Bethel Island Hazardous Materials below sea level

7 June 2016 presentation to State Water Resources Control Board by Leland Frayseth leland.frayseth@gmail.com



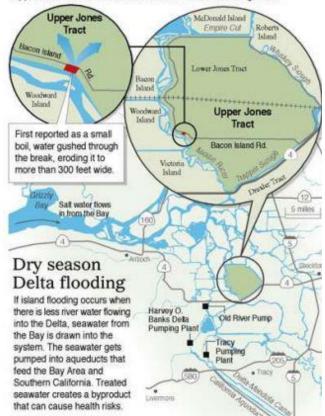


2004 Jones Tract Breach

- 08:15 Fishermen See Boil
 - Falling (ebb) Tide
- 08:55 DWR Notified
- 10:00 Pumping Reduced*
 - SWP: o cfs
 - CVP: 800 cfs
 - Delta Cross Gates Opened
- 15:00 Dutra Hired by RD
 - First barges arrive ~22:00

Levee break at Upper Jones Tract

One of the Delta's levees collapsed Thursday, allowing water to pour onto Upper Jones Tract, which sits lower than the surrounding water.

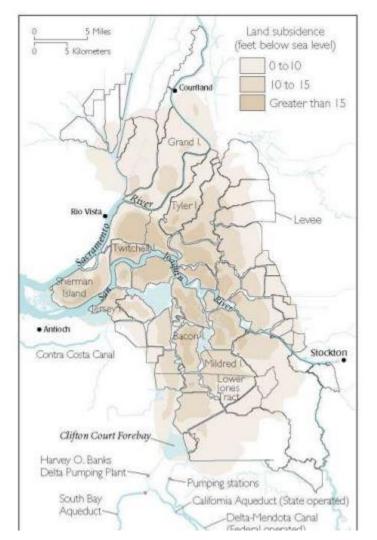


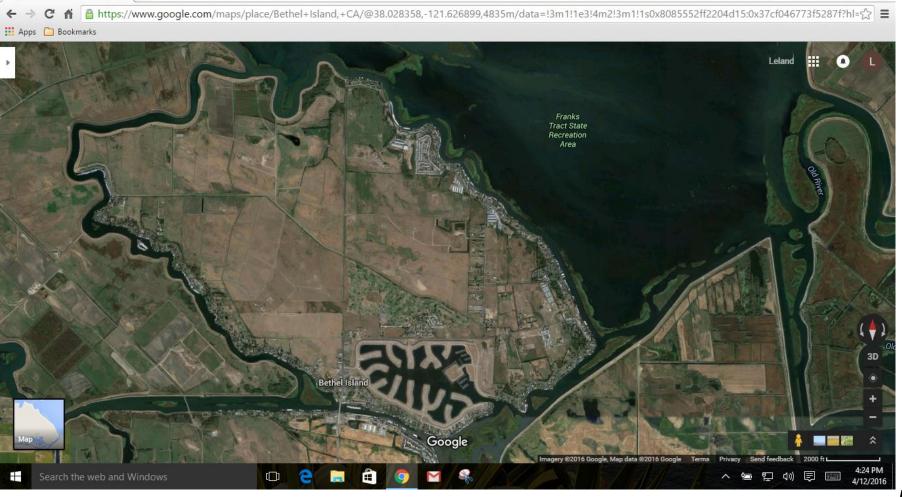


Settlement of peaty soils

Ground settlement in the peaty soils is caused by biochemical oxidation; which is exacerbated by farming, wind erosion, fires, and subsidence due to compaction of underlying units (increased effective stress triggered by groundwater withdrawal)

Deep-measurement compaction recorders are needed to permit differentiation between ground settlement caused by surface oxidation and compaction of the peaty soils from deeper subsidence resulting from groundwater and/or gas withdrawal





Bethel Island, CA - Google X

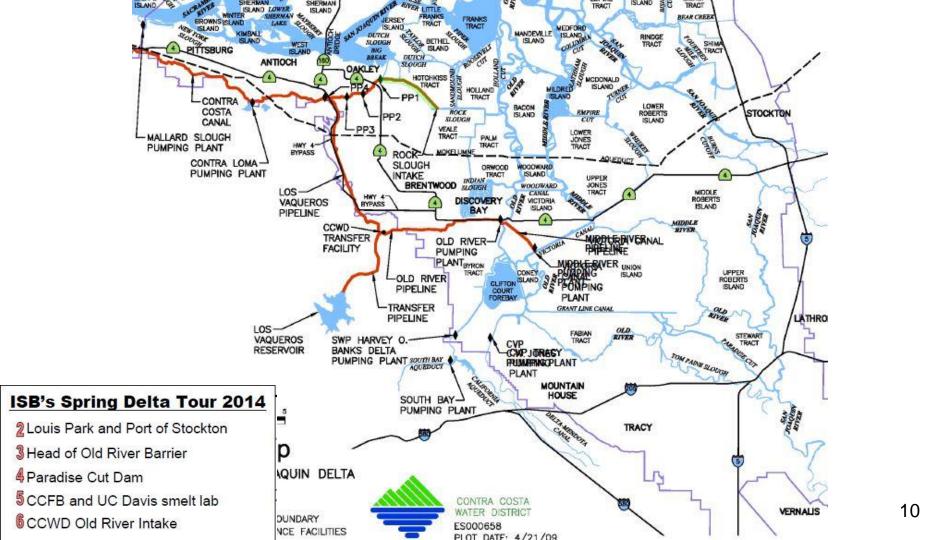






BethellslandHazMatBelowSealevel - Marina1-4

Item	Qty dry storage below sea level	Fuel	Oil	Lead acid batteries (pounds)	Leari RPB EPA<15	Notes
Marina 1						CoCo county Sheriff's boat
Boats	140			13440		
RVs	114			10944		
RoundUp	Truck full			71, 0		Used by state for delta weed abatement
Marina 2			60	30 YOU		78
Boats	100		al	9600		
Marina 3			Mo	0/2		
Boats	100	- 11		9600		
Marina 4		1,5	1,00)		
Boats	25			2400		
Total		16		45984	341	PPB calc @ 50,000 acre feet * 2.7 milion pounds per acre foot "=(E10/(2700000*50000))*1000000000"



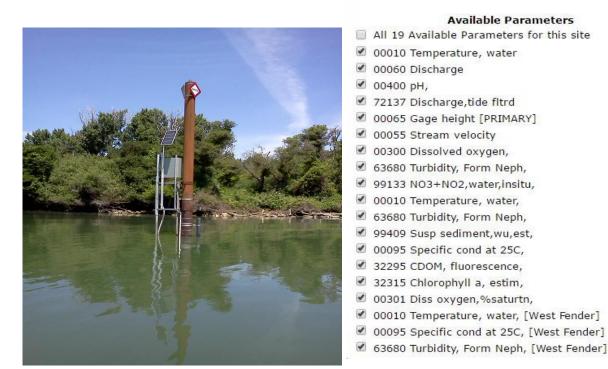
Recommendations to Contra Costa Supervisors

Contra Costa County supervisors direct infrastructure subcommittee and staff to perform Bethel Island Hazardous Materials inventory and risk assessment

Contra Costa County supervisors direct legislative subcommittee to research laws regarding Hazardous Materials stored below sea level

I talked with: CoCo Haz Mat officer and Ombudsman, they asked I present to Haz Mat and rising sea level advisory committees - I did not; my state senator's office; Adam Laputz and Stewart Black Central Valley Region 5 water board

My recommendation SWRCB ask industry/academia feasibility to upgrade nodes to measure lead, mercury, herbicides 2-4-D and glyphosate, pesticides?

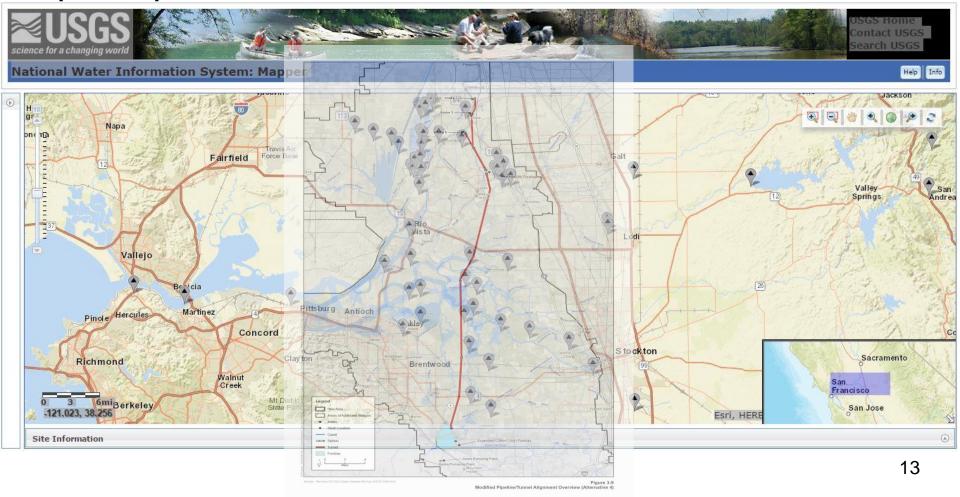


Available Parameters All 19 Available Parameters for this site 00010 Temperature, water ✓ 00060 Discharge 00400 pH, 72137 Discharge, tide fltrd 00065 Gage height [PRIMARY] ■ 00055 Stream velocity 00300 Dissolved oxygen, 63680 Turbidity, Form Neph, 99133 NO3+NO2, water, insitu, 00010 Temperature, water, 63680 Turbidity, Form Neph, 99409 Susp sediment, wu, est, 00095 Specific cond at 25C, 32295 CDOM, fluorescence, 32315 Chlorophyll a, estim, 00301 Diss oxygen,%saturtn, 00010 Temperature, water, [West Fender]

00095 Specific cond at 25C, [West Fender]

Available Period					
2007-10-01	2016-03-16				
2007-10-01	2016-05-26				
2013-08-31	2016-05-26				
2013-05-27	2016-05-24				
2007-10-01	2016-05-26				
2007-10-01	2016-05-26				
2013-08-31	2016-05-26				
2013-08-31	2016-05-26				
2013-08-30	2016-05-26				
2013-08-31	2016-05-26				
2013-05-27	2014-12-29				
2013-05-27	2016-05-26				
2013-08-31	2016-05-26				
2013-08-30	2016-05-26				
2013-08-30	2016-05-26				
2013-08-30	2016-05-26				
2015-08-04	2016-05-26				
2015-08-04	2016-05-26				
2015-07-29	2016-05-26				

Capture pre-tunnel construction baseline at nodes



Thank you. Next trip I'll bring updated slides and applewood smoked Sacramento river salmon.

Cassiopeia, Neptune, vessel Homer, vessel Pegasus and Leland

