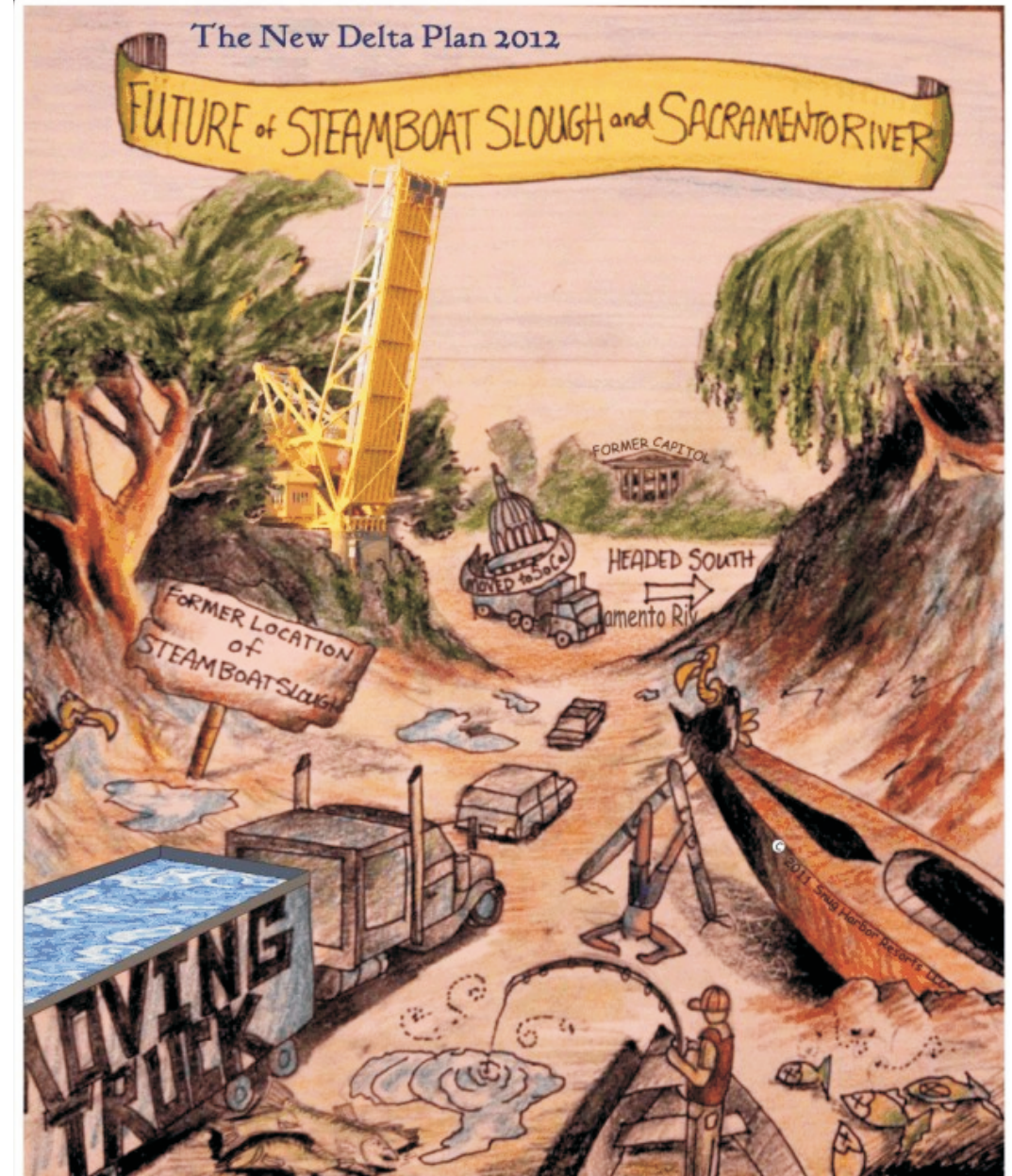
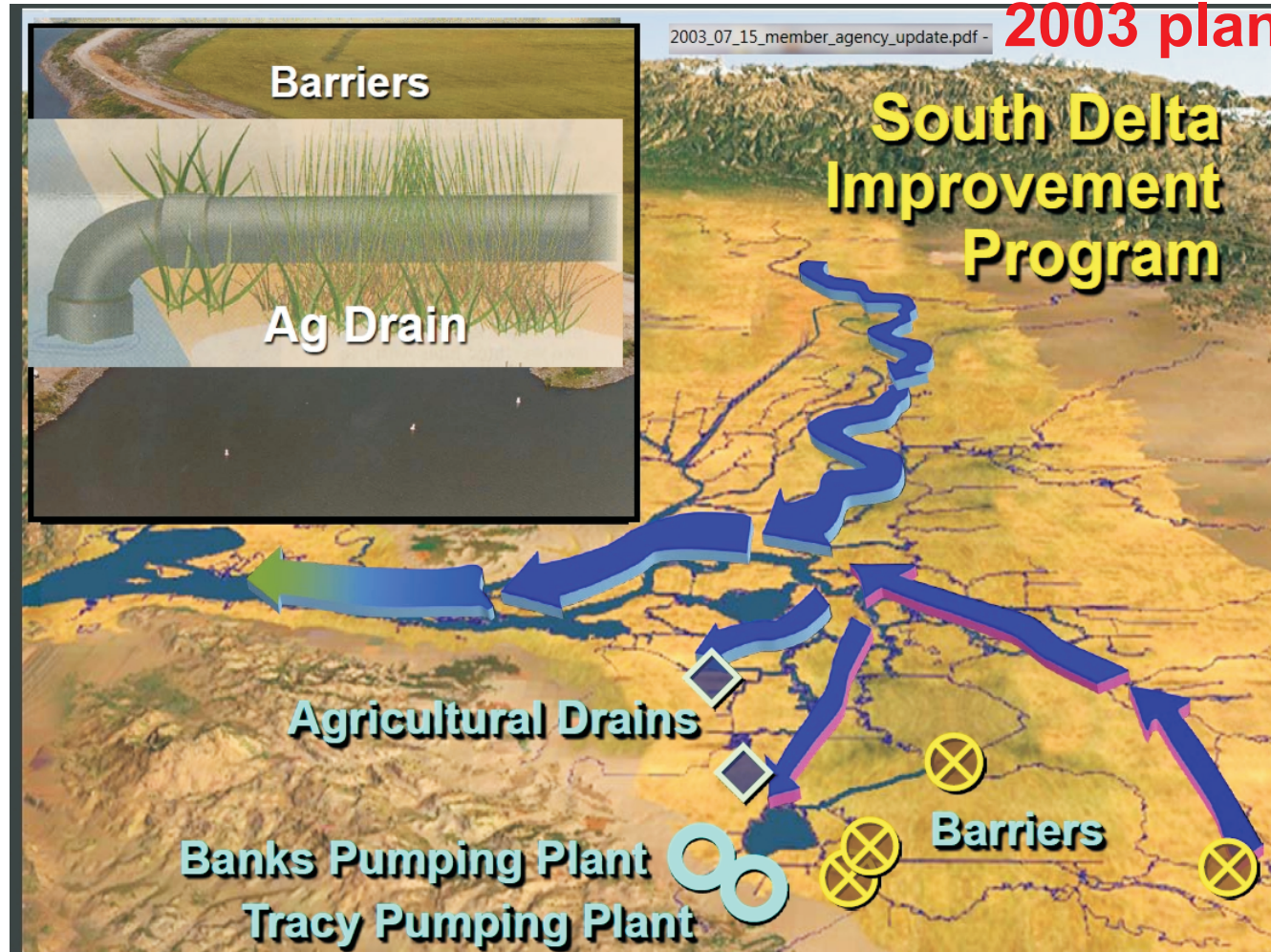


SUMMARY OF THE 2015 BARRIERS PROPOSALS, AND POSSIBLE LONG TERM IMPACTS FROM BARRIER INSTALLATION: WHO BENEFITS, WHO SUFFERS THE CONSEQUENCES

DRAFT



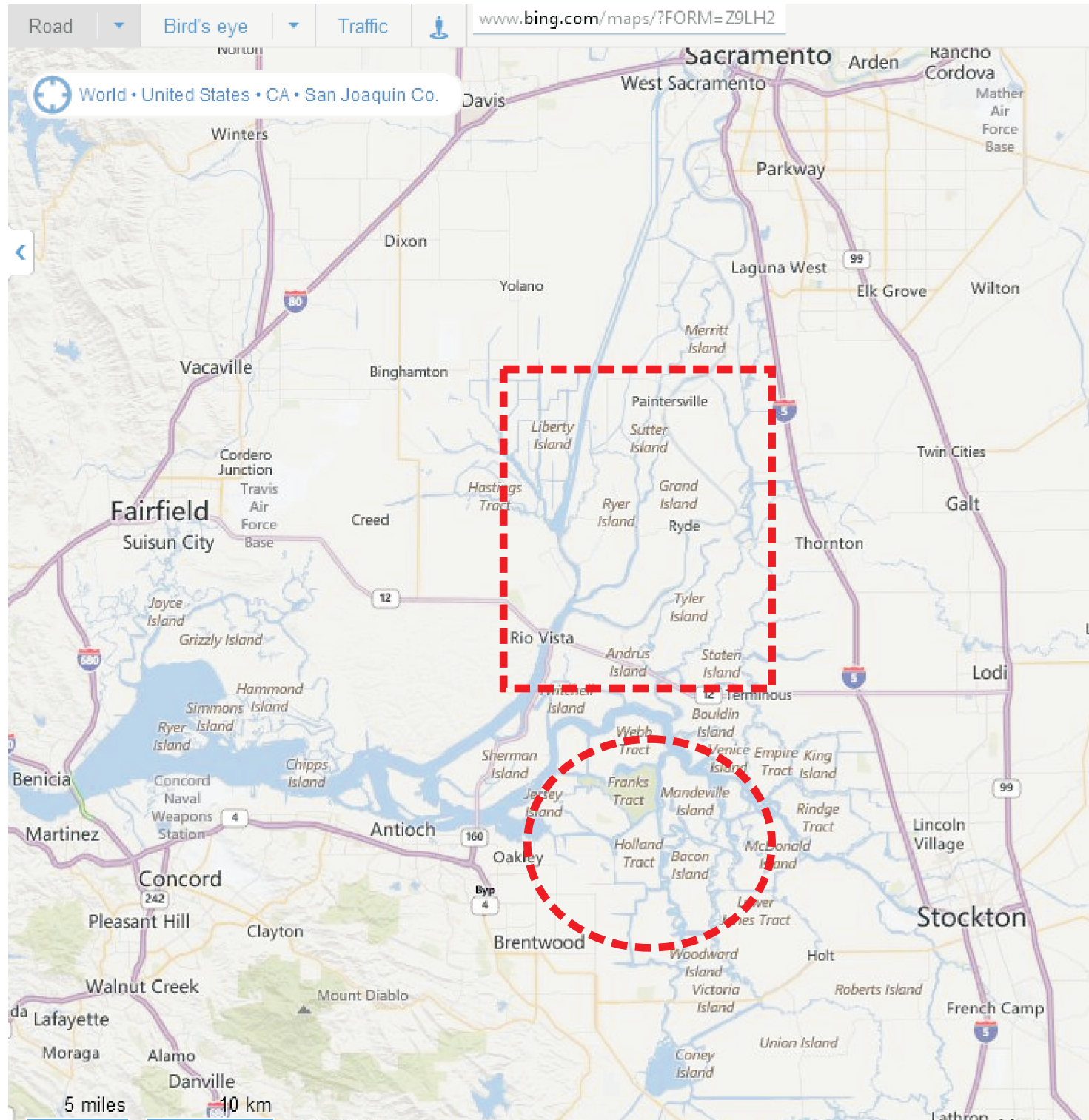
Barriers for Delta waterways have been proposed for various reasons over the years. The next few pages review barrier proposals from 1998 to 2015, with a focus on function, who benefits from the proposed barriers, and who suffers the negative impacts from proposed barriers.

They can change the names but its all the same game-flow

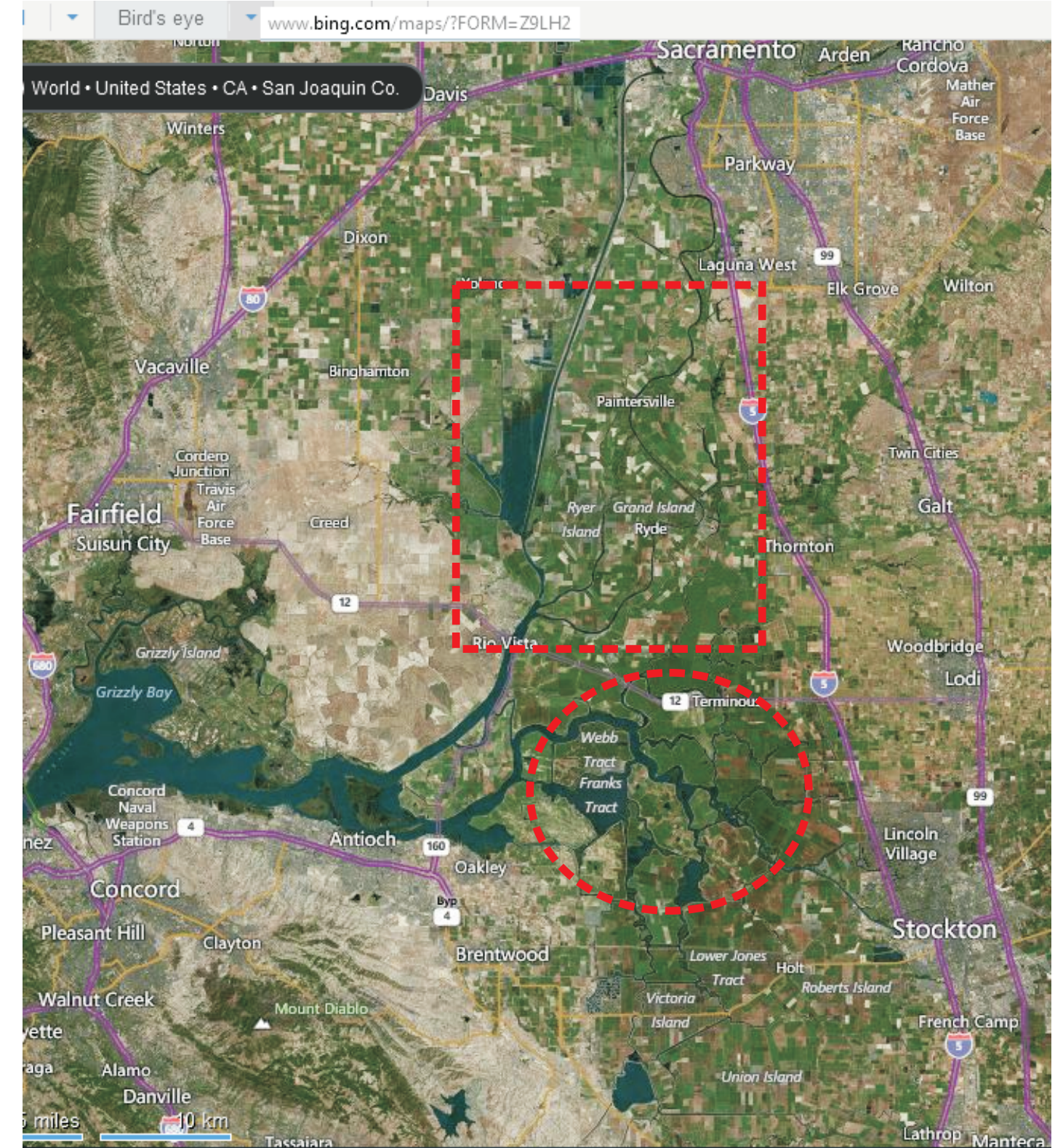
Graphics and data compiled by N. Suard, Esq, a Delta land and business owner located on Steamboat Slough. Presentation April 3, 2015

BARRIERS TIMELINE AND WHO ARE THE KEY PERSONS AND BUSINESSES THAT DEVELOPED THE BARRIERS PROPOSAL OVER THE LAST 15 YEARS:

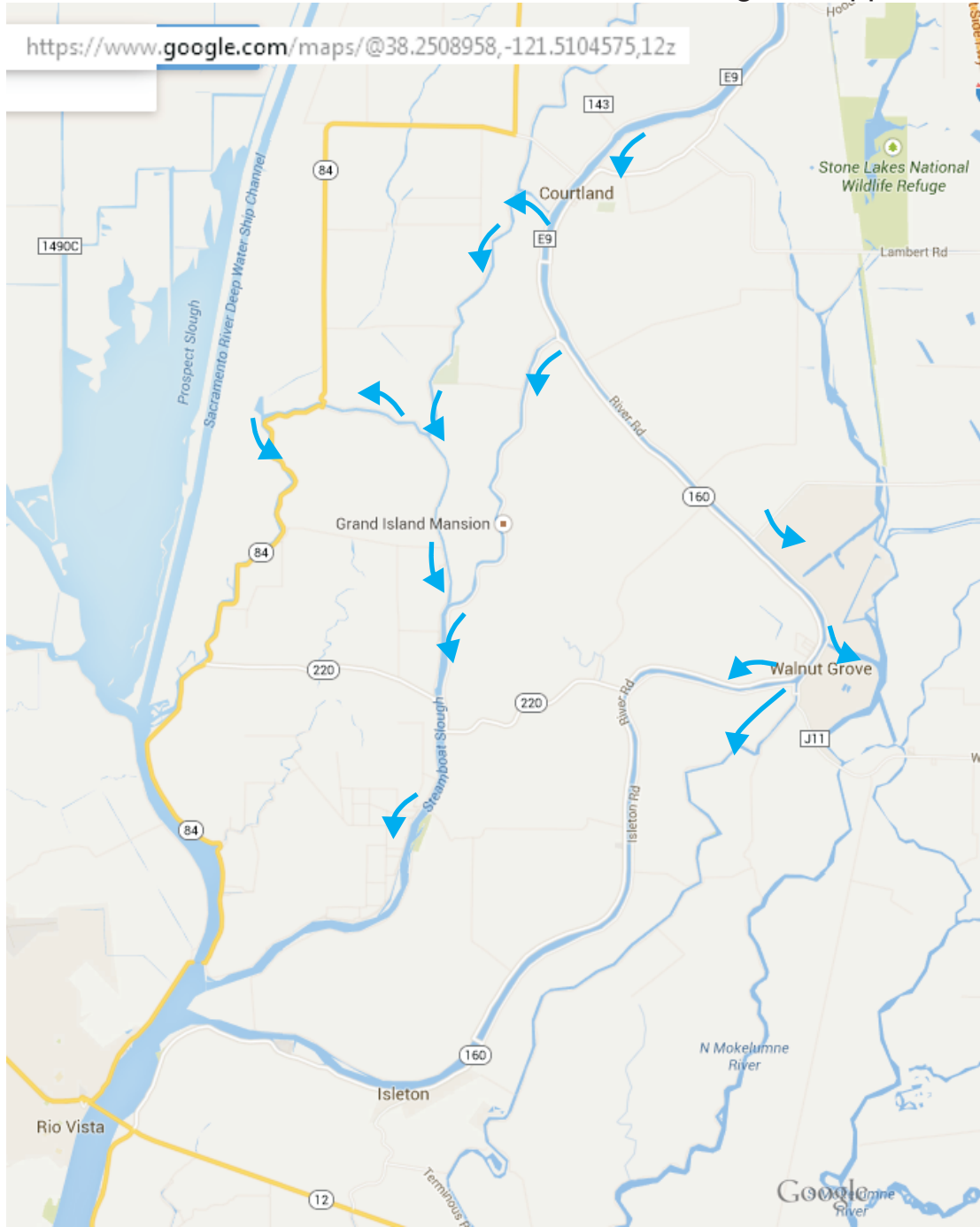
1. Understand the geography and who controls the mapping process that influenced the computer modeling to promote Delta Barriers to revise freshwater flows permanently:



BING (Microsoft) map 2015

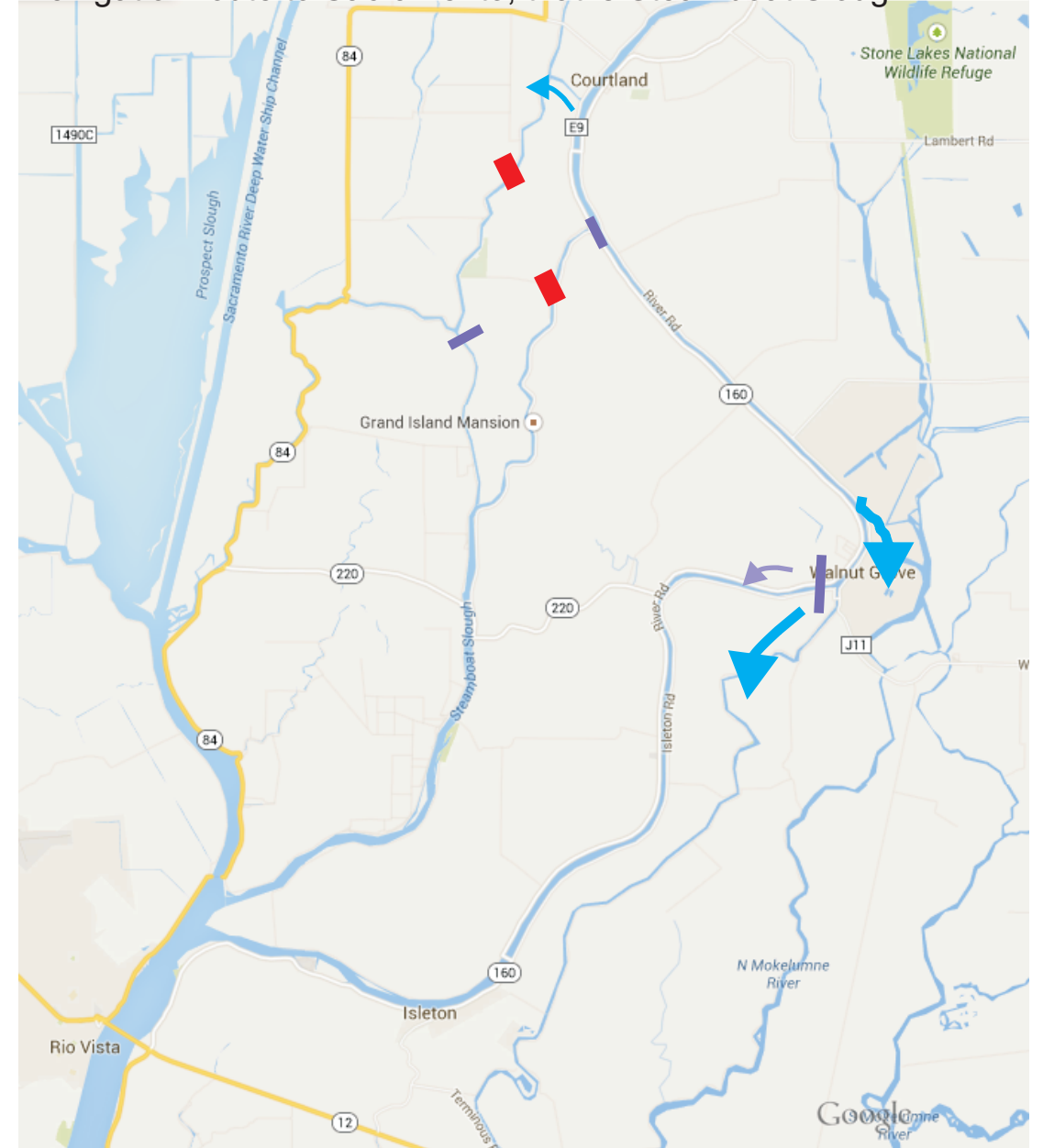


How Sacramento River water into Steamboat Slough is supposed to flow:



2015

Proposed barriers would block almost all freshwater flow into Sutter and Steamboat Sloughs, and would block the historic navigation route to Sacramento, that is Steamboat Slough

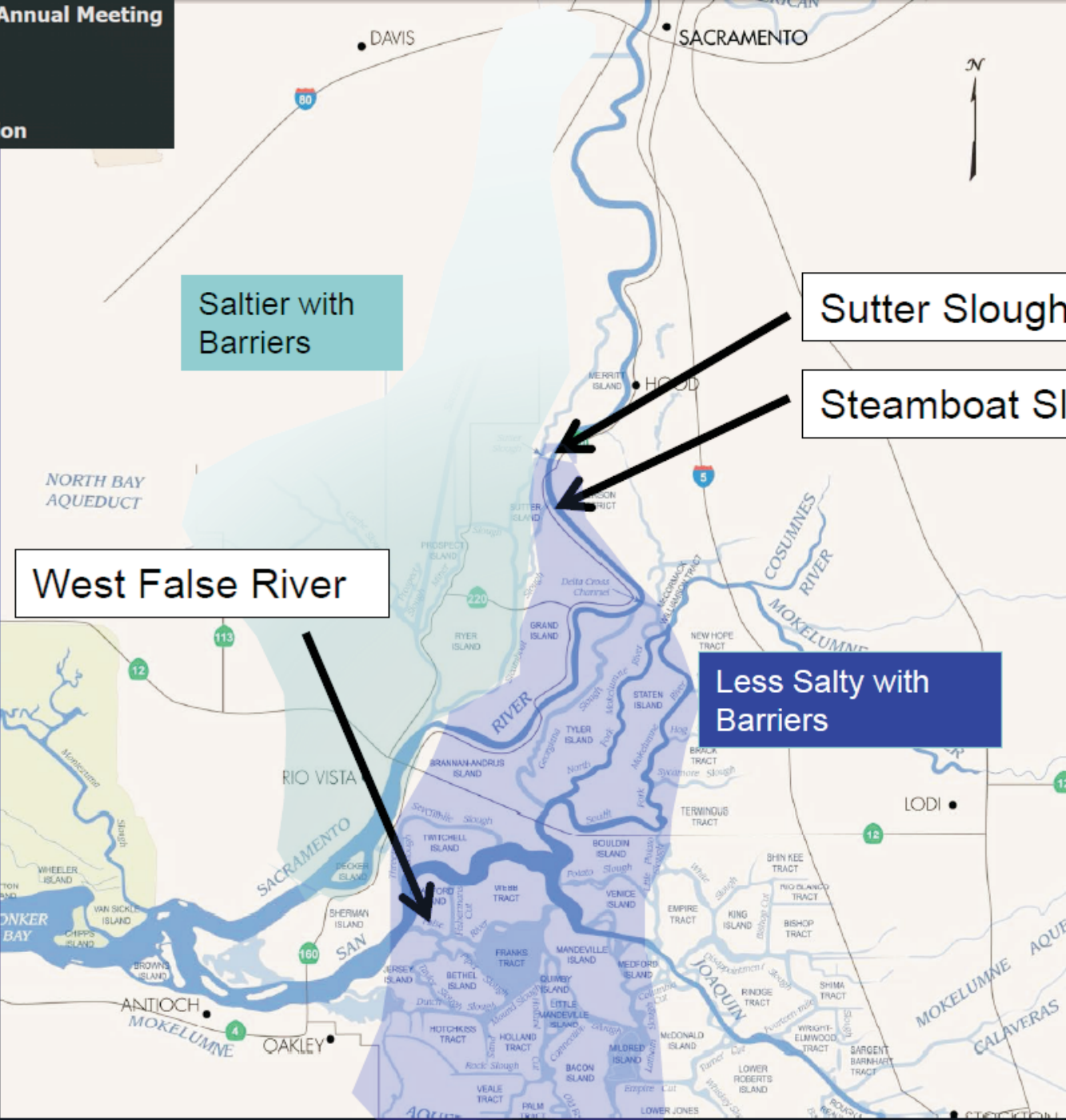


Major impact: Salinity encroachment into crop irrigation and drinking water for 25,000+ acres prime farm lands

Municipal Water Quality Investigations Annual Meeting
July 30, 2014

Tara Smith
Chief, Delta Modeling Section

General Pattern of Salinity Impacts



WHEN DID MWD START PLANNING FOR THE BARRIERS?

1998 planning for replumbing the Delta: Proposals and Events impacting the state and federal water supply system

2000 CALFED PLAN FOR WATER CONVEYANCE AND RESTORATION:

2001 IN-DELTA WATER STORAGE STUDIES & USE OF DSM2 which is based on CALSIM 1 flow data.

TO: Tara Smith
FROM: Michael Mierzwa
DATE: August 26, 2001
RE: Delta Wetlands Preliminary DSM2 Studies

1. Introduction

Delta Wetlands proposes to convert two Delta islands, Bacon Island and Webb Tract, into reservoirs. Both islands would be used to store water during surplus flow periods. Later this water would be released for export enhancement or to meet Delta flow/water quality requirements.

This study uses the DWRSIM 771 existing condition hydrology as the input for a series of DSM2-HYDRO and QUAL 16-year planning studies. This study ran from 1975 – 1991. This hydrology was used by Jones and Stokes in their analysis for Delta Wetlands and is the basis of the Delta Wetlands Environmental Impact Report (EIR). This study is based on the most recent version of the DSM2 geometry, and also makes use of QUAL’s ability to model multiple water quality constituents. In addition to the traditional EC modeling, QUAL was used to simulate dissolved organic carbon (DOC) and ultraviolet absorbance at 254 nm (UVA) impacts due to the operation of the two island reservoirs.

In 2001, barriers or gates did not appear to be proposed as necessary to achieve the flow diversions into Bacon Island and Webb Tract. Siphons were proposed to pull water into the storage islands.

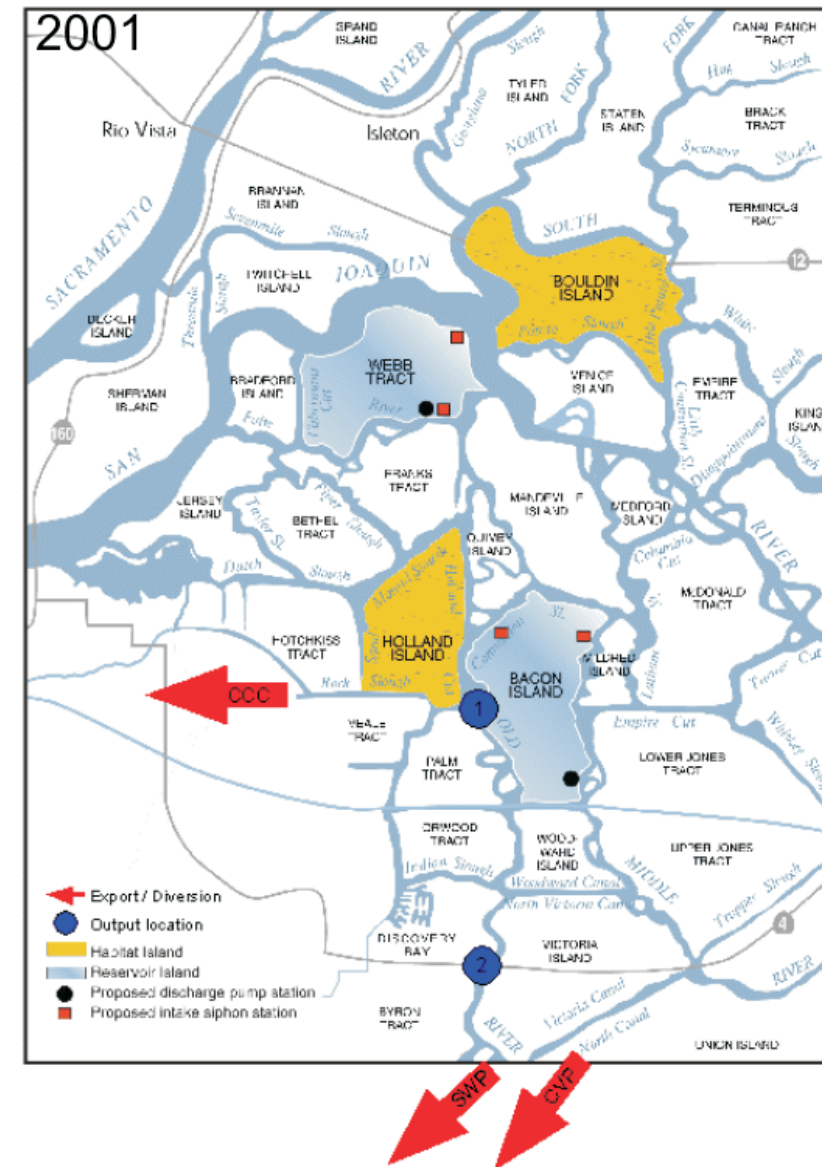


Figure 10: Location of Delta Wetland Project Islands and Output Locations.

2001-2003

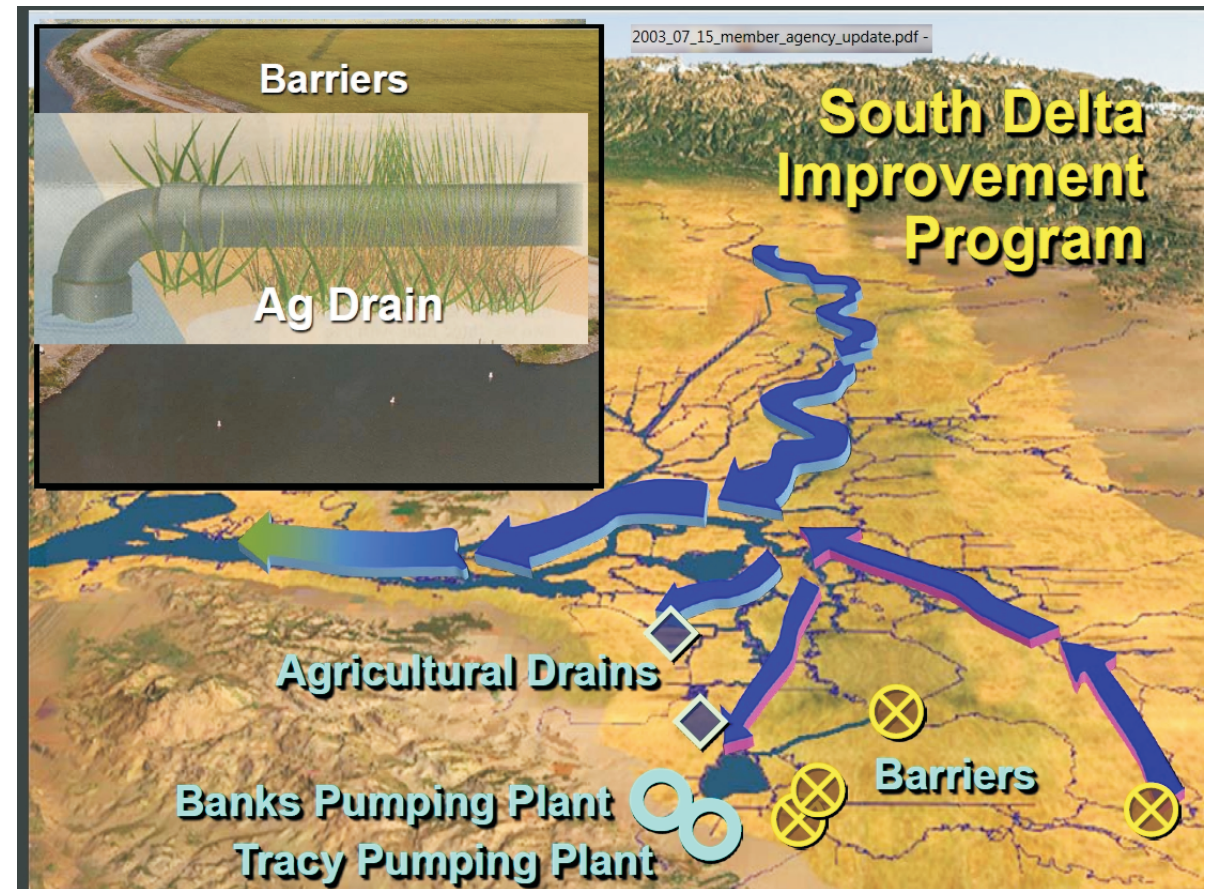
CALFED plan is divided into several different plans. The “Delta Improvement Plan” (DIP) become the “South Delta Improvement Plan” (SDIP) and the “North Delta Improvement Plan” (NDIP). Both plans include restoration elements, but the function of the plans is to facilitate fresh Sacramento River water into a canal for exports to other areas of the state:

Liberty Island is flooded and begins use as a “reservoir” and restoration experiment site. Photo below was taken more than a year after the island levees were broken in three locations, and the telephone poles were still up! At high tides the “reservoir” as it is labeled in DSM2 computer models is at least 8 feet deep and has surface area of at least 15,000 acres

NSS photo from 11/17/2004 visit to flooded Liberty Island area of the Yolo bypass



MWD 2003



The Napa Agreement: Paper Dams for Paper Water

What is it?

The Napa Agreement is part of a system-wide alteration of California's public water delivery laws and infrastructure. The proponents of the Napa Agreement have one principal goal in mind: increase water exports through the Sacramento-San Joaquin Delta. The Agreement proposes turning up the State Water Project (SWP) pumps from a rate of 6,680 cfs (cubic feet per second) to 8,500 cfs and lending part of the greater capacity to the federal Central Valley Project (CVP).

The greater pumping capacity would allow water contractors with the state and federal projects to hold the state hostage for water deliveries that the over-allocated SWP cannot provide.

Has anything like this happened before? In other words, use more than "Surplus Water" each year

Yes. In 1994 the very same SWP contractors (indeed, the very same individual representatives) met in an unannounced, closed meeting with DWR in Monterey to rewrite the voter-approved SWP contracts.

What were the implications of Monterey?

- The Monterey Agreement gave 20,000 acres of state property—in which DWR had invested \$74 million to create an underground water storage facility—to a shadow agency controlled by the state's largest privately owned agribusiness corporation: Paramount Farming. The contractors also had to change state law by gutting and rewriting AB 2014 to enable a private company to join a joint powers authority. The property, now known as the Kern Water Bank, houses the state's largest underground water storage facility.
- The Monterey Agreement deleted part of the original SWP contracts that allowed the state to scale back contract entitlements if the SWP were unable to deliver the original contract entitlements, this is essential since the SWP delivers on average slightly less than half of its original contract entitlements.
- The Monterey Agreement opened the SWP up for water trading so that contractors could buy and sell entitlements for water that the state cannot deliver; that is, "paper water."

After long and costly litigation brought against DWR by two environmental organizations and one SWP contractor, the Third District Court of Appeals ruled unanimously in favor of the

DIP
SDIP
NDIP

[Http://www.deltarevision.com/2011/calfed/dip_supporters.pdf](http://www.deltarevision.com/2011/calfed/dip_supporters.pdf) Names of agencies and water contractors in favor of the "DIP" OR Delta Improvement Package in 2004.

[Http://www.science.calwater.ca.gov/pdf/isb/ISB_correspondence_DIPcomments_031505.pdf](http://www.science.calwater.ca.gov/pdf/isb/ISB_correspondence_DIPcomments_031505.pdf) objection by scientists.

2002-2005

Breechin Studies for the In-Delta proposal: The Jones Tract Experiment and Field Studies:

2004 Jones Tract experiment: What was learned?
 "The Big Gulp" - Paul Marshall

deltarevision.com/Jones_Tract.htm

Jones Tract and the Bacon Island "In-Delta Storage" studies

On June 1, 2004 the engineer that open and closes the Delta Cross Channel Gates received an order to close the gates. His notes say "[Jones Tract levee failure June 1, 2004](#)". On June 3, 2004 the media reported a "sunny day" levee failure at Jones Tract, in the Central area of the California Delta, nearby Bacon Island. The event was used to get funding for more CalFed surface storage studies, and the whole Jones Tract levee failure, time it took to fill the Upper and Lower Jones Tract, water quality impacts, impacts to the interior levees and impacts to surrounding islands was all monitored from 6/3/2004. Yet records that are still found online show that on June 1, 2004, the Delta Cross Channel gates were closed by USBR, which noted the "Jones Tract levee failure". (see pdf comparing documents found online. You will note that the DCC operations log found at the DWR website listed removed the Jones Tract notation).


Even though the discrepancy of dates hasn't yet been answered by DWR, the fact is a huge amount of tax payer dollars has been spent on the Jones Tract and In-Delta Studies. For that reason alone, the maps and documents related to Jones Tract are provided in the hopes someone can answer the many unanswered questions regarding Jones Tract and more recently, Bacon Island. Please go to our [In-Delta water storage](#) page for the full summary. (page under construction 12-2-2010)

Links to Documents, Media and Reports

- [JT/2003ins_modeling.pdf](#)
- [JT/2003photos-jonestract.pdf](#)
- [2003REALM_full.pdf](#)
- [JT/2004_water_modeling.pdf](#)
- [JT/2004_RAT-TechMemo2004-01-12.pdf](#)
- [JT/Engineering_Design_and_Risk_Analysis.pdf](#)
- [JT/CALSIM II 103103.pdf](#)
- [JT/DraftIn-DeltaExecutiveSummary1-30-04.pdf](#)
- [JT/04CalFedSciConf_Levees_and_Subsidece.pdf](#)
- [JT/1517.pdf](#)
- [JT/1997subsidece.pdf](#)
- [JT/2002Ch14.pdf](#)
- [JT/2003Ch7.pdf](#)
- [2004jaylundplanningspeaker.pdf](#)
- [2004_year_in_review-usbr.pdf](#)
- [2004DraftDWR-CalFed-CalsimII.pdf](#)
- [2004proposed_monitoring_changes.pdf](#)
- [2004SepForecast.pdf](#)
- [2005 levee breech drms study.pdf](#)
- [2005FloodedIslandsRMADeltaModelCalibrationReport.pdf](#)
- [JT/2005Seismic_Risk.pdf](#)
- [JT/2005usbr_congress.cdr](#)
- [JT/2006delta_app_a_c.pdf](#)
- [JT/2006usbr_it.pdf](#)
- [URSSeepageCalibrationStudy.pdf](#)
- [JT/55_quinn.pdf](#)
- [JT/ann_1-o.pdf](#)

Jones Tract and Bacon Island maps from the studies, reports and media

PowerPoint Presentation



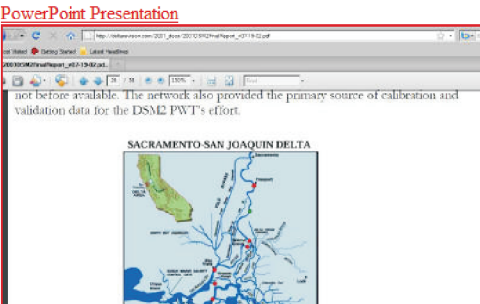
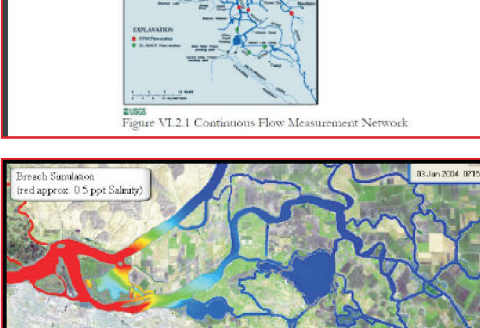
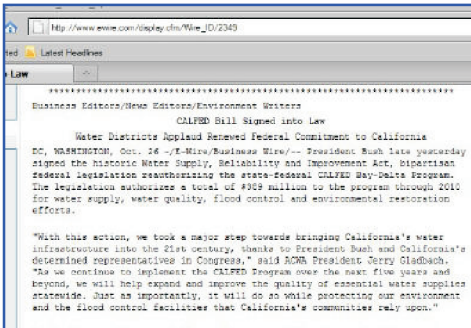


Figure VI.2.1 Continuous Flow Measurement Network





```

operations
http://modeling.water.ca.gov/delta/reports/annrpt/2005/2005Ch3.pdf
3.4.1 Jones Tract as a Flooded Island

Although Upper and Lower Jones Tracts are divided by the Santa Fe Railroad, an access road that runs under the railroad tracks connects the two islands and allowed water to travel from Upper Jones Tract to Lower Jones Tract and flood both islands. Because flooded islands are treated as well-mixed reservoirs in DSM2, there was not enough information available to justify simulating Lower Jones Tract as a separate island reservoir. Instead, a single reservoir was used to represent both Upper and Lower Jones Tracts. The reservoir was opened at the time of the break as described below in Section 3.4.2.

# Boundary flow input file
# DSM2 Real-Time Simulations
# Updated: 2005.02.27 mmierzwa

# JONES TRACT GEOMETRY
#
# Reservoir Grid Map Info:
# 6. Jones Tract (JONES) <-- Levee Break 2004.06.03

# NOTE: Place this file *before* the original reservoirs.inp in the dsm2.inp file
# Due to a programming style you have to name jones tract as "baconisland"

RESERVOIRS
NAME      AREA  STAGE BOTELV NODE  COEFF2RES  COEFF2CHAN
baconisland  522.72 -13.9-14.0 118    2000.      2000.
END

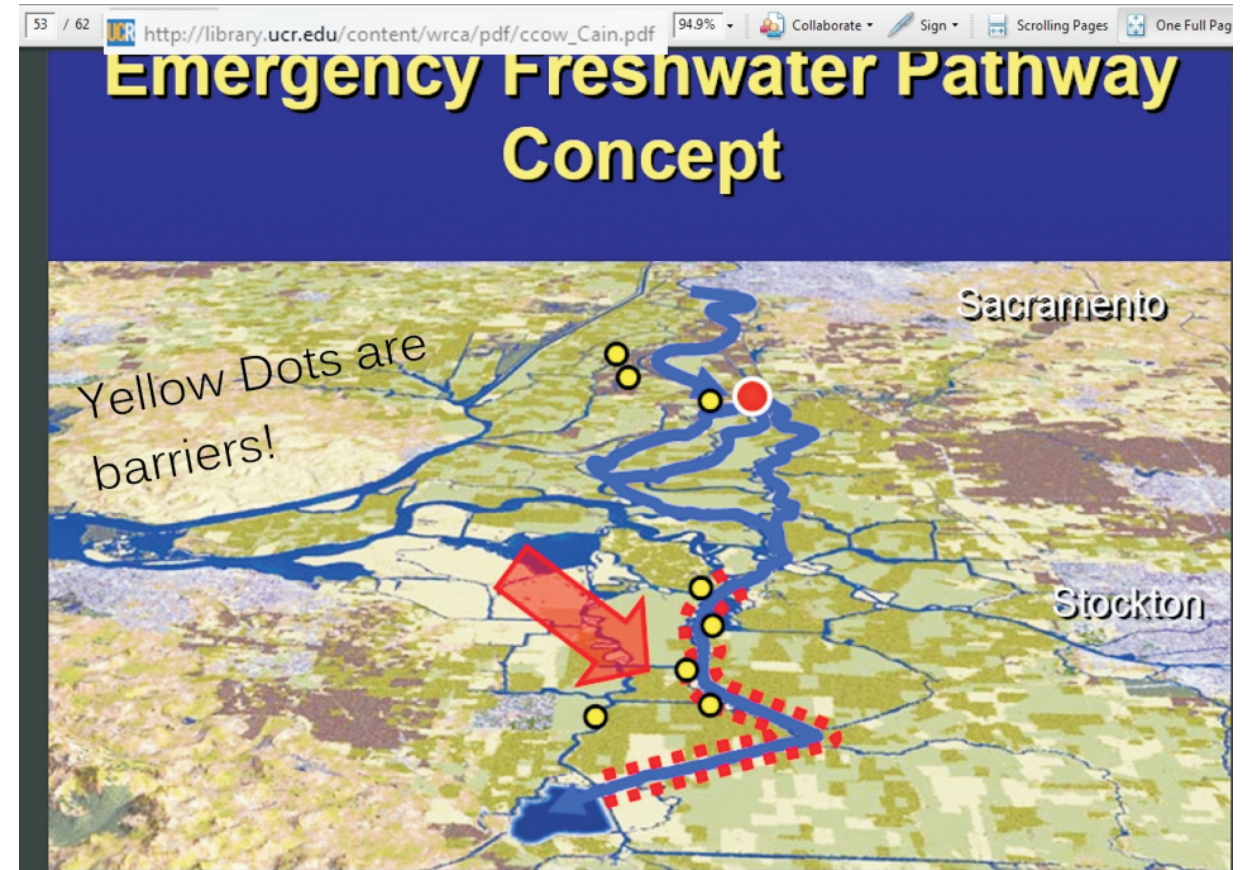
# Source: Correspondence with Rob DuVall and field trips from Oct - Dec, 2004
# Jones Tract Assumptions:
# - Ave. Depth = -5 m NGVD --> ~ -15 ft NGVD (MWQI)
# - Surface Area = 12,000 acre = 523 E06 sq. ft
# - Calculated Storage Capacity @ 0 ft NVGD = 180 TAF
# - Single Breach near Woodward Isl.
# - Coeff in / out based on calibration of model / USGS 15-min data in mid and old r
    
```

Figure 3.3: Example Jones Tract Configuration in a DSM2 Input File.

2005-2006

MWD and team devises reasons to put barriers across navigable waterways of the Delta, using words like “flood control”, “earthquake response”, “restoration actions”, “fish migration & survival actions: and “drought emergency” response.

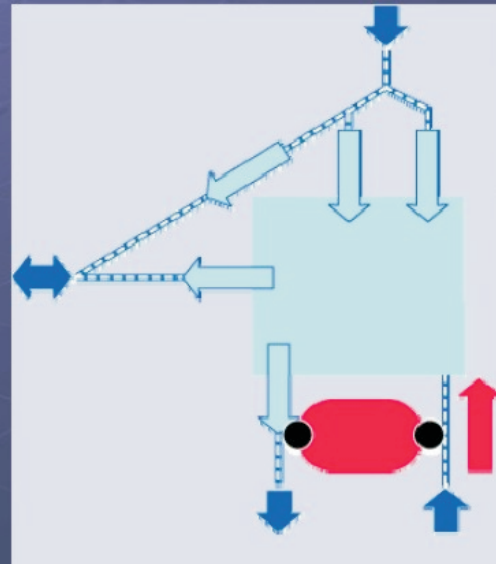
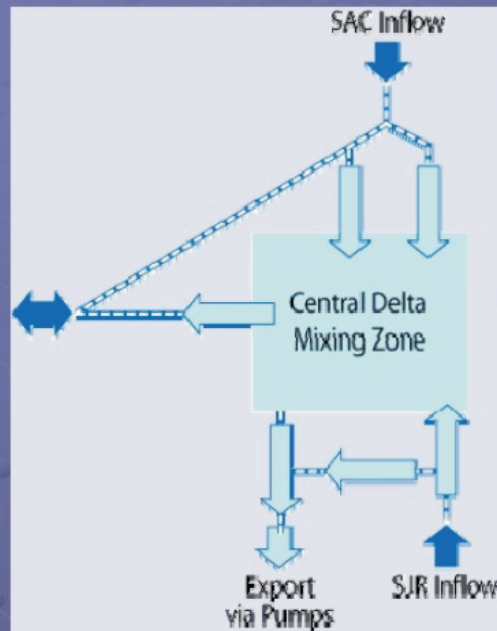
During this same time period, CalTrans was planning changes to Delta transportation patterns, and oil and gas exploration companies were beginning to focus on the Delta as a prime investment area due to discovery of oil, not just natural gas which the newer methods of horizontal or directional hydraulic mining made accessible.



http://www.water.ca.gov/iep/docs/prstns/ws1_Monsen_52709.pdf

2009 DWR slideshow

Four temporary barriers create a reservoir in the South Delta



Reasons:

“Flood Control”

“Earthquake response”

“Oil spill”

“Drought”

“Water Quality” ... Health & Human Safety

Money: “Reduce drinking water processing costs”

2004-2008

Technical baseline data for both DRMS Phase 1 and Phase 2 are developed. Technical baseline data is distributed to select “scientific” research organizations to develop collaborative reports and studies with the same baseline data. The problem is that the baseline data is incorrect.

Incorrect baseline data used in the DRMS Phase 1 Report is also used to develop maps and Delta landscape restoration plans by many different organizations, like UCB, UCD, PPIC and the Delta Vision Blue Ribbon Task Force:



Peer Reviewed

Title:

Impounded Marshes on Subsided Islands: Simulated Vertical Accretion, Processes, and Effects, Sacramento-San Joaquin Delta, CA USA

Journal Issue:

[San Francisco Estuary and Watershed Science. 12\(2\)](#)

Author:

[Deverel, Steven J.](#), HydroFocus, Inc.

[Ingrum, Timothy](#), HydroFocus, Inc.

[Lucero, Christina](#), HydroFocus, Inc.

[Drexler, Judith Z.](#), California Water Science Center, U.S. Geological Survey

Publication Date:

2014

URS Corporation, Jack R. Benjamin & Associates, Inc. 2008. Levee vulnerability, delta risk management strategy (DRMS) phase 1 technical memorandum.

[cited 2012 Jun 28]; 8(2). Available from: http://www.water.ca.gov/floodmgmt/dsmo/sab/drmsp/docs/Levee_Vulnerability_TM.pdf

Suddeth RJ, Mount J, Lund JR. 2010. Levee decisions and sustainability for the Sacramento–San Joaquin Delta. San Franc Estuary Watershed Science [Internet] [cited 2011 Feb 02]; 8(2). Available from: <http://www.escholarship.org/uc/item/9wr5j84g>

DRMS Phase 2 Water Export Conveyance Element: Armored Pathway

Preliminary Design/Construction Costs

- 15,000 cfs Facility ~ \$ 5 ½ - 9 Billion
- 10,000 cfs Facility ~ \$ 4 ½ - 8 Billion
- 5,000 cfs Facility ~ \$ 3 ½ - 6 Billion

(Costs depend upon level of Middle River levee improvements)

Eco-crescent / Middle River Conveyance

SWP Pumps
CVP Pumps

SLIDE 11



Reason: “Restoration and Fish Protection”

By 2008 the original CALFED plan has been revised into the MWD alternate Sacramento River flows plan

Metropolitan Board Policy
Delta Action Plan Framework

- Board approved in June 2007 (Board Letter 8-6)
- Short-Term Action Plan
 - Secure permits to operate Bank's Pumping Plant
 - Implement/Fund Delta Levee Emergency Preparedness and Response Plan
 - Select and approve key elements of BDCP and Delta Vision
- Mid-Term Action Plan
 - Secure long-term operating permits for SWP under BDCP
 - Develop implementation plan and environmental documentation
 - Implement ecosystem restoration projects
- Long-Term Action Plan
 - Implement long-term comprehensive solution

Yolo Bypass

Habitat & Food-Web Opportunities

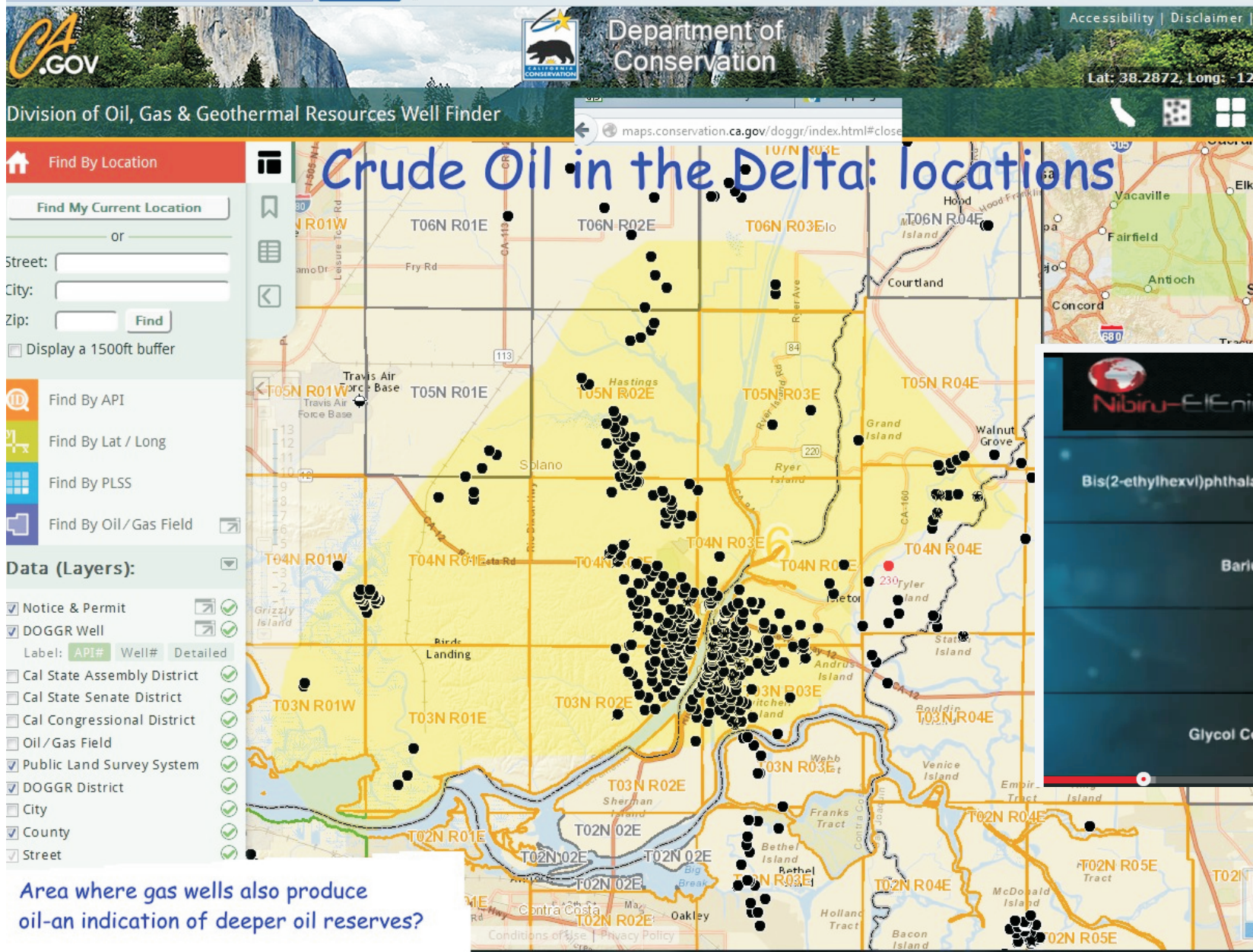
Consider the **FUNCTION** of the plan instead of the words used. The **FUNCTION** of the Yolo Bypass plans are maybe 10% restoration and 90% diversion of Sacramento River water for export using west side intake facilities.

15

[Http://calwater.ca.gov/content/Documents/meetings/2007/WSS_MeetingNotes_11-14-07/Conveyance_Program_Plan_Year8.pdf](http://calwater.ca.gov/content/Documents/meetings/2007/WSS_MeetingNotes_11-14-07/Conveyance_Program_Plan_Year8.pdf) no talk of gates

The function of the “Yolo Bypass” is to divert water to the west side of the Delta, thereby bypassing historic North Delta waterways that are accessible by North Delta landowners with riparian water rights. The scientists use the new flows from the Sacramento River to experiment with salmon migration manipulation and growth studies. It’s not just about smelt extinction!

NOW ADD IN THE RISK ASSOCIATED WITH HORIZONTAL OR DIRECTIONAL FRACKING AND DUMPING OF FRACKING WASTE INTO THE DELTA RIGHT NEXT TO THE SURFACE WATER CONVEYANCE ROUTE OF THE MOKELUMNE RIVERS!



Area where gas wells also produce oil-an indication of deeper oil reserves?

Nibiru-Ellen.co.uk

<https://www.youtube.com/watch?v=uokmsSi7LTY>

Bis(2-ethylhexyl)phthalate (DEHP)

Barium Sulfate

Arsenic

Glycol Compounds

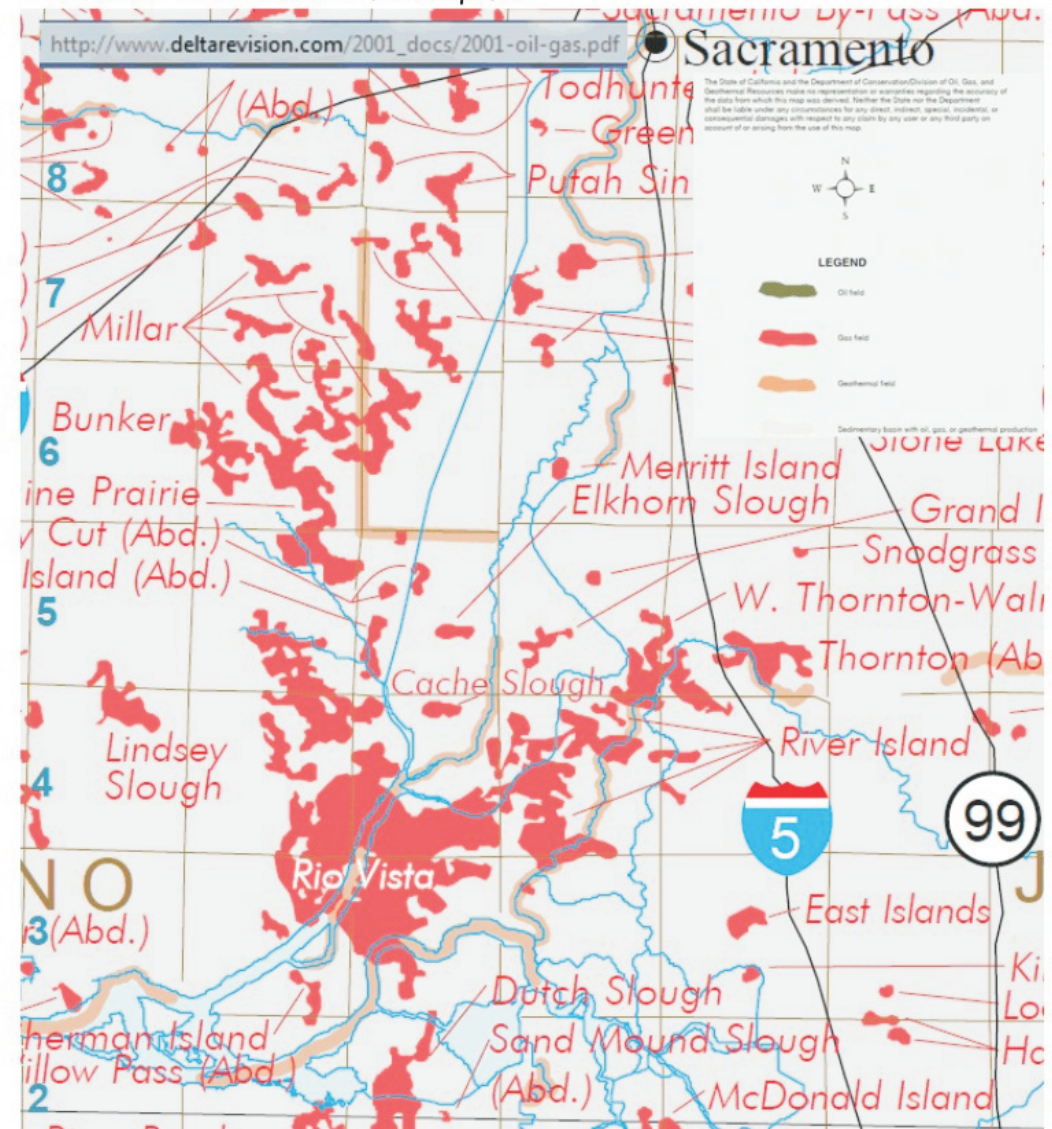
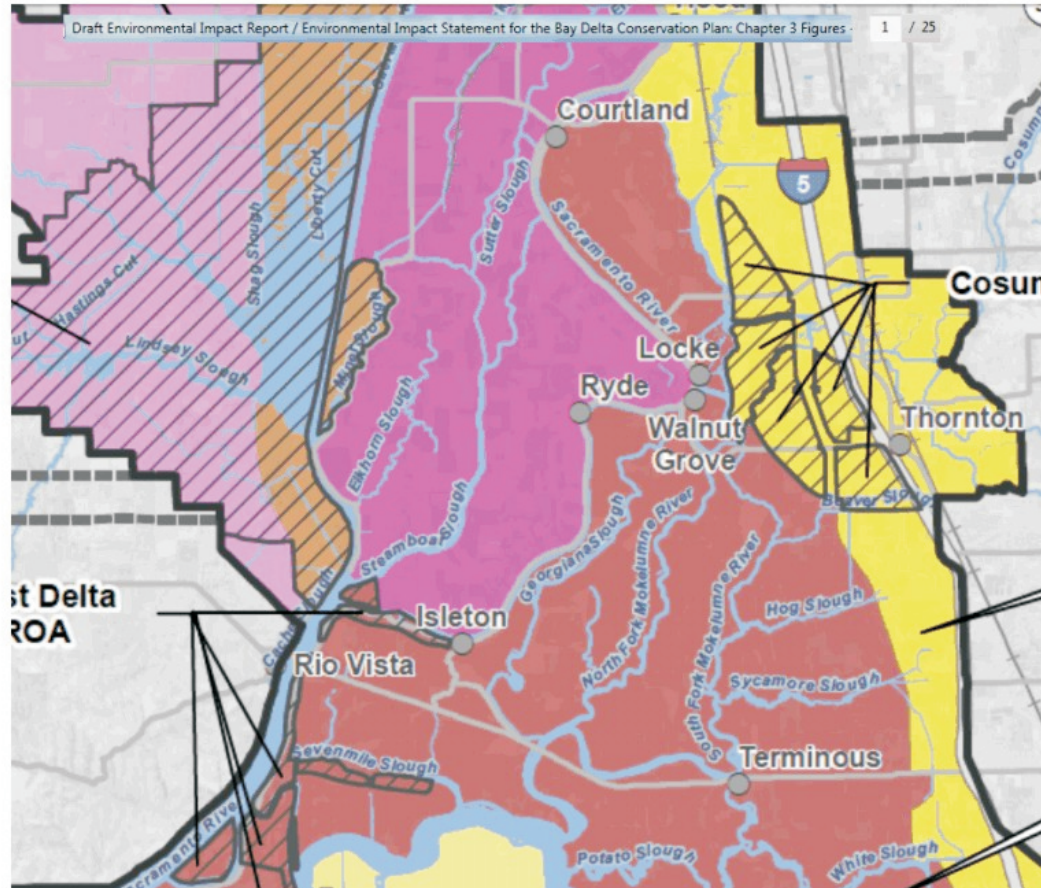
40,000 gallons of toxic chemicals are left in the ground per fracking site. These chemicals can get into the drinking water aquifer

2009-2014 BDCP RESTORATION SITES COMPARED TO THE LOCATIONS OF NEW FRACKING WELLS & WASTEWATER WELLS:

THE CORRELATION BETWEEN NATURAL GAS RESERVES AND THE TARGETED "RESTORATION" AREAS

Look at the map sections below. Map on the right shows the locations of natural gas pockets available through the new "fracturing" method invented in 1998. Map on the left shows the areas of the Delta proposed for "restoration". The landowners in the Delta have mineral rights under their land most likely. Isn't it an interesting correlation that the places that are targeted "restoration" are also the places to be fracked, which has already started in the Delta? So DWR and other agencies appear to be using the BDCP as an excuse to take over privately-owned lands or force the sale of the lands. The water rights get sold to the highest bidder, and the oil companies like Chevron are free to frack the Delta. Ask what happens to the Bay

Area aquifers from fracking residue fluids left in the Bay Area aquifer? Fracking induces seismic events (earthquakes). Will Chevron and the other chemical companies clean up the destroyed aquifer when they induce an earthquake that not only knocks down levees but breaks the residue wells to allow cross-contamination of our aquifer?



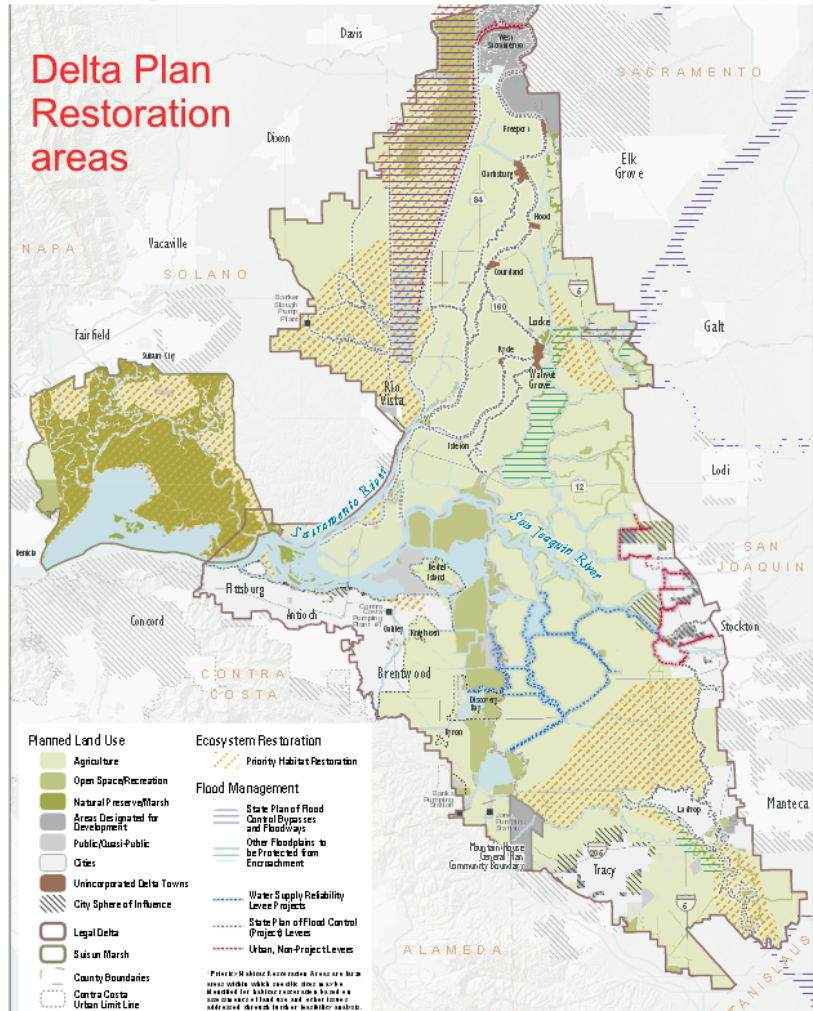
2013-14 DELTA PLAN(S)

deltacouncil.ca.gov/events/interim-plan/public-briefing-draft-2015-2016-high-impact-science-actions

Coequal goals

The Delta Stewardship Council was created in legislation to achieve the state mandated coequal goals for the Delta. "Coequal goals" means the two goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place." (CA Water Code §85054)

[deltacouncil.ca.gov/sites/default/files/documents/files/Fig1-4_DP349_Delta_Plan\[1\].pdf](http://deltacouncil.ca.gov/sites/default/files/documents/files/Fig1-4_DP349_Delta_Plan[1].pdf)



The Delta Plan, Figure 1-4

DP 348

deltacouncil.ca.gov/sites/default/files/documents/files/Fig3-2_DP359_MovingAndStoringCAWater.pdf



SO WHAT'S THE NEW NAME FOR THE LATEST BARRIERS PROPOSAL?

<http://www.water.ca.gov/news/newsreleases/2009/040209droughttrpt-gov.pdf>

CALIFORNIA'S DROUGHT

WATER CONDITIONS AND STRATEGIES TO REDUCE IMPACTS

REPORT TO THE GOVERNOR MARCH 30, 2009

"Emergency" drought barriers are not mentioned in this document even though DWR in 2014 presents a draft study dated 4/1/2009 that was not available to the public or even the DWR planners in 2009, apparently

State of California
Governor Arnold Schwarzenegger

The Natural Resources Agency
Secretary for Resources Mike Chrisman

Department of Water Resources
Director Lester A. Snow

Department of Food and Agriculture
Secretary A.G. Kawamura

www.water.ca.gov/waterconditions/docs/Emergency_Drought_Barriers_Initial_Study_and_Proposed_Mitigated_Negative_Declaration.pdf

Initial Study/Proposed Mitigated Negative Declaration

Emergency Drought Barriers Project



AECOM

January 2015

Prepared for:



California Department of Water Resources

[Http://www.water.ca.gov/waterconditions/docs/DWR-EmergencyBarriersDraftReport-Apr2009.pdf](http://www.water.ca.gov/waterconditions/docs/DWR-EmergencyBarriersDraftReport-Apr2009.pdf)

[Http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/vol4/drought/01California_Drought_Contingency_Plan.pdf](http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/vol4/drought/01California_Drought_Contingency_Plan.pdf) page 22 refers to

[Http://www.waterplan.water.ca.gov/docs/cwpu2009/0310final/v2_all_cwp2009.pdf](http://www.waterplan.water.ca.gov/docs/cwpu2009/0310final/v2_all_cwp2009.pdf) which does NOT include any mention of "Drought barriers" at Steamboat or Sutter Sloughs, does NOT include reference to the first document above, but does include reference to the governor's emergency drought proclamation and proposed actions linked at:

<http://www.water.ca.gov/news/newsreleases/2009/040209droughttrpt-gov.pdf> which also does NOT include any mention of drought barriers detailed in above report for April 2009

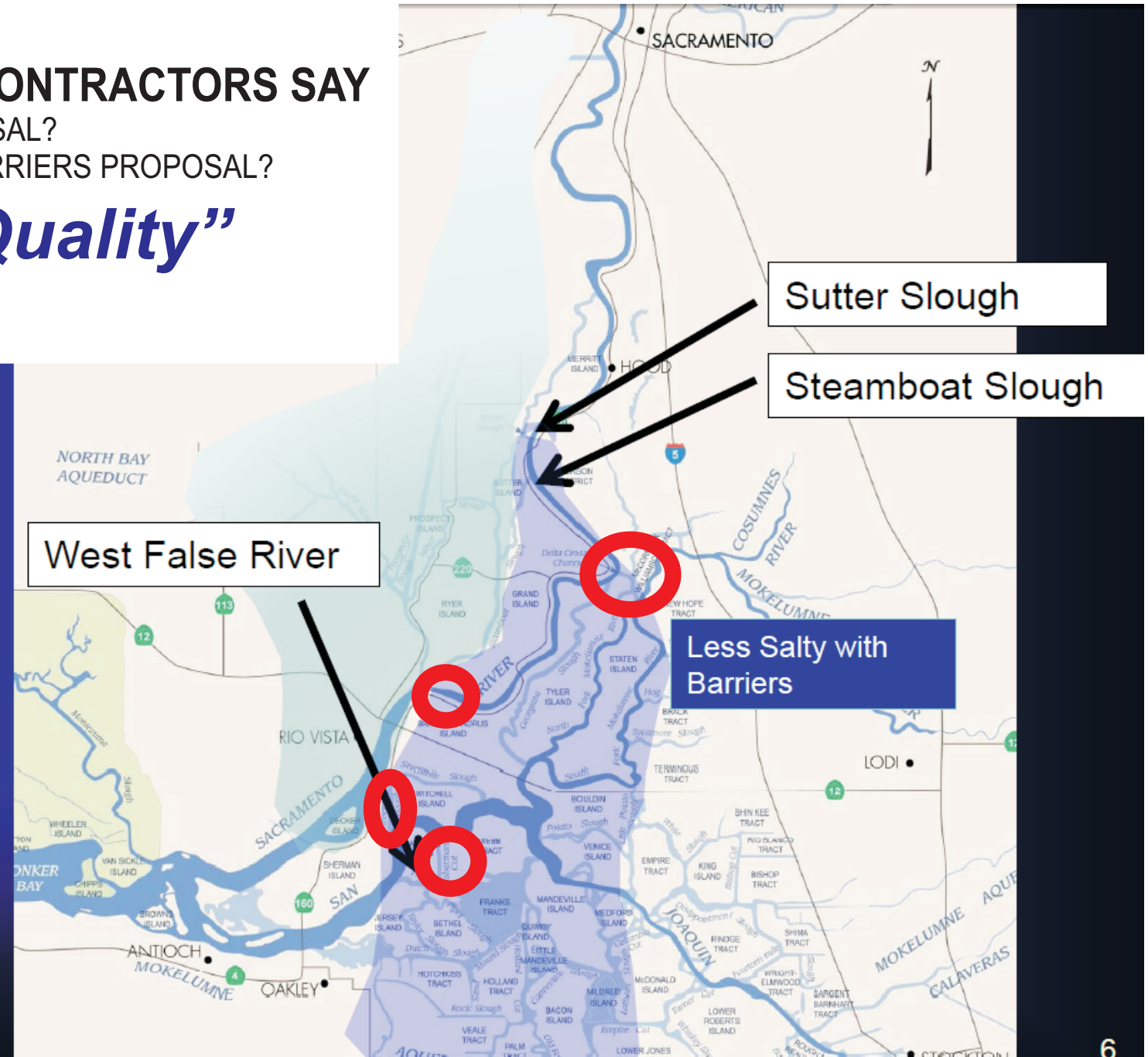
The only mention of gates and barriers planning in the 662 page Volume 2 of the 2009 California Water Plan published in 2010 and edited in 2011, refers on page 111 to Delta Vision recommendation to begin construction of Delta barriers and gates to facilitate conveyance., Use of operable sea water barriers page 115, page 336 regarding use of Sacramento River water for dilution of saltier water,

[Http://deltavision.ca.gov/DV_Committee/Jan2009/08-1231_Delta_Vision_Committee_Implementation_Report.pdf](http://deltavision.ca.gov/DV_Committee/Jan2009/08-1231_Delta_Vision_Committee_Implementation_Report.pdf) Page 6 refers to barriers and gates and pages 18 and 19 refer to gates or barriers but locations are not specified.

[Http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/vol4/drought/01California_Drought_Contingency_Plan.pdf](http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/vol4/drought/01California_Drought_Contingency_Plan.pdf) does NOT refer to barriers or gates at Steamboat or Sutter Sloughs.

WHAT DOES DWR AND THE WATER CONTRACTORS SAY
IS THE PURPOSE OF THE LATEST BARRIERS PROPOSAL?
WHAT IS THE ACTUAL FUNCTION OF THE LATEST BARRIERS PROPOSAL?

“Protect Delta Water Quality” Really? ... Seriously?



DWR computer model graphic is not realistic or misses important other locations where salt can encroach:

Streamline Government Response

The order: gov.ca.gov/home.php

- Prioritizes state review and decision-making of water infrastructure projects and requires state agencies to report to the Governor's Office on any application pending for more than 90 days.
- Streamlines permitting and review of emergency drought salinity barriers - necessary to keep freshwater supplies in upstream reservoirs for human use and habitat protection for endangered and threatened species;
- Simplifies the review and approval process for voluntary water transfers and emergency drinking water projects; and
- Directs state departments to provide temporary relocation assistance to families who need to move from homes where domestic wells have run dry to housing with running water.

Invest in New Technologies

The order helps make California more drought resilient by:

- Incentivizing promising new technology that will make California more water efficient through a new program administered by the California Energy Commission.

The full text of the executive order can be found [here](#).

For more than two years, California has been dealing with the effects of drought. To learn about all the actions the state has taken to manage our water system and cope with the impacts of the drought, visit Drought.CA.Gov.

Every Californian should take steps to conserve water. Find out how at SaveOurWater.com.

Photo captions can be found below:

- 1.)Governor Brown delivers remarks. Photo Credit: California Department of Water Resources.
- 2.)Governor Brown and Frank Gehrke, California Department of Water Resources. Photo Credit: California Department of Water Resources.
- 3.)Phillips Station. Photo Credit: California Department of Water Resources.

###

WHAT DOES GOV BROWN SAY?

“...Necessary to keep freshwater supplies in upstream reservoirs for human use and habitat protection”



April 1, 2015

This press release does NOT refer to an executive order...why?

Doug Carlson, Information Officer – (916) 653-5114
Paul.Carlson@water.ca.gov
Elizabeth Scott, Information Officer – (916) 712-3904
Elizabeth.Scott@water.ca.gov
Maggie Macias, Information Officer – (916) 653-8743
Maggie.Macias@water.ca.gov

Sierra Nevada Snowpack Is Virtually Gone; Water Content Now Is Only 5 Percent of Historic Average, Lowest Since 1950

SACRAMENTO – The California Department of Water Resources (DWR) found no snow whatsoever today during its manual survey for the media at 6,800 feet in the Sierra Nevada. This was the first time in 75 years of early-April measurements at the Phillips snow course that no snow was found there.

Governor Edmund G. Brown Jr. observed the survey, which confirmed electronic readings showing the statewide snowpack with less water content today than any April 1st since 1950.

Attending the survey with Governor Brown was DWR Director Mark Cowin, who said Californians can expect to receive almost no water from the meager snowpack as it melts in the coming weeks.

“Today’s survey underscores the severity of California’s drought,” he said. “Water conservation must become a way of life during the worst drought in most Californians’ lifetimes.”

Actions...must be tailored to assure that the interests of the residents and communities of the Delta are considered and protected”.

As demonstrated in the document, the water resource, delivery and conservation elements required for long-term management of California’s water, requires action on multiple fronts. The federal government’s actions, proposed actions, and existing and future investment in the Bay-Delta region clearly demonstrate the long-term support of the Bay-Delta for water and conservation resources. In coordination with state efforts, initiatives outlined here provide an understanding of the current federal efforts and potential actions to support California’s improvements to the Bay-Delta ecosystem while providing a more reliable water supply, which, in turn, is the keystone for restoring and protecting the Bay-Delta ecosystem and California’s water supply system for the long-term. As outlined, the importance of actions to achieve the dual goals of ecosystem protection and water supply reliability must be tailored to assure that the interests of the residents and communities of the Delta are considered and protected.

WHAT DO THE COMPUTER MODELS SAY?

BUT DWR/MWD DOES NOT KNOW WHAT THE IMPACTS WILL BE, OR WILL NOT DISCLOSE THE KNOWN IMPACTS. INSTEAD IN THE PROPOSED BARRIERS DOCUMENTS, SINCE DWR DOESN'T KNOW, THEY SIMPLY SAY "NO SIGNIFICANT IMPACTS".

*"Garbage in,
garbage out"-
Melinda Terry
when responding
to information
about the false
baseline data
used for computer
modeling by DWR*

2 Forecasts – Let Me Count the Ways

48 / 176



Modeling Forecasts Don't Predict the Future!

- Precipitation Changes
- Operations/Uses will vary

Review Results knowing the Assumptions in the Modeling Runs.

8

Where did the unaccounted for fresh water flow from the Delta go from 2006 to 2010?

DWR provided the chart below at the following link accessed January 2014:
[HTTP://www.waterplan.water.ca.gov/docs/cwpu2013/ae/water_portfolio-inflow_outflow_delta.pdf](http://www.waterplan.water.ca.gov/docs/cwpu2013/ae/water_portfolio-inflow_outflow_delta.pdf)

Chart is supposed to provide the total numbers of water inflow, exports and outflow from the Delta in thousand acre feet (TAF). However, when one reviews the numbers, it appears starting in 2006 there is unaccounted for flow. Where did that water go? How and who received the unaccounted for flow which would have a value of \$3.5 Billion or more? Newly-built Diamond Lake in Southern California was filling up during the same time as there is unaccounted for flow, so that might be one place to look. How does the reported flow numbers affect computer modeling of the BDCP?

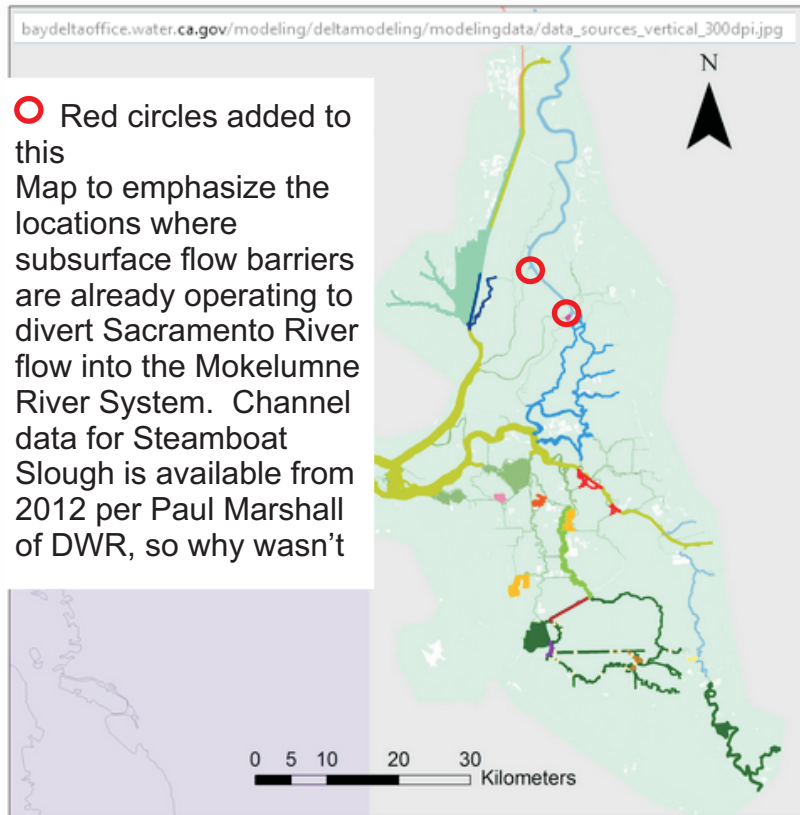
(1) Do the below unaccounted for flows get reflected in the modeling of the

http://www.waterplan.water.ca.gov/docs/cwpu2013/ae/water_portfolio-inflow_outflow_delta.pdf

Delta Water Balance Estimates ¹ (TAF)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sacramento River Inflow	29015	21770	18360	10517	13104	18304	17129	16747	28039	11010	9557	9867	12777
Yolo Bypass Inflow	8996	1635	2961	366	708	1122	3121	707	13034	248	417	317	659
Eastside Tributaries Inflow	2096	1399	1078	372	462	534	445	1173	9679	1979	n	1231	2461
San Joaquin River Inflow	8456	3568	2846	1732	1396	1365	1373	3777	7341	1596	1234	865	1829
North Bay Aqueduct Exports	39	37	47	45	47	42	52	48	43	61	55	46	43
Contra Costa Water District Diversions at Rock Slough and Old River	160	133	126	104	121	138	120	119	116	112	135	107	94
State Water Project Exports at Banks Pumping Plant or Clifton Court Intake	2134	2439	3692	2635	2900	3458	3251	3625	3527	2954	1527	1636	2496
Central Valley Project Exports at Tracy	2474	2262	2487	2332	2505	2685	2722	2679	2628	2679	2018	1884	2141
Delta Consumptive Use ²	1691	1691	1693	1691	1691	1691	1693	1691	1691	1691	1693	1691	1666
Delta Precipitation ²	1423	734	956	764	758	739	753	1089	1059	477	600	662	789
Delta Outflow	43487	22542	18155	6944	9163	14050	14922	15403	43805	6216	1529	6713	2461

¹ Data from DAYFLOW Program. NOTE: includes DAYFLOW corrections through 01-07-2004 (<http://sep.water.ca.gov/dayflow>)
² Content Required by Water Code Section 10004.6

2000 Water Exports based on 26,201 TAF Inflow
 Central Valley exports 2,487



Red circles added to this Map to emphasize the locations where subsurface flow barriers are already operating to divert Sacramento River flow into the Mokelumne River System. Channel data for Steamboat Slough is available from 2012 per Paul Marshall of DWR, so why wasn't

Data Sources

- Miner Slough (multi/single beam, DWR, 2012)
- Columbia and Turner Cuts (multibeam, DWR, 2012)
- Georgiana Slough (multibeam, DWR, 2011)
- North Delta (multibeam, GRS, 2008 & DWR, 2012)
- Old River at Head (multibeam, DWR, 2011)
- South Delta (multibeam, Fugro West, 2010 & DWR, 2011)
- Urban Levee Surveys (multibeam, DWR, 2008)
- Victoria Canal (multibeam, DWR, 2011)
- West Canal (multibeam, DWR, 2012)
- Liberty Island (single beam, cbec/EDS, 2006, 2009, 2010)
- South Delta Scour Survey (single beam, DWR 2010)
- Grant Line Canal 5 Points Area (DWR, 2009)
- Delta Coves (grading plan, 2005)
- CSDP Bathymetry Data
- Deep Water Ship Channel, COE (2004, 2008)
- Manually Digitized Data - P.E. Smith
- USGS Topo Map
- DWR LiDAR (1m, 2007)
- Foxgrover, Smith, and Jaffe, USGS (10m DEM, 2005)
- NOAA San Francisco Bay DEM (1/3 arc-second) (2010)
- USGS National Elevation Dataset (1/3 arc-sec)

Data for the area west of the Carquinez Strait comes from NOAA's San Francisco Bay DEM

ONE REASON WHY THE COMPUTER MODELS KEEP GETTING IT WRONG:

What computer models and what baseline data is currently being used to validate the need for full blockage of Steamboat and Sutter Sloughs? Is that baseline data accurate?

http://www.water.ca.gov/iep/docs/pod/UnTRIM_Calibration_Report.pdf

260 / 334

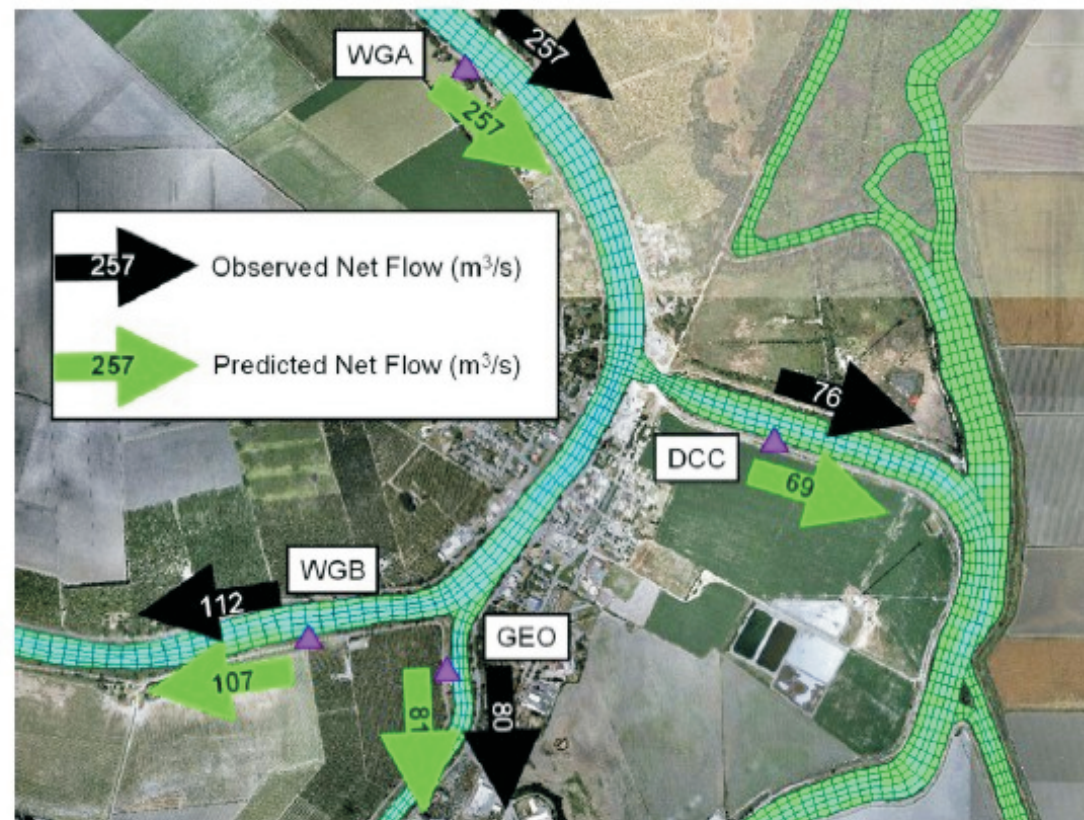


Figure 6.4-2 Observed (black arrows) and Predicted (green arrows) average net flow at four USGS flow monitoring stations near the Delta Cross Channel during 2007 simulation period spanning from April 4, 2007 through September 1, 2007.

Have the computer modelers been told the flows were modified in 2008 by use of in-water barriers to flow?

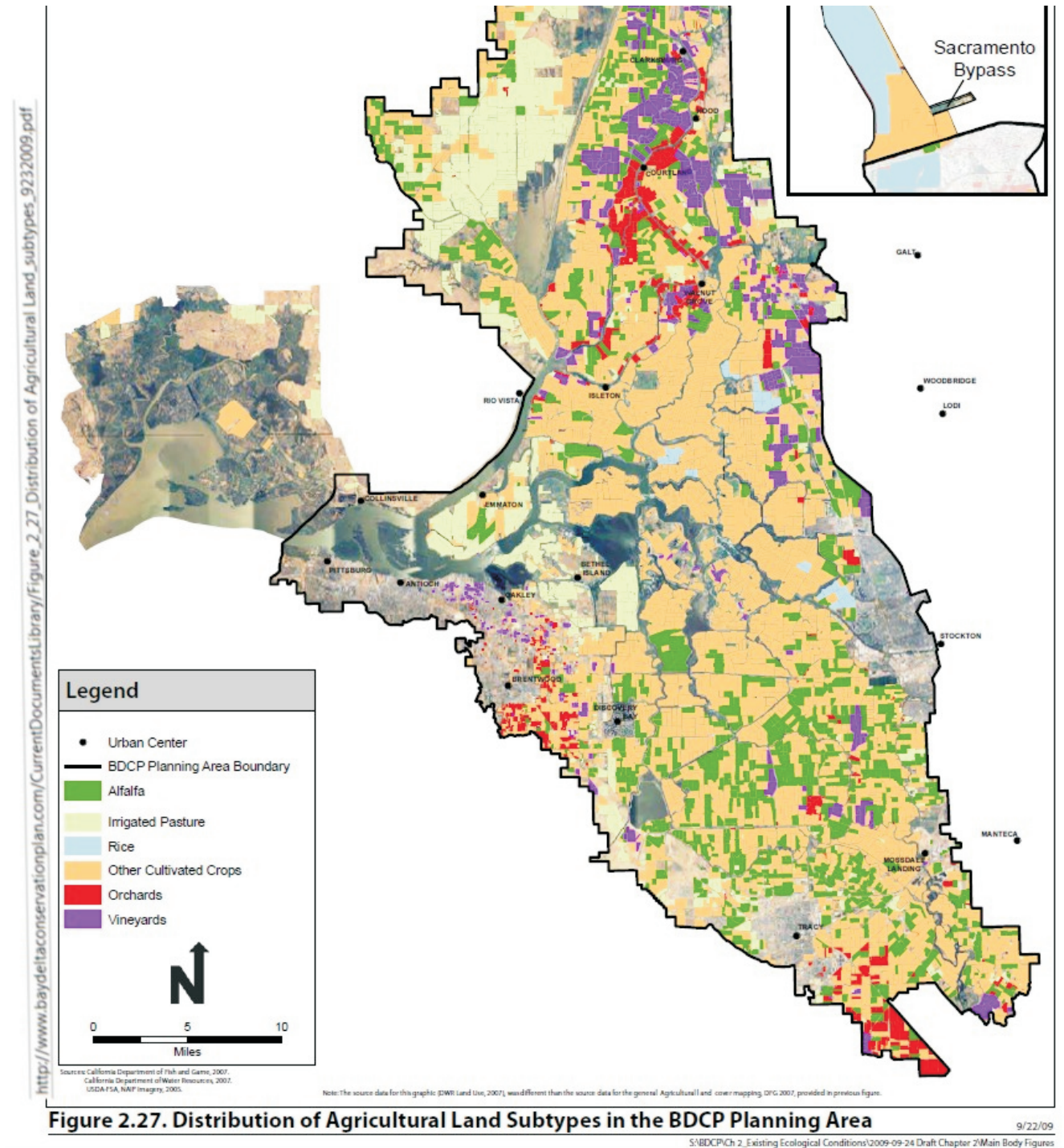
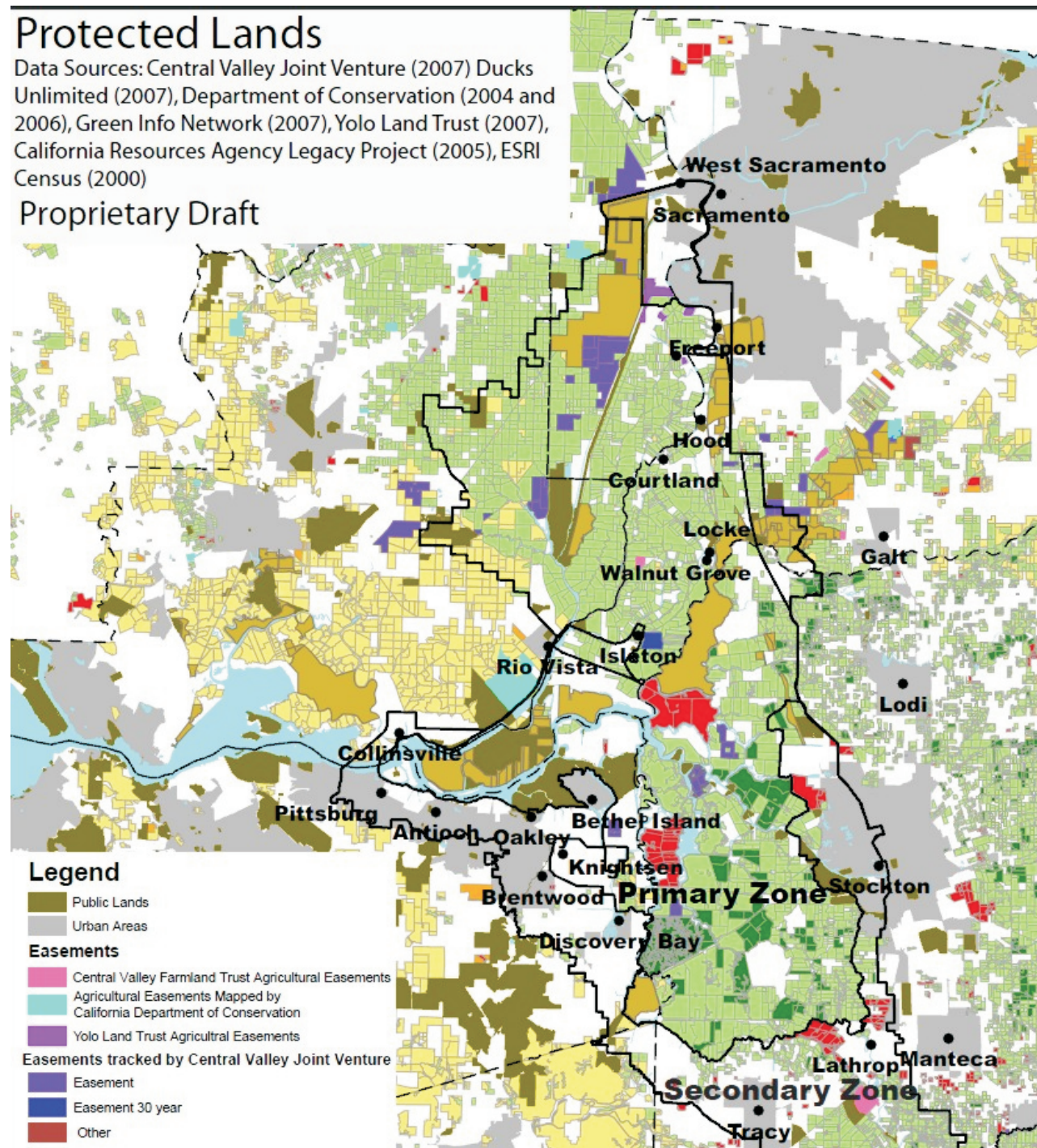
WHAT DO THE PEOPLE WHO LIVE, WORK AND PLAY IN THE DELTA SAY?

POTENTIAL IMPACTS TO NORTH DELTA LAND OWNERS AND THE DELTA ECONOMY FROM THE PROPOSED BARRIERS:

Since even the computer modelers say computer modeling can not predict the impacts or outcomes, the following impacts have been noted by locals who have been in the Delta a long time and have experienced the impacts of past DWR actions and water diversions:

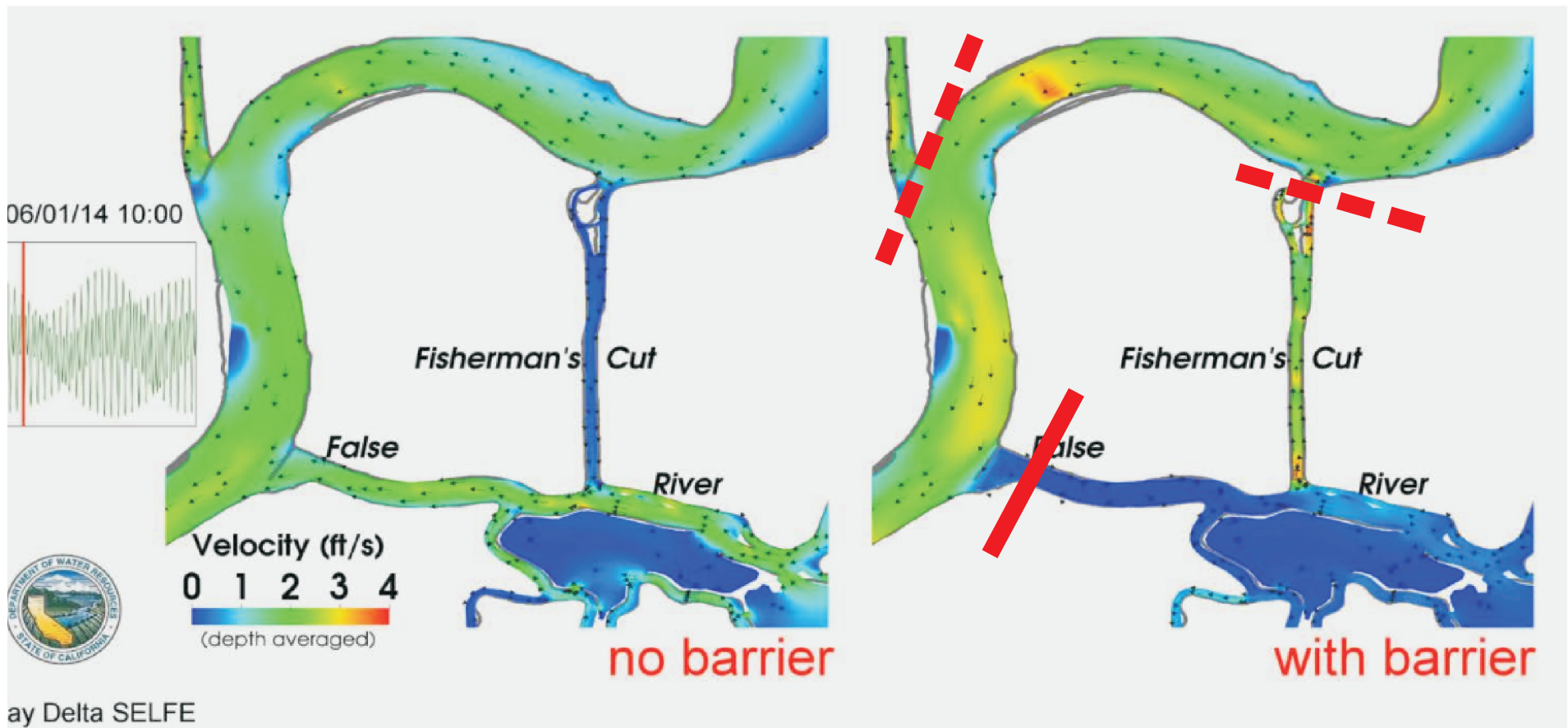
- * DAMAGE OR ELIMINATE THE CROP PRODUCTION OF 25,000+ ACRES OF PRIME FARM LANDS DUE TO LOW WATER QUALITY AND IMPACTS TO IRRIGATION PUMP FUNCTION AND SALINITY SEEPAGE INTO THE ISLAND IRRIGATION CANALS.
- * DEGRADE THE DRINKING WATER QUALITY FOR PRIVATE RESIDENCE WELLS OF THE DELTA
- * BLOCK HISTORIC NAVIGATION ROUTE BETWEEN SACRAMENTO AND SAN FRANCISCO
- * CREATE HAZARDS TO NAVIGATION DUE TO UNNATURAL LOW TIDES AND FLOWS
- * BLOCK NATURAL SALMON MIGRATION PATHWAYS
- * BLOCK HISTORIC AND TRADITIONAL COMMERCIAL AND RECREATIONAL BOATING ROUTES
- * BLOCK OR SEVERELY HINDER LOCAL AND RECREATION TRANSPORTATION ROUTES DURING PRIME TIMES
- * MODIFY FLOOD CONVEYANCE SYSTEM IN SUCH A WAY AS TO PUT PERSONS AND PROPERTY AT RISK BOTH ABOVE AND BELOW STEAMBOAT AND SUTTER SLOUGH BARRIERS
- * MAY CAUSE INVASIVE WATER WEEDS TO CAUSE MORE ECOLOGICAL DAMAGE TO THE DELTA ENVIRONMENT
- * MAY CAUSE MODERATE TO SEVERE FINANCIAL HARDSHIP TO DELTA AREA ECONOMY THAT RELIES ON THE FARMING AND RECREATION INDUSTRIES (\$3 BILLION PER YEAR, COMBINED BOATING, FISHING AND AGRICULTURE GROSS INCOME ESTIMATED)
- * LESS ECONOMICALLY AND ENVIRONMENTALLY DAMAGING ALTERNATIVES HAVE NOT BEEN CONSIDERED BY DWR
- * WATER CONTRACTORS FROM OUTSIDE THE DELTA HAD BEEN MEETING FOR YEARS, EXCLUDING ANY NORTH DELTA VOICE IN THE NEGOTIATIONS
- * NDWA CONTRACT TERMS MAY BE IGNORED, LEADING TO COSTLY LITIGATION PAID FOR BY THE TAX PAYER, NOT THE WATER CONTRACTORS
- * THERE IS NO PROVISION IN THE CURRENT DWR DOCUMENTS THAT PROVIDE FOR ADEQUATE MILITATIONS FOR DELTA LANDOWNERS WHILE THE BENEFIT OF THE BARRIERS MAKES BILLIONS OF DOLLARS FOR THE WATER CONTRACTORS IN OTHER PARTS OF THE STATE

- * **DAMAGE OR ELIMINATE THE CROP PRODUCTION OF 25,000+ ACRES OF PRIME FARM LANDS DUE TO LOW WATER QUALITY AND IMPACTS TO IRRIGATION PUMP FUNCTION AND SALINITY SEEPAGE INTO THE ISLAND IRRIGATION CANALS.**
- * **VIRTUAL ELIMINATION OF RIPARIAN WATER RIGHTS DUE TO LIMIT OF ACCESS-THE END RESULT IS THE ELIMINATION OF CONSTITUTIONAL PROPERTY RIGHTS WHICH HAS IMPLICATIONS FOR ALL CALIFORNIANS AND THE LANDOWNERS OF THE ENTIRE USA**



6

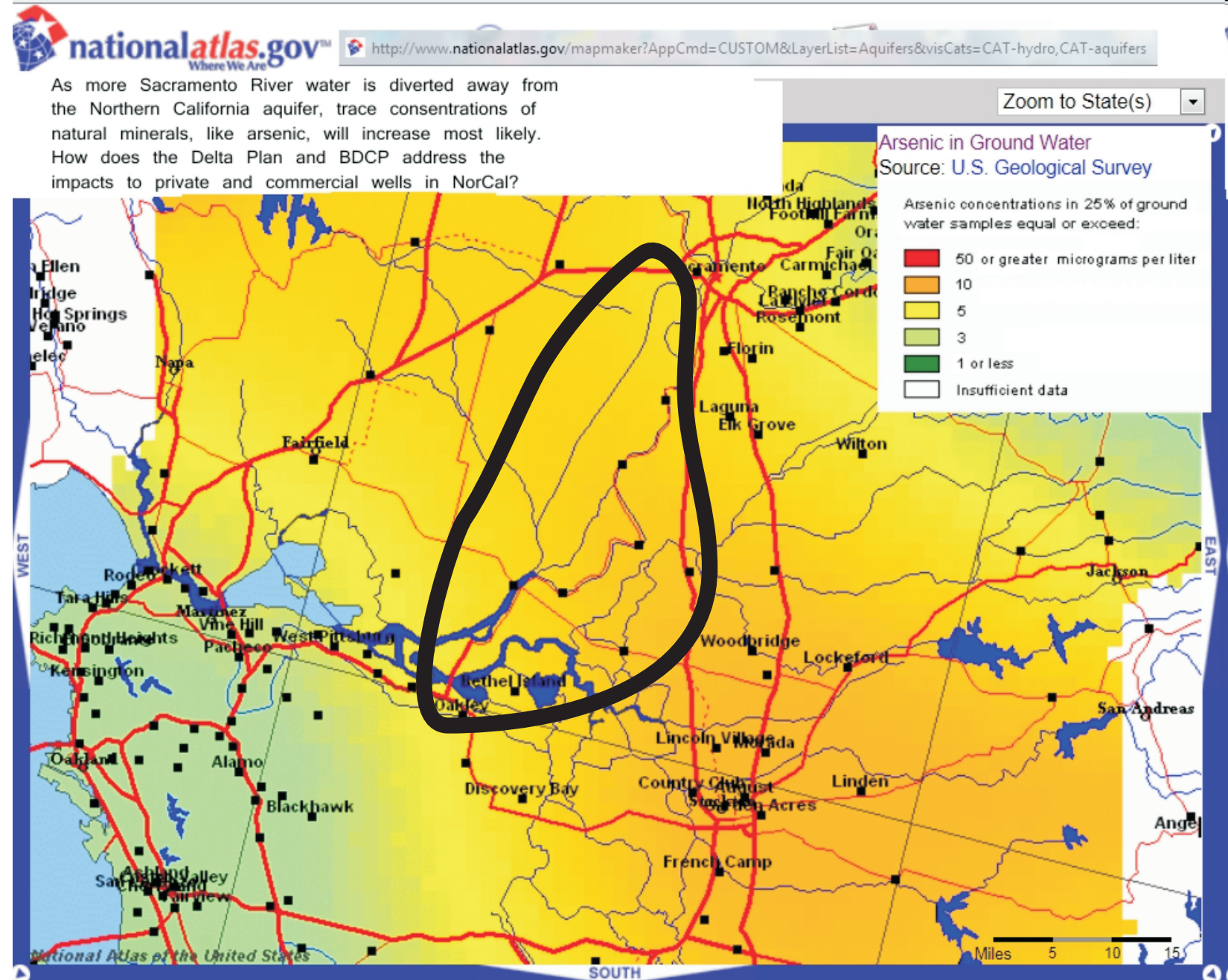
It's Not Just Salinity



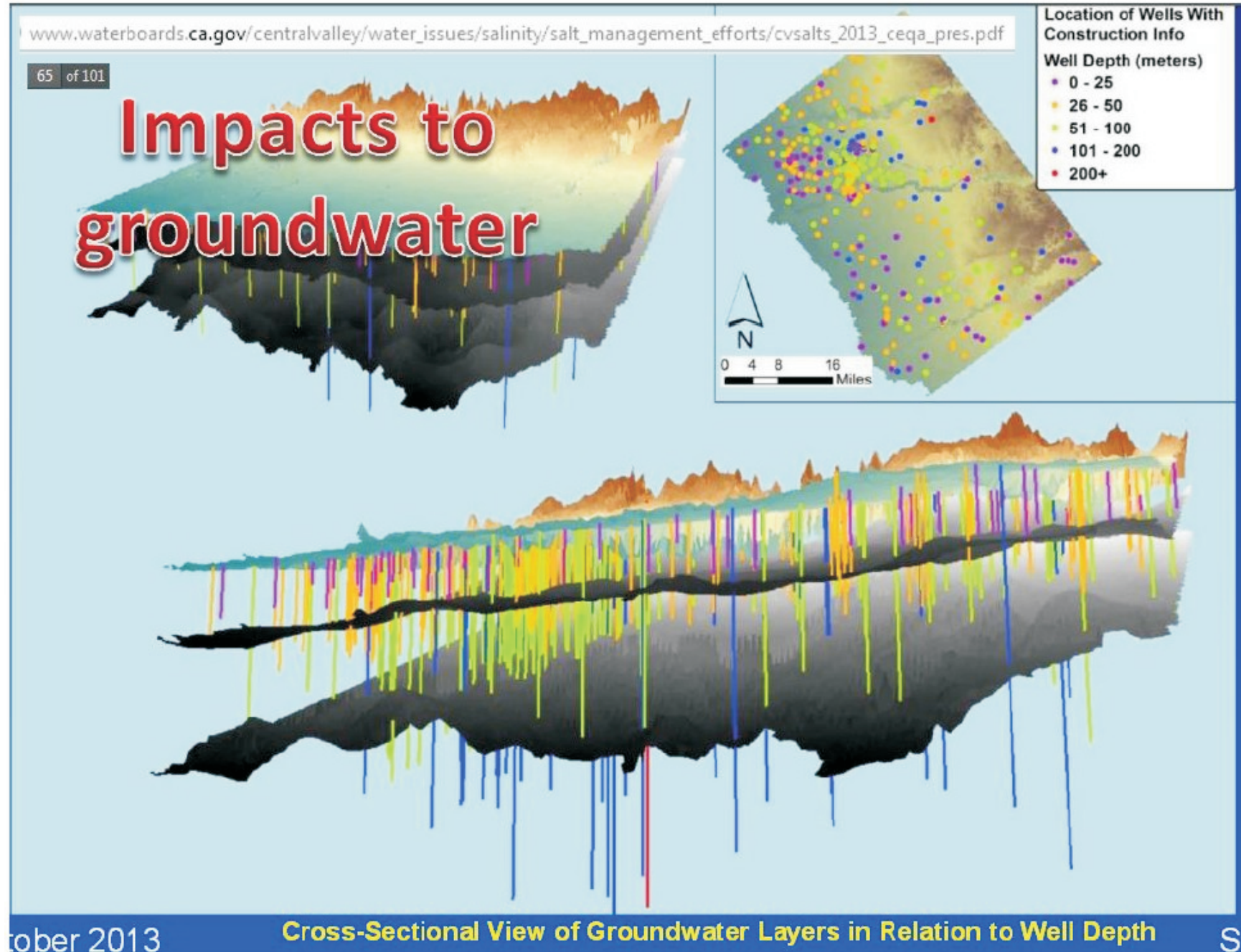
DOC, SELENIUM AND MERCURY ARE RECIRCULATED OR PROPOSED FOR RECIRCULATION THROUGH THE DELTA

IMPACTS TO DRINKING WATER QUALITY IN THE DELTA REGION: SALINITY, MERCURY, ARSENIC, SELENIUM INTRODUCED INTO THE DELTA BY ACTIONS OF DWR AND USBR OVER THE LAST 10 YEARS:

Since 2005 DWR and USBR have been exporting more water away from the Delta, which has begun to impact groundwater quality. In addition, the Delta has oil and gas wells and the new method of horizontal hydraulic fracturing has been shown to increase minerals in surrounding groundwater. Over the last 10 years, and especially after the flow changes in the Yolo Bypass began with the creation of the Liberty Island Reservoir, there has been an increase in arsenic in drinking water wells, an increase in mercury found in fish utilizing the Yolo Bypass area, and the proposal to recirculate the selenium-waters from lower Westlands irrigation runoff could further degrade the drinking water quality for wells of the west Delta off the San Joaquin River.



DWR KNOWS THE IMPACT TO DELTA AREA DRINKING WATER WELLS COULD ELIMINATE THE USE OF THE WELLS FOR DRINKING, BUT PROVIDES NO MITIGATION FOR THE FARMERS, RESIDENTS AND BUSINESSES IN THE IMPACTED DELTA AREA



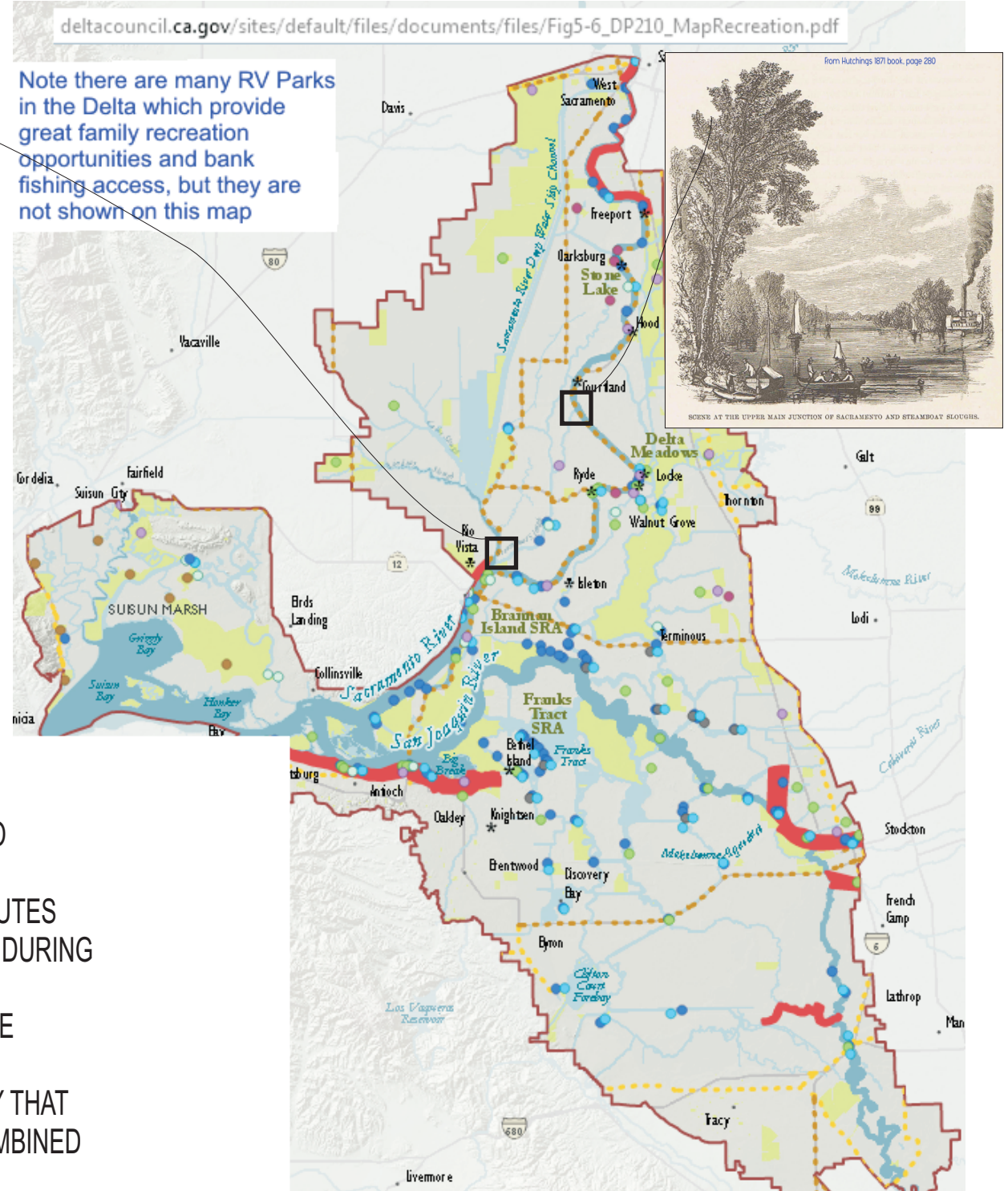
From Hutchings 1871



SCENE AT THE LOWER JUNCTION OF THE MAIN SACRAMENTO RIVER, AND STEAMBOAT SLOUGH.

http://deltarevision.com/history_of_california_travel.html

- * BLOCK HISTORIC NAVIGATION ROUTE BETWEEN SACRAMENTO AND SAN FRANCISCO
- * CREATE HAZARDS TO NAVIGATION DUE TO UNNATURAL LOW TIDES AND FLOWS
- * BLOCK HISTORIC AND TRADITIONAL COMMERCIAL AND RECREATIONAL BOATING ROUTES
- * BLOCK OR SEVERELY HINDER LOCAL AND RECREATION TRANSPORTATION ROUTES DURING PRIME TIMES
- * MAY CAUSE INVASIVE WATER WEEDS TO CAUSE MORE ECOLOGICAL DAMAGE TO THE DELTA ENVIRONMENT & HINDER RECREATION NAVIGATION
- * MAY CAUSE MODERATE TO SEVERE FINANCIAL HARDSHIP TO DELTA AREA ECONOMY THAT RELIES ON THE FARMING AND RECREATION INDUSTRIES (\$3 BILLION PER YEAR, COMBINED BOATING, FISHING AND AGRICULTURE GROSS INCOME ESTIMATED)

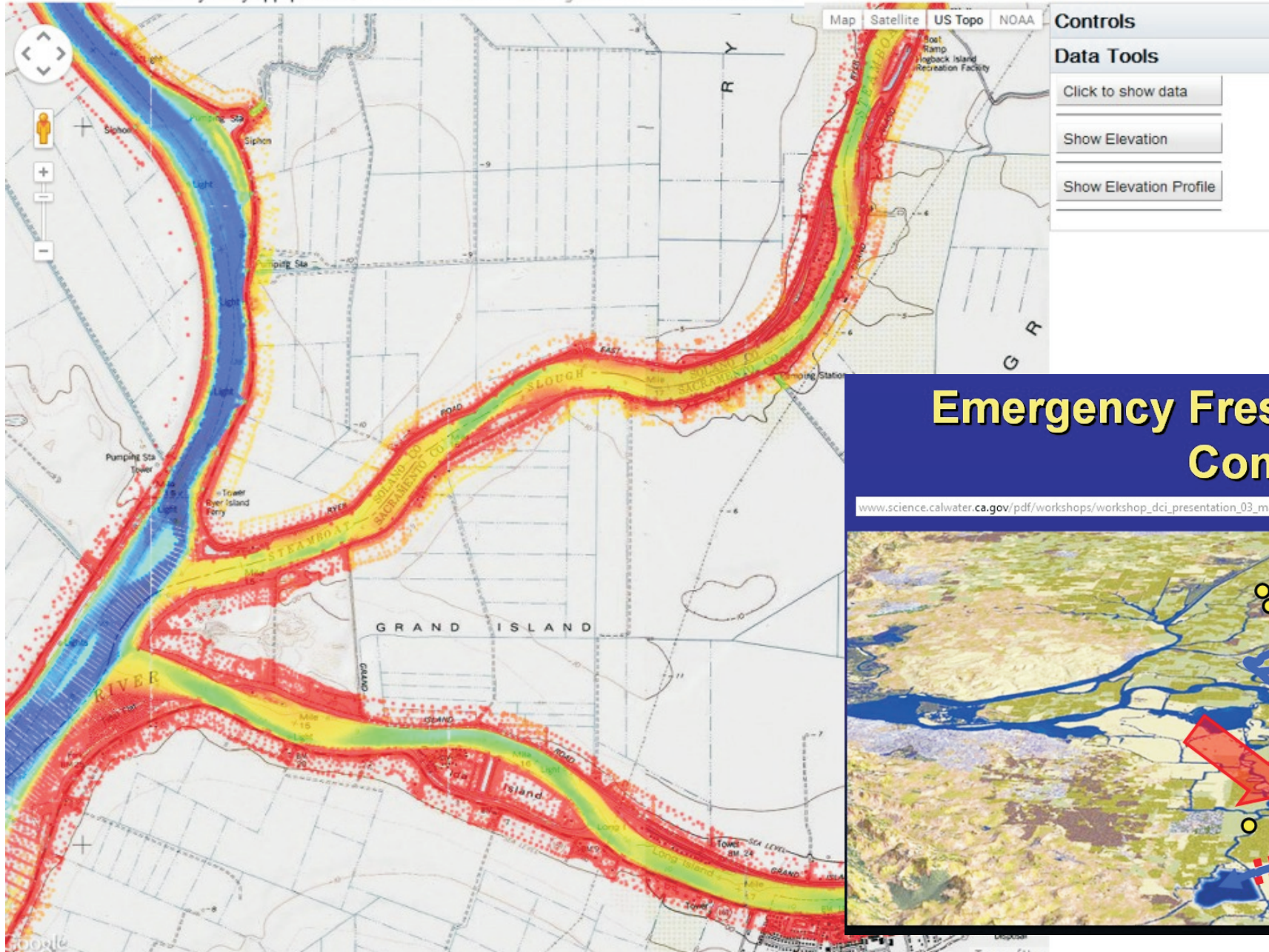


9/19/2013 View of the open water on Prospect Island where the "restoration" area is full of water hyacinth. Within a week or two, someone had moved the water weeds into Miner's Slough and then down into the open waters of Cache Slough-just in time to annoy the salmon and striper fishermen for the Rio Vista derby!



Bathymetry Data for the Sacramento-San Joaquin Delta

dsm2bathymetry.appspot.com/?lat=38.19385980972745&lng=-121.61090774536132&z=13



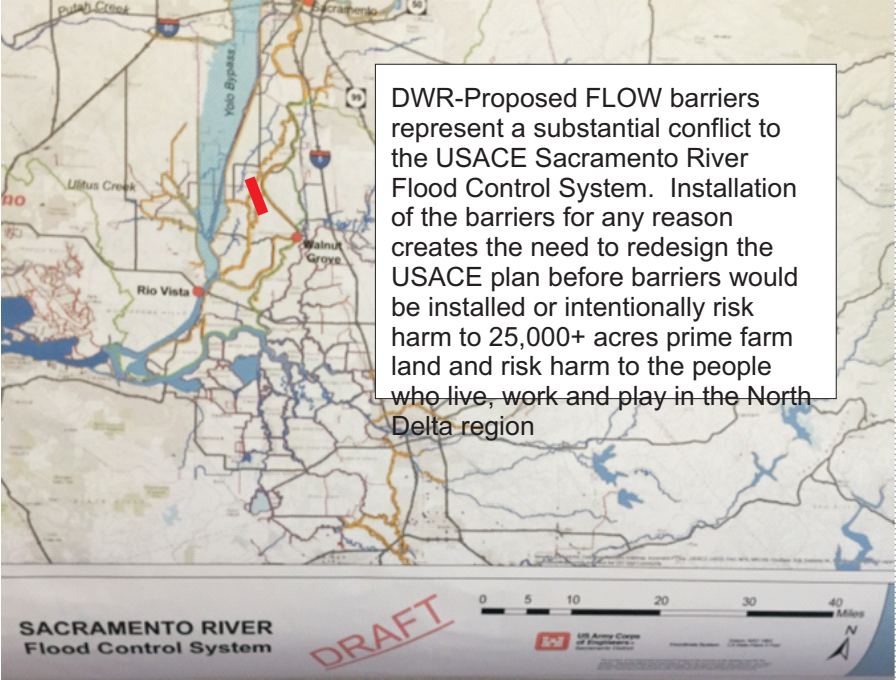
Emergency Freshwater Pathway Concept

Dennis Majors
Metropolitan Water District of Southern California
August 22, 2007

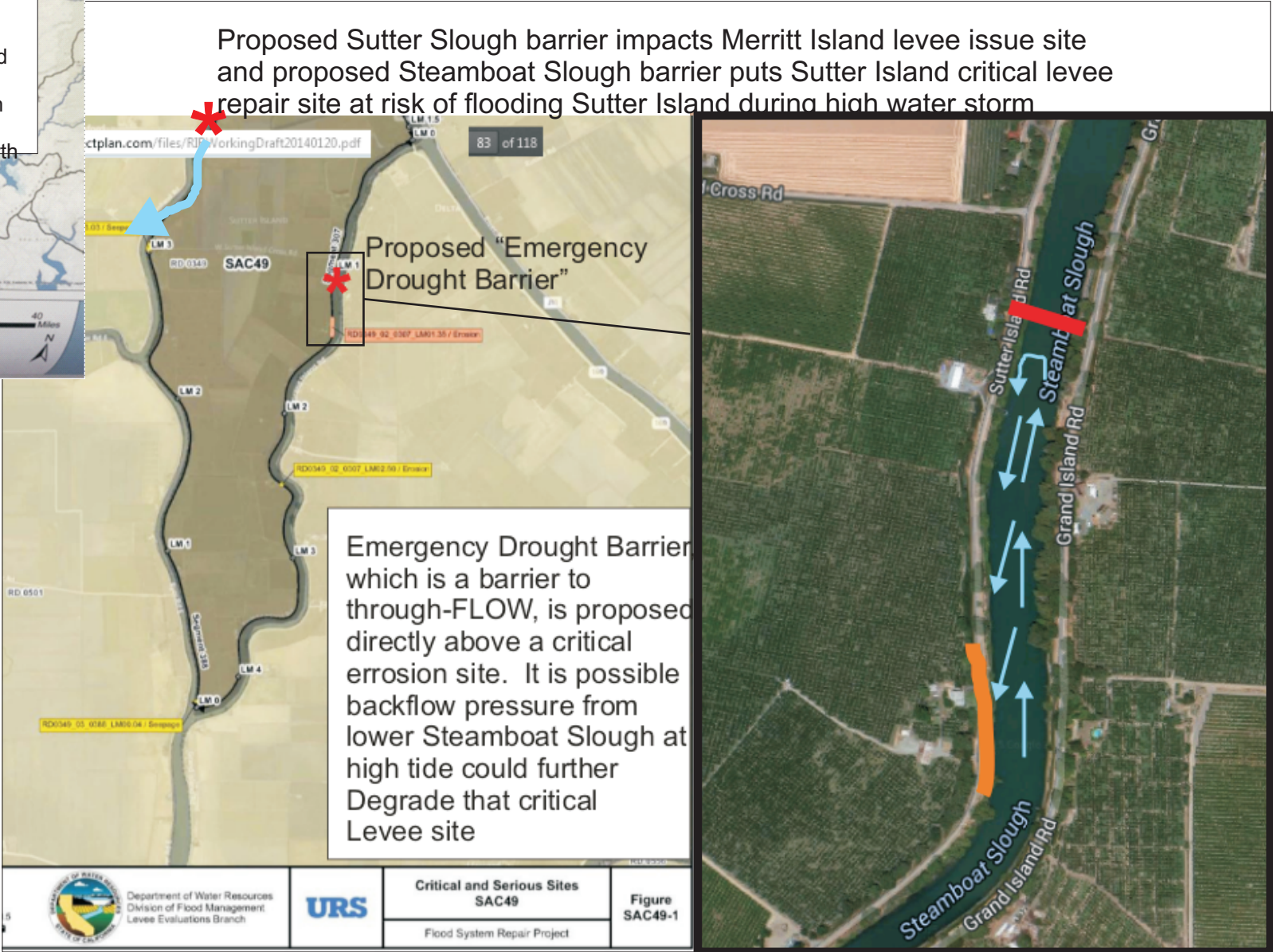
www.science.calwater.ca.gov/pdf/workshops/workshop_dci_presentation_03_majors.pdf



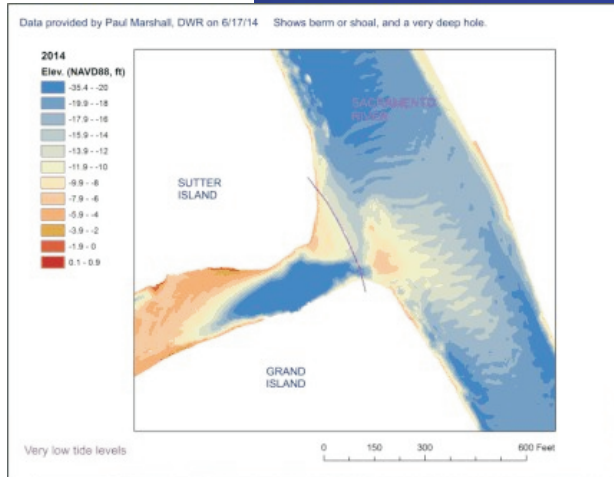
BARRIERS BLOCK BOATS, FISH AND FLOOD FLOWS



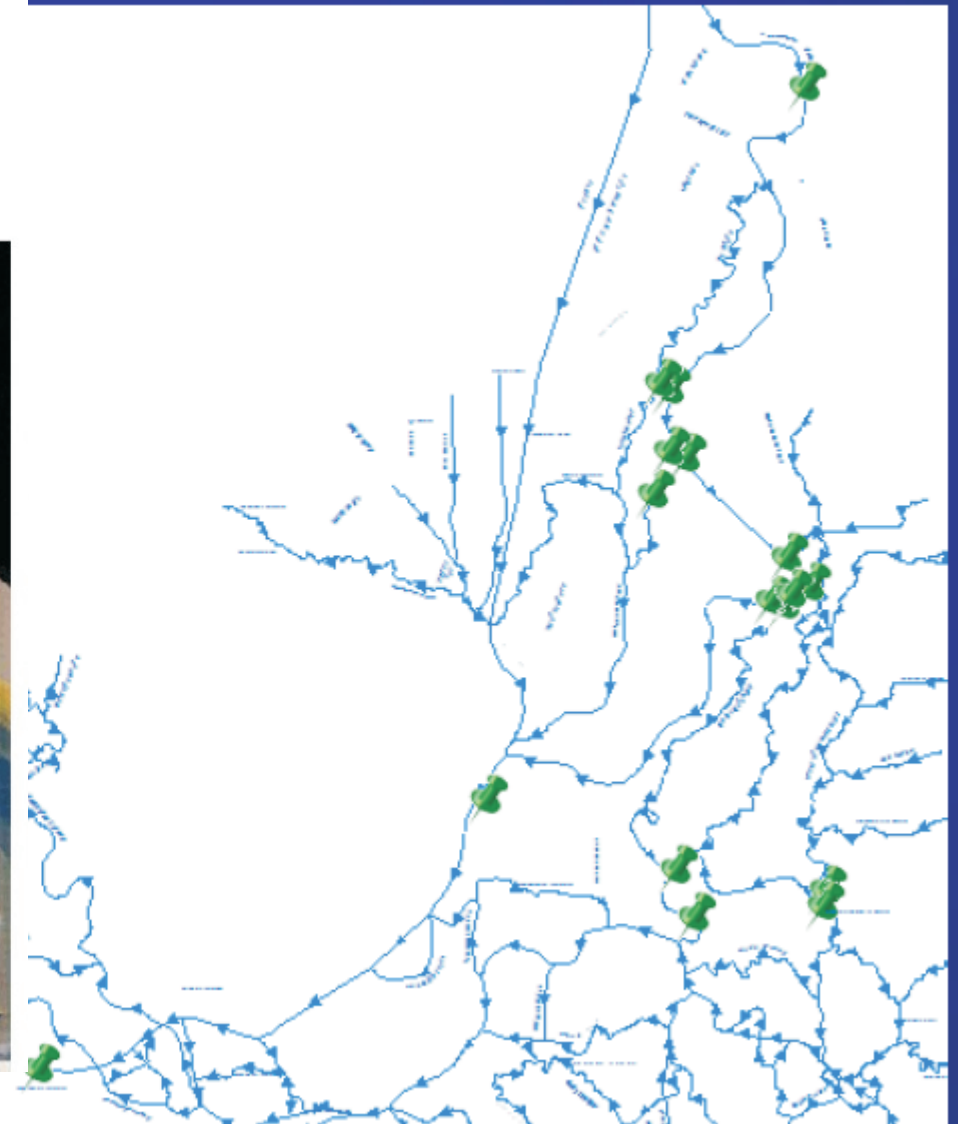
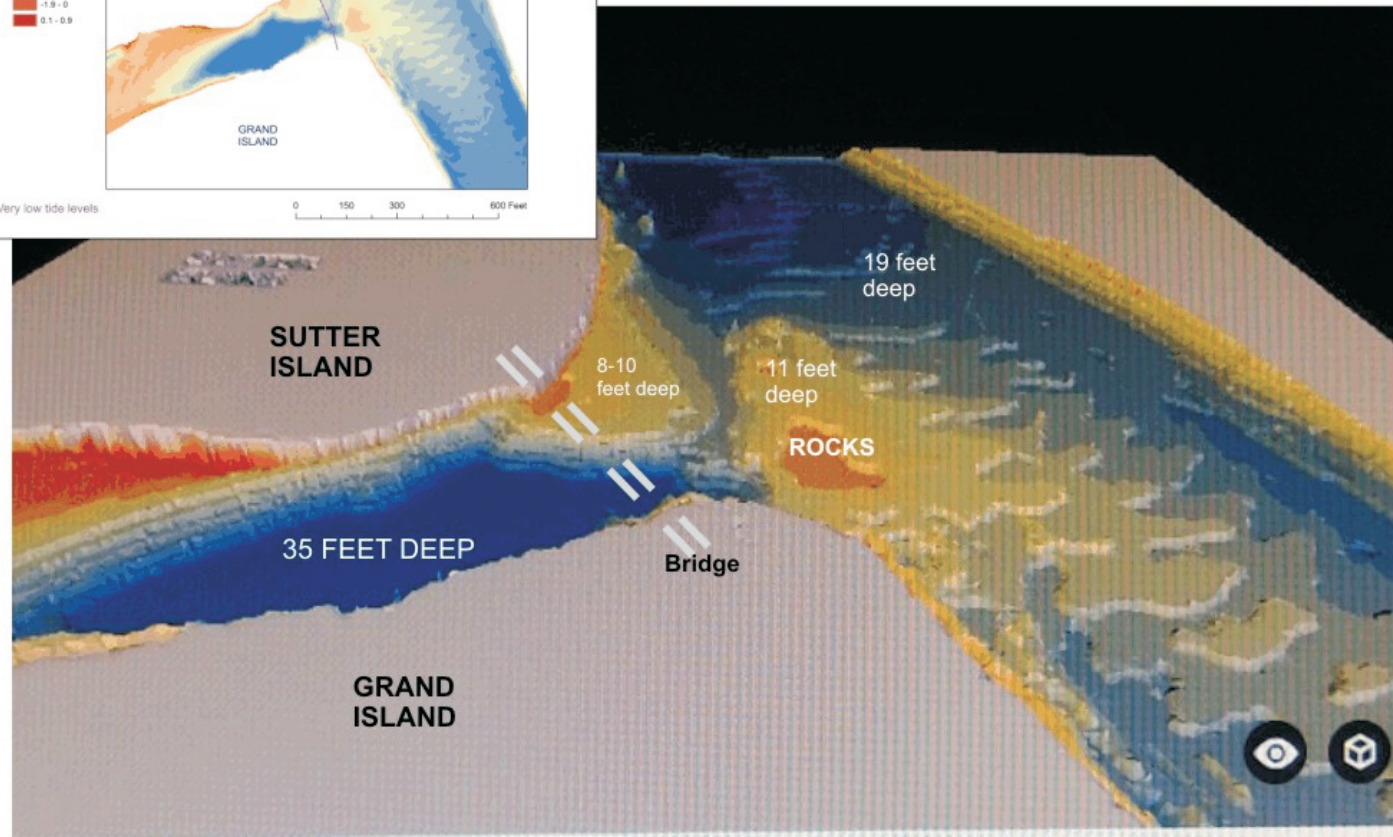
USACE is supposed to protect us from floods-that is why USACE has been the oversight agency for the levee conditions. But the proposed barriers on Steamboat and Sutter Sloughs could create new flood hazards if USACE allows the barriers to be installed without any provision for immediate removal in the case of high water flows are predicted for Northern California. Barriers must be able to be opened immediately or removed within a 24 hour period to protect the lives and properties of the North Delta farms and recreation businesses and residents



BARRIER ACROSS STEAMBOAT SLOUGH BLOCKS THE NATURAL SALMON MIGRATION PATHWAY. NOTE THAT DWR STARTED MODIFYING STEAMBOAT SLOUGH FLOW AROUND 2008, WHEN SUBSURFACE FLOW BARRIERS APPEARED THAT BLOCKS AT LEAST 50% OF FLOW INTO STEAMBOAT SLOUGH ALREADY.



Bathymetry data provided by Paul Marshall from DWR was converted to 3D model to help the viewer understand exactly where and what "the obstruction" is at the head of Steamboat Slough. Despite Mr. Marshall's assertion the shoal is "naturally occurring" the steepness of the underwater walls shown in the sonar views, and the fact an underwater camera showed rock piles indicates this "obstruction" is something other than naturally occurring, at least when the obstruction was first installed.

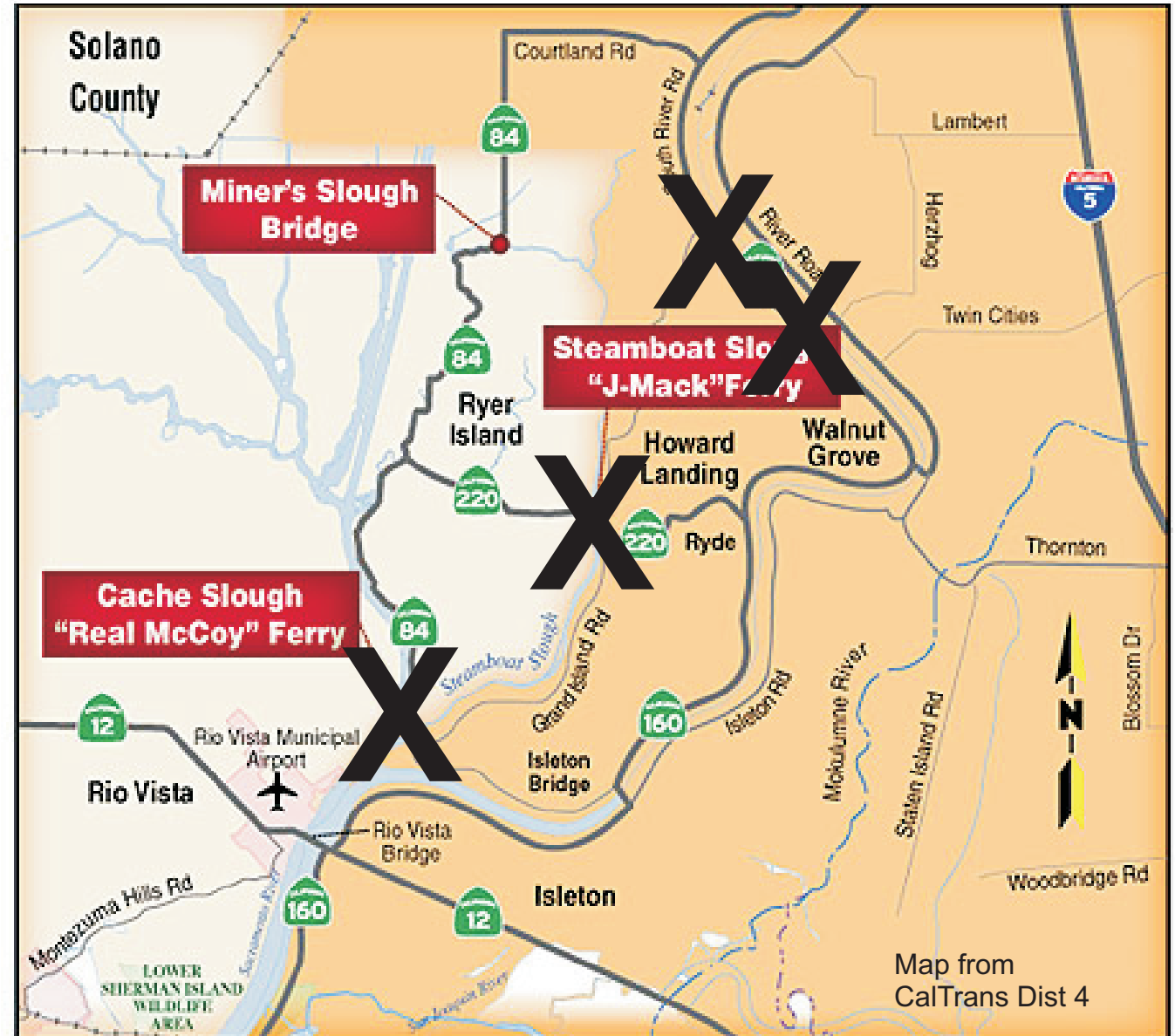


NORTH DELTA TRANSPORTATION IMPACTS

- * BLOCK OR SEVERELY HINDER LOCAL AND RECREATION TRANSPORTATION ROUTES DURING PRIME TIMES
- * LESS ECONOMICALLY AND ENVIRONMENTALLY DAMAGING ALTERNATIVES HAVE NOT BEEN CONSIDERED BY DWR

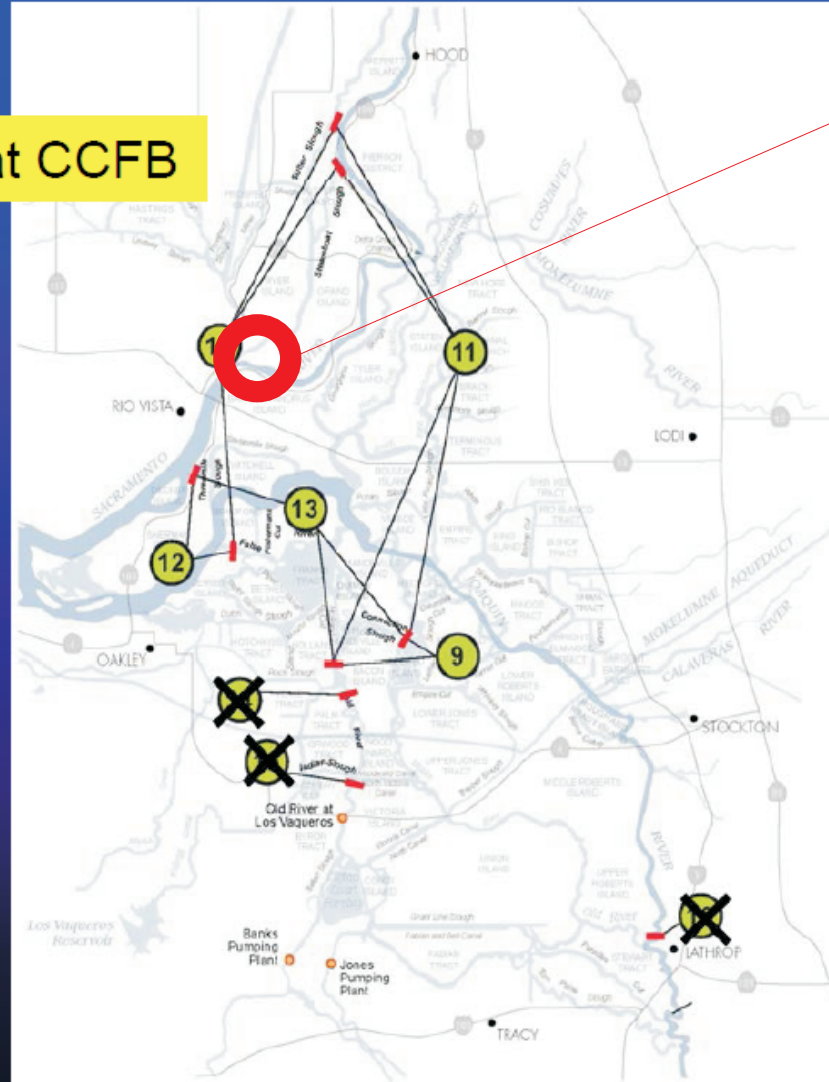
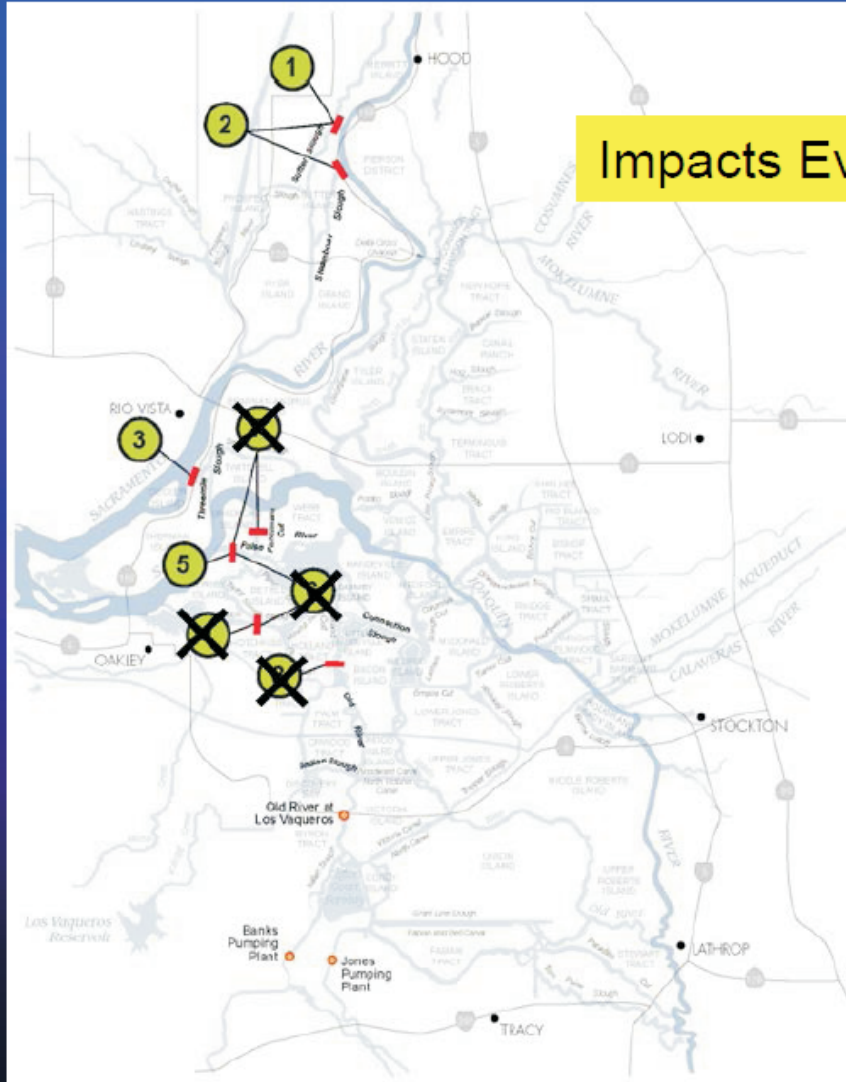
Impacts to local transportation can be very significant for farming operations and recreation visitors during the time the proposed barriers across Steamboat and Sutter Sloughs are installed and taken down. Marks were added to the CalTrans map to show the roads that would be blocked or at least traffic would be severely restricted during daytime local traffic and recreation hours.

Use your imagination regarding the local roads as this CalTrans map only shows a few of the roads of the North Delta and basically eliminates much of the Sacramento River and Steamboat and Sutter Sloughs, for some reason.



- * WATER CONTRACTORS FROM OUTSIDE THE DELTA HAD BEEN MEETING FOR YEARS, EXCLUDING ANY NORTH DELTA VOICE IN THE NEGOTIATIONS
- * NDWA CONTRACT TERMS MAY BE IGNORED, LEADING TO COSTLY LITIGATION PAID FOR BY THE TAX PAYER, NOT THE WATER CONTRACTORS
- * THERE IS NO PROVISION IN THE CURRENT DWR DOCUMENTS THAT PROVIDE FOR ADEQUATE MILITATIONS FOR DELTA LANDOWNERS WHILE THE BENEFIT OF THE BARRIERS MAKES BILLIONS OF DOLLARS FOR THE WATER CONTRACTORS IN OTHER PARTS OF THE STATE

Impacts Evaluated at CCFB



WHY HASN'T DWR CONSIDERED THE ALTERNATE LOCATION PROPOSED BY LOCALS IN MARCH 2014 FOR STUDY OF IMPACTS?

The model run results cover the period of March 24, 2015 through April 13, 2015 and are based on the following assumptions:

Common Assumptions

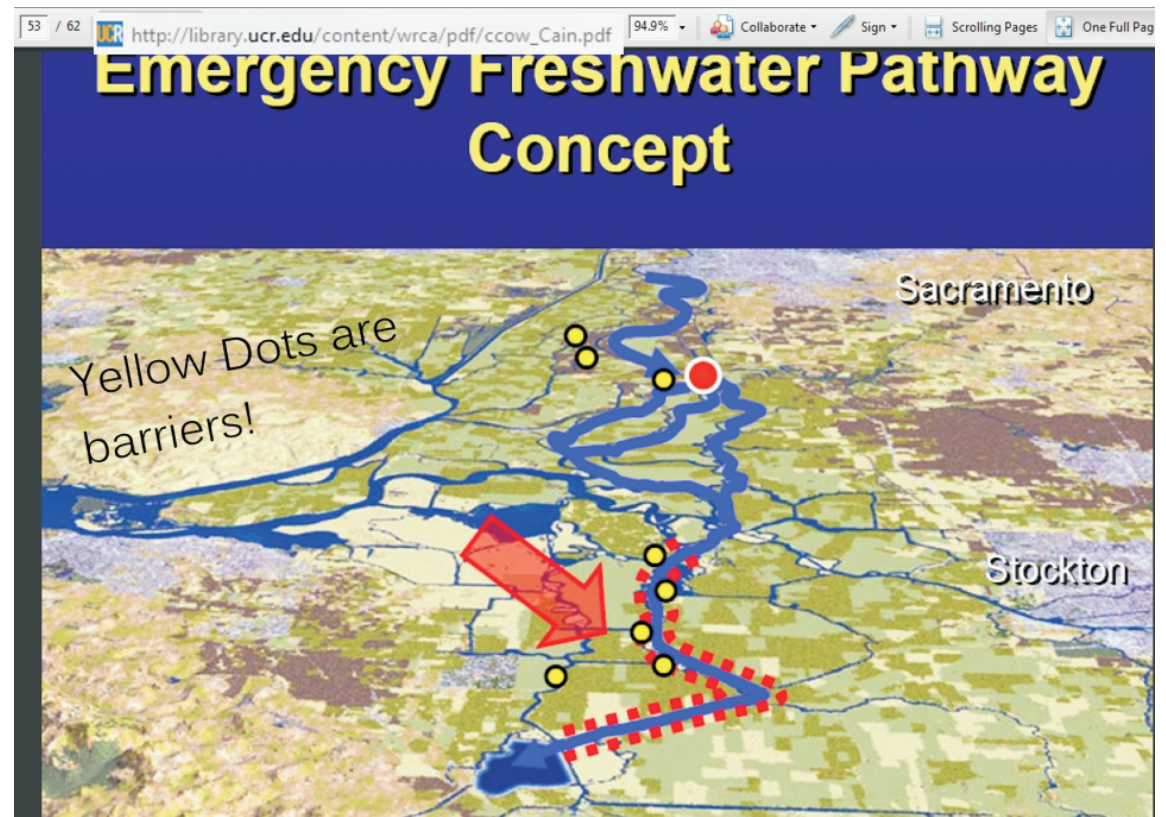
www.water.ca.gov/waterquality/drinkingwater/modeling_cond.htm

1. CCFB Gates are operating to the Priority 3 as of January 6, 2015.
2. The Delta Cross Channel gates were closed on December 1, 2014, and will remain closed throughout the forecast period.
3. The Middle River ag. barrier is anticipated to be installed on April 1, 2015 with all 6 culvert flap-gates tied open. As of April 8, all six flap-gates will be tidally operated.
4. The Old River at Tracy ag. barrier is anticipated to be installed on April 7, 2015 with all 9 flap-gates tied open. As of April 8, all nine flap-gates will be tidally operated.
5. The Spring Head of Old River barrier is anticipated to be installed on April 8, 2015 with all 8 culvert slide-gates opened.
6. The Grant Line Canal ag. barrier is anticipated to be partially installed on April 14, 2015 with all 6 culvert flap-gates tied open.
7. Suisun Marsh salinity control flashboards are installed and the three Suisun Marsh Salinity Control Gates are in tidal operation as of December 31, 2014.
8. San Joaquin River flow at Vernalis is 460 cfs at the beginning of the forecast period and increases to 1,100 cfs by the end of the forecast period due to the fishery spring pulse flow.
9. San Joaquin River EC at Vernalis is projected to decrease from 713 umhos/cm at the beginning of the forecast period to 326 umhos/cm by the end of forecast period.
10. Sacramento River flow at Freeport is 6,928 cfs at the beginning of the forecast period and decreases to 6,250 cfs by the end of the forecast period.
11. CCFB allotment is at 550 cfs throughout the forecast period .
12. Export at Jones Pumping Plant is at 1000 cfs throughout the forecast period .

How much water is being exported from intake on Empire Tract? What about the April massive diversions from Georgial Slough annually? What about the Potato Slough intake? What about federal pumping plant?

**TO MANY UNKNOWNNS AND
TO MANY MISTAKES IN FLOW DATA
USED FOR COMPUTER MODELING
FOR EFFECTS**

Before a fair and equitable resolution can be agreed upon, you have to put on the table the TRUTH. DWR and USBR have not disclosed accurate data regarding Delta operations and exports for several years. Documents show flow summary reports, export reports, impacts reports and baseline data for computer modeling are based on false or incorrectly calculated and input data. The consistent patter of inaccurate data has benefitted the water exporters to the detriment of Delta and Northern California businesses, residents and landowners. The current barriers proposal is just one element of the MWD replumbing of water conveyance through the Delta.



Graphics and data compiled by N. Suard, Esq March 3, 2015
Delta land and business owner on Steamboat Slough