

POD Workshop Presentation

South-of-Delta CVP Contractors



Ara Azhderian

Jon Rubin

Dr. B.J. Miller

San Luis & Delta-Mendota Water Authority

**State Water Resources
Control Board**

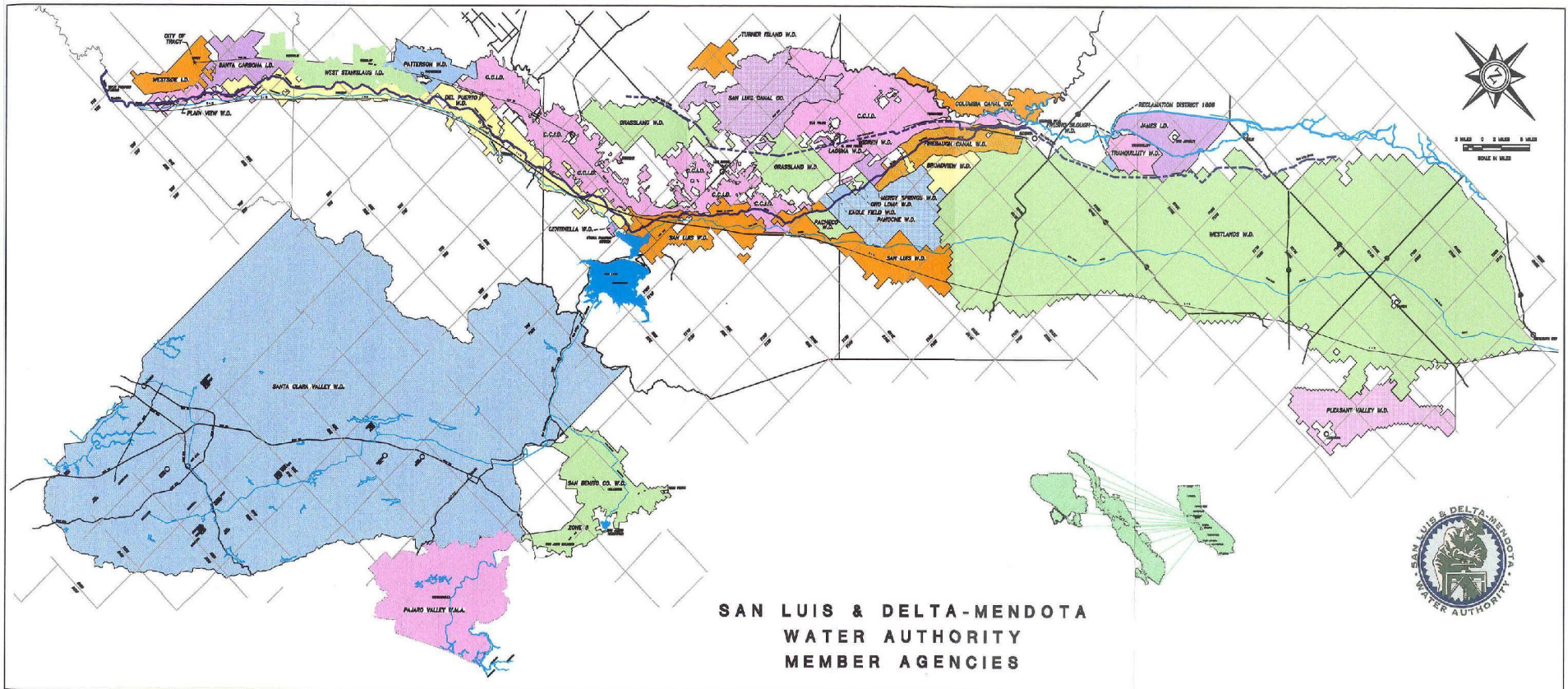
January 22, 2008

San Luis & Delta-Mendota Water Authority Background

- We are a Joint Powers Authority formed in 1992 generally for two purposes:
 - 1) To operate and maintain many of the federally owned Central Valley Project (CVP) facilities south of the Delta, and;
 - 2) To provide information and representation service on behalf of our members in a wide variety of water resource related forums including legislative, administrative, and judicial.

San Luis & Delta-Mendota Water Authority Background

- The Water Authority is comprised of:
 - 💧 32 Member Agencies
 - 💧 Serving approximately 2,100,000 acres
 - 💧 Spanning the western San Joaquin Valley from:
 - 💧 The City of Tracy in the north; to
 - 💧 Kettleman City in the south; as well as
 - 💧 Santa Clara county and portions of Monterey, San Benito, and Santa Cruz counties.



Banta-Carbona Irrigation District, Broadview Water District, Byron Bethany Irrigation District (CVP), Central California Irrigation District, Centinella Water District, City of Tracy, Columbia Canal Company, Del Puerto Water District, Eagle Field Water District, Firebaugh Canal Water District, Fresno Slough Water District, Grasslands Water District, James Irrigation District, Laguna Water District, Mercey Springs Water District, Oro Loma Water District, Pacheco Water District, Pajaro Valley Water Management Agency, Panoche Irrigation District, Patterson Irrigation District, Pleasant Valley Water District, Reclamation District 1606, San Benito County Water District, San Luis Canal Company, San Luis Water District, Santa Clara County Water District, Tranquillity Irrigation District, Turner Island Water District, West Side Irrigation District, West Stanislaus Irrigation District, Westlands Water District, Widren Water District.

San Luis & Delta-Mendota Water Authority Background

- The Water Authority is responsible for the delivery of 3,000,000-acre feet of water annually to our Member Agencies on average:
 - 💧 2,500,000-acre feet are delivered to
 - 💧 1,300,000 acres of agricultural land;
 - 💧 200,000-acre feet for municipal purposes
 - 💧 serving 2,000,000 residents; and
 - 💧 300,000 acre-feet for recreation and species conservation
 - 💧 spanning 100,000 acres of managed wildlife habitat.

San Luis & Delta-Mendota Water Authority Background



- Our common bond is the CVP and our reliance upon the Delta to convey or provide some portion of our water supply.
- The primary factor impacting our water supply is regulation intended to benefit threatened and endangered species.

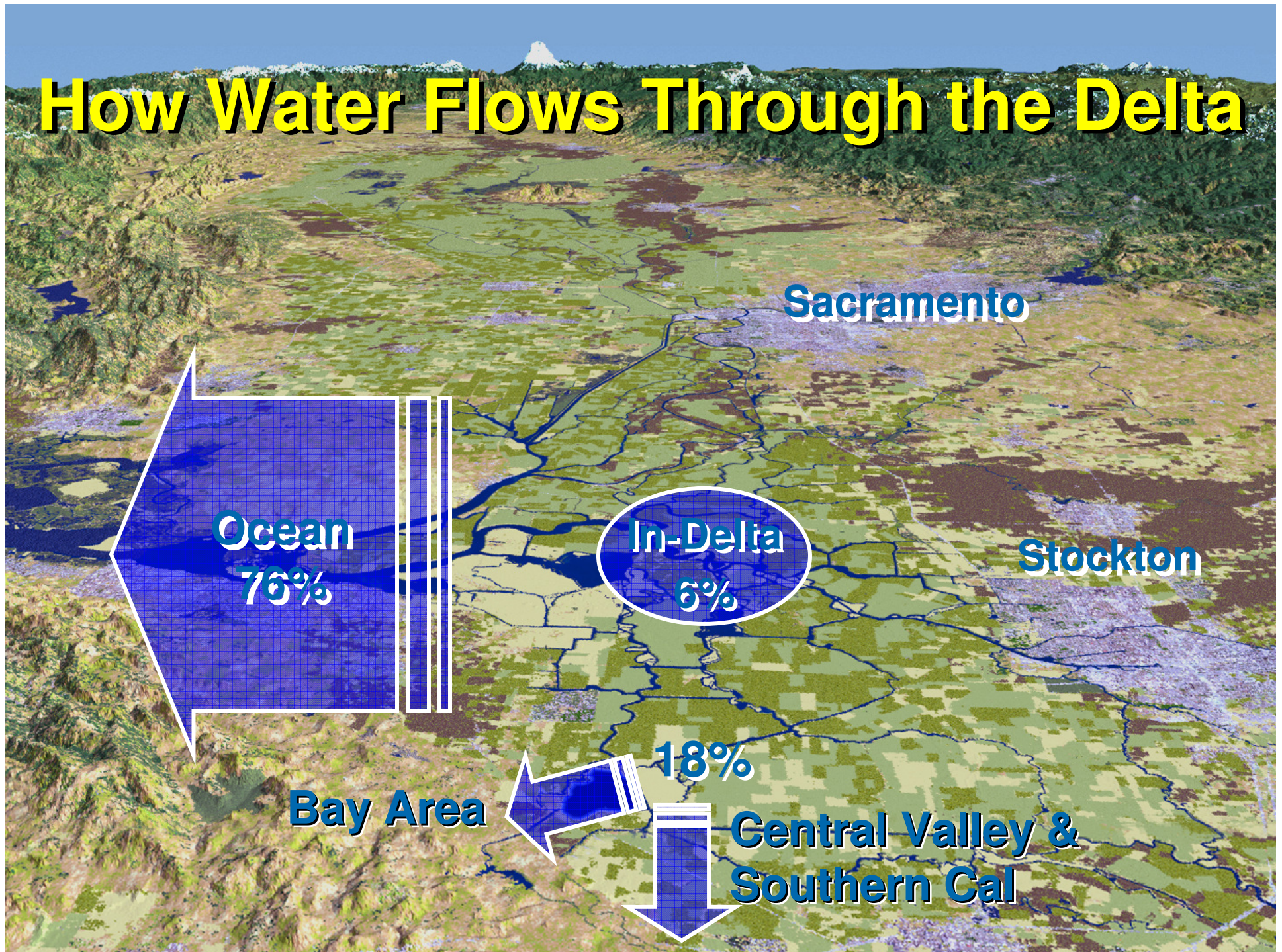
Image © 2007 DigitalGlobe

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Pointer 37°49'00.45" N 121°35'26.89" W Streaming ||||| 100%

Eye alt 13736 ft

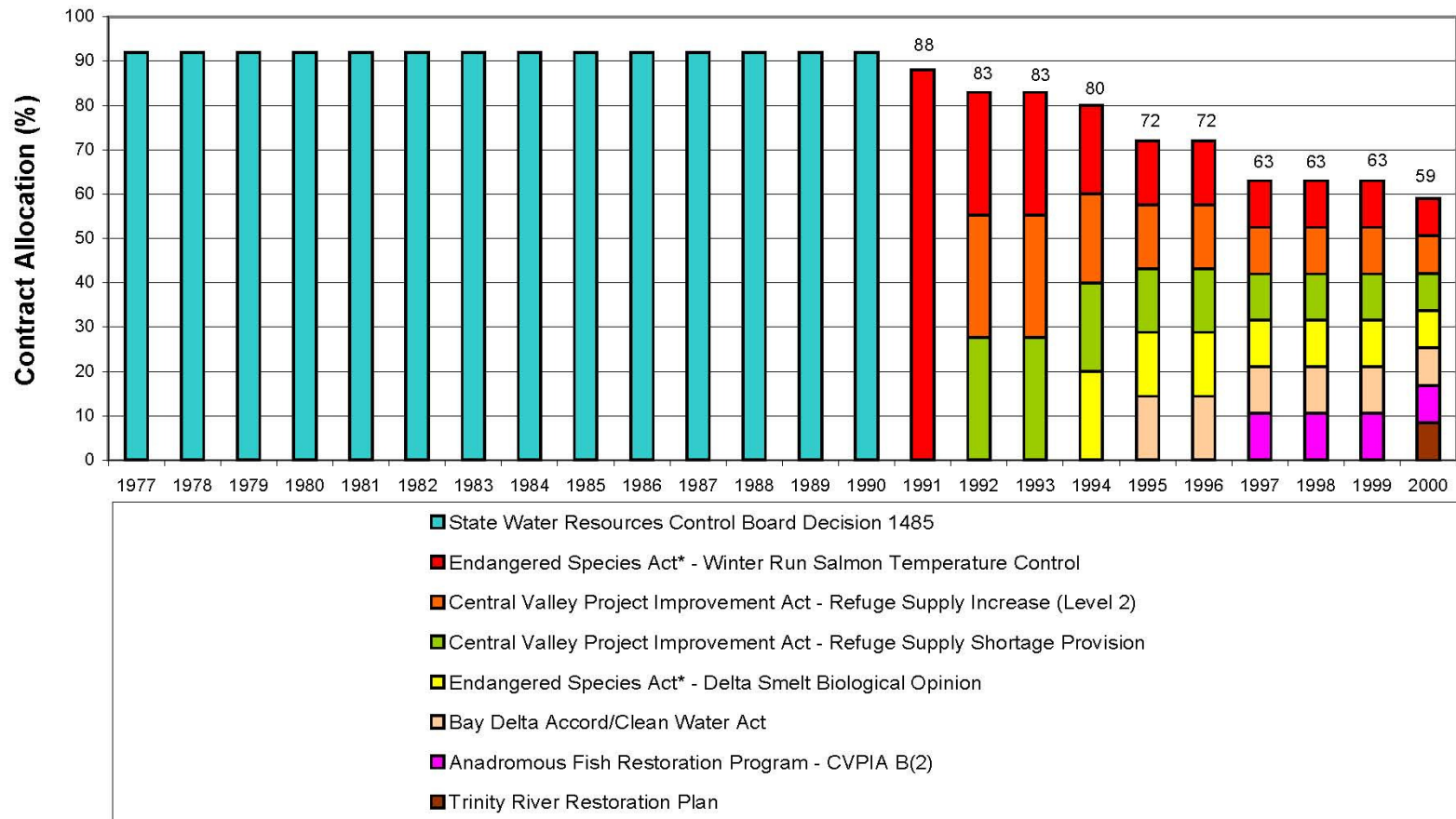
How Water Flows Through the Delta



Regulatory History Impacting CVP Water Supply

- Clean Water Act – Mid '90s
 - Water Quality Control Plan (SWRCB)
- CVPIA – Mid to Late '90s
 - Refuge Water Supply
 - 3406(b)(2)
 - Trinity River Restoration
- Endangered Species Act – 1991 to Now
 - Listed
 - Winter Run, Spring Run, Delta Smelt, Sturgeon, Steelhead
 - Pending and of concern
 - Longfin, Sacramento Splittail, Fall Run

Change in Long-Term CVP South of Delta Ag. Allocation due to Regulatory Implementation Prior to the Wanger Decision



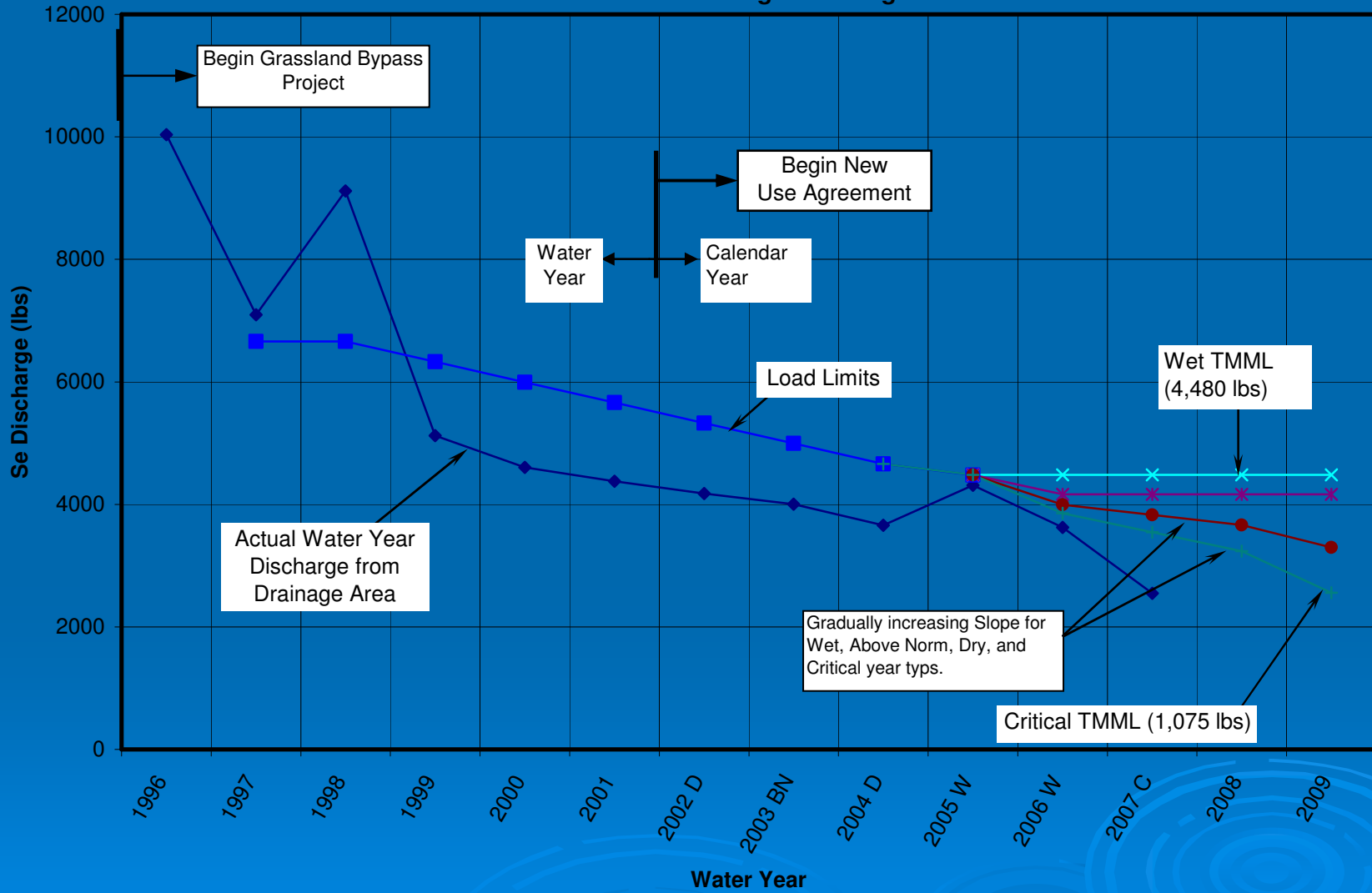
Regulatory History Impacting CVP Water Supply

- CVP water redirected for environmental purposes = ~3,500,000 acre-feet.
- Impact has disproportionately affected the South-of-Delta CVP agricultural service contractors.
- Water and financial resources dedicated to improving the ecological and water supply circumstance have been far less beneficial than anticipated.

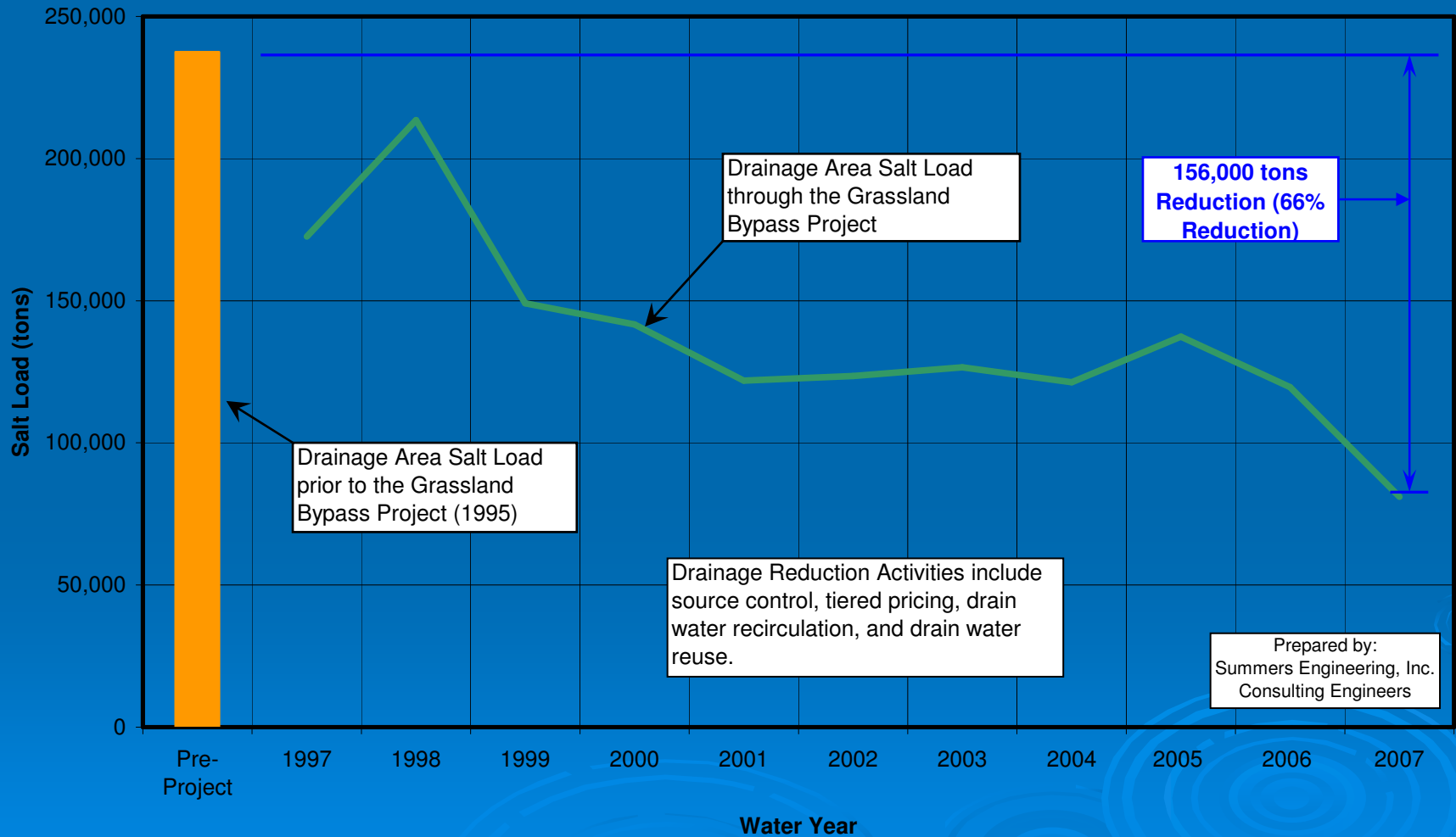
Response to Chronic Shortage

- Westside Integrated Water Resources Plan first created in 2003:
 - Maximizes use of Regional water supplies:
 - Intra-regional water transfer programs;
 - Infrastructure improvements;
 - Improved groundwater management;
 - Expanding water reuse;
 - Substantial water conservation investments;
 - Initiating water recycling;
 - Voluntary land retirement;
 - Improving water quality.

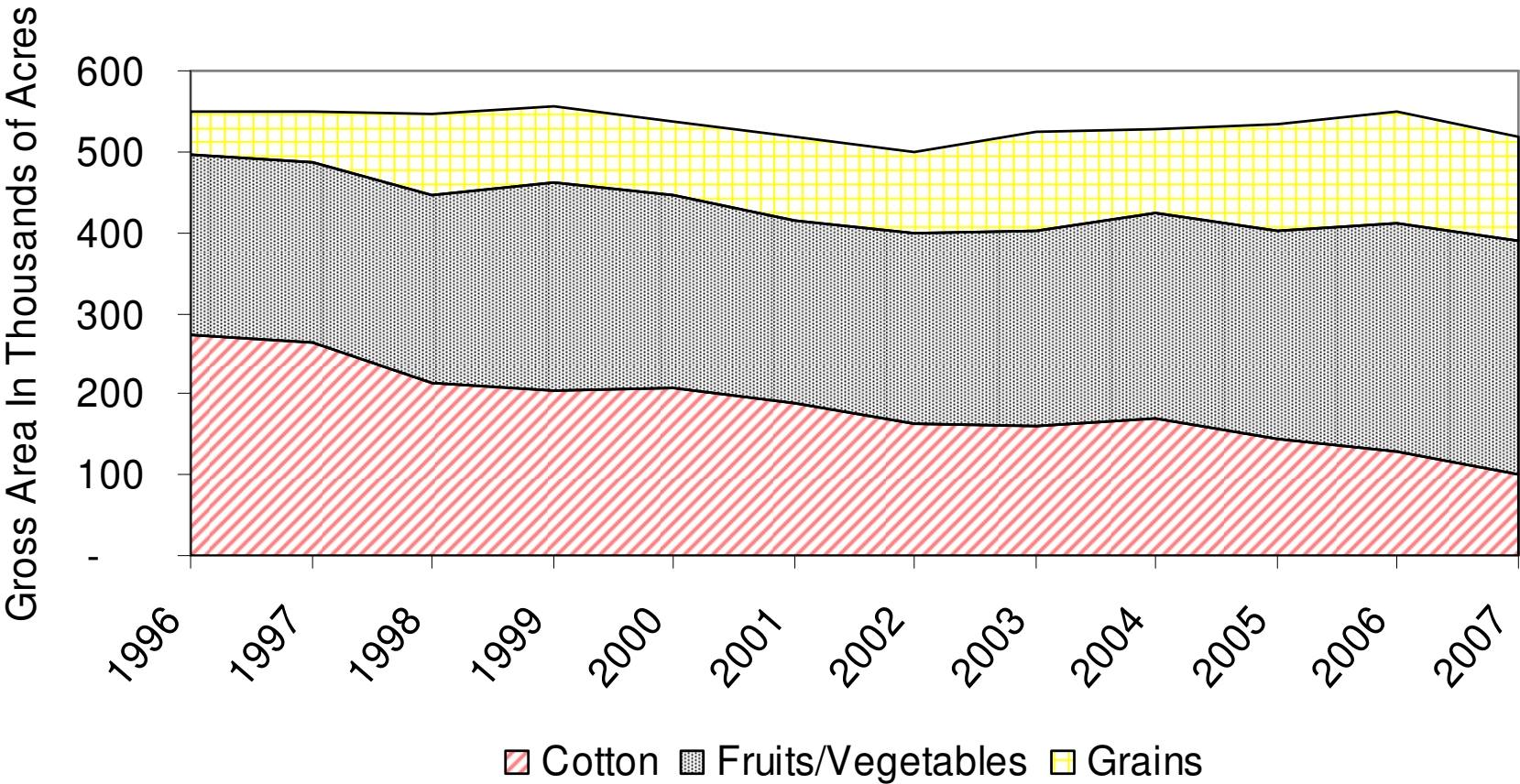
Grassland Drainage Area Selenium Discharge and Targets



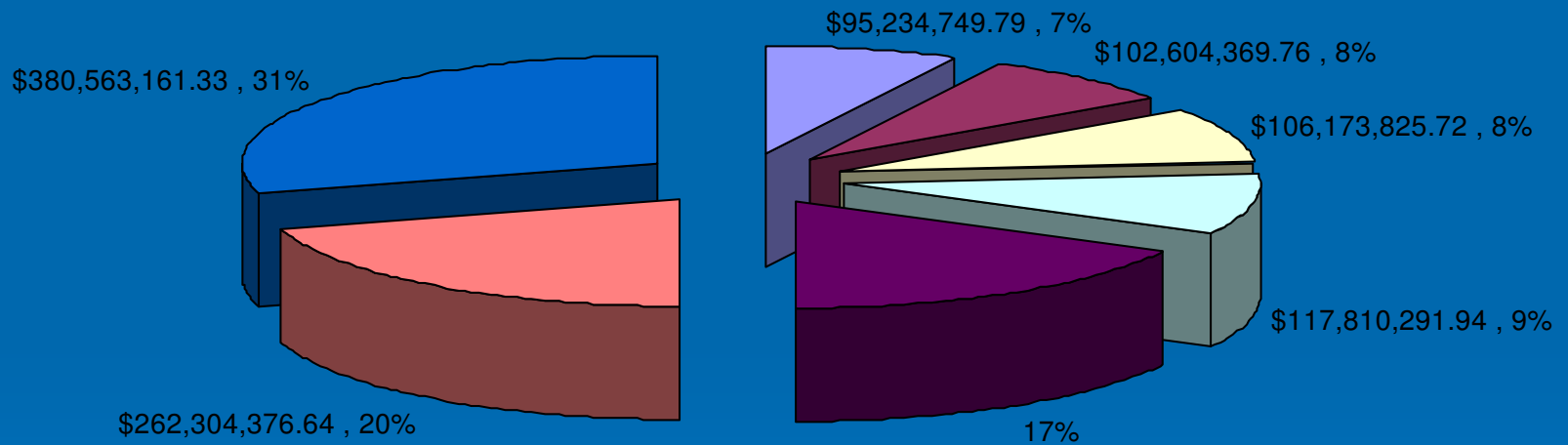
Grassland Drainage Area Drainage Area Salt Load



Crop Acreage Trends, 1996-2007



Farm Gate Value derived from South-of-Delta CVP Water Use



■ Tomatoes, Market
 ■ Melon, Cantaloupe
 ■ Cotton, Pima
 ■ Lettuce
 ■ Cotton, Upland
 ■ Tomatoes, Process

Need for New Approaches

- Past efforts to resolve Delta problems have proven ineffective.
- Continuing emphasis solely on CVP/SWP exports will produce the same results.
- Growing acknowledgement by independent science that problem is complex and multi-faceted; so should be our response.
- Institutions slow to recognize this fact.

Where Were We?



Where Were We?



ENVIRONMENTAL REPORT

APPENDIX 1

to

Water Quality Control Plan
for the

San Francisco Bay / Sacramento-San Joaquin
Delta Estuary

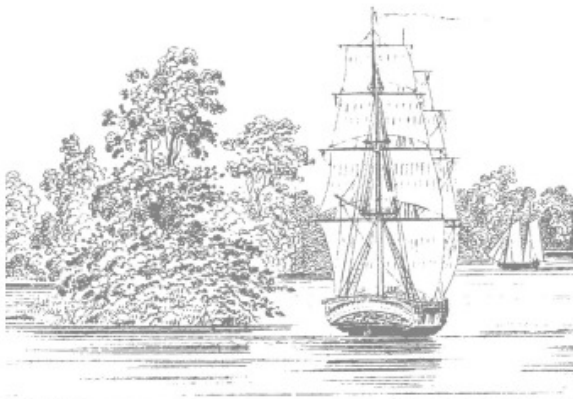
STATE WATER RESOURCES CONTROL BOARD
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

The general causes of decline for most of the species utilizing the Estuary fall within the following categories: (1) natural hydrologic variability; (2) water development; (3) introduction of non-native aquatic organisms; (4) food limitations; (5) land reclamation and waterway modification (diking, dredging, and filling); (6) pollution; (7) harvesting; and (8) oceanic conditions. These factors can cause direct, indirect, and cumulative effects on the various species in the Estuary (DFG 1994b, SFEP 1992a). The most significant factors are the human-induced factors, and of these, water development, land use practices, and harvesting of aquatic species are the most significant factors causing declines in aquatic species.

Where Were We?

From the Sierra to the Sea

The Ecological History of the
San Francisco Bay-Delta Watershed



Middle Fork



The natural landscape and associated biological communities have been drastically altered by California's population boom of the last 150 years. Harvest of plants and animals, the introduction of exotic species, livestock raising, farming, mining, urbanization, development of navigable waterways, flood control, and the redistribution of water resources have altered the landscape and its native biota in many ways, both directly and indirectly. The precise linkages and mechanisms that have mediated any particular population or species-level change are unknown in many cases, but in total the effects of these combined human interventions on system ecology is staggering.

Where Were We?



ENVIRONMENTAL REPORT

APPENDIX 1
to
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STATE WATER RESOURCES CONTROL BOARD
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

The management of controllable factors associated with the decline of aquatic resources is necessary. However, the relative effects of the controllable and uncontrollable factors have not been quantified. Therefore, management of controllable factors may not significantly improve the condition of the aquatic resources in the Estuary, due to the effects of the uncontrollable factors, but such efforts should be made with this uncertainty in mind.

Where Did We Go?



Where Are We Today?

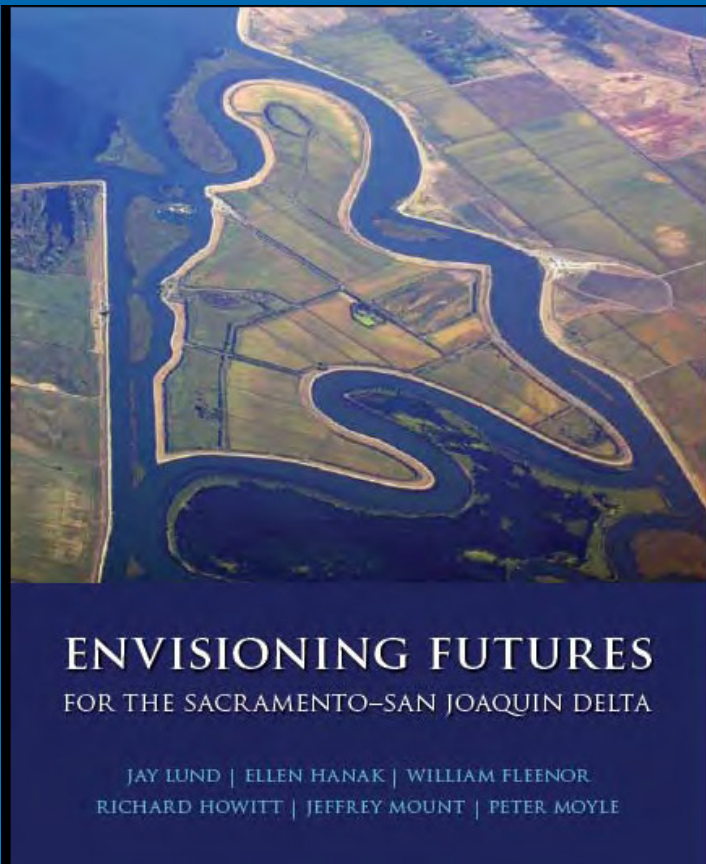


Where Are We Today?

Abundance indices for pelagic fish reflect marked declines



Where Are We Today?



- **New paradigm:** The San Francisco Estuary is unique in many attributes, especially its complex tidal hydrodynamics and hydrology.
- **Old paradigm:** The San Francisco Estuary works on the simple predictable model of East Coast estuaries with linear gradients of temperature and salinity controlled by outflow with edging marshes, both salt and fresh water, supporting biotic productivity and diversity

Where Are We Today?



ENVISIONING FUTURES

FOR THE SACRAMENTO-SAN JOAQUIN DELTA

JAY LUND | ELLEN HANAK | WILLIAM FLEENOR
RICHARD HOWITT | JEFFREY MOUNT | PETER MOYLE

- **New paradigm:** Alien species are a major and growing problem that significantly inhibits our ability to manage for desirable species.
- **Old paradigm:** Alien (nonnative) species are a minor problem or provide more benefits than problems.

Where Are We Today?



ENVISIONING FUTURES

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- **New paradigm:** The big pumps in the southern Delta are one of several causes of fish declines and their effect depends on species, export volume, and timing of water diversions.
- **Old paradigm:** The big SWP and CVP pumps in the southern Delta are the biggest cause of fish declines in the estuary.

Where Are We Today?

- Many continue to focus on CVP and SWP
- Many base recommendations on old paradigms

Where Should We Go?



Where Should We Go?

- Consider Delta with new paradigms
- Develop understanding of existing data
- Fill in current information gaps

Actions SWRCB Could Undertake

- Conduct its own detailed review of factors causing population-level effects on species of concern, especially delta smelt and longfin smelt
- Mandate or oversee development of a real time, delta smelt condition monitoring program

Review of factors causing population level effects

- By the Board or under its auspices, with independent expert review
- Consider:
 - SWP/CVP exports and other water project effects
 - Upstream and other Delta diversions
 - Food limitations
 - Toxics
 - Competition/predation

Real time delta smelt condition monitoring program: substance

- Already a CalFed grant for 3-year program, but not being carried out
- Obtain delta smelt from surveys, salvage, or special sampling
- Test for toxic effects, food limitation, gut content, otolith analysis
- Simultaneously, similar analyses for delta smelt prey
- Simultaneously, water quality analyses, focusing on problem constituents

Real time delta smelt condition monitoring program: process

- Data produced in 2-3 weeks
- Real time evaluation by technical experts from agencies, academia, stakeholders
- Technical experts provide real time synopsis of data to management team
- Management team, comprised of agencies with authority to solve problems, formulates actions to deal with problems