

WaterFix Proposed Project is Not in Public Interest

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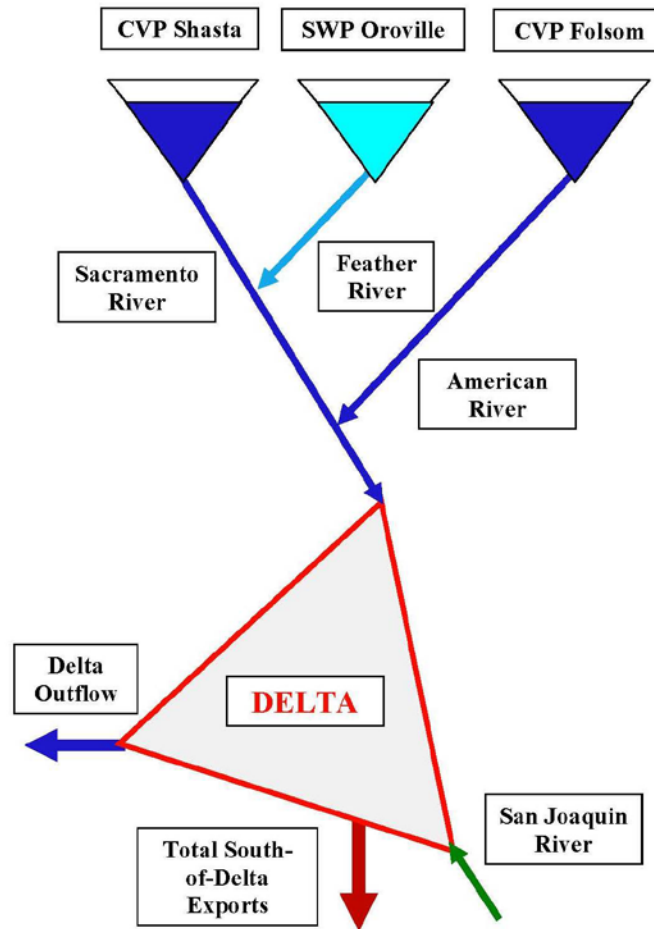
On behalf of Contra Costa County, Contra Costa
County Water Agency, and Solano County

Part 2 Rebuttal
CWF Hearing before SWRCB
Sacramento, 2018

WaterFix modeling in Part 2 does not represent how WaterFix project would actually operate

1. CWF H3+ modeling study does not represent the current version of the WaterFix project
 - SWP contractors intend to pay for most of the twin tunnels
 - CWF H3+ assumes 40% CVP share of tunnel exports
2. Petitioners do not intend to operate WaterFix according to January-August **Rio Vista** minimum flow limit in CWF H3+

Greater SWP financial stake in Twin Tunnels will change operations of CVP and SWP upstream reservoirs from that modeled in CWF H3+



CWF H3+ modeling incorrectly includes Rio Vista minimum flow restriction for January-August

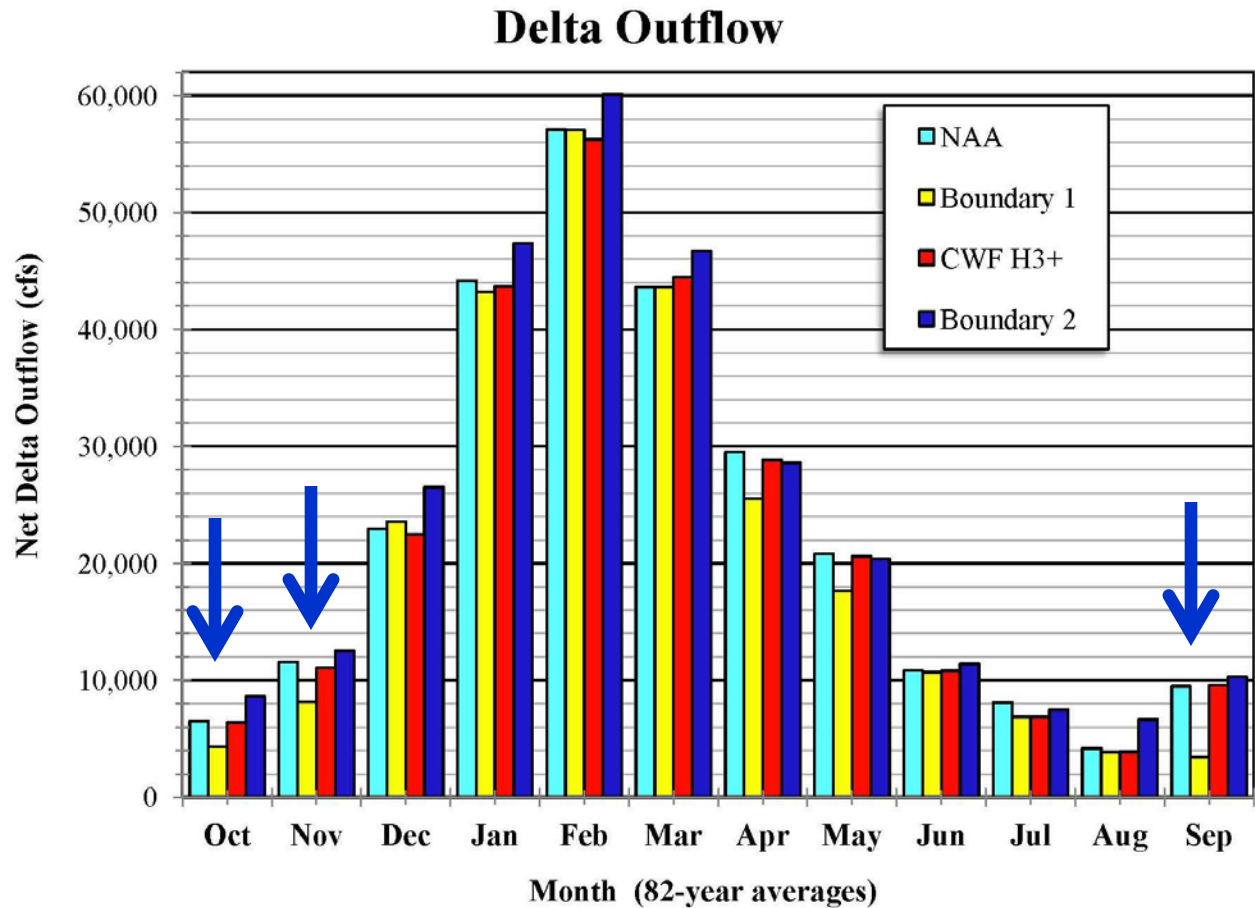
Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Average	4,465	8,503	21,199	34,918	44,134	32,622	19,691	12,733	7,015	6,380	4,562	6,921
Max	27,383	56,380	144,495	211,420	203,543	214,684	103,261	43,956	37,584	10,211	6,190	14,156
Min	2,955	3,500	4,500	4,566	6,390	5,133	5,352	3,337	3,190	3,000	3,000	2,722

1. DWR has failed to provide the SWRCB with modeling that represents the actual proposed project.
 - *i.e.*, No January-August Rio Vista minimum flows
2. CWF H3+ also fails to comply with D-1641 Rio Vista standard in September and October
 - Should be at least 3,000 cfs

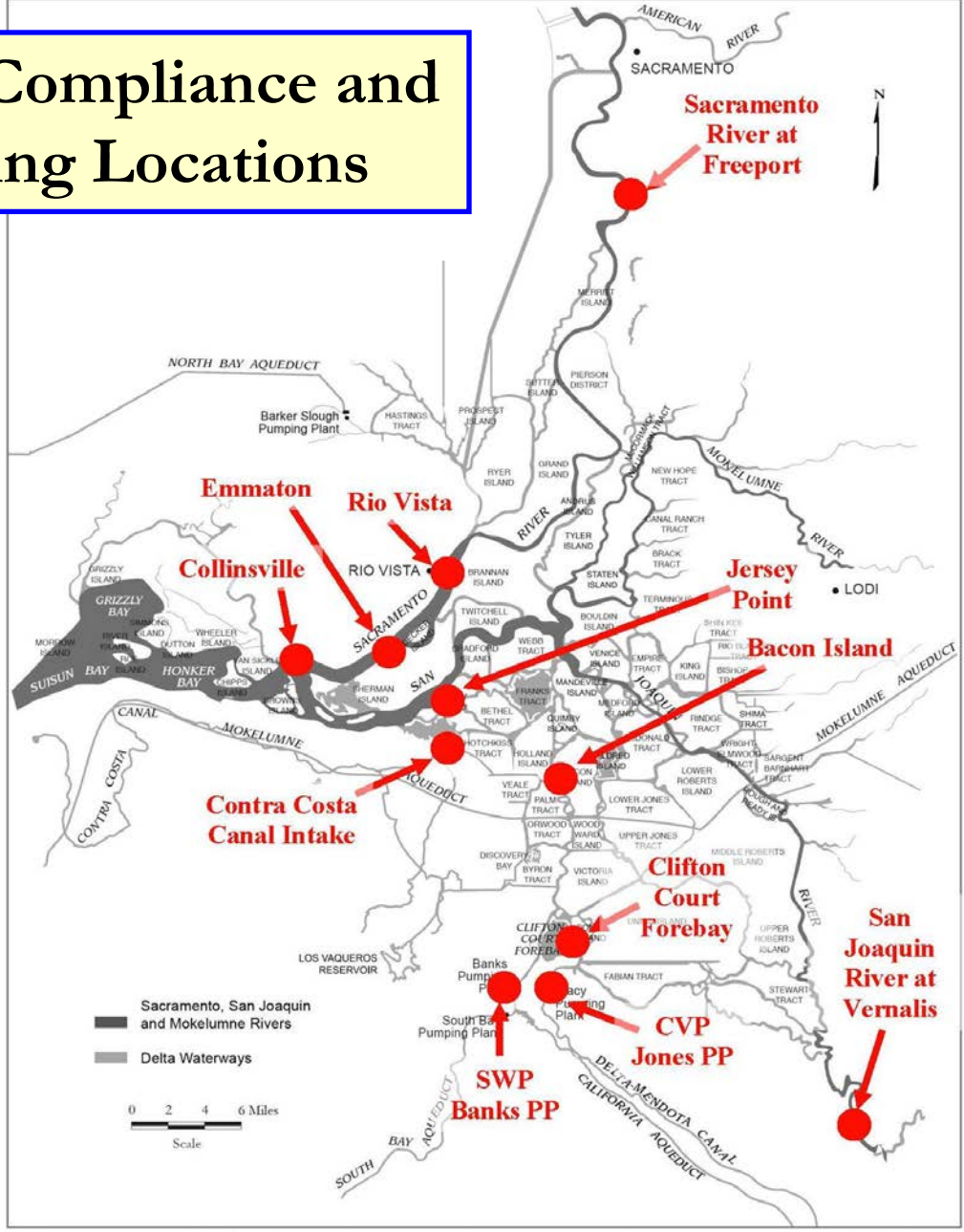
WaterFix modeling in Part 2 does not represent how WaterFix project would actually operate

- 1. CWF H3+ modeling study does not represent the current version of the WaterFix project*
 - SWP contractors intend to pay for most of the twin tunnels*
 - CWF H3+ assumes 40% CVP share of tunnel exports*
- 2. Petitioners do not intend to operate WaterFix according to January-August Rio Vista minimum flow limit in CWF H3+*
- 3. Petitioners propose to use **adaptive management** to operate to a range of operating criteria that includes **Boundary 1** (no Fall X2, no additional Spring outflows)*

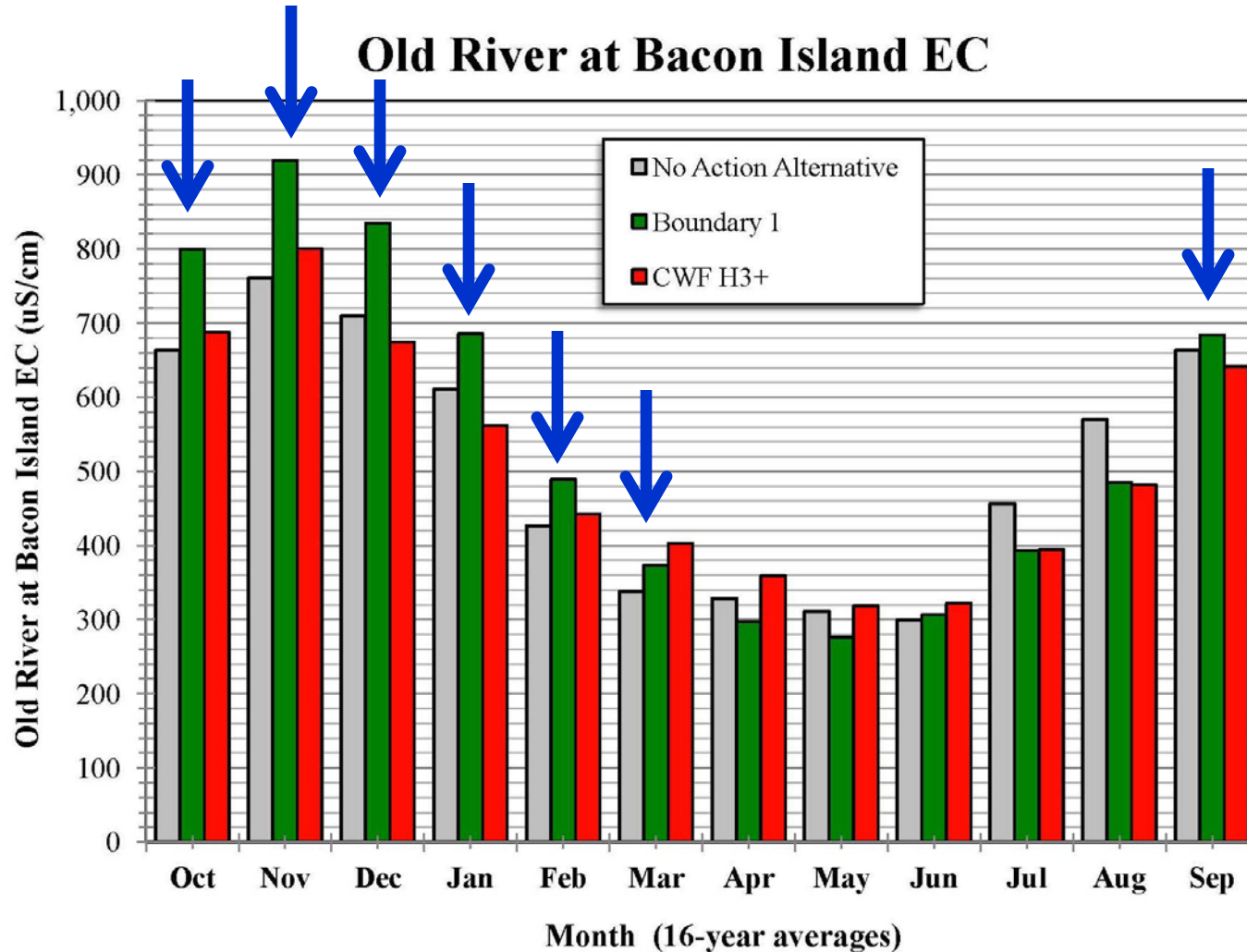
Adaptive management could result in WaterFix operating according to Boundary 1 criteria, not CWF H3+



Key Delta Compliance and Monitoring Locations




Low Delta outflows in Fall for Boundary 1 would result in significant water quality degradation



Petitioners' redefinition of D-1641 Export/Inflow ratio fails to protect eggs and larvae from entrainment at proposed north Delta intakes

1. D-1641 E/I = total south-of-Delta exports / total Delta inflow
2. Petitioners' redefinition does not include exports via north Delta intakes to twin tunnels
3. Biological objective of E/I ratio was to reduce fish, *egg and larvae entrainment* and mortality at export pumps (Joint Water Users, November 1994)
4. Petitioners' fishery expert testified in Part 2 eggs and larvae would be susceptible to entrainment at north Delta intakes
5. North Delta exports should be included in E/I ratio

Extract from Page 2-19 of November 3, 1994 “Biological Explanation
of the Joint Water Users Proposed Bay-Delta Standards”
(CCC-SC-62)

 **Biological Objective:** Reduce fish, egg, and larvae entrainment and mortality at the pumps through export restrictions and intensive real-time monitoring/response designed to detect presence of fish in areas adjacent to the pumps.

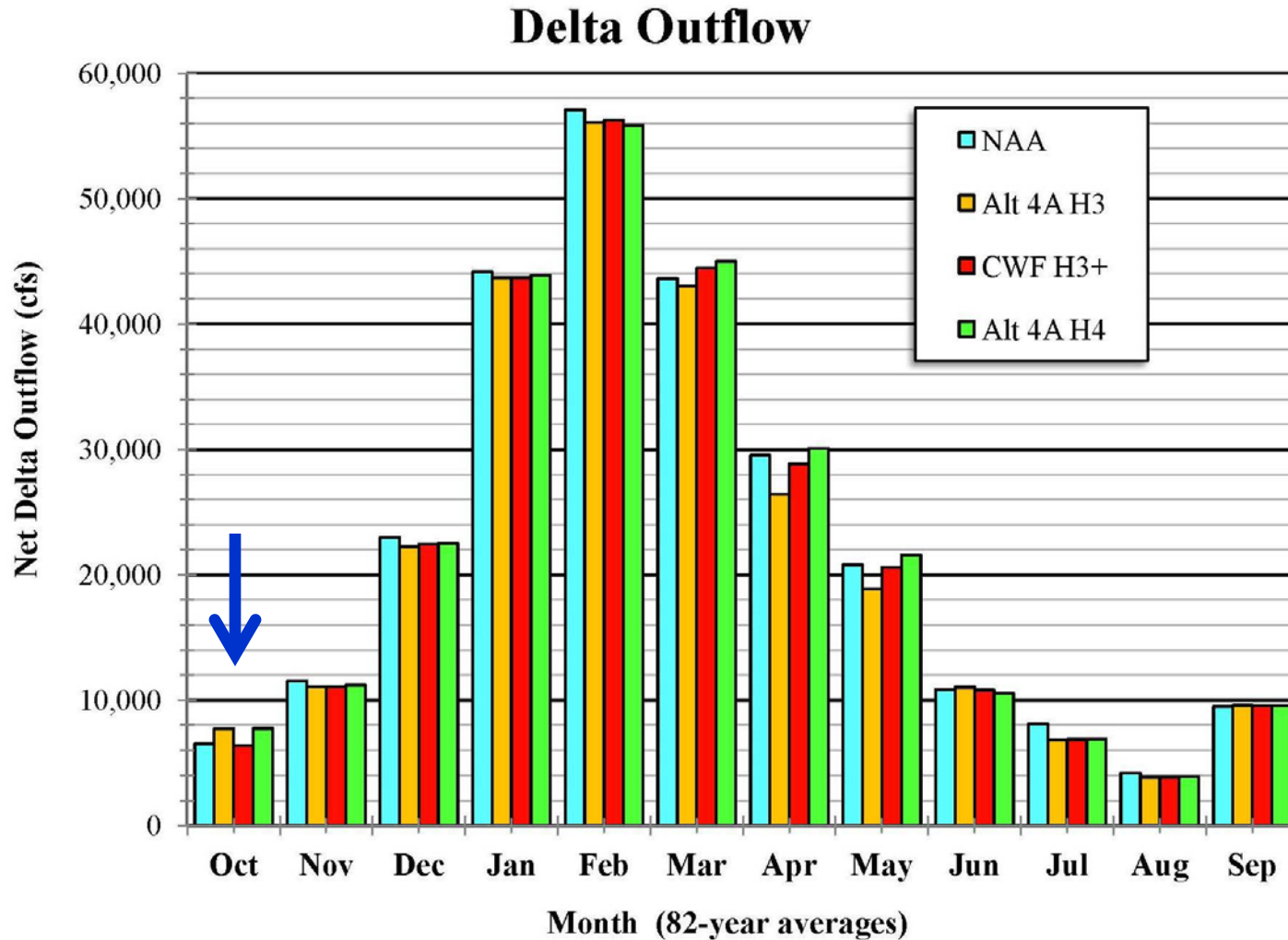
Intended Benefits: Development of the export/inflow concept was founded on two basic principals which include (1) exports may increase during periods when higher volumes of fresh water are flowing through the Delta without increasing the risk of adverse biological effects and, correspondingly, exports should decrease during those years when fresh water inflow to the Delta is decreased and a larger percentage of fish and other aquatic organisms are geographically distributed further upstream where their susceptibility to export losses is increased, and (2) the percentage of water diverted in recent years, particularly during the spring, has increased substantially above diversion levels (expressed as a ratio of exports to inflow) during earlier years when aquatic resources inhabiting the Bay-Delta system were at more acceptable levels. An analysis was performed using inflow and export data from DWR Dayflow to investigate the inflow/export ratios during the spring (March 1-June 30) for various water year types during two historic periods. Data were

**CWF H3+ is not within range of Alternative 4A,
scenarios H3 and H4**

Some of CWF H3+ operating criteria are very different than operating criteria for H3 and H4:

1. More stringent restrictions on south Delta exports in April and May (San Joaquin inflow / exports ratio)
2. No minimum OMR flow of -5,000 cfs in October and November
3. March outflow requirement

CWF H3+ Delta Outflows lower than H3 and H4 range in October



CVP and SWP Deliveries south of the Delta (DWR-1069, Figure 51)

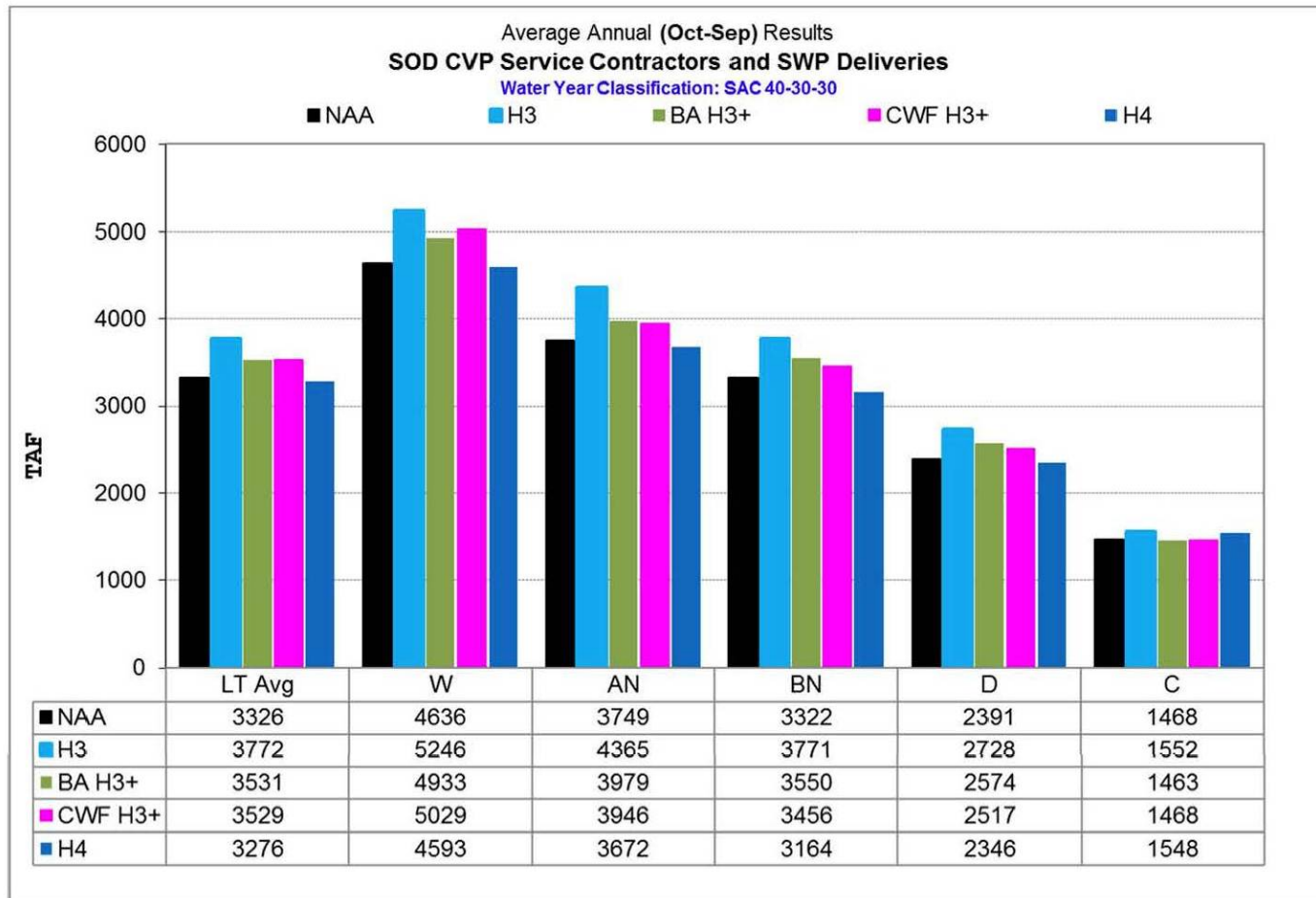
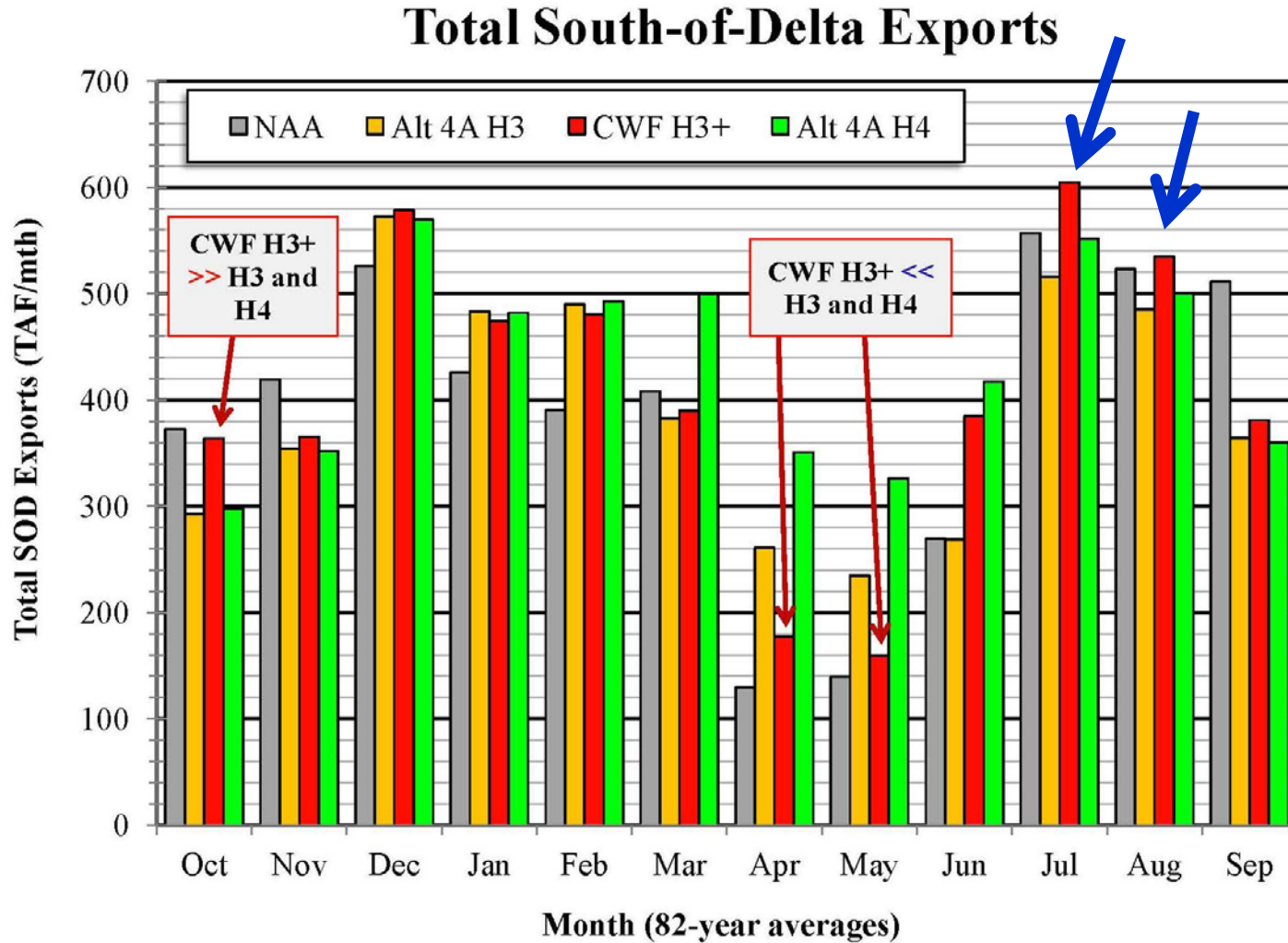


Figure 51: Simulated Combined SWP and CVP South of Delta Water Service Contractor Deliveries

South-of-Delta Exports for CWF H3+ are outside range of H3 and H4 Exports

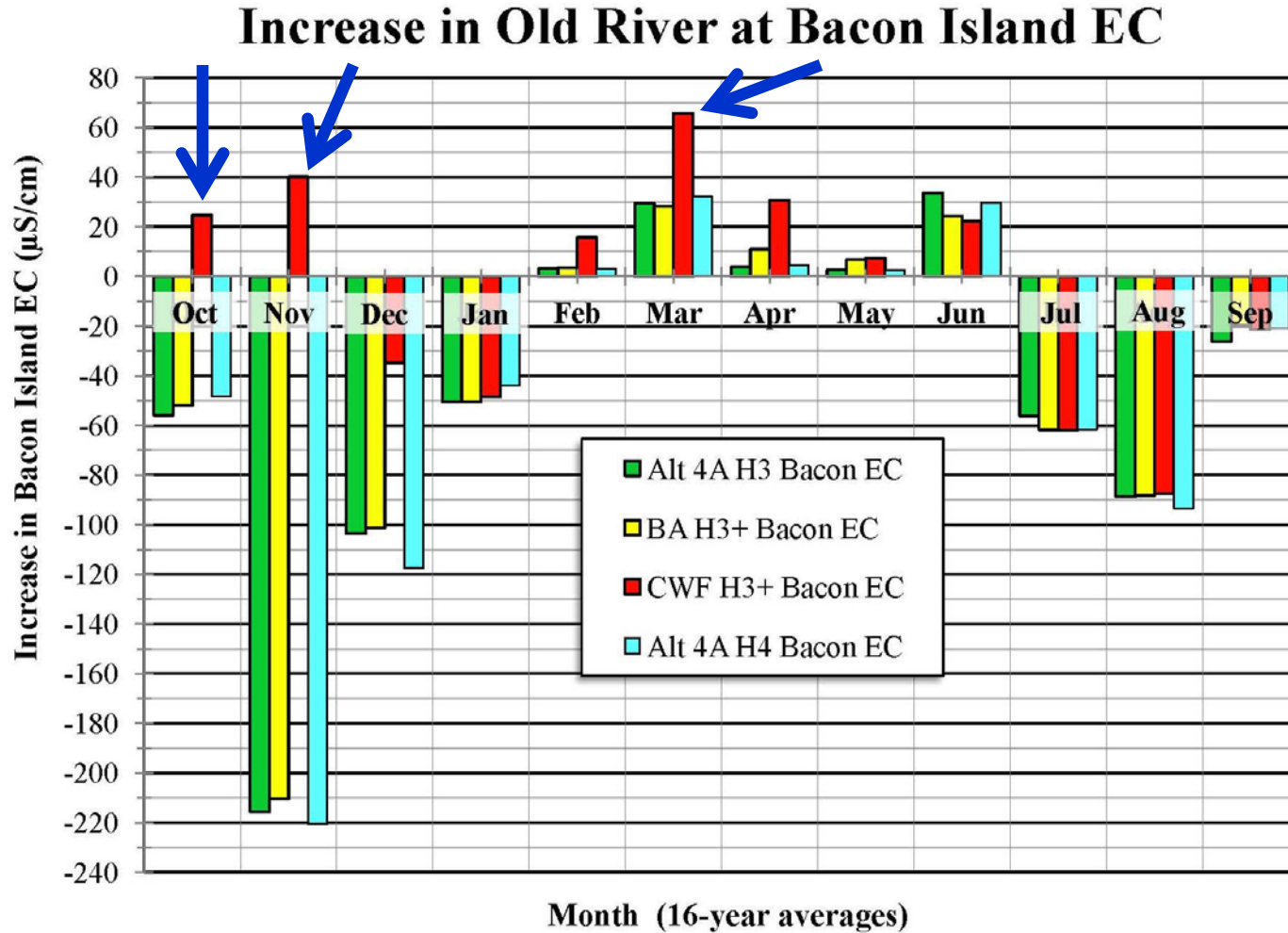


**CWF H3+ is not within range of
Alternative 4A, scenarios H3 and H4**

**Effects of change in operating criteria between
Part 1 and Part 2**

1. CWF H3+ Delta outflow much lower than H3 and H4 in October
2. CWF H3+ total exports greater than both H3 and H4 in October, July and August
3. CWF H3+ total exports less than both H3 and H4 in April and May

Delta salinities for CWF H3+ are outside range of H3 and H4

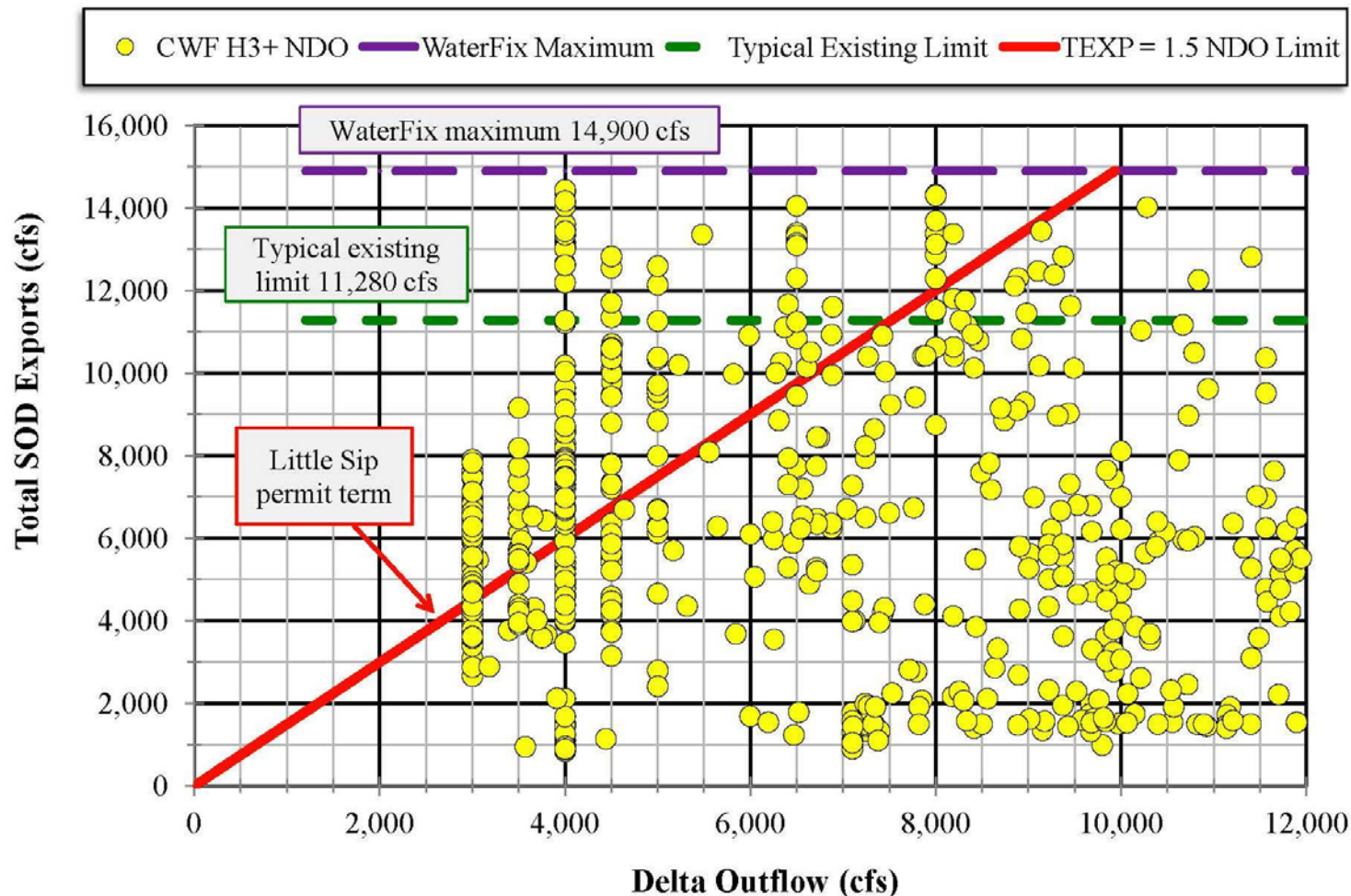


CWF H3+ is Not Within Range of Alternative 4A, Scenarios H3 and H4 (continued)

5. Degrades Delta water quality (EC and chlorides) much more than H3 and H4
6. CWF H3+ increases Delta salinities in October, November, February, March and April more than H3 and H4
7. Increases salinities in October and November – H3 and H4 showed large decreases
8. Petitioners claim results of CWF H3+ similar to H3 and H4, and if not, then similar to NAA
 - Petitioners skipped detailed disclosure of significant adverse water quality impacts of CWF H3+
 - Only mitigation offered is adaptive management of Delta operations by DWR to minimize “*reduced water quality conditions*” (WQ-11)

CWF H3+ does not comply with Little Sip concept

Total South-of-Delta Exports -- CWF H3+



Proposed WaterFix project CWF H3+ does not comply with Big Gulp, Little Sip concept

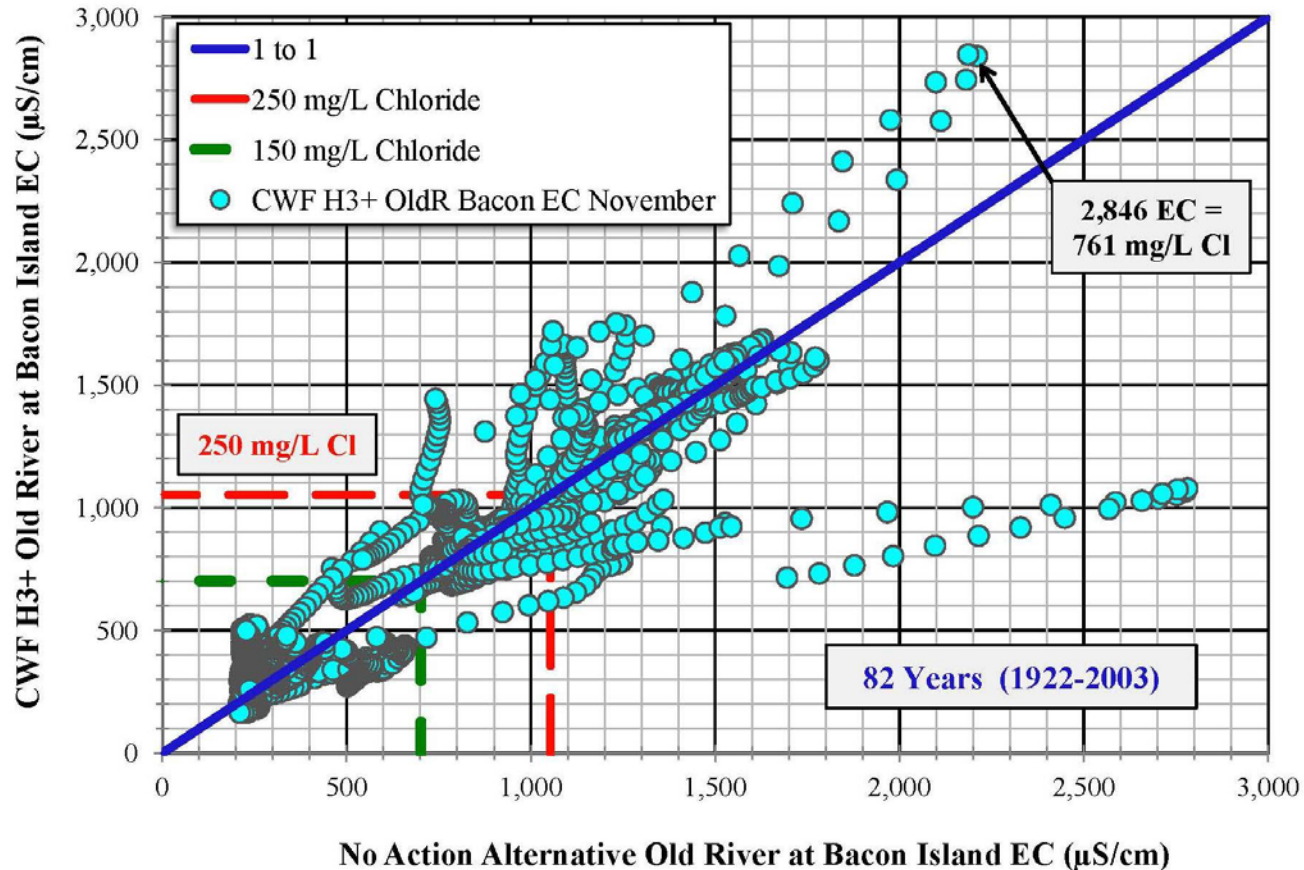
1. Petitioners testified WaterFix, represented by CWF H3+, will “*reduce water exports in drier years when Delta aquatic resources are subject to increased stresses; and increase Delta exports in wetter years when aquatic resources are not as affected by stresses in the Delta*” (DWR-1010, Page 12)
2. However, CWF H3+ modeling shows increases in total exports during periods of low outflow – 30% increase above typical existing maximum of 11,280 cfs
3. Limiting total exports based on Delta outflow would ensure new Bay-Delta projects do actually contribute to reducing exports in drier periods
 - *e.g.*, Maximum total exports = 1.5 times Delta outflow

Problem with Proposed WaterFix Project and CWF H3+ Modeling Study

- Salinities near Contra Costa Canal intake well in excess of the daily D-1641 250 mg/L chloride M&I standard
- This renders CWF H3+ modeling useless for decision making

CWF H3+ modeling shows salinities well in excess of D-1641 M&I water quality standards

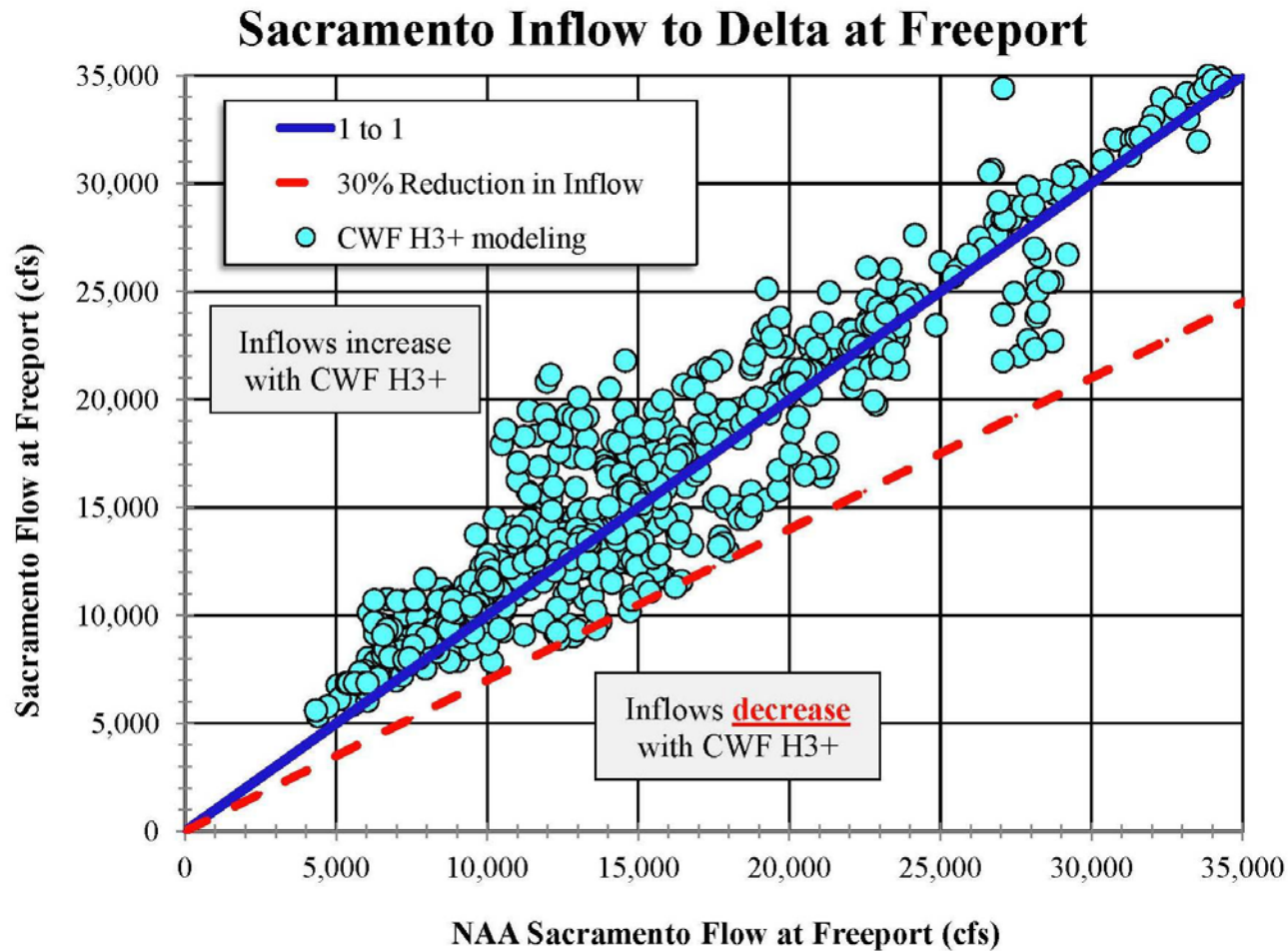
Old River at Bacon Island Daily EC -- November



Problem with Proposed WaterFix Project and CWF H3+ Modeling Study

- WaterFix reduces Sacramento inflows to Delta at Freeport at certain times, including February-June
- SWRCB recommending increasing Sacramento and Delta inflows as part of the current Bay-Delta WQCP update

CWF H3+ would reduce Sacramento inflows to the Delta at Freeport



Other Problems with the Proposed WaterFix Project and the CWF H3+ Modeling Study (continued)

3. Delta inflows and outflows not presented as percentages of unimpaired flow
4. Consequences of eliminating minimum OMR requirements in October and November are not disclosed
 - Significant degradation of water quality in the Fall
 - Are export reductions during San Joaquin pulse flow in October modeled correctly?
5. Water is to be purchased from willing sellers to meet enhanced Spring outflows
 - Contracts and funding sources are not identified

Principles for Developing Permit Terms

1. *Set specific limits on operation of proposed project*
2. *Ensure proposed project exports less water in drier periods*
3. *Consider limiting use of north Delta intakes and tunnels to times when Delta outflows are consistent with 2010 Delta Flow Criteria*
4. *Ensure proposed project does not reduce Sacramento inflows to Delta*
5. *Require new environmental analyses of Bay-Delta impacts, and a new water rights hearing, if future changes to SWP and CVP systems allow greater use of WaterFix facilities*
6. **Ensure adaptive management of proposed project does not cause additional adverse impacts on water quality and legal users of water (like Boundary 1 would)**

Conclusions

1. CWF H3+ does not represent how proposed WaterFix project will actually operate:
 - SWP share of twin tunnel exports will be greater
 - January-August Rio Vista minimum flows will not apply
 - Adaptive management for fish will change operations and further impact water quality and legal users of water
 - Purchased water for spring outflows may not be available
 - Daily M&I water quality standards not being met
2. CWF H3+ is not within range of H3 and H4
3. Unless modeling represents actual project, SWRCB will lack the basis to make a properly informed decision
4. WaterFix conveyance-only project is not in the public interest