



San Joaquin Tributary Association

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February 21, 2012

Richard B. Norgaard, Chairperson
Independent Science Board
Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, California 95814

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RE: *January 13, 2012 State Water Resources Control Board
Presentation to the Independent Science Board*

Dear Chairperson Norgaard & Members of the Board:

The San Joaquin Tributary Association ("SJTA") submits this letter in response to the State Water Resources Control Board's ("SWRCB") presentation to the Independent Science Board ("ISB") on January 13, 2012 ("Presentation"). The SJTA has serious concerns with the validity of several key pieces of information presented to you.

The SWRCB continues to emphasize the importance of an unimpaired flow regime because, as asserted at the January 13, 2012 meeting, "flow is the master variable." The SWRCB offered several graphs intended to support this assertion. These graphs are critically flawed, grossly misrepresent data, and are clearly disingenuous.

The SWRCB presented the graphs to show a visual disparity between unimpaired and actual flows. However, the graphs are intelligently dishonest and miss the point because they do not speak to critical contributing elements. For example, unimpaired flows are measured in the foothills at the inflow to rim dams and combined without accounting for natural variables—such as interaction with groundwater—that decrease the actual amount of unimpaired flow as the water moves toward Vernalis. Not accounting for this loss will naturally create a larger gap between the unimpaired flow at the granite rim dams and the observed flow at Vernalis.

Additionally, the graphs are misleading because they assume that water above 5,000 cfs to an undetermined amount is the best case scenario without factoring in flood stages and levee failure. The SWRCB does not acknowledge that there is a point where more flow is not any more beneficial than less, or explain why fish or habitat restoration need more than 5,000 cfs.

Further, the SWRCB does not explain why any certain amount of flow will create beneficial results, only that the unimpaired flows are greater than the actual flows. It is illogical to generate flow for flow's sake without answering the question of what amount of flow will restore and maintain the Delta.

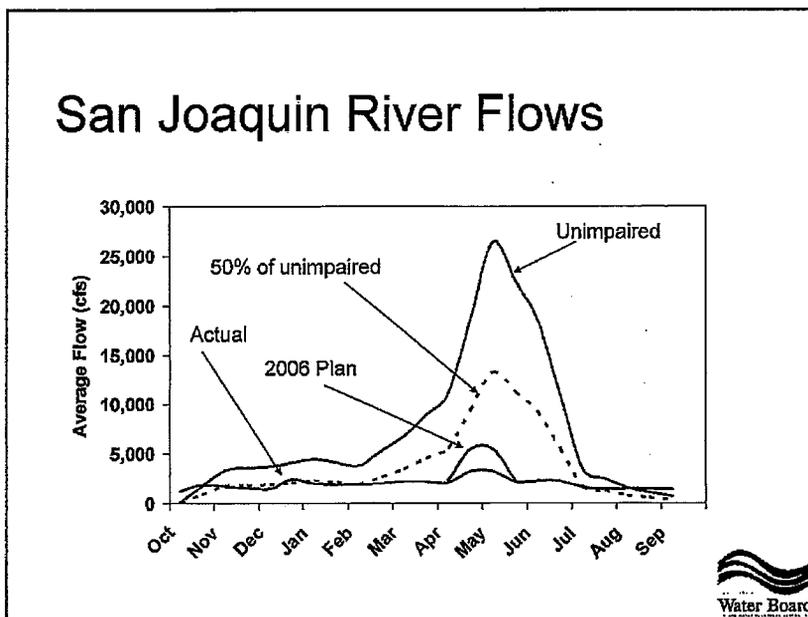
For the additional specific reasons below, these graphs do not support the SWRCB's conclusions.

"San Joaquin River Flows"

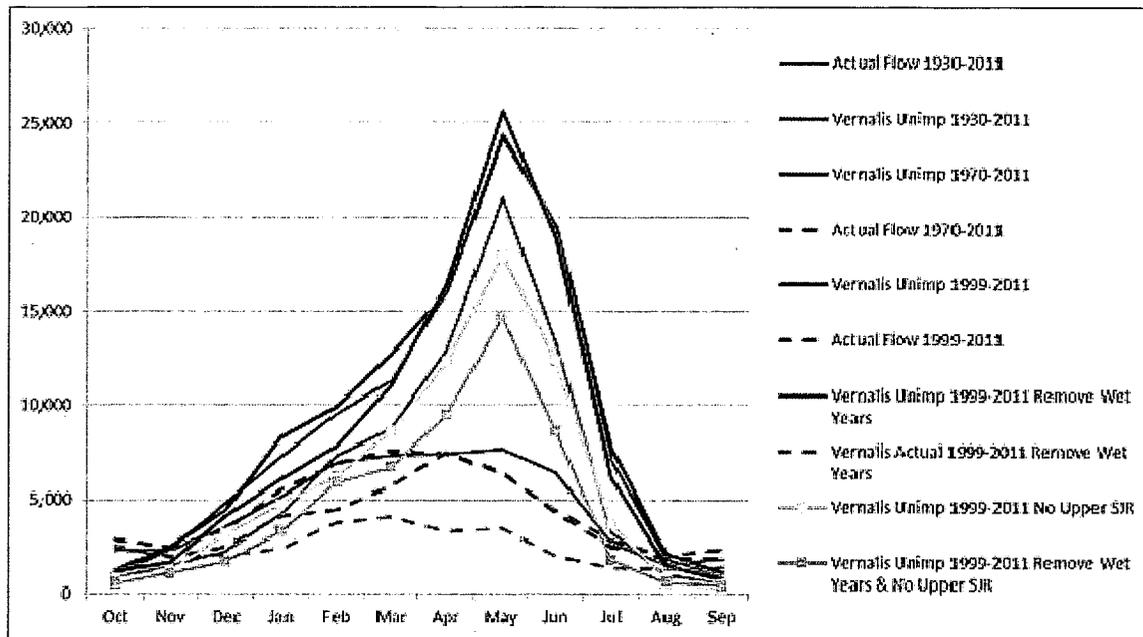
The SWRCB's graph depicts unimpaired flow, 50% of unimpaired flow, 2006 Plan flow, and actual flow for October through September. Initially, and as Dr. Lauren Hastings pointed out, it is unclear what average year or years this represents. Without such a critical piece of information, the graph becomes useless.

Even supposing such information was known, this graph still renders any conclusion meaningless because it is in essence comparing apples to oranges. The unimpaired flow appears to consider the San Joaquin watershed as a whole, including the upper San Joaquin River. The actual flow, on the other hand, can be assumed to consider only significantly the Stanislaus, Tuolumne, and Merced Rivers because the upper San Joaquin River watershed did not contribute much to the observed flows.

The SWRCB's graph as submitted to you does not tell the whole story and depicts skewed data with unknown and unclear input variables:

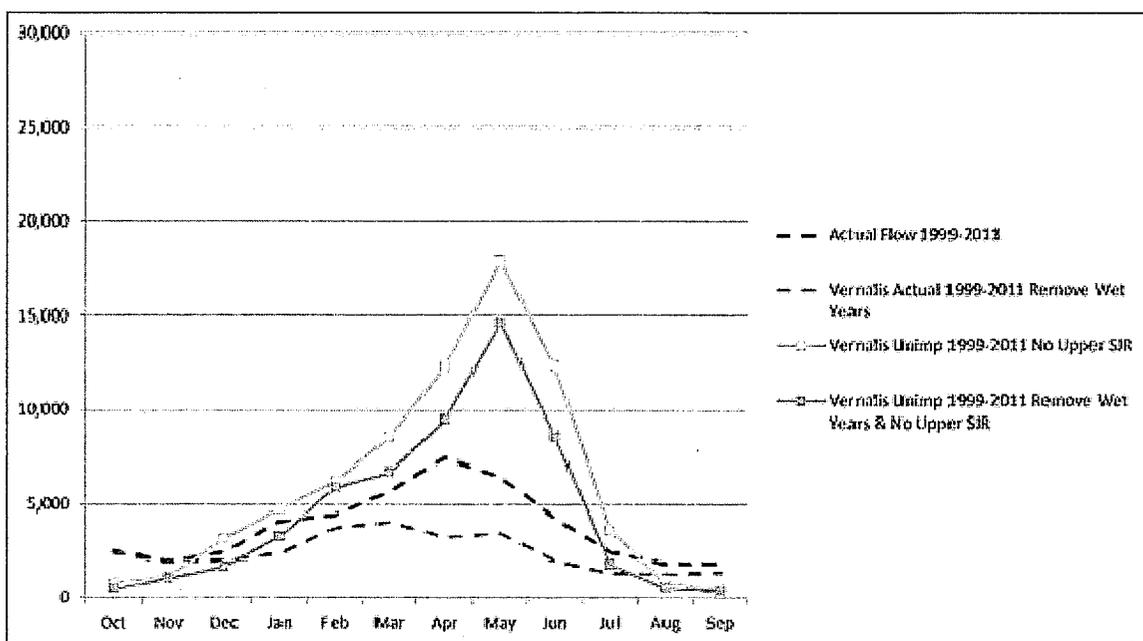


A more objective and accurate graph would look closer to this:



Each of the values in the above graph presents a more complete picture of unimpaired and actual flows.

Narrowing it down further, the following graph shows a comparison of recent numbers (i.e. 1999 – 2011) during which the San Joaquin River Agreement/Vernalis Adaptive Management Plan existed. It also removed wet years to produce a more reliable average without tipping the results due to any one or more wet years:

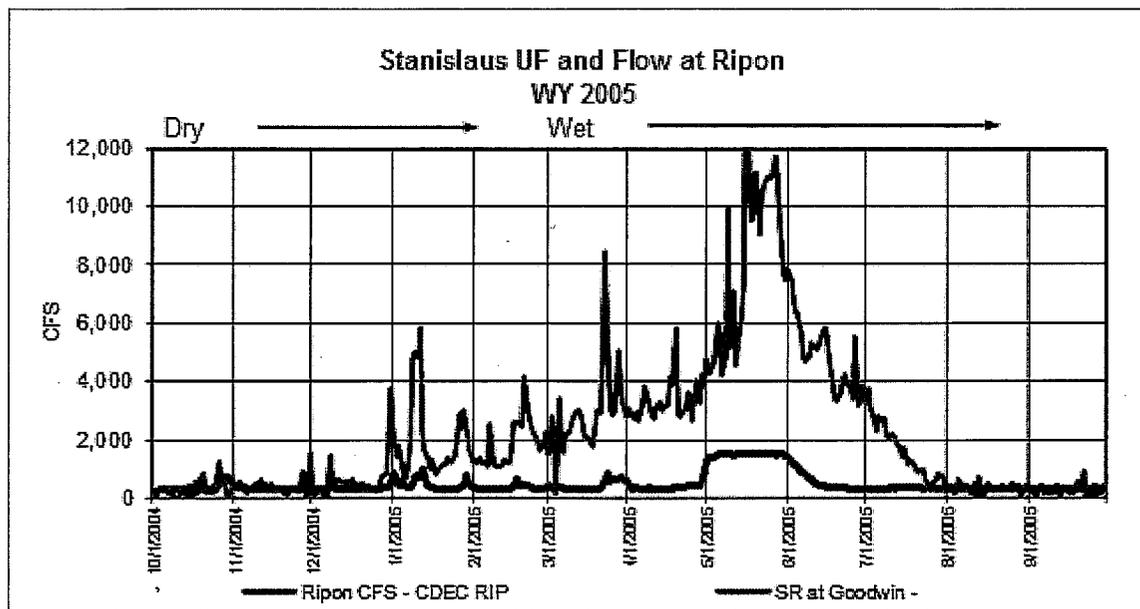


The ISB needs a comprehensive and correct explanation of unimpaired and actual flows. The graph presented by the SWRCB does not show the entire picture; rather, it depicts a weighted and unclear image of San Joaquin River flows.

“Typical Hydrograph – Stanislaus”

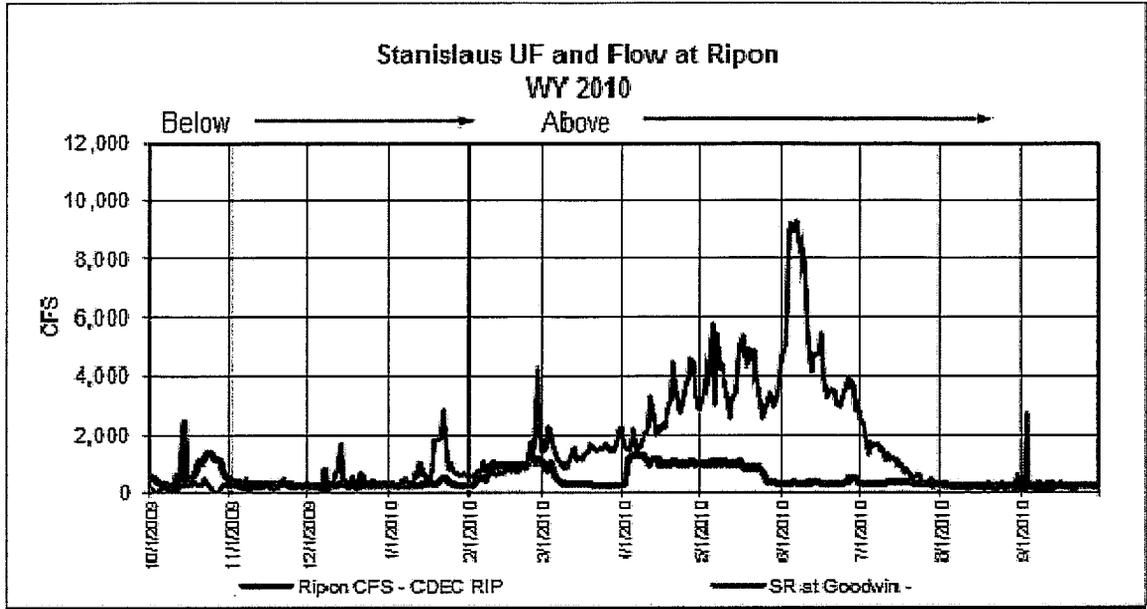
This graph is not “typical.” It is anything but typical because it represents the year 2005, a wet year. In fact, 2005 was the fifteenth wettest year in the past ninety years.¹ Such drastically high (or low) flow events skew data and any resulting analysis, as the ISB noted at the meeting. Presenting such an anomalistic year as “typical” is dubious at best and should be put within the context of other types of years such as the following:

Wet year:

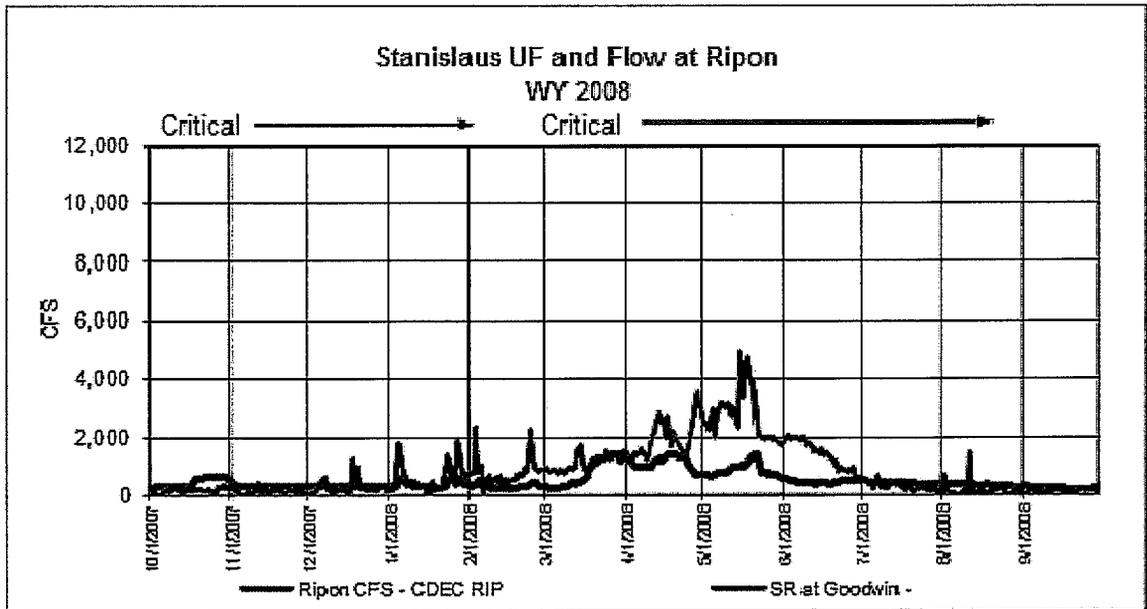


¹California Central Valley Unimpaired Flow Data (2007), extended by Daniel B. Steiner, Consulting Engineer.

Near-median year:

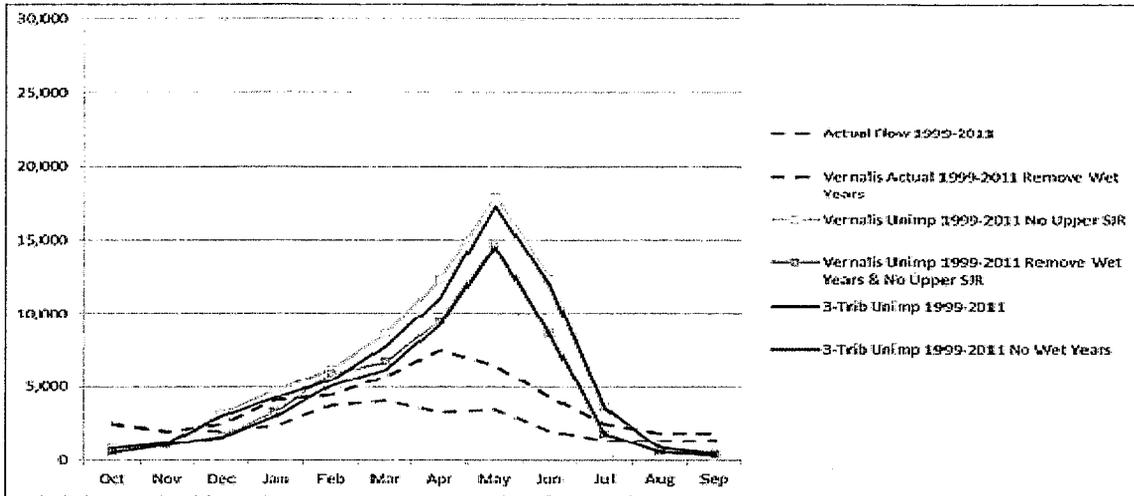


Critically dry year:



“Monthly Flows at Vernalis”

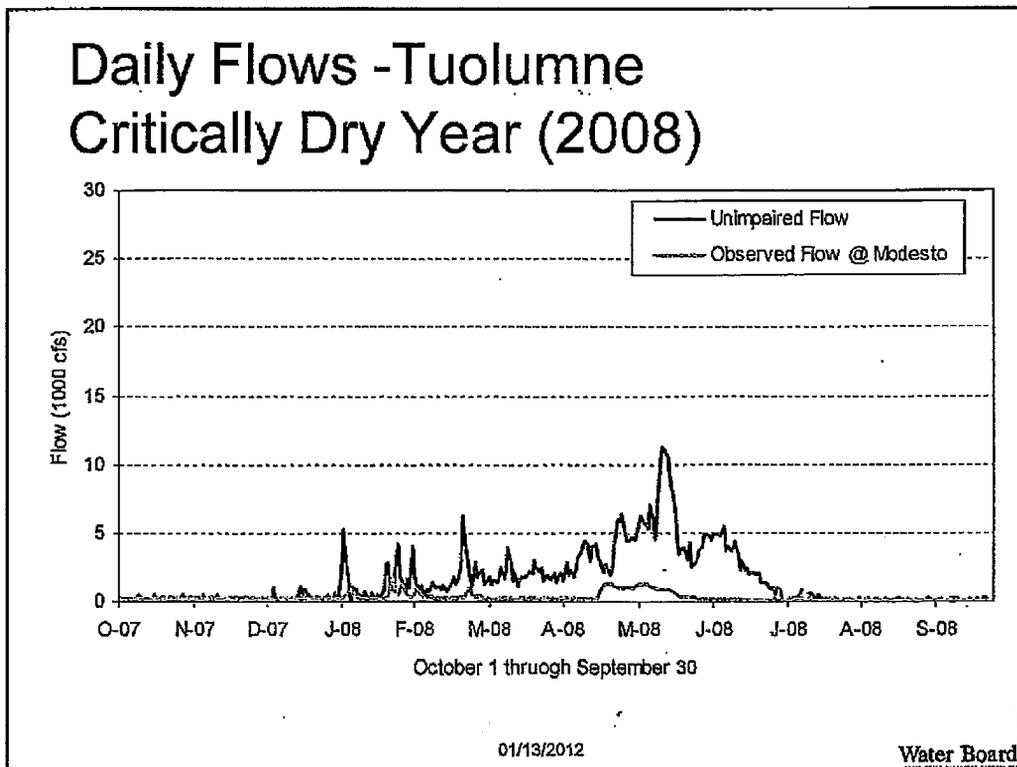
This graph is similarly misrepresentative and misleading as “San Joaquin River Flows” because it again presumably includes the unimpaired flow from the upper San Joaquin River watershed and other minor tributary streams. The reality is that the three mentioned tributaries are responsible for the majority of observed flow at Vernalis.



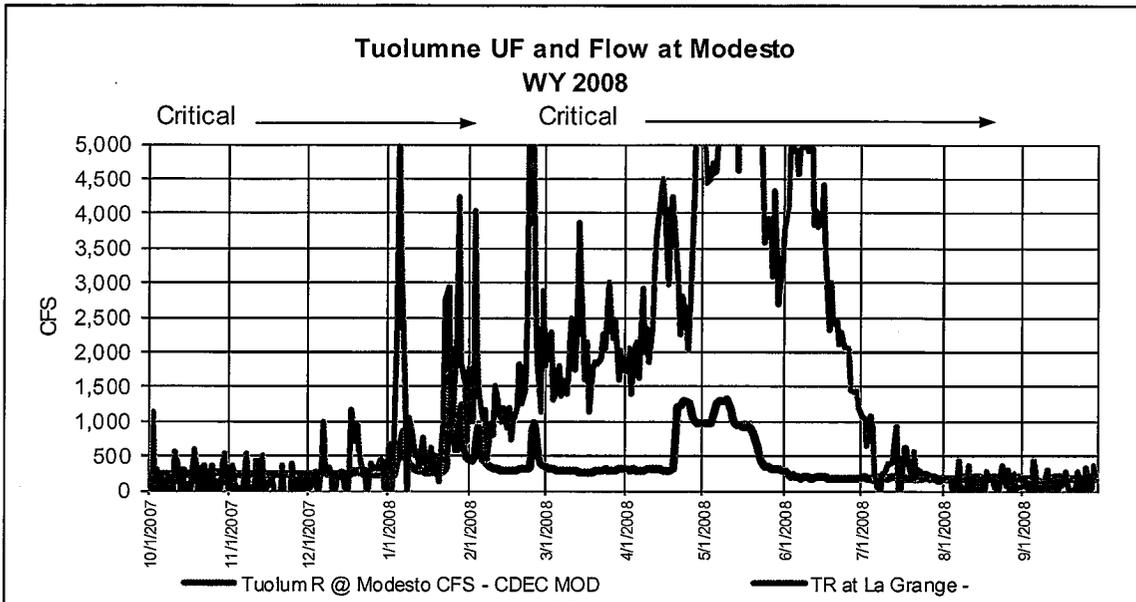
“Daily Flows – Tuolumne Critically Dry Year (2008)”

This graph fails to tell the true story because the scale is completely skewed. The peak point in the entire graph barely reaches 10,000 cfs. Most of the activity occurs below 5,000 cfs for both unimpaired and observed flow but is depicted as a straight line because of the scale of the graph. In actuality, if the scale was correct it would show the Tuolumne River releases were higher than the unimpaired flow.

SWRCB Graph:



Looking closer, it is easy to see that actual flows for much of the year met and exceeded unimpaired flows:

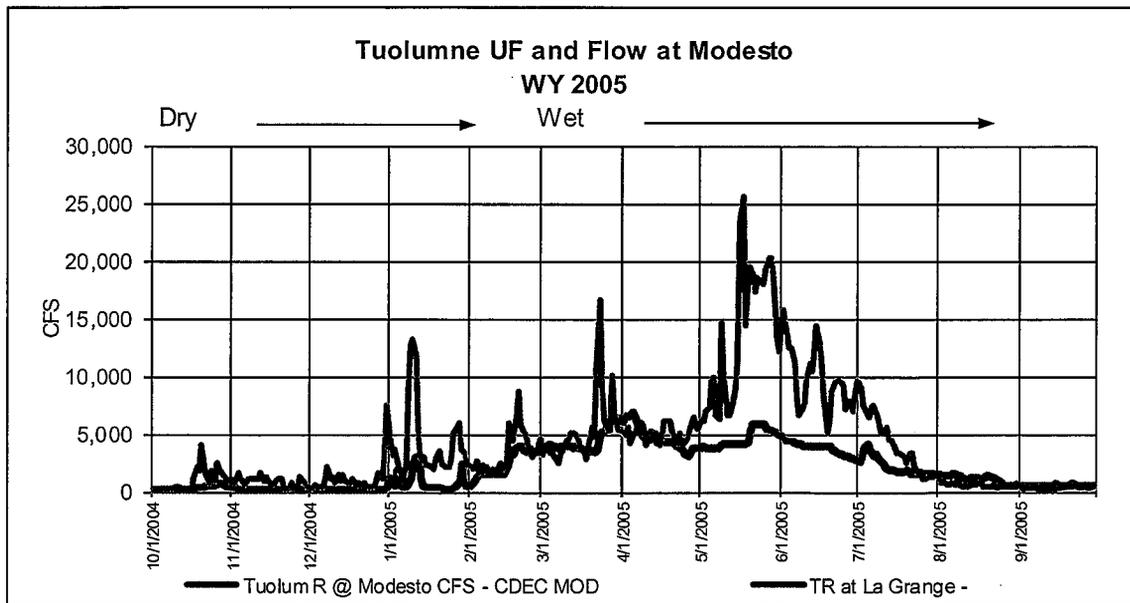
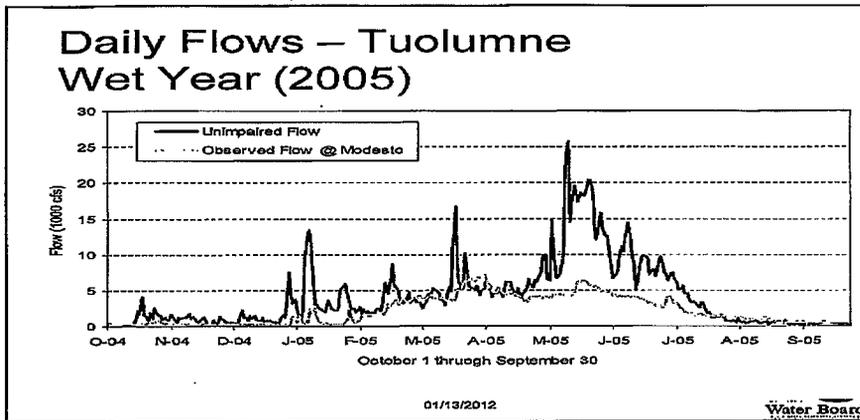


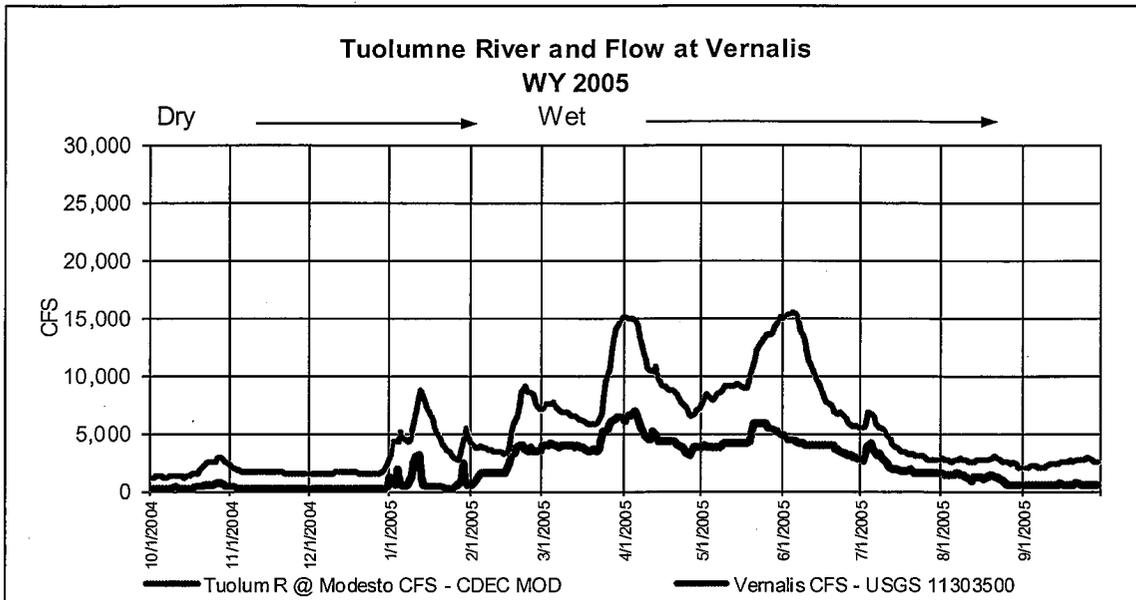
Further, the SWRCB failed to describe why such high peaks in flow, as depicted by the unimpaired flow, would in fact be beneficial. Rather, it is more cause for concern that periods of such high flow may threaten levee failure and flooding. The SWRCB must link a physical or biological meaning to its reasoning for narrowing the gap between unimpaired and observed flows.

“Daily Flows – Tuolumne Wet Year (2005)”

The same logic applies, albeit not in quite such drastic form to the next graph. With the exception of two months, observed flow does not exceed 5,000 cfs; with the exception of 2 – 3 months, unimpaired flow does not exceed 15,000 cfs per months.

SWRCB graph:



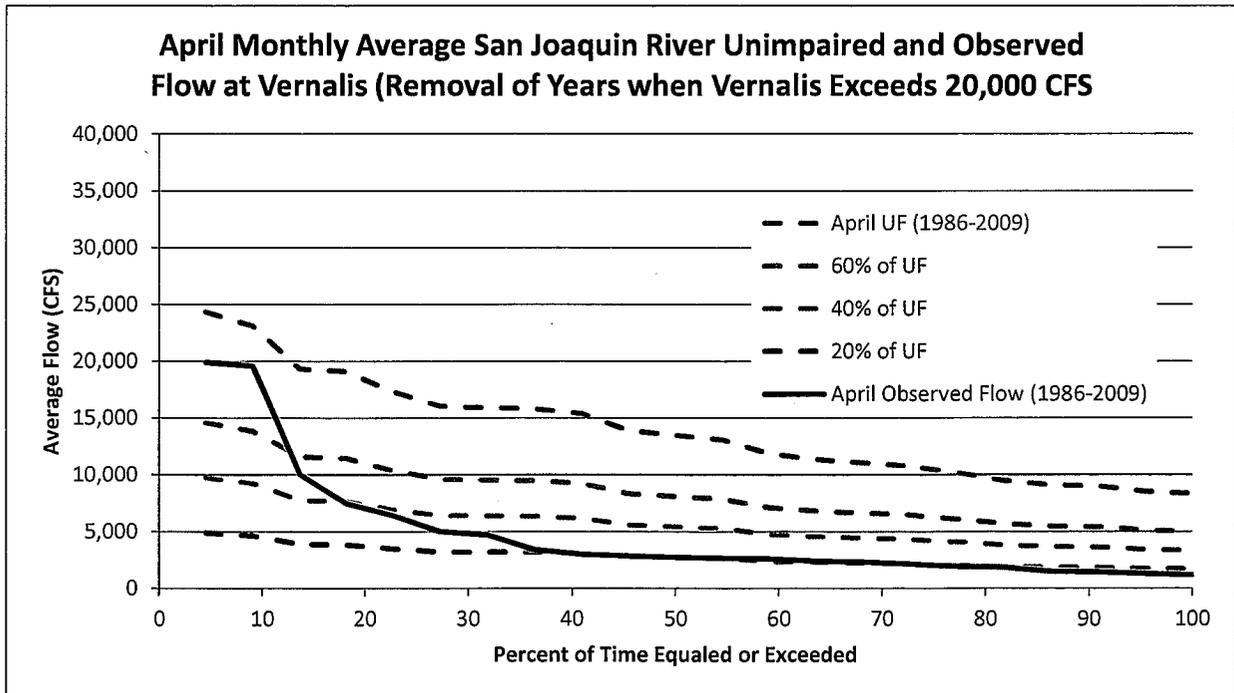
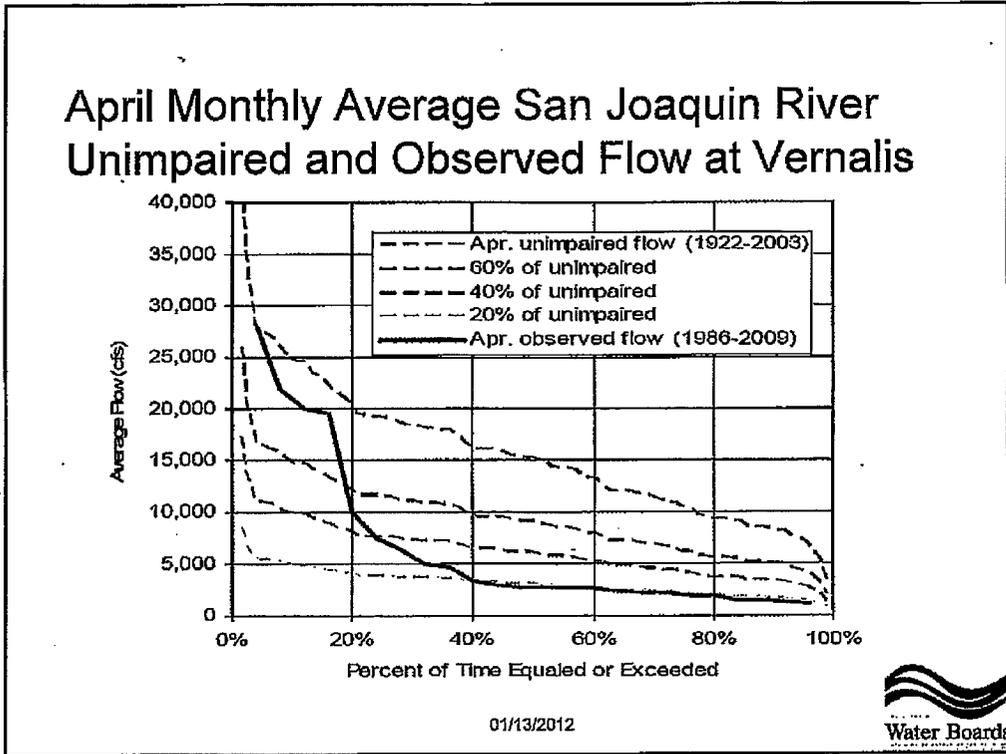


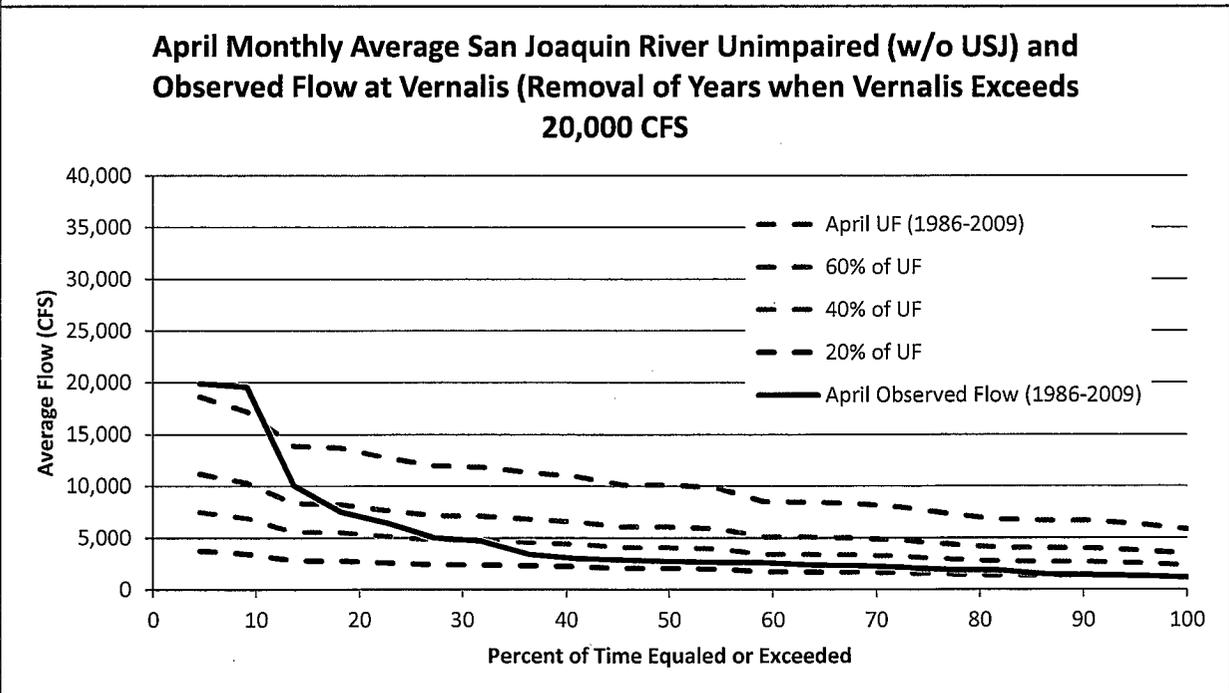
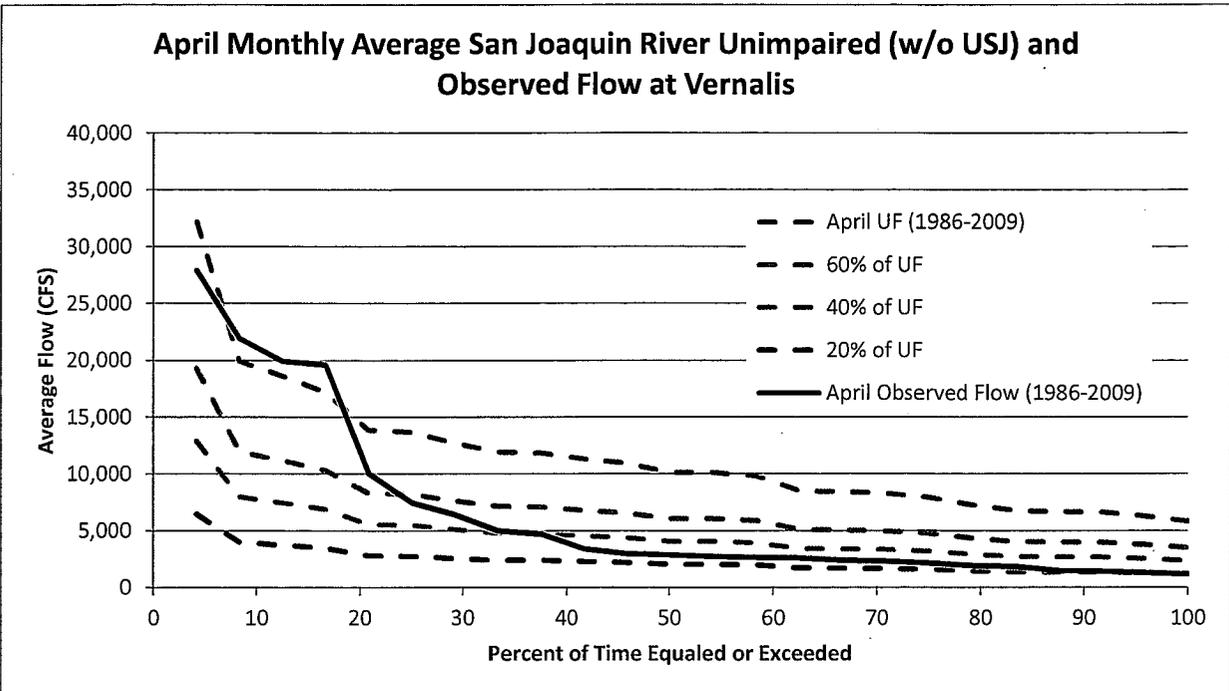
The SWRCB again makes the point in its graph that observed flow is at a lower level than unimpaired flow; yet the SWRCB does not explain why 5,000 cfs is not adequate to maintain the Delta. For example, a reference to the Delta Flow Criteria suggests that flows of 5,000 cfs create a suitable temporal environment in the late spring for juvenile salmon and smolts.² The SWRCB does not give any explanation why it is necessary to exceed this amount by as much as five times.

“April Monthly Average San Joaquin River Unimpaired and Observed Flow at Vernalis”

This graph presents a skewed outcome because of divergent inputs. April unimpaired flow is measured from the years 1922 – 2003, while April observed flow only measures 1986 – 2009. The years 1986 – 2009 included primarily dry and drought years. It is of no surprise, then, that the observed flow deviates so significantly from the unimpaired data which takes into account many wet years to accurately balance historical data.

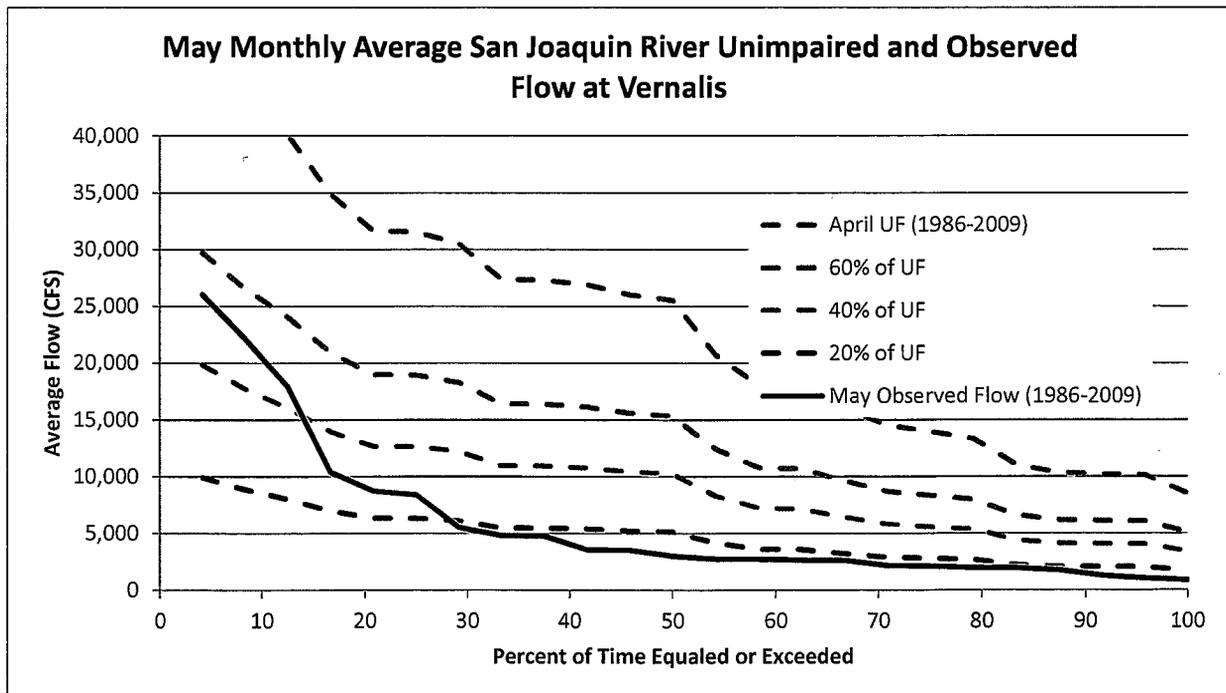
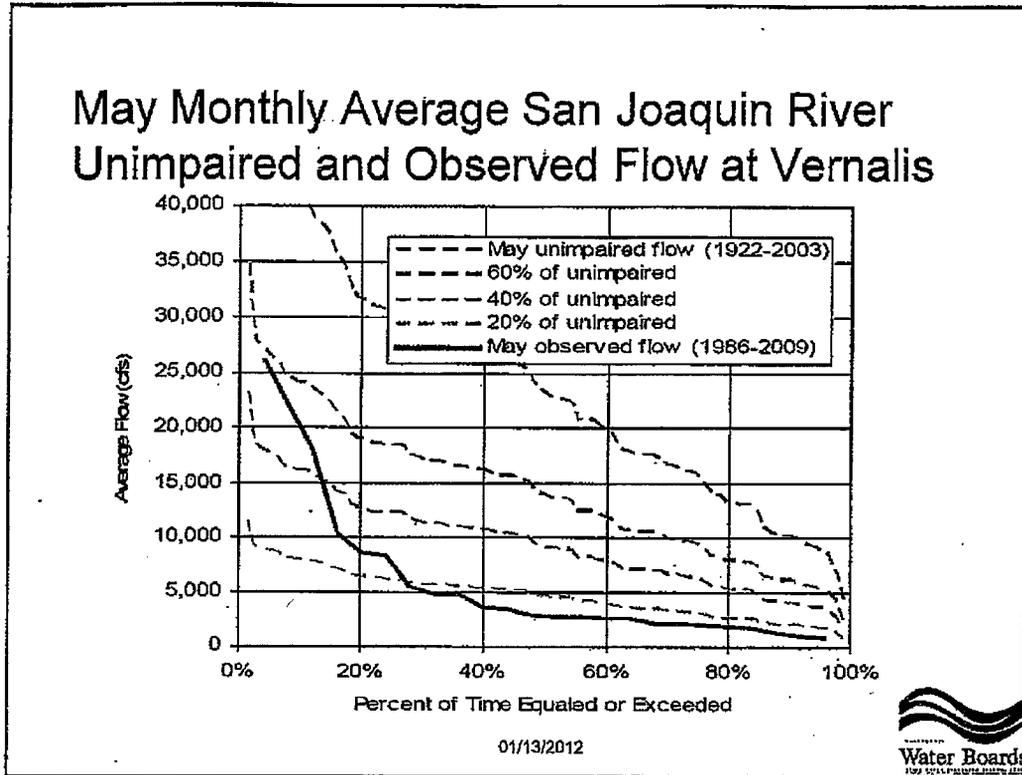
² The Bay Institute (TBI) and Natural Resources Defense Council (NRDC). Exhibit 3. Written Testimony of Christina Swanson, Ph.D., John Cain, Jeff Opperman, Ph.D., and Mark Tompkins, Ph.D. Regarding Delta Inflows.

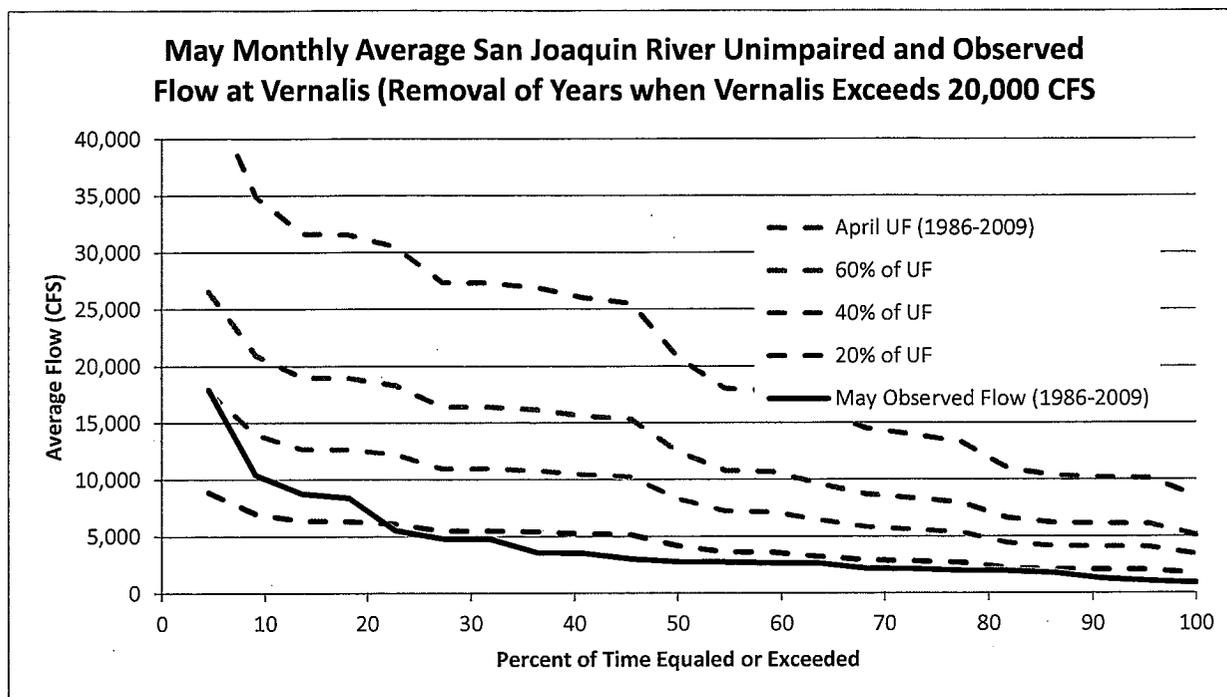




“May Monthly Average San Joaquin River Unimpaired and Observed Flow at Vernalis”

Identical veracity issues persist in this graph as the issues listed above for the “April Monthly Average San Joaquin River Unimpaired and Observed Flow at Vernalis.” The observed flow takes primarily, almost entirely, dry and severe drought years; of course, average flows of dry and drought years will be less when compared to an average of dry and wet years.





The use of such obviously misleading data is discouraging and, quite frankly, frustrating. As such, the SJTA strongly urges the ISB to disregard the graphs and corresponding data the SWRCB presented and challenge the SWRCB to present more reliable data, not skewed or tweaked to support a certain viewpoint by using incorrect scales, years and data sets. When presented with more robust graphs, "the story" looks entirely different. Additionally, the SWRCB staff did not mention that its Technical Report already set maximum flow amounts for the Stanislaus, Tuolumne and Merced Rivers.

Over a year ago, on January 6, 2011, the San Joaquin River Group Authority ("SJRG") presented to the SWRCB a slideshow in response to the SWRCB Biological Presentation. At the end of the presentation, the SJRG posed three questions to the SWRCB:

- *Has a causal relationship between flow and escapement/survival been well-established statistically?*
- *Do the statistical analyses provide a reliable basis for setting flow policies to achieve quantitative goals?*
- *How large are the margins of error in predictions based on the statistical models?*

The SWRCB has yet to provide any answer to these questions, but continues to push flow as the master variable. In setting an arbitrary number without supporting science to show why X% is needed, results in wasted water and simply creating flow for flow's sake. The SWRCB must answer the foregoing questions and move forward from there, rather than taking the top-down approach of picking a number and rationalizing its legitimacy.

Chairperson Richard B. Norgaard
Delta Stewardship Council
February 21, 2012
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Thank you for the opportunity to comment and your consideration of feedback.

Sincerely,



ALLEN SHORT, Member
SAN JOAQUIN TRIBUTARY ASSOCIATION

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C: State Water Resources Control Board
SJTA