Envisioning Delta Water Conveyance: Through-Delta or Dual-Delta?





Talk Agenda

(1) How does the delta work now - tidal system

(2) Through Delta

(3) Dual Delta

(4) The role of science

Forcing



Tidal discharges in the Delta



Tidal excursion



Threemile Slough example (tidal excursion >> channel length

Threemile Slough Continuous Release San Joaquin Side

P.I.: Jon R. Burau Animation: Sean I. Burau Model: TRIM2D (Casulli and Cheng)

Ebb

Threemile Slough Continuous Release Sacramento Side

P.I.: Jon R. Burau Animation: Sean I. Burau Model: TRIM2D (Casulli and Cheng)

Flood





Frame: 70. Model Step: 423.





Jan. 18, 2000 at 03:00 PM PST



Jan. 25, 2000 at 01:00 PM PST

Evolution of the salt field



Corbicula appear to thrive in the freshwater corridor - fast food??



Courtesy of J. Thompson, USGS

The "Through Delta" or "Dual Delta" will fundamentally alter the way water and salt moves in this system

We can predict response on flows & salt field using numerical models

Ecosystem response (central delta)?

Big increase in residence time in central/south Delta



Through Delta (1)

Preliminary Costs

15,000 cfs Facility ~ \$ 9 Billion

5,000 cfs Facility ~ \$ 3 Billion

Overkill on the levee work

What level of interruption is acceptable

Intake near hood not necessary

Re-config. of DCC OK



(Courtesy of DRMS)

Through Delta (2)

Appropriate levee work

Can be implemented in phases Conduct as an "experiment"

(Courtesy of BDCP)



Dual Delta



(Courtesy of BDCP)

The role of science?

We have NOT done very much of it

Why?

It costs \$\$

It takes time

We've done a lot of monitoring

Why?

It's mandated (state board, bio opinions, etc.)

Monitoring (in it self) is not science



Change in: (1) policy, (2) facilities, (3) operations

