



June 27, 2014

Via Electronic Mail and U.S. Mail

Felicia Marcus, Chair
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100
commentletters@waterboards.ca.gov

**Re: State Water Board Meeting July 1, 2014
Comments on Agenda Item 5 (Proposed Resolution Regarding Drought-Related
Emergency Regulations for Curtailment of Diversions)**

Dear Chair Marcus:

We respectfully submit these comments regarding the above-referenced agenda item on behalf of the Northern California Water Association and the water users identified in Attachment 1 (collectively, NCWA). Please also refer to the Declaration of Marc E. Van Camp and accompanying exhibits submitted herewith.

I. The Adoption of the Proposed Emergency Regulations Is Appropriate, Provided They Are Revised to Apply Only to the Curtailment of Diversions Under Post-1914 Appropriative Rights

In past comments to the State Water Resources Control Board (SWRCB) regarding water right curtailments, NCWA has supported the curtailment of post-1914 appropriative rights in accordance with the historical practice of issuing notices of curtailment, but has opposed the adoption of emergency regulations to effectuate curtailments. NCWA recognizes the severity of the current drought and the SWRCB's efforts to revise its approach to issuing emergency regulations, and NCWA believes that the SWRCB's curtailment of post-1914 rights through the adoption of an emergency regulation is appropriate. NCWA opposes, however, the current form of proposed section 875, which would authorize the SWRCB's Deputy Director for the Division of Water Rights to issue curtailment orders to holders of pre-1914 appropriative and riparian rights, and fails to establish an appropriate evidentiary standard for curtailment determinations.

NCWA's position on the proposed emergency regulation authorizing orders for curtailments of diversions under post-1914 appropriative rights rests on three key elements of the current proposal. First, the SWRCB has removed language from the proposed regulation

that would have deemed diversions in violation of the curtailment requirement to be “unreasonable” *per se*. Under the current proposal, the curtailments would be based solely on a determination by the Deputy Director for the Division of Water Rights regarding water availability under the diverter’s priority of right. As NCWA has indicated in past comments to the SWRCB, blanket determinations of the “unreasonableness” of broad categories of water diversions and uses, without consideration of the factual context of each use, would violate established law and be contrary to sound public policy. The current proposal’s narrower focus on water availability is appropriate. The regulation, however, should require the SWRCB to consider the best available information in making its determination, and the burden of obtaining the best available information should be on the SWRCB

Second, the current proposal moves away from the re-prioritization of water rights that was part of previous proposals. In this regard, the provisions regarding minimum health and safety needs in section 878.1 would not apply to curtailments of diversions due to lack of water availability under proposed section 875. It remains NCWA’s position that section 878.1 impermissibly places so-called “health and safety” uses ahead in priority of more senior water rights, in violation of the rule of priority and other applicable law. The current proposal appropriately avoids this issue.

Third, the SWRCB has included additional due process protections in the proposal. Subdivision (f) of section 875 would provide that all curtailment orders issued pursuant to the regulation would be subject to reconsideration by the SWRCB. NCWA understands that the reconsideration process would include the opportunity to submit additional evidence that may be relevant to a curtailment order, and the opportunity to challenge evidence submitted by Division of Water Rights staff. There may be certain circumstances where, because of specific hydrological or physical conditions, curtailments of diversions are not appropriate.

A related issue is the prospect that, in the future, the SWRCB would cite these regulations and subsequent orders as precedential actions. Given the unique circumstances surrounding these regulations, if they are adopted the SWRCB should make it clear that they will apply only for their limited scope and term, and that they will not later be cited or relied upon as authority for any other action by the Board, Executive Director, or the Division of Water Rights.

II. NCWA Strongly Opposes the Adoption of an Emergency Regulation for the Curtailment of Diversions Under Pre-1914 Appropriative and Riparian Rights

While NCWA believes that the current proposal for curtailing diversions under post-1914 rights is appropriate, NCWA strongly opposes the adoption of an emergency regulation that would allow the Deputy Director for the Division of Water Rights to order curtailments

of diversions under pre-1914 appropriative or riparian rights. Curtailments of diversions under these senior water rights are neither necessary nor supportable.¹

From a practical standpoint, and as an example, curtailing diversions under some or all pre-1914 rights would not result in any significant additional amounts of water being held in storage in Shasta Lake. As detailed in the accompanying Declaration of Marc E. Van Camp, temperature requirements contained in the National Marine Fisheries Service's current Biological Opinion for salmonids drive Sacramento River operations during the summer irrigation season. Consequently, an order requiring the curtailment of pre-1914 rights would not result in accretions to storage because water would have to be released from storage in any event to meet temperature requirements downstream of Shasta Dam. For these reasons, curtailments of diversions under pre-1914 rights this year would serve no practical purpose or benefit the environment, and would likely trigger multiple lawsuits challenging the SWRCB's regulations and subsequent Division of Water Rights curtailment orders.

Moreover, as detailed in the Declaration of Marc E. Van Camp, the Division of Water Rights' database for pre-1914 and riparian uses is simply inadequate to support such a significant and unprecedented curtailment regulation. For example, the current database does not give the SWRCB the ability to determine, with any degree of reliability, the relative priorities of pre-1914 appropriative rights or riparian rights. (Van Camp Decl., ¶¶ 19-23.) This is significant because while riparian rights normally have priority over appropriative rights, an appropriative right is "superior to the right of a riparian owner who subsequently obtains title to public land from the government." (*Pleasant Valley Canal Co. v. Borror* (1998) 61 Cal.App.4th 742, 774.) Moreover, under certain circumstances, it may not be reasonable for riparians to claim priorities against upstream appropriative rights if, for example, protection of riparian rights would require unreasonably high river flows. For these reasons, it would be improper for the SWRCB to adopt a regulation authorizing the Deputy Director for the Division of Water Rights to order curtailments of all diversions under pre-1914 appropriative rights to protect supplies for riparian rights. A more prudent approach, as suggested by Mr. Van Camp, would be for Division of Water Rights staff to spend the remainder of the year upgrading the quality of the water right database so that, in the future, curtailment options can be considered in light of the best available scientific information. Also, the SWRCB should continue to invite, and then promptly act on, complaints of specific unauthorized diversions by holders of junior water rights that have specific impacts on the supplies of holders of senior water rights.

¹ In addition, it is unclear whether the SWRCB has jurisdiction to curtail valid pre-1914 appropriative and riparian rights through the adoption of regulations. (*Young v. State Water Resources Control Board* (2013) 219 Cal.App.4th 397, 404 [where Third District Court of Appeal stated, "[n]o one disputes that the Water Board does not have jurisdiction to regulate riparian and pre-1914 appropriative rights."], citing *California Farm Bureau Federation v. State Water Resources Control Bd.* (2011) 51 Cal.4th 421, 429.)

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III. Proposed Section 878.3 is Unclear and Would Not Serve Any Purpose

Proposed section 878.3 is entitled "Alternative Water Sharing Agreements" and apparently would provide for an exception to the imposition of curtailments under proposed section 875. However, any curtailments imposed by the SWRCB based on a lack of availability of water must implement the water right priority system. Agreements among certain water users may not provide an exception to the priority system, particularly when other senior water users are required to curtail diversions. As such, the purpose of proposed section 878.3 is unclear. In addition, because the Executive Director would be required to make findings that any such water sharing agreement would not injure any legal users of water before approving any such agreement, it is questionable whether proposed section 878.3 would serve any real purpose. In any event, to the extent these provisions would provide an exception to the priority system, NCWA opposes them.

IV. Conclusion

NCWA appreciates the efforts of the SWRCB and its staff to work with the Northern California water community to fashion a sound and practical approach to curtailments of diversions. We look forward to continuing to work with you in this regard.

Very truly yours,

SOMACH SIMMONS & DUNN



Andrew M. Hitchings

Attachment

cc (via email only): Frances Spivy-Weber, Vice-Chair
Tam M. Dudoc
Dorene D'Adamo
Steven Moore
Tom Howard, Executive Director
Michael Lauffer, Chief Counsel

AMH:cr

ATTACHMENT 1

Signatories to Comment Letter

Biggs-West Gridley Water District
Browns Valley Irrigation District
El Dorado County Water Agency
El Dorado Irrigation District
El Dorado Water & Power Authority
Glenn-Colusa Irrigation District
Meridian Farms Mutual Water Company
Natomas Central Mutual Water Company
Pelger Mutual Water Company

Placer County Water Agency
Princeton
Codora Glenn Irrigation District
Provident Irrigation District
Reclamation District No. 108
River Garden Farms Company
South Sutter Water District
Sutter Extension Water District
Sutter Mutual Water Company

In the Matter of the State Water Resources
Control Board's Proposed Resolution Regarding
Drought-Related Emergency Regulations for
Curtailment of Diversions (July 1, 2014, Board
Meeting; Agenda Item #5.)

DECLARATION OF
MARC E. VAN CAMP

I, Marc E. Van Camp, submit this declaration on behalf of the Northern California Water Association, and declare as follows:

Background and Experience

1. I am a registered civil engineer in California, Oregon, and Nevada, and a Certified Water Right Examiner in Oregon. I specialize in the areas of hydrology, hydraulics, irrigation, water supply, water rights, project feasibility, and related matters. I am a Principal at MBK Engineers in Sacramento, California, and have worked there since 1984. MBK Engineers specializes in water resources engineering, and performs these engineering services for cities, counties, irrigation and water districts, state and federal agencies, individual landowners, and other entities. Exhibit A to this declaration is a true and correct copy of my professional resume.

2. I received my BS in Civil Engineering from the California State University at Sacramento in 1984. I began my engineering career with the U.S. Geological Survey (USGS) as a hydrologic data technician. My work for the USGS included measuring stream flows throughout the Sacramento Valley. I have developed a broad range of knowledge and experience in the water rights field over the past three decades. I have been providing water rights expertise and water resources engineering services to parties within the Sacramento-San Joaquin River San Francisco Bay-Delta watershed for the past 28 years. For example, I provided testimony in the State Water Resources Control Board (SWRCB) Hearings leading to Decision 1641.

Executive Summary

3. Since prior to the completion of Shasta Dam in 1945, the State of California, the United States Bureau of Reclamation (Reclamation), and the water users along the Sacramento River and in the Delta have sought means to resolve water right issues and avoid a water rights adjudication. I urge you to take no action that would inadvertently trigger (or increase the likelihood of) an adjudication of water rights on the Sacramento River and its tributaries. In my opinion, inappropriate curtailment procedures for pre-1914 and riparian rights could lead to such a result.

4. Based on my review of the curtailment procedures utilized by the SWRCB during the 1976-77 drought, it is my opinion that those procedures were effective and did not increase the likelihood of adjudication. I recommend that this type of notice procedure continue to be followed. However, the notices have to be issued in a timely manner by the SWRCB so that agricultural water users have time to react and adjust their cropping and irrigation programs. At this late date, such adjustments cannot be made for 2014. For the reasons detailed below,

curtailments of diversions under riparian and pre-1914 rights in 2014 are not justified or supportable. I, however, urge the SWRCB to follow the recommendations contained in its January 1978 report (described below) to update its database on water rights and water use so that the SWRCB is in a position to issue accurate and timely notices in future years. My recommendations are provided in more detail below.

Brief Summary of Sacramento Valley Water Management

5. The majority of the Sacramento Valley is organized into water districts, water companies, and irrigation districts to facilitate the efficient management and distribution of their water rights and water supplies. The three main categories of organized entities can be grouped as Sacramento River Settlement Contractors, State Water Project Settlement Contractors on the Feather River, and local projects. These three categories of entities cover a major portion of the Sacramento Valley as shown on Exhibit B.¹

6. The Sacramento River Settlement Contractors (SRS Contractors) represent over 400,000 acres of land along or near the Sacramento River stretching from Redding to Sacramento. These SRS Contractors hold a mix of riparian, pre-1914, and post-1914 water rights. As a result of the development of the federal (CVP) and state (SWP) water projects, and at the insistence of the SWRCB (then the State Water Board) in Decision 990, the original SRS Contracts were executed starting in 1964, for a cumulative total of approximately 2.1 million acre-feet (MAF). These contracts provided the mechanism for the CVP to establish that there was unappropriated water available for its pending permits and to avoid injury to senior legal users of water. The contracts also allowed the SRS Contractors to further secure their water supply during times of water right shortages through the purchase and use of stored project water.

7. On the Feather River system, a similar set of settlement contractors exist, but their contractual arrangement is with the Department of Water Resources (DWR) and for water from the Feather River and Lake Oroville. These settlement contractors irrigate over 200,000 acres along the Feather River and Butte Creek, and their contracts are for a cumulative total of approximately 1.0 MAF. In addition, DWR executed a Settlement Contract with the North Delta Water Agency to confirm the water supplies for over 300,000 acres within the Delta.

8. Similarly, many local entities developed projects and built storage reservoirs in order to supplement the available natural flow. These entities cover a large acreage (over 900,000 acres) on the valley floor and foothills. These entities include Yuba County Water Agency, Browns Valley Irrigation District, South Sutter Water District, Nevada Irrigation District, Placer County Water Agency, El Dorado Irrigation District, Yolo County Flood Control and Water Conservation District, and others.

¹ MBK prepared this map based upon readily available public information, using a 2003 Department of Water Resources map (generally state/private contractors) and a 2009 Bureau of Reclamation map, MPGIS Service Center (generally federal contractors), together with my knowledge of the categories identified above. I have not verified the precise boundaries provided on these maps, but believe that they generally represent the location and relative size of the listed entities.

9. In addition, in many areas of the Sacramento River watershed there exist court decrees that adjudicate the local water supplies. The court actions leading to these decrees provided water users their opportunity to document riparian land, and pre-1914 priority dates relative to other users on the local system. In several cases, these decrees have stemmed from previous critical drought periods such as the 1928 through 1934 period. These decreed areas are normally monitored or managed by court-appointed water masters. These decrees and associated areas are available for review by Division of Water Rights staff.

Status of CVP and SWP Drought Operations as of May 31, 2014

10. On April 8, 2014, DWR and Reclamation submitted to the SWRCB a report titled "Central Valley Project and State Water Project Drought Operations Plan and Operational Forecast, April 1 through November 15, 2014." Based on this report, the SWRCB issued an order on Temporary Urgency Change Petitions (TUCP) filed by DWR and Reclamation.

11. MBK, on behalf of numerous SRS Contractors, consulted with Reclamation relative to contract quantities and operations during the February through May time period due to the dry conditions and the potential for reduced contract supplies available for the SRS Contractors. Conditions improved in February and March such that Reclamation was able to confirm the SRS Contractors' 75% supply as required under the contracts. The SRS Contractors and Reclamation have worked diligently since March 2014 to coordinate diversions from the Sacramento River to assist Reclamation with conserving water supplies and meeting the temperature requirements on the upper Sacramento River pursuant to the National Marine Fisheries Service (NMFS) June 4, 2009 Biological Opinion (BO) on the Long-Term operations of the CVP and SWP. Increased releases from Keswick Dam became necessary in late May in order to meet the BO temperature requirements in the upper Sacramento River. Once this occurred, diversions by SRS Contractors downstream of the temperature control point became incidental to the releases for temperature and no longer affect releases from Keswick Dam.

12. Exhibit C provides the 50% and 90% exceedence quantities contained in the operation sheets submitted to the SWRCB on April 8, 2014. Also shown on Exhibit C are the actual data for the month of May, together with the source of that data. The key take away points for the Sacramento Basin are:

- a. Actual combined storage quantities at the end of May are higher than projected under the 50% Exceedence Forecast.
- b. Collectively, releases into Clear Creek, Sacramento River, Feather River, and American River approximated the 90% Exceedence Forecast.
- c. The computed Delta Outflow Index (DOI) was 3,805 cfs, which is greater than the required DOI of 3,000 cfs identified in the modified TUCP Order dated May 2, 2014.

13. Accordingly, it is my opinion that DWR and Reclamation have operated the SWP and CVP effectively during this drought year, especially considering the low storage levels at the beginning of the irrigation season.

Curtailment of Diversions Under Post-1914 Water Rights

14. On May 1, 2014, Division staff provided MBK an electronic copy of the water right database which we were informed was being used for the SWRCB's potential curtailment of diversions under post -1914 water rights. In summary, we found that this database lacked an adequate level of quality assurance and quality control. Our key findings relative to the database and Division staff's analysis of water right curtailments are as follows:

- a. The database included post-1914 and pre-1914 water rights for direct diversion of significant quantities for power purposes, a non-consumptive use.
- b. No identification or support was provided to assure duplicate reporting of water use under pre-1914 and post-1914 water rights was not occurring.
- c. A brief review of EWRIMS relative to selected water rights indicates that unrealistic quantities, such as over 10 acre-feet per acre, were included for some rights.
- d. A review of the Sacramento Valley diversions contained in the database greatly exceed estimates of water use based on land use that are being used in statewide planning models. For example, using the Division's database, the reported water use for the Sacramento Valley floor upstream of the Delta (both statements and applications) during April through October is over 10.0 MAF. Based on Delta planning models, the maximum annual depletion is approximately 5.0 MAF.
- e. Diversions contained in the Division's database for the North Delta area appear to be far less (approximately 1/2) than consumptive use estimates used in statewide planning models and what is shown in the Division's 1978 report.

15. However, based on my knowledge of the water rights and the estimated available water supply, it is my opinion that the SWRCB acted appropriately when it curtailed all post-1914 water rights in the Sacramento River watershed on or about June 1. This opinion is based on a simple comparison of well-known and documented riparian and pre-1914 water rights with the available "natural" flow based on DWR's Bulletin 120. This is similar to the methodology used by Division staff in connection with the curtailment of diversions under post-1914 water rights.

16. Although I have reached the same conclusion as Division staff relative to curtailment of diversions under post-1914 water rights, the water right database (use/demand and priority date) is not in an adequate form to support curtailment of diversions under senior pre-1914 or riparian rights, as further described below.

17. At the May 21, 2014 SWRCB Workshop, Mr. Thomas Howard, Executive Director of the SWRCB, noted that based on previous analyses by Division staff, curtailment of

diversions under post-1914 water rights could potentially result in as much as 600,000 acre-feet of additional storage in Shasta Lake. Based on discussions with Division staff, I understand that the basis for this comment was the 1999 Environmental Impact Report (EIR) (p. A3-16) for the 1995 Water Quality Control Plan. Based on our review of the 1999 EIR, it does not support the statement regarding the potential for 600,000 acre-feet of additional storage in Shasta Lake for the following reasons:

- a. The 1999 EIR did not consider the lack of physical water supply available to post-1914 water rights, which is likely the case in 2014; certainly subsequent to May 21, 2014.
- b. The 1999 EIR included all post-1914 water rights, including those having underlying riparian or pre-1914 water rights such as those in the Delta. In the 1999 EIR material (p. A3-16), over 500,000 acre-feet is identified as water use within the Delta under post-1914 water rights.
- c. Curtailment of post-1914 water rights having available physical water supply located downstream of the Sacramento River near Bend Bridge will not result in a reduction of releases, and thus increased storage in Shasta Lake. This is due to the fact that CVP operations, and specifically Keswick releases, are currently controlled or required by temperature requirements, in the upper Sacramento River pursuant to the NMFS's BO.

18. On June 6, 2014, Division staff provided me with another database of statements of diversion and use, which contained the date of first use, and whether the claim was for riparian, pre-1914, or both. In addition, I was provided a copy of the Division's January 1978 Report and appendix documenting the actions taken during the 1977 drought, and recommendations for the future. This report documents the Division's past methods and procedures. This report also describes the assumptions, calculations, and data supporting the Division's 1977 dry year decisions, and provides recommendations of how to prepare for future dry years. Some of the key findings from the Division's report include emphasizing the need for:

- Focused attention on the Delta as an area with available water supply even during drought;
- Increased aerial photographs to investigate water use and illegal diverters;
- An enlarged fact-finding program as soon as water shortages begin to occur;
- The Board to show a presence, even during normal water supply years; and
- Improved water supply forecasting.

Potential Curtailment of Diversions Under Pre-1914 and Riparian Water Rights

19. The SWRCB is considering the curtailment of diversions under pre-1914 and riparian water rights using the same methodology and database that was used for curtailment of diversions under post-1914 water rights in 2014. As described below, there are significant complexities relative to available supply and the condition of the Division's water right database for use in evaluating whether water is available under a diverter's pre-1914 or riparian water rights. As such, these issues should be vetted in an open and transparent process, including adequate time for review by interested parties, before the methodology and database is relied upon by the SWRCB to curtail diversions under pre-1914 and riparian water rights. From an engineering standpoint, it is my opinion the SWRCB and the administration of the water right system, would be better served by performing site inspections and improving the SWRCB's on-the-ground knowledge of the use of pre-1914 and riparian water rights before considering any curtailment of diversions under such rights.

20. Division staff has explained that their current methodology for evaluating pre-1914 water rights curtailment is consistent with or the same as the past methodology, with the exception of using current water use reports (Statements, Reports of Licensee, and Progress Reports). Although some documentation was provided with the notice of this board meeting, we are unclear how closely the current methodology follows the Division's 1978 Report. Division staff should prepare a similar report under current conditions, including change in crop patterns, improved irrigation practices, and other factors.

21. A review of the Division's 1978 Report and current hydrology (May 1, 2014, 50% Exceedence Forecast) indicates that there is adequate natural flow in the Sacramento River system to satisfy all riparian claims through September. Exhibit D provides my handwritten changes to Table 15 of the 1978 Report. The assumptions I used to arrive at these quantities for the Sacramento River system are as follows:

- a. The available "natural" flow for the Sacramento River system was taken from DWR's May 1, 2014 Bulletin 120 forecast (50% Exceedence) for the following four stations: Sacramento River near Red Bluff, Feather River at Oroville, Yuba River near Smartsville, American River at Folsom. No consideration was given to other natural flows or to the availability of return flows for subsequent downstream use.
- b. No San Joaquin River supply was included.
- c. No San Joaquin River assumed riparian demand was included.
- d. I used 44% of the Sac-San Joaquin Delta assumed riparian and non-agricultural use to represent the North Delta based on the percentage the acreage within the North Delta Water Agency as compared to the acreage within the legal Delta.
- e. No Delta outflow was assumed as part of the riparian demand.

22. The basis for eliminating the San Joaquin portion of the Delta is the SWRCB's Order 89-8 dated April 20, 1989, which indicates the Sacramento River is not a source available to meet the demands in the Southern and Central Delta. No Delta outflow was assumed to be part of the riparian demand. The basis for this is that Delta Outflow is currently a requirement of the CVP and SWP pursuant to D-1641. It is our understanding this is consistent with the assumption being made by Division staff under its current methodology.

23. With adequate "natural" flow to meet riparian demands in the Sacramento River system, there is residual flow available to meet some pre-1914 water rights. The Division's June 6, 2014 database provides the date claimed by the water user to be the year of first use. Based on my experience, however, in numerous cases the water users have simply reported "the 1800's" as the year of first use. In many cases, no supporting documentation has been provided. I do not understand how the Division can curtail the use of the residual available flow on the basis of these claimed dates as priority dates, when the dates lack specificity and support.

Suggested 2014 Actions

24. Instead of promulgating emergency regulations that are not necessary for this year's conditions, I recommend that the following actions be undertaken by the Division in 2014 to address this year's conditions, and to better prepare for future droughts, with the appropriate level of water right administration/curtailment. These suggested actions are consistent with those identified in the Division's 1978 Report.

- a. Division staff should undertake a thorough quality assurance and quality control review of the database used for estimating demand in future years. This process needs to address the numerous shortcomings previously identified, and provided in prior submittals to the Division in other matters. Current technology can be used to assist Division staff with this process.
- b. Enforce post-1914 water right curtailments through multiple methods. First, Division staff should quickly evaluate and investigate water rights associated with the curtailment certificates that were not submitted, or were not appropriately completed. Site inspections should be undertaken relative to these curtailment certificates. Second, a strategic approach and follow-through of site inspections should be developed. Using current technology, Division can quickly and easily identify those irrigated lands outside an organized water district or company that are more likely not to have an alternative water supply, or may not have a documented water right. Third, Division staff should clearly identify the complaint process available to all water right holders, and specifically for 2014, those claiming pre-1914, riparian, and using stored water releases. This step should consider the potential for anonymous complaints. Fourth, the Division should consider site inspections, or fact-finding missions, to improve the Division's database relative to riparian and pre-1914 claims, including priority dates.

I declare under penalty of perjury that the foregoing is true and correct. Executed this 27th day of June 2014 at Klamath Falls, Oregon.



MARC E. VAN CAMP

EXHIBIT A

EDUCATION

- ◆ California State University, Sacramento, BS in Civil Engineering, 1984

PROFESSIONAL LICENSES AND SOCIETIES

- ◆ Registered Civil Engineer in California
- ◆ Registered Civil Engineer in Nevada
- ◆ Registered Civil Engineer in Oregon
- ◆ Certified Water Right Examiner in Oregon
- ◆ Member, American Society of Civil Engineers
- ◆ Member, U.S. Committee on Irrigation and Drainage

EXPERIENCE

- 1990 - Present MBK Engineers, Sacramento, CA, Principal
Same experience as described below with greater emphasis on the management and supervisory role.
- 1984 - 1989 MBK Engineers, Sacramento, CA, Consulting Civil Engineer
Practice in the fields of hydrology, hydraulics, irrigation, drainage, groundwater, water supply, water rights, project feasibility, and related problems.
- Licensing of Nevada Irrigation District's appropriative water rights. Included detailed analysis of water use to license 1920 priority appropriative water rights for a complicated water supply system. Involved many sessions with State Water Resources Control Board staff to relate water use analysis to water rights held by District, including its pre-1914 rights.
- Water Right Dispute Settlements. Gathering of factual data to settle water right issues in lieu of legal proceedings.
- 1979 - 1984 U.S. Geological Survey, Sacramento, CA, Engineer Technician
Surveying, stream flow measurements, hydrologic basic data collection, and analysis.

EXPERIENCE HIGHLIGHTS

- ◆ Mr. Van Camp has been heavily involved on various Klamath Projects including filing of claims in the Klamath Adjudication evaluating Klamath Project operations, providing technical assistance in the Klamath Basin Restoration Agreement (KBRA), and most recently working on the development of the On-Project Plan pursuant to the KBRA.
- ◆ Watermaster for Upper Putah Creek Watershed. Appointed to Watermaster by Sacramento County Superior Court Judge Parks on March 1, 1996. Responsible for implementing the Upper Putah Creek Settlement Agreement of March 10, 1995. Duties include monitoring and estimating depletion to comply with the Settlement Agreement.
- ◆ Engineer for numerous Sacramento River Settlement (SRS) Contractors and Sacramento River Water Contractors Association (SRWCA). MBK has been SRWCA's engineer since 1974. Work has related to water use, water rights, contract administration, and other related issues. I have studied the various water rights of the SRS Contractors, observed their operations, and discussed these water rights on many occasions with the U.S. Bureau of Reclamation and California Department of Water Resources personnel. In addition, I was directly involved in the SRS Contract renewal effort, performing specific technical work and water supply analyses leading to and continuing after those contract negotiations.

- ◆ Water Supply Contract Negotiations with U.S. Bureau of Reclamation. Analysis and presentation of potential water right yields to arrive at project/contract quantities.
- ◆ Major thru-Delta Water Transfers. Included obtaining regulatory approval, scheduling of releases and delivery, contract negotiation, and monitoring of water right changes. Specific transfers were the 1991-92 State of California Emergency Drought Water Bank; 2001 Forbearance Agreement between the Sacramento River Settlement Contractors, Westlands Water District, and the U.S. Bureau of Reclamation; 2009 State of California Drought Water Bank; and other miscellaneous water transfers.

Expert Witness. Testify as expert witness in water right hearings and court cases including:

- ◆ Superior Court of California, County of Nevada, Truckee Branch. Provided testimony on behalf of Truckee Meadows Water Authority and Sierra Pacific Power Company in Truckee Carson Irrigation District vs. Sierra Pacific Power Company and Truckee Meadows Water Authority.
- ◆ United States District Court, Eastern District of California, Fresno Division. Provided Declaration on behalf of 28 Sacramento River Settlement Contractors in Natural Resources Defense Council, et al., Plaintiffs, vs. Dirk Kempthorne, Secretary, U.S. Department of Interior, et al., Defendants.
- ◆ Public Utilities Commission of the State of California In the Matter of the Application of PacifiCorp (U901-E) for an Order Authorizing a General Rate Increase and Implementation of a Power Cost Adjustment Mechanism and a Post Test-Year Adjustment Mechanism.
- ◆ Public Utility Commission of Oregon on behalf of the Klamath Water Users Association. Testimony concerned Klamath River Basin rates.
- ◆ State of Oregon, Water Resources Department, before the Hearing Officer Panel. Testified on behalf of numerous water users (approximately 170,000 acres) "In the Matter of the Determination of the Relative Rights of the Waters of the Klamath River, a Tributary of the Pacific Ocean".
- ◆ California State Water Resources Control Board. Testified on behalf of Natomas Central Mutual Water Company and its Petition for a Temporary Water Transfer of Conserved Water.
- ◆ California State Water Resources Control Board (previously the State Water Rights Board hearing leading to Decision 1641). Testified on behalf of water users upstream of the Bay-Delta to address the Water Board's water quality control plans for the Bay-Delta, and proposed implementation plans involving water rights. This testimony concerned hydrologic issues related to the San Joaquin River Agreement and the Vernalis Adaptive Management Plan (VAMP).
- ◆ Sierra County Superior Court involving the Middle Fork Feather River, Decree 3095, dated January 22, 1940. Dispute involving water use and allocation of decreed water rights.

CONTINUING EDUCATION SEMINARS and WORKSHOPS

- ◆ Advanced Water Rights in Nevada, Nevada Water Resources Association
- ◆ Water Rights in Nevada, Nevada Water Resources Association
- ◆ Water Right Sales and Transfers, Lorman Continuing Education Services
- ◆ Instruct at Lorman Continuing Education Services, "Water Rights Sales and Transfers in CA"
- ◆ USCID Conference, Water Rights and Related Water Supply Issues, Present Published Paper
- ◆ Oregon Water Law Seminar
- ◆ OWRD, Water Right Examiner Workshop
- ◆ Flow Measurement, Control and Monitoring Workshop, USBR, DWR and Cal Poly, San Luis Obispo
- ◆ Irrigation System Evaluation Short Course, DWR and Cal Poly, San Luis Obispo
- ◆ California Water Law, University of California Extension, U.C. Davis
- ◆ Water Systems Management Workshop, U.S. Bureau of Reclamation
- ◆ Flood Fight Methods, California Department of Water Resources

EXHIBIT B

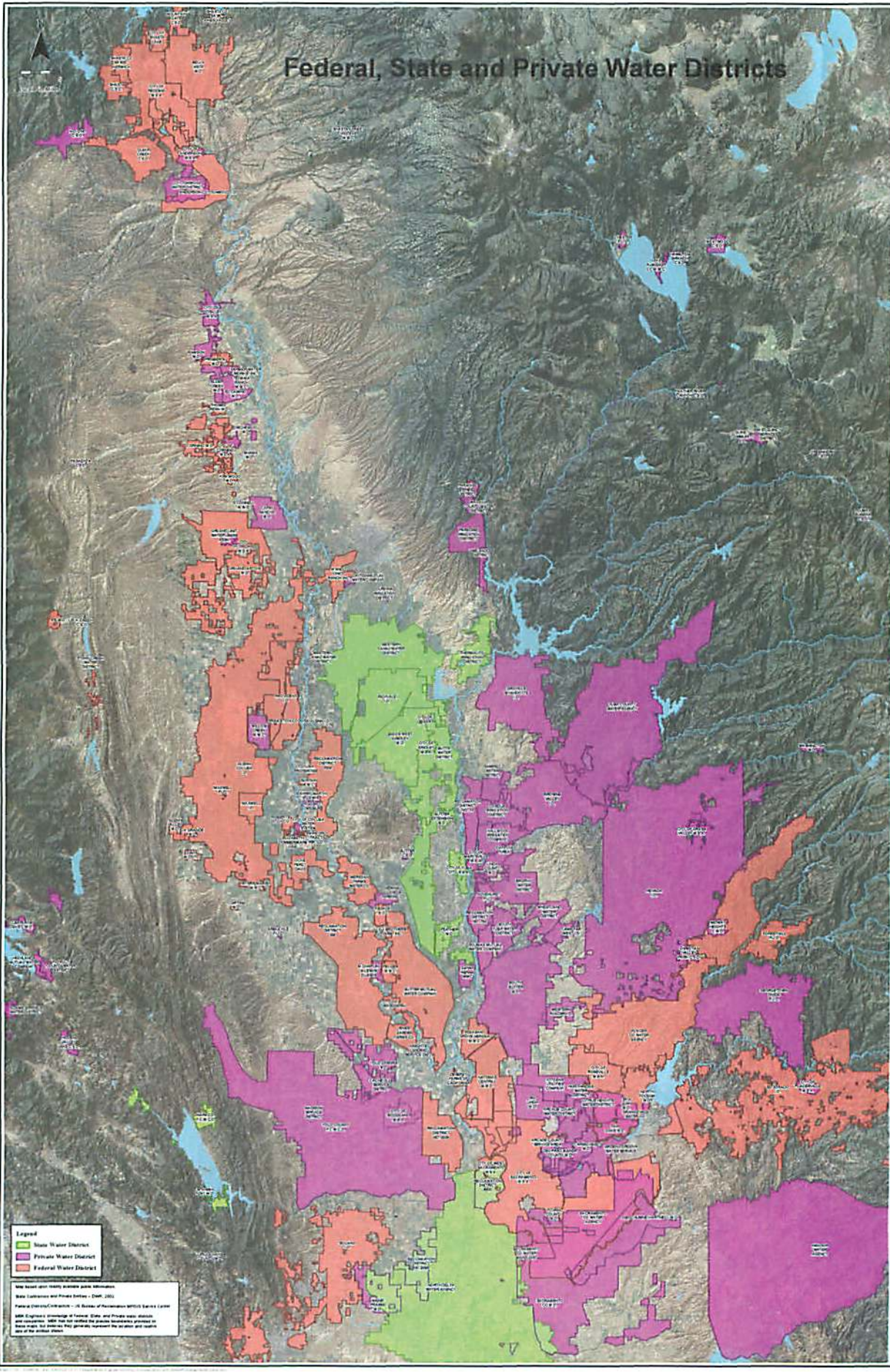


EXHIBIT C

Federal End of the Month Storage/Elevation (TAF/Feet)				
May 2014				
		50%	90%	Actual
Trinity	TAF	1271	1076	1196
	Elev.	2283	2263	2276
Whiskeytown	TAF	238	238	237
	Elev.	1209	1209	1209
Shasta	TAF	1819	1669	2177
	Elev.	946	937	967
Folsom	TAF	525	455	548
	Elev.	420	411	422
New Melones	TAF	949	894	799
	Elev.	935	927	913
San Luis	TAF	347	344	510
	Elev.	422	415	437
Total	TAF	5148	4676	5467

Actual Data Source

USBR Trinity*

USBR Whiskeytown*

USBR Shasta*

USBR Folsom*

USBR New Melones*

USBR San Luis*

State End of the Month Reservoir Storage (TAF)				
May 2014				
		50%	90%	Actual
Oroville	TAF	1583	1509	1734
	Elev.	740	732	756
San Luis	TAF	358	301	338
Total San Luis	TAF	705	645	848

CDEC ORO (Oroville Dam)

CDEC LUIS (San Luis State)

USBR San Luis*

Monthly River Releases (TAF/cfs)				
May 2014				
		50%	90%	Actual
Trinity	TAF	92	92	111
	cfs	1,498	1,498	1,813
Clear Creek	TAF	12	12	12
	cfs	190	190	190
Sacramento	TAF	530	510	422
	cfs	8615	8300	6867
American	TAF	92	31	83
	cfs	1500	500	1357
Stanislaus	TAF	25	25	77
	cfs	410	410	1259
Feather	TAF	68	49	74
	cfs	1100	800	1205

USBR Trinity*

USBR Whiskeytown*

USBR Keswick*

USBR Lake Natoma*

USBR Goodwin*

CDEC Gridley

Trinity Diversions (TAF)				
May 2014				
		50%	90%	Actual
Carr PP	TAF	117	125	26
Spring Crk. PP	TAF	120	120	12

USBR Lewistown*

USBR Whiskeytown*

Delta Summary (TAF)				
May 2014				
		50%	90%	Actual
Tracy	TAF	71	61	62
USBR Banks	TAF	0	0	0
Contra Costa	TAF	6.35	6.4	14.67
Total USBR	TAF	78	68	77
State Export	TAF	71	54	16
Total Export	TAF	149	122	93
COA Balance		0	0	
Old/Middle R. std.				
Old/Middle R. calc.	cfs	-1556	-1561	-1836
Computed DOI	cfs	5303	4360	3805
Excess Outflow		1301	358	0
% Export/Inflow		23%	24%	16%
% Export/Inflow std.		35%	35%	35%

USBR Delta Outflow Computation

USBR Federal-State Operations

USBR Delta Outflow Computation

Sum of Tracy, USBR Banks, and Contra Costa

USBR Federal-State Operations

only includes Banks state

Sum of Total USBR and State Export

USBR Operations Analysis OMR

monthly mean daily average

USBR Delta Outflow Computation

monthly ndoi daily average

USBR Delta Outflow Computation

monthly daily % average

50% Exceedance Forecast from CVP and SWP Drought Operations Plan and Operational Forecast on April 8, 2014

90% Exceedance Forecast from CVP and SWP Drought Operations Plan and Operational Forecast on April 8, 2014

*Actual values from USBR's CVO 2014 Reservoir Operations Reports located online: <http://www.usbr.gov/mp/cvo/reports.html>

CDEC data located online: <http://cdec.water.ca.gov/>

USBR Water Accounting Reports located online: <http://www.usbr.gov/mp/cvo/pmdoc.html>

USBR OMR Report located online: http://www.usbr.gov/mp/cvo/vungvari/OMR_May2014.pdf

EXHIBIT D

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TABLE 15
SACRAMENTO - SAN JOAQUIN BASINS INCLUDING THE DELTA - SUMMARY OF AVAILABLE SUPPLY AND ASSUMED RIPARIAN DEMAND

WATER SUPPLY / DEMAND PARTICULARS	MONTHLY WATER SUPPLY - DEMAND (ACRE-FEET)									ASSUMPTIONS/REFERENCES
	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	
<u>Available Water Supply</u>	—	—	590	359	267	221	214	—	—	May 1, 8120 2014
1. Sacramento River Basin	577,980	526,900	498,380	287,290	212,290	218,980	226,040	379,170	394,170	Table 5
2. San Joaquin River Basin	65,206	185,449	219,633	19,459	16,000	6,500	6,500	30,921	45,892	Table 13
3. Sacramento-San Joaquin Delta	—	—	—	—	—	—	—	—	—	—
<u>TOTAL</u>	643,186	712,349	718,213	366,749	228,290	225,480	232,540	410,091	440,062	
<u>Assumed Riparian Demand</u>										
1. Sacramento River Basin	53,290	65,230	91,870	87,270	86,360	67,980	31,230	14,700	4,600	Table 5
2. San Joaquin River Basin	23,728	29,444	39,354	37,064	34,392	26,934	13,594	5,904	1,931	Table 13
3. Sacramento - San Joaquin Delta										
a. Assumed Riparian	54,870	82,320	116,840	174,840	184,780	148,040	90,290	68,390	29,560	Table 14
b. Non-agricultural Consumptive Use	42,580	50,590	68,830	74,560	73,060	51,750	45,060	32,990	17,150	Table 14
c. Outflow	184,470	178,520	184,470	89,260	92,230	92,230	89,260	92,230	89,260	Table 14
<u>TOTAL</u>	358,938	406,104	501,364	462,994	470,822	388,934	269,434	214,214	142,501	
North Delta (44%)	42,900	58,500	81,700	109,800	113,500	87,900	59,600	44,600	20,600	44% of 3.a. + 3.b.
Total Sacramento River Riparian Demand (TRF)	96	124	174	197	200	156	91	—	—	1. Sacramento R. Basin + North Delta (44%)

