

Delta Overview

April 27, 2011

Leo Winternitz



Mission – Founded 1951

- Preserve plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive
- Work in all 50 states and more than 30 countries
- Protect more than 119 million acres of land and 5,000 miles of rivers worldwide
- More than 1 million members
- Own and manage Staten Island and McCormack Williamson Tract in the Delta



Importance of the Bay Delta

Sacramento-San Joaquin Delta



Legal Delta and Zones

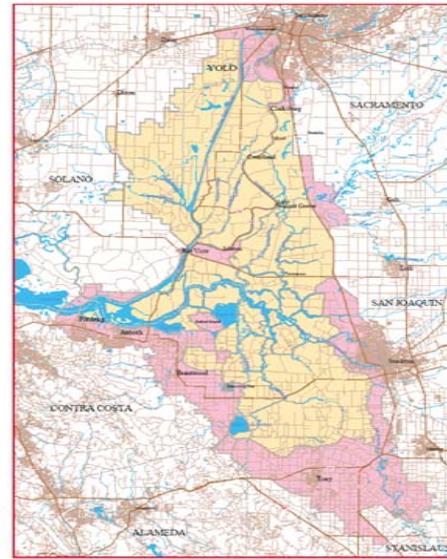
- Primary Zone
- Secondary Zone

- County Boundary
- Surface Streams
- Major Highways
- Hydrography
- Delta Primary Zone
- Delta Secondary Zone

Source: Department of Water Resources
1995

Delta Protection Commission

MILES 10





Water Through the Bay Delta

■ Supplies Bay Area, Central Valley & So. California

Bay Area – 33%

Some regions up to 100% dependent on the Delta

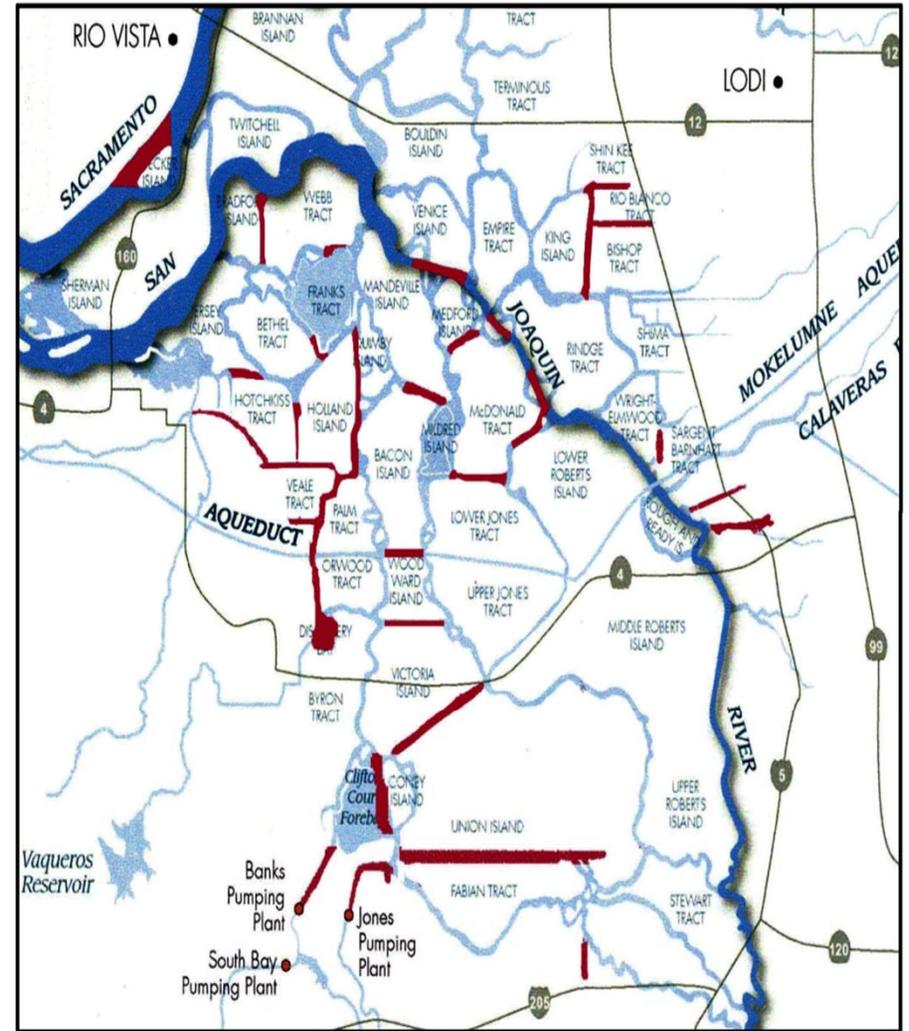
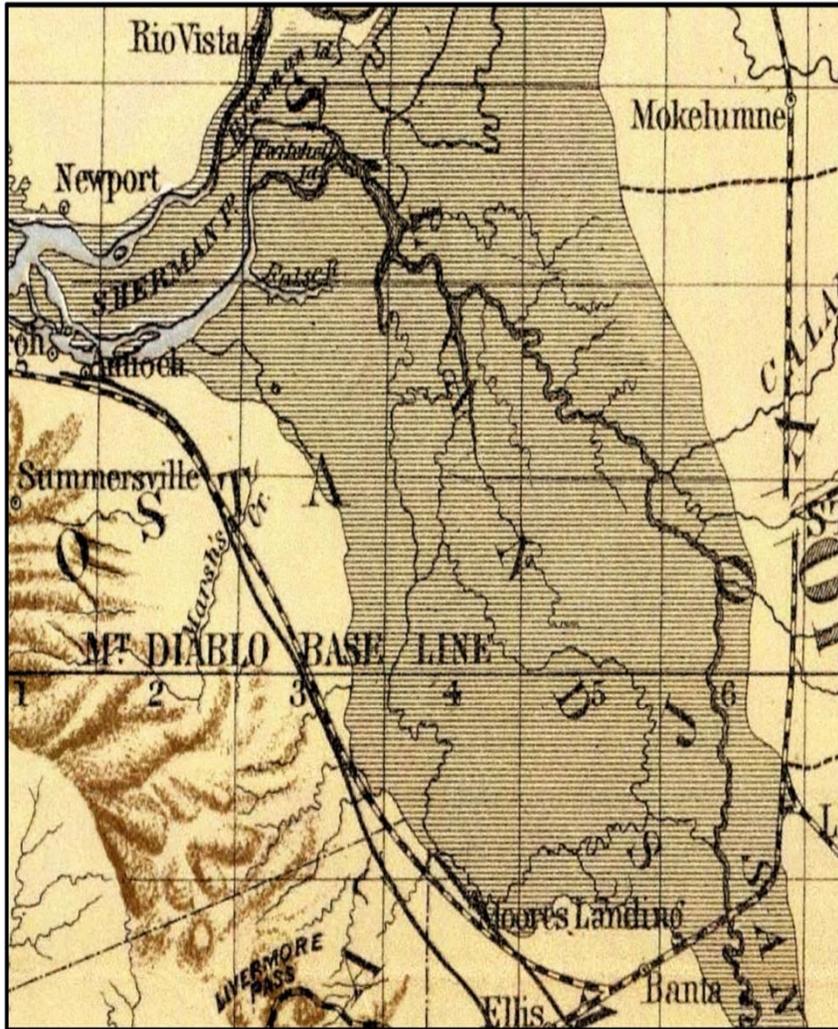
Central Valley – 23 to 90%

Southern Cal – 30%





Historical and Current Delta



Dendritic Channel Geometry Historical vs. Modern Delta

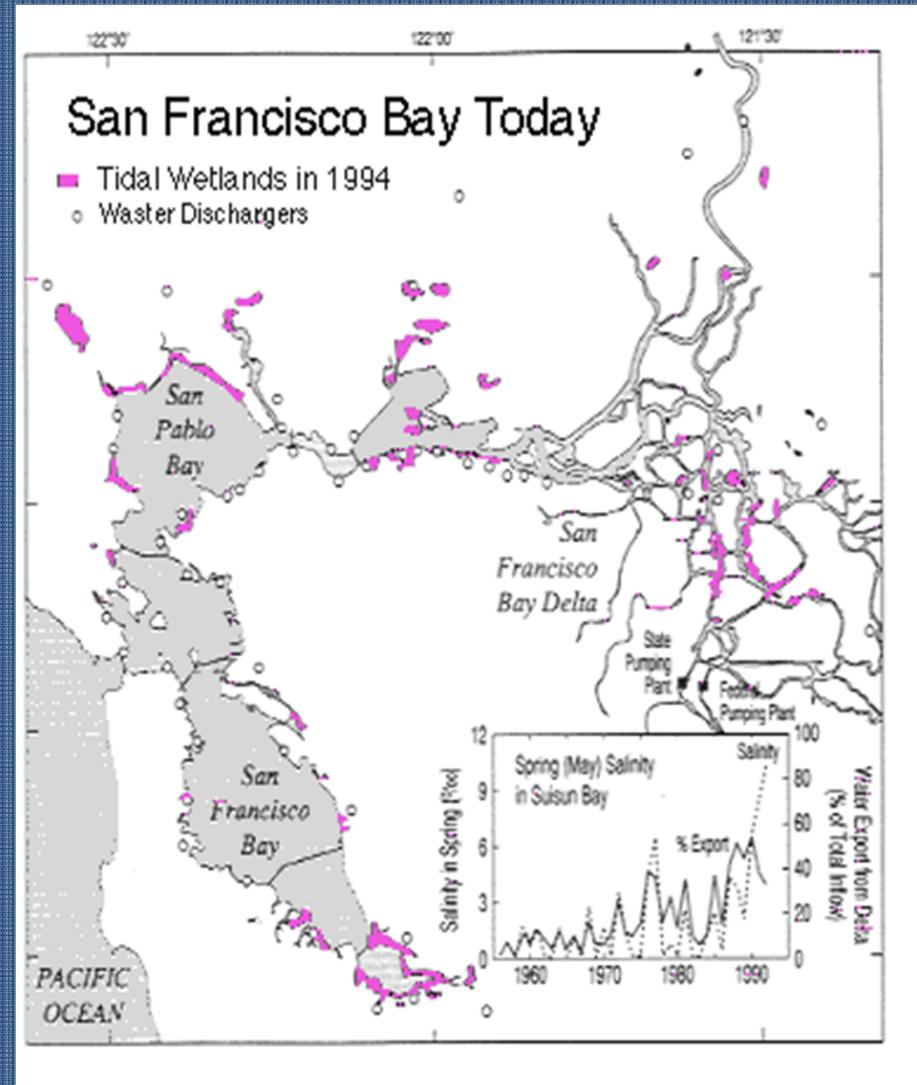
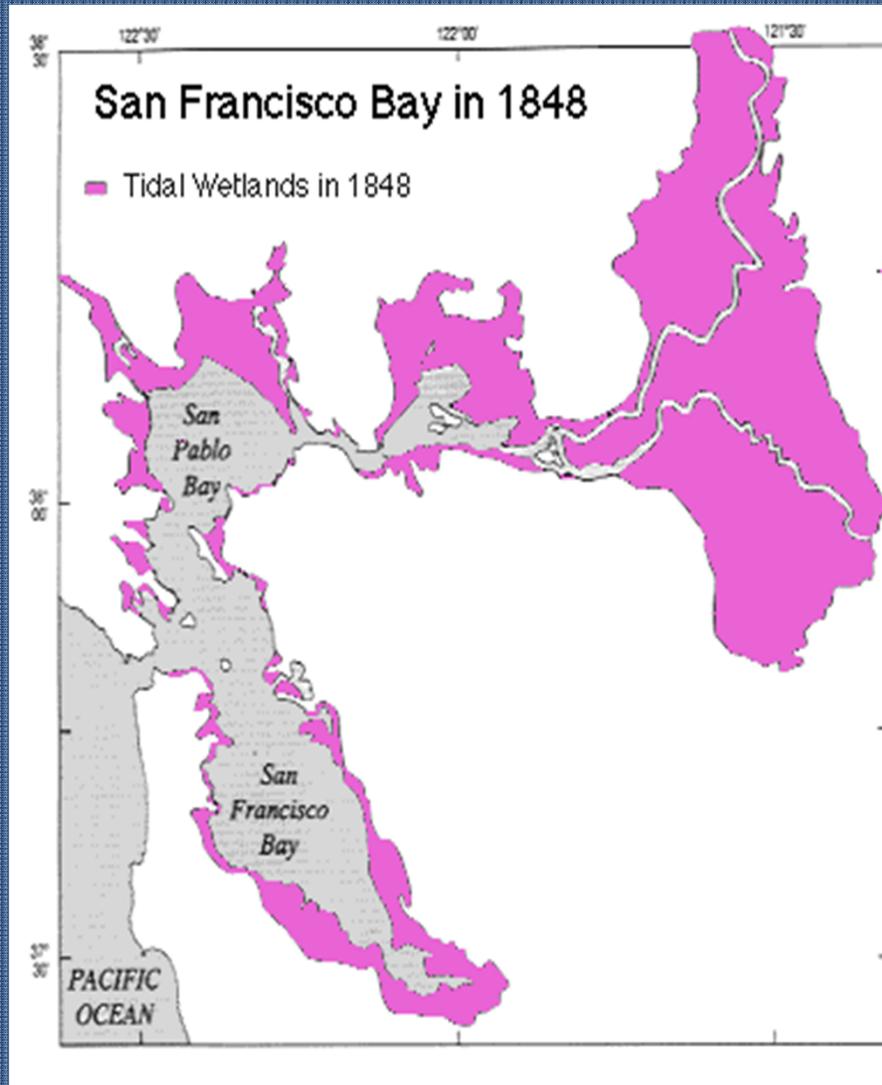


Courtesy of Chris Enright, DWR as modified
from Attwater



San Francisco Bay and Delta Tidal Marshes – Historical and Current Conditions

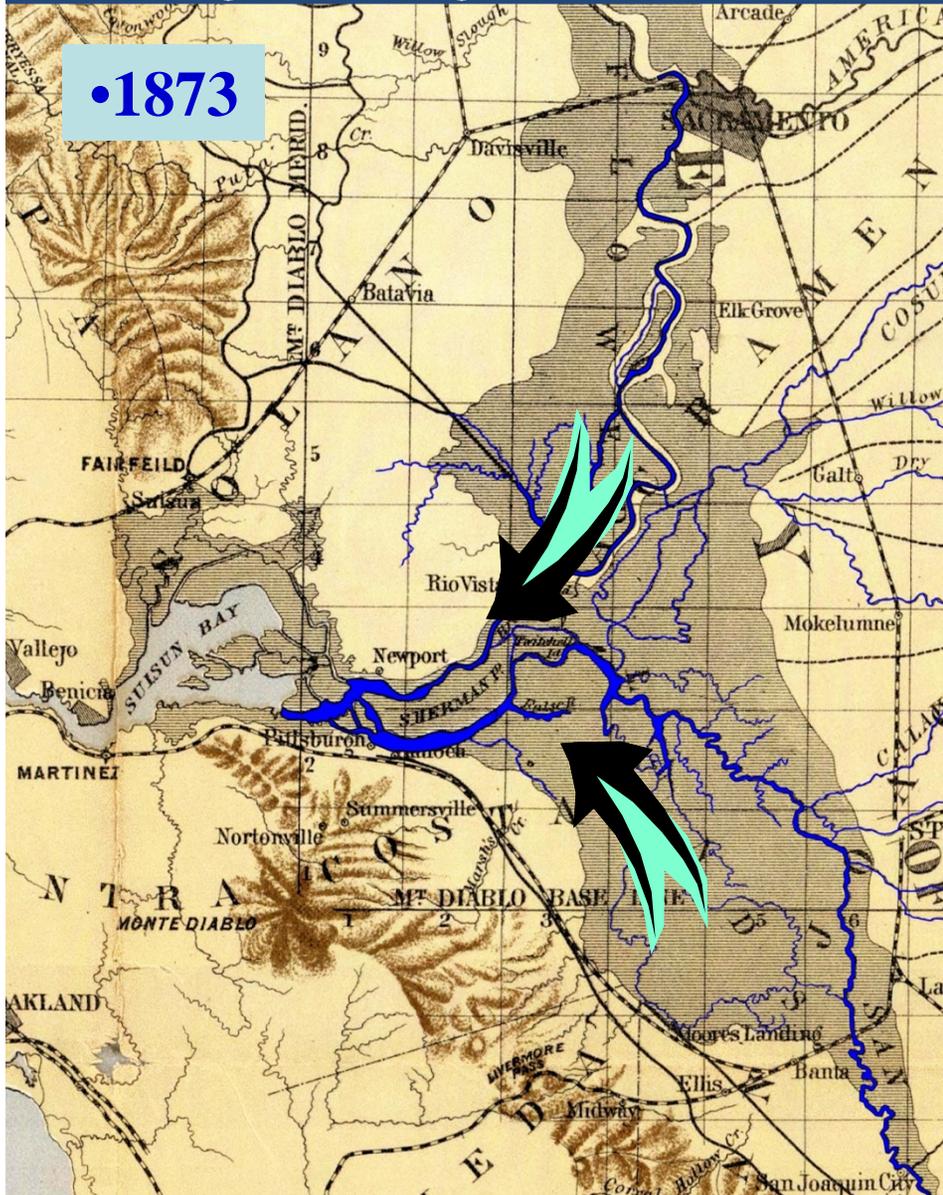
(reprinted from http://sfbay.wr.usgs.gov/general_factsheets/change.html)





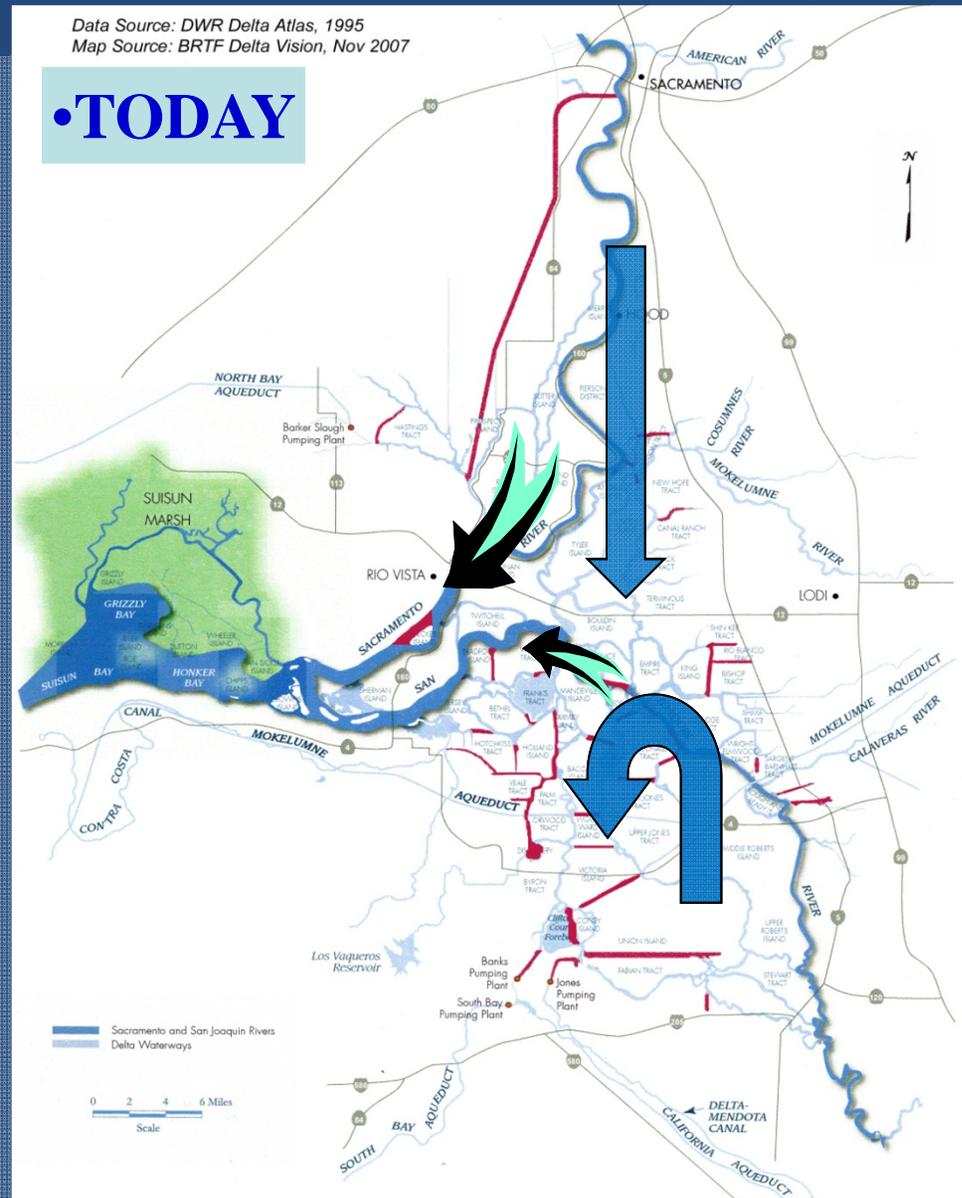
Flow Alterations, Geometry and Circulation

•1873



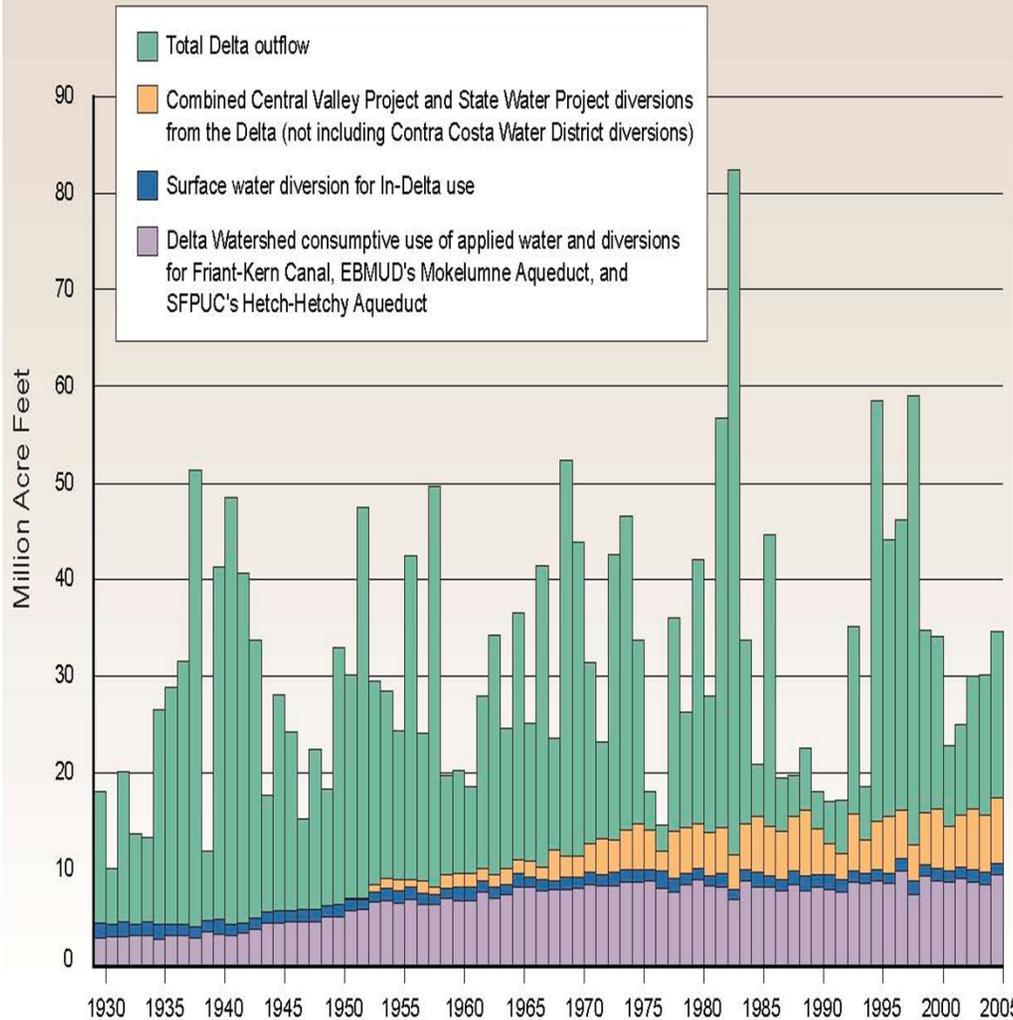
Data Source: DWR Delta Atlas, 1995
Map Source: BRTF Delta Vision, Nov 2007

•TODAY





Diversions and Exports

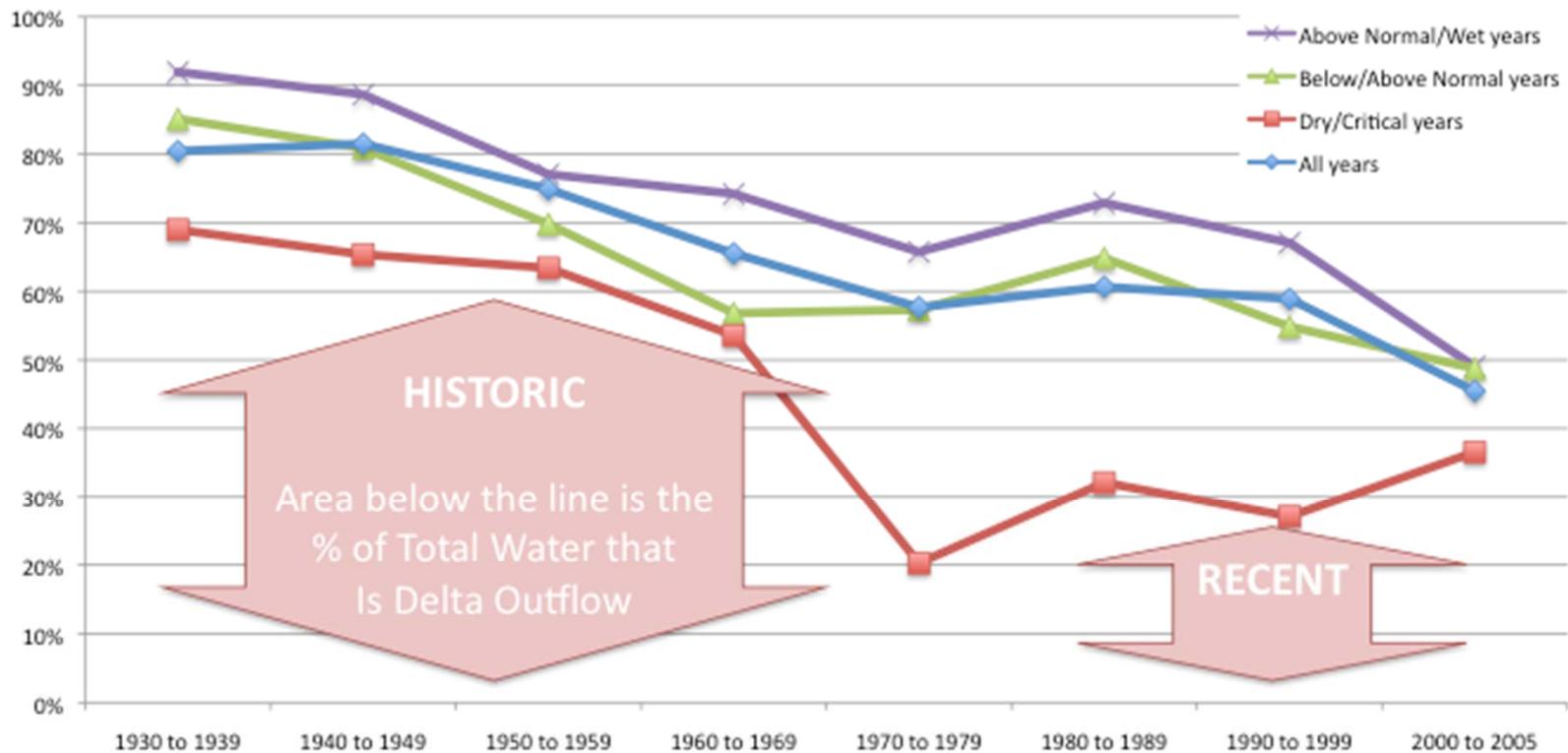


Trends in Destinations and Uses

Period	Average Annual Total (MAF)	Outflow	in-Delta	Exports	Delta Watershed
1930 to 1949	25.80	81%	5%	0%	14%
1950 to 1969	31.71	67%	4%	4%	24%
1970 to 1989	34.34	51%	5%	15%	29%
1990 to 2005	32.85	48%	4%	17%	31%

Delta Outflow Trends

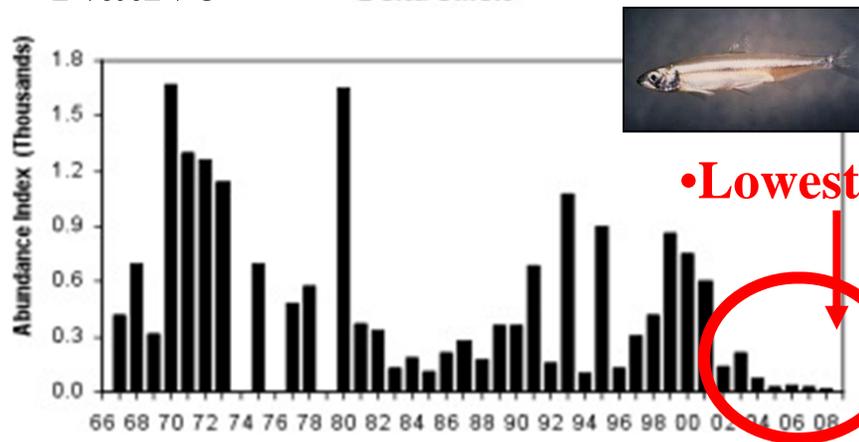
Trends in Outflow Decline



An Ecosystem in Crisis

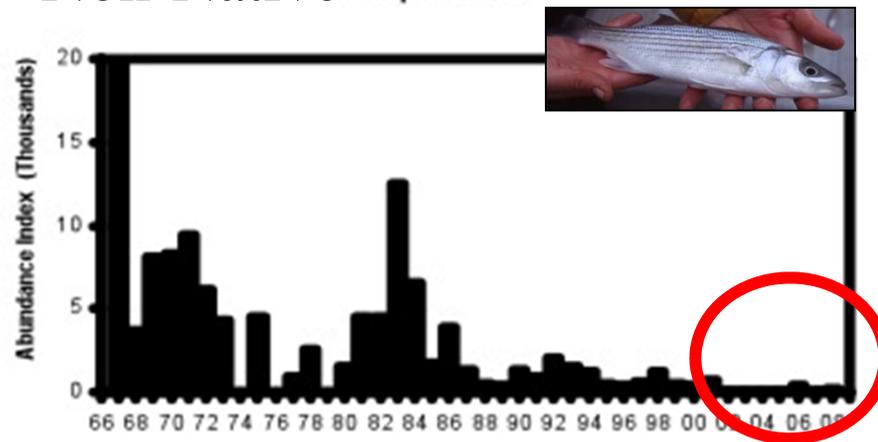
Native

Delta Smelt

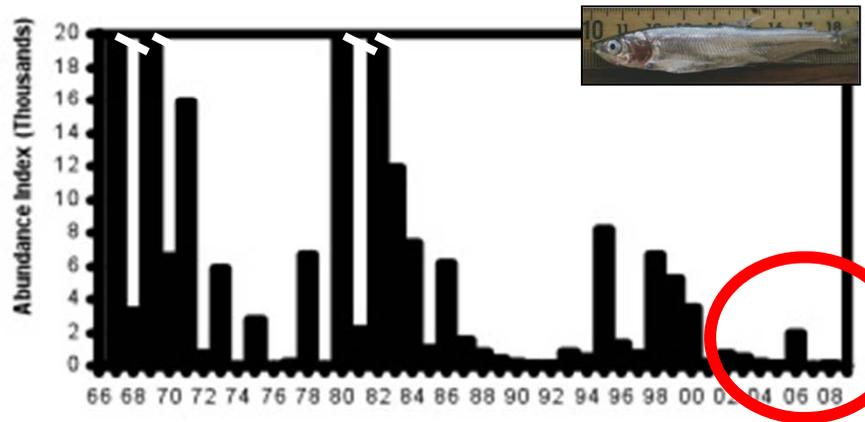


Non-Native

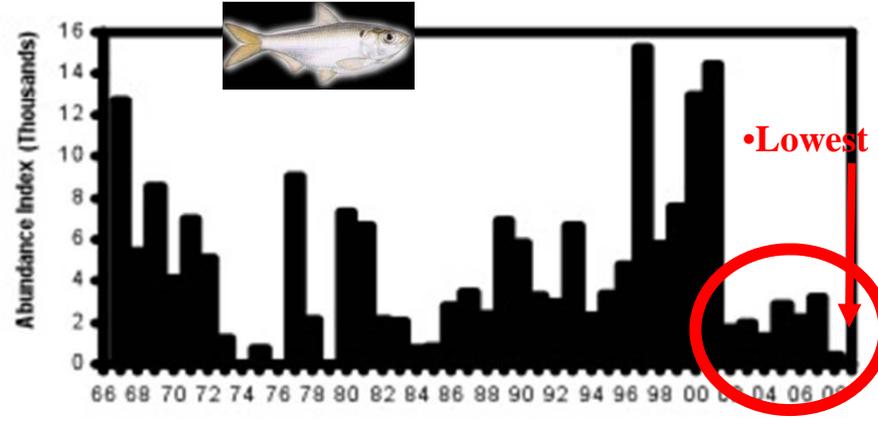
Striped Bass



Longfin Smelt



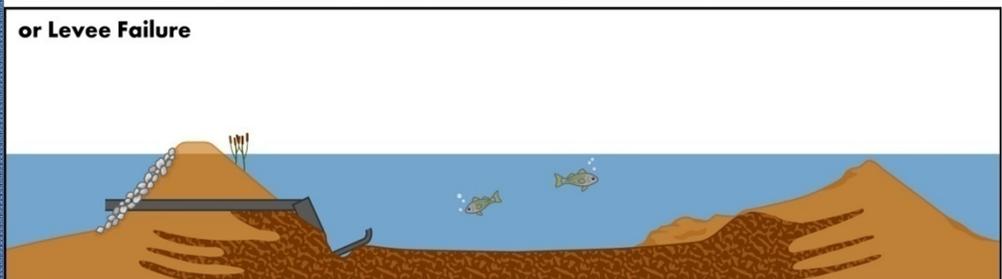
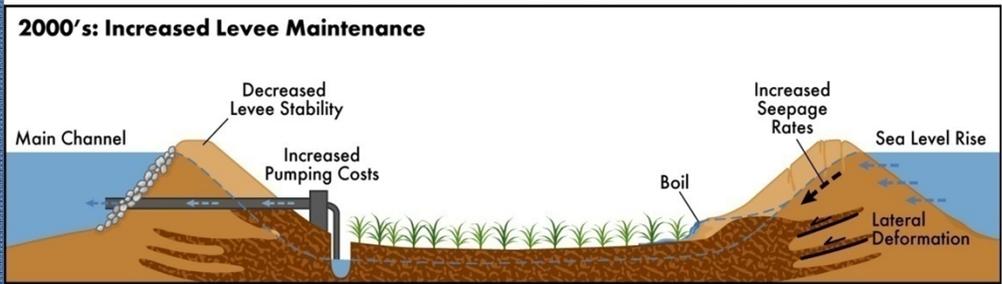
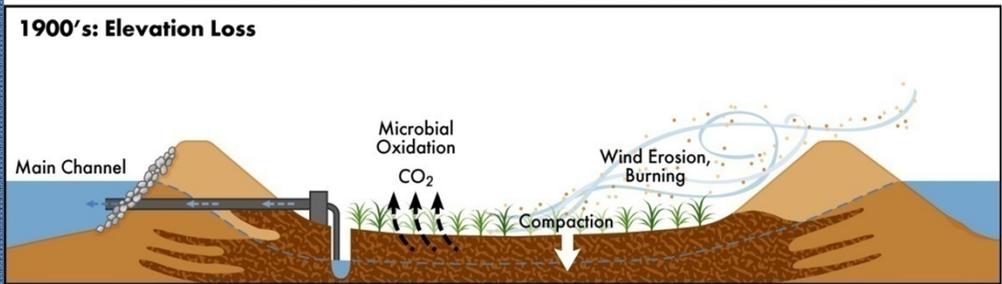
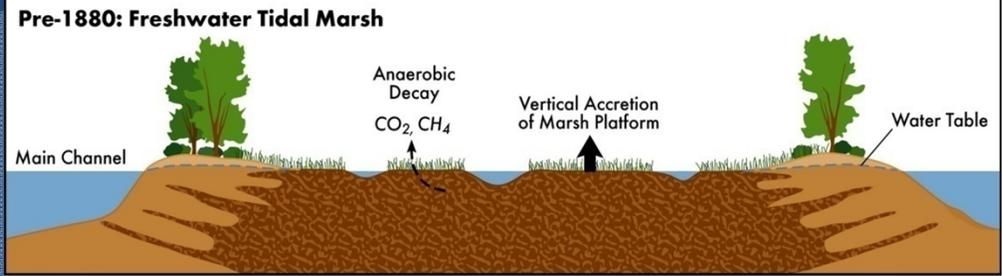
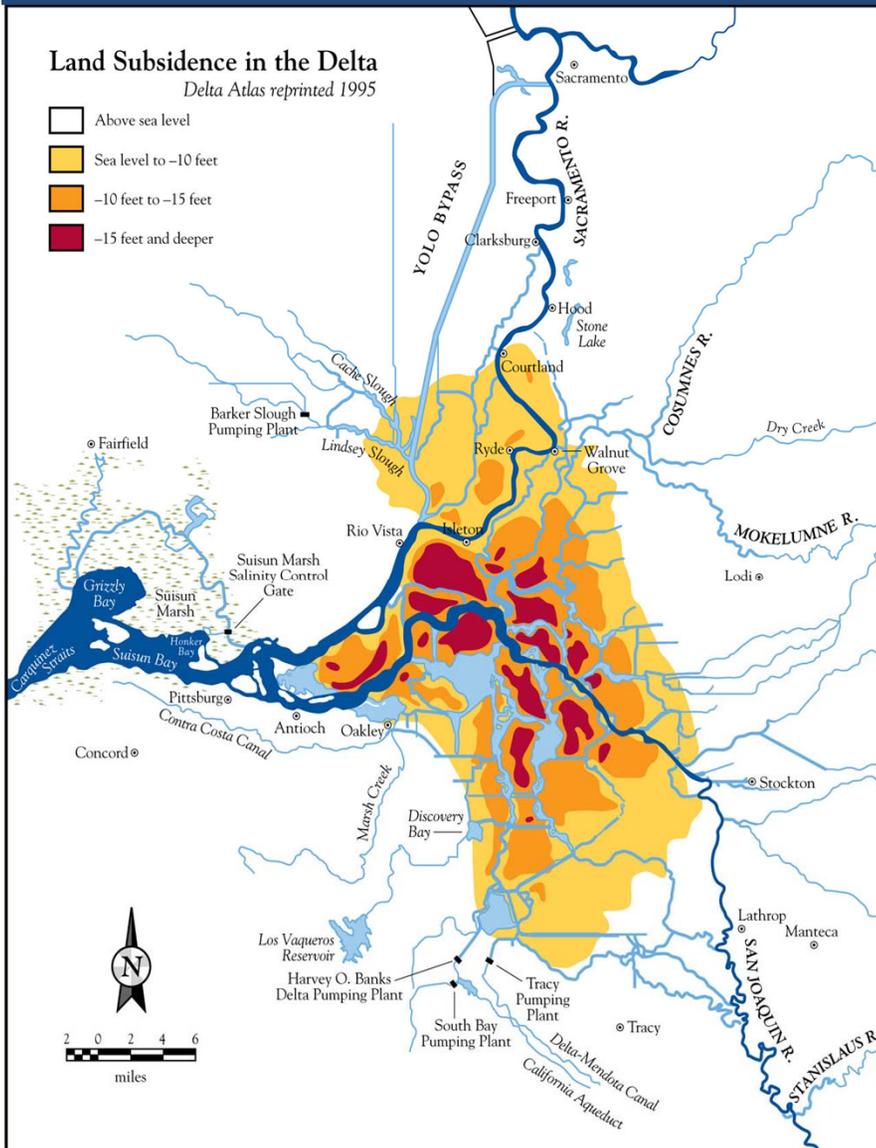
Threadfin Shad



•Source DFG 2008 Fall MW Trawl; No sampling 1974 and 1979



Subsidence: Past and Future



Thoughtful Consensus

- Independent scientific and technical analyses have drawn the same conclusion:

New conveyance facilities (peripheral canal or tunnel) need to be a component of the Delta solution if co-equal objectives are to be achieved.



Comprehensive approach required

- Habitat restoration
- Restoration of more natural flow conditions,
- Adaptive management,
- A governance structure that will ensure conservation objectives are being met.

One Expected Result



Photo by Jeff Opperman; from Cosumnes River field study by Carson Jeffres

Sandhill Cranes on Staten Island



Comparing Water Export Strategies Long-Term

- **Current Strategy:** through the Delta
- **Peripheral Canal:** around the Delta
- **Dual Conveyance:** both through and around the Delta
- **No Exports:** use other water sources and use less

