

Why is the Delta so Important – and Why Can't we Fix It?

Keith Coolidge
Delta Stewardship Council

Feb. 22, 2018





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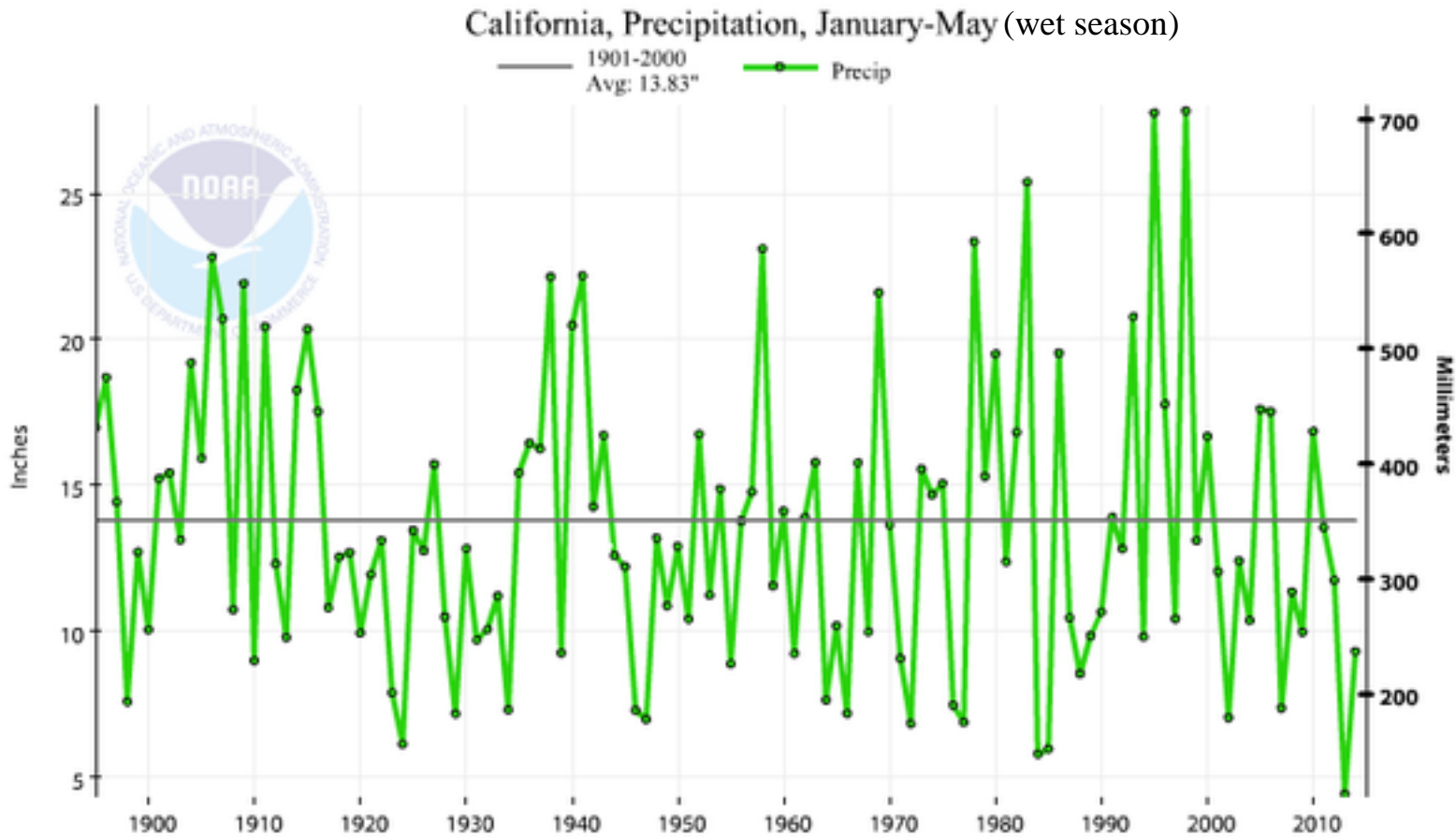
Stockton

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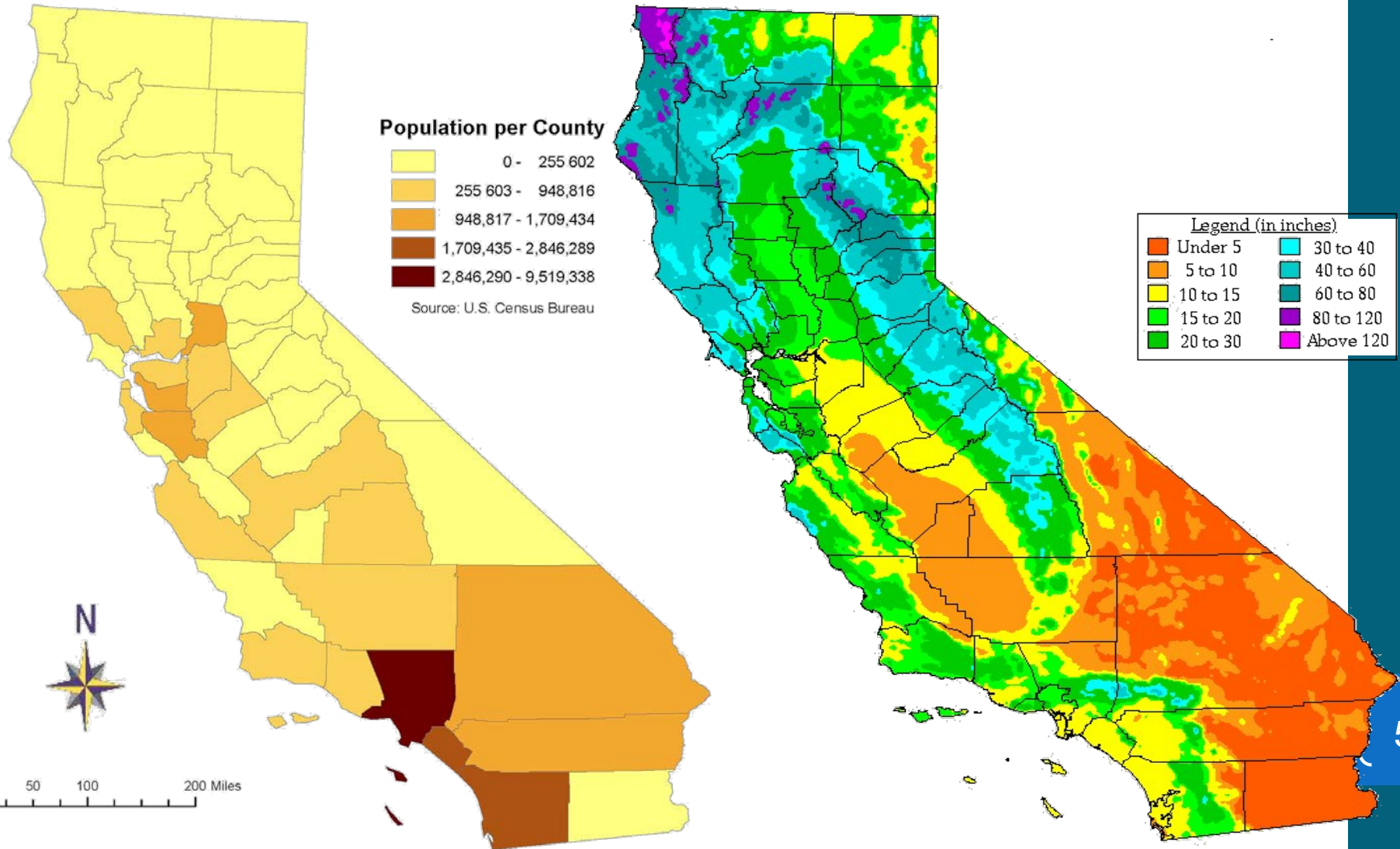
Today's talk

- Overview of the Delta and why it is so important
- How the Delta has changed – consequences of policy choices over time
- Multi-agency approach – opportunities and challenges
- In the news – what's really going on?
- Dialogue – things to think about

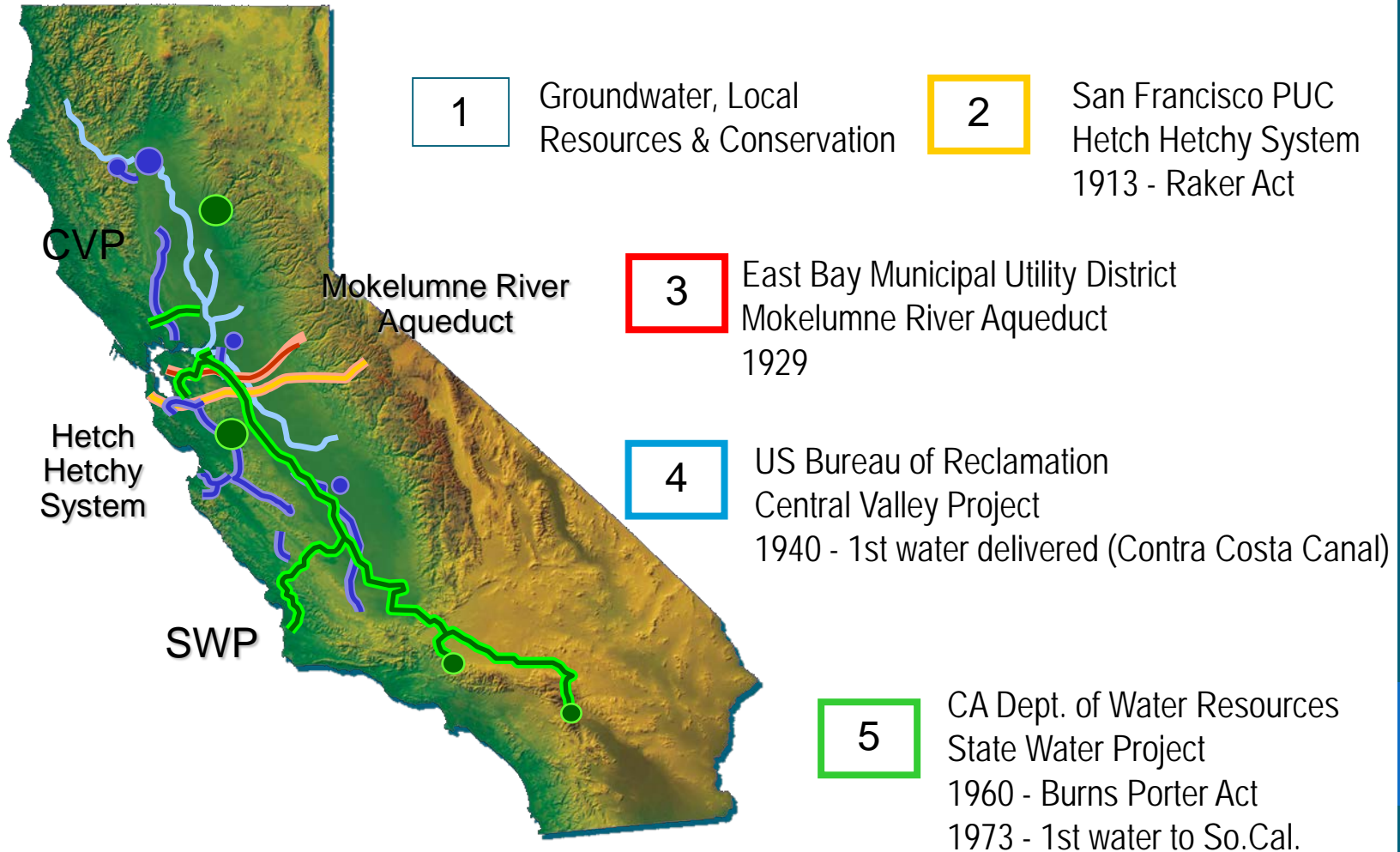
California's precipitation variability...



... and population imbalance...



...drove water supply development



Importance of the Bay-Delta

Supplies Bay Area, Central Valley, Coastal areas & Southern Cal

Bay Area – 33%

Some regions up to 100% dependent

Central Valley – 23 to 90%

Southern Cal – 30%



The Delta is a critical hub

CALIFORNIA FORUM

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Sunday, September 22, 2013 | The Sacramento Bee | sacbee.com/californiaforum

Few stories bigger than Delta

WHY WE'RE LOOKING AT CONFLICT FROM SEVERAL ANGLES

It affects the largest estuary on the West Coast of the Americas. It could harm the oldest known bird species. And, while it is expected to cost a fraction of the price of California's proposed high speed rail line, the \$25 billion price of the Bay Delta Conservation Plan still would make it one of the most expensive state public projects ever.

This immense plan supported by Gov. Jerry Brown would build three new intakes in the Courtland area that would then move water into two 30-mile long tunnels bored 150 feet underground. The construction is intended to protect

From the Executive Editor
JOYCE TERHAAR



jterhaar@sacbee.com

fish species and the estuary that supplies two-thirds of California's water. Perhaps more relevant to some of you are concerns that it would disrupt and change this picturesque recreation, farming and wine region. Or that it could impact this region's animal habitat and water supply.

It's a complicated plan, and the job of The Bee's Matt Weiser is to translate this policy wonk lan-

guage into stories that matter to you.

Few news organizations in California are able to deeply cover public policy issues that affect our lives. Those that do include traditional newspapers such as the Los Angeles Times, San Francisco Chronicle, Stockton's The Record or San Jose Mercury News, all of which have weighed in on the Delta proposal. It's difficult and sometimes tedious work, and it takes years of reporting to build up enough expertise. For us, though, it's a key part of our reporting mission. The tunnel plan falls squarely into reporting areas we emphasize: It's local, it involves a substantial public expenditure that should be scrutinized, and it is one of the most knotty of statewide public policy issues, designed to

TERHAAR | Page E2



**ENTERING
CALIFORNIA DELTA**

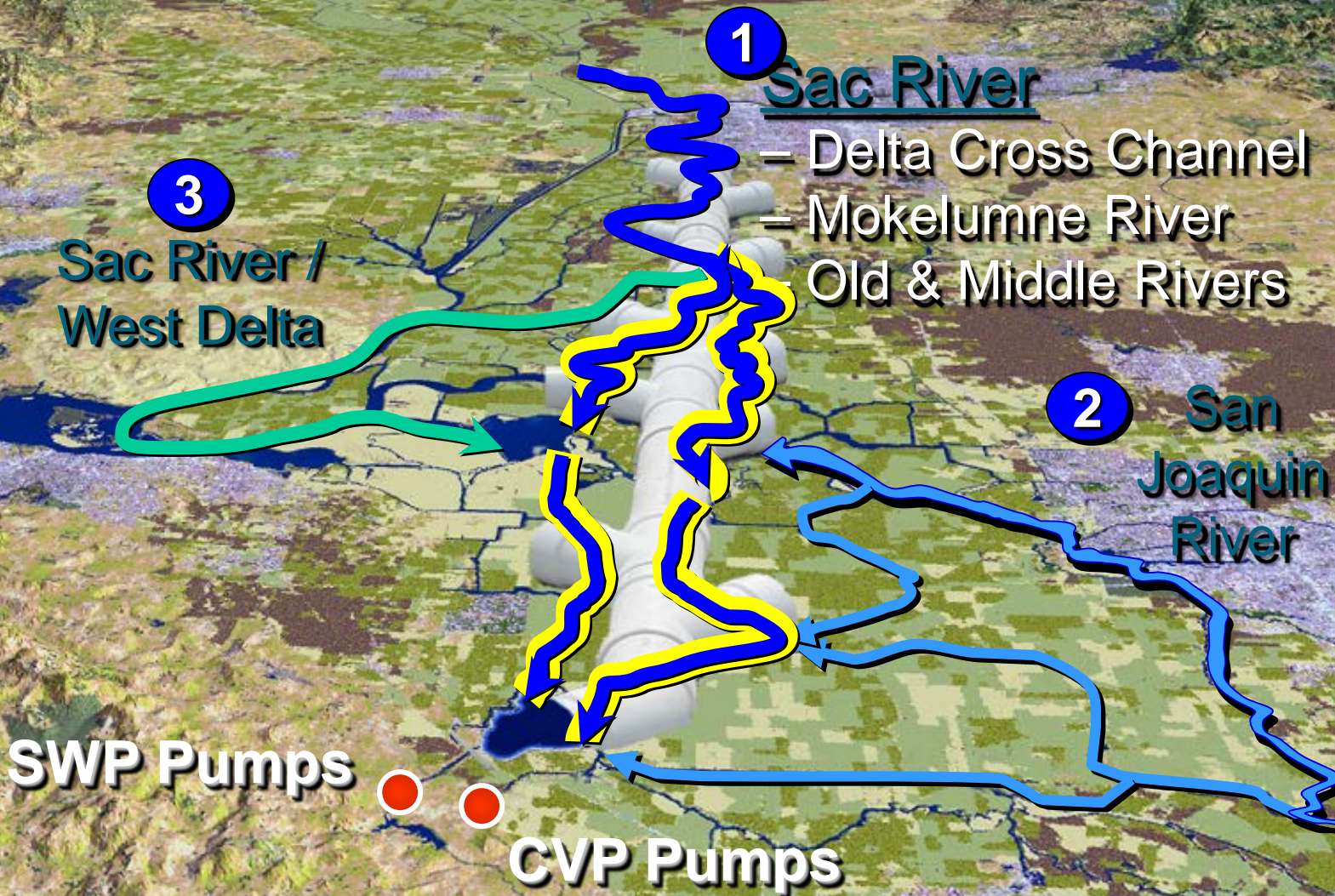




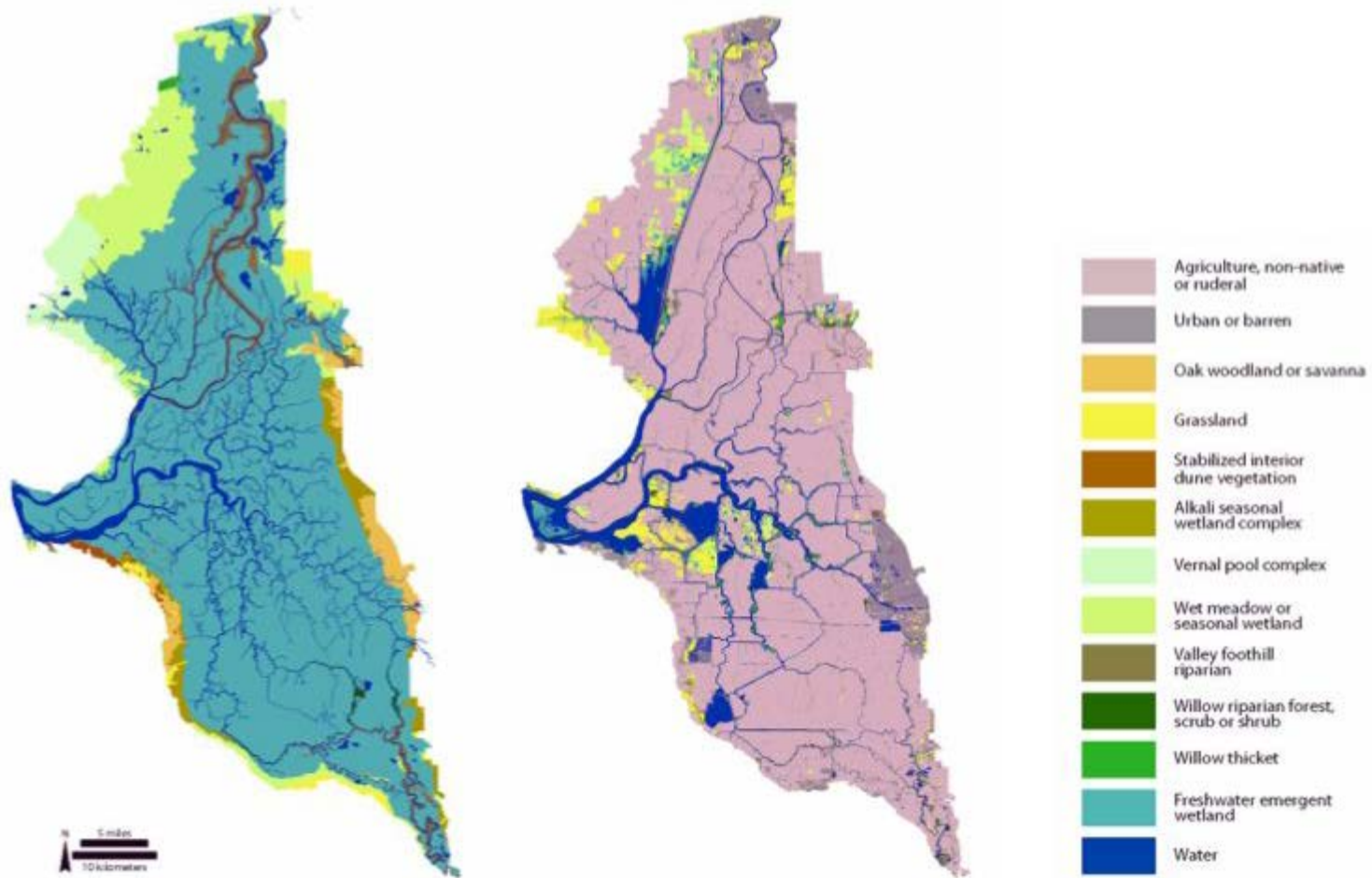




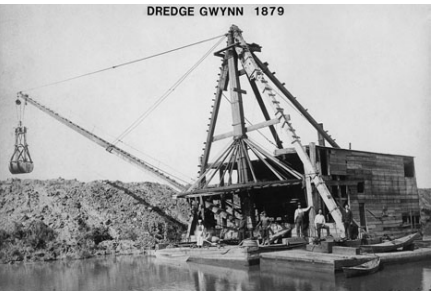
How Water Gets Across the Delta



Many forces shaped the Delta



Change in Delta land cover, early 1800s to early 2000s. *Graphic by SFEI-ASC*

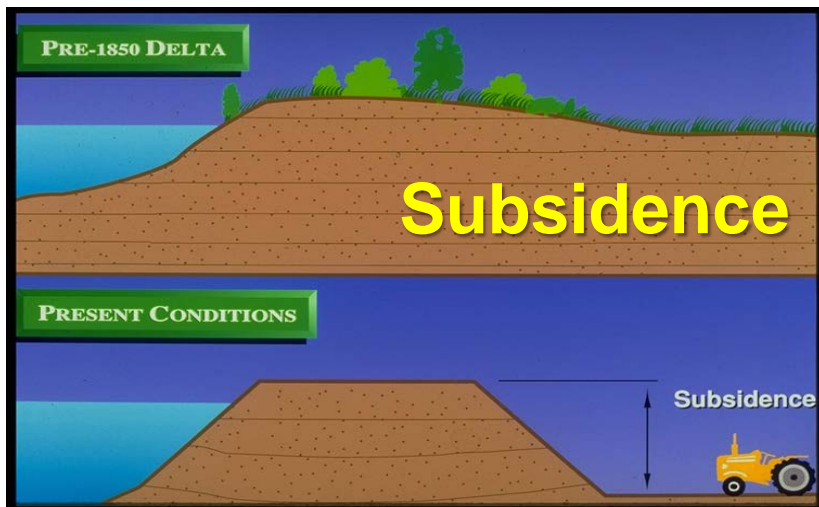
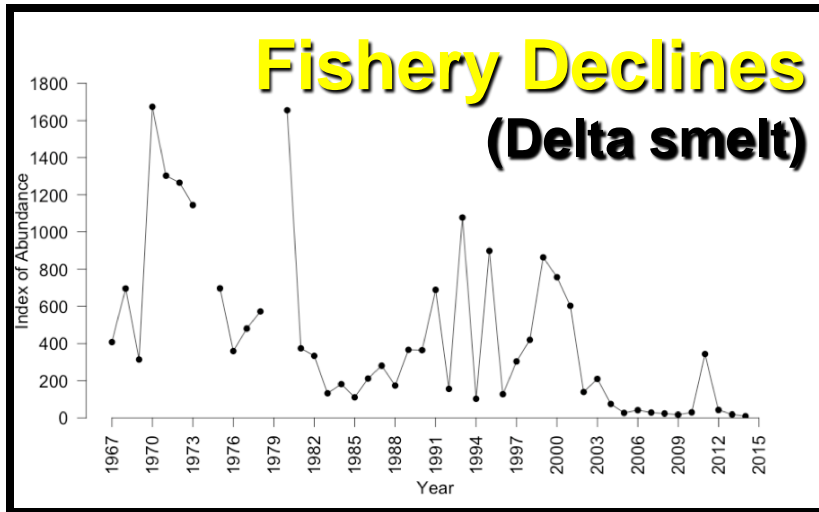


The Changing Delta



- 1850s settlers drained 'swampland', eliminating largest wetlands on Pacific Coast Flyway
- Flood projects dredged waterways & straightened channels at cost to riparian habitat
- Upstream reservoirs added hydropower, flood control and water supply, but blocked fish spawning and changed flow patterns
- Deep-water ship channels opened Central Valley to commerce but led to invasive species through ballast water
- Growth of farming and upstream cities led to increased agricultural and urban pollution

Key Delta risks



Water Supply Implications

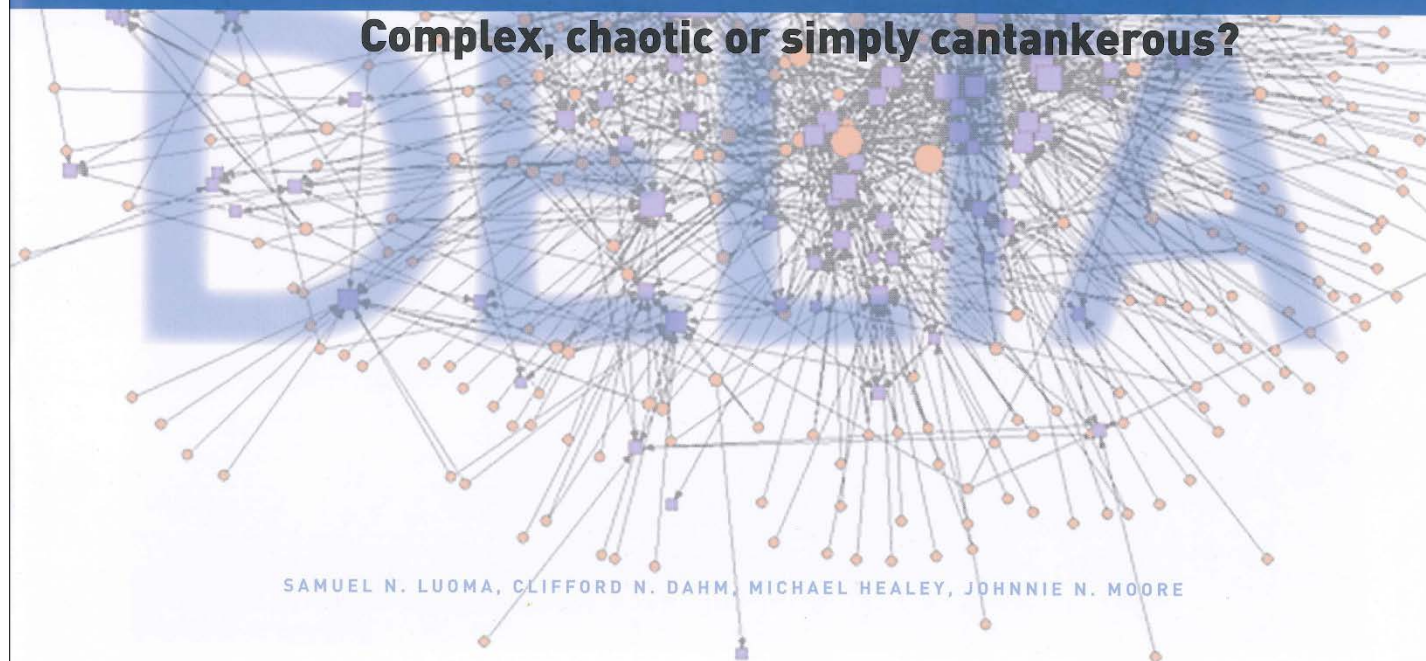






**CHALLENGES FACING
THE SACRAMENTO-SAN JOAQUIN DELTA**

Complex, chaotic or simply cantankerous?



SAMUEL N. LUOMA, CLIFFORD N. DAHM, MICHAEL HEALEY, JOHNNIE N. MOORE

Institutional Complexity

Delta Planning Relationships

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
Ensures state's food safety, protection of state's agriculture from invasive species, and promotes California agricultural industry.

CALIFORNIA EMERGENCY MANAGEMENT AGENCY
Coordinates a overall state agency response to major disasters in support of local governments.

CALIFORNIA NATURAL RESOURCES AGENCY
Protects historical, natural and cultural sites; monitors and controls state lands and waterways; and regulates fish and game use.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
Maintains native fish, wildlife, plant species, and natural communities for their intrinsic and ecological value and their benefits to people.

CALIFORNIA DEPARTMENT OF PARKS AND RECREATION
Manages California's state parks.

CALIFORNIA DEPARTMENT OF WATER RESOURCES
Responsible for State of California's management and regulation of water usage. State lead for environmental review of BDFC. Lead agency for flood emergency response.

CENTRAL VALLEY FLOOD PROTECTION BOARD
Manages flood control along Sacramento and San Joaquin rivers and tributaries in cooperation with USACE.

DELTA PROTECTION COMMISSION
Established 1992 and reorganized by 2009 Delta Reform Act as a 15-member planning and regulatory entity. Responsible for protecting and where possible enhancing and restoring Delta environment and making determinations on development in Delta. Provide input on actions that impact Delta as a whole.

DELTA STEWARDSHIP COUNCIL
Created by 2009 Delta Reform Act to create and implement a plan to achieve coequal goals.

SACRAMENTO-SAN JOAQUIN DELTA CONSERVANCY
Established by 2010 Delta Reform Act. Leads efforts that advance environmental protection in Delta and economic well-being of Delta residents. Acts as primary state agency to implement ecosystem restoration in Delta.

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
Protects San Francisco Bay and its shoreline, including Suisun Marsh, through San Francisco Bay Plan. MOU with DSC to coordinate on planning and resource management in Suisun Marsh and addressing climate change.

STATE WATER RESOURCES CONTROL BOARD
State's principal water resources regulatory agency. 2009 Delta Reform Act requires that SWRCB develop new flow criteria for Delta, appoint Delta Watermaster, and implement enhanced Stewardship of Water Division and Use Program for Delta diversions.

U.S. ARMY CORPS OF ENGINEERS
Investigates, develops and maintains nation's water and related environmental resources. Maintains, regulates, and funds repairs to almost 400 miles of Delta levees. Multiple programs addressing Delta-related flood management issues. Plans to be considered by DSC.

INDEPENDENT SCIENCE BOARD

Above: Established by 2009 Delta Reform Act. Required to develop a scientific program on making management of Delta. Provide scientific advice on scientific research, monitoring, and assessment programs that support adaptive management of Delta through its various uses. Delta Board of each review to DSC. Relative to Delta Plan. Lead scientific advisors and advise DSC.

LAND USE AND RESOURCE MANAGEMENT PLAN FOR THE PRIMARY ZONE OF THE DELTA
Above: Delta Plan. Land use and resource management for MWD's Delta Primary Zone. Land government general plan must embrace and support land use plan.

NATIONAL HERITAGE AREA

FEBILITY STUDY
Above: Study to designate Delta as a National Heritage Area. Final study in 2012 by Congressional office. Office in support of legislation to establish a Delta NHA. Relative to Delta Plan. Recommendation in Delta Plan to complete NHA application.

ECONOMIC SUSTAINABILITY PLAN

Above: Includes recommendations that inform DSC's policy regarding economic sustainability of Delta region. Relative to Delta Plan. Delta Reform Act required DSC to submit to DSC by February 2011. Delta Plan provides information from Delta Chapter 5.

The Delta Plan



REGIONAL FLOOD RESPONSE PROJECT
Above: Study to identify projects to enhance regional flood response and risk reduction for implementation. The Delta Protection, DPC, DWR and local watermaster agencies are working together to address technology and development coordination through flood response program opportunities. The project is local and regional planning with flood response agencies. Relative to Delta Plan. Project was recommended in Delta Plan. Delta Plan recommendations support the implementation of multi-agency collaboration and coordination.

GOVERNOR'S OFFICE OF EMERGENCY SERVICES NORTHERN CALIFORNIA CATASTROPHIC FLOOD INCIDENT PLAN
Above: Plan for regional response in Delta. Will incorporate action recommendations of Delta Plan. Relative to Delta Plan. Delta Plan includes Plan was recommended in Delta Plan. This plan will lead to multi-agency flood emergency response.

DWR DELTA FLOOD EMERGENCY MANAGEMENT PLAN
Above: Plan to respond to Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan.

DELTA GRAND LINES FEASIBILITY STUDY
Above: Study to develop a long-term DSC strategy for Delta Grand Lines. Relative to Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan.

DELTA MULTI-HAZARD COORDINATION TASK FORCE
Above: Developed by DSC to address emergency preparedness and response to Delta. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan.

STRATEGY FOR STATE INVESTMENTS IN DELTA LEVEES
Above: Report to Delta Reform Act regarding the Delta Levee Program. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan.

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INTERAGENCY IMPLEMENTATION COMMITTEE

Above: Delta Reform Act calls for DSC to establish an interagency implementation committee to coordinate across agencies to implement Delta Plan. Relative to Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan.

DELTA SCIENCE PLAN

Above: Specify how scientific research, monitoring, and data management will be coordinated among entities. Work with multiple agencies to develop plan. Relative to Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan.

DEVELOPING AND DESIGNING MATERIAL PLACEMENT LONG-TERM MANAGEMENT STRATEGY

Above: Consider how long-term and short-term management in Delta to assist in maintaining and improving channel function. Best available data and information to inform management. Relative to Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan.

EVALUATION OF POLICY ALTERNATIVES TO BENEFIT AGRICULTURE IN DELTA

Above: Proposed to inform and inform Delta agriculture. Relative to Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan.

DELTA CONSERVANCY STRATEGIC PLAN

Above: Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan.

FLOW CRITERIA FOR THE SACRAMENTO-SAN JOAQUIN DELTA ECOSYSTEM

Above: An assessment flow needed to protect the Delta and ecological resources. Relative to Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan.

BAY DELTA CONSERVATION PLAN

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ECOSYSTEM RESTORATION PROGRAM CONSERVANCY STRATEGY

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STRATEGY FOR STATE INVESTMENTS IN DELTA LEVEES

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FLOODSAFE INITIATIVE

Above: Study to develop a long-term DSC strategy for Delta Grand Lines. Relative to Delta Plan. Delta Plan includes Delta Plan. Delta Plan includes Delta Plan.

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Future of the Delta Plan
The final Delta Plan was adopted by the Delta Stewardship Council in May 2013. The 2009 Delta Reform Act requires state and local actions that fit legal definition of a covered action be consistent with Delta Plan policies.

Covered Actions

Mechanism for enforcement of Delta Plan policies over state and local actions. Local and state agencies proposing a plan, project, or program that falls under Delta Plan's "Covered Actions" must file a certification of consistency with DSC. If DSC deems it inconsistent, will provide suggestions for revision. Challenge consistency determination by submitting appeal to DSC. Delta Plan updated every 5 years.

Delta Reform Act defines "Covered Actions" as a plan, program or project that meets all of the following conditions:

- Will occur, in whole or in part, within the boundaries of the Delta or Suisun Marsh;
- Will be created, approved, or funded by the state or local public agency;
- Is covered by one or more provisions of the Delta Plan; and
- Will have a significant impact on achievement of one or both of the coequal goals or the implementation of government-sponsored flood control programs to reduce risks to people, property, and state interests in the Delta.

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ACRONYM KEY

- BDFC Bay Delta Conservation Plan
- Cal EMA California Emergency Management Agency
- CEQA California Department of Food and Agriculture
- CDFR California Department of Parks and Recreation
- CVFPP Central Valley Flood Protection Board
- CVPPP California Department of Fish and Wildlife
- DFW Delta Protection Commission
- DSC Delta Stewardship Council
- DWR California Department of Water Resources
- MOU Memorandum of Understanding
- NHA National Heritage Area
- NMFS National Marine Fisheries Service
- SWRCB State Water Resources Control Board
- USACE U.S. Army Corps of Engineers
- USFWS U.S. Fish and Wildlife Service

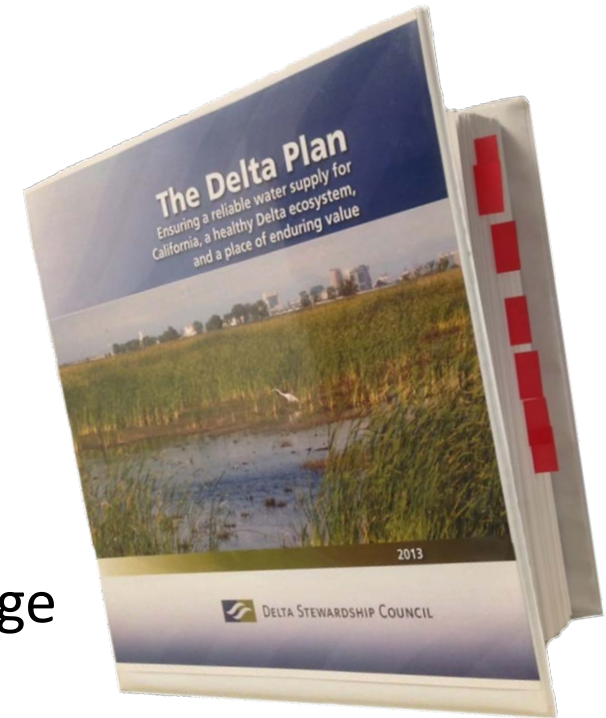
Delta Stewardship Council :



What is the Delta Plan?

Regulations, recommendations, and performance measures for:

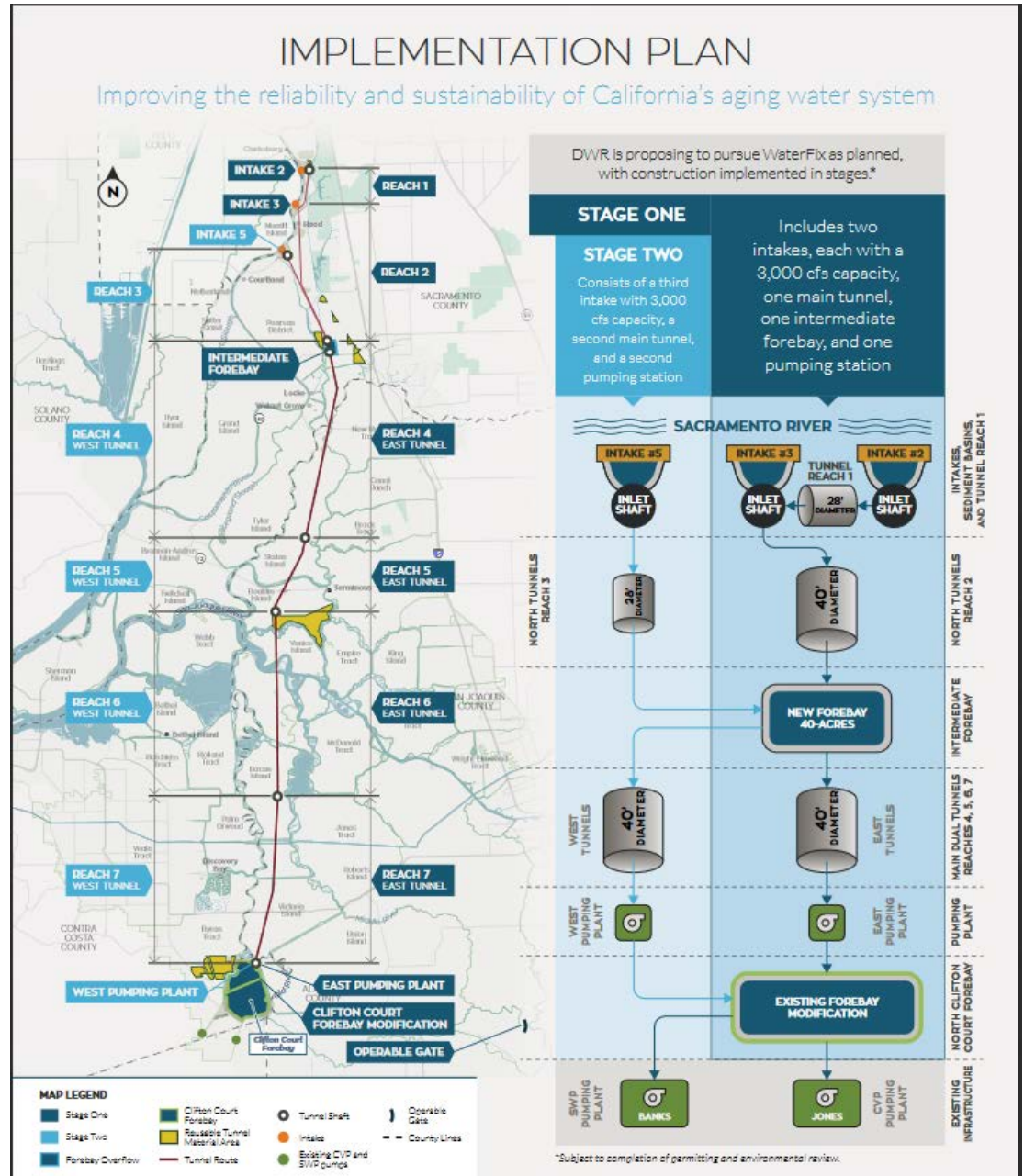
- Water Conservation & Efficiency
- Flood Risk Reduction
- Ecosystem Restoration
- Water Supply Reliability & Water Storage
- Protect the Delta as a Unique Place
- Ensure Best Available Science & Adaptive Management



Council's Key Roles/Projects

- Implementing the Delta Plan
 - Covered Action authority
 - Delta Plan Interagency Implementation Committee
 - Measuring performance
- Connecting the best science with decision-makers
 - Synthesis, peer review, identifying and funding high-priority science
- Amending the Delta Plan
 - Setting priorities for state investment in Delta levees
 - Promoting options for conveyance, storage, operations
 - Weaving together a plan for ecosystem enhancement

In the News – Twin Tunnels



In the News – EcoRestore

- Initiative to help coordinate and advance at least 30,000 acres of critical habitat by 2020
- More than 1,300 acres acquired
- More than \$50 million in Prop. 1 funding for habitat and science



In the News

– Flow Standards

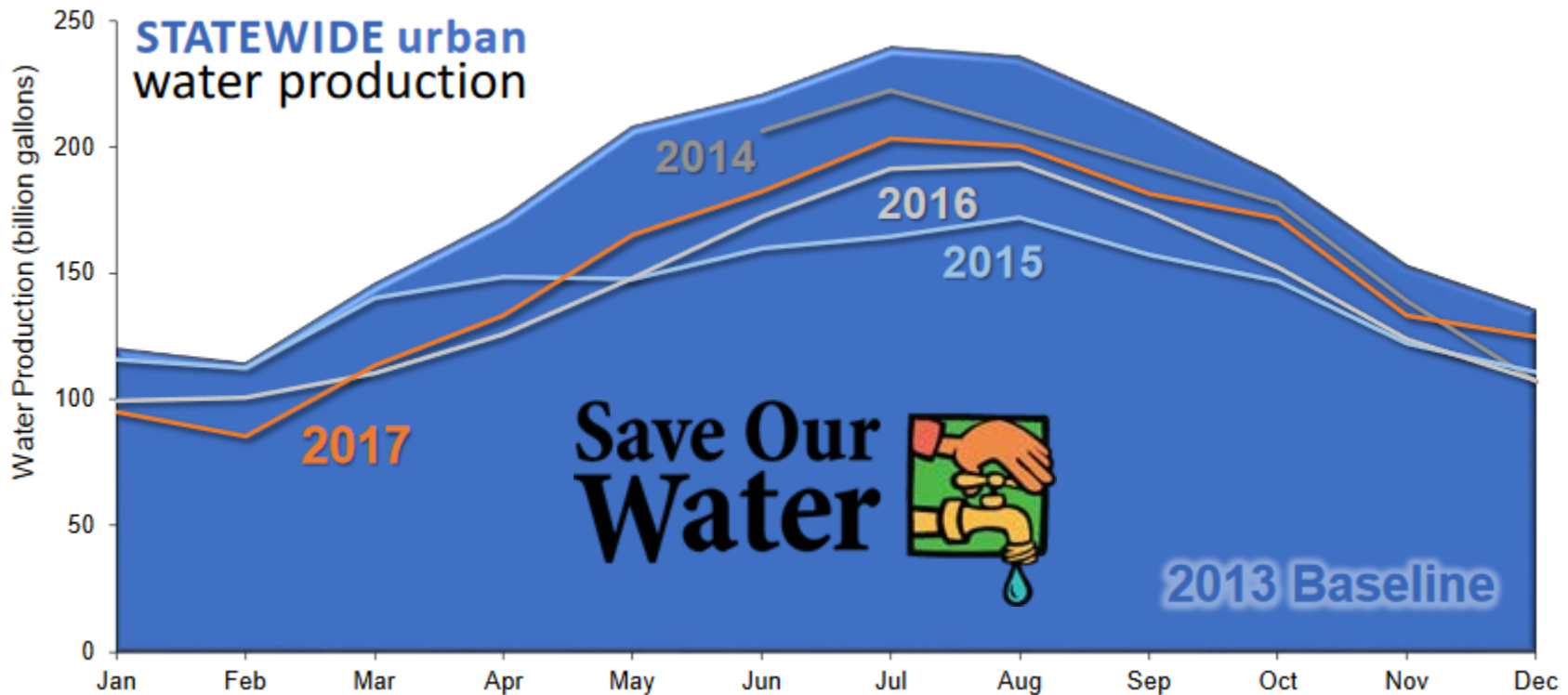
Standards

- Rethinking how we allocate our water
- Implications for water rights



In the News – Conservation

- Mandatory or voluntary approach to make conservation a California way of life?



Today's Takeaways

- Delta's challenges direct/indirect results of past policy decisions
- Looking ahead: Uncertainty is the only certainty
- Any resolution will require tradeoffs – and trust
- The Council's comprehensive approach
 - Use science to increase likelihood of success
 - Landscape scale restoration & planning
 - Reduce reliance on the Delta
 - 'Portfolio' approach to water management

Questions?



Keith Coolidge

Delta Stewardship Council
keithc@deltacouncil.ca.gov

www.deltacouncil.ca.gov