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Via email: mjholman@calpoly.edu

June 6, 2014

Charles M. Burt, Ph.D.
Irrigation Training & Research Center
1 Grand Avenue
California Polytechnic State University
San Luis Obispo, CA 93407-0730

Re: Agricultural Nitrate Control – Expert Panel
Public comment for June 9, 2014

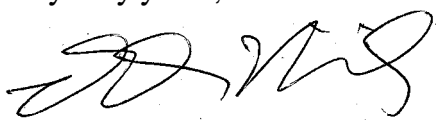
Dear Dr. Burt:

This letter is being submitted in connection with the "Reporting" heading of the charge to the Panel, primarily Question 13. That Question as presently phrased asks the Panel to opine about a narrow duality, i.e., one "versus" the other. As some other comments have noted, the complete charge to the Panel, however, asks the panel to apply its expertise not only to the specific Questions, but also to many other issues implicated in WQ 2013-0101, including monitoring. See Comments submitted by KMI (first page), May 14 2014.

During the hearings and consideration by the Central Coast Regional Water Quality Control Board, this office vigorously emphasized as a goal the consistency of data collected and especially reported, offering practical suggestions on accomplishing that goal. See enclosed letters of August 31, 2011 and March 13, 2012. We are also bringing to the Panel's attention a more recent comment by Dr. Peter Reinelt, the Chair of the Department of Economics at the State University of New York in Fredonia, dated February 26, 2014. As that comment reflects, Dr. Reinelt has devoted a substantial amount of his professional efforts to economic analysis of agricultural and most especially water driven dynamics in California. Dr. Reinelt's comment challenges the economic rationality of wholesale data protection, especially in the current Drought Era.

This public comment will not attempt to summarize all content of the three enclosures, which stand on their own. The purpose of this comment is to warn against creating unique, complicated, non-public, and potentially contradictory reporting systems that stifle real progress on the underlying issues for the practical and policy reasons articled in the three enclosures.

Very truly yours,



Thomas S. Virsik

Encl.
August 31, 2011 Letter to Jeffrey S. Young
March 13, 2012 letter to Jeffrey S. Young
February 26, 2014 comment by Dr. Peter Reinelt

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August 31, 2011

Jeffrey Young, Chairman
Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401

Re: Item No. 16 – Report of Prof. Harter, Ph.D. (UC Davis) on nitrate study

Dear Mr. Young:

I am with the office of Patrick J. Maloney in Alameda. Our office has been a strong advocate for the accurate reporting of water use data for decades. See July 21, 2011 letter to Chairman Hoppin (SWRCB) at the Water Diversion Measurement Workshop, and references therein. July 21, 2011 Thomas S. Virsik letter to Charles R. Hoppin, Chairperson, SWRCB, enclosed. For this letter, we represent various clients in the Salinas River basin that have been following the progress of the nitrate situation at this Board and elsewhere.

The report presented by Dr. Harter on June 21, 2011 at the State Water Board Meeting in Sacramento concludes with the following language: "Incoherence and inaccessibility of data prohibit better and continuous assessment." We respectfully suggest a certain direction that may help alleviate that substantial stumbling block – and by necessary implication, the management of the nitrates in the Salinas River basin. See e.g., Agenda Item 17, indefinitely postponed. For without a thorough understanding and general comfort with the data, any project to alleviate nitrate problems is likely to be either ineffective or counterproductive.

We are suggesting a two-pronged approach, both prongs of which are necessary to obtaining a thorough analysis of data on which future action can be based. The two prongs can be broadly seen as (1) the addition of water quality data reporting relevant to nitrates (or whatever data Dr. Harter identifies) on the already required statements of water diversion (Water Code sections 5100, et sea) and (2) a finding or policy that all water pumped in the Salinas River basin is underflow of the Salinas River rather than true groundwater, unless a filer can demonstrate otherwise (e.g., well depth).

Both prongs would require action by this Board and likely by the State Water Resources Control Board. For example, certain interests in the Salinas Valley represented by this office

sought the disclosure of detailed pumping data in the SWRCB July 6, 2000 Order Quashing Subpoena of Clients of Mr. Maloney in connection with the expansion of the Monterey County Water Resources Agency's permit for the Nacimiento Reservoir. The SWRCB determined that privacy prevailed. Now, some decades later, the policy of the State and of the SWRCB of late is to require more detailed and reliable disclosures. See e.g., July 20, 2011 Agricultural Water Use Efficiency Workshop and July 21, 2011 Water Diversion Measurement Workshop and Chairman Hoppin's observation that crafting one integrated form is superior to a multitude of inconsistent forms.

The second prong of determining that the water pumped in the Salinas River basin is presumed to be the underflow of the Salinas River may also need to revisit certain prior decisions and policies. In 1992 the SWRCB discussed the difference between groundwater and underflow of the Salinas River. July 14, 1992 SWRCB Report - United Agricultural Association, enclosed. It is no longer appropriate to make such distinctions in the Salinas River basin.

With a presumption about the underflow of the Salinas River and a requirement that the reporting of diversions and use include the data good science requires (e.g., as Dr. Harter recommends), a much better understanding of the true state of nitrates and their causes can be ascertained, on which an effective policy can be based.

The proposals herein may be controversial to some, but anything less than reliable data will result in, at best, inequity and, at worst, increasing the problem.

Very truly yours,

Thomas S. Virsik

Thomas S. Virsik

Encl. July 21, 2011 Thomas S. Virsik letter to Charles R. Hoppin, Chairperson, SWRCB
SWRCB July 6, 2000 Order Quashing Subpoena of Clients of Mr. Maloney
July 14, 1992 SWRCB Report - United Agricultural Association

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July 21, 2011

Charles R. Hoppin, Chairman
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Re: Comments for SWRCB 7/21/2011 Water Diversion Measurement Workshop -- Tina Shields (IID) letter 7/1/2011

Dear Mr. Hoppin:

I am with the office of Patrick J. Maloney in Alameda. Our office has been a strong advocate for the accurate reporting of water use data for decades. See April 2, 2002 Patrick Maloney letter to Paul Murphey. Our experience in the Salinas Valley, for example, was that the initial modeling conclusions about the cause and rate of seawater intrusion were inaccurate. Only with better data was the real problem understood and at least a partial solution implemented. This Board had a substantial role in those events in the late 1990's.

We represent clients in the Imperial Valley that own lands and whose water rights predate the creation of IID. These are at least the pre-1914 rights recognized by the US Supreme Court. Arizona v. California, (2006) 547 U.S. 150, 175.

Beginning in 2006, these clients filed over 350 statements of water diversion and they continued to update the statements through at least 2009. There was extensive correspondence between SWRCB staff and our office. As far as we can tell, SWRCB has never actually filed the statements of water diversion, even after the 2009 amendments that made more explicit the filing requirements.

This office previously prepared, and the SWRCB accepted for filing, the same sort of statements of water diversion from individual water diverters in Monterey County, on the Salinas River. Yet, with the Colorado River the statements have not yet been officially entered into the eWRIMS database. The SWRCB would have been far ahead with respect to Imperial Irrigation District's (IID) reporting had its staff filed the statements years ago when they were received.

Our clients are aware of the July 1, 2011, letter from IID's Assistant Water Department Manager, Tina Shield, to the SWRCB. They agree with some of it, but take issue with other

statements. Our clients are not surprised that IID admits in at least two places that the present measurement system is inaccurate. (Shields July 1, 2011 letter – 2nd ¶, 2nd to last sentence; 3rd ¶ 3rd and 4th sentences.) IID is admitting in those statements that what it has been reporting for decades has never been accurate. IID calls it a "magnitude of error." Yet, in its conclusion IID asks that it be exempted from improving its measurements and reporting.

Since at least 2003, our clients have been trying to engage IID in broad improvements to its measurement systems. The clients have provided to IID modest cost proposals on how to make those improvements by working with the on-the-ground water users. One such proposal is for what our clients call the "Water Exchange" – a water management, conservation, measurement tool for which they received a patent. Our clients' website explains a little about its use. www.imperialgroup.info. As Secretary Ross pointed out yesterday at the agricultural efficiency workshop, there are always innovators; it is getting the rest to follow that can be problematic. In this instance, the party declining to follow is one over whom this Board has authority – an irrigation district.

From our clients' perspective, IID has available to it a ready means to materially improve its water management by cooperating with its water users – one of the so-called "unique circumstances" which this Board should consider. Or, does the Board wish to set a policy allowing or even encouraging diverters to ignore better technologies and practices that are fiscally reasonable just because the diverter is fearful of what such analysis and improvement may reveal?

IID claims in its last paragraph that the reporting by the United States Bureau of Reclamation (USBOR) is adequate, notwithstanding how IID characterized the measurement quality and its effects in the two prior paragraphs. What IID failed to mention is that during that time – in 2002 to 2003 – that the BOR performed a detailed analysis of IID's water use (what is sometimes known as a Part 417 analysis). The BOR's primary recommendation to IID was that IID "develop, maintain and use a district-wide network of water measurement devices for consistent monitoring, recording and reporting of system and on-farm water data." BOR Determinations and Recommendations, August 29, 2003. So, contrary to what IID is suggesting, the BOR already is an advocate for better measurement and reporting by IID. Moreover, as Chairman Hoppin articulated at yesterday's workshop, when there are competing systems of reporting, the goal is to harmonize, not ignore the potential differences.

IID's diversions account for a substantial amount of the total California water diversions. IID's letter conveniently omits this relevant piece of information. A 10% error of IID's diversions -- 300K – represents the entirety of the water transfer to the Coast (QSA) that IID mentions in its second paragraph. Imagine the affect of that amount of water – for better or worse – on the state of the Salton Sea. (The Board may wish to recall how Prof. Burt at yesterday's workshop characterized the importance to the State of the potential improvements for IID.) As this Board and everyone else is likely aware, the QSA transfer is presently on appeal because the parties had utterly mishandled the Salton Sea. Had IID been forced to collect and make publically available more and better data, the transfer and the role of the Salton Sea in it would have been far different. Using the terminology advocated by Prof. Gleick at yesterday's workshop, the co-

benefits of a transfer based on good data versus poor or missing data could have been starkly disparate.

The potential benefit to the State in forcing one of its largest diverters to sit down and work cooperatively with the on-the-ground water users to improve the measurement and delivery of water is too important to degenerate into political favoritism. Our clients who have over 350 pending statements of water diversion for the Colorado River as it passes through the IID service area strongly advocate that IID join the balance of the water diverters in improving its measurements and management as the law now requires.

There may be political reasons why IID wishes to maintain its inaccurate data reporting, but the absence of accurate data will only further aggravate the State's water problems.

Very truly yours,

Thomas S. Virsik

Thomas S. Virsik

Encl. Patrick Maloney April 2, 2002 letter to Paul Murphey, SWRCB

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JOHN F. HANSON, JR.
OF COUNSEL

April 2, 2002

Paul Murphey
Division of Water Rights
SWRCB
Sacramento, California

Re: Workshop on Professor Sax's Report
SWRCB No: 0-076-300-0
April 10, 2002

Dear Mr. Murphey:

Professor Sax's Report is a significant document. The SWRCB should pay particular attention to Chapters V and VI. The solutions Professor Sax proposes in these two Chapters are important to water issues in the state and are particularly important to California's economy over the next fifty years. Our comments on the Report are divided into the following categories:

A. Background
B. Responses to the Questions Posed by the Board
C. People v. Forni
D. Indefinite Nature of California Water Rights
E. Existing Statutory structure

Background

Over the last thirty years lawyers in our Office have been involved in a number of different water issues in the State of California:

1>Developed the arguments and positions at the SWRCB on behalf of private clients which ultimately became People v. Forni.

2>Represented major landowners throughout California and Nevada.

3>Represented major financial institutions with concerns about their investments in California because of the water issue.

4>Co-Authored an article entitled "Restructuring America's Water Systems" published by the Reason Foundation. Neal, Kathy, Patrick J. Maloney, Jonas A. Marson and Tamer E. Francis, Restructuring America's Water Industry: Comparing Investor-Owned and Government-Owned Water Systems, Jan. 1996 (Reason Foundation, Policy Study No. 200). Many people see this article as an argument for privatization of the water delivery system in America. Morgan, Steven P. and Jeffrey I. Chapman, Issues Surrounding the Privatization of Public Water Service, Sept. 1996 (ACWA). The word "privatization" does not appear in the article. The article has received extensive criticism from organizations like ACWA, but the Reason Foundation article suggests public policy makers should rethink how water is distributed and managed in America and California in particular. The article has been purchased and studied by most significant water interests in the world including but not limited to financial institutions, water purveyors, engineering firms, and think tanks.

5>Developed the Instadjudicator. This is an interactive database that instantly determines a landowner's water rights or water entitlement in the Salinas Valley. The interactive database uses public source inputs such as chains of title, the APN system, assessor map overlays, County and State publicly available databases, defined engineering terms, the results of computer runs from the Salinas Valley Integrated Ground and Surface Water Model and other non-proprietary information. The utility of such a tool is to (1) quickly develop "what if" scenarios, and (2) to identify anomalous or skewed inputs or uses, e.g., identify by inferring from multiple sources that water use in a section of the analyzed area is substantially higher than the surrounding areas viz. unreasonable. We are not suggesting that the Instadjudicator is the only solution to the State's water issues but what is needed is a similar tool for all over-drafted (and ultimately all) basins so there can be a critical analysis of a Basin's water issues and "what if" scenarios can be quickly understood.

Engineers involved in the Mojave case have reviewed the operation of the Instajudicator and suggested its use would hasten the resolution of the Mojave case. The Instadjudicator was offered to the SWRCB with appropriate technical assistance for its use but the offer was rejected. At a contested hearing the

SWRCB refused to force the Monterey County Water Resources Agency to release data by which the instant adjudication of the Salinas Valley could be accomplished. Hearing on Motion to Quash Subpoenas, 6/28/00, Application 30532. A staff member of the SWRCB has suggested there are two problems with the Instadjudicator: A) The name and B) that this office developed it.

6>The office is currently working on an analysis of the leadership in the Water and Sewer industry with prominent People of Color. The purpose of this analysis is to compare the existing leadership of the water industry against the demographic make-up of the State now and forty years from now. The preliminary results of this research indicate that the California's water industry is not reflective of the ethnic demographic make-up of the State now or forty years from now.

Responses to the Questions Posed by the Board

Professor Sax proposes quantifiable criteria by which the water user could determine whether or not it is pumping percolating groundwater. The first problem with the proposed criteria is that they will involve more engineers arguing arcane hydrologic issues. These arcane hydrological issues are irrelevant if there is an unreasonable use of water. More importantly the percolating groundwater and underground surface water classification will change depending on what crop is used and how much water is being pumped in a given basin. What these criteria do is add further confusion rather than bring more definability to water usage in California. From time to time or place to place making the fine distinctions advanced by Professor Sax may be necessary, but only as a component of an overall solution-oriented water management system, not as the starting point. Making the management of California water more complex is not in the State's interest.

People v. Forni

Over thirty years ago adjudication was proposed for the Napa Valley and our vineyard clients decided adjudication would not solve the water problems caused by Frost Protection in the Napa Valley. The clients and their representatives instead worked closely with the staff of the SWRCB led by Ken Woodward, the former Chief of the Division of Water Rights, and the SWRCB to develop the principles which ultimately became People v. Forni. These principles and facts were presented in a highly contested hearing before the SWRCB. The arguments and the facts presented by our clients were the basis for the See decision and from

the See decision the SWRCB developed the regulation challenged in People v. Forni. People ex rel. SWRCB v. Forni (1976) 54 Cal.App.3rd 743; See Decision 1404. Our clients presented these positions because they felt the only way a system for Frost Protection could be developed was if all water sources in the water basin were considered and managed. Under the far-sighted leadership of Chairman Adams and Members Robie and Auer the SWRCB used its Sections 100 and 275 powers and brought stability to the region's water problems and allowed the Napa Valley to prosper. The lesson the SWRCB can learn from Forni is that once it develops a carefully reasoned engineering position it should take an active role in solving a region's water problem before the problem becomes a crisis.

For the last five years another set of clients have advocated a similar solution, the application of Sections 100 and 275 powers to the Salinas Valley's salt water intrusion and nitrate problems and the SWRCB has repeatedly rejected our clients' pleas. The current Chief of the Division of Water Rights has opposed the use of Sections 100 and 275 powers by the SWRCB because "initiating an unreasonable use proceeding would be viewed by the local agency as a 'blind-side' attack, and would probably be considered a back-door adjudication by the agricultural community. Nevertheless, if other efforts fail, this type of action would be preferred over an adjudication because the SWRCB could address administratively rather that in a judicial proceeding in superior court." (Confidential) Memorandum from Harry Schueller on Salinas Valley, June 16, 2000, page 8. The SWRCB's inaction has put in jeopardy the water supply of a major city in California and will likely cost the taxpayers (State and/or local) tens or hundreds of millions of dollars that could have been avoided by forcing a certain limited segment of the agricultural community to use water reasonably in the first place. The SWRCB has the power to solve water problems in this State and most of the issues raised in Professor Sax's Report. It must use the power and not worry about offending local water agencies or limited segments of the agricultural community.

Indefinite Nature of California Water Rights

No one really knows who has water rights in California. All water licenses are subject to vested rights. What those vested rights are is anybody's guess. Probably the most interesting statement made in Professor Sax's Report is found in footnote 122 wherein he cites In re Waters of Long Valley for the proposition that there is no such thing as unexercised riparian water rights in California. Long Valley probably does not say that, but the point is there is no water right in

California if the actual or contemplated water use is unreasonable. The Sax Report is full of references to cases by various California courts over the last century, which apply the reasonableness test to solve a water problem. There are no absolute water rights. A water right disappears in California when the needs of the community demand it.

The most disturbing problem we have in California water issues is that the SWRCB cannot figure out what its position is on most issues and the underflow issue is just a manifestation of the problem. We have staff letters of the SWRCB and Licenses telling the public that certain water rights exist yet frequently in public hearings of all types we have representatives of the SWRCB or other agencies of the State denying the validity of SWRCB's earlier positions. The SWRCB looks like a fool. To the outside world the State of California looks like a fool. In earlier times California could do whatever it pleased. Now, however, we have few major banks or financial institutions left in California and in order to maintain financing for our homes, agriculture and industries we must bring some order and discipline to the State's water system. We have to have more definability in our water system. We cannot reject definability merely because it upsets the sensitivities of certain water agencies or members of the agricultural community. The magic of People v. Forni and other things done in the Napa Valley to define water rights and optimize the region's water resources brought confidence to the investing and lending institutions and helped spur the development of California's wine industry.

Existing Statutory Structure and Actions of the SWRCB

Professor Sax's Report fails to recognize how much the Legislature and the SWRCB has actually done to solve the State's water problem. We direct the SWRCB's attention to Water Code Sections 5100 et seq. and 1010 et seq. and the forms prepared by the SWRCB. STATEMENT (1-00) and ST-SUPPL (2-01). No one knows exactly how to fill out the forms because of the SWRCB's inability to define underflow and consumptive use but at least there is a form. SWRCB has expanded the Section 5100 form dramatically in recent years without legislative approval. The forms should be expanded administratively to require water users to report all types of water sources and use. If the SWRCB does this administratively, there will be no need for the legislative action feared by Professor Sax. Once the forms are filed the data should be put into the existing publicly accessible SWRCB databases defined by USGS basin lines. Then Computer tools

should be developed for each water basin such as an "integrated groundwater and surface water model" throughout the State by which anyone could easily ascertain a reasonable use of water for a given basin.

Such a system would encourage conservation and the orderly transfer of water. Either the SWRCB or somebody else could then stop anybody who is unreasonably using water pursuant to Water Code Sections 100 and 275. Anybody who is using less than a reasonable amount water could transfer water to somebody who has a need for the conserved water. Then the State's water argument will be over reasonable use of water in any given basin not over the application of unclear laws to disputed hydrological facts.

Ultimately if the expanded Section 5100 form is not filled out and filed by a water user, the Legislature could develop legislation establishing a presumption the water user forfeits whatever water rights it has unless the water user can demonstrate good cause for not filing the form. Notwithstanding much of the uncertainty about the present filing system, this office has been active in filing reports for its various clients, relying on various public sources to explain and detail positions where the SWRCB has not provided clarity. This office understands the system to be akin to recording ownership of real property. In other words, if a water user declines to follow the statute and does not file, its claim will be entitled to less weight than any competing claim of a water user who followed procedures and filed reports – similar to that of a property owner who takes title but does not record it. Water users also file Statements with the expectation that this State database will be used by EIR preparers to catalogue and analyze water rights for a given project. Save Our Peninsula Committee v. Monterey County Board of Supervisors (2001) 87 Cal.App.4th 99, 122; Petition for Extension of Time for Permit 5882 (Application 10216) (1999).

California's computer industry deals with much more complex than the State's water issues. The SWRCB should rely on this industry for solutions. The SWRCB's existing data system on water rights should be modified to make all pumping data publicly available and a system of inquiry developed so the public can ascertain a reasonable water use standard for each basin.

Conclusion

The Sax Report offers important statutory history. The SWRCB should carefully consider the Report's generalized recommendations and develop an action plan to pursue the goal of a more defined system of water rights. This will ultimately lead to an overall solution-oriented water management system.

Very truly yours,

Patrick J. Maloney

State Water Resources Control Board

Winston H. Hickox
Secretary for Environmental Protection

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Gray Davis
Governor

July 6, 2000

TO: PERSONS TO EXCHANGE INFORMATION FOR HEARING ON APPLICATION 30532

ORDER QUASHING SUBPOENA OF CLIENTS OF MR. MALONEY

As part of an adjudicative proceeding on a water right application filed by the Monterey County Water Resources Agency (MCWRA), Application 30532, Mr. Patrick Maloney, attorney for a group of protestants which has been named "Salinas Valley Protestants," (protestants) issued a subpoena duces tecum (subpoena) to MCWRA. Two items that the protestants have requested that MCWRA produce pursuant to the subpoena are "all water extraction reports" (item 1) and "all water conservation reports" (item 2). MCWRA filed a Motion to Quash the Subpoena of Clients of Mr. Maloney (motion) as to items 1 and 2. MCWRA provided documents responsive to the other requests contained in the subpoena and they are not at issue in this motion.

A hearing was held on June 28, 2000, to provide an opportunity for the parties to present oral argument in accordance with Code of Civil Procedure section 1987.1. As hearing officer for the hearing on the motion and for the hearing on Application 30532 of MCWRA, I must resolve the motion. (Gov. Code, § 11450.30, subd. (b).) I read all briefs submitted prior to the hearing and I listened to the arguments given at the hearing.

Issues

MCWRA raises three issues in its motion:

1. The information requested in the subpoena is not relevant to the issues noticed for hearing on Application 30532.

2. The information requested in the subpoena is confidential by MCWRA ordinance 3717 and is protected by an outstanding order of the Monterey County Superior Court.

3. The subpoena is not valid because it was not served properly, not accompanied by a proof of service, and not accompanied by an affidavit.

Discussion

Relevance

MCWRA ordinance 3717 requires the annual reporting of groundwater extraction data and water conservation information on forms provided by MCWRA. The information reported is compiled in the MCWRA's Groundwater Extraction Management System (GEMS) database.

Pursuant to an order of the Monterey County Superior Court (Order on Motion to Compel Production of Well Extraction Data, *Orradre Ranch, et al. v. Monterey County Resources Agency*, No. 115777), Mr. Maloney has been given the water extraction data in the GEMS database aggregated by township and range without the personally identifiable portions. The court order does not address the conservation data.

The protestants contend that the groundwater extraction data and the water conservation data (items 1 and 2 in the subpoena) are relevant for four purposes:

1. To rebut MCWRA's water availability analysis;

2. To establish the protestants' conjunctive use of water in the Salinas Valley;

3. To "optimize" the water resources of the Salinas Valley; and

4. To determine how much water each person in the Salinas Valley should be allowed to pump.

The amount of water extracted from and conserved in the Salinas Valley groundwater basin may be relevant to the water availability issue noticed for the hearing on Application 30532. Water is not available for appropriation to the extent it deprives groundwater users of recharge on which they depend. The recharge serves groundwater extractors as a group, however, and it is the amount extracted in the aggregate – data that have already been made available to Mr. Maloney - not the amount extracted by any individual user, that is relevant to the inquiry. The personally identifiable portions of the reports in which extraction and conservation data are recorded are not relevant to any of the issues noticed for hearing.

The protestants contend that the subpoenaed data are needed as a matter of fundamental fairness to test the accuracy of the calculations, assumptions, and methodology used in MCWRA's water availability analysis. MCWRA developed and uses the Salinas Valley Integrated Groundwater and Surface water Model (SVIGSM) as a planning tool to analyze the hydrogeology of the Salinas Basin. MCWRA did not use the data in the GEMS database to develop or calibrate the SVIGSM. (Reply Brief, Exhibit A.) MCWRA did not use the GEMS database in developing its testimony, exhibits, or analysis for the hearing on Application 30532. (Reply Brief, Exhibit B.)

The protestants also contend that they need the subpoenaed information to establish their conjunctive use of water in the Salinas Valley. The protestants can use their own extraction and conservation data to show their use. The personally identifiable portions of the reports submitted by other groundwater users is not relevant to that issue.

The protestants contend that they need the subpoenaed information to enable the State Water Resources Control Board (SWRCB) to "optimize" the water resources of the Salinas Valley. The protestants contend that the SWRCB needs the subpoenaed information to develop a "rational solution" to the water problems in the the Salinas Valley. Neither optimizing the water resources of the Salinas Valley nor solving all of the water problems in the Salinas Valley is within the scope of the hearing on Application 30532. The purpose of the hearing on Application 30532 is to determine whether there is water available for the project described in the application. The subpoenaed information is not relevant to issues that are within the scope of the hearing.

The protestants contend that they need the subpoenaed information to determine how much water each person in the Salinas Valley should be allowed to pump. A determination of the amount of water each person should be allowed to pump would require an adjudication of the water rights of the Salinas Valley. An adjudication of water rights is outside the scope of the hearing and the subpoenaed information is not relevant to resolution of the issues noticed for the hearing on Application 30532.

The protestants have failed to establish the relevance of the subpoenaed information to the issues within the scope of the hearing.

Confidentiality

As described above, MCWRA ordinance 3717 requires the annual reporting of groundwater extraction data and water conservation information on forms provided by MCWRA. Section 1.01.13 of ordinance 3717 states that:

> "The Agency shall restrict access to and distribution of personally identifiable information consistent with privacy protections and requirements and trade secret protections."

Pumpers have relied on the confidentiality provision in complying with the ordinance. Without the confidentiality provision in the ordinance and promises of confidentiality made by MCWRA to the growers, it is doubtful that growers would submit the information. Many growers consider the information required to be submitted to be a trade secret. MCWRA needs the cooperation of the growers to get the information it needs to manage the water resources within its jurisdiction.

Section 1.01.02 of ordinance 3717 describes the purpose of the ordinance. The purpose includes:

1. Determine actual amounts of water extracted from the basin.

2. Provide information that can be used to develop demand management programs created by an inadequate water supply.

3. Facilitate and encourage water conservation by monitoring water use patterns and practices.

4. Facilitate the development of new water supplies by using the data collected to determine whether new water projects are necessary.

5. Allow MCWRA to allocate the costs of water management activities in the Salinas Basin and any new water projects for the basin, based on actual water use.

The success of MCWRA in managing the water resources within its jurisdiction depends on the cooperation of the pumpers in complying with ordinance 3717. Compliance with the ordinance depends on the promise to maintain the confidentiality of the information submitted. Without compliance, MCWRA is unable to use a valuable management tool. The protestants have not demonstrated that their need for the personally identifiable information outweighs the need of MCWRA to keep this information confidential.

The protestants contend that the SWRCB has waived the confidentiality of the subpoenaed data because it "ordered the Agency to craft a water availability analysis" and "[b]y ordering such an analysis to be placed into the public record, the Board has already determined that the confidentiality of water data is outweighed by the Board's statutory responsibility to determine whether water is available to the Agency." Neither statement is true. In fact, the SWRCB neither waived confidentiality nor made any determination as to whether other considerations outweighed the need to maintain confidentiality. SWRCB staff merely informed MCWRA, by letter dated March 26, 1999, that MCWRA must submit information that demonstrates a reasonable likelihood that unappropriated water is available for appropriation under Application 30532. There is no correspondence or any other documentation in the files to show that the SWRCB considered or made any determination regarding the confidentiality of data submitted pursuant to ordinance 3717.

Validity of Subpoena

MCWRA contends that the subpoena was not served properly, not accompanied by a proof of service, and not accompanied by an affidavit as required by law.

Government Code section 11450.20, subdivision (b), provides three ways to issue a subpoena: personal service, certified mail, and messenger. Messenger service was used to issue the subpoena. A copy of the written notation of acknowledgment of the subpoena, required by Government Code section 11450.20, subdivision (b), was not served on the parties or the SWRCB, but service of the acknowledgment is not required. MCWRA obviously received the subpoena. Failure to file proof of acknowledgment does not invalidate the subpoena. Proof of service of the subpoena was served on the SWRCB.

Code of Civil Procedure section 1985, subdivision (b), requires service of an affidavit with the subpoena. (See also Gov. Code, § 11450.20, subd. (a); 25 Cal.L.Rev.Comm. Reports 55 (1995).) The affidavit must include the following:

1. Show good cause for the production of the documents described in the subpoena.

2. Specify the exact documents requested to be produced.

3. Set forth in full detail the relevance of the desired documents to the issues noticed for hearing.

4. State that the MCWRA has the desired documents in its possession or under its control.

An affidavit was not served with the subpoena issued to MCWRA. Failure to serve the required affidavit at the time the subpoena is served invalidates the subpoena.

The protestants contend that an affidavit is not required and that the SWRCB's subpoena form allows a subpoena for documents without an affidavit. Contrary to the protestants' contention, the SWRCB's subpoena form provides notice of the necessity of an affidavit. (See SWRCB subpoena form at page 1, part 2 (a) and page 2, part 1.) The protestants cite Code of Civil Procedure sections 1985, subdividision (b), and 2020 as support for their contention that an affidavit is not required. The sections cited by the protestants do not support their contention.

Code of Civil Procedure section 1985, subdivision (b) requires an affidavit be served with a subpoena duces tecum. Subdivision (b) of section 1985 states: "A copy of an affidavit shall be served with a subpoena duces tecum issued before trial…" (emphasis added).

Code of Civil Procedure section 2020 does not apply to a subpoena duces tecum; it only applies to a deposition subpoena for the production of business records for copying. Section 2020 does not require service of an affidavit with the subpoena if the subpoena commands only the production of business records for copying. (Code Civ. Proc., § 2020, subd. (d)(1).) The subpoenaed information is not a business record because the water extraction reports and the water conservation reports were not prepared by MCWRA. (Evid. Code, § 1561, subd. (a)(3).) Accordingly, section 2020 does not apply.

The subpoena is not valid because Mr. Maloney failed to serve the required affidavit as required by Code of Civil Procedure section 1985, subdivision (b). Failure to provide the SWRCB and the parties with proof of service showing the manner of service does not invalidate the subpoena. Although failure to obtain the required written notation of acknowledgment may also call into question the validity of a subpoena, I do not believe the subpoena should be quashed on that basis, however, because there is no dispute regarding receipt of the subpoena and no indication that any party was prejudiced by the omission.

Conclusion

I find that:

1. The information requested in items 1 and 2 of the subpoena is not relevant to the issues noticed for the hearing on Application 30532.

2. The information requested in items 1 and 2 of the subpoena is confidential and should not be disclosed to the protestants.

3. The subpoena is not valid for failure to serve the affidavit required by Code of Civil Procedure section 1985, subdivision (b).

Accordingly, the motion to quash is granted. The subpoena is quashed as to items 1 and 2.

If you have any questions regarding my ruling, please contact Barbara Katz at (916) 657-2097.

Sincerely,

ORIGINAL SIGNED BY:

John W. Brown
Hearing Officer

cc: Barbara Katz, Esq.
Office of Chief Counsel
State Water Resources Control Board
901 P Street [95814]
P.O. Box 100
Sacramento, CA 95812-0100

Mr. Kevin Long
Mr. Mike Meinz
Division of Water Rights
State Water Resources Control Board
901 P Street [95814]
P.O. Box 2000
Sacramento, CA 95812-2000

List of Persons to Exchange Information

Monterey County Water Resources Agency Nacimiento Reservoir Hearing
July 18 and 19, 2000, to be continued if necessary, on July 24, 25 and 26, 2000
(dated June 6, 2000)

California Sportfishing Protection Alliance
c/o Mr. Robert J. Baiocchi
Consultant/Agent
P.O. Box 1790
Graeagle, CA 96103
Phone: (530) 836-1115
Fax: (530) 836-2062
E-mail: cspa@psln.com

Clark Colony Water Company
Rosenberg Family Ranch, LLC
c/o Mr. Alan B. Lilly
Bartkiewicz, Kronick & Shanahan
1011 Twenty-Second Street
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Lennihan Law
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Marina Coast Water District
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Fax: (831) 384-2479
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National Marine Fisheries Service
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Phone: (707) 575-6080
Fax: (707) 578-3435
E-mail: Steve.Edmondson@noaa.gov

Salinas Valley Protestants
c/o Mr. Patrick J. Maloney
Law Offices of Patrick J. Maloney
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Salinas Valley Water Coalition
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Tanimura & Antle, Inc.
c/o Mr. Robert E. Donlan
Ellison & Schneider L.L.P.
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STATE OF CALIFORNIA
PETE WILSON, Governor

STATE WATER RESOURCES CONTROL BOARD
THE PAUL R. BONDERSON BUILDING
901 P STREET
SACRAMENTO, CA 95814
(916) 657-1989
FAX: (916) 657-2388

Mailing Address
DIVISION OF WATER RIGHTS
P.O. BOX 2000, Sacramento, CA 95812-2000

JULY 14 1992

In Reply Refer To:
363:RF:262.0(40-03-06)
231

Mr. Gerald King
United Agricultural Association
Route 1, Box 1
Templeton, CA 93465

Mr. Manuel Pouneda
Atascadero Mutual Water Company
5005 El Camino Real
Atascadero, CA 93422

Gentlemen:

COMPLAINT BY UNITED AGRICULTURAL ASSOCIATION AGAINST ATASCADERO MUTUAL WATER COMPANY, SALINAS RIVER, SAN LUIS OBISPO COUNTY (APPLICATION 231)

State Water Resources Control Board (State Water Board), Division of Water Rights (Division) staff has completed an investigation of the complaint filed by the United Agricultural Association against the Atascadero Mutual Water Company (Company). A copy of the report is enclosed with this letter.

In summary, staff concluded:

- License 11114 allows for the direct diversion of 7.0 cubic feet per second (cfs) not to exceed 3,070 acre-feet per year (AFA).

- Eight of the nine notices of pre-1914 appropriation were not diligently developed in accordance with Section 1416 of the Civil Code of Procedure and were therefore lost.

- The remaining notice of pre-1914 appropriation for 5,000 miner's inches of water near the Southern Pacific Railroad depot site was developed in a diligent manner and placed to beneficial use to the extent of 0.42 cfs or 302 AFA. This quantity appears to be the maximum beneficial use that had been perfected at the time of the filing of Application 231.

- The Company's total diversion rights are therefore limited to a maximum diversion rate of 7.42 cfs and a total diversion amount of 3,372 AFA for all points of diversion under License 11114 and the Company's pre-1914 water right claim.

- Wells 6 through 9 are pumping from the Paso Robles Ground Water Basin and are not within the jurisdiction of the State Water Board.

- The Company was in violation of the conditions in License 11114 for the six years 1983 through 1988.

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Continued diversion of water in excess of a maximum diversion rate of 7.42 cfs and/or a total diversion quantity of 3,372 AFA from all diversion points other than wells 6, 7, 8, and 9 constitutes a tresspass against the State and a violation of the conditions of License 11114. If there is hydrogeolgic data documenting that the diversions are drawing exclusively from ground water, then a violation will not have occurred.

Therefore, the Division directs the Company as follows:

- The Company shall submit, on an annual basis, a certified copy of the monthly pumping record for each of their wells during the years 1992 and 1993.

- For all years beyond 1993, the Company shall attach to the Report of Licensee a copy of the monthly diversion for each of their wells for the period identified in the report.

To the extent that the Company fails to comply with these directives, appropriate enforcement action in accordance with Section 1050 et seq. of the Water Code (Unauthorized Diversion and use of Water), Section 1675 et seq. of the Water Code (Revocation of Water Right Licenses), or Section 1825 et seq. of the Water Code (Cease and Desist Action) may be taken.

In addition, the Division proposes to amend License 11114 as follows:

> Upon a judicial determination that the place of use under this License is entitled to the use of water by riparian and/or pre-1914 appropriative right, the rights so determined and the right acquired under this License shall not result in a combined right in excess of a maximum diversion rate of 7.42 cfs and a total diversion quantity of 3,372 AFA.

The intent of this term is to clarify the Company's right which represents the diversion of 7.0 cfs and 3,070 AFA under License 11114, and 0.42 cfs and 302 AFA under the pre-1914 claim.

If you disagree with these findings or the proposed license term, you may request a hearing before the State Water Board. A request for hearing must be made within 30 days of the date of this letter. However, in the absence of any significant and convincing documentation that would lead to different conclusions, staff will not recommend a hearing.

If we can be of further assistance, please telephone me at (916) 657-1359. The staff person who worked on this issue was Ricardo Fuentes, and he can be reached at (916) 657-1989.

Sincerely,

ORIGINAL SIGNED BY.

Edward C. Anton, Chief
Division of Water Rights

RFUENTES:knox:6/18/92
final:Latasca:

SURNAME/FILES

State of California

Memorandum

To: Complaint Files
363:262.0(40-03-06)
231

Date: JULY 14 1992

ORIGINAL SIGNED BY.

From: Ricardo Fuentes
Associate WRC Engineer
Complaint Section

Subject: COMPLAINT BY THE UNITED AGRICULTURAL GROWERS ASSOCIATION AGAINST ATASCADERO MUTUAL WATER COMPANY, SALINAS RIVER, SAN LUIS OBISPO COUNTY, LICENSE 11114 (APPLICATION 231)

INTRODUCTION

On July 27, 1990, the State Water Resources Control Board (State Water Board) received a complaint from the United Agricultural Growers Association (Complainant) alleging that the Atascadero Mutual Water Company (Company) was diverting water from the Salinas River underflow in excess of the amount allowed in the Company's License 11114 (Application 231) issued by the State Water Board. In the "Answer to Complaint", the Company claimed that the amount of water pumped in excess of the licensed amount is covered by a pre-1914 appropriative water right. This is the basis of claim for Statement of Water Diversion and Use Number 8285 filed in 1974.

The principal issue in this complaint is whether the Company has water rights that cover the water being diverted in excess of the amount in the water right license. The complaint requires evaluation of both the pre- and post-1914 water rights and evaluation of the Company's "diligence" in developing the pre-1914 water right.

PRE-1914 WATER RIGHTS

As part of the response to the complaint, Mr. Hamilton submitted nine notices for pre-1914 appropriative water rights filed on July 13, 1913 by H. T. Cory, consulting engineer for the Company. These rights were recorded on page 12, Book B, of the San Luis Obispo County records. Mr. Cory transferred these claims to the Company in 1915.

Of the nine claims, only one appears to have been diligently developed. This claim is located in the vicinity of the facilities constructed by the Company for Application 231. This filing claimed 5,000 miner's inches of water [approximately 125 cubic-feet-per-second (cfs) or 88,000 acre-feet per year (AFA)] from the Salinas River at the Southern Pacific Railroad (SPRR) station

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site for domestic, municipal, and irrigation purposes. Mr. Hamilton provided a map of the Atascadero Colony dated 1926 which clearly shows the SPRR depot located at the same location Mr. Hamilton had indicated during the field investigation. The Division of Water Rights (Division) also has on file a map dated December 1, 1913 that identifies a well on the west bank of the Salinas River just downstream of Atascadero Creek. While the SPRR depot location is a couple hundred yards from the subject well site, Section 1706 of the Water Code allows for the change in location of a point of diversion for a pre-1914 water right.

STATE WATER BOARD PERMIT & LICENSE

The Company filed Application 231 on January 13, 1916. The application was for direct diversion of 30 cfs. Application 231 identified the points of diversion (POD) as three "batteries". Each battery was a pumping plant consisting of a pump or pumps connected to a well or wells through a manifold system. Point of Diversion 1 is known as the "South" battery which utilizes well 8. Point of Diversion 2 is known as the "Atascadero" battery and utilizes wells 1, 3, and 5. Point of Diversion 3 is known as the "Asuncion" battery which utilizes wells 4, 6, 7, and 9. An amended Application 231 was filed on April 5, 1917 that added POD 4 known as the "Sycamore" battery. This last battery uses well 2. The location of the wells are shown on the attached location map.

An inspection report written by Division staff in 1921 identifies the four pumping plants but does not identify the individual wells. That report indicates that pumping plants 1, 2 and 3 were interconnected to 8 wells with depths of 60 feet. A letter from the Company to the Water Commission dated June 18, 1925 indicated the Asuncion Battery as having 3 wells, the Sycamore Battery had 1 well, and the Atascadero Battery had 13 wells. They were all 14 inch diameter wells and ranged from 26 feet to 50 feet in depth. It further stated that pumping plant 3 was not in use at that time. The record does not indicate the order of the development of the wells. It appears the wells were added at different times and were taken in and out of production as circumstances warranted.

Records show that Division staff conducted an inspection of the Company's facilities and signed a proof of development dated August 29, 1977. The Company filed a Request for License on December 1, 1977 and the State Water Board issued License 11114 on April 22, 1981. License 11114 allows the Company to divert 7 cfs with a maximum of 3,070 AFA. Recent Reports of Licensee submitted by the Company to the State Water Board show that the water diverted by the Company began exceeding the 3070 AFA condition of License 11114 in 1981 and averaged 3,620 AFA for the years 1983 through 1989.

In 1985, Division staff conducted a compliance inspection to evaluate the apparent violation of License 11114. As a result of the field inspection, well logs and documents obtained from San Luis Obispo County, staff concluded that wells 6 through 9 are deep wells pumping from the Paso Robles ground water basin and are not pumping underflow from the Salinas River. The Company's reported annual diversion quantities for the years 1981 through 1983 were

adjusted to eliminate the quantity of water diverted by wells 6 through 9 and the results of the recomputation of annual use indicated that the Company had not exceeded the licensed quantity of 3,070 AFA for the years 1981 and 1982. The records indicate that the Company had exceeded the licensed quantity in 1983, 1984, and 1985. However, the Company was not directed to cease diversions in excess of its licensed water right. In 1986 the Company petitioned the State Water Board to remove wells 6 through 9 as points of diversion because they were deep wells drawing from the Paso Robles Ground Water basin and not the underflow of the Salinas River. The State Water Board approved the request after reviewing the evidence presented by the Company.

As part of the complaint investigation, the Company was asked to provide the individual monthly diversions from all of their wells for the period 1970 to 1991. As indicated in the attached table, the Company exceeded the amount allowed under License 11114 for the years 1983 through 1988.

FIELD INVESTIGATION

Staff conducted a field investigation on February 14, 1991. Mr. Bob Hamilton, Manager of the Company, escorted staff to the Company's point of diversion that was the subject of the complaint. He also pointed out the location of the old SPRR depot which was demolished at an undetermined time. The well and the old SPRR depot site are on the west side of the Salinas River with the well located on the levee of the river and the SPRR depot site located approximately two hundred yards to the west of the well. Staff did not visit the other "batteries" or points of diversion covered by the license because the well near the old SPRR depot site is the closest to the point of diversion identified in the pre-1914 claim. Mr. Gerald King and Mr. William Collins representing the Complainants guided staff on a separate tour of the lands and well sites of the Complainants.

DISCUSSION

Diligence: A key element in the appropriative water right system is that the party seeking to establish a water right must exercise diligence in completing the proposed project and applying water to beneficial use. The California Supreme Court held in 1859:

> "The title to water does not arise from the manifestation of a purpose to take, but from the effectual prosecution of that purpose. This prosecution, therefore, is a necessary element of title..."
> See: Kimball v. Gearhart (1859) 12 Cal. 27, 50.

With respect to pre-1914 appropriations, Section 1416 of the Civil Code requires that a project be constructed diligently and without interruption. Section 1416 requires that the claimant commence the excavation or construction of the works, proposed diversion or related surveying within 60 days of when the notice is posted. Once begun, the statute requires that the work be prosecuted diligently and uninterrupted to completion, unless temporarily interrupted by rain or snow.

Diligence is essential to prohibit a claimant from putting water rights in "cold storage" for speculative use. The Court of Appeal for the Third Appellate District recently affirmed that the requirement to proceed with due diligence in completing a water appropriation does not allow a party to place water rights in "cold storage" where there is no intent to proceed promptly with development. California Trout Inc. v. State Water Resources Control Board (1989) 207 Cal. App. 3d. 585, 255 Cal. Rptr. 184, 204. It is important to recognize that the requirement of due diligence also applies to the actual use of water for the beneficial purpose proposed by the appropriator.

Correspondence in the Division's files shows that the Water Commission, in 1917, was reluctant to issue a permit for the storage portion of Application 231 because the Company did not own the property where the reservoirs were to be built. In response to the Commission's concern at that time, Mr. Cohen, attorney for the Company, submitted a brief to the State Water Commission.

- Page 1, paragraph 3 of the brief states "...the permit in its entirety may never need to be exercised, even if granted."

- Page 1, Paragraph 4 states " The situation of your applicant at present is such that its only requirements are for domestic use and almost negligible (emphasis added). The requirements ten years hence, however, may be seven second feet ... or they may be more, depending upon the rate of growth of Atascadero."

- Page 2, paragraph 4, states "... the need or desirability of any irrigation for the orchards of the Atascadero project is uncertain ... the average gross and average net cash returns for the orchards on the project will be greater without than with irrigation."

- Page 3, paragraph 2 states "...your petitioner has made the pending application for a permit ... to the end that the opportunity may unquestionably be held open without doubt until the necessary additional experience ... on the one hand be secured, and on the other hand, until the land purchasers have arrived in Atascadero in sufficient numbers ... and are qualified to intelligently decide for themselves the questions involved."

This document shows that the Company held a vision that there would someday be a fully developed colony in Atascadero. But there was no defined schedule for real property development. Timing of development and utilization of the water was left to the uncertainty of when and how many people would migrate to the area, and whether the new inhabitants were qualified and intelligent enough to "determine the questions involved."

The 1913 appropriation also included irrigation. The 1917 brief questioned the economics of irrigation. Eight years later, in 1921, irrigation was dropped as a beneficial use. This is a clear indication that there was not a definite water development plan.

Mr. Cory's nine claims provide for 1,615,000 miner's inches of water, equivalent to 40,375 cfs or 29,231,500 AFA. This amount is greater than the annual runoff for the entire watershed and would provide enough water so that the entire 23,000 acre Atascadero Colony would be covered with water to a depth of 1,270 feet. Obviously the amount of use anticipated in the pre-1914 claims was not derived from a study of the water needed for any specific project and represents an unreasonable claim.

Limit of Pre-1914 Claim: Application 231 identified three points of diversion, one of them being the point described in the only developed pre-1914 filing. Since Application 231 was filed for the same point of diversion, type of use, and place of use as the pre-1914 claim, it appears that the Company was signaling the limit of development for the pre-1914 claim and the initiation of a new appropriative right under Application 231. If the Company had intended to continue development of the pre-1914 right it should have acquired a certificate documenting the right under Section 12 of the Water Commission Act of 1914. Such an action would have preserved the earlier priority of 1913 for 125 cfs instead of the 1916 priority of 7 cfs evidenced by Application 231.

In 1925, the Company petitioned the State Water Commission for an extension of time to develop the appropriation under Application 231. The petition gives an annual accounting of the number of water service connections served by the Company. The listing indicates that for the years 1914, 1915, and 1916 there were a total of 121 water service connections. Since Application 231 was filed in 1916, a number of these services were made before the application was filed. If the development of the 121 water service connections was relatively uniform over time, then approximately two thirds of the services (80) would have been established prior to filing Application 231. The petition assigned a duty of 1,800 gallons per day per service. This is an equivalence of 0.22 cfs and 161 AFA for the 80 connections.

In a separate Division staff memorandum, filed in connection with a field inspection of the project relative to the petition, data identifying an average daily use of 209,300 gallons per day (gpd) for September of 1915 was noted. In July of 1920, the month of maximum use for that year, the average daily use had increased to 645,000 gpd and the quantity used during September 1920 was 500,000 gpd. Assuming uniformity in growth and annual usage, the maximum quantity of water that would have been used in July of 1915 would have been approximately 270,000 gpd, which is equivalent to a continuous diversion rate of 0.42 cfs and 302 AFA. Although both water quantity computations are based on assumptions, the second calculation is derived from actual usage figures and therefore is assumed to be more appropriate for considerations in identifying the amount of water developed under the pre-1914 notice of appropriation.

Ground water: Section 5000 of the California Water Code defines ground water as being water beneath the surface of the ground, whether or not flowing through a known and definite channel. Section 1200 provides that the State

Water Board has jurisdiction over surface water and subterranean streams flowing through known and definite channels. Ground water that constitutes the underflow of surface streams or is bounded by geologic "bed and banks" and has a consistent direction of flow is included within this designation. If the source of ground water meets the above criteria, then a basis of right is required for the diversion (pumping) of water. If the source of ground water does not meet the above criteria, then the source is identified as percolating ground water and a water right permit issued by the State Water Board is not required.

The 1985 San Luis Obispo County engineering geology report and the well logs for wells 6, 7, 8, and 9 indicate that water pumped from these wells is from the Paso Robles Ground Water Basin and not the underflow of the Salinas River.

CONCLUSIONS

As a result of the investigation of the Company's use of water from the Salinas River, staff has reached the following conclusions:

- License 11114 allows for the direct diversion of 7.0 cubic feet per second (cfs) not to exceed 3,070 acre-feet per year (AFA).
- Eight of the nine notices of pre-1914 appropriation were not diligently developed in accordance with Section 1416 of the Civil Code of Procedure and were therefore lost.
- The remaining notice of pre-1914 appropriation for 5,000 miner's inches of water near the SPRR depot site was developed in a diligent manner and placed to beneficial use to the extent of 0.42 cfs or 302 AFA. This quantity appears to be the maximum beneficial use that had been perfected at the time of the filing of Application 231.
- The Company's total diversion rights are therefore limited to a maximum diversion rate of 7.42 cfs and a total diversion amount of 3,372 AFA for all points of diversion under License 11114 and the Company's pre-1914 water right claim.
- Wells 6 through 9 are pumping from the Paso Robles Ground Water Basin and are not within the jurisdiction of the State Water Board.
- The Company was in violation of the conditions in License 11114 for the six years 1983 through 1988.

RECOMMENDATIONS

Staff recommends:

- License 11114 of the Company should be amended to include the following standard water right license term:

  > Upon a judicial determination that the place of use under this license is entitled to the use of water by riparian and/or pre-1914 appropriative right, the right so determined and the right acquired under this license shall not result in a combined right in excess of a maximum diversion rate of 7.42 cfs and a total diversion quantity of 3,372 acre-feet per year.

  This represents a diversion of 7.0 cfs, and 3,070 AFA under License 11114 and 0.42 cfs, and 302 AFA under the pre-1914 claim.

- The Company should be advised that continued diversion of water in excess of a maximum diversion rate of 7.42 cfs and/or a total diversion quantity of 3,372 AFA from diversion points other than wells 6 through 9, without hydrologic confirmation that the diversion point is drawing water exclusively from ground water, constitutes a violation of the conditions of License 11114.

- The Company shall submit, on an annual basis, a certified copy of the monthly pumping record for each of their wells during the years 1992 and 1993.

- For all years beyond 1993, the Company shall attach to the Report of Licensee a copy of the monthly diversion for each of their wells.

- To the extent that the Company fails to comply with these recommendations, appropriate enforcement action should be taken in accordance with Section 1050 et seq. of the Water Code (Unauthorized Diversion and Use of Water), Section 1675 et seq. of the Water Code (Revocation of Water Right License), and Section 1825 et seq. of the Water Code (Cease and Desist Action).

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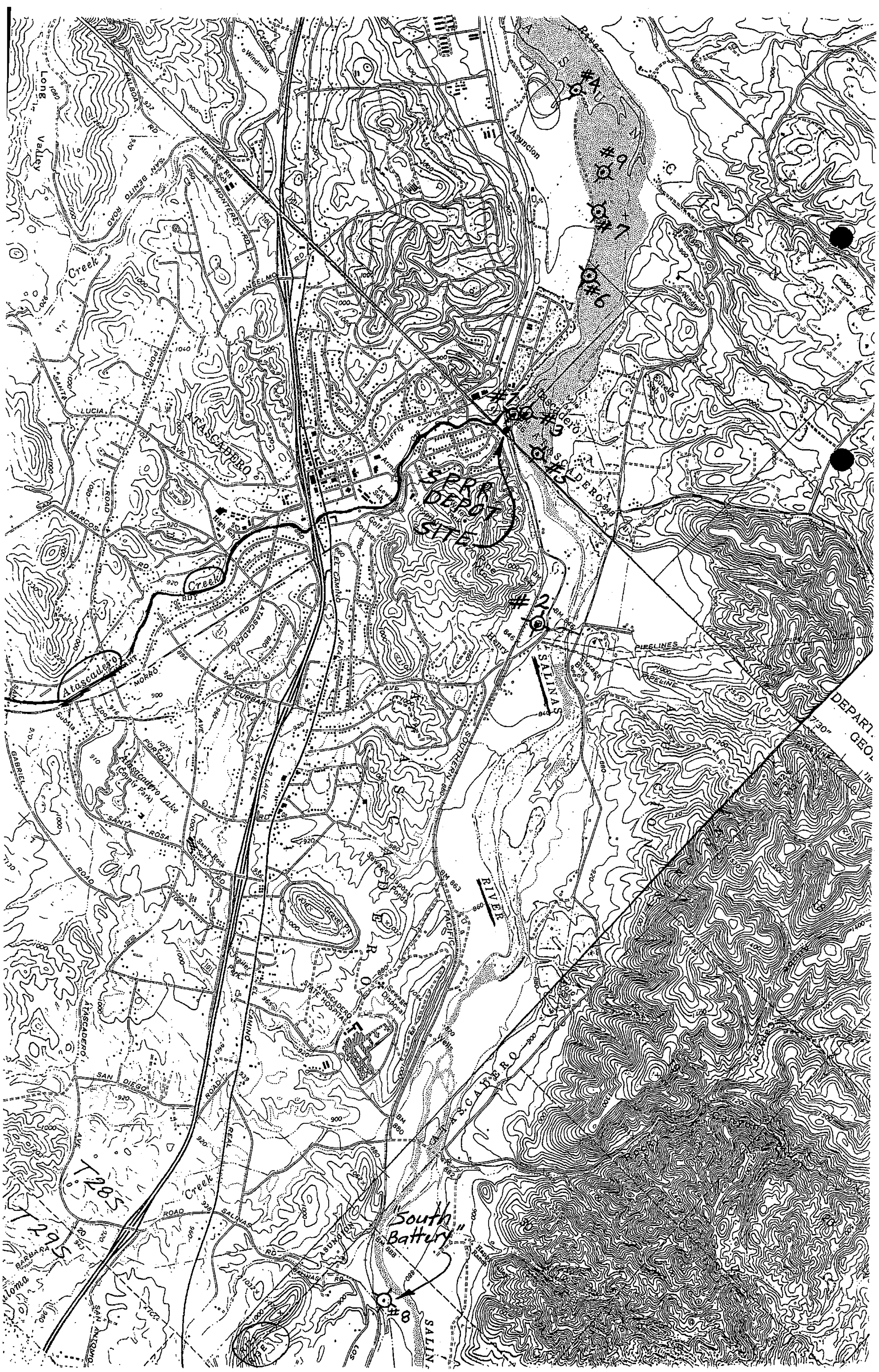

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T29S
SALINAS
RIVER
SOUTHERN PACIFIC
EL CAMINO REAL
ATASCADERO
Atascadero Lake
SAN BENITO ROAD
Long Valley

LAW OFFICES OF
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PATRICK J. "MIKE" MALONEY (510) 521-4575 THOMAS S. VIRSIK
FAX (510) 521-4623
e-mail: PJMLAW@pacbell.net

March 13, 2012

Jeffrey S. Young, Chair
California Regional Water
Quality Control Board
895 Areovista Place, Suite 101
San Luis Obispo, CA 93401

Re: Item 4, March 14-15, 2012, Central Coast Regional Water Quality Control Board ("Board")

Dear Mr. Young:

We represent land and farming interests in Monterey, San Luis Obispo, and Santa Barbara Counties.

The agenda for March 14, 2012 reveals that the Board is considering the adoption of a renewal of a "Conditional Waiver of Waste Discharge Requirements for Irrigated Agriculture" (the so-called "Ag Waiver"). The Ag Waiver contemplates in part the collection of data about land use, farming units, farming practices, cropping patterns, fertilizer application, run off, and water use in the Salinas Valley. This office provided prior oral and written comments on the Ag Waiver. See e.g., August 31, 2011 letter.

The Staff Report at page 6 relies on a certain Study prepared by UC Davis in connection with SB X2. The analyses of its primary author, Dr. Thomas Harter, are relied upon in the Staff Report as well. See e.g., page 8. The actual Study (i.e., not the prior working draft) is dated today and will be addressed (at earliest) on May 23, 2012. We incorporate by reference that Study, albeit the public has not had sufficient time to thoroughly process it and its technical reports yet and there is no assurance that it will be adopted in its present form.

The impact of the Study is being presented to the Board via this letter and oral comments at the earliest possible time (within hours) of the public release of the Study. It is patently

relevant – seemingly critical – to the Staff Report and action recommended since Staff relies on an unofficial prior version of the Study's data and analyses, below.

We ask that you delay any action on the Ag Waiver until Staff and the public has had the opportunity to digest the Study and its numerous technical reports. Since it has been released today, it would be unrealistic to expect that your Staff has been able to properly harmonize its findings and suggestions with Staff's earlier in time report. The Study will not be formally adopted until at least May 23, 2012 anyway. As the Study makes explicit, one of its statutory purposes is to "develop recommendations for developing a groundwater cleanup program for" this Board. Study at page 11. The Ag Waiver is in part a means to clean up the groundwater through nitrate limits and management. This Board would be countering the underlying legislation if it moved forward without first assessing the Study's recommendations.

Another key point Staff and the board should consider is the final "key finding" of the Study about the inconsistency of data. In that vein, almost twenty years ago the State Water Resources Control Board insisted the County of Monterey develop a sophisticated data collection system to determine land use, farming use, cropping patterns, and water use in the Salinas Valley and collect this data. At great expense to the County and the farming community over the last twenty years Monterey County developed such a program. This collection process does not currently collect the chemical or fertilizer applications or potential run off from the lands. We do not know if the Data Collection system can be easily modified to include this information.

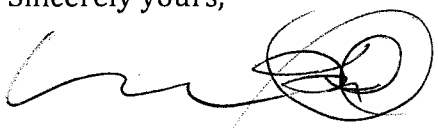
The landowner/tenant is required to prepare and file detailed reports on a yearly basis to submit to the Monterey County Water Resources Agency (MCWRA) as part of this data collection process. The forms that the each farmer is required to file can be found on the MCWRA home page – Misc. Forms – Ground Water Extraction & Conservation Forms – Agriculture – Agricultural Water Conservation Plan. URL: http://www.mcwra.co.monterey.ca.us/forms/forms_ag.html. A sample form is attached. The reports generated by these filings can be found at MCWRA home page – Available Data and Reports. URL: http://www.mcwra.co.monterey.ca.us/index.html. The report includes not only ground water but also surface water activities.

The State recently made clarifications in Water Code sections 5100 et seq. that potentially will require a significant number of landowners in the Salinas Valley to make a filing concerning their water use. Much of the information that will be required in these filings will be similar to information required in connection with Monterey County's requirements as well as the contemplated requirements under the Ag Waiver.

The State Water Resources Control Board (SWRCB) has been adamant that reporting requirements should be unified and standardized wherever possible, including for example expanding the scope of the statements of water diversion. By a copy of this letter we are asking the SWRCB to serve as the leader in the endeavor to harmonize the data requirement

for reporting by the farming community. This should be done as soon as possible but until it is done this Board should not adopt the Ag Waiver.

Sincerely yours,



Patrick J. Maloney

C. Charles R. Hoppin, Chairman SWRCB
Thomas Harter, PhD
Monterey County Board of Supervisors:
Fernando Armenta
Louis Calcagno
Simon Salinas
Jane Parker
Dave Potter

Encl. 2012 Agricultural Water Conservation Plan form

Office Use
address code :
staff : _____
date : _____

2012 Agricultural Water Conservation Plan

(Submit one plan per company)

Please check all that apply, fill in the acreage blanks and sign below.

☐ **I farm property** in Zone(s) 2, 2A, or 2B; the information included in this Agricultural Water Conservation Plan for the 2012 growing season is correct; I am engaged in the business of raising crops for commercial purposes; and I will implement the irrigation management practices selected in this plan during the 2012 growing season. The amount of acreage that I will farm/operate **in 2012 …**

☐ **will not change** since 2011.	☐ **will increase** since 2011.	☐ **will decrease** since 2011.

	Previous 2011	**Upcoming 2012**
① **GROSS ACRES** (All acreage **including** farm roads, buildings, etc.)	_____	_____
② **NET FARMABLE ACRES** (Physical field acres, Nurseries, **excluding** farm roads, buildings, etc.)	_____	_____
③ **NUMBER OF ACTIVE (OPERATIONAL) IRRIGATION WELLS**	_____	_____

Below, list reason(s) for any **changes in the number of wells** from the previous year. Include ranch changes (losses or gains) and any abandoned, destroyed, or newly drilled wells.

Added / Deleted	Ranch Name	Assessor Parcel Number	Acreage	Number of Wells	Previous / New Company

X _____ X _____ ( ) _____

Signature Print Name Date Phone No.

***NOTE*: If necessary, please provide updated company information to the right of the existing information.**

Designation:

COMPANY:

CONTACT:

ADDRESS:

CITY, STATE ZIP:

☐ **I would like my raw data kept confidential.**

2012 Agricultural Water Conservation Plan

Please complete the chart below listing the number of Net Farmable Acres associated with the crop type(s) and irrigation method(s). Record the sum of all listed Net Farmable Acres on the "Total NET FARMABLE ACRES" line at the bottom of the chart (*do not multiply by number of crops per year*). Results of this irrigation method survey provide valuable and unique information regarding the status of irrigation practices in the Salinas Valley.

Enter the number of Net Farmable Acres per Irrigation Method below:

	Average number of crops per acre	Furrow Only	Sprinkler / Furrow combination	Hand-move sprinkler only	Solid-set or permanent sprinkler	Sprinkler / Drip Combination	Drip Only	Micro-spray / Micro-sprinklers	Linear-Move (overhead)	Other (specify): _____
Vegetables										
Field Crops (beans, grain, etc.)										
Berries	1.0									
Grapes	1.0									
Tree Crops	1.0									
Forage Crops (alfalfa, pasture, etc.)										
Other:_____										
Set-aside (fallow)										

Total NET FARMABLE ACRES: _____

Must equal your NET FARMABLE ACRES from page 1, line ②, 2012 column.

Company Name: _____

2012 Agricultural Water Conservation Plan

Irrigation Management Options

For 2012, please indicate whether or not you intend to implement any Management Options and how many Net Farmable Acres would be affected by the practice (***must not exceed the figure on line ②, page 1, 2012 column***).

For 2011, please indicate whether or not the Management Options were implemented and how many Net Farmable Acres were affected by the practice.

For guidelines and definitions of terms, please refer to the Appendix on our website: www.mcwra.co.monterey.ca.us and click on "Misc. Forms".

	2011			2012		
Irrigation Management Options	Yes	No	Net Farmable Acres	**Yes**	**No**	**Net Farmable Acres**
12-month Set-aside	☐	○	_____	☐	○	_____
Summer Fallow (90 days between Apr.1 and Sep.30) or Other Fallow (210 consecutive days)	☐	○	_____	☐	○	_____
Water Flowmeter(s)	☐	○	_____	☐	○	_____
Time-clock on pump and/or pressure switch on booster	☐	○	_____	☐	○	_____
Use of Soil Moisture Sensors and/or ET Data (CIMIS)	☐	○	_____	☐	○	_____
Pre-irrigation Reduction	☐	○	_____	☐	○	_____
Agricultural Mobile Irrigation Lab	☐	○	_____	☐	○	_____
Transplants	☐	○	_____	☐	○	_____
Educational Sessions (Applies to all Net Farmable Acres)	☐	○	_____	☐	○	_____
Conservation Program	☐	○	_____	☐	○	_____
Reuse of Tailwater or Run-off	☐	○	_____	☐	○	_____
Recycled Water (Castroville Seawater Intrusion Project)	☐	○	_____	☐	○	_____

Company Name: _____

2012 Agricultural Water Conservation Plan

Irrigation Management Options continued…

Sprinkler Irrigation System Improvements	2011 Yes	2011 No	2011 Net Farmable Acres	2012 Yes	2012 No	2012 Net Farmable Acres
Reduced Sprinkler Spacing	☐	○	_____	☐	○	_____
Sprinkler Improvements (uniform nozzle sizes and/or flow control nozzles)	☐	○	_____	☐	○	_____
Off-wind Irrigation	☐	○	_____	☐	○	_____
Leakage Reduction (replacing gaskets)	☐	○	_____	☐	○	_____
Linear-Move (overhead)	☐	○	_____	☐	○	_____
Micro Irrigation Systems						
Drip Tape / Hose	☐	○	_____	☐	○	_____
Pressure Compensating Emitters / Tape (reduce pressure fluctuations along a row)	☐	○	_____	☐	○	_____
Micro-spray / Micro-sprinklers	☐	○	_____	☐	○	_____
Surface Irrigation System Improvements						
Surge Flow Irrigation	☐	○	_____	☐	○	_____
Shorten Field Run (Lessen furrow length or add a manifold line down center of field to cut water run in half.)	☐	○	_____	☐	○	_____
Tailwater Return System	☐	○	_____	☐	○	_____
Laser Leveling / Major Land Grading	☐	○	_____	☐	○	_____

Company Name: _____

SUNY FREDONIA

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Felicia Marcus, Chair
State Water Resources Control Board

Submission for: Public Workshop Regarding Immediate Drought Response Options
February 26, 2014
Sacramento, CA

Attached is my submission "Proposal to Abolish or Limit Water Data Confidentiality to 1-5 Years: Improving Water Resource Management and Increasing Net Water Benefits in the State of California" to the SWRCB for the Public Workshop Regarding Immediate Drought Response Options.

I am presently chair of the Department of Economics at the State University of New York at Fredonia. I have a Ph. D. in Agricultural and Resource Economics and a B.A. in Physics and Applied Mathematics from the University of California at Berkeley. I have researched and published on California water issues for 20 years starting with a 1995 publication "Alternatives for Managing Drought: A Comparative Cost Analysis" examining potential EBMUD demand and supply side responses after the last major drought in California. I have also published hydrologic-economic models on seawater intrusion into groundwater aquifers originally applied to the Salinas Valley. In 2012, I was the lead guest editor for a special issue of Hydrogeology Journal, the official journal of the International Association of Hydrogeologists, on the Economics of Groundwater Management, as well as co-authoring an overview paper on "Factors Determining the Economic Value of Groundwater".

I have also consulted on many water issues for the Law Offices of Patrick J. Maloney over the last 17 years including historical benefits of district operations, seawater intrusion, and district and project cost allocation and environmental impacts in the Salinas Valley, nitrate loading of groundwater in the Central Coast Region and water rights, beneficial use, conservation methods, Part 417 determination, Quantification Settlement Agreement and Salton Sea restoration in the Imperial Valley. My consulting economic analysis has always been aimed at optimal management of water resources through maximizing the net economic benefits of the state's scarce water resources. A common barrier to the analysis of optimal management in all locations has been local water agencies' claims of data confidentiality that prevent the release of data necessary for comprehensive review and independent development of hydrologic-economic models. The proposal submitted herewith presents a conceptual economic framework for a comprehensive review of the economics of water data confidentiality with the goal, in furtherance of both public and private interests, of improving water resource management and increasing net water benefits in the State of California.

Dr. Peter Reinelt, Chair
Department of Economics
SUNY Fredonia

Proposal to Abolish or Limit Water Data Confidentiality to 1-5 Years: Improving Water Resource Management and Increasing Net Water Benefits in the State of California

With water supplies constrained by prolonged drought and future climate change and with continuing population growth raising water demands, California faces a future of increasing water scarcity and attendant impacts on water quality. As water becomes more economically scarce, improvements in resource management will require greater integration of surface and groundwater supply quantity and quality, more extensive and accurate measurement of relevant water parameters, and storage of this critical information in comprehensive databases available to state planners, affiliated and independent researchers, and the public.

A recent report for the State Water Resource Control Board "Addressing Nitrate in California's Drinking Water" recognizes many of these issues and proposes a statewide groundwater data task force to solve them. The report concludes that "It is now critical that the state has a coherent and more forward-looking policy and technical capability for the collection and management of groundwater data"[1] based on the following assessment:

> Inconsistency and inaccessibility of data from multiple sources prevent effective and continuous assessment. A statewide effort is needed to integrate diverse water-related data collection activities by various state and local agencies. Throughout this study, we often faced insurmountable difficulties in gaining access to data already collected on groundwater and groundwater contamination by numerous local, state, and federal agencies. Inconsistencies in record keeping, labeling, and naming of well records make it difficult to combine information on the same well that exist in different databases or that were collected by different agencies. A statewide effort is needed to integrate diverse water-related data collection activities of various state and local agencies with a wide range of jurisdictions. Comprehensive integration, facilitation of data entry, and creation of clear protocols for providing confidentiality as needed are key characteristics of such an integrated database structure. (p. 74)

Extreme scarcity demands that the unexamined assumption of "confidentiality as needed" (regularly cited to grant an indefinite time period for water data confidentiality for some water users but not others) be thoroughly analyzed in light of the pressure on current water institutions and how they are likely to evolve. The benefits to society from accessible data, granting the ability to review water resource modeling and policy decisions, has routinely been dismissed or ignored at the local resource agency level. The State, with the development of the Electronic Water Rights Information Management System (eWRIMS), has created a foundation for water data reporting and public access, but the scope of information is inconsistent. Monthly surface water diversions and use are publicly available on eWRIMS for individual diverters reporting under Section 5101 of the Water Code, but the same information is not publicly available for other individual users that receive their water from a water purveyor. While water purveyors also report diversions under Section 5101, they are only required to report monthly aggregated farm-

[1] Harter, Thomas and Jay R. Lund et al. of Center for Watershed Sciences, "Addressing Nitrate in California's Drinking Water, With a Focus on Tulare Lake Basin and Salinas Valley Groundwater: Report for the State Water Resources Control Board Report to the Legislature, California Nitrate Project, Implementation of Senate Bill X2 1", January 2012.

gate delivery data under Section 531.10, rather than delivery data for each farm gate. Groundwater extractors in Los Angeles, Riverside, San Bernardino and Ventura Counties must report their groundwater extraction either with local water agencies or with the State. State-filed groundwater recordation appears on eWRIMS. Furthermore, many individual well extractors who cannot physically or legally distinguish between "percolating groundwater" and "underflow" also report quantities pumped that are accessible on eWRIMS.[2] The time has come for a comprehensive state-level review of water data confidentiality policies for all water end-users and water sources that considers the interests of all citizens.

Are there any business gains to protecting 20-year-old data? Does society benefit at all by protecting 20-year-old data? What is the public benefit of making water data available? Are there business losses associated with releasing this claimed "proprietary information"? Is water data confidentiality socially beneficial or should it be abolished? If not abolished, should it be conferred for a limited time frame?

Before continued acceptance of indefinite water data confidentiality, the potential societal tradeoffs from limiting confidentiality must be examined based on the physical and societal relationships embodied in individual water rights and how readily accessible data may produce societal gains through better public analysis, monitoring and transparency of the water institutions charged with managing extractive and non-extractive uses, thus leading to better performance, accountability, credibility and confidence in the integrity of laws governing water use. This proposal examines these issues with reference to existing emissions reporting requirements and the economic theory of patents. Specific water data that serve the public interest is identified for disclosure either contemporaneously or after a fixed time delay. Recommended water data disclosure is limited to that which is necessary for the public purpose and structured to allow other data to remain proprietary to mitigate private costs. Finally, adjustments in the method of gaining accessibility for some data are considered in light of water system security concerns.

Existing Environmental Reporting and Public Access to Data

Requirements to disclose data on some aspects of business operations that impacts public health and commerce and grant public access are not new. EPA has long required reporting of emissions and public access to data that affects public health, commerce, and the environment. "Most U.S. environmental laws require that self-reported data be made available to the public."[3] The SO_x and NO_x allowance trading programs collect hourly data.

> The accurate measurement and reporting of emissions is essential, along with the rigorous and consistent enforcement of penalties for fraud and noncompliance. Also critical is transparency,

[2] See discussion on interlinkages between surface water and groundwater in **"**Physical and Legal Relationship between Water Diversion/Extraction and Public Interest" section below, and footnote 9 references from that section for the nonexistence of an absolute technical or legal line that divides surface water flows from groundwater flows.

[3] International Network for Environmental Compliance and Enforcement, "Principles of Environmental Compliance and Enforcement Handbook", April 2009.

> such as public access to source-level emissions and allowance data. The coupling of stringent monitoring and reporting requirements and the power of the Internet makes it possible for EPA to provide access to complete, unrestricted data on trading, emissions, and compliance. This promotes public confidence in the environmental integrity of the program and business confidence in the financial integrity of the allowance market. It also provides an additional level of scrutiny to verify enforcement and encourage compliance. Finally, accountability requires ongoing evaluation of the cap and trade program to ensure that it is making progress toward achievement of its environmental goal.[4]

EPA's 1995 policy "Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations" further creates incentives for regulated firms to self report violations of hazardous waste limits.

Patents

In the simplest form of the economic theory of patents, the government confers a exclusive property right on an inventor for a limited period of time to encourage investment in innovation in cases where the innovation could be easily appropriated/duplicated and the innovator could not recoup the investment costs that lead to the innovation. Patents require that the applicant publicly disclose the innovation for future public use and limits the time frame of the monopoly property right with the purpose of offsetting societal loss from monopoly with societal gains from innovation, thereby increasing *societal* benefits over the course of time. While the patent right assigns greater gains to the inventor, its purpose is to increase innovation for society and societal well-being more generally.

Patents can have other effects besides inducing innovation. For example, patents can also be used as litigative barriers-to-entry and for rent seeking. Patents can impede follow-on innovation until expiration, but increase future innovation after the patent expires through information disclosure. Furthermore, if the investment leading to an innovation is small or the discovery would likely soon be independently duplicated without the inducement of a monopoly property right, then patent research demonstrates that long-lived patents are detrimental to societal well being. In those cases, granting a monopoly right to an inventor for a long period of time produces excessive private gains at a cost to society. Some recent research on the gains from patents suggests the optimal time limit may be quite small in many circumstances.[5]

Proprietary Information, Water Data Confidentiality and the Public Interest

Protection of trade secrets is an alternative method of promoting investment in innovation. Government does not force disclosure of proprietary information to force diffusion of the innovation and reduction of economics rents for the benefit society. However, acceptance of the assumption of indefinite water data confidentiality ignores the potential societal tradeoffs beyond that between the value of innovation and economic rents.

[4] EPA, "Cap and Trade Essentials", http://www.epa.gov/captrade/documents/ctessentials.pdf.

[5] See for example, Boldrin, Michele and David K. Levine, "The Case Against Patents", Journal of Economic Perspectives, 2013, and a critique by Gilbert, Richard "A World without Intellectual Property? A Review of Michele Boldrin and David Levine's Against Intellectual Monopoly", Journal of Econmic Literature, 2011.

Since agriculture is the largest sectoral water user in California, we discuss the societal tradeoffs in a farming context; however, the conceptual framework can be applied to other sectors. To examine those tradeoffs, we first analyze the physical and legal relationship between water diversion/extraction and the public interest, and then discuss the public values of dispensing with or limiting water data confidentiality in favor of public access. From this discussion we identify two potential subsets of individual farming unit water data whose release would foster the identified public benefits and thus improve water resource management. Finally, we discuss the potential impact on farming profits of releasing this data and how security of water system concerns might alter the proposal.

Physical and Legal Relationship between Water Diversion/Extraction and Public Interest

Both the physical properties of water flows and legal conventions governing its use only exist in relationship between the extractive user and other extractive users, which constitute the public at large, as well as in relationship to societal benefits from non-extractive uses and the public trust.

Groundwater extraction impacts both groundwater levels and stocks available for other extractors. Percolation beyond the root zone of water containing unused fertilizer and pesticide residues eventually impacts water quality of other extractors. The right to extract groundwater is a correlative right between landowners overlying an aquifer, a right always in relation to other landowners. In situ groundwater values include buffering periodic shortages of surface water supplies, subsidence avoidance, water-quality protection and prevention of seawater intrusion.[6] Natural groundwater discharge can also support natural environments and recreation.

Surface water diversions and return flows physically and legally impact junior right holders and the environment. While usufructuary water rights establish the right to use, they also establish a relationship to public ownership of water. Beneficial use is the foundation of western appropriative water rights: "beneficial use shall be the basis, the measure, and the limit of the right" echo many western state constitutions and water statutes.[7] As operatively defined in United States v. Alpine Land & Reservoir[8] beneficial use is a relational concept:

> There are two qualifications to what might be termed the general rule that water is beneficially used (in an accepted type of use such as irrigation) when it is usefully employed by the appropriator. First, the use cannot include any element of 'waste' which, among other things, precludes unreasonable transmission loss and use of cost-ineffective methods. Second, and often overlapping, the use cannot be 'unreasonable' considering alternative uses of the water.

[6] Qureshi, M., Andrew Reeson, Peter Reinelt, Nicholas Brosovic, Stuart Whitten, "Factors determining the economic value of groundwater", Economics of Groundwater Management issue of *Hydrogeology Journal*, International Association of Hydrogeologists, 2012.

[7] Weil, Samuel C., *Water Rights in the Western States*, 1911.

[8] United States v. Alpine Land & Reservoir Co., 697 F.2d. 851, 854 (9th Cir. 1983) (discussing the beneficial use requirement of Section 8 of the Reclamation Act of 1902), cert. denied, 464 U.S. 863 (1983).

Waste and alternative uses are relative to other extractive users and with respect to non-extractive environmental, recreational and navigational in-situ uses.

Furthermore, understanding groundwater surface-water interactions is critical for evaluating interlinkages between alternative extractive and non-extractive uses, as groundwater extraction can reduce surface flow and surface water extraction can reduce groundwater flows.[9]

The Public Interest for Publicly Accessible Water Data

Publicly accessible water data creates the following public benefits that apply to the management and administration of water rights, conservation agreements, water trades, pollutant loading and water quality.

1) Allows independent public review of water resource models to better manage existing resources (data available only to restricted club creates opportunities for mismanagement).
2) Accountability for water right holders, local water agencies and consultants.
3) Reporting data and making it publicly accessible encourages compliance with existing laws and regulations.
4) Public verification of compliance with water rights, pollutant loading, and water conservation achievements tied to water exchanges/trades.
5) Public vigilance of public trust elements of water rights including environmental uses.
6) Public confidence in the integrity of laws governing water use.
7) Transparency (discourages political rent seeking, discourages protecting administrative turf/principal-agent problem, and discourages inequitable favorable treatment by local water agencies)
8) Reduction in delay time of regulatory solutions (and the water supply and public health consequences of those delays) caused by those who use water data confidentiality as a barrier to development and implementation of socially beneficial regulation.
9) Reinforces mutual credibility between agricultural sector and M & I sector water users, strengthening mutual acceptance of voluntary or mandatory drought reductions.
10) More civic and democratic participation.

Examples from recent years illustrate some of these issues.

The Salinas Valley Integrated Ground and Surface Water Model (SVIGSM) has been used to model historical benefits of reservoir operations, analyze proposals to halt seawater intrusion, and apportion cost for water projects and district operations. The

[9] Moreover, there is no absolute technical or legal line that divides surface water flows from groundwater flows. For example, see section on "Myth: Groundwater is Separate from Surface Water" in Hanak, Ellen, Jay Lund et al., "Myths of California Water – Implications and Reality", *West Northwest*, 2010; and Sax, Joseph L., "Review of the Laws Establishing the SWRCB's Permitting Authority over Appropriations of Groundwater Classified as Subterranean Streams and The SWRCB's Implementation of those Laws", 2002.

Monterey County Water Resource Agency collects monthly groundwater pumping data from well operators and maintains the data in the Groundwater Extraction Management System (GEMS) database. Detailed pumping data from the GEMS database was used to calibrate pumping simulated by the consumptive use methodology for truck crops and vineyards and also verify and adjust irrigation efficiencies, and could be used to model higher resolution of spatial variations in pumping. "The accuracy of the SVIGSM depends on the accuracy of calibration and host data and parameters used in the model. These include… Estimates of ground water pumping and distribution…" as well as eight other factors.[10] No analysis of the accuracy of the factor data was performed, and thus no propagation of error calculation to final results. However, by inspection of the model residuals, a "valley-wide level of accuracy of ±5 feet" is claimed for the SVIGSM. The National Resource Council recommends a full error analysis of ground water models as standard practice.[11] Independent confirmation of this extensively used model and its accuracy are impossible without the data used in its construction and calibration. As extended drought limits surface deliveries to the Castroville Seawater Intrusion Project for blending with lower quality reclaimed water, accurate prediction with the SVIGSM of the extent that replacement pumping in the deep aquifer will induce seawater intrusion into the last unintruded coastal aquifer is critical.

Measurement and data availability from Imperial Irrigation District including conservation and flows to the Salton Sea provides another relevant example. Investments of the magnitude considered for Salton Sea restoration require 1) a transparent process in which the public and decision makers can reliably analyze alternatives, 2) cost-effective reduction of inflow uncertainties since design success critically depends on future water flows, 3) a robust design that has flexibility to be adjustable over the remaining range of possible future inflows.

Careful reading of recent reports by IID, DWR, U.S. Bureau of Reclamation, and consultants hired by each agency highlight the gaps in understanding of current flows and the need for improvement in measurement and database management. Stated succinctly, the critical data is not publicly available for review and thus disputes arise between the consultants of various stakeholders. Pointedly, this renders the analysis of future flows of water to the Sea as tenuous at best, as evidenced by the commendable uncertainty analysis in DWR's January 2006 Draft Hydrology Report. Recent studies discussing private analysis of the data sources upon which restoration efforts are likely to be based indicate that the data is inconsistent and incomplete. The manner in which assumptions replace reliable data in the estimation of flows to the Sea is hidden from public scrutiny.

The opaque development and documentation of the data inputs used to calibrate the Imperial Irrigation Decision Support System (IIDSS), the model used to estimate changes in all flows through the Imperial Valley, do not satisfy the criteria for public transparency.[12] Stating that "Data gaps were identified and assumptions were made to

[10] MCWRA, Draft Technical Memorandum Update of the SVIGSM, p. 27, October 1999.
[11] National Research Council, *Ground Water Models, Scientific and Regulatory Applications*, National Academy Press, Washington, D.C., 1990.
[12] IID, Summary Report IIDSS, December 2001.

fill them (p. 2-7)" without further explanation is insufficient. Stating that "This partitioning of on-farm water into consumptive use and tailwater and tilewater return flow components is a complex process within the on-farm system (p. 2-3)" without further explanation is insufficient. Stating "Because only limited flow measurements in the drainage system were available, professional judgment was used to determine the fractions of water deliveries that returned to the drainage system (p. 2-8)" without further explanation is insufficient.

Numerous attempts to quantify the flows through the water delivery and drainage system using water balance methods have been published over the years and reviewed during the recent Part 417 process and in connection with Salton Sea restoration. The disparate estimates of component flows arise due to a lack of *direct measurement*. Planning investments of the magnitude contemplated for Salton Sea restoration based on this level of uncertainty when much could be resolved through systematic measurement is nearly unconscionable.

As water becomes more scarce during shortage situations necessitating an allocation program and substantial investments in conservation programs, accurate measurement of flows through the water delivery and drainage system become crucial for effective design, implementation, and management of these programs. Moreover, the fairness, economic efficiency, accuracy of water accounting, and transparency of a water allocation program are all enhanced when all significant deliveries are reliably measured and recorded. The August 2006 Draft Final Report of the Equitable Distribution Study sheds some light on the reliability and consistency of recorded data. Independent consultants hired by IID to analyze allocation methods during shortage situations conclude:

> Regarding an apportionment based on individual field history, after a careful analysis of the District's data, we came to the conclusion that the District does not have a sufficiently consistent and complete record of these individual field deliveries and, therefore, it would not be practical for the District to apportion water based on the average historical delivery to each individual field.
>
> The reason for this conclusion is as follows. There are almost 7,000 fields which have received at least one delivery of water between 1987 and 2005, and therefore have some sort of claim to receive water. About 5,000 of these fields received one delivery of water in every year over the period. The other 2,000 fields do not have a consistent long-run history of deliveries. Of the 5,000 fields with a long-run history of deliveries, we estimate that about 20-30% may have histories that are incomplete or questionable.3 In total, there are as many as 3,000 or more fields with histories that are problematic for apportionment based on individual field history (p. 3-4).

They further explain the "apparent" source of these inconsistencies:

> Having explored the data on field deliveries, we have come to the conclusion that a short-term apportionment based on the average historical use of each field is not a practical proposition because of gaps and incompleteness in the data. These arise in two ways: (1) There is not a complete history for every field in the District that received water. (2)

> There are sometimes errors in how the data were recorded which make the individual histories too unreliable for a statistical determination of history.

In October 2013, the IID board revised its shortage apportionment plan from 100% straight-line only to 50% historical use and 50% straight-line.

Proposed Measurement and Water Data Disclosure to Serve the Public Interest

The water data proposed for release to achieve the public benefits enumerated is limited to that which would allow for observation of water policy, rights and management outcomes on water sources and environmental flows. Water quantity and quality interactions of any water user with both other users and non-extractive uses, and thus the public beyond the unit, satisfies this criterion. Therefore, the proposed data requirement is the location, timing, quantity and quality of any diversion/extraction and location, timing, quantity and quality of return flows, whether surface runoff (tailwater) or deep percolation (also accounting for drain interception of percolation). Any other information about the practices on the farm would be unnecessary for the purposes of observing water quantity and quality resource management outcomes. Water diversion/extraction occurs at the farm gate or well making either the natural location for reporting. However, since multiple gates or wells could serve a field or farming unit, the water database would have to be structured to link appropriate diversion/extraction with return flow.

Since measurement of quantity and quality of return flows may incur substantial cost especially with respect to percolation, the farmer would have the option to report substitute information that could be used to estimate return flow location, timing, quantity and quality. Crop type, crop yield (to estimate ET), applied fertilizer and pesticides by type and quantity, irrigation technology, irrigation and fertilizer management processes, soil type, soil slope, and tailwater quantity measurement combined with available effective rainfall data would be a reasonable substitute for the minimal data requirements relating to return flows identified above. A further option could require reporting, but not disclosure, of this additional information if quantity and quality measurement data on return flows is reported.

These reporting and database requirements are robust for achieving the identified public benefits under the most likely potential future evolutions of water institutions to relieve reallocation pressures: 1) more extensive use of water markets for exchange of conserved water to improve allocative efficiency through shrinking the gap between the marginal value of water in different uses or 2) more extensive administrative or judicial evaluations of waste and alternative beneficial uses and subsequent “transfers” to achieve the same purpose.

Finally, the reason for the inclusion of return flow reporting requirements is two-fold. First, only actual return flow quantities can be diverted for subsequent use or left in-situ for environmental benefits. It is well-known by economists that increasing irrigation efficiency may not save any water, as consumptive use of water may increase even as water application decreases; more accurate timing and location of water in the root zone

increases consumptive use and crop yield and reduces return flow.[13] Therefore, conservation programs measured in terms of changes in applied water without accounting for changes in return flow can only overestimate the actual amount of conserved water. Return flow measurements are needed for the determination of actual "wet water" conservation in terms of changes in consumptive use. Second, return flow quantity and quality are needed to assess water quality management outcomes. Both the quantity of pollutant loading and the dilution effect from increasing water quantity are needed to model later pollutant concentrations from multiple return flows.

Value of Protection of Water Data Confidentiality

How will the disclosure of previously confidential water data affect business? Since agriculture is the largest sectoral water user in California, we discuss the issues in a farming context. However, the framework of the analysis can be applied to other sectors.

The value of proprietary information to the holder and the ability to control the information depends on 1) any profit differential between those with the information and those without, 2) how widely the information is known by competitors, employees and suppliers, 3) the cost or ease to acquire or develop the proprietary information, and 4) the value of the proprietary information to competitors.

The two possible proposed data disclosure methods allow for less disclosure if an owner is willing to pay for quantity and quality measurements of return flows. Thus, if the owner attributes a large profit differential to proprietary information, return flow measurements will be more affordable and more information can remain confidential. For lower perceived value proprietary information, more information would be disclosed as a substitute for return flow measurements, but some information would remain proprietary: labor and equipment costs for field preparation, planting, and harvest.

These options allow for choice in disclosure relative to the value of the propriety information, and only that data necessary to achieve the identified public benefits through observation of water quantity and quality resource management outcomes are ever publicly disclosed.

On the other hand, disclosure and public scrutiny may encourage better utilization of applied water and improved economic performance for some farms. From Technical Report 2, Nitrogen Sources and Loading to Groundwater of recent SWRCB Nitrate Study (see footnote 1):

> The role human decisions play in irrigation system performance and water management should not be overlooked. In SV and TLB, growers and their irrigators decide when, where, and how much water to apply. The operator manages soil water and, by extension, deep percolation. While

[13] Caswell, Margriet, and David Zilberman , "The effects of well depth and land quality on the choice of irrigation technology", *American Journal of Agricultural Economics*, 1986; Ward, Frank and Manuel Pulido-Velazquez, "Water conservation in irrigation can increase water use", Proceedings of the National Academy of Sciences, 2008; and Huffaker, Ray, "Conservation potential of agricultural water conservation subsidies," *Water Resources Research* , 2008.

> pressurized irrigation systems, sprinklers and microirrigation, can precisely control water flow and thus have a greater technical potential for field uniformity and delivery efficiency, using a high-efficiency technology (e.g., drip) will only increase irrigation performance if managed properly. It is the management of those systems that results in optimal or non-optimal performance. Likewise, performance of surface irrigation systems are significantly influenced by operators and can achieve reasonable efficiency levels, though their absolute technical potential is far less than pressurized systems. As a point of reference, Hanson (1995) reported that efficiencies among irrigation types were similar in practice across nearly 1000 irrigation systems monitored in California. Drip and microsprinkler systems did not show appreciably higher performance (*ibid*.). Observed irrigation efficiencies ranged between 70 and 85% for both microirrigation and furrow irrigation. It is worth noting that actual efficiencies may be below or above this range, and that changes in management practice may have improved to capture the technical advantage of pressurized systems in the 16 years since this study was published. At least one study suggests that variance in efficiency may not have increased despite the recent use of more sophisticated equipment. When irrigation performance was measured on nine drip irrigated celery fields in the Salinas Valley, performance was low. Water application rates ranged between 85% and 414% of ET, indicating under- and over-irrigation were common despite advanced capabilities (Breschini & Hartz 2002). Celery may not be representative of other cropping systems less sensitive to water stress; however, the results illustrate the potential for current irrigation system mismanagement even with advanced technology. Though the ability to apply the desired amount of water with each application is limited by the configuration of the irrigation system and hence uniformity and efficiency are somewhat predetermined, there are many practices growers can use to optimize water delivery systems (Dzurella et al. 2012).

Therefore, while recommended data disclosure is limited for the identified public purpose and structured to allow other data to remain proprietary to mitigate private costs, public scrutiny may also encourage better water management and economic gains for other currently water inefficient farmers who do not possess that proprietary information, independent of any valuable proprietary information disclosure.

Water System Security

Concerns about potential for sabotage of water infrastructure systems has long existed but has greatly heightened since the 9/11 terrorist attacks.

> Broadly speaking, water infrastructure systems include surface and ground water sources of untreated water for municipal, industrial, agricultural, and household needs; dams, reservoirs, aqueducts, and pipes that contain and transport raw water; treatment facilities that remove contaminants from raw water; finished water reservoirs; systems that distribute water to users; and wastewater collection and treatment facilities.[14]

For drinking water systems, most experts identified the distribution system as the single most important vulnerability and more experts identified it as among the top vulnerabilities than any other vulnerability.

> The explanations they offered most often related to the accessibility of distribution systems at numerous points. One expert, for example, cited the difficulty in preventing the introduction of a contaminant into the distribution system from inside a building "regardless of how much time, money, or effort we spend protecting public facilities." Experts also noted that since the water in the distribution system has already been treated and is in the final stages of being transferred to the

[14] Copeland, Claudia, "Terrorism and Security Issues Facing the Water Infrastructure Sector", Congressional Research Service, December 5, 2010.

> consumer, the distribution of a chemical, biological, or radiological agent in such a manner would be virtually undetectable until it has affected consumers.[15]

As compared to the distribution system, very few experts identify the source water supply as the single most important vulnerability but they do identify it as a top vulnerability but at a lower rate than the distribution system because:

> (1) that source water typically involves a large volume of water, which in many cases could dilute the potency of contaminants; (2) the length of time (days or even weeks) that it typically takes for source water to reach consumers; and (3) that source water will go through a treatment process in which many contaminants are removed.[16]

A state-level review on water data confidentiality must consider these real water security risks in the context of the public interest in conjunction with other risks to water quantity and quality. The discussion here is limited to potential modifications in data disclosure to reduce these risks, while still achieving the public interest gains of disclosure in water data.

Of the minimal data requirements for the public interest, disclosure of location of diversion/extraction is most often cited as the greatest security risk. Surface water diversion locations are public and known. Groundwater well location information is publicly disclosed in all western states except California. Therefore, precise well location disclosure should be reviewed in the context of these competing public interests.

Precise location is not needed for most of the public interest benefits enumerated above, except for "independent public review of water resource models to better manage existing resources." From the perspective of modeling groundwater, most often accomplished by finite element calculations, well location only needs to be known up to the resolution of the model (finite element size). Thus, extraction and diversion locations could be publicly accessible with less precision, perhaps in broad areas or zones, such as "...to the nearest 40-acre subdivision…" from Section 5103 of the Water Code. Then, an application review board could be established to consider limited use and no public disclosure of more precise location data for legitimate modeling in pursuit of reviewing existing models or in development of independent models for the public interest. This extra layer of the disclosure process would mitigate the terrorist risk from direct public access to a specific subset of reporting requirements without substantially reducing the gains in water management benefits from direct access.

Conclusion

Little or no attempt has been made to balance the public and private interest with respect to water data confidentiality for all water users. With water becoming more economically scarce, the need for greater coordinated management at the state level, coupled with the unresponsiveness of local water agencies to data requests to review existing models and develop independent models, indicates the time has come for a

[15] GAO, "Drinking Water: Experts' Views on How Future Federal Funding Can Best Be Spent to Improve Security", Report to the Committee on Environment and Public Works, U.S. Senate, p. 25, 2003.
[16] GAO report p. 8.

comprehensive state-level review of water data confidentiality policies for all water end-users and water sources that considers the interests of all citizens.

Permanent confidentiality is not in the public interest. Disclosure of water data can improve water resource modeling and management, increase accountability, compliance, transparency, and credibility and reduce delays to solving pressing water quality and quantity problems. The scope of water data disclosure can be limited to that which most serves the public interest, thus mitigating potential profit losses from disclosure of proprietary information. Similarly, online, publicly accessible locational data for groundwater wells could be available only at a coarse spatial resolution in consideration of water security threats, but more precise locational data would be available after demonstrating a legitimate public purpose.

After consideration of the public and private interests, such a state-level review could establish a limited water data confidentiality period of 1-5 years or perhaps abolish confidentiality altogether.

Then a publicly accessible and searchable water information database, based on systematic measurement and recordkeeping of individual unit water use and return flows, would be established in furtherance of the public and private interests in better water resource modeling and management in the State of California.