Why is the Delta so important – and why can’t we just fix it?

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June 15, 2016
Today’s talk

Where California’s water comes from & the importance of the Delta

How the Delta has changed – consequences over time

Who’s doing what & why

Delta Stewardship Council - a comprehensive approach

Things to think about during the tour
California precipitation variability ...

Linear regression showing historical trend

116 year average: 23.88 inches
Driest 30 years (1908-1937): 21.28 inches
Wettest 30 years (1977-2006): 24.88 inches
... and water / population imbalance
Lead to California Water Development

CA Department of Water Resources
State Water Project
1960 - Burns Porter Act
1973 - 1st water to So.Cal.
How Water Gets Across the Delta

Sac River
– Delta Cross Channel
– Mokelumne River
– Old & Middle Rivers

San Joaquin River

Sac River / West Delta

SWP Pumps

CVP Pumps
Key Delta Risks

- **Fishery Declines**
  - Delta smelt

- **Seismic Risk**
  - Bay Area Faults

- **Subsidence**

- **Sea Level Rise**
Delta is an Evolving Place Shaped by Many Forces

Change in Delta land cover, early 1800s to early 2000s. Graphic by SFEI-ASC
Built levees and straightened channels

- Lost 80% of Delta’s riparian habitat
- Degraded foodweb
Opened Central Valley to world of commerce

Ballast water discharges introduced invasive species
Changing Delta: Recreational Fishing

- Introduced sportfishing species (striped bass)
- Recreation & tourism
- Predation of native species
- 90% of Delta aquatic species now non-native
Changing Delta: Upstream Storage

- Stores variable water supply
- Flood protection
- Recreation

- Barrier to salmon spawning habitat
- Creates unnatural flows
Chaging Delta: Ag/Urban Growth

- 300,000 acres of prime farmland
- Home to 500,000 residents
- Increased risk of flooding
- Ag and urban runoff
If the problem were just about allocating freshwater flows, it might be solvable. Add in the complexity of moving water through a hydrologically and hydrodynamically complex Delta and it becomes complicated. Add the uncertainty of ecological responses and the institutional complexity of many actors with many visions and the problem becomes wicked. Then add the ever-changing water supply and ecological and economic contexts within which decisions must be made, and the problem becomes devilishly wicked.
2009 Delta Reform Act - Applying Lessons Learned

Societal Values

Hydraulic Era
- Dams
- Diversion
- Conveyance

Balance of infrastructure and the environment

Enviro Era
- No Dams
- No Diversion
- Conservation

Societal Values

Balance of infrastructure and the environment

Societal Values
Who’s doing what at state level?

- **DWR**
  Operates SWP, flood control & emergency response, habitat restoration, WaterFix

- **CVFPB**
  Plans flood control on Sac & SJ Rivers, coordinates with USACE

- **CWC**
  Storage Funding
  Recommends for federal funding
  Eminent domain

- **DF&W**
  Permits, habitat restoration

- **Delta Conservancy**
  Habitat restoration, local coordination

- **CNRA**
  Oversees & coordinates WaterFix & EcoRestore (BDCP)

- **DPC**
  Land use appeals in Primary Zone, resource management plan

- **CalEMA**
  Plan & coordinate emergency response

- **SWRCB**
  Water rights, quality standards, public trust protections

- **Delta Watermaster**
  Water rights & enforcement in Delta

- **CalEMA**
  Plan & coordinate emergency response
Delta Stewardship Council created to:

- Further the achievement of the Coequal Goals
- Develop an enforceable Delta Plan
- Be a synthesizer and coordinator
- Ensure use of the best available science
Charting a Course for the Delta

- Conservation & efficiency
- Reduce flood risk
- Ecosystem restoration
- Supply reliability & storage
- Science & adaptive management
California’s precipitation is highly variable
Most Californians live/work far from water sources
Delta is hub for water deliveries – plagued by many longstanding problems
Any resolution will require compromise, ownership ...
... and a comprehensive approach
- Use water efficiently
- Stabilize the Delta – but rely on it less
- Increased storage a must – more so with climate change
- Find regional and local solutions for new water
Questions?

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