



*To advance the economic, social and environmental sustainability of Northern California
by enhancing and preserving the water rights, supplies and water quality.*

April 25, 2011

VIA ELECTRONIC MAIL

Federal Rulemaking Portal

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Docket No. EPA-R09-OW-2010-0976

Erin Foresman

United States Environmental Protection Agency

75 Hawthorne Street

San Francisco, California 94105

Re: Advanced Notice of Proposed Rulemaking – Water Quality Challenges in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary

Dear Ms. Foresman:

The Northern California Water Association (“NCWA”) has reviewed the Advanced Notice of Proposed Rulemaking – Water Quality Challenges in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (the “ANPR”) that was issued by the United States Environmental Protection Agency (“USEPA”) in February.

NCWA represents 57 agricultural water districts and agencies, private water companies, and individual water rights holders with senior rights and entitlements to the surface waters of the Sacramento Valley. NCWA’s members also have overlying and appropriative water rights to groundwater resources in Northern California, from the Northern reaches of Shasta County to Sacramento County, from the edge of the Sierra Nevada Mountains in El Dorado County to Glenn County which extends to the Coast range. NCWA is committed to advance the economic, social, and environmental sustainability of the Sacramento Valley by enhancing and preserving its water rights, supplies, and water quality for the rich mosaic of farmlands, cities and rural communities, refuges and managed wetlands, and meandering rivers that support fisheries and wildlife. NCWA has the following comments in response to questions 2 and 4 posed on page 56 of the ANPR

Question 2: Could the frequency, area, and/or duration of low salinity habitat be changed so as to achieve ecosystem benefits for the suite of species that use the low salinity zone? If so, how?

Is historical data on inter- or intra- annual frequency of variability the best basis for setting goals or are there other bases that could be used? How might climate change impacts, including sea level rise, affect the size, frequency, and duration of low salinity habitat?

Answer:

The short answer is that new water quality requirements concerning the low salinity zone would be unlikely to achieve ecosystem benefits because the historical data demonstrates that natural hydrology – and, in particular, trends during wet and dry cycles – are the primary driver of low salinity habitat’s characteristics. Analyses that focus on differences between fish populations during parts of the 1956-1987 period and during later periods as a basis for new regulatory standards ignore the fact that the 1956-1987 period was relatively wet and therefore compare apples to oranges.

In answering this question, it is important to understand the context for the low salinity zone in the Delta. Recently, the Delta Stewardship Council, using data from the California Department of Water Resources, estimated total water use in the Sacramento River Hydrologic Region at 23.5 million afy in 2005. Of that total, 820,000 afy or about 3.5% was used in the urban sector, 7.9 million afy or about 33.6% was used in the agricultural sector, and 14.8 million afy or about 63% was used in the environmental sector. A copy of this estimate is enclosed as Figure 1. Thus, any additional flows needed to move the low salinity zone seaward are likely to have the effect of reducing agricultural production and/or adversely affecting the many terrestrial species that use agricultural lands and wildlife refuges for habitat. The ANPR should recognize this effect and any future proposals by USEPA must acknowledge and analyze such effects and mitigate for the effects of such actions on the Pacific Flyway and other important natural resources.

The ANPR notes (on page 53) that the “low salinity zone in the fall has moved upstream, especially after 2000.” Based on this conclusion, the ANPR requests comments on the potential adoption of a fall X2 standard.

The ANPR assumes that the reason that the low salinity zone has moved upstream since 2000 has something to do with the operation of the state or federal water projects and/or other human activities. However, examination of the unimpaired net Delta outflows during the fall period shows that the period since 2000 has been drier than earlier periods, and particularly was drier than the period between 1956 and 1987. USEPA should not set regulatory standards that reflect an attempt to create wet-year conditions during all water year types.

Figure 2 shows the probabilities of exceedance of average unimpaired net Delta outflow from water years (“WY”) 1930-2003 during September, including the periods from WY1930-1955, WY1956-87, and WY1988-2003.¹ As can be seen, average monthly September flows during the

¹ Unimpaired net Delta outflow data are based on DWR California Central Valley Unimpaired Flow Data, Fourth Edition dataset, which estimates daily unimpaired Delta outflow from 1922 to 2003. More recent data are not available. Unimpaired flow is runoff that would have occurred had water flow remained unaltered in streams and rivers instead of being stored in reservoirs, imported, exported or diverted. These data measure the total water supply available for all uses after removing the impacts of most upstream alterations as they have occurred over the years; therefore, all variations in these data are due to natural causes.

WY1956-87 period were: (1) consistently greater than the average monthly flows from WY 1988-2003 period; (2) consistently greater than the WY 1930-2003 period; and (3) particularly greater than the WY 1930-1955 period. Put otherwise, in the driest 70 percent of years, average monthly flows during September in WY 1988-2003 were approximately 1,100 cfs less than average monthly flows during September in WY 1956-87. This 1,100 cfs difference translates to approximately 65,000 acre-feet more water being dedicated naturally to Delta outflows in the month of September alone during WY 1956-87. Thus, flows during the WY1988-2003 period were approximately 20% drier than those during WY 1956-87, which also was wet relative to the full WY 1930-2003 period of record. The ANPR does not acknowledge, as it should, that the reduction in unimpaired flows is purely a function of a drier hydrology. The ANPR also does not acknowledge, as it should, that the fish sampling operations on which many correlation analyses are based began during the WY 1956-1987 wet period and, accordingly, any analysis that indicates that declines from initial fish sampling results justify new regulatory standards implicitly reflects a bias in favor of applying wet year conditions to conditions in all year types. USEPA should revise the ANPR to reflect these data before proposing any rule that might implement a fall X2 action.

As part of its reconsideration of the ANPR, USEPA should also more thoroughly evaluate the data supporting a fall X2 standard, particularly the “predictive nature of the relationship [between X2 and delta smelt habitat] for delta smelt abundance.” (ANPR, p. 55.) Figure 3 shows the average September-November X2 location over time as compared to the Delta Smelt Index. During the period from 1985 to 2008, as an example, the fall X2 was generally within a range between 80-95 kilometers from the Golden Gate Bridge. The Delta Smelt Index during that period varied from almost zero to more than 1,100. The data accordingly show little correlation between delta smelt populations and fall X2. In addition, as noted above, there appear to be no data to indicate what the Delta Smelt Index was during the WY 1930-1955 dry period that preceded the WY 1956-1987 wet period when delta smelt sampling began. In light of these factors, it is at best premature for USEPA to adopt or propose any form of fall X2 standard.

NCWA is not the first organization to recognize that there is a lack of logic and science at the heart of the fall X2 proposal. To its credit, the ANPR cites, at page 55, a number of studies that question the nature of the relationship between fall X2 and delta smelt abundance. NCWA urges USEPA to work with scientists to better evaluate the relationship, if any, between Delta outflow and delta smelt abundance before proposing any fall X2 measure.

Question 4: Would changes in water system operations to move X2 seaward in the fall adversely affect the reservoir storage needed to conserve salmonid fish spawning and other designated uses in the watershed? If so, under what conditions?

Answer:

Yes. Changes in water system operations to move X2 seaward in the fall would adversely affect reservoir storage needed by salmonids in most years. The National Marine Fisheries Service has indicated that there should be a minimum of 2.4 million af of carry-over storage at Shasta Reservoir in order to protect spawning and rearing habitat. Figure 4 evaluates the effects of various proposals made last year to the California State Water Resources Control Board

(SWRCB) as part of its Delta Flow proceedings on such carry-over storage. Figure 4 shows that under Water Right Decision 1641, carry-over storage would exceed 2.4 million af in about 80% of years, while under the current Biological Opinions, carry-over storage would exceed 2.4 million af in about 75% of years. By contrast, most of the proposals made to the SWRCB would reduce carry-over storage substantially, so that it would only exceed 2.4 million af in approximately 25% of years. During the SWRCB's 2010 Delta flow criteria proceeding, many of NCWA members presented evidence concerning the very significant impacts that new X2 standards requiring more Delta outflow could have on not only storage levels in Shasta Reservoir on the Sacramento River, but also Folsom Reservoir on the American River and Oroville Reservoir on the Feather River. This evidence demonstrates that such new X2 standards could dramatically reduce reservoir storage levels, which would have the potential to decimate salmonid populations throughout the Sacramento River system. This testimony, as presented by Walter Bourez of MBK Engineers, is available on-line at www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/svwu.shtml, along with all exhibits to that testimony.

NCWA strongly urges USEPA to reject any proposed changes in water system operations that would have such an adverse effect on the many species that are listed as either threatened or endangered under the federal Endangered Species Act. If USEPA chooses to offer such a proposal, NCWA notes that section 2(c) of the Endangered Species Act *requires* USEPA and other federal agencies to cooperate with NCWA's member agencies in the management of water resources in the Sacramento Valley.

Very truly yours,



David J. Guy
President

Attachments:

- Figure 1: Delta Stewardship Council Slide: Environmental, Agricultural and Urban Water Use Compared (2005)
- Figure 2: Average September Unimpaired Net Delta Outflow from 1930 – 2003
- Figure 3: Average September - November X2 Location and Delta Smelt Index
- Figure 4: Shasta Lake Carryover Storage

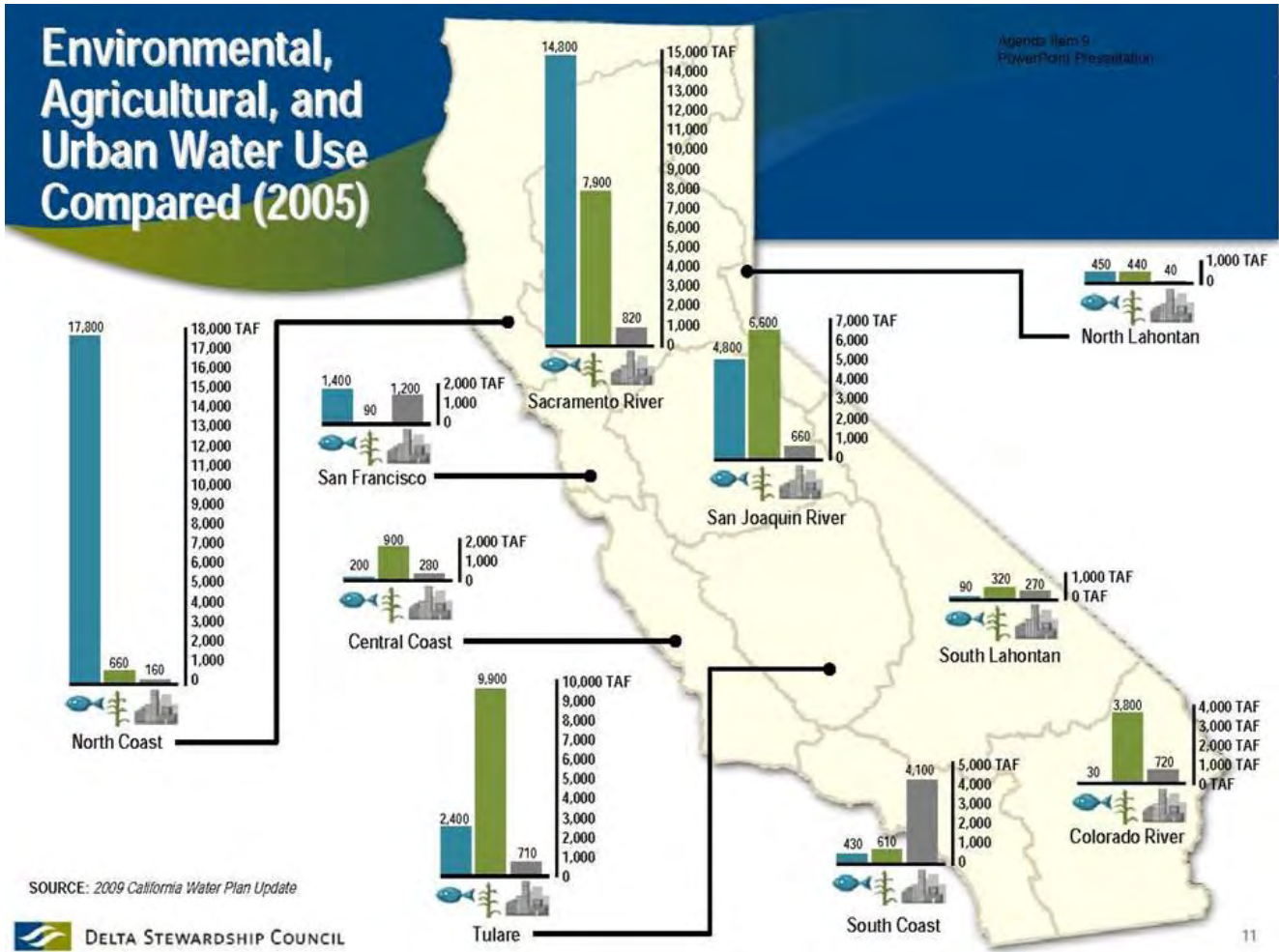


Figure 1 - Delta Stewardship Council Slide: Environmental, Agricultural and Urban Water Use Compared (2005)

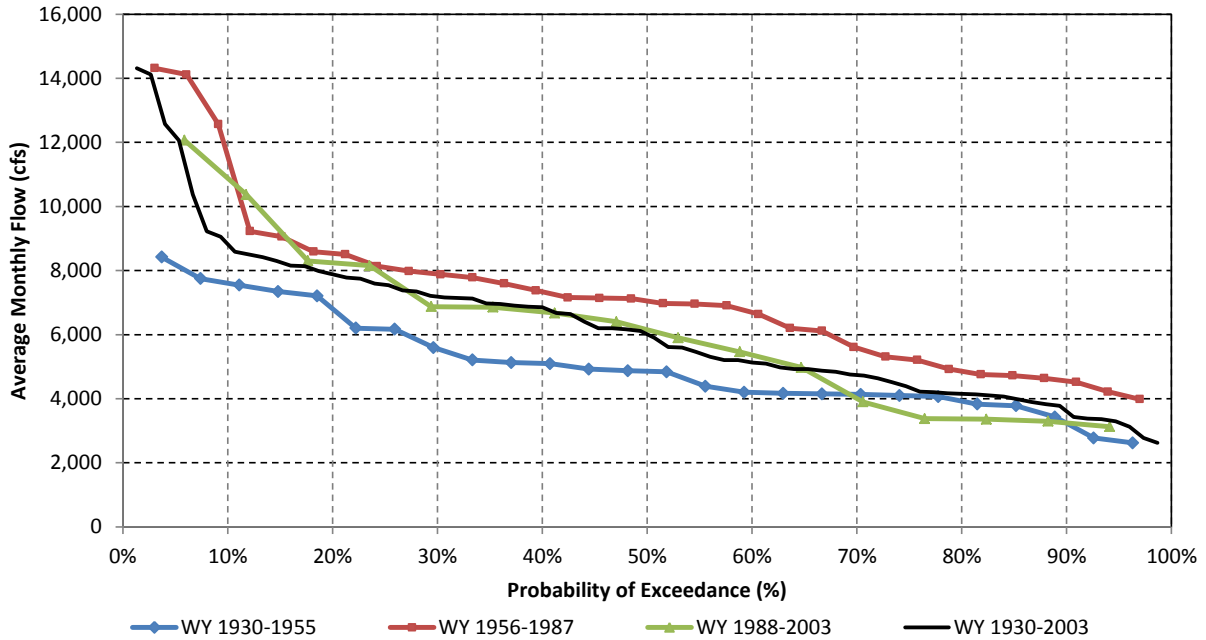


Figure 2 - Average September Unimpaired Net Delta Outflow from 1930 – 2003

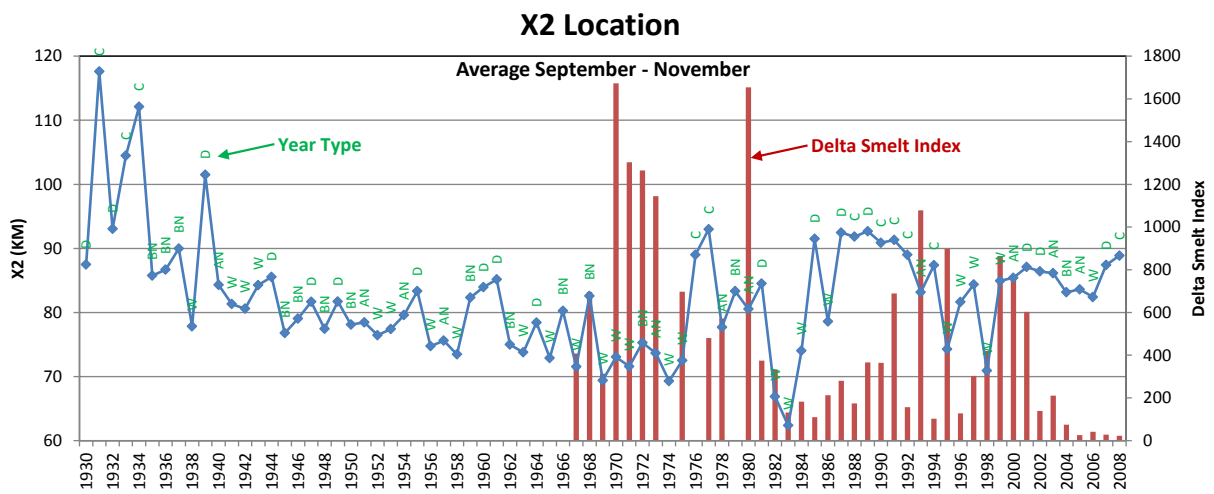


Figure 3 – Average September - November X2 Location and Delta Smelt Index

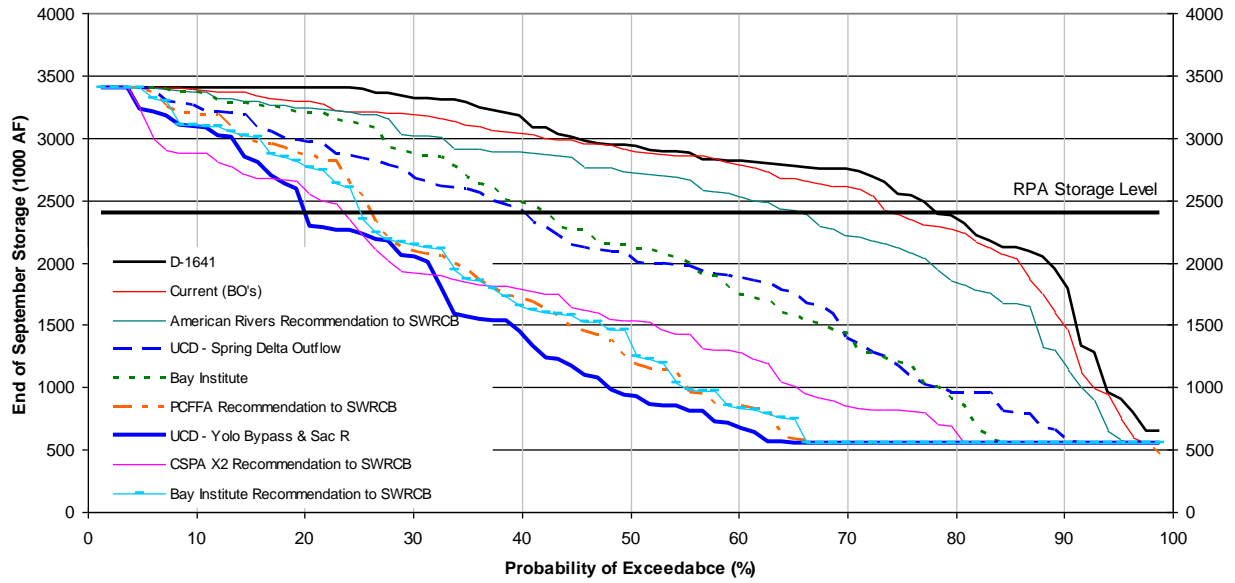


Figure 4 – Shasta Lake Carryover Storage