

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



Where are we going?

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USGS

Talk Agenda

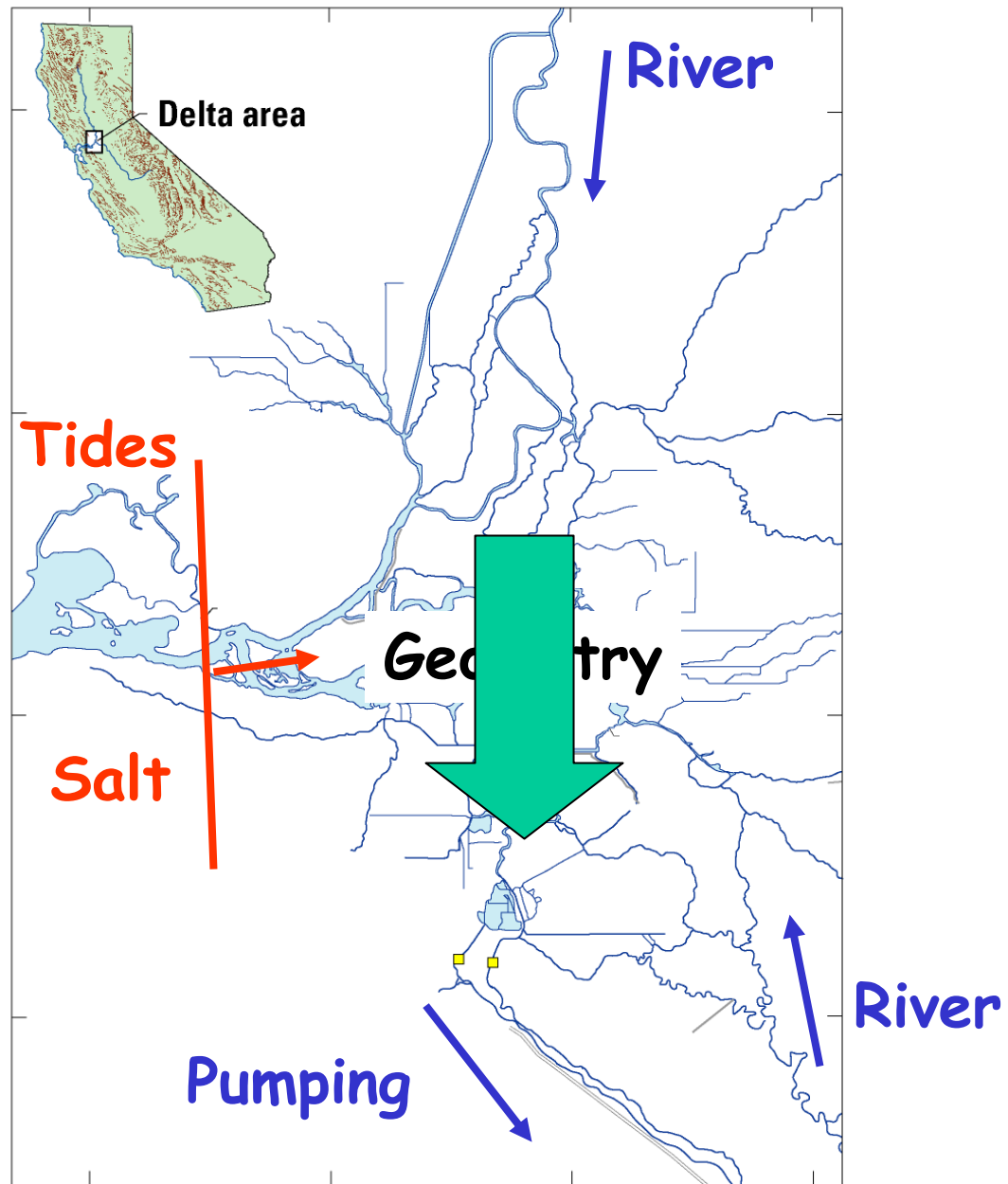
(1) How does the delta work now - tidal system

(2) Through Delta

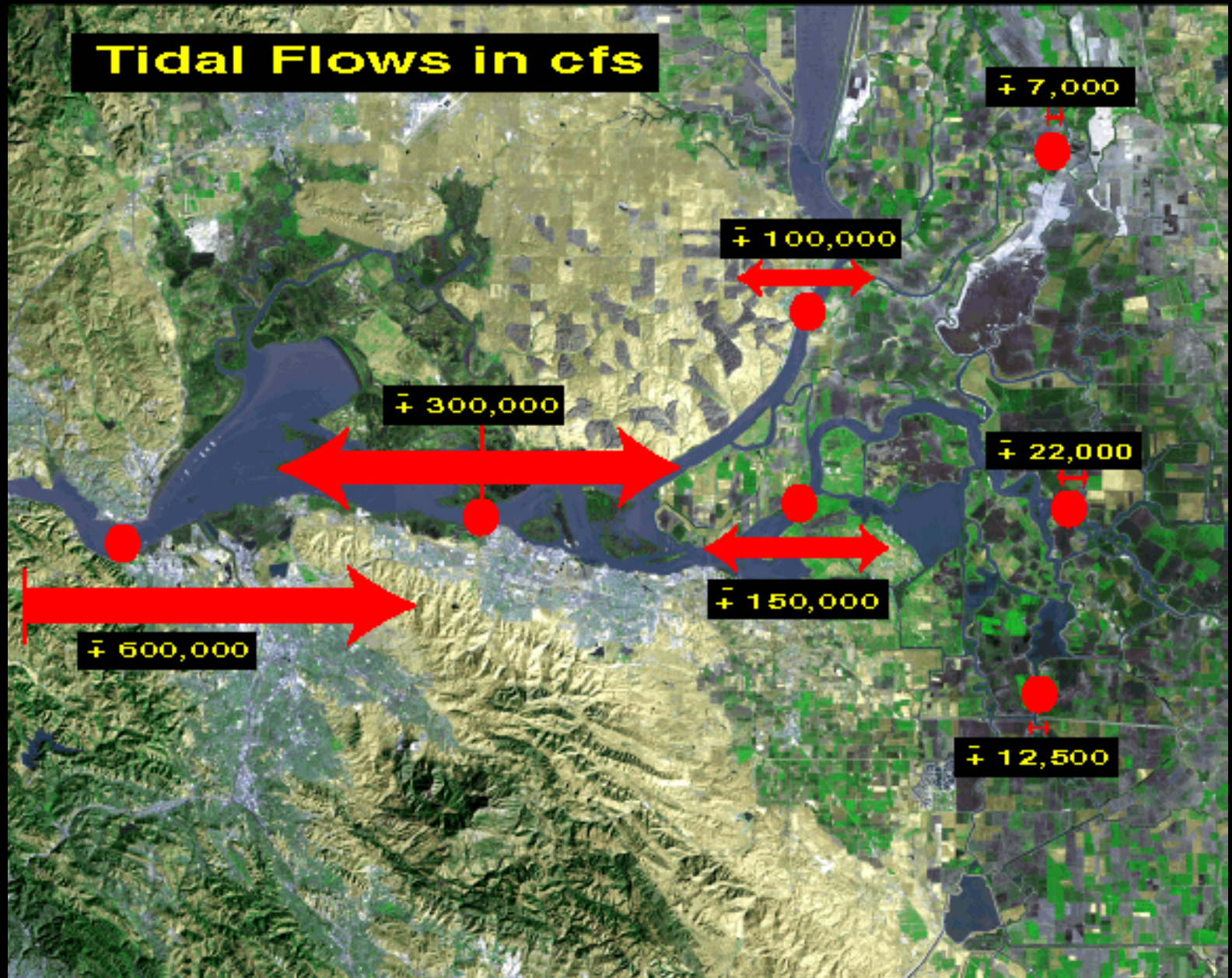
(3) Dual Delta

(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



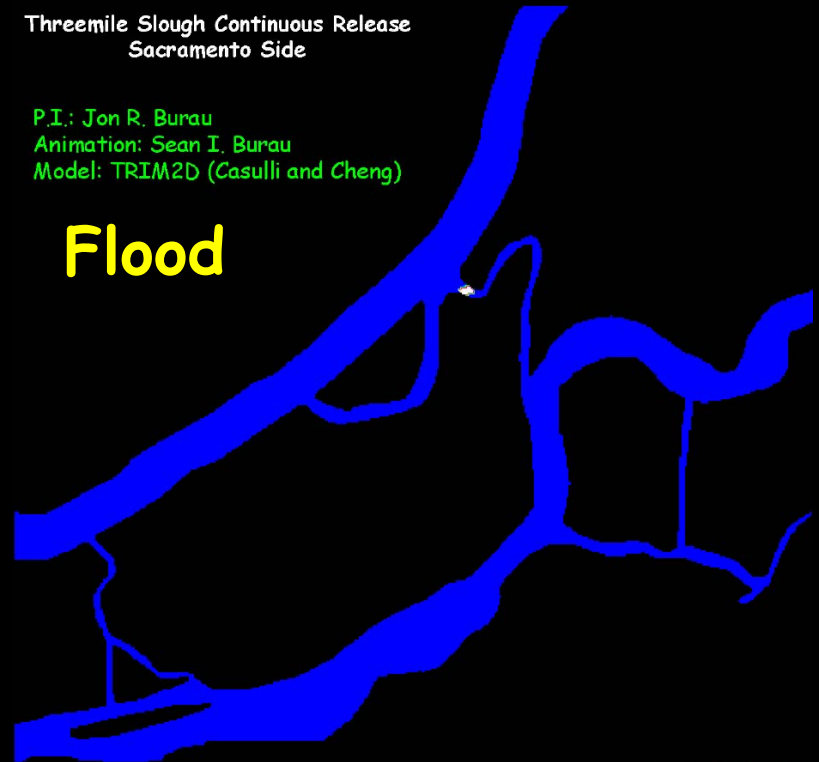
Frame: 1, Model Step: 216.



Threemile Slough Continuous Release
Sacramento Side

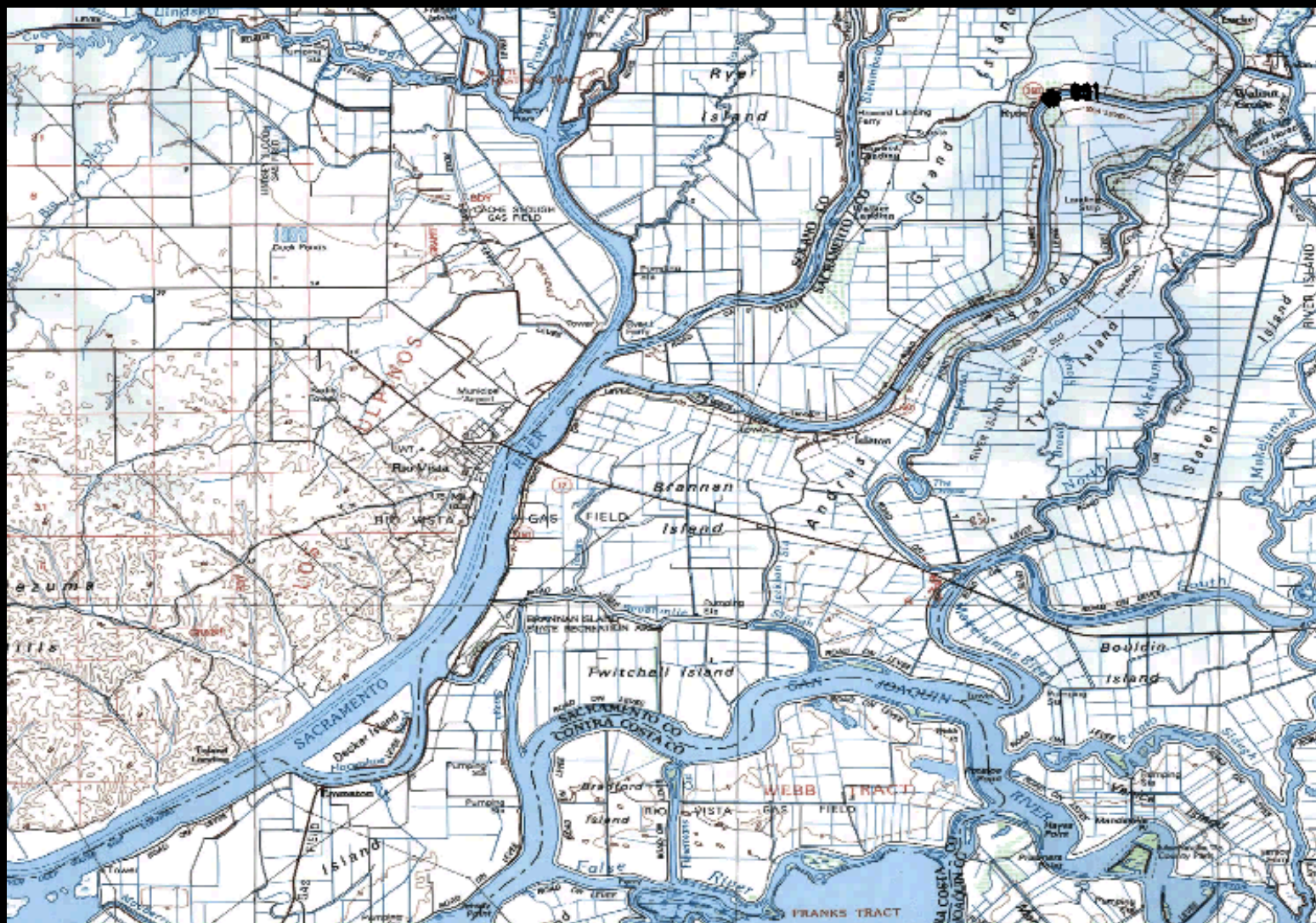
P.I.: Jon R. Burau
Animation: Sean I. Burau
Model: TRIM2D (Casulli and Cheng)

Flood



Frame: 70, Model Step: 423.



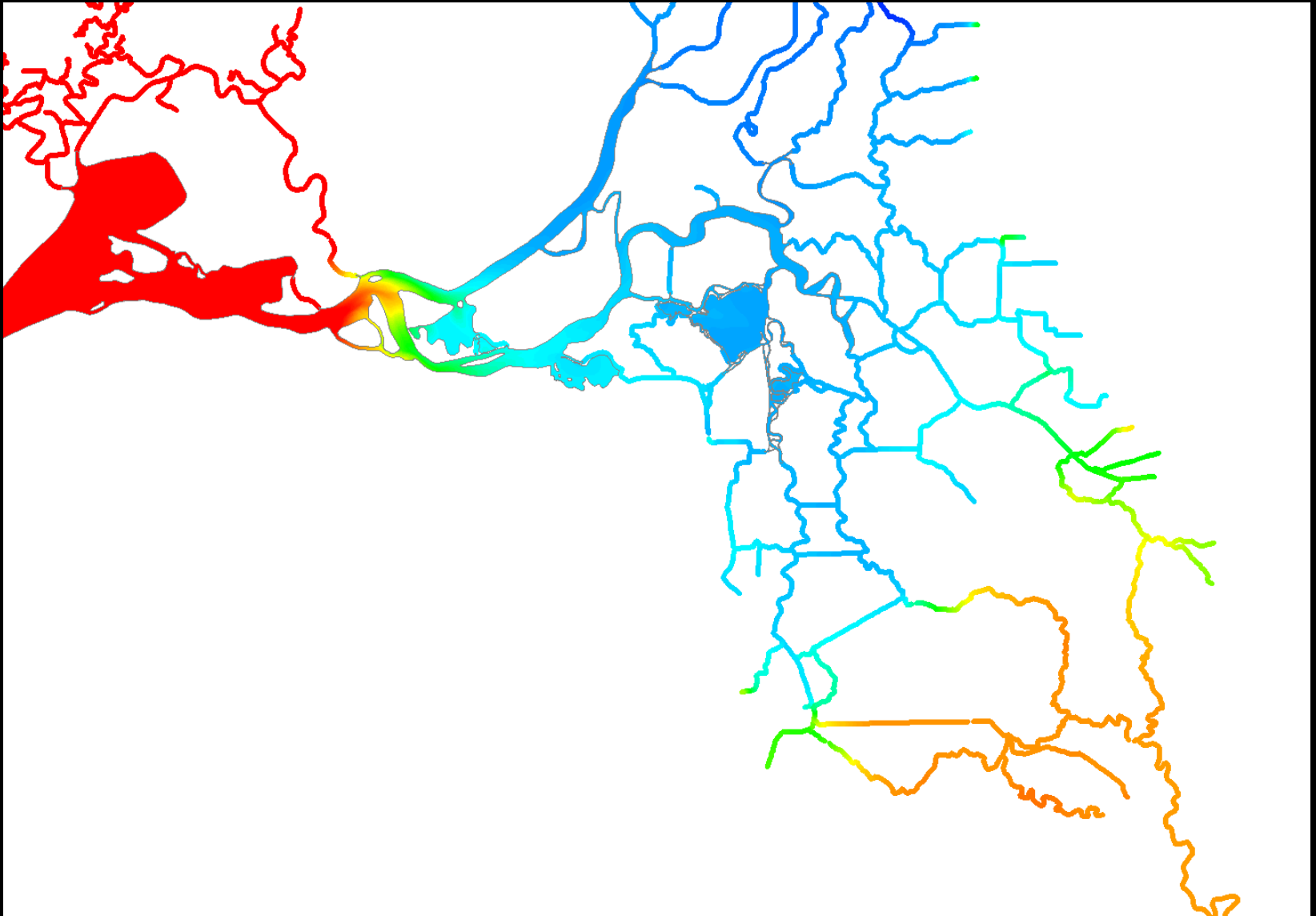


Jan. 18, 2000 at 03:00 PM PST

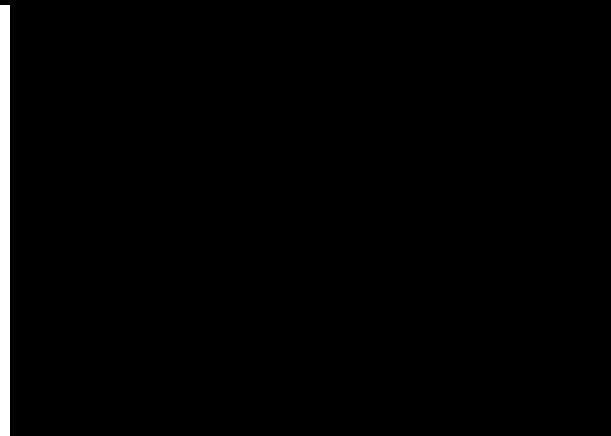
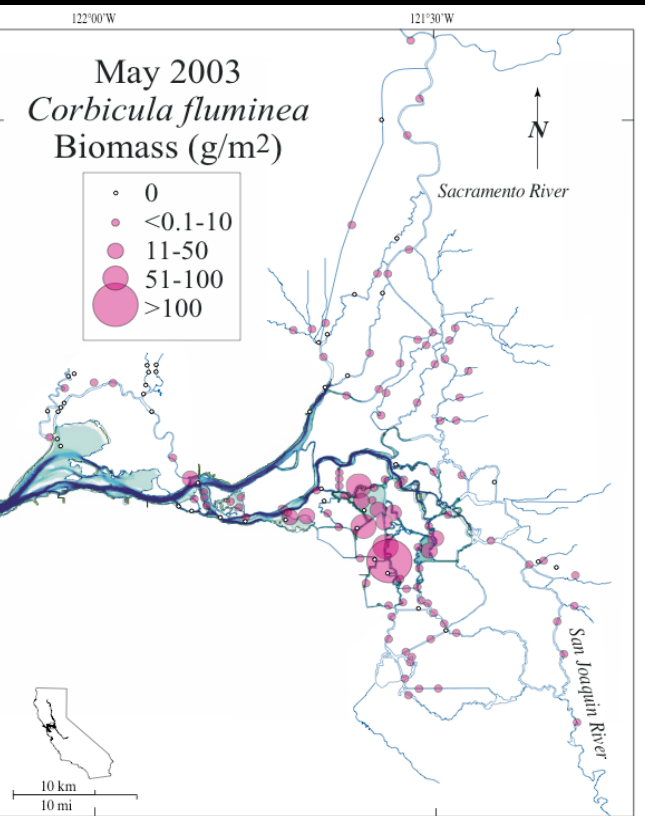


Jan. 25, 2000 at 01:00 PM PST

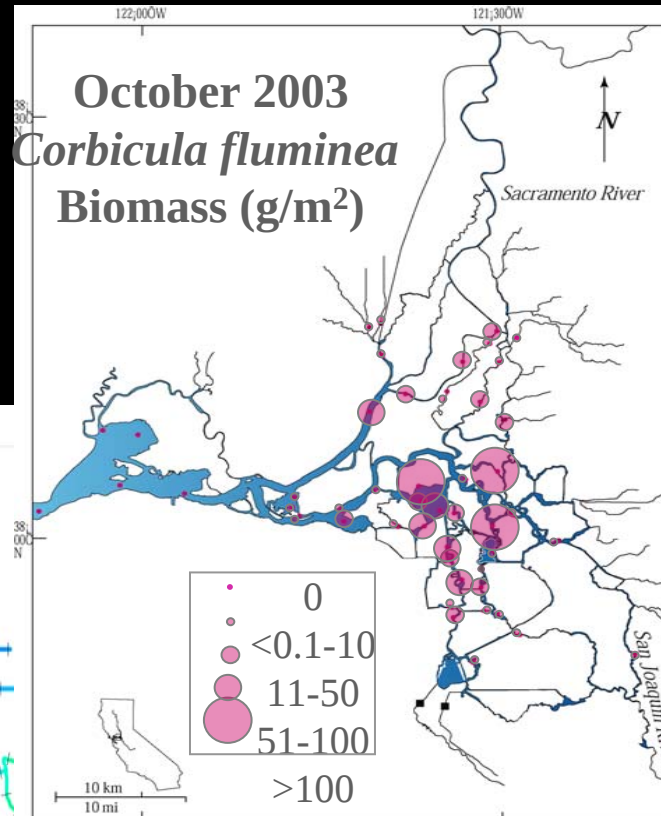
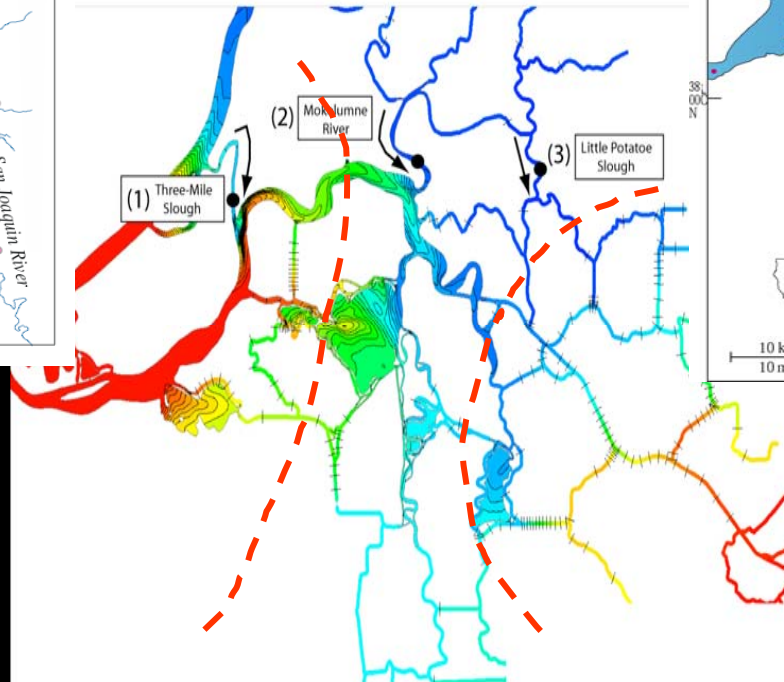
Evolution of the salt field



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



Fresh Water into the Central Delta



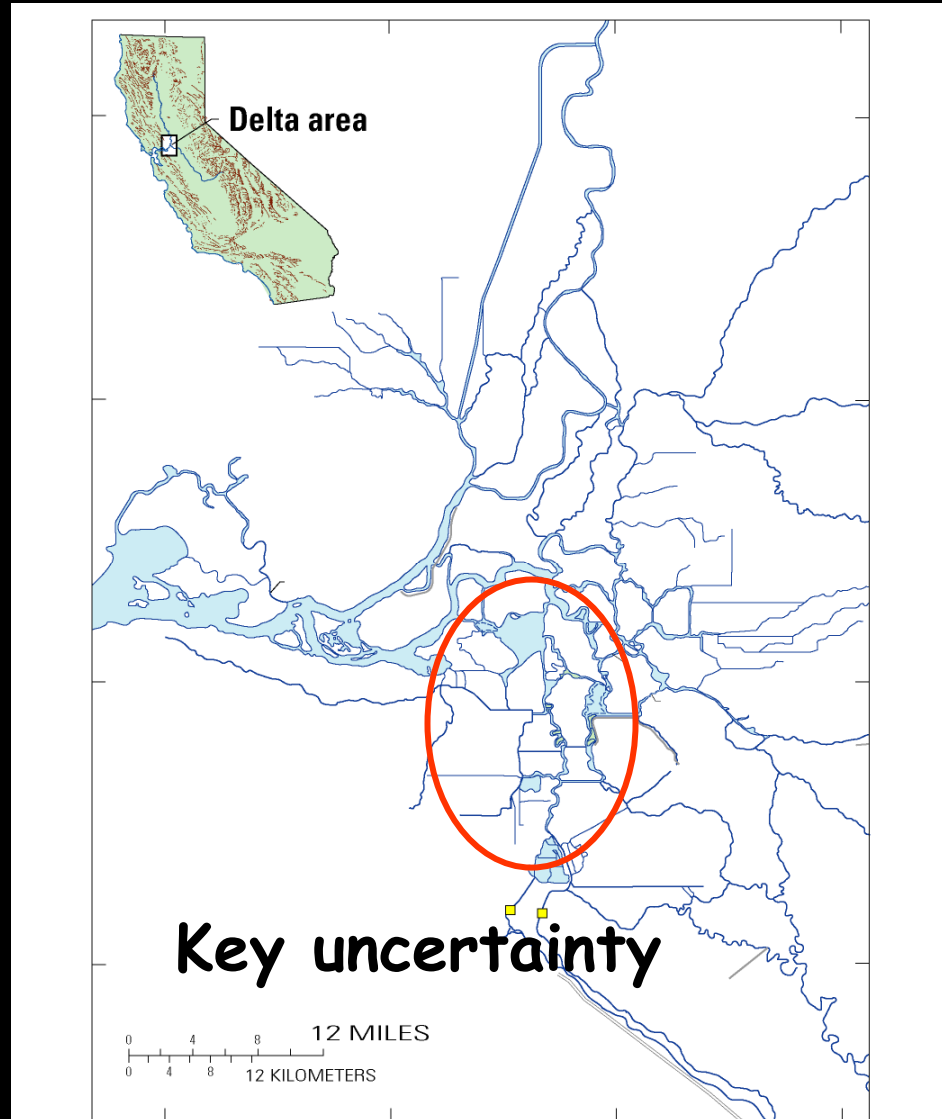
Courtesy of J. Thompson, USGS

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

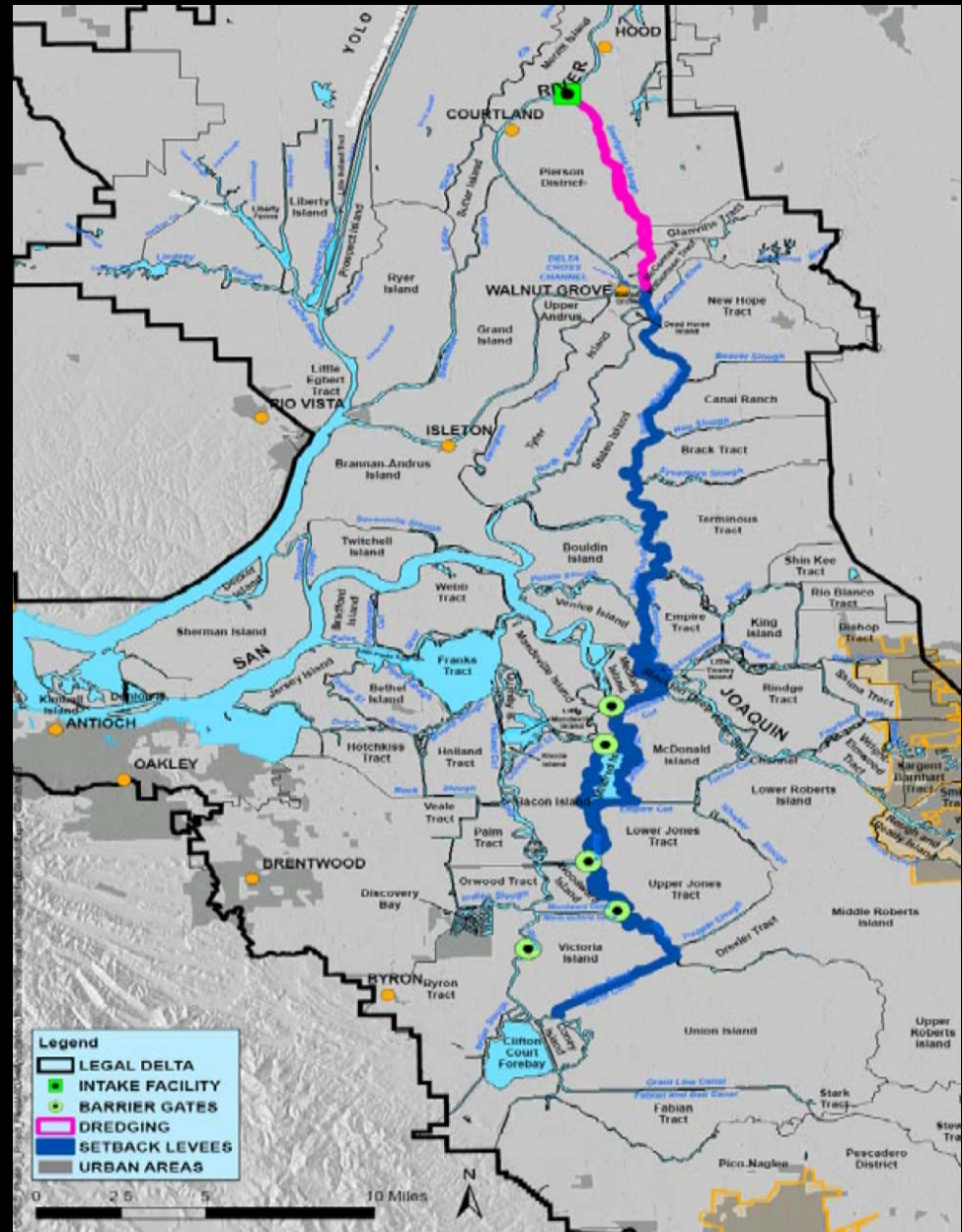
5,000 cfs Facility ~ \$ 3 Billion

Overkill on the levee work

What level of interruption
is acceptable

Intake near hood not necessary

Re-config. of DCC OK



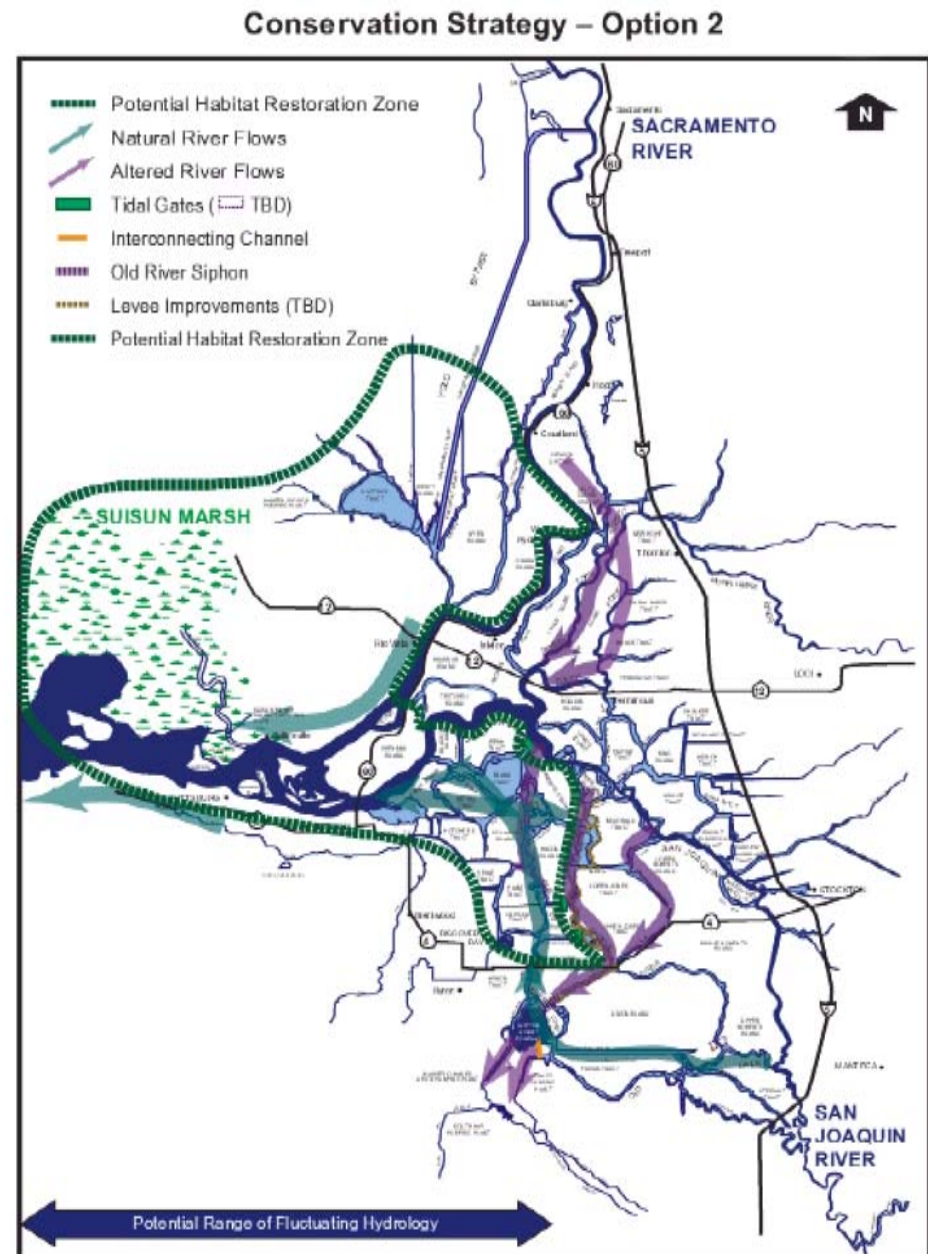
(Courtesy of DRMS)

Through Delta (2)

Appropriate levee work

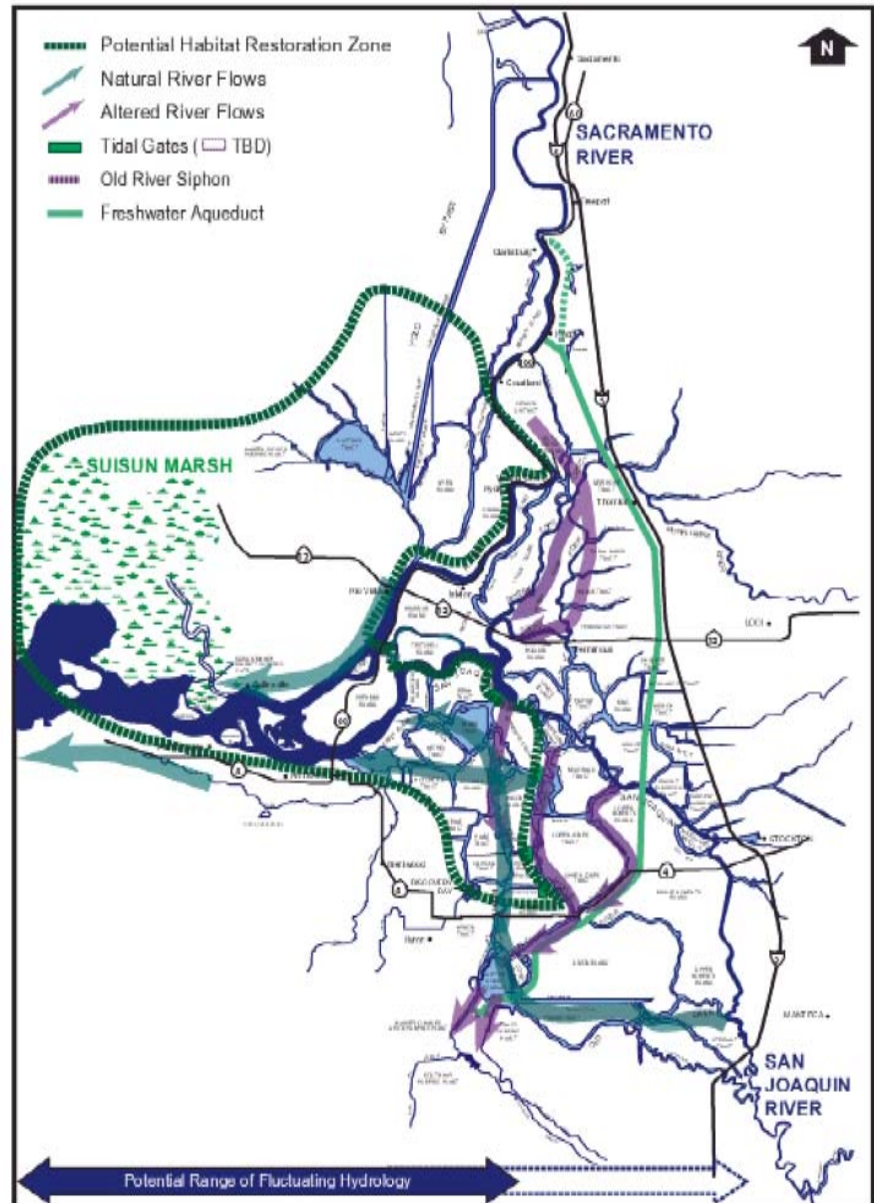
Can be implemented in phases
Conduct as an "experiment"

(Courtesy of BDCP)



Dual Delta

Conservation Strategy – Option 3



(Courtesy of BDCP)

The role of science?

We have NOT done very much of it

Why?

It costs \$\$

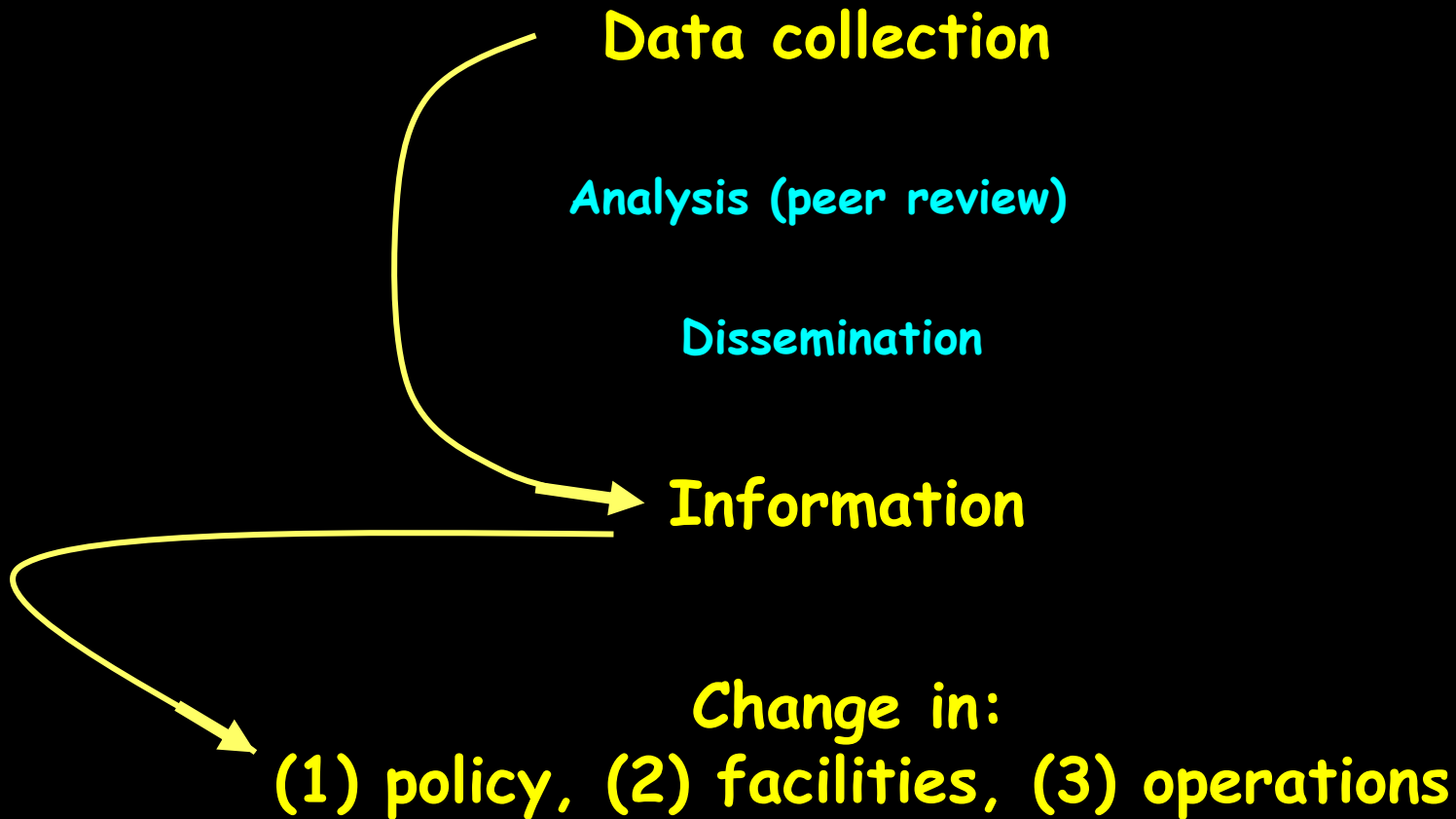
It takes time

We've done a lot of monitoring

Why?

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

Monitoring (in it self) is not science





Questions?

Science