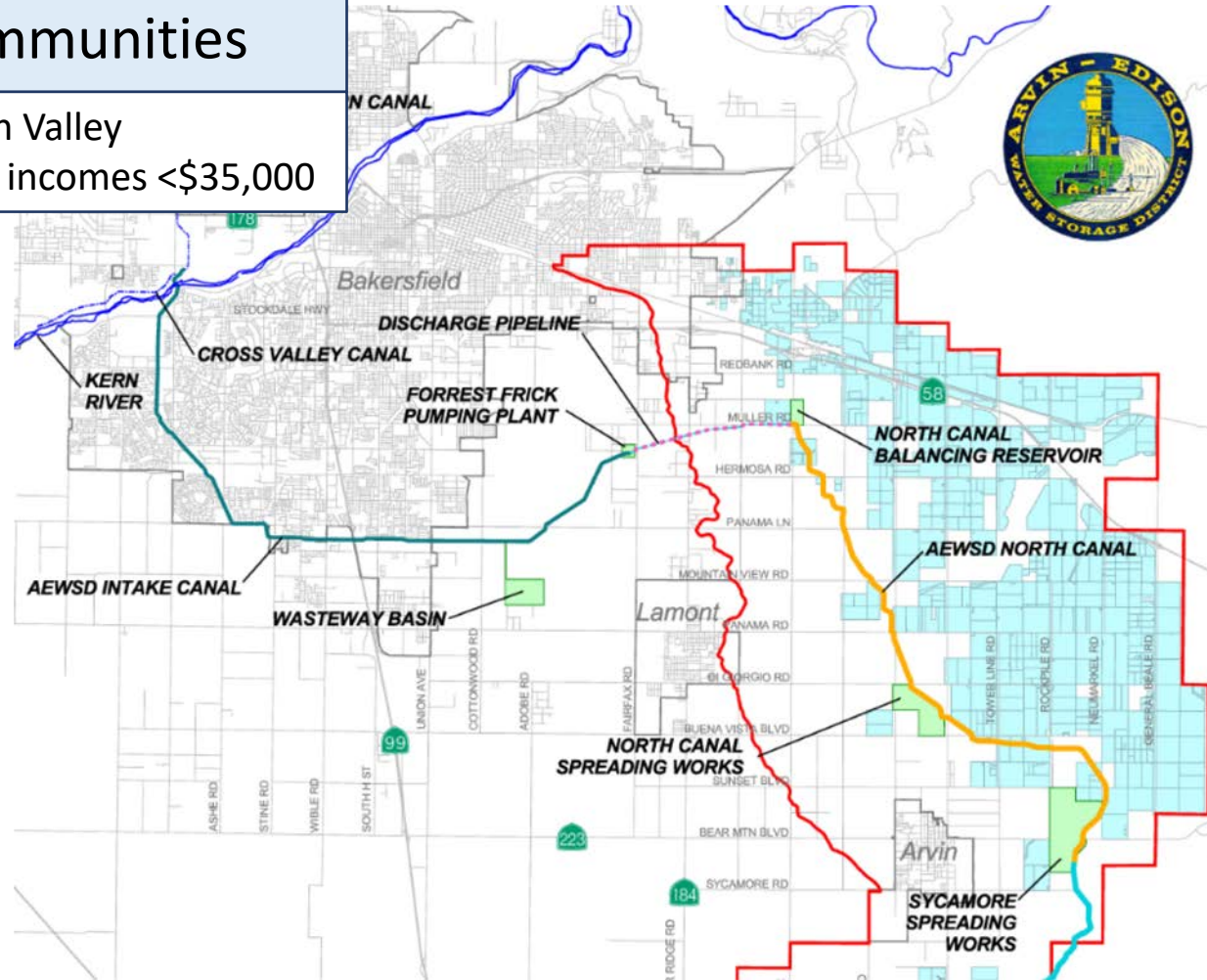
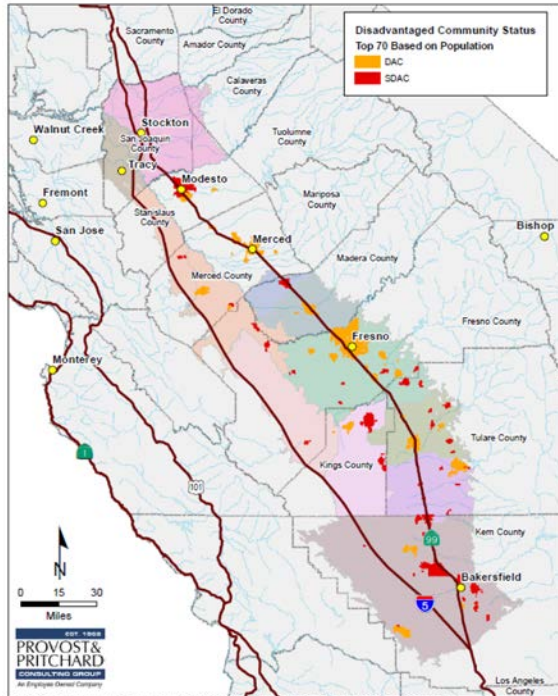
Challenges we face:

- An unprecedented water crisis
- Great risks to the economy, social welfare and the environment
- Impacts of SGMA without water projects:
 - retirement of over 1 million acres of productive farmland
 - lost jobs: 42,000 in ag, 65,000 in the Valley
 - loss of \$7 billion/year in revenues
 - lost property tax revenue
- Lack of safe, reliable water for people in disadvantaged communities
- Increased flood risk due to climate change & subsidence
- Loss of historical wetlands & riparian habitat

The Blueprint is a grassroots, community initiative to address these challenges

Disadvantaged Communities

- >300 DACs in the San Joaquin Valley
- Half have median household incomes <\$35,000




An Environmental Vision

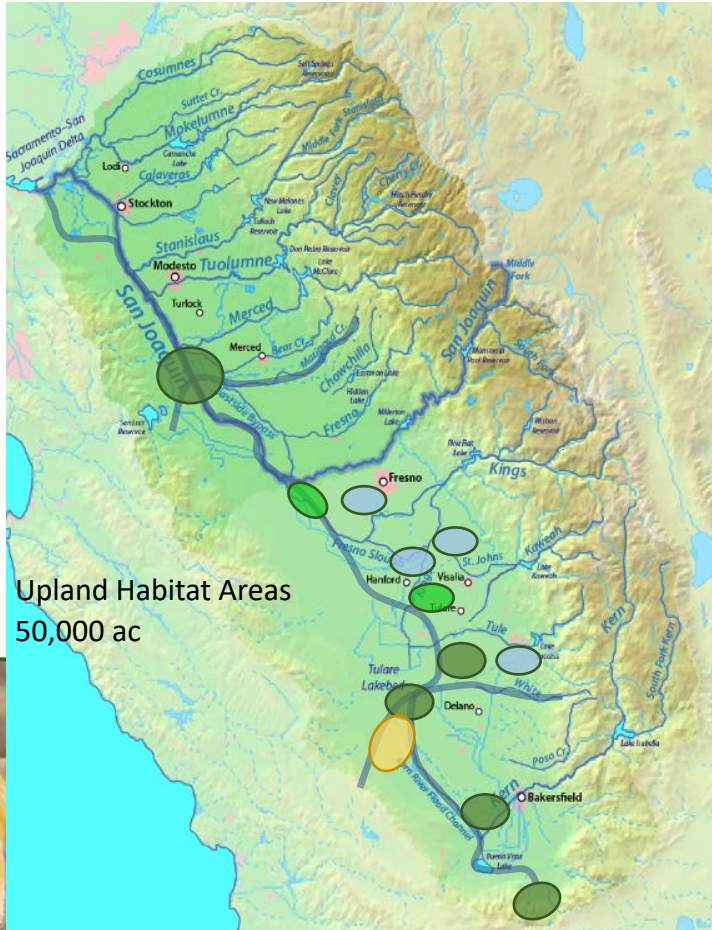
 Existing Protected Places



 New Wildlife Areas 5,000 ac




 Upland Habitat Areas
50,000 ac




Riparian Habitat (not shown on map)
1,500 ac – 4,000 ac



 New Seasonal Wetlands/
Recharge: 30,000 ac



 Wildlife Corridors
30,000 ac

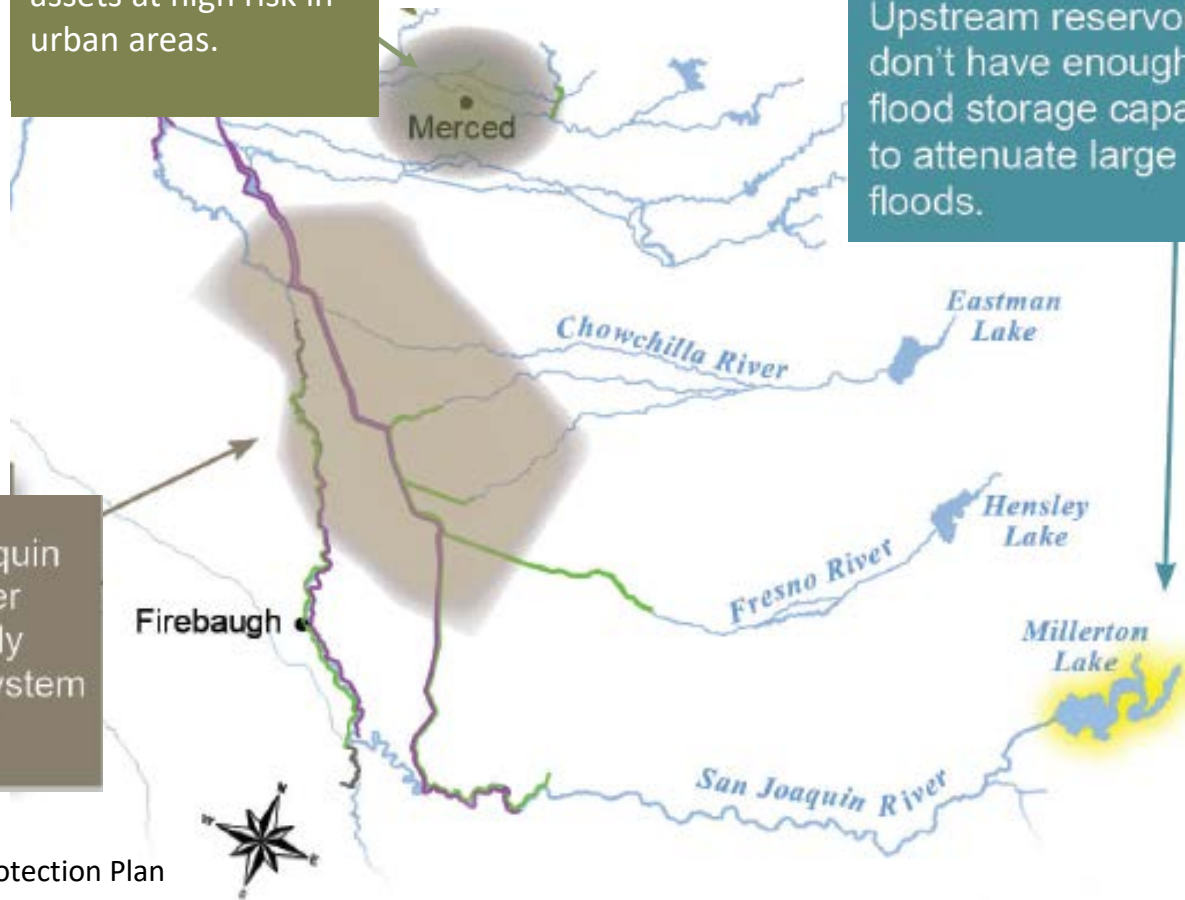
Flood Risks

People, property, and assets at high risk in urban areas.

Upstream reservoirs don't have enough flood storage capacity to attenuate large floods.

Climate change will fundamentally alter hydrologic patterns

Subsidence in the Upper San Joaquin Basin, primarily due to groundwater pumping for irrigation, is irreversibly reducing capacity of the bypass system every year.



Mitigating Flood Risks - Blueprint approach

- 8,000 cfs more recharge capacity
- Expanded floodplains
- Inter-regional conveyance
- The first two of these are resilient – easily expandable as climate change increases

Steps to Groundwater Sustainability

1. Understand the problem
2040 shortages by GSA without following
2. Excess Water
3. New Conveyance
4. Expanded Beneficial Use -
Groundwater recharge
Wetland & riparian habitats



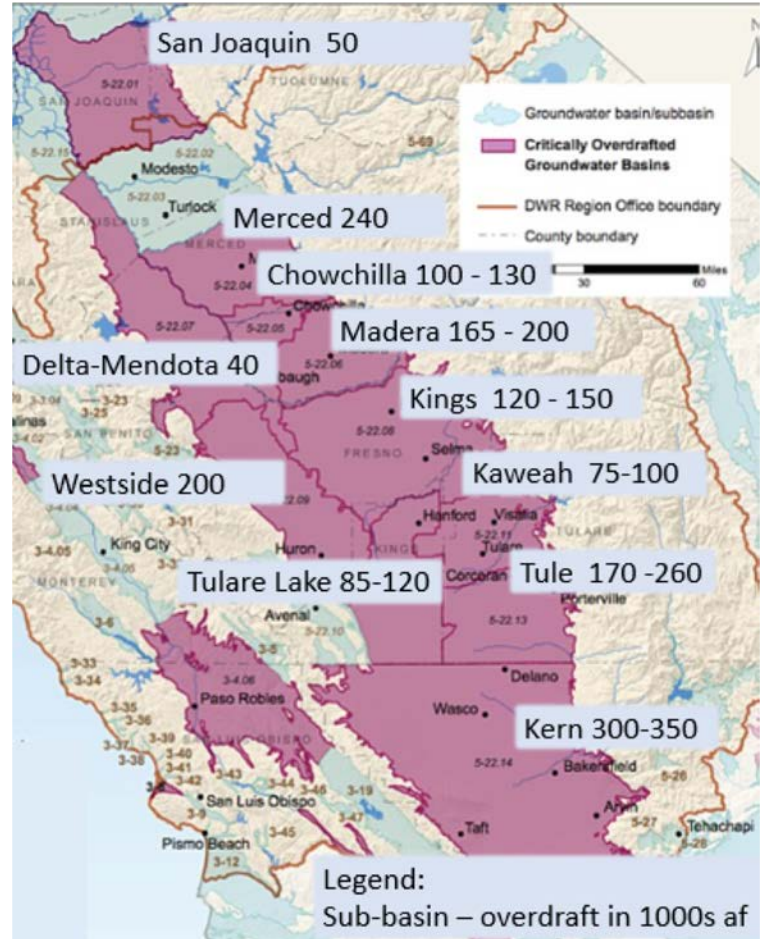
Step 1. Understanding the Problem

Estimated need*:

- agriculture & communities: 1.5 to 1.8 maf
- environmental: >200,000 af

Disparities within subbasins can be substantial

* Draft Blueprint numbers for planning purposes
– subject to change



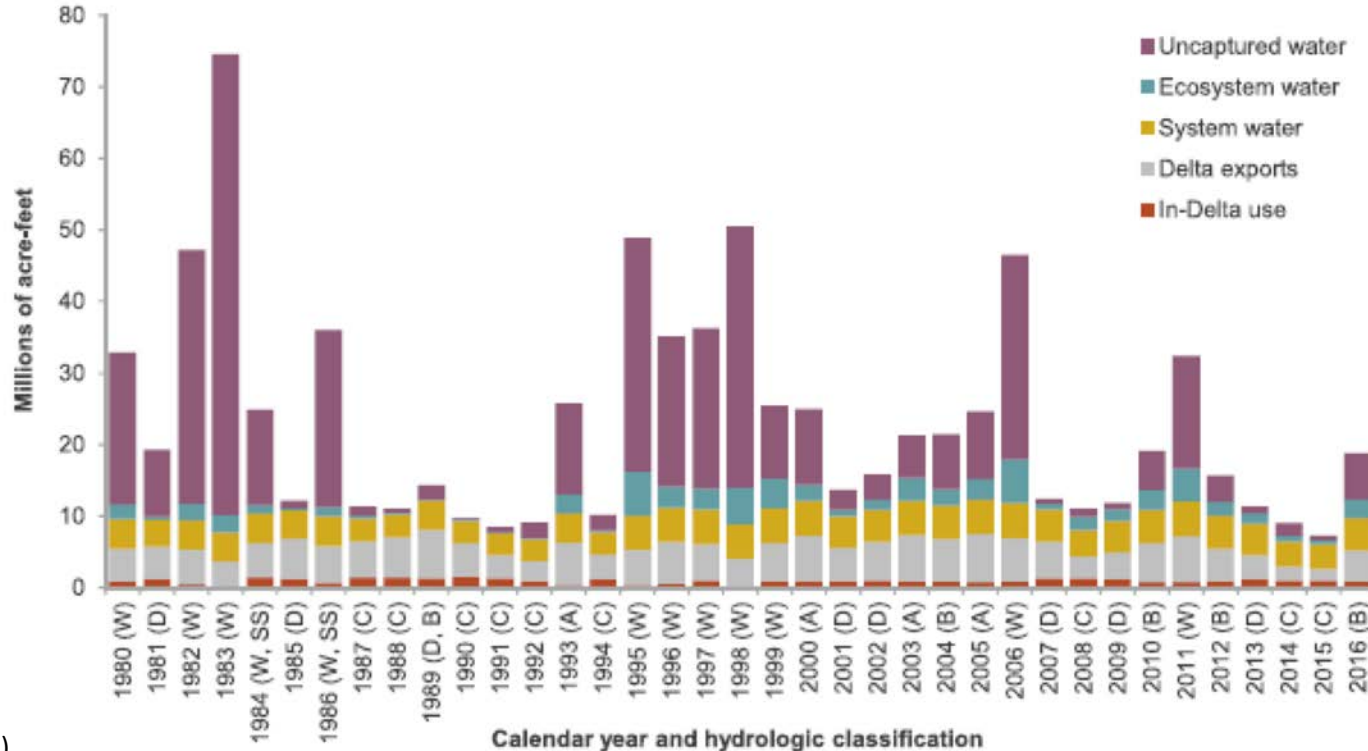
Step 2. New Sources of Water

- Local high flows
- Reclamation & recycling
- Increased efficiency in specific areas
- Delta flood/excess flows

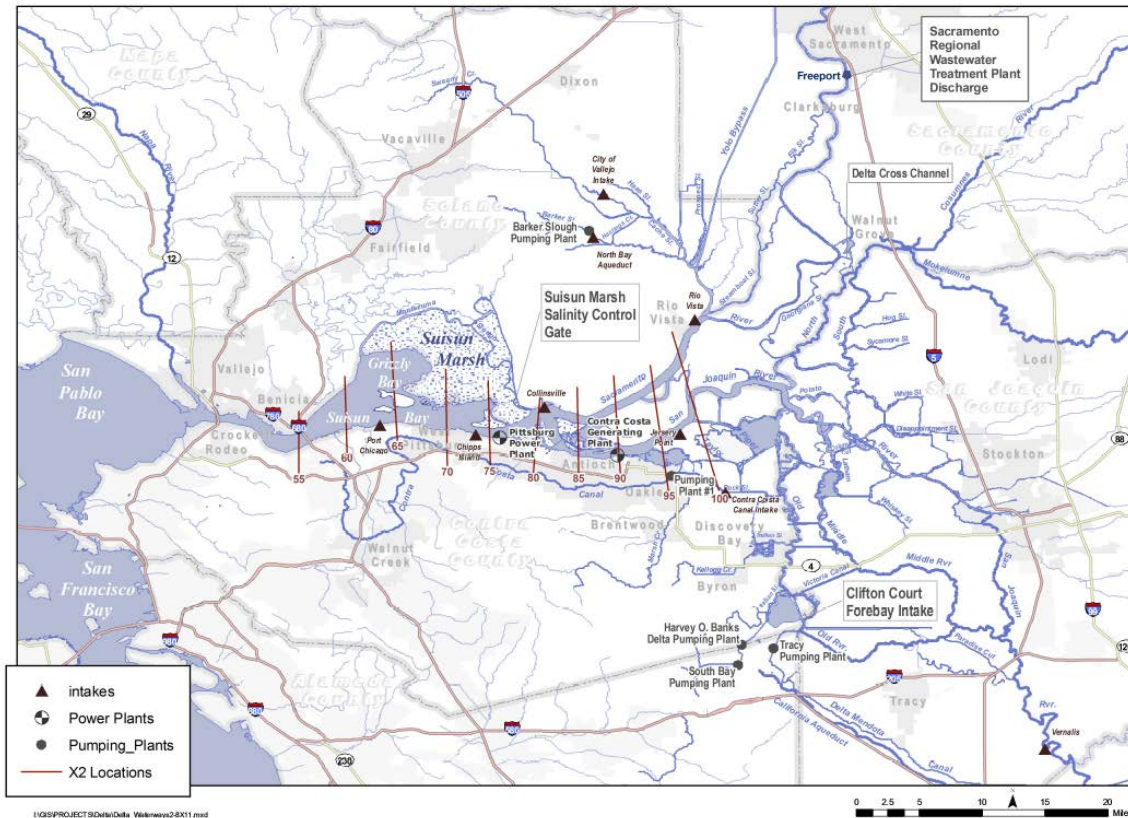


Delta Water Uses

FIGURE 3
Where Delta water went, 1980–2016



A Regulated Delta



Salmon



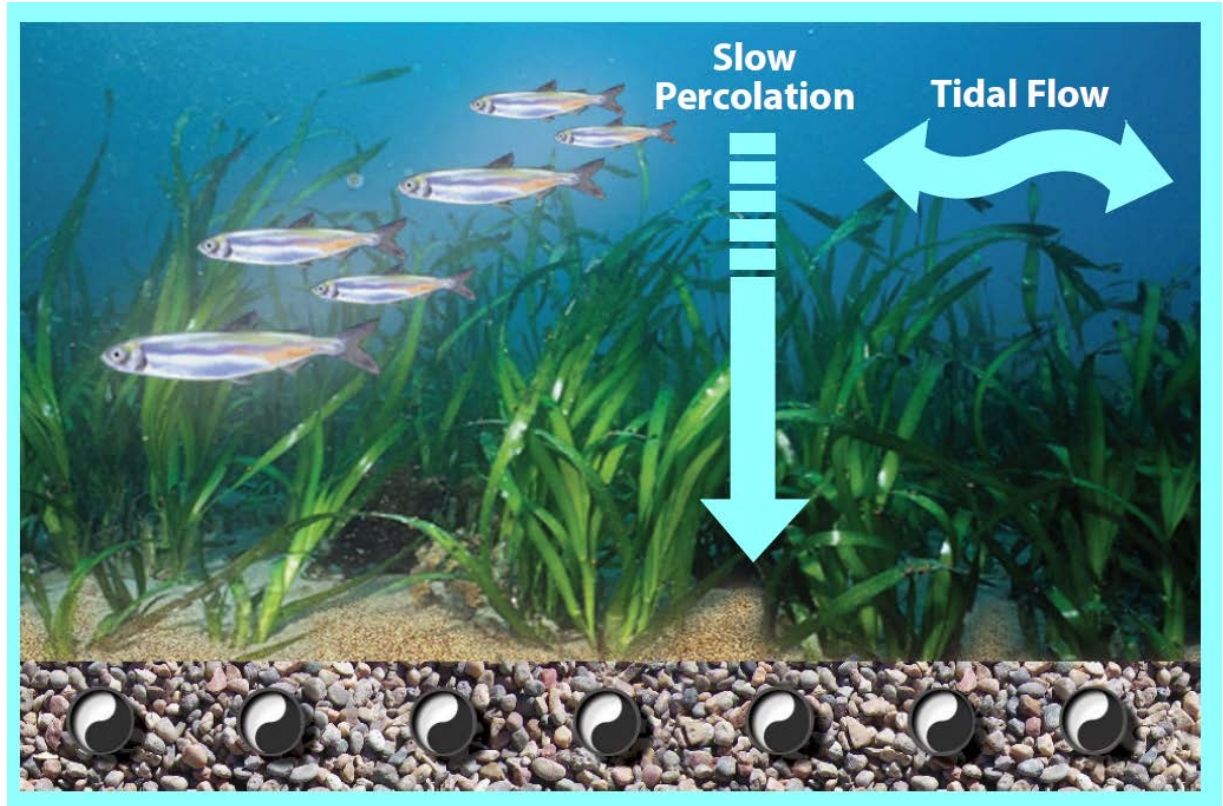
Delta Smelt



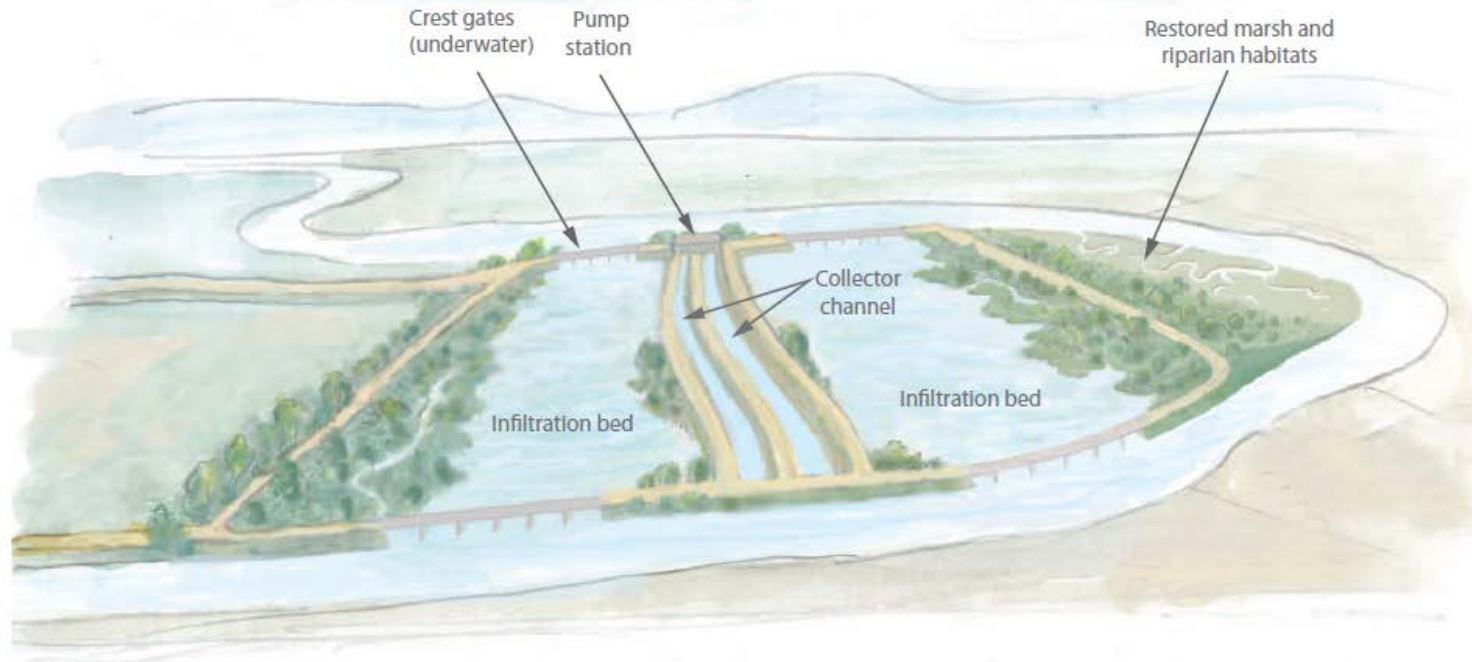
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Fish Friendly Diversions – the concept

Fish friendly diversions work because of natural buoyancy and slow velocities



Fish Friendly Diversions - Implementation



Potential to export high flow Delta Water

Study 2 through Study 13 assume 2019 BiOp, no DWR Incidental Take Permit (ITP)

NoFallX2 (NFX): assume no Fall X2 Delta outflow requirement

INFDEM: infinite (or very large) demands

B10300: Banks allowable pumping is 10,300 cfs

SDIP: South Delta Improvement Program

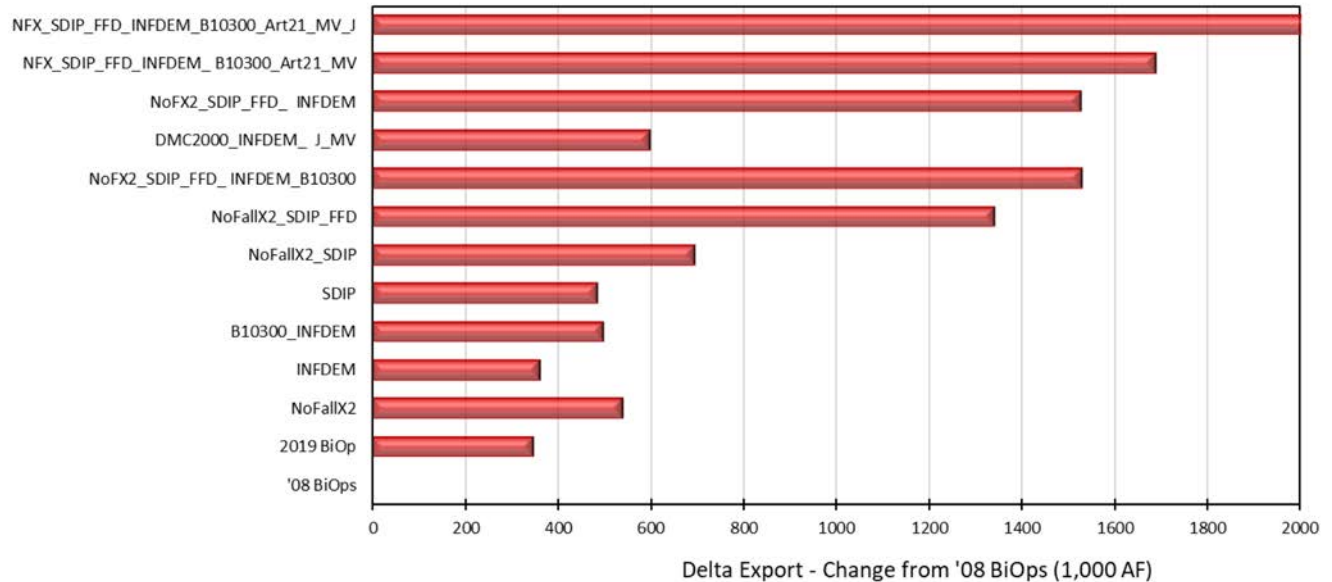
FFD: Fish Friendly Diversion

DMC2000: DMC expanded by 2000 cfs

MV: Mid-Valley Canal with demand

J: Expanded Jones PP and DMC

Delta Export - Change from Existing Conditions ('08 BiOps)





Use of 10,000 cfs*	cfs
Westside	200
Delta Mendota	320
Madera/Chowchilla	2,200
Trans-Valley	3,600
Kern	2,800
Contingency	880
Total	10,000

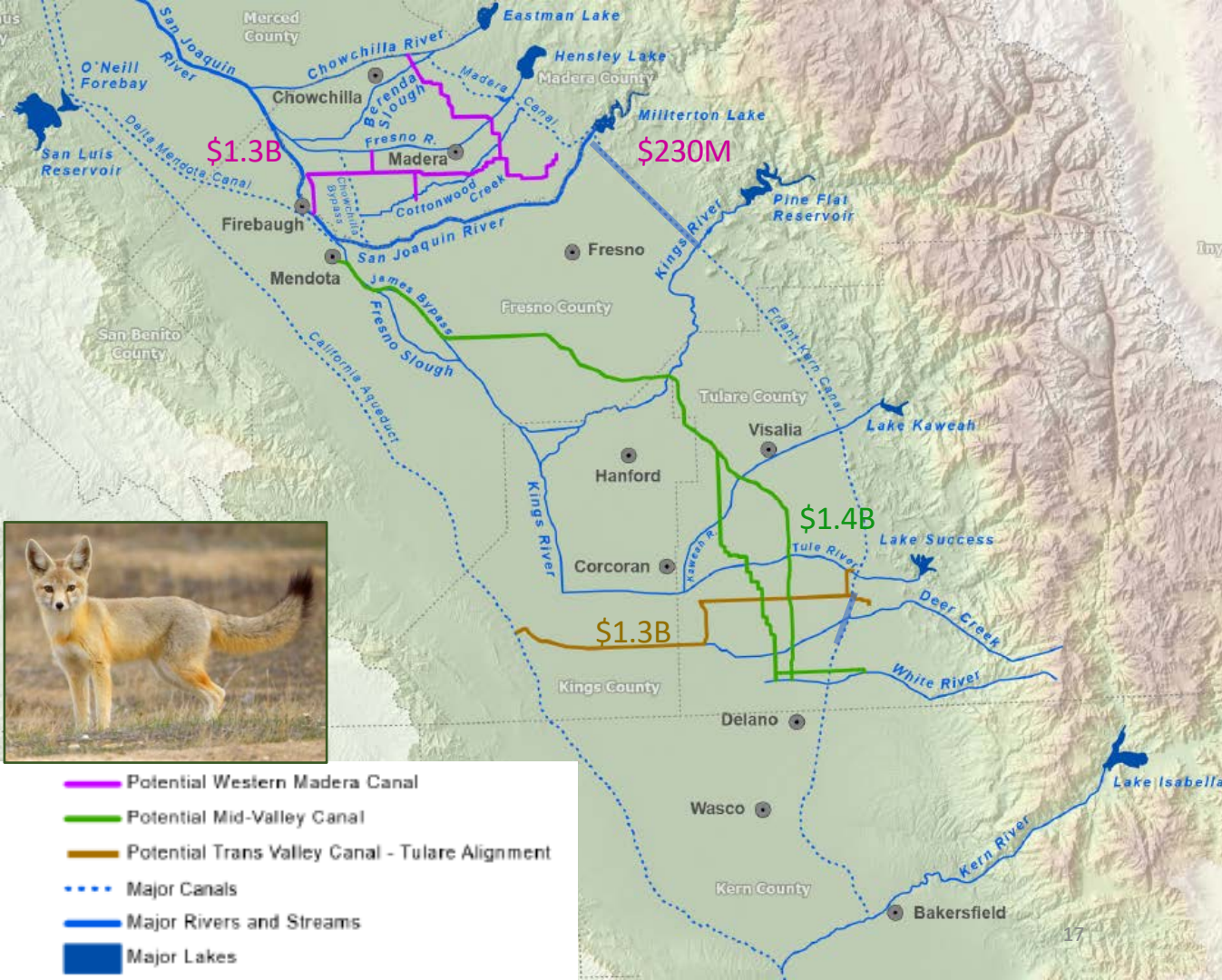
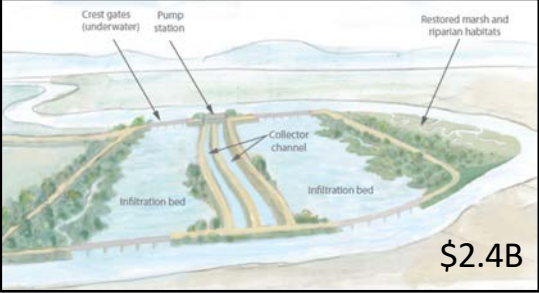
Step 4. Beneficial Use

Expanded Recharge

- recharge ponds
- Wetlands
- Habitat Corridors
- riparian habitat
- flood MAR
- deep well injection
- subsurface recharge



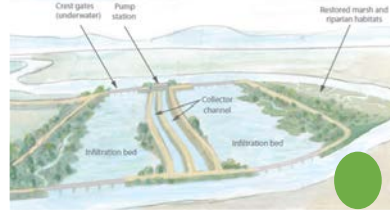
Costs ~ \$9 Billion



What are priority conveyance projects in SJV and why?

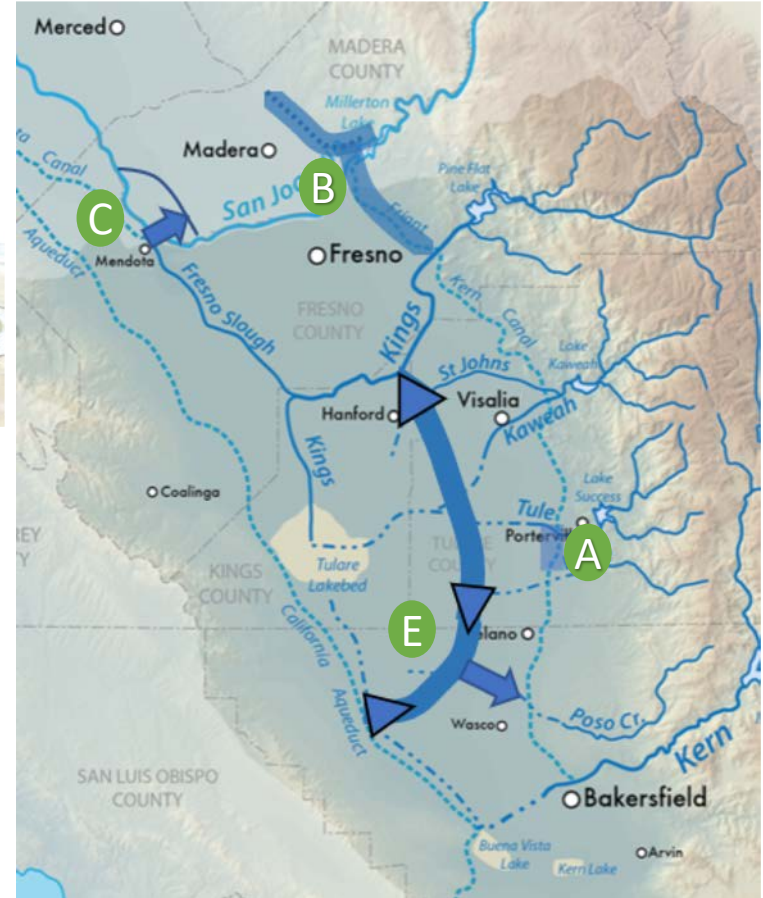
What:

- A. Restore F-K Capacity
- B. Expand F-K Canal & Madera Canal
- C. Connect D-M Canal to Chowchilla Bypass
- D. Fish friendly diversions
- E. Mid-valley system



Why - to obtain:

- Sustainability of the economy, DACs, wetlands
SGMA -> surplus water -> strategic conveyance,
-> portfolio of recharge facilities
- Flexibility - many bi-directional elements,
a delta with operational flexibility
- Resilience in the face of climate change
 - better management of high flows
 - interconnected recharge
 - enhanced flood plains



Public benefits & funding

Public benefits:

- flood protection
- human right to water
- taxation revenues
- human health & welfare (jobs & income)
- infrastructure protection
- food quality and safety
- environmental restoration and protection
- public open spaces & recreation
- reserves for endangered species
- food enhancement for native fish (floodplains)
- air quality



Private benefits:

- water for agriculture

Comparative funding policies:

- roads
- high speed rail

Funding Challenges:

Currently funded through voluntary contributions

DWR resources stretched

– more input from consultants

Is there money to continue planning?

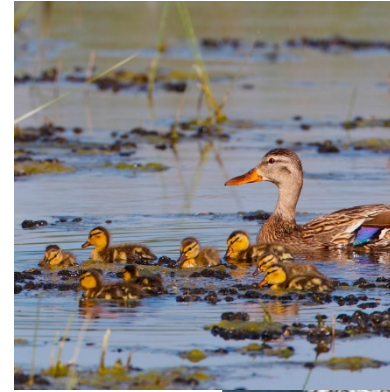
Is 50/50 project funding possible?

What future for the Valley?

Inaction or investment?



Inaction



Hard: uncertainty, politics, regulations, expense, commitment