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The End of Paper Water: Natural Limits, Unlimited Demands and Reliable Supply: Proceedings of the 2011 California Water Law Symposium

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CUEL | CENTER ON URBAN ENVIRONMENTAL LAW

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THE END OF PAPER WATER: NATURAL LIMITS, UNLIMITED DEMANDS AND RELIABLE SUPPLY

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WELCOME AND INTRODUCTORY REMARKS

Anthony Austin | *Chair, 2011 California Water Law Symposium*
Drucilla Ramey | *Dean, Golden Gate University School of Law*
Paul Kibel | *Associate Professor, Golden Gate University School of Law*

ANTHONY AUSTIN Good morning. I want to thank you all for being here, for contributing to the dialogue today, and for supporting the mission of the Water Law Symposium.

For those of you who aren't familiar with the history of the Water Law Symposium, it was started seven years ago by then-USF law student and now alum, Tom Hicks. Since then it's grown into the event that it is today and in addition to USF School of Law, it includes GGU School of Law, UC Hastings College of the Law, and UC Berkeley School of Law Boalt Hall. Next year we're hoping to add UC Davis School of Law as well. As a result of its many accomplishments throughout the years and in particular with respect to the 2010 Water Law Symposium last year, the ABA Section of Environment, Energy, and Resources awarded its first-ever Law Student Program of the Year award to the Water Law Symposium last year.

The ABA award is a testament to the efforts and the dedication that our students have given to the Water Law Symposium over the years and it's an incredible honor. Later on today, at the end of lunch, WLS founder Tom Hicks will be presenting individual awards to each of the law schools and their faculty advisors.

With the guidance of the faculty advisors, trustees, and board of directors, the students are responsible for putting on this event. They select the symposium theme, the panel topics, and they seek and invite the panelists that you'll hear from today. I would like to highlight and recognize the students that were involved this year.

In addition to myself, we have Melosa Granda and Beau Correia from GGU School of Law; Whitney Barnicut, Heather Cox, and Melissa Duncan from USF School of Law; Olivia Odom and Elizabeth Sarine from UC Berkeley School of Law Boalt Hall. I thank them all for their hard work and dedication throughout this last year in putting together this event.

I also want to especially thank Kalla Hirschbein and Luthien Niland, also from GGU School of Law, for their help behind the scenes and making sure the event runs smoothly

today. They're responsible much of the administrative logistics and marketing and such. So I thank them as well.

I also want to thank Paul Kibel, our faculty advisor for the Water Law Symposium and Associate Professor here at GGU School of Law, for helping me throughout this last year. His assistance and guidance was extremely valuable, and I appreciate your help.

In addition to the students and the faculty advisors and the trustees, we must thank the sponsors. Without their generous support, the Water Law Symposium would not continue to exist. We owe a lot of our success to our sponsors. In particular I want to thank the As You Sow Foundation and GGU School of Law for their very generous contributions in making today's event possible.

This is the first year that GGU has hosted the Water Law Symposium in it seven-year history and we are very excited to have it here today. I would also like to add that our newest addition to GGU, the Center on Urban Environmental Law (CUEL), which was just launched recently and is another sponsor of the event, has decided to publish today's transcripts with the Water Law Symposium.

I do need to make one comment about today's agenda, just a small change. We were originally going to have DWR Director Mark Cowin serve as our keynote speaker today, but due to an unforeseen emergency circumstance, he's not able to be with us. However, we are still very lucky because we have DWR Chief Counsel Cathy Crothers, who has graciously accepted to step in, in his stead, and serve as our keynote speaker today.

I would now like to introduce our dean of the law school, Dean Dru Ramey, who championed the idea of hosting the event here.

DRUCILLA RAMEY As dean of this distinguished law school, it is indeed my great pleasure to welcome all of you to this sellout 7th Annual Water Law Symposium. I want to thank Anthony Austin, an outstanding student leader here at Golden Gate, and all of you who worked so hard to produce what is going to be a magnificent collaborative program.

And I particularly want to welcome everyone from our sibling law schools, UC Berkeley, UC Hastings, and USF. As you know, today's theme is *The End of Paper Water: Unlimited Demand, Natural Limits, and Reliable Supply*. I should say that as the daughter of an atomic energy commissioner, I kept away from environmental law for many, many years. So it is really a particular pleasure to learn about an area that I have known so little about until coming to Golden Gate.

As you know, this is a forum for those involved in ensuring a more secure future for California's water supply system, bringing together practitioners, law students, policy makers,

and others to discuss solutions to this state's massive water supply challenges. I want to congratulate the Symposium on its receipt of the ABA's distinguished award.

Earlier I was talking briefly with Professor Tony Rossman who made the point that this isn't just the premier student-run water law program, this is the premier annual program on water law. And I think all of you out there who have had so much to do with that are much to be congratulated. The Symposium really is notable for many reasons, but at least two. One is the collaboration of over four law schools. It really sets a precedent for professional collaboration that we don't see enough of in our profession.

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Secondly, the fact that it is the students who set the agenda and put this thing together and make it a reality means that the issues that are of interest to the next generation are brought to the fore now by the next generation of water law specialists. Too often the perspectives of those who are going to be the leaders of tomorrow's environmental pioneering efforts are not asked as to their perspectives on what is most important. So this is absolutely critical.

Since its inception, WLS has had a group of faculty advisors who are water law professors and other experts around the area, including our own Professor Paul Kibel, who has been an advisor to this from the beginning.

We are enormously proud of our extraordinary environmental law program, including an extraordinarily broadly based JD program, originally under the leadership of Professor and now your Governor Brown's chief environmental advisor, Cliff Rechtschaffen, as well as our Environmental Law LLM program and our wonderful Environmental Law and Justice Clinic.

Today, as was noted by Anthony Austin, marks the inauguration of our new Center on Urban Environmental Law (CUEL), which will undertake independent legal research and curriculum development on nature in cities and of cities with a focus on water, greenspace, air, and climate. In the coming weeks, CUEL will be publishing today's proceedings.

Again, I want to thank you for joining us today and for your leadership of this wonderful Symposium. It's now my great honor to introduce Professor Paul Kibel, a longtime environmental activist, practitioner, and legal scholar and teacher, who together with GGU's Professor Alan Ramo will direct our new Center on Urban Environmental Law. Paul has served as an advisor to the WLS since its inception and to the new center since

its inception. He has been the heart and soul of our Environmental Law Journal since its inception in 2007 and a professor here only for a few years but has already helped to take our environmental law program to new levels. So without further ado, I want to introduce Professor Paul Kibel.

PAUL KIBEL Thank you Dean Ramey for your welcoming remarks and thank you to Anthony Austin, the Chair of the 2011 WLS and to all the other student co-chairs and student organizers from Golden Gate, from USF, from Hastings, and from Boalt who helped work on this event. They have done a remarkable job pulling together today's event.

A few months ago, the Golden Gate Environmental Law Journal published its Symposium Edition called *Real Water: California's Land Use Water Law Turns Ten*, which focused on SB 221 and SB 610, two California laws adopted a decade ago. Two of the contributors to the Real Water edition are here with us today for the conference as presenters, Randy Kanouse and Jim Moose.

In the introductory essay to the *Real Water* edition, it was noted that – when it comes to legal and policy discussions about the linkage between water supply and land use – the term *conservation* gets kicked around a lot. The introduction noted that the term *conservation* in this debate can often be deployed in very different ways.

On the one hand, there are those persons that emphasize the need to conserve instream water flow and freshwater flow for fisheries and for water quality. And for these persons, the core objective of the linkage between water supply and land use is to make sure that we have adequate instream flow for those purposes. So for persons who are approaching conservation in this context, proposals to create enhanced water supplies for other uses – to maintain existing agricultural uses or to make water supplies available for new residential development – are fine so long as those instream resources are protected.

Some of those measures might include new offstream storage facilities that might include conjunctive use of groundwater aquifers. It might include lining of earthen canals. It might even include "isolated conveyance facilities" around the Delta.

There are potential non-instream adverse impacts associated with some of these measures. Some of these impacts might relate to concerns about scenic degradation from residential development. Some might relate to air pollution, from traffic from new development, or terrestrial habitat loss and fragmentation relating from agricultural or residential uses. But for those persons focused on the instream aspect, these are not the primary concern.

But there are also persons who underlying concern might in fact be about some of those non-instream impacts. They might be concerned about reforming current agricultural

practices to deal with issues of pesticide use, to deal with issues of salt and selenium build-up. They might be concerned about the environmental impacts of new residential development, about suburban sprawl, about air pollution, about terrestrial habitat loss.

So for those persons, the "conservation" that they're talking about, when it comes to the linkage of supply and land use, relates not just to the conservation of instream resources but also to conservation for out-of-stream resources as well. These contrasting notions of what it is that's being conserved in this context in the land use water supply linkage have similarly played out in conflicts regarding the term *wet growth*, which is coming into increasing usage.

In its most basic form the term *wet growth* generally suggests the need for actual or real water supply for proposed new development as opposed to what we sometimes call *paper water*, the title of today's conference. Professor Tony Arnold edited a book a few years back for the Environmental Law Institute in Washington, D.C. with the provocative title *Wet Growth: Should Water Law Control Land Use?*

In this book, Professor Arnold wrote, "There is a need for a concept of wet growth, integration of concerns about water quality and the availability of water supply into the density, pattern and location of our land development. This wet growth idea may simply be an aspect of a broader smart growth agenda or even a broader sustainability agenda."

Others, however, do not share Professor Arnold's view of wet growth, that it's part of a broader smart growth or broader sustainability agenda. Rather, some view this concept of wet growth primarily as making sure that agriculture and developers get and maintain secure water supplies, period. Professor Lincoln Davies who teaches at University of Utah School of Law has written about this perspective.

Professor Davies writes, "It is clear that assured water supply laws will not stop sprawl. By definition assured water supply measures do not restrict sprawl, per se. They do not tell developers where they can build. They impose no density limits. And they do not express or even require infill development in already urbanized areas. Because assured water supplies are unlikely to actually prevent sprawl, environmentalists' attempts to invoke these laws carry a very real risk of frustrating their own objectives, backfiring through backlash. Employing a law in a way that will not work for a purpose for which it was not intended is exactly the concern that developers repeatedly express when assured water supply laws are considered for enactment."

In the comments of Professor Arnold and Professor Davies we see two very different perspectives on "wet growth." But we need to take a closer look at some of Professor Davies' comments. Because in a certain regard, his comments merely beg the underlying question of what was intended by the adoption of these water supply laws that link to land use to water supply. Just as there are differing notions of what is being conserved

when we talk about this linkage, different stakeholders actually intended these laws to be used in different ways and for different purposes.

More specifically, there were many environmental stakeholders that supported the laws linking water supply and land use for the express and intended purpose of using such laws to try to limit what they viewed as environmentally destructive sprawl-type development. So for those stakeholders that supported those laws with that particular intention, it's not inconsistent to use the law for that purpose.

But not everyone shared that view as to what the law's purpose was. So the debate surrounding wet growth and surrounding SB 221 and surrounding SB 610 are part of what we are going to be addressing today at this conference. But that is not all that we are going to be addressing.

The theme of today's conference is *The End of Paper Water: Unlimited Demands, Natural Limits, and Reliable Supply.* The term paper water has taken on a somewhat specific and a somewhat narrow meaning in California in recent years. Part of this has to do with the discussions about wet growth and the debates around SB 221 and 610. Part of this has to do with a series of cases that came out of the California Court of Appeal dealing with water supply issues under the California Environmental Quality Act (CEQA) and particularly the 2000 *Planning and Conservation League* case and the 2003 *SCOPE* case.

In both of these two CEQA cases the court used the term *paper water* to refer specifically to the notion of particular residential developers relying on contracts with the State Water Project to establish their water supply and some of the issues surrounding that. So in some sense people see the word *paper water* and they cue in on, "this is a State Water Project reliance issue for new development."

But we want to keep in mind that the term *paper water* or *paper rights* to water actually has a much longer lineage than that in California and in the American West. Professor John Leshy of Hastings Law School co-authored one of the lead casebooks in this area, *Legal Control of Water Resources.*

In this book, Leshy and his co-cauthors noted some of the shortcomings of the general stream adjudication procedure that developed in the late 1800s in California and in the American West. Professor Leshy and his colleagues noted, "The general adjudication system, though it did and still does serve as a basic tool for administering water rights, was deeply flawed. Much more importantly the adjudications were often extremely inaccurate. It was in the interest of each of the participants in the general adjudication to claim as much water as possible for themselves. The result was that decrees, the court decrees, were greatly inflated, routinely setting out amounts that vastly exceeded what the appropriators had actually used and that in toto exceeded the total amount of water

that had ever flowed in the stream. Such decreed amounts are called *paper rights*, the implication correctly being that they do not describe the real water use situation."

So what's significant is when you see this notion of paper rights to water being articulated going back to the 1800s, these stream adjudications did not simply involve new residential development on the metropolitan fringe. They did not simply involve claims to State Water Project contract entitlements.

They involved current use by existing agricultures and farms. They involved existing use by cities for municipal use. So in terms of helping to frame what we're going to cover today, I want to explain that we're using the term *paper water* in the broader, more historical context. What it covers is really this notion of paper water and paper rights to water is applicable to all parties who claim contractual, adjudicated or permanent entitlements to divert water that for some reason or another is in fact not physically available for diversion and what we do about that.

this notion of paper water and paper rights to water is applicable to all parties who claim contractual, adjudicated or permanent entitlements to divert water that for some reason or another is in fact not physically available for diversion

So for our present purposes we're not just talking about new residential development. We're not just talking about the State Water Project. We're talking about reductions in out-of-stream diversions resulting potentially from climate change hydrological effects. We're talking about reductions in out-of-stream diversions resulting potentially from the requirements of the public trust doctrine.

We're talking about reductions in out-of-stream diversions that might result from the fishery protection provisions of the Endangered Species Act. Because in all of these situations, what we're faced with is that the actual availability of water for diversion is reduced and that the real amount of water that's really in play for diversion is what we need to be focused on.

The important thing to note here is that this problem of this mismatch, this misfit between entitled diversions and actual water available, is a situation that we're facing regardless of whether we're talking about new residential development, regardless of whether we're talking about existing municipal uses, and regardless of whether we're talking about irrigation practices in the San Joaquin Valley.

All of these situations implicate paper water to some extent. So with those introductory remarks submitted, I would like to introduce the moderator for our first panel, Roger Moore. The first panel this morning is going to be on *California's Water Supply and Land Use Planning Laws: Making Water Supply Real.* Thank you.

PANEL 1: CALIFORNIA'S WATER SUPPLY & LAND USE PLANNING LAWS: MAKING WATER SUPPLY REAL

MODERATOR
Roger B. Moore | *Rossmann and Moore, LLP*

PANELISTS
Randele Kanouse | *East Bay Municipal Utility District*
James G. Moose | *Remy, Thomas, Moose and Manley, LLP*
Eric N. Robinson | *Kronick Moskovitz Tiedemann & Girard*

ROGER MOORE: Good morning. I'm Roger Moore from Rossmann and Moore. We begin this morning with the bland and uncontroversial subject of how to remove the paper from the water. I very much agree with Professor Kibel's cogent description of a broad understanding rather than a narrow one of the paper water subject. Stating the problem a different way, as our panelists have here, it's how to ensure reliable water supply to serve new homes and workplaces despite increasing uncertainty in the presence of present and future water availability.

I have with me a distinguished panel to address this issue. We are going to have to address it in a new set of circumstances where all of California's major water systems, the State Water Project, the Central Valley Project, the Colorado River and groundwater basins, northern rivers, the Delta – all are stretched and overtapped already and that is before you get to climate change.

Working with me on the subject this morning, I have three distinguished people: Randy Kanouse, whose title – the Special Assistant to the General Manager for East Bay MUD – hardly does justice to his role as perhaps the foremost advocate and architect of the "show me the water" laws from 2001, the key water reform statutes in California.

I also have with me Jim Moose, the senior partner at Remy, Thomas, Moose and Manley in Sacramento, who has very extensive experience representing private clients and water agencies in civil cases and represented some of the property owners in the bigger cases, for example. He is also the co-author of one of the leading CEQA treatises.

Then we have with us Eric Robinson, a shareholder in Kronick, Moskovitz, Tiedemann and Girard in Sacramento, another pivotal water firm. He works with water agencies, land use agencies, and developers on the identification of water supplies for urban development.

Instead of going religiously by the PowerPoint here, which seems to be off-kilter anyway, I want to tell a series of stories that illustrate where we came from in California history to have a problem with paper water. So bear with me here.

Story Number 1. I'll call it "Show Me the Water, and I'll Take It." Let's go back in time. The year is 1877. Irish immigrant William Mulholland reaches a dusty backwater called Los Angeles, population 9000. He soon observes that whoever brings the water, brings the people.

His grand vision and equally grand hubris, of course, leave an incredible legacy, leave Owens Valley in the dust, but forges the secular faith in Western water engineers and entrepreneurs to find the water for development. You could think of it as sort of a *Field of Dreams* approach where if you build, the water will come. And there is faith that water engineers will find a way to do that.

Story Number 2 I'll call "The Ghost of the One-Armed Major." After losing his arm as a Civil War hero, Major John Wesley Powell became the Western United States leading explorer, ethnographer, and student of land and water. But he falls out of favor after authoring a landmark 1878 study that challenged what was then the emerging orthodoxy of an irrigated Western paradise.

Powell thought that it oversimplified the hydrological and political complications of settling on arid land. At the International Irrigation Conference in 1893 he told them, "I tell you, gentlemen, you are piling up a heritage of conflict and litigation over water rights for there is not sufficient water to supply the land." As the great biographer Wallace Stegner later observed, "Water's the true wealth in a dry land. If you control water, you control land. It depends on it." And that fact alone was the ominous threat of land and water monopolies.

Which leads me to Story Number 3, which I will call "The Water District or Water Baron Exception to One Person, One Vote." The vision that Stegner and Powell had of a “dry land democracy” revolving around irrigation districts stands in contrast to the United States Supreme Court decision in 1973 in *Salyer Land Co. v. Tulare Lake Basin Water Storage District*, which upheld the method of electing directors for a water storage district serving the Tulare Lake Basin.

In that system, some small landowners got one vote and a certain J.G. Boswell, the well-known cotton king of California, had 37,825 votes. Justice Rehnquist and the majority found this just fine. Rehnquist, a Westerner himself, celebrated in a majority opinion the Western pioneers who battled the forces of nature. Justice Douglas in his rather angry dissent describes the result as a "corporate political kingdom undreamed of by those who wrote our Constitution."

Which leads me to our modern history to Story Number 4, which I'll call "The Incredible Shrinking State Water Project." The State Water Project is a remarkable public works project, but it is also founded in a certain denial. Governor Pat Brown remarked, "I wanted to build a water project and worry about the philosophy of land use later on." Ironically, that job is now left to his son. Later on has long since arrived, though, taking root in the modern environmental movement.

Key facilities in the original project involving large dams on our northern rivers, for example, were never built. As an illustration, the noted environmentalist Ronald Reagan while governor actually stopped the proposed Dos Rios dam on the Eel River and later signed the Wild and Scenic Rivers Act, which leads us to what was my entry into the subject of paper water, the *Planning and Conservation League* case involving the Monterey amendments.

By the early '90s drought, it was quite clear the State Water Project was not going to be built out, and it could only deliver half or less of the so-called entitlements in the originally contracted promises. But rather than adjusting the entitlements down to take the paper out of the water, as the original contract suggested should happen, a few large local contractors at DWR negotiated the mid-'90s Monterey amendments, which attempted to remove that safe guard provision as well as others and, for example, ceded control of the project in certain respects to local contractors, allowing a joint powers of authority dominated in some respects to control different water there.

The resulting 2000 Court of Appeal decision in which I was involved, *Planning and Conservation League v. DWR*, held that DWR, acting as a lead agency rather than the local agency that tried it first, must fully study the consequences of restructuring the State Water Project. But it went further, recognizing the unreality of State Water Project entitlements in relation to the available supply.

The Planning and Conservation League case noted the dangers of basing development on paper water. The development could outpace availability, producing environmental harm, increasing reliance on groundwater, and leading to political pressure to develop additional supplies. The final outcome remains unknown.

Story Number 5 I'll call "Dancing the Governance Tango." This phrase comes from our panelist here, Randy Kanouse, who used the phrase to refer to the complex dance that often occurred around water reliability issues. In the 1990s as a precursor to the "show me the water" laws, Kanouse conducted for East Bay MUD a survey that showed only two of the 225 large projects looked at had done enough water analysis for even average intelligence growth much less smart growth.

So we now have powerful tools, such as the *Vineyard* decision enshrining the anti-paper water doctrine in the Supreme Court CEQA analysis and the "show me the water" statutes. But we must ask how effective have they been in taking the paper out of the

water? Are they resilient enough to address the next phase? That leaves me to where I will conclude here with a set of final questions on complicating the future of paper water where California water will be even more constrained.

I'll try to be brief here on complicated subjects. Number 1, the Delta. The biological opinions for Delta fish if ultimately enforced will lead to large reductions in the availability of imported water as would the state court's recent delta flow requirements. How should land use decision makers take that into account? In terms of the Colorado River, California must now come within its allotted allocation for the Colorado River, but the principal mechanism for doing that, the Quantification Settlement Agreement (QSA), leaves ambiguous who is going to pay for mitigation and restoration for the Salton sea, which was the reason that a Superior Court decision recently invalidated that agreement and it's interpretation remains open.

I'll close with the optimistic note of the late Chicago Cubs broadcaster Jack Brickhouse, who observed that anybody could have a bad century. With regard to water, we had a very bad 20th century and cannot afford to have a bad 21st.

Finally, climate change could drastically reduce Sierra Nevada snow pack, perhaps by as much as 25 to 40 percent between 2025 and 2050. With these cynical reminders of how hard things will be, I'll close with the optimistic note of the late Chicago Cubs broadcaster Jack Brickhouse, who observed that anybody could have a bad century. With regard to water, we had a very bad 20th century and cannot afford to have a bad 21st.

I will now turn it over to Randy Kanouse to talk about the "show me the water" laws.

RANDELE KANOUSE: Good morning. I've now lobbied in the legislature for 31 years, 9 and a half for the State Water Resources Control Board. I started my career there when Jerry Brown was governor the first time. And now 21 years at East Bay MUD. I'm going to describe for you the context in which East Bay MUD decided to sponsor legislation starting in 1991 and give you a little context for the discussion that will follow of how these two statutes have been interpreted by the courts over the years.

This is the first bill that we asked the then-member of the California Assembly, Dom Cortese, to introduce in February of 1991. A one-sentence bill: "No lead agency shall approve a development project unless the applicant identifies a long-term reliable supply of water to serve the project." Seemed very simple and when I walked outside of the state capital and asked anybody on the street, "Should this be the law," their response to me was, "You mean it's not already the law?"

We struggled for 11 years on this bill, trying to make something along these lines the law. I notice in the audience there are a number of faces who were here back in '91 and who could give this presentation certainly as well as I can give it. Those of you who were around then remember that in 1991 we were viewed as a pariah within the water community for sponsoring this bill.

We would go to the meetings of the water community, and virtually every other agency said, "This is a solution for which there is no problem. What are you guys doing? What is your problem? Why would you sponsor this?" I want to take just a minute or two to help you understand why we sponsored it because I think the developers, the development community and even to some extent the local government community, the cities and counties thought that this was an effort on our part to try and slow growth. To stop growth, slow growth.

It took four or five years to help people understand that this was not about trying to stop growth. This was about a utility's obligation to its customers.

It took four or five years to help people understand that this was not about trying to stop growth. This was about a utility's obligation to its customers. A utility's obligation to customers who have businesses and homes in cities like Oakland, San Leandro. You name the city in this state where businesses and homes have been there for 100 years. There is an expectation from those customers that their utility is prudently planning to make sure that they can provide the water the customers need.

There's an expectation that we will not take on new customers without any careful consideration and then find ourselves down the line in a situation where we say, “Oh, darn. We can't serve you the water you need.” So Procter & Gamble, we're going to have to cut by 20 percent the water that we serve you at your plant where you make soap products. Not real good for Procter & Gamble and that's why in the course of the 11 years that we worked on this, we saw this interesting split and divide within the business community.

The developers were our enemy, our opponents, wanting to kill the bill. But businesses, the manufacturing industry joined the agricultural community and the environmental community in saying, “This is important legislation. We want to know that our expectations for water are being protected at the same time that you, utility, are extending service to new customers and to proposed new developments.”

We all know this. California is a state of feast and famine. More interesting is that our feast and famine come in a Biblical fashion. We don't typically have a wet year followed by a dry year followed by a wet year followed by a dry year. We have multiple dry years

followed by multiple wet years. What's the relevance of that? The relevance of that for a utility planner is that you need to plan to serve your customers through multiple dry years.

A number of water utilities back in the '90s that would tell me, "Kanouse, we don't have a problem in our community. Here's how much water we expect to get in runoff, in our reservoir or how much we're expected to get through a contract with the state and federal project. So we're golden. We're fine. We can take on these new customers."

The question that I would ask them is, "What planning have you done for the water supplies that you will have during an extended drought? A two- or three-year drought?" Very few utilities were so planning back at the time that these bills were proposed. The other argument that we would hear frequently is, "Not to worry. We expand our service area. We take on more customers, and we'll just build other water projects."

That's been California's legacy through much of its history. This is how it used to be in California. The context in which water resources engineers had a good time. And then what happened? After the birth of the environmental movement, we were in a political climate in which the state and federal governments were less willing to underwrite the cost of multibillion-dollar water projects.

The number of years that it takes to build a water project has tripled and the amount of water that any of these projects will yield is a fraction of the projects that have been previously authorized and constructed in California. So what we wanted our colleagues to understand was you can't assume that the model of the past, the paradigm of the past, that you just extend water service to new customers and a new water project will be on-line and ready to go within a year or two. That doesn't happen anymore.

So we need to plan more carefully. The argument that we encountered in the legislature was we don't need these statutes. We don't need statutory law. CEQA provides adequate guidance. So we had to help educate legislators that if CEQA were being implemented properly with great concern, there would be an analysis that looked carefully at water supply availability.

But as Roger Moore described, we amassed several hundred EIRs for projects that were for a thousand units or more. And the typical EIR for these huge projects, some of which were 20,000-unit projects, would have extensive descriptions of how the pipeline was proposed to be constructed and how they would intend to move the water from Point A to where the homes were being built.

Then on the subject of what would be the source of water, it would often be one sentence or two sentences: State Water Project or Central Valley Project or groundwater. That was it. We started showing these descriptions to our friends who are state water contractors and saying, "Now, how does this work? You're not getting full delivery under

the contract that you have today, and yet there's this new town, this proposed community that is identifying your project as a source of water for that community."

We saw some of those water utilities begin to take this issue much more seriously. There are two statutes that were both enacted in 2001 and so we are now celebrating a decade of the statutes. My colleagues will talk with you at some length about how these statutes are being implemented. They were intended to work in tandem. We had heard from builders over the decade that had worked on this issue, that you needed to plan early.

You needed to begin the conversation early between the utility and the land use agency and the developer. So SB 610 is intended to do that. It's intended to create a planning document that requires collaboration between land use planners and water providers and the developer at the earliest stage of a project. A general plan amendment, specific plan adoption.

It doesn't have a red light in that statute, and by that I mean if you can't identify an adequate water source, the city or county can still proceed with the project because what SB 610610 was intended to be was an early warning system. Earliest point in the planning process with everyone on notice, we've got to find a water supply for this project so that we don't jeopardize those who are dependent on the water served by that utility.

SB 221 is the failsafe mechanism. 221 is intended to be at the end of the planning process and at the point at which a city or county will be prepared to allow the developer to start turning dirt. It does have a red light, and I will defer to the discussion of my colleagues, for them to go into some detail what this all means and what it's intended to accomplish.

Again, I mentioned earlier the thrust of the statutes is to require that there be public records that are available to a community and that it's not simply a secret process. I had many water utilities and land use planners say, "Oh, we're doing this kind of planning," but there was no paper trail. There were no documents that you or I could look at to satisfy ourselves that the planning was occurring and that our interests as customers or as farmers or as manufacturers or as environmentalists were being protected, the obligation to look 20 years into the future and to ensure that we were looking at the needs of existing customers as we plan for development.

At the end of the day, I want to conclude my comments about the background on these two statutes by sharing with you that in 2001, as it became clear that we had the political support of then-Governor Gray Davis and the legislative leadership to get these statutes signed into law, the developers became very cooperative. We worked well with their interests on reaching agreement on the details of the language.

The League of Cities and CSAC for example. We found at that point in the process where they felt pretty sure this was going to happen, that we could simply work through

the details and make it something that they could implement. But my colleagues in the water community were the last to come on board. The water utility industry had grown accustomed to being able to make these decisions without having to have public process, without having to have transparency, without having to make findings on the record. They have boards of directors to do that.

But my colleagues in the water community were the last to come on board. The water utility industry had grown accustomed to being able to make these decisions without having to have public process, without having to have transparency, without having to make findings on the record.

We found, as these bills were going to the governor's desk for signature, that many water agencies were asking for the governor to veto the bills. This has been 11 years out of my career. Some have wondered how effective I really am as a lobbyist if it took me 11 years to get this enacted.

As I was telling Jim Moose a few minutes ago, if we were to attempt to enact these statutes today in today's political climate in the California Legislature, there's not a chance in a million that we could garner the kind of political support that we had. Those are my comments.

JAMES MOOSE: I want to start out by thanking Roger Moore for his reasonably charitable introduction. I always have trepidation about being introduced by opposing counsel in a recent contentious proceeding that ended about a year ago. So I appreciate the restraint and the kind words. I was actually fearful he was going to say William Mulholland might've been one of my clients, but I'm actually not quite that old.

I also want to thank the organizers for the bottle of water. I assume that that was intended for symbolic purposes to embody the paradox we face now of being a fossil fuel plastic society, feeling guilty about it, and hoping for solutions in the future. Perhaps this was water gathered in cisterns in the recent rains, or maybe I'm overreacting. My function here is to get down to the nuts and bolts of recent CEQA case law.

As you can tell from the earlier remarks, there's been a lot of action in the legislature. At least there was 10 years ago, I guess there may not be any in the near future according to Randy Kanouse — creating a body of statutory law, which I understand is intended to sort of integrate land use and water supply planning. At the beginning of my career, I was always told they were not integrated.

You had land use planners simply assuming the water would follow, and you had the water suppliers operating under what they thought was a duty to serve new development.

So if the boards and supervisors and city councils wanted to approve growth, they didn't necessarily talk to the water agencies. The water agencies felt they had an obligation to go find the water.

For most of the 20th century, they were able to find it. Towards the end of the 20th century, it got more difficult to find. So through these statutes, the legislature is requiring conversations between the water agencies and the land use planners. And the courts — and this is my topic — have essentially forced a similar integration through the requirements of CEQA and in particular this *Vineyard Area Citizens* case really accomplishes that.

It's an example of CEQA being used to fill a gap, at least that's my theory, in the law where they didn't think the legislature necessarily was being proactive enough. Problems get dumped on the courts. The courts, using very general principles, apply them in a way that perhaps solves or at least addresses difficult public policy issues. So for people like myself whose function at work is to help people write adequate environmental impact reports in anticipation of being challenged or to comply with the law for its own sake, it's important to remember that there are CEQA principles that are independent of, although complementary to, the statutory principles.

So I'm going to go through the CEQA principles and then Eric Robinson is going to follow with some very pragmatic ideas about how to deal with water shortage and how to comply with these laws in a way that allows for some development hopefully in a water-neutral manner. So I'm just going to launch into the details of this *Vineyard Area Citizens* case.

This was decided almost four years ago. It came after about a decade or more of Court of Appeal cases. There was some tension in the Court of Appeal cases, kind of a chicken and egg issue. Do you do water planning before the land use planning? Do you do the land use planning before the water planning? One of the seminal cases of the 1990s coming out of the Fifth District Court of Appeal was a case called *Stanislaus Natural Heritage Project*, which the *Vineyard* Court essentially adopted and approved.

Stanislaus Natural Heritage Project held that a specific plan for a new town down in Stanislaus County was not adequately studied in the EIR for the document because it didn't account for long-term water demands for a full build-out of the specific plan. What that EIR did instead was to identify a water source for near-term development and then take the position that as the project built out, the developers would find the water.

The court said that wasn't good enough. You needed to have some idea of where the water was going to come from, even for the far future build-out phase of a major land use plan. So people reacted to that thinking, "Sounds like the water planning really needs to get out ahead of the land use planning." Then in 1999 there was the Third District

Court of Appeal decision called *County of Amador vs. El Dorado County Water Agency*, which held that the El Dorado County Water Agency had violated CEQA by seeking a water supply for demands based on a draft general plan, which had not yet been adopted.

The court there strongly suggested — I think held, although I thought it was beyond actual law — that you can't as a water agency even go out and get water before there's a hardened demand for it as enshrined in an existing general plan. That strongly seemed to say that the land use planning ought to get out ahead of the water supply planning.

So people were very confused after those two cases. I take *Vineyard* to essentially say the land use and water planning ought to proceed on parallel tracks, that it turns out that the EIR for the land use plan seems to be the vehicle for all these issues to get addressed together. Factually what happened in this case was the County of Sacramento approved a large project consisting of a community plan and a specific plan for what ultimately was going to be that 22,000 homes.

> *I take* Vineyard *to essentially say the land use and water planning ought to proceed on parallel tracks, that it turns out that the EIR for the land use plan seems to be the vehicle for all these issues to get addressed together.*

This was in an area of Sacramento County that's now in the city of Rancho Cordova, hence the respondent officially at the end being Rancho Cordova. The area traditionally was served by groundwater, although there was overdraft happening. In the background in the years preceding the approval of this project, the region as a whole had convened something called the "Water Forum" process whereby cities and counties in the area, water districts, environmental interests, business interests all got together to try to accomplish two primary objectives: to find water for the general plan demands in the region in a way that did not compromise the aesthetic, biological, and recreational values of the lower American River as it comes into Sacramento where the confluence with the Sacramento River is located.

So, there was an EIR for that. At the time they did a model looking at the effects on the Sacramento River and the Delta and the American River of all these water demands. That was done and certified in about 1999. This EIR came up for certification in 2002. The fatal flaw in retrospect was that it did not do a good job of summarizing the contents of the Water Forum EIR and alerting people to key information in that document.

There was no formal incorporation by reference. Rather the county staff when they wrote that EIR just seemed to assume that participants in the administrative process were aware of that background. So this EIR instead focused on the short-term water supply, which

was going to be groundwater pumping that would be utilized until such time as the surface water supplies that were identified pursuant to the water form process had been perfected.

The water provider here was the Sacramento County Water Agency. It had the surface water supplies in the works; the infrastructure for diversion and treatment was not in place yet. The short-term supply was going to be some wells that were thought to be pumping only sustainable levels. Unfortunately the Supreme Court found the document to be flawed primarily because the long-term water supply really hadn't been addressed in this document.

As Roger Moore mentioned I was involved in this and had the fun experience of losing a major case in the California Supreme Court, which I have no regrets about because it was still good experience. But I knew going into that that our challenge was to comply with the *Stanislaus Natural Heritage Project* because we didn't have within the four corners of this EIR a very good discussion of the long-term water supply.

We tried to say, "Hey, there's this great Water Forum EIR," and I got questions from the court indicating that that was not a sufficient answer from their standpoint. So, they found that flaw to exist. They essentially said that the short-term water supply analysis had been adequately addressed except for one issue: late emerging concerns about potential effects of the groundwater pumping and the hydrology of the Cosumnes River presented a problem.

In addition to setting aside the EIR because of the inadequate discussion of long-term water, the court also said that the county, now the city, needed to go back and take another look at potential adverse effects on fish in the Cosumnes River to the extent there might be hydrological impacts from nearby groundwater pumping. In terms of the legal principles that the court articulated, essentially a way to think of it is the court surveyed all the Court of Appeal decisions and essentially synthesized them together and announced a series of general principles, which now function as a recipe for how to write an EIR that will withstand legal challenge for a major land use plan on the subject of water supply.

This is where this integration that I was talking about occurs. Here are the requirements. First, one comes out of *Stanislaus Natural Heritage* with the principles that you've got to look at full build-out. You can't just think about near-term water demands. If you're going to approve a major land use plan, presumably you intended to build out. And if that's the case, then you need to look at all the impacts associated with build-out, and that includes supplying water for the full project.

Having done that, one has to look at the environmental impacts associated with developing or providing water for a full build-out. There's a bit of trap for the unwary here in the sense that if someone is thinking that their water supply assessment under

SB 610 will satisfy CEQA requirements, it will not satisfy this one because the water supply assessment does not need to look at environmental impacts. The SB 610 assessment is simply an inquiry as to whether water is available for a proposed development along with other planned growth for a 20-year time horizon.

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The SB 610 assessment won't tell you what the impacts are on fish, diverting X number of acre-feet for a 22,000-unit project. So, don't forget to do your impact analysis. Another principle was — and this is tailored to the facts of our case — if there is a short-term supply and a long-term supply — and that won't always be the case — you can go a little bit lighter on the analysis for the supply that won't be needed for a long time.

You can essentially do a programmatic type of analysis for that. You can't ignore it, but you don't need to do quite the searching level of analysis that you would for the short term supply. And then Item D here really comes out of the paper water cases. Roger Moore mentioned the *Planning and Conservation League* case, and earlier we heard about the whole phenomenon of paper water.

Here, the court distilled principles from those cases and essentially requires the EIR now to analyze how certain or how likely the water supply that's identified is a primary water supply for your project truly is. Is it paper? Is it ephemeral? Can you always get it when you need it? And so this is a new requirement. And I think the water supply assessment will be very helpful here, if one's required.

The legal standard seems to be, is it reasonably certain or reasonably likely? And that apparently means it doesn't need to be guaranteed. As I'll say in a few minutes based on a later case, this is a factual determination made by a lead agency which means that when it goes to court, the court in theory should be deferential to the agency in terms of its findings. If those findings are supported by substantial evidence, then the court should uphold those findings.

Then finally there's a requirement essentially where you don't have a reasonably likely or reasonably certain supply. You've identified a supply but you've identified enough challenges associated with it that you don't feel comfortable saying it's reasonably likely or reasonably certain. Then there's an obligation to look at alternative water sources. In other words, Plan A is not going to work; what's your Plan B or Plan C?

In addition to identifying Plan B and Plan C, you need to look at the impacts associated with those scenarios and also look at a potential scenario where the water runs out halfway or partway through build-out and you're left with a project that is not fully built out. What are the environmental ramifications of that? So you might have the houses but not the retail. Perhaps your traffic studies assume some sort of jobs-housing balance. If that doesn't materialize, what does that mean for the environment?

So those are the basic requirements identified by the *Vineyard* court. In the briefing there was a lot of discussion about how whatever CEQA principles were developed ought not to conflict with SB 610 and SB 221. In fact we had amicus briefs coming in against us essentially saying that under CEQA you shouldn't approve a major land use plan without a guaranteed water supply for every last house you were going to build, even if it was 20, 30 years in the future.

Our argument was, how could that be required under CEQA given that the legislature has enacted a very specific set of statues in SB 610 that allowed an agency to approve legislative level planning decisions without a guaranteed water supply? How could the court read into the generalities of CEQA something the legislature expressly declined to require when it dealt with this on a very specific basis?

The court ultimately did say, yes, these things ought to be construed together, although there technically were no SB 610 or SB 221 issues in the case. It was a pure CEQA case. Now, after *Vineyard* came out, the first case applying it was the *SCOPE II* case. Professor Paul Kibel had mentioned the *SCOPE I* case involving a water transfer. This was the EIR prepared on remand from that case.

The water supply discussion was upheld here. The water supply at issue was a 41,000-acre-foot transfer from the Kern County Water Agency to the Castaic Lake Water Agency. Although the court in a case called *Friends of the Santa Clara River* had set aside the EIR for the transfer, the court did not enjoin the transfer.

So, the transfer had been in place for several years even while a new EIR was being prepared. Because of that fact, the lead agency here said, "We think that this supply is going to be reliable even though there's this pending litigation out there." The Court of Appeals said that there was substantial evidence to support the determination of reasonable likelihood under those circumstances and specifically said, "Yes, that's a factual determination."

I'm going to wrap up my presentation with a discussion of the *River Watch* case. The backdrop for *River Watch* was that the County of San Diego had been trying to approve a new landfill for years. The Superior Court in San Diego had issued a writ setting aside the EIR for the landfill because it didn't adequately deal with the water it needed to control dust and such things.

While that EIR was being prepared, the developer went out and made a deal with this Olivenhain Water District for a 60-year agreement to truck in a bunch of water to the landfill, which was done without CEQA. There's a provision in the agreement that said it's the developer's responsibility to comply with CEQA. Really what I think was happening was that the developer wanted to have this water in hand so they could go to the county and say, "Look, we've got it figured out."

But instead they got sued for approving the water supply without a CEQA document. What the court here said was this agreement was unlawful, this clearly was a permanent decision with environmental implications, and it was related to this landfill project, and this water district should have thought of itself as this responsible agency under CEQA, should have awaited the completion of the county's EIR before taking this action.

So the lesson for the water world here is that there's a bit of a dilemma under *Vineyard* if you try to go out and lock up some water, you'll have to do your separate CEQA document in trying to lock up the water because you can't go too far down that path without a CEQA document. It's going to be hard to show a firm water supply before you have a certified EIR for your land use plan because the water agency is going to need that certified EIR when acting as a responsible agency and providing the water supply for the project.

Next, Eric Robinson is going to tell us how to respond to all these challenges. A lot of his practice involves how to find water in a water-short state with lots of litigation and you have to comply with SB 610, SB 221, and CEQA. So with that, I'm going to hand it off to him and I appreciate your time this morning. Thank you very much.

ERIC ROBINSON: Good morning. I'm happy to be here today. My topic will transition out of a discussion about the early paper water problems and the enactment of SB 610 and SB 221 and CEQA as part of an attempt to help solve those problems.

One statutory regime that we haven't yet talked about, that is in part an attempt to solve the paper water problem, is the Urban Water Management Planning Act. It was enacted in 1983. It's been in effect ever since then. There's an excellent article in your Symposium materials (see the 2010 *Real Water* edition of the GGU Environmental Law Journal) by Ellen Hanak about urban water management plans and some of these other statutes.

The purpose of the Urban Water Management Planning Act is to help significant urban water suppliers — that's water suppliers that have at least 3000 connections, 3000 households or serve at least 3000 acre-feet of water per year — do a good job of planning out over at least the next 20 years whether their existing sources of supply, their planned future sources of supply, are going to be adequate to meet the demand that's projected to arise from existing development and planned future development under the local general plans in their service area so that they can do this supply and demand kind of a balancing.

One of the themes you've heard from this panel today is the role of uncertainty about long-term water availability informing these kinds of assessments. That's one of the key issues that the architects of an urban water management plan for a water agency have to address. So far there have been two cases that have applied the Urban Water Management Planning Act, and both cases have focused on the issue of water supply projection uncertainty.

The source of the uncertainty was different in both of these cases. The first one is the *Castaic Lake Water Agency*. This is the first published appellate decision applying the Urban Water Management Planning Act. This is the urban water management plan that was at issue. This plan was invalidated because the court found that while the plan disclosed very clearly that there was a water quality threat to long-term water availability in that service area, the plan failed to clearly describe how that water quality threat would be overcome.

The problem in this case is a little bit like the problem that happened in the *Vineyard Area Citizens* case. The players who are involved in preparing the urban water management plan knew about the perchlorate water quality contamination plume that arose from an old rocket-making factory. They knew about it. It had been thoroughly analyzed under the state and federal toxic laws.

There was an active remediation program going on. Millions and millions of dollars had been invested in understanding the water quality plume issue. And so the players, the technocrats who were involved in this agency felt very comfortable projecting that there was an easy, off-the-shelf well head treatment solution that could be very quickly applied to prevent the water quality contamination problem from becoming a water availability problem.

The problem was they didn't sufficiently describe it. So the court concluded that it just wasn't sufficiently certain that there would be a timely solution to this water quality problem. The plan was invalidated, and they had to do it over. So that's the first case. Water quality uncertainty. The second case is very recent, and it's almost in our backyard here. It's the *Sonoma County Water Agency* case.

The *Sonoma County Water Agency* decision came out in October 2010 and it's a great, great teaching case. This case involved uncertainty in long-term water supply projections arising from the kinds of environmental regulatory factors that exist in one way or another in every urban service area in California from the Oregon border down to our border with Mexico.

We had what sounds to us here today probably like a relatively complicated water development and distribution system involving lots of different pieces. Multiple reservoirs, hydroelectric facilities, trans-basin diversions of water from the Eel River into the Russian River watershed through a PG&E hydrofacility. And we had all these

regulatory programs that attached and affect the operation of all these different pieces of the Sonoma County water system.

For example, the diversion out of the Eel River into the Russian River runs through a PG&E hyrdofacility that operates under a Federal Energy Regulatory Commission license, which in this case had just been renewed following completion and compliance with CEQA, National Environmental Policy Act, and Section 7 of the Endangered Species Act.

You had a full assessment of how the operation of that trans-basin diversion affected the environment and you had a renewed license sending forth instream flows and other things that Sonoma County Water Agency thought gave it a reasonable degree of certainty about what at least the next 20 years of water coming through that system would look like.

The other factors included the fact that the Army Corps of Engineers helped operate some of these reservoirs for the purposes of flood control in this watershed. For each reservoir, part of it was operated for flood control. Some of the capacity was dedicated to flood control during the winter wet season and then on top of that flood control pool, there was a water supply pool.

We had decades of Sonoma County Water Agency cooperating with the Army Corps of Engineers to operate the reservoirs for both of these purposes. They had many years of data about the yield of the system under this operation. Then we have the federal Endangered Species Act. In this case, Sonoma County Water Agency had been working with the National Marine Fisheries Service for about 10 years and also working with the California Department of Fish and Game.

The scientists came together and designed a series of studies to figure out what the listed fish at issue in this system, which was Coho salmon, needed. Now, in contrast to most of the other river systems in our state, the conclusion of what the fish in this system needed was less water, which I find sort of an interesting footnote.

It wasn't more water that was needed to help protect the Coho spawning and rearing habitat. It was less water interestingly. But you had 10 years of studies, and all that crystallized in a biological assessment that was prepared by the Corps of Engineers, because that's the federal agency that triggers the ESA Section 7 process here. And the biological assessment brought together all that information and provided a basis for calculating the water supply yield of this system while protecting Coho in the Russian River system.

The biological assessment got adopted and then very shortly after that, you had the deadline for adopting the urban water management plan. With the ESA Section 7 consultation process, there was no time to bring that to the final step, which would result

in the issuance of a biological opinion, jeopardy statement, reasonable terms and conditions, things like that.

By the time the urban water management plan had to be adopted, you had a biological assessment, which was the best estimate of how the system would operate while still avoiding jeopardy to the listed species. You had all these different factors, and then you had in addition to that the State Water Resources Control Board's continuing jurisdiction over the existing water rights permits that authorized the operation of this water development system.

In addition to the continuing jurisdiction over the issued water right permits, Sonoma County Water Agency was developing a planned future water supply in order to meet continued growth and development in its service area. It had applied for a new water right permit that would allow it to use the existing reservoir system and re-operate it in a little bit different way in order to come up with about 26,000 acre-feet of additional yield.

They had about 75,000 acre-feet of yield under the existing water system and the existing water rights and they were in the process of trying to get approval from the state board for an additional 26,000 without the need to construct new infrastructure, just re-operation. So these are all the regulatory programs or the sources of regulatory power that were being brought to bear on the operation of this water supply system.

And what Sonoma County Water Agency did was it acknowledged and disclosed where it was with respect to all of these different regulatory programs. Then it made a projection on the amount of yield the agency thought it would get in light of all these regulatory requirements and explained the basis for that water supply projection.

In the trial court, these factors were alleged to make the supply projection fatally uncertain, so uncertain that the urban water management plan is inadequate because as we learned earlier in some of the earlier CEQA cases and in that first urban water management plan case, the court was very concerned that the urban water management plan not be overly optimistic in the amount of water that was projected to be available over time. Why?

Because the urban water management plans are to inform the land use planning decisions by all of the cities and the counties in Sonoma County Water Agency service area. So the court was very concerned about avoiding a paper water problem. It invalidated the water management plan basically for being overly optimistic. The trial court also said that this plan's supply projections should have been submitted as a matter of mandatory legal procedure under the law for review and approval by the State Water Resources Control Board, FERC, National Marine Fisheries Service, and the Army Corps of Engineers, all of which have this regulatory authority over various aspects of the project.

The Sonoma County Water Agency took this on appeal to the First District Court of Appeal here in San Francisco and the Court of Appeal reversed. For folks who work for water agencies, we're wrestling with all these environmental regulatory programs every day and are thoroughly engaged and involved with eyes wide open about all these sources of uncertainty that our clients have to navigate in operating their systems, in planning to add to their systems. With the Sonoma County Water Agency decision, these folks finally feel like they got through, and they got a Court of Appeal to acknowledge that there's always uncertainty in water supply projections.

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It is not possible to have absolute certainty in the amount of water that will be available from an existing water supply project and certainly there's got to be uncertainty on the amount of water that will be available from a planned future water supply project. And so this holding is one that the water agencies very much appreciated.

We've talked about the paper water problem, the "show me the water" statutes, some of the key CEQA case law principles that govern avoidance of paper water, and a little bit about the Urban Water Management Planning Act. So at this point, it's probably a good time to sort of sit back a little bit and think about where our panel is headed on the issue of making paper water real, making water real.

This is sort of a conceptual statement that our panel is trying to address. Given these variations in water availability from year to year and from drought cycle to wet cycle, which I think Randy Kanouse pointed out with some of those graphs, given changing assessments about how much water is needed for instream flow purposes—which every year we get new assessments.

We get Delta flow criteria. We get new biological opinions. They get set aside because they're inadequate. So there's constant change in these regulatory activities affecting water availability. A lot of that change is driven by litigation, sometimes with the purpose of creating uncertainty in whether water will be available from that supply. So that can't be relied on in the land use planning process.

The question is, given all these factors, how do you assure long-term water availability for the workplaces and the homes that are needed to accommodate what is undeniably ongoing population growth? As a practitioner, when we roll up our sleeves we're not talking about working through these things at a conceptual sort of an academic level. We're trying to actually make sure that when a land use proposal works its way through the process there's going to be the water to support the build out of that project.

As a practitioner, when we roll up our sleeves we're not talking about working through these things at a conceptual sort of an academic level. We're trying to actually make sure that when a land use proposal works its way through the process there's going to be the water to support the build out of that project.

The test that we navigate day to day, as we're helping work for real clients on these matters, is easily crystallized and simply understood as the standard set forth in SB 610 and SB 221. And that's the standard bulleted up here. The rest of our presentation is going to focus on approaches for satisfying that standard. We're going to reach back to a couple of the basic principles, one that Jim Moose just hit on, and that is this objective of making sure that you can demonstrate at least a reasonable likelihood that wet water is going to be available when it's actually physically needed.

In that respect, it's important not just to imagine that there's this thing called a development project approval. You need a more nuanced sort of an appreciation of how these laws apply to land use planning decisions, to project approvals because there's a great continuum of land use planning. On the one hand, you have general plans; the constitution for land use and development in a county or a city. This is the highest, most general — in some ways — the vaguest level of land use planning action.

When you're doing a general plan update, because you're not authorizing construction of a house or a factory or a new public park, the construction of which would actually need water, your planning about where you think those sorts of things ought to be within the land use agency's jurisdiction, which is entirely different from the opposite end of the land use planning continuum, where a land use agency is approving a final subdivision map, which if approved allows the proponent of that subdivision to pull building permits that allow construction of the homes, workplaces, parks, and other amenities that actually, physically create the water demand that you have to meet.

As you go through and look at a particular land use planning proposal, a specific plan for a new development project, one of the things that you need to look at is where are you going to find the water to make sure that it's there when it's needed? Historically, you heard at the beginning of our panel that folks were looking at development of new reservoirs as a reasonably foreseeable event that would provide the water when needed.

More recently we've been looking more at water transfers like the one that we were just talking about, the 41,000-acre-foot transfer, to provide the water to make sure it's there when needed. Desalination projects in coastal cities — and most of the population of the state is coastal — can be an option. Groundwater development in conjunctive use like that issue in *Vineyard Area Citizens* case can be an option.

And increasingly the use of recycled municipal wastewater to meet at least certain exterior landscape irrigation demands, that's a big option. There's even indirect potable reuse in some cases. Then of course there's conservation. Using less water to support the same land uses frees up water to accommodate new parks, new public facilities, homes, and workplaces.

What we're finding as we work on real projects through this system is that conservation nowadays is the first place we look. It's the first thing we look at. You look at conservation within your project and you look at conservation within the service area. That's the first place to look to make sure there's going to be the water. And conservation actually is the analytical or the conceptual foundation for this new approach to handling water for development issues.

It's called water-neutral development. Or some of us call it zero footprint water impact and that approach starts with minimizing demand for the proposed new land use. For the new subdivision, for the new specific plan, it's designing that new land use in significant detail so that you're building conservation into the project at an organic level water consciousness. You are minimizing the demand of that project.

You're putting in certain appliances. You're specifying what kind of fixtures are going to be used. You're specifying how much extra landscaping there's going to be. You're specifying what kind of landscaping. You have drought-tolerant native California plant palates. And that's all locked down in detail so that you know that your demand is going to be minimized.

Once you've minimized your project demand this idea of water-neutral development then requires you to look beyond your project because of course no matter how good of a job you do minimizing your own project's demand, you're still going to have a net amount of water demand. And the idea of water-neutral development is to cancel that out by going off the project site, somewhere else in your water supplier's service area, and finding ways to reduce existing demand by an amount that is at least as great as your project's net demand after doing your own internal conservation.

That's the idea of water-neutral development. And with that, I'm going to take a little breather, and I'm going to hand it back to Randy Kanouse because Randy's agency, East Bay Municipal Utility District, has one of the best examples of how this water-neutral approach to development in avoiding paper water issues is being applied. And with that, Randy, I invite you to come up and take it from here.

RANDELE KANOUSE: Thank you, Eric. I could talk for days about how proud we are of this program, this arrangement that we've reached with four very prominent developers in California, KB Homes, Ponderosa, Lennar, and Shapell. We reached an agreement on 1400 homes, half of which have been constructed, and the agreement we reached with the developer was that they would create two gallons of water for every gallon that the home would use.

So, it's more than just a water-neutral development. It actually adds water to our water system, and it's all via conservation as Eric Robinson described. The jury is out on how effective it is. We're measuring compliance right now. Compliance is going to be huge because it's one thing to say upfront that you're going to accomplish this, but when the home gets sold to a family and then resold to another family and families say, "Hmm, I'd like lawn."

Everywhere I've lived in California my whole life we had a quarter acre of lawn. So I'm going to bring in lawn, and I'm going to start slowly but surely undoing the things that were agreed to upfront." So those are important issues. I do want to note we're over time. So I'm not going to talk about our program anymore than that. I do want to note the Planning and Conservation League several years ago sponsored a bill that would have required all new development in California to be water-neutral via this conversation model.

ERIC ROBINSON: I apologize for not being able to spend more time on this. I mean this water-neutral development example is something I talk about to every development project proponent and every water agency client that I have around the state. And one of the reasons is it's great in service areas where there's high water use and there hasn't been an ethic of conservation that's tightened down the per-household water use.

Because it's in service areas like that you've got all this low-hanging fruit where you can do off-site conservation. You've got cemeteries, golf courses, playing fields, large landscapes that are all turf and all irrigated with potable water. And it's in situations like these that you can convert some of that to artificial turf playing fields or take the large irrigated landscape off of potable water irrigation and put it under recycled water irrigation and maybe solve a waste water discharge problem at the same time.

These are really good things in a lot of service areas, but there is limited applicability over time. Right now, not every service area is going to be able to do water-neutral development, which is one of nuances that any legislation is going to have to deal with. And over time, as service areas that do have potential for water-neutral development actually implement, we're going to exhaust that. We're going to be at the end, and demand is going to go hard.

There's not going to be much more you can do. Even in situations like that, that foundational aspect of the water-neutral idea, the minimizing at least your own project's demand, that has application everywhere. Every project I work on anywhere, that's where it starts. And it's not something that the proponents of development and that the land use agencies and the water agencies in my experience are having a hard time with.

They're embracing this as a way to help make their projects better. It also happens to improve legal defensibility when the development project litigation happens at the end of the approval process. So after you've done that foundational aspect of the water neutral idea, which is minimizing your project's demand through all those tricks, you still have an increment of water demand that you have to meet, there's a range of ways that you can try to bridge that gap.

One of them is this idea some people call a "green water transfer." Now, there's a bunch of different approaches. I think this is an interesting one that I want to take just a moment to try to describe for you. The assumption here is that we have a water supply system. It could be the State Water Project or a Central Valley Project or it could be a large regional system like the San Francisco Public Utility Commission's Hetch Hetchy system.

So you have the water project, and off that water project it delivers water—but let's keep it simple—to different agencies. Now, one of them is an agricultural agency. It's an irrigation district and this project also happens to serve a big municipality. Each of these two different water agencies has a contract entitling them to take a certain amount of water off that system.

The urban contractor is fully using all the water reasonably available under that contract in light of the fact that deliveries go up and down based on regulations and variations in annual hydrology and perhaps over time because of climate change. So the urban contractor thinks it's tapped out, but there's this great infill development project. SB 375, that climate change law, driving infill development.

This particular urban contractor, the city, has a big infill thing. Maybe it's a plan for a bunch of different redevelopment that's going to happen along to restore their old Main Street. But there's no water for it. It's not sprawl. It's infill. No water for it, though. What do they do? Well, maybe the proponents of that redevelopment activity can get together, pony up enough funds to pay the irrigation contractor to install more efficient irrigation infrastructure that can line delivery ditches so that there's less seepage.

Now, there may be some adverse environmental impacts from that, but there are all these different things that the irrigation contractor might be able to do to conserve water. A drip irrigation, for example. So the urban agency with the help of the proponents of the redevelopment project offer to pay the irrigation contractor to install efficiency measures.

And those measures are projected to free up, let's say, 20,000 acre-feet of water. Because it's a pretty big irrigation district with very little efficiency measures in place right now.

What happens in a green transfer is that at least a portion of that conserved water becomes available for a new use, and a portion of that water is then transferred to the urban water agency, which uses it perhaps to improve its overall water reliability during droughts to benefit existing customers in that service area, to benefit existing industries that need a reliable high quality water supply. And a portion of that water would go to the new development projects that bankrolled the conservation practices in the irrigation district.

Now, there's all different iterations of this. Some of that conserved water that doesn't go to the urban contractor maybe stays in the irrigation district to improve water availability there or maybe some of that goes to the stream system that's supplying the whole water supply system to provide an environmental benefit there. So you can get three benefits. You can do infill. You can improve agricultural irrigation efficiency and maybe improve reliability, and you can put some water back into the stream system that's sustaining all of this.

That's just an example of one of these tools that we can use to help close the gap when water-neutral development doesn't get you across the finish line. I'm told I'm out of time. I'm just going to put these bullets up. These are a list of lessons that we conjured up. And I think Roger Moore probably wants to kick off a little question and answer. So with that, I'll hand it over to Roger.

ROGER MOORE: We are over time and my apologies for that. I am hoping that we can get some questions from the audience, though. Would anyone like to begin?

QUESTIONER: [Question related to SB 375 and open space]

ROGER MOORE: Did everyone hear the question or should I summarize? The question has to do with SB 375 and possible tensions between, for example, transit-oriented development and the water targets discussed by our panelists.

QUESTIONER: Specifically the CEQA exemption where you're not going to have the analyses mentioned earlier.

ROGER MOORE: For example, the CEQA exemptions. We have an infill exemptions and other exemptions.

ERIC ROBINSON: I guess my point that I want to make clear is more general than the nuts and bolts mechanics of a project that might be SB 375 consistent and how that might relate to whether or not there's CEQA review and what the project's water use might look like in the absence of CEQA review or something like that. The point I'm trying to make is that there is manifested in SB 375 and other aspects of California law open space policy that has been debated.

It drives toward infill development. It's anti-sprawl policy. It's all the policies behind re-development and changing old, previously developed areas into something new so that we can get more use out of that. And what I'm suggesting is that even infill projects can have water availability problems and that this issue that we heard about at the beginning of our panel about water being connected to sprawl, that isn't always the case.

Even infill development projects, which we all probably support unless they're in our backyard, have some kinds of issues. And a program like that green water transfer can be one of the tools that's applied to help get that redevelopment to actually happen because it won't happen if the water isn't there in order to serve its build-out. That's more of the general point I was trying to make.

JAMES MOOSE: I don't see a big tension. The CEQA exemptions under 375 are extremely narrow and probably apply to a tiny universe of actual projects, but in general, to the extent that SB 375 favors higher densities, that tends to reduce per capita water consumption. So the more people you cram into a certain area, the fewer gallons per day they're going to use.

They're going to have less landscaping. So actually I think the SB 375 requirements tend to complement efforts to be water efficient.

ROGER MOORE: Other questions? Yes?

QUESTIONER: I'm curious how the *Vineyard* CEQA decision reconciles with SB610 and the 20-year window.

JAMES MOOSE: We should restate. The question is, under *Vineyard*, do you need to look more than 20 years into the future even though under SB 610 you only need to look 20 years out? I think you need to look at the full build-out under *Vineyard.* I think that's the holding of the case. All I know is that a recent decision called *Cherry Valley,* which I think confused the two principles, that *Vineyard* only requires you to look 20 years out. That struck me as incorrect.

Twenty years is an artificial line SB 610 drew and I don't think the Supreme Court drew the same line.

ROGER MOORE: Yes?

QUESTIONER: I'd be interested in Randy's thoughts on the *CBD vs. San Bernardino County* decision and whether or not you've read that it had to do with an open-air composting project that was greater than 40 acres and required a water supply assessment, although there was no effective public water supplier and it was about a very small amount of water use. Do you believe that was of the true intent of SB 610?

RANDELE KANOUSE: I'm sorry. I am not familiar with that case. And so I'll leave it to others to respond to that question.

ROGER MOORE: I think the question is, as the author of these laws, did you intend it to apply even to very small projects without much water demand if they met the description of a processing plant?

RANDELE KANOUSE: I think if we had our druthers, the statute would have been a stronger statute. But as I'm sure each of you know, what we do in the state capital is a compromise among various interests. So the fact that there is as large a number of housing units that trigger the assessment under SB 610 to one should have been a smaller unit.

And there are many other provisions of the statute that if I had my preference would be stronger, but it's a function of compromise. What we are proudest of — what I am certainly proudest of — is the number of water planners and city and county planners who I have met over these last 10 years who've said, "You know, I never knew the name of my counterpart," the city planner not having a clue who was the water man, not having a clue what the water utility was doing.

Just living in blissful ignorance that somehow the water would be there and to have hundreds of these people from all parts of the state say, "We're now talking to one another." This is the result, despite the predictions in the years before this bill became law that it was going to stop all development in California, despite the dire predictions of what horrible things would happen if these two bills became law.

And I'm proud and pleased that what seems to be occurring is better communication, better coordination between developers, land use agencies, and utilities in that utilities

are putting things on the record so that customers and interest groups and affected parties have the opportunity to know that their expectations on water supply are being protected as we approve new development in this state.

what seems to be occurring is better communication, better coordination between developers, land use agencies, and utilities in that utilities are putting things on the record so that customers and interest groups and affected parties have the opportunity to know that their expectations on water supply are being protected as we approve new development in this state.

ROGER MOORE: I think we are very close to getting the hook here, but I hope we'll have time for one or two questions. Yes?

QUESTIONER: I have a question for the panelists. You were talking about making a determination of the water supply availability. After you completed that whole process and successfully tested—gone through the test and litigation and otherwise, at that point what level of certainty does the project proponent have as they look towards the future and they start developing the plan?

Is there a guarantee for them at that point that they are covered and protected? Or if something changes dramatically, do they have to revisit that whole analysis at some future date?

ROGER MOORE: I think the question is once you've gone through your SB610 compliance and your CEQA *Vineyard* compliance, at that point does the developer have a guaranteed water supply?

ERIC ROBINSON: The answer to that question depends on what the nature of the initial land use approval was as to whether or not you're done looking at water availability. For example, if your land use approval is only a specific plan, that doesn't allow you to build anything. You've still got to go through and do a whole lot more planning. There's going to be at least another discretionary land use agency approval where the agency is going to have to take another look at the water supply availability as it exists at that time.

And so with these laws, you are constantly checking in to assess what the real water availability is. And the closer you get to building demand, to getting that building permit

allowing you to construct something that's going to need water or a family's going to need water or a factory's going to need water or a pool complex is going to need water, the more certainty you had in order to get past that gate so that when you do go through the gate, you've got high confidence that the water is going to be there.

And also no proponent of a public facility project, like a new park or a pool complex or a housing subdivision is going to spend the millions and millions of dollars to build that project unless they know the water's going to be there. Because if the water's not there, at least on the private side, you're not going to be able to sell the project. Nobody's going to move in.

So there's also a bit of self-regulating aspect to this, which is pretty much 100 percent lost when you're talking about, like earlier in our panel, the threat of paper water. There is some self-regulating aspect of this, at least nowadays.

RANDELE KANOUSE: Just one comment, Roger. I skipped over my discussion of water-neutral development because of the time. We were running late. But during the break, if any of you are interested in our experience with that and interested in the efforts of PCL to make it the law of the land, then seek out Charlotte, seek out me sometime during the day.

ROGER MOORE: If there are other questions or if you'd like to talk, feel free to come up and engage the panelists. Many thanks to them and to you.

ANTHONY AUSTIN: Thank you very much, gentlemen. Let's take a 10- to 15-minute break. Our schedule is pushed back just about 15 minutes, but thank you very much for your presentation. We appreciate it. I wanted to let you know that, for those of you who registered for MCLE credits, we have copies of the 2010 GGU Environmental Law Journal symposium edition on *Real Water*. It includes articles written by Randy and Jim and highlights what they talked about. So they're upstairs with the registration materials. Thank you.

KEYNOTE SPEAKER:

Cathy Crothers | ***Acting Chief Counsel, California Department of Water Resources***

ANTHONY AUSTIN: Up next we have our keynote speaker to tie in all the four themes of today's event and shed some additional light on her experiences. Cathy Crothers is the Acting Chief Counsel of the California Department of Water Resources. She has 20 years of experience with the department, and her primary focus has been on Delta water issues, including work on the Bay Delta Conservation Plan, State Water Project, biologic opinions for endangered salmon and smelt. As the Chief Counsel, she provides legal advice to the department director, and also oversees the department's 34 attorneys, who work on a broad range of issues, including water rights, water transfers, integrated water management, dam safety, state contracts, and so forth.

Suffice it to say, Ms. Crothers' background and her expertise is quite germane to today's topic and theme, and I appreciate her coming today and being with us and providing her insights. Please welcome Ms. Cathy Crothers.

CATHY CROTHERS: Good morning everybody, I'm Cathy Crothers, I'm the Acting Chief Counsel at the California Department of Water Resources. As Anthony said, I've been there for 20 years and work primarily on the Bay Delta environmental program issues that the department is involved in. And as he mentioned, it is really quite relevant to today's topic, the "End of Paper Water," which I understand as ways California's water management can be improved upon.

Some of the challenges that are affecting the state in terms of its development of water and sustainable water reliability are focused on key issues, one of them being the Bay Delta, its ecosystem, and water supplies that pass through there. Another involves the issues related to water supply reliability, the growing population, demand for that water in the state, and the pressure on our water system infrastructure. Those things are aging and need to be addressed.

The areas that get stressed most during periods of drought are issues that we've just faced in the last three years, with a fairly severe drought — some say comparable to the 1977 drought where we saw the stress of those dry years on our systems. Lastly, it's the climate

change effects that we can look to in the future that we're all concerned about and trying to get a handle on.

The Delta challenges. I know that many of you have looked into some of these challenges, and they include things such as the islands in the Delta that are surrounded by levies. Those levies were built over 100 years ago. In the last 100 years, our department — who tracks this kind of stuff — has noted there've been 162 levee failures in the last 100 years, and that levies are subject to natural events such as earthquakes and changes in climate and floods. We had a break in one of the Delta levies on an island called Jones Tract in 2004. Those are issues that we have to address in the future.

The declining species in the Delta is another area, the litigation has been going on for over 10 or 15 years, and relates to the salmon and the Delta smelt that occur in the Delta. The declining species in the Delta, known as the Pelagic Fish Decline, began to emerge in the early 2000s, was somewhat identified in 2003, and it has been studied ever since. We're now in 2011, and we're still trying to get a handle on how to deal with the declining fish species. In this graph, you can see some of the trends that have been tracked in these pelagic species. The pelagic species are those that live in the open-water areas of the Delta, the Delta smelt being the most renowned, probably.

In 2000, you can see a dramatic decline based on a catch per unit of effort. We have these Kodiak trawl boats that go out, net, and count the fish in the Delta. The Kodiak trawl data tells us these trends. The Delta smelt fish that's listed under both state and federal Endangered Species Acts. The long fin smelt is a fish in the Delta that's listed just under the state Endangered Species Act.

I'm going to go back for a second. I wanted to note something on this map. This is a map of the Delta, and in the map, you can see some red lines traversing the Delta, and then at the southern part of the map — the lower part — red lines going out down south. Crossing the Delta there are several water supply structures — the McCullough Aqueduct, and the Hetch Hetchy Aqueduct more outside of the Delta but down in the lower part of this map. There is the Delta-Mendota Canal that feeds the Central Valley Project supply of water down south, and the State Water Project California Aqueduct also goes to the southern part of the state, but there's a South Bay Aqueduct going over to Santa Clara. And then there's also Contra Costa Canal, which goes over to the Contra Costa area.

As you can see, the Delta has major infrastructure delivering water to areas of our state, both east to west and north to south. That makes the Delta a very significant component of California's water supply and water reliability issues, and also a key factor in the future of California water and water distributions.

The hydrology of the state is a major factor in what affects the future of California's water supply, and this graph is of the last 15 years of variations in water supply. We label

the water supply based on the water out of some major rivers – the Sacramento River, the San Joaquin River – and we look at these river flows, create an index, and label the water year according to the index and the flows out of these tributaries. And so as you can see, we were in a drought period in 2007. You can see the D stands for drought, and then C are the critically dry years that we categorize when a year is extremely dry. Allocations to the California State Water Project in that year were around 35 percent.

Those series of years create a lot of stress on our infrastructure and the water supply to the state, and it's a factor for the sustainable water supply of the state. The Department of Water Resources goes out and measures the water availability through things such as going up in the Sierras, taking readings in the snow pack, seeing the water content in the snow pack, and making estimations on the water availability, and they do that throughout the year. They start in December and they do this monthly until May, which is somewhat towards the end of the main water year, in April, May.

The water allocations for the State Water Project were announced yesterday and will be 60 percent for this year, which is a big increase from what it has been over the last several years. I can say we're out of the drought period, based on that supply. We are in January, so there's still a couple of months left, but all indications are good for this year's water supply. The reservoirs are full or filling, and that's a condition we haven't seen in the last few years; that's an improvement.

The other factor that's going to be a big consideration in the future of California water supplies and its reliability is the effects of climate change. Our department is on the Governor's Climate Action Team, and we're one of the agencies responsible for helping understand the impacts of climate change by taking data from the things that we do, such as the snowpack, and try to understand the historical places we've been with water supply, and where potentially we'll be in the future. And we've seen that there is a diminishing snowpack, and that what we'll see with climate change in the future is a large variability in weather patterns. There'll be more wet years, and maybe more severe dry years. We've seen rising sea levels already. All of these things lead to increased uncertainty in what the water supply in the state will be.

The state and our department, ever since 1957, has been putting out a California Water Plan, which is to help local water agencies in understanding the situation of water statewide, areas of availability, and areas of need in the state. This is Bulletin 160, the California Water Plan. Our last plan was updated in 2009, one of the first years where we made use of an advisory committee. We now get input from water agencies throughout the state, and we have a collaborative process where we collect information from other water agencies and try to understand better what the needs are of the state and how we can best address them.

The California Water Plan looks at the water supply, the reliability of California's water supplies, and also the ways in which we're going to be able to meet that. A key issue that

we look to in the future is the implementation of integrative regional water management, an important area that our department is involved in which I'll talk more about in a few minutes. Another part of this initiative to improve our reliability, is to improve the infrastructure of the State Water Project as well as local water projects. We are looking at improving water efficiency and protecting water quality, and through all these things, we'll improve our environmental stewardship of our water supplies in the state.

The Integrated Regional Water Management Plan is a key program that is important to all of California to ensure that we will have sustainable water supplies. There has been, through Prop 84, $1 billion provided by grants and loans to local water agencies to work on these regional integrated water management concepts.

The Integrated Regional Water Management Plan objectives are there to help with developing common understandings of what the conditions and issues are for using water in the state, and integrating those resources to make more efficient use of them, better protect them, and improve our ecosystem values. It helps to reduce costs and maximize the value of our water. All of these things are going to lead to sustainability of our water in the future.

These are the tools that we use. You've heard a lot about conservation at the local and statewide level. I guess there's some question about what it means for conservation, and certainly that's a key area that water management has to consider. We're looking at increased storage in the state that can be used in an integrated way in different regions. Water recycling may be a tool. Conjunctive management can be a tool, which is using your surface and groundwater sources in a manner that makes the most use of them, sustains them, and avoids groundwater overdraft while helping with water quality. There's other things, such as floodplain preservation, to help water quality, the environment, and watershed management.

One thing about the Integrated Regional Management Programs I think is important is the funding that the state provides to the state programs. Also important is the state funding, such as through Prop 184, to facilitate this integrated regional management planning. We're providing money to the local agencies that helps them get started on these programs, because they're expensive. You're looking at maybe new infrastructure that's broader than an individual city or county could do on their own. That's a key point about how integrated regional water management will work, we must provide funding to help these things occur.

The Bay Delta Conservation Plan is a plan that's been in the works since around 2006. I was there when they decided they were going to shift from the CalFed Program, which maybe many of you worked on, into a more focused Bay Delta Conservation Plan that was designed to address endangered species concerns in the Delta. Under the state and federal Endangered Species Acts, the Habitat Conservation Plan, and Natural Community Conservation Protection Planning Act were to be the basis for developing a plan

that addresses both the ecosystem in the Delta and also water supply reliability. Those two components are the focus of this group that started in 2006. We've had a steering committee working together to come up with a plan that'll address the state and federal ESA needs under these planning acts.

I thought I'd give you a few highlights of what the Habitat Conservation Plan is looking like. It's in the draft stage. In November, a draft of the BDCP was put on the website for the Bay Delta Conservation Plan. About a month later, the state put out a highlights document that's meant to help people get a more readable version of the actual BDCP draft, which is quite large. It's like a huge environmental impact report. In the BDCP, or in this little highlights document, you'll see some of the conservation measures being proposed. These are the habitat restoration concepts at this point, and these would all be analyzed in an environmental impact report, and impact statement. They're looking to improve channel margin habitat for fish, up to 20 linear miles of the margins off the levies in the Delta. They're looking to improve floodplain with new floodplain restoration for fish habitat, up to 10,000 acres in the Delta, and always enhancing existing habitation. There'll be improvements to riparian habitat, and also to tidal marsh.

Many of you have heard about the conveyance facility that's being proposed. We call it Options. There's an east, a west, and a down the middle option. The east and west would be a combination of a pipeline aboveground and tunnels belowground. The option through the middle is an all-tunnel option. The all-tunnel option would be the two side-by-side tunnels 33 feet wide in diameter. They'd be drilled down below the Delta, over 100 feet down below the Delta, and would go from up there in the northern part where you see it hooded, all the way down to California State Water Project pumping facilities.

Along with all these other management options, there's also the legislative components of helping to improve water management in the state. You're going to hear more about this in a panel later, so I'm not really saying much about this. But in 2009, there was legislation enacted that addressed a new governance in the Delta. It created the Delta Stewardship Council and Conservancy, and it provided more funding for certain management for the Integrated Regional Water Management Programs. It established some assistance with groundwater monitoring and other efforts, like reinvigorating the California Water Commission.

To improve on the future of California water supply and sustainability and make this paper water issue a nonissue, we should complete a Bay Delta Conservation Plan that addresses the ecosystem and water reliability issues in the Delta, because the Delta is so key to transferring water through our state east to west and north to south. And we must focus on these integrated resource management tools that would improve the efficiency of our water use, our conservation, and promote things that would make the most use of our water and share the water in reasonable ways that would make it go further, such as the conservation efforts that others have already mentioned.

To improve on the future of California water supply and sustainability and make this paper water issue a nonissue, we should complete a Bay Delta Conservation Plan that addresses the ecosystem and water reliability issues in the Delta, because the Delta is so key to transferring water through our state east to west and north to south.

And finally, we should improve these policies for financing for water management programs; that's also the key issue, and especially with these budget times, I know that's going to be a difficult one. So with that, I'd be happy to answer any questions that you might have about the department's programs up to this point. Yes?

QUESTIONER: The integrated water management, how tied is that to actually trying to lessen reliance on the Delta from your exporters? You didn't have that up there as a point, but I think it's part of that, isn't it?

CATHY CROTHERS: The question was, if we have an innovative regional water management program throughout the state, how does that help to lessen reliance on the Delta, or does it?

I think it's going to be difficult to not have the Delta as part of the water supply system of the state. The State Water Project is such a key facility, and the question is, how much water do you transfer through the Delta? I don't think it's that there will not be any reliance on the Delta structures. I don't know how many of you are familiar with the infrastructure that deliver water from north to south, but the huge reservoirs up in the northern part of the state Shasta, Oroville, Folsom are storage water. There's also water taken out of the skid stream sources, those come through the Delta and transfer into the aqueducts. When you do that, you're pulling water from the north to the south part of the Delta with the pumps that are located in the southern part of the Delta.

And that's been the controversy, the effects on fish and how you deal with that, and the studies over the many years have been looking at those things. There are other complicating factors, what we call other stressors, such as toxics and invasive species, other things that are affecting that area of the state and the Delta.

All of those problems have to be addressed to improve our water supply and reliability in the Delta if we are to maintain the fish species that are in the Delta. So, we're not going to be able to separate ourselves from using the Delta as a water conveyance area, because we transfer water — not just the State Water Project agencies, but others — and those systems, I think, are going to have to be maintained. The levee systems are part of

that, because what we have now in the Delta is a manmade construct of islands that are surrounded by levies; that system maintains a certain water quality. As we saw when the levies broke at Jones Tract, salinity can intrude into the Delta and affect our water quality. Those who are using water out of the Delta have concerns about that.

Are there other questions related to this?

QUESTIONER: I saw that in the one slide about the Bay Delta Conservation Plan and the potential tunnel through the Delta, you mentioned the actual size of the tunnel. The actual size of the project hasn't been determined yet, though, isn't that correct? I mean, there isn't really a proposed project yet?

CATHY CROTHERS: Right, it's conceptual at this point because it's a design that's going to be in the Bay Delta Conservation Plan document's draft. There is a draft out there that will have a diagram that will show you two tunnels underground that are in concept 33 feet wide. There are two of them because for maintenance purposes, the engineers designed things with redundancy.

What you see will be a draft plan, and partly of what will be constructed; the size of it will be one consideration, but the amount of water you pass through is another consideration. You can see there are different ways to focus what the project will look like, and there's lots of variables in this project. It has taken three and a half years to get to a point where we're still at a draft document, and this year, in 2011, there's a big push to get that draft to a true draft that will be out for public comment. Even though something was published on the website in November, that really wasn't a draft ready for public comment. It was put out there for information purposes. Does that answer your question?

But, you can see that document online, and you can get an idea of what they mean. These are options that are being proposed at this point.

Okay, I'd like to take one more question.

QUESTIONER: Thank you. You mentioned that there have been 162 levee failures in the last 100 years. What qualifies as a "catastrophic" levee failure?

CATHY CROTHERS: The 64 percent chance of catastrophic failure. That was from the Delta Risk Management Strategy Report, and what I would say that meant is, you're going to end up with significant salinity intrusion. So, if you had, like you said, a levee break like at Prospect Island, there was a levee break high up north in the Delta maybe that's not considered catastrophic in terms of the impact. But if you had

something in a Delta island that was more central, and that breached and it was hard to control, I think you would consider that a serious concern. Is that what you meant?

QUESTIONER: Yes.

ANTHONY AUSTIN: Thank you very much, Ms. Crothers, we appreciate it.

PANEL 2: INCREASING CONSERVATION AND EFFICIENCY OF CALIFORNIA'S WATER SUPPLY: MAKING DO WITH LESS

MODERATOR
David Sandino | *Texas Tech University School of Law*

PANELISTS
Andrew Hitchings | *Somach Simmons & Dunn*
Dr. Peter Gleick | *Pacific Institute*
Mary Aileen Matheis | *Irvine Ranch Water District*
Jason Peltier | *Westlands Water District*

ANTHONY AUSTIN: We're going to go right into the second panel on Increasing Conservation and Efficiency of California's Water Supplies. I'd like to invite both Beau Correia and Melosa Granda, our student co-chairs from GGU to briefly introduce the panel and our panel moderator.

MELOSA GRANDA: Good morning, my name is Melosa Granda.

BEAU CORREIA: And I'm Beau Correia, thanks for coming.

MELOSA GRANDA: We're law students here at Golden Gate University, and we're co-chairs of this panel, which is called "Increasing Conservation and Efficiency of California's Water Supply: Making Do With Less." I'd like to read a poem, actually, by my eight-year-old neighbor Joaquin Hernandez, because I think it's important to remind us of the intergenerational responsibly that we have to zealously conserve California's water. I also find it helpful to express very simple concepts that are inherent in the very sophisticated explanations that we're hearing today.

So with that, a "Water Conservation Poem: This poem is about conservation. To help, it'll take a lot of determination. Water saves us from dehydration. Some people think this is an exaggeration. Water helps plants grow. After storms, we can see beautiful rainbows. Without water, things will wither and die. Water is limited, I will not die. All earth depends on water to survive. When you wake up, you may use water to feel alive. When you waste water, think about this first: we also use water to quench our thirst. We use water to wash our dishes, water is where we keep our pet fishes. I hope you are listening to me, I'm begging you on my knees, conserve water please."

BEAU CORREIA: Our moderator today is Mr. David Sandino. He is an associate professor with Texas Tech School of Law. He teaches water law, environmental law, and real property. He was appointed by Governor Arnold Schwarzenegger to serve as Chief Counsel for the California Department of Water Resources from 2006-2010, and during his 20-year career at the department, he worked on water, environmental, and energy issues. Thanks for coming today.

DAVID SANDINO: Good morning and welcome to the conference. For how many of you is this your first water conference? Raise your hand. Well, I want to give a special welcome to you. You've landed in a warm spot, and this is a good place to be, because this is one of the best one-day water conferences, in California, safe to say. Before I get started I'd like to thank the students for all of your hard work in organizing this conference; I understand after lunch you're going to receive an award from the ABA for acknowledging all the hard work in the past, so congratulations to you.

It's my pleasure to have this opportunity to serve as moderator for this panel on "Increasing Conservation and Efficiency: Making Do With Less." It's a topic that I think is both timely and also one that has a consistency about it, because a couple weeks ago, Governor Brown gave his inaugural address. I listened closely to what he said, and he said that he reviewed all the previous inaugurals over the last 20, 30 years, and they all had virtually the same theme. They all talked about education, crime, budget, and the last thing he mentioned was water.

I was very encouraged to hear that, because being a water person, I'm always interested in what the governor thinks about water, but I noticed he didn't give a lot of details about what his water vision was going to be. Time was of the essence, I'm sure, in his presentation, so he's going to fill that in as he goes forward. But I think if we ask our panel what water issues are, and what are some of the essential pillars of water, I think they would all agree that water conservation and water efficiency is a key component.

I had a long presentation that I'm going to skip over, because time is of the essence. I do that, by the way, in class. I put up PowerPoints, and I ignore them. It's a good teaching technique. So, I'm going to do that in this case too, and what I'm going to do is just jump right to the essence of my presentation. I'm going to do what any good student does, and any good professor, go right to the source as to what water conservation means. I went to Wikipedia.

And this is what the wiki said about water conservation. It says, "Water conservation means improved water management practices that reduces or enhances the beneficial use of water. A water conservation measure is an action, behavioral change, device, technology, or improved design or process implemented to reduce water loss, waste, or use." That's what it said.

I could get into more details, but I'm not going to, because what I want to do is have our panel have a chance to give the details, because that's what they're here for. So, let me introduce our panel. Seated at the far edge, to the left—my left, your right—is Dr. Peter Gleick. Doctor Gleick is the co-founder and president of Pacific Institute in Oakland, California. Dr. Gleick is an internationally-recognized water expert. His work addresses the critical connection between water and human health, the human right to water, and the hierological impacts of climate change. He's clearly one of the leading authorities not just in the state, but in the country on water. He's a recipient of numerous awards for his work, among them the prestigious McArthur Genius Fellowship. So, we're very lucky to have him here, and we're looking forward to Dr. Gleick's presentation.

Seated next to Dr. Gleick is Andrew Hitchings, who is a shareholder of the law firm Somach Simmons and Dunn in Sacramento. This firm specializes in areas of water, natural resources and environmental law. I've had the pleasure to work with Andrew on numerous occasions. He works for one of the leading water firms in the state, and the firm represents water districts and other local agencies all over California, Arizona, and Nevada. Mr. Hitchings also serves as general counsel and water rights counsel for Glenn-Colusa Irrigation District, and he's going to be bringing to this panel discussion a northern California perspective, so thank you.

And the next member of our panel is Mary Aileen Matheis. She's the director of the Irvine Ranch Water District board of directors. She has served on the board since 1988, when she was appointed to fill an expired term. She has successfully run in subsequent elections. Congratulations to you on that. She served as president in 2001 and vice president in 2005, and she's one of the leading urban water authorities in the state. So, nice to have you on the panel as well.

And seated next to Ms. Matheis is Jason Peltier. Jason is currently the chief deputy general manager of Westlands Water District, an agricultural district in the San Joaquin Valley. Prior to his service with Westlands, Jason served for six years as deputy assistant secretary for water and science in the Department of the Interior in Washington, D.C., so he'll bring to us not just a San Joaquin Valley perspective and an agricultural perspective, but also brings to us a lot of experience in the Washington, D.C. playground. So, thank you Jason for being on the panel.

Now let me tell you how this panel's going to operate. We're going to try to make up a little bit of time. So what we're going to do—we've asked the panel, and they've all agreed to try to keep their talk 10 minutes or less. So, we'll get started in just a second with that. But, we're going to try something a little bit novel. After the first two speakers—we're going to start with Dr. Gleick and then follow with Mr. Hitchings—we're going to stop there to see if you have questions. I know you've been in class, and you get these questions right away and you want to ask them, but by the end of the lecture, you've forgotten the question. We're not going to do that. We're going to stop after the first two, take 5-10 minutes of really hot questions, and then we'll get back into the lecture

presentation. And if everything goes right, we'll have 10, 20, or 25 minutes at the end to take your questions.

Also, we've told the panel that if they want, they can ask questions of each other. So, they're going to be listening closely to see if the other panelists make a mistake. So with that, I'd like to introduce Dr. Gleick.

PETER GLEICK: Good morning. I like the idea of a different format. I hope we can pull it off. We'll see. The first piece of that is, instead of putting up a PowerPoint that you're not going to use, do not to put one up at all. So, I don't have a PowerPoint. They say when you make a talk, that you shouldn't make more than three points. I'm going to give you seven quick ones. I think you can probably handle it. One of them is a definition, three of them are conclusions, then I'm going to say something about policy, something about politics, something about law, and I'm going to be quick.

First, in terms of a definition, for me, actually, I was thinking, am I going to have to go in there and edit that Wikipedia entry? And the answer is actually no, it's not that bad. But for me, water efficiency means doing what we want to do with less water. It's that simple. Water conservation sometimes means doing different things—letting your lawn go brown, taking a shorter shower, growing different crops—that might be conservation, but for me, I like to talk about efficiency, and I mean doing what we want with less water. Getting rid of wastes, growing the food we want, making the semiconductors we want. So, that's the definitional thing. There may be different definitions, but that's mine.

The first of my conclusions is that the potential for water efficiency improvements in California is enormous. In the agricultural sector and the urban sector we can do what we want with much less water than we're currently spending to do those things.

The first of my conclusions is that the potential for water efficiency improvements in California is enormous. In the agricultural sector and the urban sector we can do what we want with much less water than we're currently spending to do those things. At the Pacific Institute, we've done very careful analytical work on the urban sector and the agricultural sector. You can go and look at those reports. They're all on our website for free. The potential is very significant.

Part of that first conclusion is not to take away from the enormous efforts we've already made in the agricultural and urban sector to capture inefficiencies. We've done a lot already. What I'm saying is, there's a lot more to be done—low-hanging fruit, middle-hanging fruit, high-hanging fruit, it's out there.

The second conclusion is that setting aside for a moment — I won't set it aside, I'll be explicit. I don't mean to suggest that water efficiency is the only thing we need to do. I think it's really important, but I'm a big fan of rethinking supply options, about conjunctive use, appropriate desalination if someone can define it and design a plant, wastewater. There are all sorts of innovative things that we can do and are doing on the supply side, but I'm going to argue that water efficiency improvements are the cheapest, fastest, most environmentally sound things we can do. We ought to do those things first. A number of the speakers in the earlier sessions said some of those things, and I want to reiterate them. I believe them. Not always, not everywhere, but in general, conservation and efficiency, especially efficiency, is the fastest, cheapest, and from an environmental point of view, the first thing we ought to look at.

The third conclusion has to do with this question about paper water. There are a lot of different kinds of water, a lot of different definitions of water — paper water, real water, applied water, consumed water, withdrawn water. There are ugly, inconsistent definitions of water out there. I would like to argue that conservation and efficiency, especially efficiency, saves real water, it saves paper water, it saves applied water, it saves different kinds of water under different circumstances, and they're all valuable. So, an agricultural efficiency improvement that saves consumed water frees up water that could be used by the same farmer on a different field or crop, or be transferred. There was some talk about that, and that's valuable.

An urban efficiency improvement that may save water that was already captured and reused downstream also has value, because you're not spending money to pump or treat it. Instead of one toilet that uses a certain amount of water, if you could use a toilet that uses half that amount of water, you could build a new home which has a toilet which uses that water. You can meet new demands. So, there are a lot of different definitions of water, but I'm going to argue, and then move on quickly, that efficiency saves lots of kinds of water, and they all have value. Those are including ecosystem values.

Those are my three conclusions. Now, three quick comments. One about policy. There are big barriers to anything we want to do in California water, including efficiency improvements. Those barriers are regulatory. They're informational, we don't collect the data. They're financial, farmers may want to improve efficiency but don't have the capital to change out equipment. They're economic, we don't price water properly. There are lots of barriers, like any other option. But I'd also like to argue that there are proven ways of overcoming all those barriers. There are really innovative, successful examples from every sector of improving efficiency. Farmers are doing really innovative things. The urban sector is doing really innovative things. There are ways of overcoming those barriers, and that's really the challenge I think we face. Identify the barriers and figure out how to overcome, and it's going to require a mix of things, no single policy.

I'm not arguing the only thing you have to do is pass regulations that set standards for appliance of efficiency. I'm not arguing, as some economists do, the only thing you have

to do is price water properly. I'm arguing you have to do a lot of different things and it's complicated, but I'd also like to argue it's easier than some of the other things that have been proposed on the supply side.

Politics – what's the right verb – contaminates, infiltrates, affects all aspects of California water policy. We can't get around that, and it makes water policy difficult in California.

Politics —what's the right verb —contaminates, infiltrates, affects all aspects of California water policy. We can't get around that, and it makes water policy difficult in California. There's ideology, there's posturing, there's bad science, there's ignoring good science, there's a lack of good science. There are all sorts of challenges, and I'm just lamenting them. It's an observation. We can talk more about politics, but that's a different panel perhaps.

The final one is law, perhaps the aspect I'm least qualified to address, but there are really important legal questions about reasonable and beneficial use, about legislation. We heard some of that this morning. The Delta Watermaster a few weeks ago – is Craig Wilson here? good —took a very brave step of raising this question of reasonable and beneficial use. The constitution is pretty clear in California. You have water rights under certain conditions, including that those water uses be reasonable and beneficial. But we have not been good about defining reasonable and beneficial, about challenging water uses that might not be reasonable and beneficial, about verifying water rights and whether people who are using water actually have the rights to use that water. There are a whole set of legal issues, and I just throw them out —I'm not going to resolve them —but they're really an important part of this, in the conservation and efficiency debate especially. And if we were better about thinking about law in the context of efficiency improvements, it might be possible to make faster advances in that.

Let me just close by observing we use less water in the state today for everything than we used 25 years ago. We're doing tremendously well. Our population's growing, our economy's growing, but we use less water in the state today than we used 25 years. On a per capita basis, we use a lot less water. Part of that is the success we've had in improving efficiency. Part of it is changes in the structure in our economy. But there's a lot more that can be done. I'll stop there. Thank you.

ANDREW HITCHINGS: While we're getting started, again, I'm with Somach Simmons & Dunn in Sacramento. I do have a PowerPoint and I am going to go through it a bit, because I may be the only lawyer on the panel, and I think one of the things I'm talking about is SBx7-7, the extraordinary seventh session of the 2009 legislature where the Delta Plan was enacted. And Delta Plan legislation, and SBx7-7 has significant agricultural water management efficiency and water conservation provisions in it. I think

particularly for the law students here, it's important. It's a very detailed statute, and I would like to go through them, but I'm going to try to stick to the time frames we talked about.

And one of the things I wanted to note, our firm does serve as general counsel for Glenn-Colusa Irrigation District (GCID) and other agriculture districts in the Sacramento Valley. I am speaking on my own accord here, not on behalf of any clients, but looking forward to this robust discussion.

First, I just want to give a setting and regional context for the Sacramento Valley. I'm not sure, maybe a show of hands, how many people in this room have spent any significant time north of Sacramento in the valley other than driving through to maybe go to Oregon? Okay, so we do have maybe 50 percent. For those folks, this will be a bit of a review. For others, it might be new information.

Real quickly, this points out some of the features that Cathy Crothers had mentioned. You've got Shasta Reservoir, Shasta Lake at the top, Red Bluff is listed on there. Hamilton City is where Glenn-Colusa Irrigation District diverts off the Sacramento River. You can see Lake Oroville to the east. You keep moving down, you've got Folsom Reservoir. So, you've got not only the Sacramento River, but some significant tributaries — the Feather River, the Yuba River, the Bear River — and then you have some east side streams like Stony Creek.

These are some of the key sub-basins. This is taken from the Sacramento River Contractor's In-Basin Water Management Plan, and it shows some of the major districts in the Sacramento Valley. And then the sub-basins within which they're looking at agricultural use efficiencies ongoing.

when we've done water transfers and have proposed fallowing land, one of the big environmental objections from resource agencies and other groups is that we shouldn't be able to fallow land because it's going to take garter snake habitat out of production. So, we're in a bit of a catch-22 at times.

The Sacramento Valley is made up of about 2 million acres of irrigated agriculture. Most of them are actually small family farms. It's a key portion of the Pacific flyway. So, when we talk about water issues, we have to keep in mind that there are other fish and wildlife species that do rely on the environmental benefits that irrigated agriculture provides in the Sacramento Valley. Terrestrial giant garter snakes happen to really like rice fields, and all the canals and other associative laterals and conveyances with those operations. It's been interesting, when we've done water transfers and have proposed fallowing land, one of the big environmental objections from resource agencies and other groups is that

we shouldn't be able to fallow land because it's going to take garter snake habitat out of production. So, we're in a bit of a catch-22 at times.

There's six national wildlife refuges. GCID actually serves water to three of them. There's 50 state wildlife areas, and a lot of privately-managed wetlands. It actually provides for a great contribution towards North American waterfowl plan objectives. And also rice. Rice is sometimes demonized as an inappropriate crop to grow in what people call a desert environment. I'm not sure the Sacramento Valley should be called a desert environment, but in many cases, the high alkali and clay soils are one of the only things rice can grow on. It's particularly suitable for rice. About 500,000 acres are planted annually in the state, and about 97 percent of that is in the Sacramento Valley. And it has got not only the agricultural benefits, but also the wildlife and environmental benefits.

What does the Sacramento Valley do now as far as efficient water management? They use intense recapture and recirculation systems. GCID itself recaptures and recirculates an average of about 100,000 to 150,000 acres per feet a year. Their average diversions are somewhere between 600,000 and 800,000 a year, and that's just one example. So, water that's diverted off the Sacramento River will flow through a rice field, flow down to another rice field, and be reused and reused. They have pump stations send it back up and reuse it again. So, they're not diverting new water for each application on a field.

The other thing to keep in mind is that surface water applications really do replenish the groundwater basins, and so when you do flood irrigation for rice you get to reuse that water later for groundwater extraction.

And the use of water by rice has decreased significantly since the '70s. It used to be an average of 6.5 acre feet per acre. Because of new varieties, laser leveling, and other technologies, it has actually gone down quite a bit.

The other thing to keep in mind is that surface water applications really do replenish the groundwater basins, and so when you do flood irrigation for rice you get to reuse that water later for groundwater extraction. And that's one of the things the Sacramento Valley is looking at, enhanced conjunctive use programs.

Many of the districts are members of an Integrated Regional Water Management Plan, which Cathy Crothers talked about. There's also the Basin-Wide Water Management plan that a number of the Sacramento River settlement contractors are parties to, which meets their water conservation plan requirements under their Bureau of Reclamation contracts.

They're also currently working on a detailed technical report that's going to examine agricultural water use throughout the valley, and then try to identify appropriate recom-

mendations regarding future water management actions. And that's all being done within the construct of the SBx7-7 requirements.

I do want to go through that quickly. A couple more slides here. Just to give you an idea of the amount of water used in the Sacramento Valley, if you look at these two graphs, that's the total amount of water that flows out through the Delta, or is available to flow out through the Delta. The blue bar is what actually is Delta outflow and flows to the ocean. The red bar on top is the amount for urban and agricultural use. It's broken down a little bit further. The red line at the bottom represents the amount of agricultural use in the Sacramento Valley. So, you can see some trends, that Sacramento Valley agricultural use from about the mid to late '70s has pretty much remained relatively constant.

And then, this is from the Delta Stewardship Council. It just shows some differences between agricultural, urban, and environmental water use throughout the different basins within the state. And you can see that quite a bit of the water that comes out of the Sacramento Valley is used for environmental or instream purposes.

So, I want to get to the really exciting statute SBx7-7, because I think it is important. It is a major statutory body of law that was enacted as part of the Delta legislation, that put some significant new requirements both on urban conservation — which other members on the panel are going to speak to — but also with agricultural conservation and water management. I'm going to speak to that as quickly as I can here.

Generally on the urban side — and this is the only thing I'm going to say about it. It does require a 20 percent reduction in urban usage per capita — not overall use, but per capita — by 2020. And so that's called the 20 by 2020 plan. But it also requires certain agricultural water suppliers — in general, those over 10,000 irrigated acres — to undertake certain efficiency measures.

I'm told I have about two minutes left here, so I'm going to go through as quickly as I can. Maybe briefly what I should say is that broken down, the legislation requires certain efficient water management practices that agricultural suppliers are going to undertake. It requires a certain quantification of agricultural efficiency. It also requires specific requirements as to agricultural water management plans. And there are a number of dates that are coming up this year. In particular, DWR just issued draft regulations on efficient water management practices that should be going into effect in July 2011, I think. Cathy Crothers can probably answer that. And then, certain of these measures by the agricultural water suppliers have to be implemented by July 31, 2012.

This presentation, I believe, is going to be on the website, so I am just going to click through those. Those are the highlights. A couple of points I do want to make — let's see, at the end, for all the lawyers that are intending to challenge any of the plans that are adopted, the statute of limitations are set forth in 108.50, at the end. They're very

oddly written. If you actually read the language in them, you'll see that it's almost unlike any other statute of limitations. I think part of that is the drafting effort that went in to get this done and get this passed in the very late days and hours of the session. So, there is some interesting language there if you look at it. I haven't seen many statutes of limitations that say 18 months, but there you have it.

Okay, I'm going to wrap up the Sacramento Valley concerns with some of the water use efficiency and management measures. One of the things is — and Peter touched on this — generally decreased diversions in the basin will not necessarily increase overall water supplies downstream. It would depend on whether that's available, because it's been held in storage, and whether it can be released for further beneficial uses downstream. There may be in-stream benefits or fishery benefits, but there's no guarantee that by diverting less off the river, more water would actually return to the system.

And I'm just going to read quickly from the DWR Water Plan Update 2009, and this is in their Agricultural Water Use Efficiency, page 2-19. It says, "Much of the water in the agricultural setting is being reused and reused many times over, including reuse of water in wetlands. It is because irrigation water is reused that on-farm efficiency improvements will not result in regional water savings. Indeed, reuse of water may be the least expensive mechanism and easily implemented measure to achieve very high regional efficiencies."

And that's one of the things, exactly what the Sacramento Valley is doing. They're reusing and recapturing this water many times over. And then you also get the enhanced environmental benefits.

the only way to necessarily make real water available may be to actually take land out of production or require a shift to certain crops, and there's obviously political, social, and economic issues associated with that.

Another point is, when you do this reuse, there is a certain level where it has got to stop. There are adverse impacts if you take it too far, and one of those is, you get higher salinities. Jason can probably talk to that as much as anybody, and this can cause decreased yields and also water quality problems.

The other thing on the reuse issue is that the only way to necessarily make real water available may be to actually take land out of production or require a shift to certain crops, and there's obviously political, social, and economic issues associated with that.

And for the end of this, I think the main viewpoint of the Sacramento Valley in dealing with the agricultural use efficiency and efficient water management practices is, they

want to be able to make and take measures that make sense at a regional level. I've cited here to some legislature intent language from AB 1404 that says, "Implementation of new measurement methods must be adaptive, account for changes in technology and economics, and allow for local flexibility, be regionally sensitive, incentive driven, and cost effective."

I agree with Peter, those solutions are out there, but we can't do it with a one-size-fits-all, either for urban or for agriculture. So, thank you very much.

DAVID SANDINO: Thank you, Dr. Gleick and Mr. Hitchings. As I mentioned, we're going to try something novel here, see if this works. We're going to take a five-minute question and answer period for hot questions. This is not our only question and answer period. As soon as the other two speakers make their presentation, we'll have time for even more questions, but if you have a burning question right now, why don't we take it? Yes, please speak loudly.

QUESTIONER: My question is for Dr. Gleick. You mentioned that in your view there are regulatory barriers to water efficiency, and I just wondered if you can elaborate a bit on what those are in your view?

DAVID SANDINO: Everybody hear the question, regulatory barriers relating to water efficiency? Dr. Gleick?

PETER GLEICK: That's a great question. I'm not sure I have a good example. I'm sure there are some. I'm a fan of regulatory solutions to overcoming some of those barriers, and educational solutions, and technological solutions. I don't have an example to give you, but the regulatory system of the state, combined with the regulatory system of the feds, combined with local regulatory systems, doesn't contribute — let me put it this way — to efficient management of our water resources. I'm going to hedge.

DAVID SANDINO: Hold it, let's see if we can ask any of the other panel members?

ANDREW HITCHINGS: I have one specific example. In the ongoing DWR process that is going on now, and the regulations that I mentioned are supposed to be adopted and out by July 31st of this year. The language requires that it provide for critical, efficient water management practices, including delivery data and to ensure that you can do proper pricing. And for many irrigation districts and agricultural districts, that's very difficult. The farm gate turnout measurement methodology would be very difficult

to implement, and in some ways wouldn't necessarily lead to any better knowledge. Now, there's been detailed discussion as to how to address that in the regulations, and they're working through that. That's an example that if you try to use a one-size-fits-all, and you've got different conditions in every district throughout the entire State of California, when it would not necessarily make more water available and would be prohibitively expensive in a lot of places. That's where I think there could be regulatory constraints. So, that's one example.

DAVID SANDINO: Any other members of the panel wish to comment? Hearing none, one more hot question before we go to our other two speakers. Yes, please, Professor Lynch.

PROFESSOR LYNCH: Okay, just a question for Dr. Gleick. The state policy right now, to oversimplify a little bit, is mandatory conservation efficiency on urban side, and more or less voluntary on the agricultural side. How long can that persist, and when will we eventually have to go to more mandatory efficiency standards?

DAVID SANDINO: Could you repeat the question?

PETER GLEICK: The new legislation was pretty explicit, calling for a 20 percent reduction in urban per capita water use by 2020, and much less explicit in terms of specific targets for agriculture, and the question is how long can that kind of dichotomy continue. That was partly the result of the ugly process of passing this legislation, which was alluded to. There are lots of problems with the legislation, in some ways it's an advance, in some ways it isn't. We do have to get more serious about understanding the potential for agriculture efficiency improvements and figuring out how to capture those improvements. I'm not sure a 20 percent requirement for reduction is the right thing to do as opposed to perhaps putting in place economic incentives or regulatory incentives to change the system to make those improvements more attractive.

I do think we need to get better about quantification. I love the 20 percent urban requirement because it's easy to measure, there's easily that much potential, in my opinion, out there. We understand on the urban side how to capture it, because you pay more for urban water than we do for agricultural. But, we do need to get serious about agriculture. It's a much more difficult thing, but the potential is enormous.

DAVID SANDINO: Any other members of the panel? Jason, you want to take a shot at that?

JASON PELTIER: I'm saving my bullets.

DAVID SANDINO: Saving your bullets, wise man.

ANDREW HITCHINGS: I'll borrow one of Jason's bullets, I guess. I disagree with the premise. There's no quantifiable number like the 20 by 2020 for agriculture, but certainly there are requirements they have to adhere to. They've had to under the CVPIA, the RRA, as far as water conservation plans. Those plans have to have certain items and elements in there, and frankly, it's much more difficult from a funding perspective for agriculture suppliers to fund some of these improvements than it is for urban suppliers. They have a broad base of rate payers with whom you can spread the cost, where it's not necessarily as much of a hurt. Whereas, for some of these farming districts and family farms on them, it's much more difficult.

But, there are a lot of requirements, and I think it goes back to the one size doesn't really fit all, so therefore it's difficult to attach a specific quantified number.

PETER GLEICK: I agree with most of that. This argument about one-size-fits-all, I think, is a straw man. No one is arguing that one size fits all. The urban requirement is 20 percent reduction per capita, but it doesn't say how you have to do that, and there are a million ways of doing that. I also agree that it's more difficult on the agricultural side, but I would just throw out there that it doesn't mean you shouldn't be doing it. Maybe you're not saying that, but we have to figure out better how to deal with the agricultural inefficiencies in the system.

ANDREW HITCHINGS: Just to respond, to the extent that you had a requirement of 20% by 2020 on the agriculture side, I'm saying that's a one-size-fits-all, because even that number in and of itself may not make sense in a return-flow type agriculture system where you're not getting the downstream benefit, necessarily. But I agree, there are ways to do this, and I think some of the efforts that are coming out of the DWR water use efficiency workgroups are going to lead to that.

DAVID SANDINO: Let's move on. I see the question in the back, you'll be the first question after the other two speakers. Why don't we do it that way? Thank you.

MARY AILEEN MATHEIS: I'm Mary Aileen Matheis, as was announced previously, and I'm quite comfortable in this four men and one woman panel, because since I was on the board in Irvine Ranch Water District, I have been the only woman

for the last 20 years. And interestingly enough, I'm the representative from Southern California. And so, I have to give you a little bit of background — a little bit about me, perhaps, but more about Irvine Ranch Water District. I am a lawyer, however my area of practice has been real estate and trusts and estate work. And I get my water law through osmosis; that's just being around water lawyers for a long time.

Irvine Ranch, what I'm going to tell you today is the background of IRWD, the best practices in conservation, and the allocation-based rate structure, what the allocation-based rate structure is designed to accomplish, how it funds water use efficiency, and the performance of our rate structure.

The Irvine Ranch Water District was formed in 1961. It was formed by the Irvine Company. The owners of the Irvine Company originally came from San Francisco, they came down in the middle of the 1880s and bought land down there. They actually owned the land from the ocean to the mountains. They probably owned about 40 percent of Orange County.

The water district was formed in 1961, as I said, and until 1978, it was run by the Irvine Company. In fact, they appointed all five directors, including two public directors. In 1978, it became a publicly-elected board and has functioned as such ever since. The district provides waters, some hydroelectric power, wastewater, and recycled water. The customer base in 324,500. The estimated daytime population, because Irvine and Newport Beach are quite a commercial center, is around 500,000. We have service connections of approximately 97,000. So, it's a fairly big area. We cover 181 square miles, 114,560 acres. The agency has 315 employees, and as I mentioned, we have a five-member board. The service area is 179 square miles, which actually is more than 20 percent of Orange County.

We serve over five cities — all of the City of Irvine, most of the City of Lake Forest, parts of the City of Newport Beach, particularly Newport Coast, parts of the City of Costa Mesa, parts of the City of Orange, and parts of the unincorporated of Orange County.

In the late 1980s, motivated by the drought, and the revenue stability that was impacted by the drought, IRWD developed an allocated-based rate structure. The objectives were to separate the fixed and commodity charges, to stabilize the revenue, also to encourage conservation, because even in the late '80s and '90s, we were beginning to talk about conservation. And we determined to do it through a commodity-pricing mechanism.

We provide a funding source. Actually, the revenue that comes from this allocation-based structure is a funding source for other conservation programs, including incentives for recycling. It was implemented in 1991, after an 18-month development period. What we do is allocate water to individual customers based on land-use specific indoor uses and/or landscaping needs adjusted for climatic conditions. The allocation base is based on research and is not arbitrary, and it is, we believe, defensible. It encourages use patterns

There is an economic incentive for efficient use. It communicates value of overwater use, and we sell water based on the efficiency premise. Those who use water at the same level of efficiency pay the same rate. Those who waste water pay more than those who use water efficiently. What it does is prevent waste and unreasonable use of water.

with an allocation of a sharply-tiered pricing system. Now, I'm reading from a PowerPoint, however I didn't choose to use the PowerPoint, but you'll find it on your disk and you can play it on your computer.

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The allocation-based structure is designed to accomplish water conservation programs and customer incentives, convergence to recycled water, urban runoff, and is an urban runoff source control. In other words, we use funds for that.

The water bill actually serves as a report card. It identifies those customers who overuse water. And the main thing that it has done, it has stabilized revenues, because we have a fixed charge for the commodity, and so sales are neutral. It allocates cross – funded by penalty tiers, so the sales associated with the different levels of wasteful water use. I can tell you we have five rate structures. There is a low-volume rate of 61 cents, and then above that is a base rate. There is a low rate and a base rate. A base rate is an efficiency rate, where if you use within that volume, you are charged the actual lowest rate. There is an inefficient rate, which goes up a substantial amount, and then an excessive rate. Finally the last one is a wasteful rate. And when we originally developed this program, that fifth category was called abusive. We had a few people who objected strenuously to that, so we decided to find a more comfortable term, if that's appropriate.

The residential allocation is based on a single family detached home with four occupants. If there are only two or three, you get an advantage, however the outdoor allocation is the irrigated area, and we do that by GIS mapping, and we have the transportation element as well. There's warm, seasonal turf, and we determine 80 percent irrigation efficiency. We do allow variances, the customer can call and request variances if you have a pool, and particularly when you have to drain and fill your pool, there are variances for that. If there are additional occupants – if you happen to have four teenage sons, you know your water use increases tremendously. That is another element. If there are medical needs, that is also an acceptable variance. And, if you have livestock. Surprisingly, Orange County still has areas where we do have livestock, particularly horses and some farm animals. And that also allows a variation.

Now, I don't know if I can tell you, and you probably will really have to go to the slide eventually, but the low-volume rate is 40 percent, and it's 91 cents. The base rate is $1.21, and if you stay within that rate, you get all the water you need for your purposes and for taking care of your landscaping. Inefficient, the base rate goes from 101 to 150 percent, and it's $2.50. The excessive is 151 to 200, and that's four time the base, which is $4.32. And the wasteful rate is $9.48.

I'm asked to wrap up. I think you'll be most interested in knowing the results. There was an immediate reduction of a five acre foot rate for the first six months following the implementation. Landscape use has dropped 50 percent from 4.4 to 2.2 acre foot a year. Residential use has dropped 20 percent, from 115 GPCD to 92 GPCD. Dry-weather urban runoff in the major creek system has only nominally increased, while the average acreage in the area is over 400 percent, from 3,300 acres to today's 14,500 acres. There is a strong economic incentive for customers to reach out, and there's only 3 percent of the residential customers who pay the highest tier.

We do have incentives. We have the customary incentives which are implemented from Metropolitan Water District, and which we've added to. One of the things we have done as part of our water efficiency is institute getting approval from the state to urban water runoff. We call it the natural treatment system, where we capture in basins throughout our area the initial runoff, the first flush. Then it goes through a system similar to our wetlands system, and that has been very effective in water efficiency as well. I'll be available for questions, and I know I've overstepped my time. Thank you.

JASON PELTIER: It's a pleasure to be here today with you. It's going to be more pleasurable when I go have lunch with my son in a little bit. We had a little conference call to talk about how this panel was going to go. I missed the call. I sent out an apology email. Somebody wrote me back and said "we all agreed it was pretty predictable what you were going to say, so you didn't need to be on the call." Peter then sent me a note and said, why don't you say something that surprises us? I know there's probably a few of you in the room that are looking for some kind of a catfight between Peter and I.

And I will surprise you by saying there's only two things that Peter said that I disagree with, and I agree with the vast majority. And I'll maybe get to those.

PETER GLEICK: Are you recording this?

JASON PELTIER: Well, because you were properly qualifying everything you were saying, as opposed to what we see most often in your public utterances, these flat statements that mislead the public about what reality is. But other than that . . .

And I do want to start where Peter left off, recognizing the great, great progress we've

made over the last 40 years in water management in California. Peter alluded to this, we're probably producing close to twice as much food and fiber, and using less water than we did 20 years ago. So, that is a simple way to look at that progress.

Let me ask a question. Let me talk about Westlands for a little bit. How many of you have ever drive on I-5 from San Francisco to LA? Thank you for visiting us. When you're coming north, Kettleman Hills, where the In-n-Out Burger is, from there about 70 miles, you're going through the west side of Westlands Water District. And how many of you ever eat lettuce in the spring or fall? Thank you for being customers.

In the last 20 years, there's been a dramatic change in Westlands, and I passed out a little chart that's maybe a little difficult to read or understand. But I think it captures what has gone on since the early '90s in terms of the reliability and predictability of our water supplies. The blue bar is the water in storage at the time of the initial water supply announcement. The red square is the initial announcement that occurs in February of each year by the Bureau of Reclamation. The other green spot is where we ended up that year.

And you can see, we went from a system of great certainty to great uncertainty. It happens to coincide with my professional career in water, and that's why my kids think I'm uptight sometimes. We have seen our supplies be reduced 40, 60, 90 percent over the last 20 years. We've seen our water costs go to the point today where they're $100 to $400 an acre foot, depending on whether you're getting the cheap water or the market water, which is dramatically more expensive.

And so how have we coped over this period? I think it's a fantastic story that needs to be understood, because it's been painful, it's been expensive, but it demonstrates, I think, a lot of grit and commitment on the part of our farmers as to how we've coped. We started with the district board retiring 100,000 acres of the district. It's a 600,000 acre district, we took out 100,000 acres, purchased them back from farmers. We lease it to farmers now to grow crops on if they don't irrigate. So, there are attempts to grow dryland grain on it. But, we took that out of irrigation for the purposes of spreading or limiting supplies to other lands and coping with the drainage problem that exists there.

The crop shifts have been amazing, and in roughly over a 40-year period, we've seen cotton from about 300,000 acres in the district to 17,000 acres. We've seen almonds go from 152,000 acres to 70,000 acres. Tomatoes from 6,000 acres to 100,000, lettuce from 600 acres to 20,000. And we've seen fallow land go from, in the early part of that 40-year period about 4,000 acres in one year, to 250,000 acres here recently.

More significantly, in the last 20 years where we've coped with this highly volatile and almost permanently inadequate water supply, we've seen a lot of permanent crops go in. About 100,000 acres of permanent crops have been planted. And that is counterintuitive, but it's a coping mechanism. If you're going to be in the market buying $400 water, you've got to have a crop that'll pay for it, and almonds have shown us that.

We've also seen a tremendous investment in irrigation facilities. Our farmers probably put in about 250,000 acres of drip just over the last 15, 20 years. That's enough tube to go to the moon and back. Without exception, all permanent crops are on drip, and more and more, we're seeing cotton, tomatoes, cantaloupes, lettuce on drip. In fact, I was talking to a farmer recently about his experiences with his drip on pima cotton, which is the premium cotton that we grow in California now, which is long-staple, very uniform strength and high-strength fibers. He farms both in Westlands and elsewhere with river water in another part of the valley. His experience last year was 30 percent less use in his drip pima, and 30 percent more yield than his surface water irrigated acreage.

Even in exchange-contractor areas where they have a virtually 100 percent guaranteed water supply year-in year-out, there are farmers putting drip on orchards because of the yield increase, because of the reduction in input costs. On that cotton field, for example, you till it now every five to seven years. You leave the drip hose in there. So, just think about your production costs going down with not tilling the ground, and rebidding and doing everything every year.

I think if you look at the combination of regulatory changes that we've endured from the Central Valley Project Improvement Act, Endangered Species Act, Water Board board standards, et cetera, you will see that it has led to tremendous investment and an increased efficiency.

So, that's been our experience, and it leads me to one of my points of disagreement with Peter, that I think he said regulatory restrictions don't lead to increased efficiencies. I think if you look at the combination of regulatory changes that we've endured from the Central Valley Project Improvement Act, Endangered Species Act, Water Board board standards, et cetera, you will see that it has led to tremendous investment and an increased efficiency.

But it's really important in this conversation to understand the uniqueness of agriculture, and I'll give you two examples. I think Andy Hitchings did a good job with talking about basin-wide efficiency and the need to look at the whole system. One example historically, we've said agriculture runoff water is lost, is wasted when it goes to a saline sink. A great example of that is the Salton Sea, and farming in Imperial Valley. When that water goes into the Salton Sea, it's not usable for freshwater use anymore. And so, there's been a lot of pressure to increase efficiency and reduce use in the Imperial Valley, and a lot of water has been transferred to the San Diego Metropolitan Water District. That's good freshwater that was saved, but it's not without consequence, and you've got to understand and be sensitive to consequences.

The consequence in the case of the Salton Sea is, how are we going to cope with the fact that the sea is now shrinking? Is there going to be a $9 billion program to address that challenge?

And the other and final example would be in the Friant Division, that million acres from Fresno to Bakersfield on the east side of the valley. It's a true conjunctive use area where in wet years they rely heavily on surface supplies and turn off the wells. And a lot of their distribution systems are in ditches with sand in the bottom. They're not even lined. Huge conveyance losses. It goes into the groundwater, recharges the aquifer, is available in the dry year when there's no surface water or diminished surface water. So it's not lost, it's just a change in time. Thank you for the opportunity to speak with you.

DAVID SANDINO: Okay, start thinking about these questions. We're going to start with the gentleman in the back, and then I'm going to turn to the panel and see if they have any questions or rebuttals to anything that was said. So, gentleman in the back, please speak loudly.

QUESTIONER: Mary and Jason basically bring partially an answer to my question, which was how should pricing of water be used to balance supply of water to the demand in order to maintain equilibrium. I think that's the ideal situation. I would like the panel to address how you are able to have competing forces to balance price with the demand.

DAVID SANDINO: I don't know if this side was able to hear, but it's a question relating to the pricing of water, and how do you balance the various issues relating to that price into demand? So, I open that up to the panel.

JASON PELTIER: I think it's a good question and I'd like to partially respond. I think Peter responded in his comments that price is a tool. There's a lot of other tools to assure the efficiencies are maximized policy. We have a policy in Westlands, there will be no runoff at the end of a farmer's field. You must recycle that. And so there's a lot of tools, and there's some areas where there's gaping differences. When you look at the price that society pays for the water — the million acre per feet of water that have been reallocated due to environmental purposes, there's no price element to that. That's a public value decision.

MARY AILEEN MATHEIS: I could answer it briefly. There is some criticism of our system at IRWD. It requires an adjustment to your billing system, which is rather unique. The second thing is, because we do a GS system to determine the size of land, et cetera, some people told me the other day they thought it was snooping, and the fact

that you can go on Google and find a house anyplace in the United States, I don't know why it's snooping if the local agency does it, and for a good purpose. And, they think it is unfair. We have tried to indicate that it's as fair as you can make a system such as that be.

PETER GLEICK: It's a great question, it's a tough one, I'm a big fan of proper water pricing, but we haven't really figured out how to do it comprehensively. Urban agencies have done a much better job. More and more agencies are moving to increasing water rate structures like Irvine Ranch's, which was very pioneering and very effective. We're seeing more and more of that.

On the agricultural side, it's more complicated. It's nice to hear Jason has come so far over to my side. It's very exciting. I'll be the first to acknowledge that Westlands has done some incredible things, in part because the price of their water is higher than a lot of the other agricultural communities. He said $100 to $400 an acre foot. There are irrigation districts that still charge $5 to $40 an acre foot for water. That's water rights. Westlands doesn't have that luxury. They're doing a lot of incredibly good things because of the pressures they face.

There's no groundwater law in this state to speak of, which is an abomination in my opinion, and it really complicates water management. So, you raise the price of water to a farmer to a point when they decide they're going to pump groundwater instead, because it's cheaper. And that complicates all of the management issues, it complicates pricing water.

It's really hard for agricultural districts to raise the price of water. I had a conversation yesterday with some Yolo Country irrigation agencies. They're paying $10 to $30 per acre foot for water, depending on the time of year and depending on availability. They can't go to their farmers and ask for more money, I was told, because their board of directors would get voted out. There are political issues associated with this.

Another problem is we don't measure groundwater. There's no groundwater law in this state to speak of, which is an abomination in my opinion, and it really complicates water management. So, you raise the price of water to a farmer to a point when they decide they're going to pump groundwater instead, because it's cheaper. And that complicates all of the management issues, it complicates pricing water. So, it's a great question. We need to figure out better mechanisms, but we're still wrestling with a lot of that.

DAVID SANDINO: Andrew, you get a shot, if you want.

ANDREW HITCHINGS: I would say there are different ways to do pricing, not necessarily just by a volume metric where you have to measure it through a farm gate on the agriculture side. For instance, a lot of districts will use pricing based upon the crop you grow and how many acres you're irrigating. So, if you're growing rice, your price is going to be different. If you're growing tomatoes, it's different, and it's a price per acre rather than a volume metric. And that makes sense in some districts where it doesn't make sense to measure at each farm gate turnout.

The other thing is that a lot of them will use a mix of property tax assessments where that would constitute a large portion of the agricultural services they're doing, and then they have a price on volume metric on top of that. So, there's a lot of different ways to try to tackle this. One of the things that's been difficult for districts is the enactment of Prop 218 and the California Supreme Court decisions that now require any rate increase, even for water deliveries, has to go through a Prop 218 protest proceeding. Even if a district has cost service and they need to raise rates in order just to meet the service requirements, ultimately if you get a groundswell of voters in the district to protest that rate increase, they may not be able to do the types of things they need to do to make efficiency improvements. So, there's a lot of moving parts here.

One last thing I do want to say, groundwater is not regulated on a statewide basis, but there are a lot of local requirements, at least if nothing else for monitoring. And that is a first step. A lot of districts and municipalities and others up and down the state have groundwater management plans that do require a certain amount of recording and monitoring. More can be done on that, I agree.

DAVID SANDINO: Let me interject here and invite the panel, if they want, to ask each other questions. Here's your chance to have your Perry Mason moment with one of your other panelists, or correct anything on the record. What do you think? Any questions about the panel, panelists to each other? Okay, so Jason's exercising discretion here, wants to give to the public. So, gentleman in the back, please speak loudly.

QUESTIONER: Okay, back to Mary in Irvine Ranch. Mary, are the fixed rates high enough to offset the lower revenues from the conservation rate, or are there enough customers still in tiers three and four such that their revenues are offsetting the shortfall from the customers that are in the first two tiers?

MARY AILEEN MATHEIS: There's no shortfall in the lower rates. There's a low rate that is 61 cents, but the $1.20 as a commodity rate pays for the water, the purchase of water. Actually using the water efficiency is good for the agency as well as for the customers. We only have 3 percent of our customers in the excessive over-tiers.

Sometimes you hear that an urban water agency implements these conservation efforts, and water use dropped, and all of the sudden they had a revenue shortfall. That's a failure of rate design, and there are lots of smart solutions to this. Irvine Ranch implemented them early.

And in the first level, there's 14 percent of that 3 percent, they're only just over the level. And you always charge the lower rate until you use excessive, and then that's when the rate jumps.

PETER GLEICK: Can I follow up on that? It's a really good question. Sometimes you hear that an urban water agency implements these conservation efforts, and water use dropped, and all of the sudden they had a revenue shortfall. That's a failure of rate design, and there are lots of smart solutions to this. Irvine Ranch implemented them early. When you have an urban agency where there are really high fixed costs, it's a challenge. It's tougher, but in general, it's a failure of rate design. You design your program so that conservation doesn't affect your ability to cover fixed costs.

DAVID SANDINO: We have a question from the gentleman in the front row.

QUESTIONER: You asked me to use the microphone. I guess it's a brief statement and a question. Peter, I think one of the reasons why the water is so hard is it's really emotional. And as you were talking about groundwater and the lack of monitoring. As a groundwater-pumping rice grower, my brain says yes, but my gut started to fold up, and it's like no way. So, I think the emotion, it's like fighting with family.

And so, I have a little bit of an emotional question too, which is we are starting to see State Water Project water in places like King's County now being sold to places in Southern California, and it seems like that starts to raise some of the real fundamental issues in water rights and water law, and I'd like to hear any comments.

PETER GLEICK: Well, my first comment is, I understand completely the emotional, practical, legal, economic difficulties of dealing with groundwater. My comment was really in the sense that unless we get groundwater into the equation somehow, we're never going to manage water sustainably. Now, I do think we need improved state regulation, but I also think that we've done some remarkable things on the local level. Where groundwater has become a real problem locally, farmers and the cities have adjudicated groundwater basins, and come to agreements about monitoring and measuring use and allocating. We've come to solutions. So, I think it's a problem. I think

there are solutions. I think we have to acknowledge the emotional challenges to doing it, but I just don't believe we're going to effectively solve our water problems until groundwater is part of the equation.

This will sound really negative, nasty. But there are a group of people out there that seem to me that they measure their success and their advocacy for the environment, whatever their cause is, by how much they hurt farmers, particularly Westlands farmers.

JASON PELTIER: I'd say probably within our district, the attitudes are evolving rapidly as we've seen the consequence of coping with a 90 percent reduction, and we hit the groundwater really hard, and it's scary. They know that's not sustainable practice, and so I think attitudes are changing, evolving.

I do want to take the opportunity to make one thing clear. This will sound really negative, nasty. But there are a group of people out there that seem to me that they measure their success and their advocacy for the environment, whatever their cause is, by how much they hurt farmers, particularly Westlands farmers. That is the measure of success, and you'll hear a lot of them talk about how the farmers just want the water so they can sell it to the cities. We do not sell water from Westlands to cities. We have an exchange issue with Metropolitan Water District. It's to maximize efficiency, it's a type of avoidance of loss exchange, but we're going to get most of that water back. But, we are not sellers. So, if you read about the greedy corporate farmers of Westlands who want to sell their water to the cities, know that it's not true. I know a lot of families that have corporate structures, but that's business. And we do not sell water to cities. Thank you for letting me set the record straight.

DAVID SANDINO: Anyone else?

ANDREW HITCHINGS: And maybe that example, I'm not up to speed on exactly the terms of that transaction, but that is unique to the contract rights that the selling entity had and the buying entity had. I'll use an example with GCID. Glenn-Colusa Irrigation District is the right holder. They are the record owner of the pre-1914 rights, the post-1914 rights, the selling contract they have with the Bureau. And so a landowner or group of landowners within that district can't really come in and say, we want to prorate what our portion is based upon our acreage and sell this to some urban area. It really is specific as to the nature of the underlying water right, who's the record owner, whether there's contractual restrictions or abilities.

But, part of that is the economics. I assume that those farming entities just found that economically it made sense to transfer this to asset so that it could be used in a different way. And God help us if that's where the future of agriculture is. Hopefully it's not.

DAVID SANDINO: I hear stomach growlings. Maybe it's my stomach. So, one last question. Please, succinct, loud.

QUESTIONER: Any additional comments on the Delta Watermaster's proposal to enforce reasonable use requirements against agricultural irrigators?

DAVID SANDINO: Could somebody repeat?

JASON PELTIER: Any comment on the Delta Watermaster's recent conclusion that inefficient use constitutes waste of water in the State of California, and we ought to build a new organization to go out and persecute people that are not being efficient.

ANDREW HITCHINGS: That's one way to describe it.

JASON PELTIER: I think that, just like the flow report that the State Water Board staff did recently, it's a tremendous disservice to the conversation that's going on. There's just so many problems with the bumper sticker kind of approach to such an enormously complex challenge, it's done a disservice to us. That was the other point that I disagreed with Peter on. He called the Watermaster brave, I thought he was not brave but destructive, and not helpful to the conversation. Not Peter, the Watermaster.

> *If you can use one gallon of water to do something that you're currently using two gallons of water to do, with no changes in economic benefit or employment, is that one gallon that's too much reasonable and beneficial? I think it's a fair question.*

PETER GLEICK: I think it's a conversation we have to have. If you can use one gallon of water to do something that you're currently using two gallons of water to do, with no changes in economic benefit or employment, is that one gallon that's too much reasonable and beneficial? I think it's a fair question. I think he was only raising the question. There's a lot of legal background to it. I think it's an important question. I don't think the answer is easy. I agree with you, Jason, about that. But then to hear

Jason say, well, we have pima cotton growers who are using drip irrigation and getting 30 percent reduction in water use and 30 percent increase in yield. If I had said that, they would've yelled at us.

We didn't even propose putting drip on cotton. We proposed putting drip on things that you want to put drip on, orchards and nuts and fruits and things like that, which Westlands is doing a lot of, by the way. But I think there's a productive conversation to be had here, and I wouldn't shy away from the difficult questions like reasonable and beneficial use. Maybe nothing will come of it, but we have to have that conversation.

ANDREW HITCHINGS: And I'd like to add on the Delta Watermaster report. I think that the problem that a lot of agriculture users and others have is that this may have overstepped what his authority was, given by the legislature. I think what was envisioned was a boots on the ground person enforcing water rights, in particular illegal diversions in the Delta. Instead, we have this report out there, and it's redundant to things going on. DWR has this intensive water use efficiency workgroup with many stakeholders, academics, and others involved that are going to get to the root of this problem. If there's waste and unreasonable use going on, the State Water Board can start to create proceedings for that, and the Watermaster can be part of doing that. So, it creates a bunch of redundancy, there's a lot of objections out there. And there were a lot of comments submitted at the State Water Board meeting this past meeting both in writing and verbally on this report.

DAVID SANDINO: For the folks that are new to the water arena, you can see what a provocative area it is to work in. So I'd like you to give a round of applause to the panel.

AWARD CEREMONY: PRESENTATION OF AWARD TO CALIFORNIA WATER LAW SYMPOSIUM (WLS) FROM AMERICAN BAR ASSOCIATION'S SECTION ON ENVIRONMENT, ENERGY AND RESOURCE (SEER)

Anthony Austin | *2011 WLS Chair*
Tom Hicks | *Founding WLS Chair*
Alice Kaswan | *USF School of Law*
Paul Kibel | *Golden Gate University School of Law*
Tony Rossman | *UC Berkeley School of Law*
Brian Gray | *UC Hastings College of Law*
John Leshy | *UC Hastings College of Law*

ANTHONY AUSTIN: Good afternoon, everybody. I hope you enjoyed your lunch, and I hope that you all will join us for the reception afterwards, where we can continue the networking and discussion. I wanted to begin the afternoon with the presentation of the awards to the four law schools that are involved in this conference. The schools include Golden Gate University School of Law, University of San Francisco School of Law, UC Berkeley School of Law, and UC Hastings College of the Law.

I wanted to mention that there is a lot to be said about California water supply issues; unfortunately, we can only get to so much today. However, a great resource and asset if you want to continue learning about these issues and more is Aquafornia. It's a news blog, and the Web site is aquafornia.com. This is a neutral Web site that provides up-to-date information and news articles about California water supply issues. There's background information on it as well that is provided by the Water Education Foundation.

I'd like to turn it over to Tom Hicks now, the founder of the Water Law Symposium and one of our board members. Thank you.

TOM HICKS: Hello. It's a true treat to be here today for the seventh annual California Water Law Symposium. As noted by others, while I was at University of San Francisco School of Law, I convened a few like-minded members of the Environmental Law Society. We immediately embarked upon a task of pulling together a state of the art, leading edge, one-day symposium that could cover California water resources. We quickly realized we can't do it all in one day.

We reached out to our fellow students at Golden Gate, Boalt, and Hastings to create what is a collaborative effort – and it's a unique effort in the United States – among all the law schools. My understanding is that this is the only annual law symposium of any topic that brings together four schools year-in and year-out.

In addition to my roles with the Water Law Symposium as a founder and board member, I'm here today to give a few words on behalf of an organization that I'm a part of: the American Bar Association (ABA) and its Water Resources Committee.

It doesn't take more than five minutes of listening to any of our outstanding panelists to recognize that there are a lot of contentious, sometimes divisive, issues in the water arena. But the ABA, through its participation and co-sponsorship of today's event, really does believe strongly in what I call the three C's: collaboration, communication, and cooperation. There is plenty of litigation. There is plenty of room for disagreement. But through education, this event has year-in and year-out shown that there are creative margins for enhanced collaboration and less consternation as a result.

The American Bar Association Section on Environment, Energy, and Resources recognized Susan Gilbert Miller, who was the 2010 Chair of this event, for the cumulative work that has gone into this event every year. The American Bar Association awarded the California Water Law Symposium its first-ever Program of the Year Award, recognizing the most outstanding student-sponsored symposium or educational endeavor.

I would like to recognize our faculty advisors at this juncture. If they could each come forward, we have a beautiful reproduction of this award. I ask them to just take a moment or two to identify how they got involved and, more importantly, what this involvement means for them, their schools, and how it relates to the big picture of trying to educate Californians on how we can at least make a strong step in the right direction to solving some of the problems and challenges that we face here in California with our water.

Thank you very much.

ALICE KASWAN: I'm Alice Kaswan. I'm with the University of San Francisco School of Law; I like to say it's where it all started. In 2004, Tom Hicks, a second year and a great student, comes up to me and says: "I'd like to do a symposium. Isn't that a great idea? Why don't we involve all the Bay Area law schools in putting it together and do it year after year?" And I said, "Sure. Sounds like a great idea. And a very ambitious one."

But he really had the spirit, dedication, patience, and vision to pull it off and pull it off very well. I think that first symposium set the contours for the future successes by emphasizing well-balanced programs that give a voice to the many different perspectives

that there are on these issues and are educational – both for the students who often attend and for the practitioner community and other academics in the area.

Also, Tom had the wisdom to collect and then draw upon a board of advisors – faculty and practitioner advisors – who really are current experts in the field. These advisors help the students identify both the issues and the speakers that would be most germane and appropriate for the topic for any given year.

The other very important thing that he set in motion was the collaborative spirit that he referred to. A collaborative spirit that year after year gives students from all of these schools the opportunity to work with each other and work with the faculty advisors to create a whole that really does become more than the sum of its parts. We owe him thanks again for that vision and that patience in pulling together an institution that can transcend the years.

Also, the particular yearly event that drew the ABA's attention and earned the award was organized by Susan Gilbert Miller at USF last year, of course with the co-chairs of all of the sister schools. That was again an event that we're particularly proud of.

I also want to note and acknowledge all of the state's water lawyers, who do two things: they say yes when the students ask them to participate and they chose to come and be a good audience that is engaged and asks good questions of the panelists. A lot of the students' success is really attributable to the willingness of the Bar and the leaders in the state to come forward and participate in these events.

I think we're very lucky in this state to have a practicing Bar that is so interested in the process of continuing education and communication that occurs here. So I'm very proud and happy to accept this on behalf of USF and thank all of you.

PAUL KIBEL: I'll accept on behalf of Golden Gate. One of the reasons this event has been so well attended and so substantively successful has to do with something Jason Peltier said on the last panel. Under his breath, Jason said, "I'm somewhat cynical," and then made a comment, "At least my children think so."

I was thinking about that. There are a lot of contentious issues and a lot of the people in this room today who are working on these issues who spend a lot of time fighting in the courts, fighting before agencies, fighting before commissions, fighting before the legislature.

But I have two small kids, and you don't fight in front of the kids. I think there is something about this event that reflects our appreciation that we know we're here with students. We've been asked by students. We put on our educators' hats, and we are aware that we are in a setting with students, that this is their affair, and that we need to behave.

That's a very good thing for the water bar, and helps set the tone for the WLS. So thank again to Tom Hicks for setting this all in motion.

TONY ROSSMANN: I'm Tony Rossmann from Boalt Hall and, like Paul, I will also draw on my children, who just became teenagers. When I was asked to say some words here today, like an Academy Award presentation. Last night they were watching a video re-tape of the Golden Globe Awards. That was very helpful to give a lesson on what not to do up here. Including a wardrobe malfunction.

But I think that Dean Ramey kind of stole the thunder this morning; she really did say it in a nutshell. It was a miracle that this happened out of Tom's creation. It would have been challenging enough for one law school to do; the fact that all these law schools have come together and maintained this over the years has made this one unique. And God knows – I mean John knows, Brian knows, Rick knows, Alice – we've all been to water conferences. Even the ABA puts one on in San Diego.

the WLS is the best single-day water conference in the United States and it's because of what these students have made it in the past seven years.

I will say here that the WLS is the best single-day water conference in the United States and it's because of what these students have made it in the past seven years. But it is also because you are here. If one wanted to run our state back to the dark ages of 1947, you could set off a bomb in this room and you would create a vacuum that could not be filled. When I look around, I see the people who have made California water policy.

Now I do want to draw two historical comparisons from the past week. The first is that I'm sufficiently of an age to have remembered that Thursday was the 50th anniversary of John Kennedy's inauguration. One of my favorite John Kennedy stories is when he got an honorary degree from Yale. He said, "I now have the best of all worlds. I have a Yale degree and a Harvard education." So I don't know where Tom Hicks is – he's probably vacated to the back of the room – but I want to remind everyone: Tom, you have a USF degree, but in my class you got a Boalt education.

And the other thing of course is that the "Tiger Mother" has been in the news, and it's not every week that David Brooks has the right answer, but he really did have the right answer in this week's New York Times. What we really need to teach is working together in groups.

To repeat the remarks that my colleagues have made – and they're obvious – the thing that really distinguishes this is that we're setting a great example for law schools that are always clawing for who stands where on the U.S. News and World Report. This is a

collaboration of equals who have proven that together they are greater than the sum of the parts.

Tom, thank you very much for your gesture.

BRIAN GRAY: John and I are here to accept this on behalf of the UC Hastings students who have participated. I just want to say that Tom Hicks really was the catalyst for all this, and this would not have happened without his vision, creativity, and dedication. I echo all the thanks and accolades that are going your way.

I also want to say that all of the students who have been involved with this over the years have carried forward that creativity and dedication to the task and have made it an extraordinary conference. And it's not just law now; it's interdisciplinary as well, which is vitally important.

I would just like to ask that all the students – not just from Hastings, but from all the schools – who have been instrumental in putting this together, have participated, have helped in any way, would you please stand and just let everybody see you and acknowledge you?

So thank you, to you all.

I just want to add one thing, and that is when Tom first came to me after talking with Alice seven and a half years ago or so, I said the same thing to him that I said to the Hastings students who then followed up and proposed this conference. I said, "You know, I really don't think it's a good idea. There are a lot of water law conferences. The ABA has an excellent conference. University of Colorado has a wonderful conference. Oregon has a conference, Arizona, and so forth. I just think there are too many. It's – to use a water pun – a saturated field."

So I really discouraged them from doing it, and I have to say I was wrong. I have to add that I really don't deserve this award. Thank you very much.

JOHN LESHY: I'm John Leshy from Hastings. I don't know why we get two, but as my old mentor used to say, "Well, it's all been said but not everybody's said it." So, here I am.

I would just underscore two things that have already been said by everyone. Number one, this is a student-run, student-generated conference, starting with Tom but continuing on to succeeding years, unlike a lot of things that happen in law schools with faculty advisors and all that. The students really do this, and they really run with it.

The other thing is this sort of interscholastic cooperation among the schools and the water community. It's kind of counterintuitive, but I've worked in this area a long time and I would say that the thing about resources law – and water law in particular, and resources management issues and conflicts in general – people who actually work on them from all different sides get along better in my opinion than in other areas where they're just arguing over money. I think there is some lesson to be drawn from that.

You know, we all get emotional, as one of the panelists said this morning, about this stuff. But it's the kind of resources that actually bring us together and this is exemplified by the student cooperation across the schools on this conference. So congratulations to all the students who really make this possible. Thanks.

TOM HICKS: Thank you. I want to add that Professor Frank – who was at Boalt – is now at UC Davis School of Law. Next year we will be including UC Davis School of Law. There are several students here from UC Davis, who I'm hoping will serve as the co-chairs and carry that on into UC Davis.

We will now begin our third panel. Professor Frank is the moderator, and the panelists are going to be discussing the water package one year later.

PANEL 3: THE WATER PACKAGE ONE YEAR LATER: MAKING REFORM WORK

MODERATOR
Richard M. Frank | *UC Davis School of Law*

PANELISTS:
Chris Frahm | *Brownstein Hyatt Farber Schreck*
Phil Isenberg | *Delta Stewardship Council*
Richard Roos-Collins | *Bay Delta Conservation Plan & Natural Heritage Institute*
Mark Franco | *Winnemem Wintu Tribe*

OLIVIA ODOM: I am Olivia Odom from Berkeley Law. I'm proud to be a part of the WLS after all those wonderful words were said. I'd like to welcome you all to this third panel on the "Water Reform Package One Year Later," along with Elizabeth Sarine, who will be serving as the Chair next year as Berkeley Law hosts the Water Law Symposium.

I'd like to introduce Professor Rick Frank, who is a recent addition to the faculty at UC Davis, where he is a professor of Environmental Practice and the Director of the California Center on Environmental Policy and Law. He also serves as the lead of the environmental component of Attorney General Harris' transition team. Previously, he was at Berkeley Law and spent 25 years at the California Attorney General's office where he focused mostly on environment and land use litigation.

RICHARD FRANK: Thank you very much Olivia, and let me just echo what all the other speakers said. I'm delighted to be here. It's a great honor, and I feel just as strongly about the value of this symposium as my predecessors up here.

I confess that in being asked to moderate this panel I feel a little bit like the Bill Murray character in "Groundhog Day". Two years ago we gathered by the river at Hastings College of the Law, and we talked then about proposals to "fix the delta in California water policy."

In that regard, I was one of the people that have been involved, along with one of our principal speakers, in developing recommendations to the legislature and governor. We were also assisted in that effort by someone from whom you'll hear on the next panel,

Jay Lund, and his experts at UC Davis and the public policy institutes of California, whose scholarship and recommendations informed our work on the task force.

A year ago, we gathered again at University of San Francisco to discuss the then-brand new, not yet effective, package of legislation that was designed to in fact "fix" the delta and address California water issues. And we did that. Now a year later, we're at another appropriate point, and the topic of our discussion today is the water package one year later, making the reform work.

And I think that's very valuable, because with all due respect to those of you who work in the legislative or judicial branches, there is a limit to what legislators can do in terms of directing and driving California water policy. They can set up broad goals. They can set up structural ideas. And, dare I say – at the risk of being held in contempt by some court somewhere – the courts and their decision-making abilities and their powers are similarly limited.

It is my view that the rubber meets the road and the success or failure of this legislative package is going to be determined by how well or poorly those in the executive branch of state government and those derivatively in local government – regional districts, water districts – do in implementing the legislative tools of the California legislature that the governor granted them a year ago.

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So it's really up to us today to tee up that discussion as to how well things have gone so far, and how well or poorly they are expected to go in the months and years to come as a number of actors – some of whom are represented at the table here – go forward with the important role of implementing the legislative package. I have said – and a number of more important people than I have said – that the 2009 package represents the most important piece of water legislation in at least the last half century. And I think that's probably objectively true.

The cynics among us would probably say, "Well that's damning with faint praise indeed, if that's the best that can be said." Some folks have great skepticism about the legislation. Others, however, believe that the legislation holds a great promise and is an important step forward and will do very well. My own view is that the jury is still out for the very reason I mentioned: we're going to have to see and monitor closely how well all those moving parts work together or don't in the months and years to come.

We have an exceptional panel today to lead us through that discussion. I will introduce them in the order in which they will speak.

We'll start with Phil Isenberg, who many of you know through his prior iterations in public service as mayor of Sacramento and as a member of the California Assembly, whose district included significant parts of the Sacramento/San Joaquin Delta. He served as Chair of the California Marine Life Protection Blue Ribbon Task Force from 2004 to 2006 and he did such a good job that his punishment was to immediately be moved to lead the Delta Division Blue Ribbon Task Force that I mentioned before. It is his leadership that led to this set of policy and legal recommendations, which to a considerable degree actually found their way into the legislation that we're going to be talking about.

I think there is a delicious irony in the fact that Mr. Isenberg – who basically, with some help from several other folks including myself, hectored and cajoled and criticized the perceived efficiencies and made some suggestions as to the kinds of reforms that were necessary – is now in his current capacity as chair of the Delta Stewardship Council. As the person who's primarily leading the charge to implement the legislation, he gets to clean up his own mess as it were.

He was appointed to develop the Stewardship Council in March of 2010, and his fellow members on the Council quickly exercised the very solid judgment in electing him to chair that Stewardship Council. He'll be talking about his work in leading the Stewardship Council in a moment.

Richard Roos-Collins is legal director of the Natural Heritage Institute, a public interest law firm based here in San Francisco. Since 1991 he has represented public agencies and nonprofit organizations in water and energy matters. He specializes in settlements of complex multi-party disputes.

As an example of that, Richard was trial counsel for California Trout in the Mono Lake litigation. He represented conservation groups in Pacific Gas & Electric's bankruptcy proceeding, resulting in a commitment to protect 140,000 acres of watershed lands in perpetuity. Most relevant to our discussion today, Richard is up to his eyeballs in a process you've already heard a little bit about, the Bay Delta Conservation Planning process. He'll be sharing his insights about that.

Chris Frahm is a shareholder in the San Diego and Sacramento offices of the law firm Brownstein Hyatt Farber Schreck. A member of the government relations and natural resources departments, Ms. Frahm serves as special counsel and provides advocacy services for municipalities, utilities, private corporations, districts, and public agencies on water and infrastructure related issues, but she also has worn a public policy/public leadership hat as well. She is the former Chairwoman of the San Diego County Water Authority and Vice Chair of the Metropolitan Water District of Southern California.

Last, but certainly not least, we have Mark Franco. Mark is Headman of the Winnemem Wintu and Keeper of Ceremony for the Winnemem people. He is deeply involved in maintaining the Winnemem Wintu culture and ceremonies. Mark acts as government liaison and spokesperson for the tribe in protecting the cultural areas of the tribe through his work on water, sacred sites repatriation, and land management issues and has a degree from CSU of Sacramento.

Let me tell you how we're going to choreograph this panel. The format is going to be a little bit different from the two panels that you've heard from this morning. I'm going to ask each of the four speakers to spend about 12 minutes each – and I will be a rigorous timekeeper – talking about their view from their distinct perspectives on the key over-arching issue here: making the reform work, the water package one year later. Then I will pose some questions intentionally provocative to the panel as a whole to get their insights, and then time permitting we'll have a few minutes for question and answer to engage you more directly in the conversation.

So with that, I turn it over to Chairman Isenberg.

PHIL ISENBERG: Thank you very much. Take out the copy of the white statue in front of you; hold it up if you would, please. This is called the Frank Law, named after our moderator who drafted most of it, I'm given to understand. I was excluded from the drafting considerations, but Rick is a former Chief Deputy Attorney General who is powerful enough to actually write most of it himself.

Let me just use my 12 minutes to tell you a couple things. One, I want to tell you some tentative conclusions I'm working on. My colleague on the Stewardship Council, Felicia Marcus is here today – try not to look innocent. Felicia Marcus and I and all the others are trying to develop our first draft delta plan, which will be on the Web about February 14, 2011.

> *all you water lawyers – all you smart water lawyers and smart water lawyer-to-be students – insist on having a body of knowledge that defies human understanding. You lose the ability to speak in English. You could not communicate your thoughts to anyone outside the brotherhood and sisterhood if your lives depended on it. But God knows you've got an occupation for life.*

The first thing you have to do in the water business is get away from all of you who know too much. Uncharitably I would occasionally call it the Tony Rossman theory. Tony always tells me, whenever he talks to me, the 17 things that are vital. And I have

to go back and spend a month trying to put it in context, because all you water lawyers – all you smart water lawyers and smart water lawyer-to-be students – insist on having a body of knowledge that defies human understanding. You lose the ability to speak in English. You could not communicate your thoughts to anyone outside the brotherhood and sisterhood if your lives depended on it. But God knows you've got an occupation for life.

Here is the current take on the Isenberg view of prospective issues. This doesn't cover all of them, but it's pretty good. The total water supply in California is increasingly volatile. A word I'm tinkering with. It doesn't come in, in regular ways. It doesn't come in, in regular patterns. And the volatility is increasing. But of course in government and politics and law, we write things in statute and we believe when you adopt a statute, well, people change their behavior, nature follows orders, and promises and contracts can always be depended on. An increasingly volatile water supply in California does exist; it is increasingly volatile and has implications that nobody likes to talk about, but nobody says that in public.

Number two: our surface storage system is stressed, and stressed for a whole host of reasons. But the evidence seems to suggest that it's primarily stressed because we don't view surface storage as a way to deal with periods of drought primarily.

I'm talking about the portion of storage that's attributable to water use. We view surface storage as just kind of the regular supply of water. We use it whenever we want. The notion that you prepare for the worst, save, be prudent, be modest is alien to California's history and nature. We are the great exception and it just goes on.

The underground water supplies in some aquifers are dangerously overdrawn. They are not being replaced in some of those aquifers. And if you don't think that's a problem, trust me: you haven't thought it through. Conservation in California is spotty. There are more claims to success than there is evidence to support it.

If you believe that conservation is using less water to do what you're doing, as contrasted with efficiency – which is making that same water do many other things – as a society we are interested in conservation. We like efficiency. But conservation, meaning society benefits, is something we don't do well. The same federal water projects, the vast array of dams and pipes and ditches and all the other stuff that goes around, and a lot of the locals are aging; they're deteriorating. There are problems of efficiency, and that ain't good. The delta ecosystem is deteriorating. Nobody disagrees with that anymore.

The conclusion of all of that, and the thing that just strikes me as I look at this entire puzzle, is it's hard to avoid the conclusion that California is using more water annually than nature provides, and we have been doing it for a very long time. Now that would be okay if you had big piles of water that you saved for dry years. But if the storage system is under stress, and the underground aquifers in significant areas are being depleted, this

whole situation reminds me of nothing so much as the pristine beauty of the state budget problem. Taxes can never be raised, programs can never be cut; nobody likes to borrow, legislators make it work.

And in some sense this reflects the history of our state, where we started off with a state taken by war from the Mexicans and with a population of 180-200,000 native Californians at that time and 15,000 non-native Californians. It looked like there were supplies that would last forever and we have as a society made promises to people. I read the water code periodically for amusement and also to make myself go to sleep. I recommend it to you.

The early sections, the ones that nobody pays much attention to anymore, are really terrific. It's almost as good as that old field code — what do they call them? Canons of construction. For every wrong, there is a remedy. You say that. Well, that must be true; that's what the law is about. You know, you've got to remedy wrong.

Here is where we are. The legislature did something they haven't done in 50 years that made some major changes in a five-bill package. The one you've got in front of you is the government's bill, the one that we're mostly concerned about on the Stewardship Council. There was conservation. There was deeply courageous sort of monitoring of the level of groundwater sources as long as you don't do it on anybody's land and as long as you don't ask them to tell you what's there. And a 20% urban savings by 2020.

Here is what we're doing. We're developing a legally enforceable delta plan as called for by statute. We will adopt it in October of this year. It will go to the Office of Administrative Law, and under the statute we are ordered to begin enforcing it on January 1, 2012.

There are two things to look at in your report. We are governed by the coequal goals: reliable water system and improved protected delta ecosystem done in a way that takes account of the delta as a unique and evolving place. I cannot tell you how controversial that is. You can find that, by the way, on page 23.

The objectives are found on page 20. The legislature said there are eight things that are essential to achieving the coequal goals and most of the water warriors of the world like to thumb through those and say, "Well, I agree with this one and this one; I don't want to talk about the rest." They are in fact the mix and heft of all of these things, from facilities to conservation to a new governance structure.

Will it all work? I don't know. What is the purpose of this? The purpose of this as with any major change of law is to create over time – to convert over time – a deeply contentious, divisive social issue into boring, good government. Thank you.

RICHARD FRANK: Thank you, Phil. We'll now hear from Richard Roos-Collins.

RICHARD ROOS-COLLINS: Good afternoon, everyone, and my thanks to the symposium for the opportunity to talk with you about the Bay Delta Conservation Plan. Let me begin with what the plan is. It is a plan that will serve as the basis for regulatory authorizations for the continued operation of the Central Valley Project and the State Water Project. These are our state's two largest projects, which collectively divert 15% of delta flow to provide water supply to roughly 24 million people and several million acres of farmland in the San Joaquin Valley.

The BDCP was constituted under a planning agreement adopted in 2006. There is a steering committee that's been working since then. On November 18, 2010, the steering committee released a working draft, which is cumulatively 1700 pages without the appendices. Under its current schedule, the committee intends to release a complete plan with a draft environmental document by the end of 2011, with a target for approval of December 2012.

Now I'm here to talk about what the Delta Reform Act says and what it means for the BDCP. Let me begin, though, with the question: what does the Delta Reform Act mean generally? I mean is it "Groundhog Day"? One way to think about it is that it restates the law that existed before its enactment.

For example it declares the delta is broken. Well, that's not news; the delta violates the Clean Water Act, the Endangered Species Act, the Fish and Game Code, the Water Code, and many other statutes that existed before the Delta Reform Act. Or to take another example, the Delta Reform Act requires or establishes a new office to address illegal diversions.

Let me read to you from the legislative history of the 1913 Water Commission Act. "If the water rights of this state are to be finally expeditiously and economically cleared up and determined, some agent of the state must be given the authority to go onto our streams, make the necessary investigations and declare subject to court provision what water rights are yet free for appropriation." That was law 98 years ago.

But while the Delta Reform Act in some sense is "Groundhog Day", it also has the potential to be truly transformational, and to lead us in the direction of the good government that our laws have long promised. Among other things we have a new agency, the Delta Stewardship Council, which for the first time in the state's history is charged to create a unifying plan, and we have a direction that goes far beyond the Delta Stewardship Council that now is our last good chance to save the delta.

So what does the Delta Reform Act say to the BDCP? I'm going to begin with the standard for protection of the delta itself. The Delta Reform Act says that the BDCP to

be approvable must make a substantial contribution to the recovery of the delta. This resolves an ambiguity that existed in the planning agreement dating back to 2006, where the BDCP could have been a continued biological opinion, which is to say avoiding jeopardy, or it could have been something more. The Delta Reform Act says it will be something more.

The working draft that I described contains a strategy of operational rules, habitat restoration, and management of other stressors intended to make a substantial contribution to the recovery of the delta. What about the alternatives that the U.S. Department of Interior's Bureau of Reclamation and California Department of Water Resources must consider as co-applicants in a course preparing this plan? To some extent, the Delta Reform Act restates what CEQA and NEPA already require. For example, this act requires that the applicants consider a reasonable range of alternatives for operation and for design and location of the conveyance.

But the Delta Reform Act goes further. For example, it requires specifically that the environmental document consider a sea level rise of 4.5 feet. Not one foot, not two feet, but 4.5 feet, which is at the outer bound of what most scientists are predicting is foreseeable in the next century. And it specifically requires that the plan and the environmental document address floods, earthquakes, and other potential catastrophes. So there's no question that the plan and the related document must look at those possibilities, not in a "by the way" manner but instead front and center, because the Delta Reform Act specifically requires that.

As to the operational rules for the state and federal projects, again the Delta Reform Act requires that the plan make a substantial contribution to recovery of the delta. It also requires real-time oversight by the permitting fish agencies of the decisions that are made in operations. However, I think the single most important requirement with respect to operations is a phrase that hasn't gotten nearly enough attention.

If you parse the language that Phil described, there is deep in it a phrase that requires the plan to be based upon consideration of flow criteria for the delta as a whole. In approving the plan, the State Water Board must make a specific finding about how the operating rules required for these projects relate to those flow criteria for the delta as a whole. Which is to say: how do these projects fit into the context of all of the other diversions, but also occur from the delta and its tributaries?

Next as to financing: the Delta Reform Act requires the applicants to pay for environmental overview. That's not news. CEQA requires that, at least with respect to the Department of Water Resources, although the extent of financing might be news. It is currently at $150 million and counting for this document, which may well be the most complex document ever prepared under CEQA.

The Delta Reform Act also requires that the plan provide for PILOT – Payment In Lieu Of Taxes – and specifically for full compensation to counties for any property taxes that are lost as a result of the construction and operation of the conveyance improvements that are included within the plan. That's something new. While that's discretionary and has been done, it's not required, to my knowledge, by any of the law. The Delta Reform Act resolves that the applicants will pay property taxes that are otherwise lost as a result of these improvements.

In the four minutes that I have left I want to talk about the future and what we need to do to make the Delta Reform Act work or, more generally, to get the Bay Delta Conservation Plan to closure. We begin by saying that from my perspective as counsel to American Rivers and the Bay Delta Conservation Plan steering committee, failure really is not an option. That's a trite phrase, but it's profoundly true in this context.

The delta today is broken. It's broken in part because of a design for these projects that dates back to 1919. We've been living with it ever since; it's just not working in compliance with applicable laws, including, but not limited to, the Delta Reform Act. If the BDCP fails, we will have a history of more litigation that will affect us in many ways, including continued deterioration of the ecosystem and the economy that depends upon these projects operating successfully.

Failure is not an option, which leads to my next point. We need more stakeholder engagement. Every stakeholder who has an interest in the Delta has an interest in the BDCP – and with all due respect to those who have been not participating and instead complaining that the BDCP isn't good enough – it's time to get off the sidelines. It's time to participate in this process one way or the other, to make this plan succeed.

If I may read briefly from the comments of the committee chairman for the bill that became the Water Commission Act in 1913. These comments were made on May 28, 1912 at roughly 10:00 a.m. in the Mills Building, just a few blocks from here. He said, "We want the help and aid and advice and comfort of all the people of the state who are interested in such matters and therefore we will be very glad to have you take the bill and tell us in what particulars first you disagree with it, and second if there is anything in it you agree with we'd be very glad to hear that as well." That's good advice. We need that approach from all stakeholders.

Third, the BDCP, if perfectly designed and perfectly implemented, will not by itself restore the delta. The projects are 15% of the total delta flow. Other diversions are 30%. Other diverters must make a fair contribution as well. Not through the BDCP, but through companion proceedings.

Just to give you a "for instance", here we are in San Francisco. Our water supply comes from Yosemite National Park. 99% of the wastewater from this city goes straight to the Pacific Ocean. 1% is recycled and put to further use. Is that consistent with the call to

action of the Delta Reform Act? So again, I suggest that we should look not just to the projects, but also to other diverters to assure that we achieve the coequal goals stated in the Delta Reform Act.

Lastly, we need cooperation by all the regulatory agencies with oversight in the BDCP. The Delta Stewardship Council has new oversight; specifically it will determine the consistency of the BDCP with the Delta Plan. But that's just the beginning. The State Water Board must approve the BDCP under the Water Code and must approve it or change the point of diversion. It must deal with claims that will be made claiming that the BDCP permits waste and unreasonable use.

It also must be approved under the water quality laws. California Department of Fish and Game, NMFS (National Marine Fisheries Service), U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency – the list of approving agencies is as long as my arm. If each of those agencies proceeds on an independent path to review and approve the BDCP, then the BDCP will be the subject of the Water Law Symposium in 2020. And that – with all due respect – would be a disaster.

We really need to get to approval or disapproval – a final decision – on the BDCP in a timeframe that requires the agencies to cooperate in the approaches they take to review it.

> *inertia is our worst enemy in water law and in the delta. And what the BDCP and its future is about is overcoming inertia.*

In conclusion, inertia is our worst enemy in water law and in the delta. And what the BDCP and its future is about is overcoming inertia. We're looking at a plan that really was invented in 1919. We're reinventing it for this century. We need to get to closure, and I think the Delta Reform Act will help us do that. Thank you.

CHRIS FRAHM: I want to start by making a couple of statements. The first of which is that I am the representative here from southern California, so I thought about leading with the Trojan fight song, but I wasn't sure- how many Trojans we have here today. I had to bring two of them with me!

So I am here today to talk about the southern California perspective, and that will be the subject of my slides. But I wanted to make an overarching statement to say that southern California, I believe, has an abiding interest in protecting its historic investment in the delta. No matter what the outcome or what the timeframe is, I believe that we will remain adamant about the investment that we have made historically and making that work for us in the future. I realized as I was going through my slides that may not be as obvious as it should be.

The second thing I want to say is I am not a cynical person. But I have to tell you, I see some real heavy lifting. I think I see for all of you law students some pretty good legal careers looking down the road in terms of how all of this is going to play out. I hope Phil Isenberg lives long enough to actually see this to the end.

I wanted to share with you some southern California perspectives, and the first thing I want to talk about – and I'm going to talk fast because I've only got 12 minutes – is that there isn't a monolith called southern California. There isn't a monolith called the environmental group. There really isn't a monolith called agriculture. We tend to be put into these large groups, but the truth is within southern California there are many different perspectives.

Often the perspective that I think northern California hears most about is the Metropolitan Water District of Southern California. There is a reason for that. Metropolitan is the imported water agency. Metropolitan is the state water contractor, and that's why I find that when I'm in northern California people tend to think of Metropolitan as being southern California. But it's very important for northern California to understand the complexity and some of the dynamics that go on in southern California, because in the final analysis I think those dynamics will be just as important to finding a delta solution as many of the issues and focal points that we tend to spend most of our time talking about here in the delta.

Metropolitan depends wholly on revenues that it has from its member agencies, and when we get to the end I'm just going to touch briefly upon some of the important fiscal and governance issues that are facing Metropolitan. It's a very large player in this dynamic, and so what goes on in Met doesn't just affect what goes on in southern California. It affects ultimately what the delta solution will be.

In southern California the water usage has historically been about 50-50 imported, and the rest has been local supply, about 85% of which is groundwater. I mentioned my fellow Trojan I brought along earlier, who happens to be the president of the California Groundwater Coalition. We are a very active group of urban groundwater managers looking at how we can evolve and grow local resources most effectively to take the place of what has historically been imported water supplies.

Those groundwater agencies historically have depended upon Met for low-cost – and I put an emphasis on the word low-cost – replenishment water. I'm going to talk a little bit later about how Met operates, why at times it has an excess of water, and why historically it was able to make lower-cost replenishment supplies available. Those supplies have been cut off now for three years, and it's a part of the evolving dynamic of what is going on in southern California.

A retail agency is critically important. I know most of the time in the dialogue the retailers are not as much in the capital talking about their interests as some of the larger

agencies are. But when push comes to shove, it's the people who pay the bills that are going to be hurt and I believe that their voices will be most distinct. When it comes to finding a way for much of this to be worked through with the challenges that we have, it's all going to occur at the retail level because those are the people that are dealing with actual ratepayers.

Many of those retail agencies throughout southern California have vastly different supply profiles. Many of them have absolutely nothing to do with imported water and are very glad about this. I was going to ask: how many people here live in southern California or have even lived in southern California? Okay. Well, that's better than I thought. I might not have needed this slide, because I know that there is still this misconception whenever we get into the dialogue about everything as this north-south kind of struggle.

The truth of the matter is southern California is so far past this image. We do still have swimming pools, but we're very, very smart about how we manage those. Nobody waters their sidewalks anymore. Slip and slides? Those are kind of right in the middle somewhere. I want to walk through some realities from southern California, because these stories I don't think are necessarily feeding up.

First, I want to take a fairly quick look at the Valley Center Water District. It was the second largest water purchaser of the San Diego County Water Authority. This is a story to think about. In the 2006-2007 fiscal year, water sales were 48,000 acre feet. By 2009-2010, those sales were down by 42%. The trees are stumped. It's done. It's dead. It's not coming back in southern California.

So when we look at demand and we look at what's happening in southern California, these are the realities. We still have some high value crops, but for the most part agriculture in southern California has gone bye-bye.

I want to talk about conservation from a southern California point of view. Long Beach Water Department has been a great leader in this field. I'm going to talk later about the bill package and the 20% requirement, but let's take a look at what Long Beach has already done. They are at 17.3% below their historical average. This is an example — I hit that more than once. A lot of this kind of stuff is going on, yet people usually associate it with Vegas or places outside of California. This is happening. If you look at where the city of Long Beach is going from 2005 to 2010 you can see that there is a planned effort to reduce reliance upon imported water in five years — that's a 20% reduction, and that will be a permanent reduction.

Let's take a look now at a groundwater agency, the Water Replenishment District of Southern California. This is a very good example of what's going on with the groundwater agencies – including Chino Basin – and other areas exploring enhanced use of recycled water and storm water capture. These are very active programs.

Look at the past: we had 64% dependence on imported water. Currently that's down to 20%, and the future is a program that is being worked on right now. They are seeking funding right now, and that will become a reality in the very near future, in which case we are at zero percent imported water. Similarly for the large San Diego County Water Authority region you're looking at, if you take the 20-year period, 1991 to 2020, you are literally looking at a 75% reduction in imported water.

Now why is that important? Let's take a look at how large a buyer the San Diego County Water Authority is from the Metropolitan Water District. These are their average sales. If you take that tall line cutting that in half, those are year-to-year sales. These are not fluctuating sales like some other agencies have. Take a look at the City of Los Angeles —similar. Their long-term plan was released in 2008. It also is looking at conservation, recycled water, storm water capture —you really don't see anybody saying "We've really got to get more imported water coming down to the region."

Now I made that proviso at the beginning that we still do have a need for imported water, but we're not looking at increasing that need. On this slide you can see average sales for LADWP. When you see the lines go down in 1988 and 1999, that's your Mono Lake decision. Their purchases go back up. During this year they bought less water from Metropolitan and that became a different kind of challenge for Met.

This is my favorite slide. I'm going to put the slides on the Web site. But this one in a nutshell tells kind of a very complex story. It tells you that sales are volatile at Metropolitan. That's a very significant planning issue. Sales are also declining.

This chart was actually prepared before the year continued to unfold. Metropolitan is probably looking at about 1.5 million acre feet in sales this year. That's almost a half a million acre feet off what their budget projection was, so it ended with some very large budget impacts. I think it was about $120 million this year. Looking ahead to next year it could easily be as high as $200 million.

How do you manage economically when your sales are going down, whether it's through conservation or any other mechanism? You still have to manage paying the bills, and that's a big issue for Metropolitan.

There is another thing that I want to highlight quickly. You can see by the dark blue line on the rates going upward that just over the last five years Metropolitan rates have gone up 55%. That's a projection. Whether it's going to be through funds that need to go into the delta or other kinds of water supply projects that need to be done either directly by Met or through their member agencies, we're looking at dramatic rate hikes attributable to finding the water that we need.

Looking at these fiscal challenges, new supplies are going to be costly. There is another feature to this that relates back to some of the earlier slides. Metropolitan is organized

in an unusual way and faces governance challenges. A lot of people don't know that Met doesn't have the same kind of contracts with their customers that the state has with the state water contractors. So if an agency stops buying water from Metropolitan, literally the base that the rest of the fixed costs have to be melded against just goes away.

We think that in time – and probably sooner rather than later – the issue is going to have to be grappled with. As these agencies are doing things that everybody commends them for, such as local supply development and conservation, it's causing that sales base to go down. Eventually we're going to have to face the question that if we're going to meet the commitments on the State Water Project, including the existing fixed costs and the future fixed costs, we're going to have to have people signed up to do that.

I put in a quote that I'm sure Jeff Kightlinger would hate me for, but nonetheless it's there because he said it. I think he does have to take this issue to his board. Metropolitan's board has got to pony up. If the board is going to continue spending money, then I think that the board needs to address this very significant issue of the willingness to pay.

Quickly ticking off the legislation: Chris Frahm's scorecard. California Groundwater Coalition. Groundwater Resources Association – we lobbied very hard for that because we think if you don't know what's there, you can't manage it. The Urban Water Conservation. As you can see from some of these southern California urban agencies, we're basically already at 2020. So it's good. We need to manage it. We need to survive it fiscally.

The bond, I think, is going to be a redo. I don't think it's going to exist in its current form, and I think the governance – again, if Phil Isenberg lives long enough, we're going to get there. I do think it was a good step to try to consolidate and maybe eliminate some of the confusion, but there are big issues to grapple with.

I am of the view that a lot of decisions get made by people not making decisions. In the 20-plus years that I've been involved in water I've seen many more things just happen at the local level, rather than because there was a lot of deliberation of the issue, a consensus reached, and everybody deciding to go off in a new direction.

The clock ticks, and I am of the view that a lot of decisions get made by people not making decisions. In the 20-plus years that I've been involved in water I've seen many more things just happen at the local level, rather than because there was a lot of deliberation of the issue, a consensus reached, and everybody deciding to go off in a new direction.

In my experience it doesn't work that way, although I think the efforts need to continue. When those urban water management plan updates are out in the middle of this year I think it will really help everyone determine how much delta water we're going to be looking for in southern California.

Thank you.

MARK FRANCO: Good afternoon, everybody. It's kind of a daunting task to be on a panel with such distinguished people, and I appreciate your patience with me and I appreciate the work that they have put before us. The panel before this one had a fellow on there, and he was saying if you've been to this place, this company's land, and if you've eaten this thing, you've had this company's product. I'd just like to ask: how many of you have ever gone across the Oregon border back into California? A few of you. How many of you have gone down to Tijuana and come back across the border back into California?

I'd like to welcome you to California Indian land. Because this is our place. This was our land first, and you guys are welcome here. We only ask, like at some of the hotels, that you don't make a mess, you don't steal the towels, and you don't overuse the water.

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My tribe is the Winnemem Wintu. Winnemem means middle water; Wintu means people. So when we talk about water wonks and other things, we are the original water wonks. Now Phil mentioned water warriors. Well, I am the chief of our tribe's war effort, and I'm also one of its water warriors.

I'm actually a water warrior who is out there with feathers and my original regalia. But don't let that surprise you, because there are a lot of California Indians that are involved in water issues. That's one of the big problems with all these laws, acts, bills, and other things that have come before the legislature here and in Washington. There has not been an inclusion of tribal opinion, tribal thought, or tribal voice. Anything tribal.

I looked at the Bay Delta Plan and I looked at some of the other things. In one of those plans, "tribal" is in there one time. It says tribal organizations can be given information if they are willing to help in the process. This is one instance in a major bill that went through; in the other ones you won't find tribal listed anywhere.

We've been banging our heads against the walls of the legislature and against the walls of some of the meetings that are held to get a tribal voice in there. But what does it mean if you put a tribal voice into these laws and rules? One of the things that happens that we see is that so many times the tribal voice is looked as quaint, or interesting. Oh, you pray to rocks. You come from a spring. That's good, too.

There's no understanding that within the history of the tribe is hundreds of thousands of years of understanding how the water flows; what helps the water come up; what helps the water go away; what animals are needed to keep the water clean; what rock formations are necessary. We have seen that over millennia of watching the rivers and streams of California as they enter into the ocean.

I've spoken before the California Assembly and I've told them that California was much like a very strong warrior before you guys got here. And that warrior – heart, lungs, liver, kidneys – everything functioned perfectly. It was strong. It was vibrant. It was holding up one whole side of the land mass.

Now we have seen through the years of neglect and misuse that the liver and kidneys of that warrior are suffering. That's the Delta, where the water comes out and comes back in. It is the body organs of this human being that Indian people live on. We've seen it become diseased and we've seen it become extremely damaged.

When we go and talk to people about these things, we have to tell the stories in such a way that the story is in it, because we are oral tradition people. Nothing is written down. We start at our beginning, we go all the way around, and we tell you how we are connected to all of these things and how they are connected to us. Then we'll get to the point where we're saying AB such-and-such doesn't work or SB such-and-such does work because it's connected to all of these things.

So what do we see as a tribal people of the laws and how people look at these laws? There is a disconnect between the law and the actual physical body of this patient or this client of yours. There's a disconnect because you're looking at only one small facet of the problem. You're looking at this as though on this table you have individual papers and phones and bottled water.

You have these things out here and you're looking at them as individual pieces, but they're all connected in some way or another. Once you see how these things are connected, then you can describe what's going to happen down here in the delta based on what's going to happen on Mount Shasta where the water is coming from. That's all part of the area of concern or, as archaeologists call it, the area of potential effect (APE).

Ethnographers look at the APE. Now as attorneys and people working in water law, you need to look at the APE and expand it out. You have to see what the full area of potential effect is because if we talked about how much water or flows are needed within a delta

or in a particular stream – near Sacramento or here in the Bay Area – then you have to understand what the changes are going to be if you do something upstream from it.

You can't just legislate; you can't just mandate some law that says I'm going to fix this so that this works here. Without having a machine for it to work, this is just a waste of material. Unfortunately, you have to look at the full picture; otherwise, you're just wasting your time and effort. You're wasting money that could be put into things that actually will work.

I applaud all of our legislators. I applaud all of their staff, the people who work in these different offices, because they have a hard job. It is very difficult for them to work. And one of the things that was mentioned is the inclusion, right? I'm talking about the lack of inclusion of tribal people, but when I go out into tribal communities and I talk to them, I tell them you know what? Don't complain to me about the fact that they're doing this unless you go down there, stop their meeting, and let them know that you're really interested in talking. And yes, that has happened.

There are all these things that are part of my world that are actually a part of yours. When I come into a place. As I said, my story starts way at the beginning. So I started that story when I first got here so that when I got up in front of you I would be able to just pick up and tell it because you didn't really need to hear all the rest of the stuff.

What I do want you to understand in the few minutes that I have left is that the Winnemem Wintu tribe is very serious about all of the efforts that are going on around us with water. We may not be seen, you may not know that we're there, but we're watching. We are contributing the best we can. We will stand up and fight you if necessary, and we'll bring all of our friends with us. Our friends are those relations that you're trying to mandate and work on – the trees, the water.

You look at these places that have no water now. The plant life is dying and the fish and other things are in trouble. We know how to bring them back. We know how to do this, from the years and years of experience doing it. Those of you that are working on these issues, like Phil and my colleagues up here, bring us in. Let us tell you the story. And if we start at the beginning again, there's a reason we do that, and that's because sometimes you have to tell people more than once what the issues are if you want to get things taken care of.

I appreciate your listening to me here today; I'm going to be here with the rest of the crew. We'll answer some questions, and thank you all very much.

RICHARD FRANK: I'm going to pose a couple of questions and invite any or all of our panelists to weigh in. I'm going to ask them to do so relatively succinctly so we can get through as many of these as possible.

It was reported that earlier this month the cities of Davis and Woodland in the Sacramento Valley had filed new appropriate rights permit applications with the State Water Board to divert substantial amounts of water from the Sacramento River, in principal part to displace or replace groundwater extraction, which has been a primary source of those two communities' municipal water supplies for some time.

That raises the larger issue that Chairman Isenberg alluded to: Is there additional supplemental water that can or should be appropriated? Or, stated differently, are we already in a deficit in our water permit system? To the extent that the Water Board is issuing any new water permits, are they essentially paper water permits? Does anybody want to address that issue? Yes, Mark.

MARK FRANCO: I just want to throw something in really quick on that. When we're talking about the contracts that appropriate the water in allowing more water out, one of the issues that has been raised is water rights. We have people that are junior water rights and senior water rights, yet the state of California is one of the states that has never adjudicated tribal water rights.

So if you want to look at senior rights, you want to look at first in time, first in use and then you need to look at the tribes. Those need to be taken care of first. Then you can start giving your water out to everybody else. But you have a whole population that has been neglected and, since 1852 when they didn't ratify our treaties, has been fighting to get in the courts to get our water rights adjudicated.

RICHARD FRANK: Anybody else interested in speaking to the issue of potential over-allocation?

CHRIS FRAHM: I think in a number of environments, the idea of some moratorium on doing things that have always been done until some accounting mechanisms can get put into place, would be a good thing because it falls in the category of potentially exacerbating your difficulties.

I didn't want to speak to the absolute so much as to creating some order. It would also potentially bring more people to the table if you could put a moratorium on continuing to do things as you have always done them in order to expedite figuring out what your starting point is.

RICHARD ROOS-COLLINS: Of course our water is over-allocated. The Delta Vision Report included a calculation by the State Water Board that the face value of the

water entitlements in the Sacramento valley exceed by a factor of 8.4 times the average flow. That's the way the rights are written.

To take a different perspective, the State of California, we the people, has overdrafted our aquifers by a cumulative total of more than 100 million acre feet since 1900. Under the reasonable and beneficial use requirements of the California constitution, that may be an excessive right.

But I think the better way to think of this is not in legalistic terms, but instead in management. Given the rights that currently exist, and given the legitimate needs to supply population and economic growth, how can our waters be managed better so that we can indeed provide a reliable water supply and contribute to the restoration of extraordinary, irreplaceable assets?

RICHARD FRANK: One of the most contentious aspects of the delta legislation as it was being debated in the legislature in 2009 was how the delta reform proposals reflected there would be integrated with the Bay Delta Conservation Planning process that Richard's been involved in and about which he spoke.

There is an effort in the legislation to address that integration, but I would submit that that portion of the legislation is not a model of clarity. So here is my question that I primarily put to Richard and Philip, but anybody can weigh in: What happens hypothetically if there is a difference of opinion; i.e., that those who propose and submit the Bay Delta Conservation Plan come up with a vision for the future of the delta and the ecosystem that is substantially at variance with the Delta Stewardship Council?

Then we'll kind of leave, lurking like Banquo's ghost, what the State Water Resources Control Board does or doesn't do, because they have a role in this as well.

PHIL ISENBERG: The statute gave the Delta Stewardship Council two roles, which normally you would think would be in conflict. We're a responsible agency under CEQA to comment on BDCP's activities and we've been kibitzing back and forth, sending letters, and so forth. But we are also a potential appellate body at the tail end of the BDCP process, a circumstance that does not please me.

The statute says – if you're interested, you can find this on page 38 – the last act officially after the BDCP is completed is the Department of Fish and Game approving BDCP as an NCCP, or a Natural Community Conservation Plan. Then if they do that, the council shall incorporate BDCP into the Delta Plan. The Department of Fish and Game's determination that the BDCP has met the requirements of this section may be appealed to the council.

That's delicious. Who knows what all the ramifications are, but it's reasonably clear. It is reasonably clear from this that, according to the attorney general, we can say yes, we can say no, or we can ask questions. It's pretty clear, though, that we probably can't write our own BDCP.

Anything dealing with water will lead to 50 lawsuits. That's just the operation that we've all been seeing. They can do the spiffiest plan in the history of organized human society for the last 50,000 years and there'd still be 50 lawsuits because we're talking about economic interests and regional antagonisms, historic patterns, fears, uncertainty, and everybody's different priorities.

The reality is not the legal stuff. Anything dealing with water will lead to 50 lawsuits. That's just the operation that we've all been seeing. They can do the spiffiest plan in the history of organized human society for the last 50,000 years and there'd still be 50 lawsuits because we're talking about economic interests and regional antagonisms, historic patterns, fears, uncertainty, and everybody's different priorities.

The question is, can they put together a package that is relatively balanced so that most of the people would say, "Yeah, I'd write it differently myself if I were in charge, but it's not that bad." Not everyone, not all 38-plus million Californians, let alone the interest groups that represent them, but most people. That's how you talk about it in the real world. Lawyers abstract that into other things.

I think all things considered, Rick, that this is going to be a show of emotion. If you ask me, I think the major points that will be interesting is whether the Obama administration develops a coherent approach to some of the policy issues. There's been tension between federal and state fish agencies and I think it will really be a question for new Brown administration in California. If you haven't seen it, Jerry Meral, former Executive Director of Planning and Conservation League and Deputy Secretary DWR under Brown has just been appointed deputy undersecretary or whatever the dickens it is of the California Resources Agency. In this role, he has been given some imprimatur on BDCP.

You never solve the issue of water, poverty, crime, education, and health care because standards change and societies change. You try to cobble together an acceptable range of things that get you through the next 20, 30, 40, 50 years, if you can. Then a new bunch of people sit down and they go through the same discussion lamenting the fact that all of us old-timers didn't solve all the problems. It doesn't work that way. It never works that way.

But if we did actually do something – maybe BDCP, anything – that had an impact for 20 or 30 years, maybe 40 years, that's so much better than the normal timeframe we plan

in politics in California. Long-range planning for politicians is six months. A year is considered wonderful. This is long term.

RICHARD FRANK: Anybody else want to weigh in on it briefly? Richard?

RICHARD ROOS-COLLINS: Two brief comments. First, how do we manage the timing problem? The delta plan will be released by October…?

PHIL ISENBERG: The delta plan will be adopted by us in October of this year.

RICHARD ROOS-COLLINS: October of 2011. Under the best-case scenario BDCP will have a record of decision and be subject to regulatory review at least a year after that.

Since we have two members of the council, not quite a legal quorum, I can say this to you: I hope that the Delta Plan includes sufficient guidance as to how we interpret the Delta Reform Act as it applies to BDCP and that the steering committee can take that into account as the BDCP is finalized. Then, assuming it is approved, I expect the Delta Plan to be amended to incorporate it in some way.

PHIL ISENBERG: We're required by law to review the delta plan every five years at minimum and change it as we see fit, and to do it more frequently if circumstances warrant.

The greatest risk at BDCP is not inconsistency with the requirements of the Delta Reform Act. It is the balkanization of regulatory reviews, approvals and different conditions that can be attached to the approvals, and then the opportunity for each of those approvals to be litigated separately and in different venues.

RICHARD ROOS-COLLINS: Rick, I think you wanted to leave Banquo's ghost out of this, but I can't resist. The greatest risk at BDCP is not inconsistency with the requirements of the Delta Reform Act. It is the balkanization of regulatory reviews, approvals and different conditions that can be attached to the approvals, and then the opportunity for each of those approvals to be litigated separately and in different venues.

Again, if you accept my premise that we need to fix these projects soon in order to restore the delta and obtain a reliable water supply, how do you square that with ordinary procedure?

The Delta Stewardship Council, the Department of Fish and Game, the State Water Board represented by Andy Sawyer and others, and other regulatory agencies really need to put their thinking caps on to figure out how to coordinate these procedures.

MARK FRANCO: In the initial questioning, have we really come up with the definition of legitimate need?

PHIL ISENBERG: Historically it has. Whatever you want is what you think your legitimate need is. The old style of water in California is demand driven, not supply driven. It started off as a state with a relatively modest population of native Californians and Europeans and it looked like an endless supply, so why not go out and promise everyone everything?

That's why I liken it to the state budget. It's a lot more fun to say yes to everyone than to sit back and say well, you know, maybe not this time. That's why business guys occasionally have a really interesting value. We have a member on the council who says, "Well, I'm no expert on water, but tell me about the supply and demand." And you say that's outrageous. Who would want to talk about supply and demand? Well, anybody with sense.

RICHARD FRANK: Let me ask one more question. We started beating up on the Water Board, so let's do that for a little bit longer. Another key part of the legislation that we've been talking about directed the State Water Board on a very tight timeframe to adopt delta water flow criteria. By board standards they started that process at the beginning of 2010 and they did that on time, I believe, last August.

So, three-part question for our panel: what is the significance of that requirement in the legislation, how well or poorly did the Water Board do in adopting those flow criteria, and, most importantly, what's their future hold?

RICHARD ROOS-COLLINS: The Water Board met their deadline on the report. They made very clear in the report that it was not a public trust balancing decision of the board. It was primarily an evaluation of ecosystem problems and opportunities.

But the reality is the Water Board has been blocked by both litigation and by gubernatorial intervention for 25 years. It doesn't take a genius to figure out that the history of

the water board decisions since 1960 — what was the first one, '67? I don't remember. They always ration it up in some fashion or another as a level of ecosystem protection.

It shouldn't surprise anyone that those who don't view that as the top priority would be resisting the notion of establishing new flows. I bet that the establishment of new flows somehow becomes one of the closer issues in BDCP.

RICHARD FRANK: Anybody else want to weigh in on the flow criteria?

CHRIS FRAHM: I think the only thing that I would say is I've heard so many people, principally in southern California, say that they have cause to believe that they don't need anything. I think that's a mistaken impression. I think they do need something. They will need something in the final analysis, so I think it would be wise for everyone to plan accordingly.

RICHARD ROOS-COLLINS: Let me add that the board did indeed meet its obligation to release the criteria on time. It deserves our thanks. The Delta Reform Act requires the BDCP to consider those criteria as a description of what the ecosystem needs and that's the easy part.

The hard part is what the board expressly reserved for a future proceeding, which is to undertake a balance of what the ecosystem needs with other beneficial uses, as required not just by the Public Trust Doctrine but by our California Constitution. One way to think about it is Phase 8.

For those of you who remember, this probably causes you to shudder because we never quite completed the proceeding that began several decades ago to allocate the responsibility for compliance with water quality standards in the delta among all the diverters. But in a way, that's what needs doing.

As I think about it that way, I think we need to prevent more procedure. If we actually attempt to allocate that burden through the individual adjudication procedure that has historically been used, then the water symposium in 2050 will be reporting on the completion of the adjudication. I'm not being cynical. There has to be a better way than the minimum procedure required by our water code to allocate that public trust obligation among all the diverters. I think it is the responsibility not just of the Water Board but of the stakeholders to figure that out.

MARK FRANCO: I will just go back to something that I was saying in my initial remarks. When we see reports coming out that say, "Yeah, they have this amount of flow

for this particular stretch of river," I shudder because knowing what's feeding in and where it's going are all parts of the puzzle that we look at when we're saying this is what needs to come up. It's not just the human communities, but it's all those who I would call my brothers who need a specific amount of water. The plants, the medicine plants that we use, need a specific amount of water.

When I look at the delta plan and some of the things that are coming out with it, to me you have to look at what's going to be affected. What is needed, that kept all these things alive for this many years? What is needed, and what's going to be affected the minute you move something out of it? What are the effects going to be, the long-term effects?

Everything that we look at would be good to study for five years or ten years. I know that we don't have a lot of time because more development and more water use will just happen. But our relatives have been out there even longer than we have and I think we owe it to them to make sure that we're not just destroying our populations of fish and plants and birds and other nesting areas and all this, just for our immediate gratification as humans.

Because who wants to be the last one to pull that last dipper of water out of the stream? Or the one to hold that last fish, and say this is the last one? Who wants to be that person? So when we look at the flow criteria and what's happening with those things, I shudder. There are so many things that have to be put into it.

RICHARD FRANK: The ultimate authority for this panel rests with my former student Olivia, who is keeping time here. Do we have time for a question or two from the audience? All right. The floor is yours. Who would like to ask?

QUESTIONER: I want to come back to Phil Isenberg regarding Tony Rossmann and the 17 commandments. I think you might be thinking about the Old Testament. There was also the Sermon on the Mount, which might boil it down to something like, "Do unto California's ecosystem what you would have inflicted upon your own plants."

With that in mind I'm going to turn back to the delta flow criteria. I would really like to see the delta process work. Richard described the flow criteria as pivotal; they really do play a significant role, but we've also heard them described variously as a "paper" or irrelevant.

The cynic in me wonders, given the kind of various degrees of resistance, how lightly the delta process can move us closer to a sort of Golden Rule and what sort of efforts will assist in that?

RICHARD FRANK: To restate, if I understand the question – which I think is directed to the flow standards themselves, given the challenges and the criticism that those flow standards have engendered in some quarters – how likely is it that they are going to be influential and effective in informing public policy on the Delta in the long term?

PHIL ISENBERG: It's hard for me to believe that you can read the government statute and the directions from the legislature and also look at the history of the last 30 years with the board trying to impose new standards that didn't work and not reach the conclusion that sooner than later a new level of flow standards is both required and desirable.

Knowing the politics of the situation I understand that that will be resisted strongly by many people. But everything is resisted strongly by many people. I think we're struggling on the council with a question. We don't have either the time or the skill to do a public trust balancing test, but arguably any new flow standard from the Water Board or BDCP plan comes after we adopt the delta plan.

What might a delta plan look like? With the statute, this is a legally enforceable regulation. What might it look like to encourage other agencies to do what they wish to do? I think that was an implication of your question. We're struggling with that. As a matter of fact, open invitation: email us ideas. By the way, all your ideas will be immediately posted on our Web site, so make sure they're well documented and footnoted.

We're actually struggling with that. The function is still legally primarily resting with the Water Board. Governor Brown has to make appointments to the Water Board, and that's going to be very influential.

RICHARD ROOS-COLLINS: Let me answer Tony's sermon, which I support, with the litigators' sermon, which is if you don't have the facts, you need the law. If you don't have the law, you pound the table. That's my answer to your question.

Law itself will not get us to the result that we need. The law leaves too much discretion and reasonable parties, as well as unreasonable parties, can differ until the end of time as to what their respective obligations are.

The fundamental problem with the delta in my view is not legal. There are literally hundreds of stressors that affect the condition of public trust resources there. There may be several dozen that are pretty significant. As an example, 90% of the biomass in the delta is exotic. Now you tell me what that means for the condition of native fish.

Because we are running up against the boundary of human understanding, we have a very difficult time stating what flow criteria is the right obligation of the projects versus someone else.

This is a sort of a work in progress answer to your question, but it seems to me that BDCP, the delta plan, and many other decisions that follow need to be based more on testable hypotheses. If X is done, then Y is the expected result for the condition of a resource insofar as under our control. Then manage the results of that testable hypothesis over time.

RICHARD FRANK: We have time for one more question.

DR. GLEICK: In the last year or so there seems to have been an accelerated effort to design and perhaps permit part of a peripheral canal.

Given the uncertainty that I hear about flow criteria and actual demands from southern California working to get off of exports, the money that's going to have to come from southern California and urban water users, are we doing that too soon? Do we not know enough about the set of tunnels? Or am I misunderstanding which is happening before which?

RICHARD FRANK: To summarize, the question is given all of the uncertainties – fiscal, scientific, otherwise – is it premature to go forward with the peripheral canal or alternative conveyance?

PHIL ISENBERG: At the last stewardship council, I was abusing the lead scientist for the interagency program, a really smart woman. She works in our office. I was abusing her because I kept saying, "Do you have a good certainty on that? What can't we do?" And she finally popped out with a little snappy phrase that caught everybody's attention. She said, "Well, you can't do it because you're not God."

One of the things that's distressing in most public policy is everyone searches for certainty. I'll use an example outside of water. Our local government wants a stable and secure funding source, a slogan they've used since I was on the city council in Sacramento 35 years ago. Well, hell; everybody wants that — a stable and secure anything.

If the water supply is not there, you want a stable and secure supply for yourself. The money's not there. It's the overpromising of everything that seems to get us into trouble. I'm in favor of prudent, hair-shirt approaches. They are commendable, because they point out some ways to address our problems.

I've also come to believe that we have to do some of virtually everything that people suggest, because nothing is perfectly achieved on time, whether it is water development, conservation, underground monitoring, or whatever in the dickens it is. We do all of those things. I do think the BDCP should be completed. The last time before this effort that we had a proposal to look at and cost estimates was when we were battling the peripheral canal in the 1980s.

I'm sorry, there's so much that's happened since then that unless you have whatever facts are available, you can't even have an intelligent discussion. I think you have to have those facts, and then you have to have the public policy debate, and it's got to be in public, and then you make choices.

RICHARD FRANK: Very quickly, last word from Chris and then we've go to wrap up.

CHRIS FRAHM: I just wanted to say that I think it's always problematic to separate willingness to pay and talking about your own dollars, not imagined dollars that will be provided by some other source. I think we have such a long history in California of subsidies and those subsidies still exist in many areas in a way, but they are not going to be possible going forward.

I think that the better the data can be in terms of what demands really are coupled with actual willingness to pay because there are alternatives out there in many parts of the state, and I think those alternatives will absolutely be looked at very carefully.

Ratepayers make decisions on the basis of what things cost alone. They want to ensure that the people who provide their water are doing it at the lowest possible cost, taking into account the other responsibilities that are recognized in the field of water today in a way that they weren't 20 or 25 years ago.

I believe that the single most grounding thing in all of this is economic reality. I believe in it because the people of this state, given where they're at right now, they're beat up, they're mad, and they're going to get a lot madder before all is said and done.

If we're good water managers we're going to be thinking of that and having that at the forefront of some of these discussions or, frankly, we'll probably have a whole new group sitting here a couple years from now, at least as far as the professionals. Maybe the students will have evolved into water managers.

RICHARD FRANK: Please join me in thanking our panel.

PANEL 4: SECURING WATER RIGHTS IN THE FACE OF ENVIRONMENTAL AND WATER SUPPLY CONCERNS: MAKING SECURE WATER RIGHTS & RESTORATION CO-EQUAL

MODERATOR
Prof. John Leshy | *UC Hastings College of the Law*

PANELISTS
Prof. Brian Gray | *UC Hastings College of the Law*
Prof. Jay Lund | *Center for Watershed Studies at UC Davis*
Felicia Marcus | *Natural Resources Defense Council*
Michael van Zandt | *Hanson Bridgett*

ANTHONY AUSTIN: I'd now like to introduce our final panel put together by the students of UC Hastings discussing the balance and competing obligations of securing water rights and ensuring the restoration, at least, of the Bay Delta, and if not, the rest of California's water supply. And I'm going to pass it off to Professor John Leshy from UC Hastings, the panel moderator.

JOHN LESHY: It's always tough to do the last panel of the day. So we'll try to make it as interesting as possible. The title is "Securing Water Rights in the Face of Environmental and Water Supply Concerns: Making Secure Water Rights and Restoration Coequal."

Now think about this. I've been at this stuff a long time, more than almost everybody here, probably, but not quite as long as maybe a couple of people. I think in 1972 I started work for NRDC and my first job, or one of my first jobs here, was to do comments on the National Water Commission Report. I read the report and I didn't know anything about water.

I read the report and I thought, what they were basically saying was pay more attention to economics. Pay more attention to the environment. And pay more attention to equity in doing water resources. I thought this is the most reasonable thing in the world.

So I wrote comments and said, you know, this is a no-brainer. Who can object? Then the Western Water Establishment sort rose up and said, "This is the end of civilization as we know it if this report is implemented." That was my introduction to Western Water.

And I thought, this is a really wacky, crazy field and it's going to be a lot of fun to work in. So I kind of worked in it ever since.

historically, first of all, in 1972, nobody was talking about restoration. They were only talking about water rights and building more dams. That was it. I suppose it's probably around the early '80s that restoration even sort of got into the conversation a little bit. Then they said, well, we could mention ecological restoration, and then maybe 10 years later, we could then talk about it in a limited way. Then maybe, well, we could take it into account. But now we're at the point of debating whether restoration and secure water rights are somehow coequal. So that's an indication of where we've come from and where we are today.

I was thinking about the title here, "Restoration and Secure Water Rights." Are they coequal, or how to make them coequal, how to do that. I was thinking, historically, first of all, in 1972, nobody was talking about restoration. They were only talking about water rights and building more dams. That was it. I suppose it's probably around the early '80s that restoration even sort of got into the conversation a little bit. Then they said, well, we could mention ecological restoration, and then maybe 10 years later, we could then talk about it in a limited way. Then maybe, well, we could take it into account. But now we're at the point of debating whether restoration and secure water rights are somehow coequal. So that's an indication of where we've come from and where we are today.

Where we're going is anybody's guess, in thinking about this, I see maybe four or five phases of restoration in water policy. There's an old Hollywood joke, you know, about the five phases of an actor's career. Phase 1 is, "Who is Kevin Costner?" Phase 2 is, "Get me Kevin Costner." Phase 3 is, "Get me a young Kevin Costner." Phase 4 is, "Get me a Kevin Costner type." You know. And Phase 5 is, "Who is Kevin Costner?"

We got a great panel here to talk about this issue. Very experienced people and it's got exactly the right balance. It's got three lawyers and one sort of scientist-engineer. The bios are in the material. So I'm not going to labor over this. But starting on my left, Brian Gray, my colleague at UC Hastings. And Brian and Jay are the two professors.

I do have to say, I just read recently a nice little essay about Daniel Patrick Moynihan, who was a professor, and then he became a senator. In his first campaign for the senate, his opponent in their first debate referred to him as "Professor Moynihan." And Moynihan stood up and said, "Now the mud-slinging begins."

Brian is a long-time water professor, and sort of practitioner and litigator and policy analyst and all that, on the faculty of Hastings. And he and Jay, and I do want to put in a big plug for them, because I have read the book, or the draft of the book, they're coming out with a book that's going to be essential.

In the next month, the University of California press, it's called, Managing California's Water in the 21st Century: From Conflict to Reconciliation. Jay and Brian, and about six or seven other people have put this book together. It's a great book. I mean, it sort of tells you everything you want to know about where California water came from and where it might go. So big plug for that. So that's Brian.

Second is Jay Lund. Jay is on the faculty at UC Davis, engineering, environmental. Been long-involved in California water stuff. This is a really great panel. There's a lot of history here. Felicia Marcus, NRDC, on the Delta Stewardship Council. Used to be with the Trust for Public Land, used to work for City of Los Angeles, Department of Public Works.

And then finally, last but not least, Michael Van Zandt, who is a long-time litigator in this field, particularly on takings in water law. He has done immense amounts of litigation in Nevada, on Truckee-Carson-Pyramid Lake issues, which will never end. Long experience in this field.

What we're going to do, because it's the last panel of the day, and we'll try to make things a little more interesting, hopefully, I'm going to ask each of them, in order, questions. One for each of the four of them. I'll ask Brian the first question. Then he will try to answer it for four or five minutes. And then the other panel members will sort of respond to Brian, and make any observations they have about what Brian has said on that question. And then I'll turn to Jay for the second question. And we'll kind of do the back-and-forth. And then at the end we'll have question time for the audience to participate.

So that's how we're going to proceed here. The first question to Brian Gray, which goes to the title of the panel. The question is this: Is the title of the panel, "Making Secure Water Rights and Environmental Restoration Coequal Goals," is that to be cynical, a false premise? I mean, can you actually do that? Are they incompatible in some fundamental way?

BRIAN GRAY: I will answer that. Before I do, though, I wanted to note that it's Tom Graff's birthday. I just think whenever a group like this gets together, we should remember Tom, and we should remember what a vital and creative, irrepressible force he was, a force for good. And thinking back about Tom, he always could see the humor in the direst situations. And that's a quality that's really essential for all of us. So I just wanted to take a moment and wish Tom a happy birthday.

So to answer your question, John, I think that it is possible to manage the earth ecosystems in California's Delta,, to achieve those stated coequal goals, and to protect the fish. Fishery biologist, Peter Boyle, who is co-author of a book with Jay that John mentioned, is one of the pre-eminent fishery's biologists in the world.

Here's what Peter has to say. He says, "About 129 kinds of native fish in California, 5 percent are extinct, 24 percent are listed as threatened or endangered, 15 percent are eligible for listing today, and 40 percent are in decline. In other words, 83 percent of the native fish are extinct or imperiled to a greater or lesser degree."

So the challenges are immense. I remain optimistic that properly-managed with the right amount of creativity and the right amount of courage, we can protect the fish in the ecosystems on which they depend, so as to prevent significant further extinctions. If Peter were here, he would note that there are several species of fish that are listed on the endangered species list that are probably extinct in the wild, and they exist only because of hatcheries. And that just emphasizes the dire straights that we are in.

I wanted to comment briefly, though, on the premises of the question, which I think artful. The first is the idea that we have coequal goals, that we have a coequal goal of protecting the ecosystem, but also protecting, as the title of the program states, "Secure Water Rights."

> *I don't think that the law requires that we have coequal goals. The law that we operate under actually requires us to put the fish and the ecosystem, the habitat on which they depend first, and other things follow from there.*

I think that each of those is faulty. I don't think that the law requires that we have coequal goals. The law that we operate under actually requires us to put the fish and the ecosystem, the habitat on which they depend first, and other things follow from there. The concept of "coequal goals" is set out in the 2009 legislation, which is the operating principle for the Stewardship Commission. I think there's a reaction to CALFED which also has similarly-stated goals.

But I think ultimately, the slides that Cathy Crothers put up this morning showed that what CALFED did, was it authorized a very dramatic increase of exports, especially what the State Water Project and the early – middle part of the decade that led to a precipitous decline in not only salmon species, but also the smelt and other species.

And I think that the articulation of "coequal goals" was really meant to emphasize that this time we really mean it. This time we really mean to have a parody between the ecosystem fish depend on, an ecosystem water quality depend on an ecosystem, and our

water supply needs. But I think the goal actually requires both in state law and clearly under federal law, something very different. State law does allow for accommodation of a variety of interests in water quality laws, again, basically require reasonable protection of a whole panoply of beneficial interests. And so that's an example of this kind of coequal status.

The public trust doctrine is written in a way that says that we protect public trust, and we can only encroach upon the public trust if there's a compelling need to do so; if there's no other feasible means of accomplishing the task of water supply. But the public trust doctrine properly understood and administered does place fish on a higher level than the water rights for secured water supply rights are.

Certainly the federal Endangered Species Act says that we protect the endangered species of fish, and we protect their critical habitat, so as to protect against their extinction, to assure their long-term propagation. Everything else follows from there.

There's a danger when we speak of coequality of these two goals. What I worry about in practice is that when we have agencies such as the Delta Stewardship Council, and processes such as BDCP, that while the people involved are very-well intended. They're people in this room. I have the greatest respect for them. I think they're people of good will.

I worry that when we start with the premise of coequal goals, we sort of adopt the principle at the outset that everything is in play. And we try and accommodate the various interests; fish, ecosystem on the one hand, reliable water supply, a whole array of economic interests in the state that are dependent upon that. We diminish the protections of the laws that provide that precedence must go to the fish.

I worry that when we start with the premise of coequal goals, we sort of adopt the principle at the outset that everything is in play. And we try and accommodate the various interests; fish, ecosystem on the one hand, reliable water supply, a whole array of economic interests in the state that are dependent upon that. We diminish the protections of the laws that provide that precedence must go to the fish.

So I was struck by something that Richard Roos-Collins said in the last panel. It seems to me that what we do is we establish an amount of water and flows and temperature standards that the fish need, something similar to what the State Water Board did with Delta flow criteria six months ago. From there, we ask a series of hard questions that have to be justified to the extent possible by science and economic determinations.

And that is, given these are the needs of the fish, how much more can we give up? What risk do we take in allowing diversions greater than those that the fish need, and still e nsure that the fish and the ecosystem is functioning? I think if we don't do that, we are at risk.

I was also struck by the reaction of various people to the Delta flow criteria. For the Delta, the State Water Board stated that approximately 50 percent more flows are necessary in order to protect the fish and the ecosystem itself. And the immediate reaction was very similar to what Jason Peltier said. He put it in his own way, which is — what did he call them? He called them disgraceful.

His boss, Tom Birmingham, old friend of mine, old adversary in some contexts, put it a little differently. He was quoted in the San Francisco Chronicle saying, well, "This is all very interesting but it's really irrelevant." Because it doesn't take into account all the other factors that are going to be included before we actually set Delta flow criteria.

I think that's exemplary of what I worry about. It's that idea that we start off with the accommodation, rather than start off with the premise that the fish need the water, and we can only encroach upon that water as justified, if there's no other feasible way.

The second — the other premise of the question that I find faulty is the idea that we should try and promote — the title of the program is "Secure Water Rights." I think we have an obligation to set as a goal, protecting to the extent possible secure water supply. I say "to the extent possible," because we, of course, have a highly variable hydrologic system and we have to operate in a system where demographics and economics and demands are constantly changing. And our scientific understanding of the needs of the ecosystem also change.

But to the extent possible, we should try and protect, promote and secure water supply. "Secure Water Rights," or absolute secure water rights is not the way to do that. There's a value to having insecurity in the water rights.

But to the extent possible, we should try and protect, promote and secure water supply. "Secure Water Rights," or absolute secure water rights is not the way to do that. There's a value to having insecurity in the water rights. To cut things short, I'll use Westlands as an example. I wish Jason were here. But he's not.

Jason made several points that I thought were very interesting. He said, for example, that we are much more efficient. We are able to grow certain crops, like pima cotton, with significantly less water. And we've seen higher yields. We've been able to fallow land. Westlands also, he mentioned, established a sophisticated internal water trading program.

Why were they able to do that? They were able to do that because they had to. They had to do that because they were hit with a series of shocks that increased the price of water. They had to then begin looking at alternative water supplies. They also had to become seriously interested in conservation, prove its conservation and efficiency improvements, that they were hit by price increases caused in part by the Reclamation Reform Act of 1982, which they litigated against. I was involved in that litigation.

They were hit by price increases mandated by the Central Valley Project Improvement Act of 1992, which they litigated against. I was involved in that litigation as well. They were hit by the application of the Delta water quality standards, and endangered species requirements, which reduced their water supply dramatically, which caused the shortages that required them to use water more efficiently and grow higher-value crops as he described.

And they were also hit by drainage problem issues. One reason they don't allow drainage is because they and other water districts, water users along the west side of San Joaquin Valley contributed to the debacle at Kesterson National Wildlife Refuge. They would not have done that if it weren't for those pressures. And those pressures are partly the result of an insecurity in water rights.

In California, the water right is dependent on reasonable use requirement that a number of people that alluded to so far today. And that reasonable use requirement says that water must be used reasonably under current circumstances. The definition of what is reasonable may change over time as the circumstances change, as other demands change, as the affordability of new, improved, more efficient water practices change, and its environmental needs change.

It's that insecurity in the water right, that pressure that we can put on water users to improve their practices by calling into question, by jeopardizing their water rights. I think that's an essential component of water policy reform. I've got other examples, but that's probably plenty for me.

JOHN LESHY: Each of you has a couple of minutes to respond to anything Brian said. Felicia, want to go first?

FELICIA MARCUS: I'll just add a couple thoughts to that. I, too, had the same thought of what a secure water right is, since there's not security in absolute security. And there is an absolute security in water rights to begin with. There's relative security depending on seniority and a variety of factors. So I thought the premise was sort of challenging there.

And the other issue I would just toss into it, ties on to what Brian was saying, is that as

you're looking at the issue and you're looking at the needs of the species or the ecosystem, and then looking at the amount of water folks want, there's also a pressure to that. So one bookend of the flow criteria that was set in the statute for the water and the other bookend is the amount of water that all of the water agencies want and support and like to have.

both the water agencies and the enviros felt that putting them as coequals was a win for them. Because each side always feels it's the one that doesn't have the power.

I will tell you, having been in those rooms, that both the water agencies and the enviros felt that putting them as coequals was a win for them. Because each side always feels it's the one that doesn't have the power. I will spare you my ecosystem management speech that some of you've heard. But there is a lot of truth to the fact that coequal goals were set there to sort of protect both sides who fear being ruled in the political process on one side or the other.

Forcing us to think from a policy standpoint is very important from the actual legal water rights situation, I'm inclined to agree with Brian. Because it's the one thing that also gives the fish and the other species a fair shot in the political dynamic.

JOHN LESHY: Thank you, Felicia. Jay?

JAY LUND: I'm always intrigued by this concept of secure water rights. Because as an engineer, you're always prepared for contingencies. What happens if something goes wrong? The only reason why we have buildings that stay up is because we have hundreds of years of figuring out how they fall down. And hey still sometimes fall down. There's some probability that you'll fall down. The security in that sense, that's security. I mean, just so you all realize that.

Managing real risks is managing contingencies. We have to prepare ourselves in terms of life insurance policies or whatever, for these kind of contingencies. This insecurity of life that we have, which is also inherent in any land right that we have. So to me, it's kind of an odd idea, that you should have some kind of absolute security in anything.

But another thing that's come up in terms of security of rights for the fish, in terms of recent safety proceedings on their criteria, a loose word, for how much water fish need. We were told that the question that first came out before the hearings, how much water do fish need? A lot of people are chattering about how much water fish need, it always seemed to biologists that this was an uncertain question. It's sort of like asking you, "How much air do you need?"

You could, as an engineering approach, figure out how many cubic foot of air you breathe in and out each day. And you could figure out how much air you need. Okay. Now we'll ask the question, "How much air do you need, now that I'm not going to give you any water?" And that's sort of the question that they were asking in the state — answered in the state board. How much water do the fish need if you're not going to give them anymore habitat?

You're not going to give them anymore flood-plain land for spawning. You're not going to take out any dams so they have for a place to spawn. It's kind of an absurd question, really, the way we've been asking it. People get upset about the answer.

MICHAEL VAN ZANDT: As a property rights lawyer, who has dabbled over water rights over the last 20-some years, the premise that was posed to the panel on whether or not secure rights in restoration have coequal, status is one that I've been fighting for the last couple decades. And the people that I represent, you know, that's what they are interested in, is security in their water rights.

There is a tremendous investment that has been made to serve California, quite frankly, throughout the West, in putting water to productive use, beneficial use. And written right in the California Constitution, we have a tension, you know, between beneficial use and reasonable use. Then you overlay some other concepts, like restoration and the public trust doctrine on top of that. How do you resolve the tension?

And yet, the law has built into it protections for these secure water rights. We have a seniority system here in California. We have a riparian system. And so there's automatic attention that has to be worked out and has to be resolved. We're hoping, from my perspective, that we can achieve coequality. I would not put the fish and habitat above the secure rights, as the secure rights have a place in creating a productive society.

Quite frankly, there's a lot of contribution that especially the agricultural community brings to the restoration of the environment. So we do not, I don't think want to put secure water rights down a couple of notches and lose the contribution that those people made to protecting the environment.

QUESTIONER: If I could respond to that briefly. You know, I'm a home owner. But in that context as well, I do respect the need for certainty. To the extent possible, certainty for business-planning decisions, for transferability of water rights for social purposes.

The problem I have in elevating security in water rights into a coequal status above the ecosystem is, I think you've seen the consequences of that. You've seen the consequences of over-appropriation in use of water to the point where the sources of that water supply

are no longer sustainable. They may be sustainable solely for the purpose of water supply, but they're not sustainable as functioning coequal systems.

I think we have to figure out some way then to make better use of the developed water that we have, as well as encouraging more efficient conservation in use. I think that a key to doing that is to put pressure on existing water right holders, as was done in the case of the Imperial transfer in mid-1980s, and the second, Imperial to San Diego County Water Authority Transfer about 10 years ago.

You're almost at risk of significant reductions in its water rights because of findings of unreasonable use, findings of non-beneficial use in the case of the second transfer. And those transfers I think wouldn't have happened without that type of governmental pressure.

But what we saw was an increase in water use efficiency. We saw an increase in the efficiency of water allocation as water was moved and relatively high-value uses on the Southern California coastal plain. And the property rights in that case got protected because Imperial was compensated. Imperial got paid for the water.

JOHN LESHY: Now let me move on to the second question. Thank you very much, panel, for responding to the first. This is to Jay and this is sort of looking at the other side of the coin. I think Richard Roos-Collins said the panel in the Delta that preceded this talked about the sort of knowledge of the Delta's operation, pushing the boundaries of human understanding.

So the question is, if you look at the environmental side of the equation, whether it's coequal or not, how do we — will science ever yield really crisp answers to the question of how much water does the environment need to be maintained or restored in some sort of sustainable way, or is it always going to be shifting goalposts, which is what the water rights people are always complaining about?

JAY LUND: We have sort of two fundamental laws in general engineering promise. Water flows downhill. Water flows uphill towards money. You've heard that before, I'm sure. So the role of science. The name of the conference is "the end of paper water." Well, what are you going to replace it with? If this is the end of pure water, container water, what are you replacing? Some other form of unreal water? Right? Hopefully, you're replacing it with something closer to real water.

We've heard about this in the abstract quite a lot. That a lot of our folklore of water that's involved in management, involved in law, is not real. It doesn't obey the law of physics. Doesn't obey the laws of real water. In terms of a society managing the system, we have to have paper law, paper water that more closely corresponds to the physical water as well as more closely corresponds to the social objectives for managing water.

So I think that's sort of the fundamentals of it in terms of how this dumb engineer limits his understanding and thinks about things. Part of understanding of how real water works changes with time. This idea of conservation of in terms of historical time. It's actually only the last few hundred years we've had this.

Our understanding of groundwater physics really dates from about 1935. Our understanding of water chemistry is much better now than it was 50 years ago, but I think it's still virgin. Our understanding of how biology, ecosystems work, is much better now than it was 10 years ago, is still changing.

Our history of water law, as I've been educated and since I learned to read history, as I've been educated in working with the esteemed water lawyers on our book, has always changed as well to correspond with our emerging evolution of water demands. This is the way the society views water and water use and water law. But it's also changed in the course of our growing understanding of how water works in terms of physics, biology, things like that.

So I think you shouldn't ask for the goalposts not to change. The goalposts always change, not only in terms of the science of real water, but also in terms of the societal objectives for paper water. And therefore, the paper water probably should change in some reasonable regard to those changes.

The current gaps we have between real and paper water I think are now quite large, and becoming increasingly cumbersome and debilitating for us as a society, and its economies in supporting the ecosystems. And they're becoming more important. Look at the issues of the water rights enforcement, where you have groundwater use, which is essentially stealing water from surface water.

If you look at the Sacramento Valley, I think a reasonable argument could be made that all groundwater uses in excess of natural vapor transformation on the landscape is essentially stolen surface water over the long term. But we're not able to recognize that in terms of paper water.

All kinds of tremendous divergences we have between real, paper water are limiting our ability to manage the system in ways that respect what we're trying to accomplish as a society for the environment. Our ability to do water marketing, conjunctive use of groundwater, surface water, our ability to implement conservation requirements. It's a lot of talk, lot of talking about 20 percent conservation for urban areas in per-capita terms.

Now is that conservation in terms of reduce, apply bargains, reduce water deliveries to a city in Sacramento? Or a 20 percent, making 20 percent more water available for the uses of our region, including environmental uses? They're very different things in terms of the way conservation works. You can have 20 percent conservation in terms of all

reducing the flushes of toilets in Sacramento, and not reduce any additional water for the basin.

We have a whole set of water rights established based on historical hydrologies. The climate's going to change. And it's going to change that balance of all the different water rights, the security of these rights.

We have increasing implications for us in terms of protecting endangered species. I think the water use requirements coming on the state board are a good example of that. Climate change. We have a whole set of water rights established based on historical hydrologies. The climate's going to change. And it's going to change that balance of all the different water rights, the security of these rights.

And it's going to cause water users to have less secure water rights, surface water rights in the Sacramento Valley. What is a farmer going to do? He's going to turn on the pumps for groundwater. What does that mean? His neighbor, who has some remaining surface water rights, now has enough surface water for that right.

So I think it's important that our paper representations of water, paper water rights, reflect real physical watering systems. Now we'll always be changing. We'll always be difficult. But the way we organize paper water rights I think makes it more difficult.

JOHN LESHY: Okay. Michael, you want to comment?

MICHAEL VAN ZANDT: I certainly appreciate the disconnect between the science and what we are trying to yield as real water that maybe actually be put to beneficial use involved in some significant cases over in the state of Nevada, where the struggle has been using science from the 1930s to determine what the yield is off of mountain ranges that would percolate through thousands and thousands of cubic yards of soil down into the valley, and strike it as groundwater in trying to convince a fact-finder that there's a correlation between a raindrop and a gallon of water that we extracted out of the ground.

And it's a very difficult analysis, an evaluation that has to take place. You try and use the best science that you can. We have reconnaissance studies that have been conducted over the years. But we have limited datasets, data that's referred to that. We have one hydrological cycle. And we're trying to decide whether or not that drop of water will be available for the next 50, 100, maybe 1,000 years for use by this valley.

The science just isn't there. Computer model just isn't there. So, you know, there's a lot of conservative evaluation that goes into that process, from the fact-finders, state engineers, more resources, control board, try to make sure that the water is in fact real.

JOHN LESHY: Brian?

BRIAN GRAY: I wanted to give an anecdote and ask Jay a question. I got asked to be on the science advisory panel for the Delta Vision Commission. I was puzzled, because I am not a scientist. I found out the reason why, is they talked about public trust doctrine, but nobody in the room, the scientists, knew what it was. So they wanted a lawyer to come in and talk to them about public trust doctrine.

And I told them that along with the reasonable use doctrine, which provides this kind of a path of flexibility, the public trust doctrine stands for the proposition that even what we previously called "vested" allocations of water are subject to reevaluation as conditions change. And water may be reallocated away from vested water right holders, previously vested water right holders to protect public trust needs as appropriate.

And their reactions, "That's really cool." Because it was exactly what they thought the science demanded. They thought there was a disconnect between the law and the science and I think that the two are actually much more in harmony than we typically give them credit for. My question, Jay, for you is, there's tremendous scientific uncertainty.

My thesis of having primary legal rights on the side of protection of the fish is probably unrealistic for a variety of different reasons, not the least of which is political. How do we create — to use a Clean Air Act term — an adequate margin of safety and account for that scientific uncertainty when we make decisions such as what should the Delta flow criteria actually be?

JAY LUND: You would have to say we will try to do it imperfectly. We have to accept some risk from insecurity, if you will, and the answers that are given. And given insecurity, I think your response earlier was quite on, that we have to have contingencies for if we're wrong. And we will have this big conservation plan.

And we'll have lots of very good science — the best science that they could find. But I'm certain, absolutely, 100 percent certain that some of it's wrong. I don't think there's anybody that's part of that process that thinks there's 100 percent certainty, that it's 100 percent right. So I think it bears on us in terms of new diligence to develop processes and contingencies for things going wrong.

JOHN LESHY: Felicia, you have any observations on this?

FELICIA MARCUS: I think the nature of this, the fluidity of the issue, is just that people have to be comfortable with some uncertainty. But the better we are with fact versus faith-based advocacy, the better off we are. In this arena, you have a lot of belief in things. It's not about science. And people tend to throw the "uncertainty" word around if they don't like the direction something's going. And there's not enough science. And it seems to be sort of an evenly-shared tool.

So I think we just have to be comfortable with the fact that we don't know, which becomes very difficult when you have so much at stake with an environmental standpoint.

So this is one of those interesting things where progress can be made as people are finally comfortable sort of holding hands and talking, not quite a jump forward, but a little hop forward in changing the dialogue to getting to the next level. And a direct advantage, but does end up being one of those issues that people tend to save for the last part of how they're going to talk about it, because they know they need something like that, and then they run out of time, and everyone's dissatisfied.

So there actually is a need for bringing more science, not in the engineering standpoint of water, but in the science-based of how do you manage species into the mix early on. And that tends to not be the main set of players in any given room in part because of a cultural difference where crispness is not the norm in dialogue.

JOHN LESHY: I used to have a bumper sticker that said "Gravity sucks, but it's the law." Okay. Well, let's go to Felicia now, the third question. Refer to the lawyer's question there for the law students. We love to talk about process. So for reconciling environment restoration and water rights, secure water rights, what's the process? Who makes these determinations? How do we make them? Is it like in the Bay Delta? Is it the Bay Delta Conservation Plan? Is it the State Water Board? Is it the federal EPA in setting water quality standards? Is it the legislature, state or federal? What's the process that should work here?

FELICIA MARCUS: Well, what should work, and what does happen are different things. I find that there's a lot to be said. But I thought I'd raise two points. And I'd say, these are more observations than opinions, not so that I can distance myself from them later if I need to, but since we're in an academic setting, I want to be a little bit provocative in my answers, and hopefully give you food for thought, rather than answers to take home and act on.

I'd like to make just a couple of observations on this. One's more short-term and directly answering the question, and another one is sort of long-term food for thought. I think the answer to this question really depends on the time horizon that you apply to it because the time horizon for how people talk about these things really varies rather widely.

Generally, the partisans who are emeshed in these water conversations like to say that they take a longer-term view, but really they take a shorter-term view, because they're the combatants, the cognoscente. The priesthood of water, the water buffalos, whatever you call them, they exist in every one of the stakeholder groups. They're people in government, people in water, urban water agencies, agriculture water agencies, and environmental groups.

I took myself out of this sort of family priesthood for almost 10 years, maybe eight years, before coming back in when the water legislation came up actually just a little over a year ago. I was sort of struck by how it changed the gaping hole, but also how much it stayed the same.

Each of those groups of combatants are like the Bobbsey Twins compared to everybody else. There is a special language and there's a special code. There's an interpretation where sometimes you walk in, you say something, and you know that's not what people are hearing. They're hearing what they think you're going to say, not what you actually had to say. Or they think you're going to say what you said 15 years ago on the same topic.

There's this very small world of people who are the practitioners in this and I think that tends towards a shorter-term time frame. By "short-term," I don't mean tomorrow necessarily. I'd say if you're thinking the next 10 or 20 years, then to me the obvious answer to the question that John posed is the water board and I can leave it at that.

I'd like to illustrate why I say that, why it has to happen today, and why it has a chance of happening more in the years to come, again with the short-range view. With this complex web of water rights which we've accreted over time that you see up there and the overlay of contracts with the state and federal projects. I'm sure any number of you would get out a chart that has like 100 things on it.

You will find as people appear, they will declare themselves as area origin, pre-14, whatever rights. The type of water right someone has is very much a virtual nametag when they come into the world. We have this incredibly complex system, a web of water rights that people operate under and argue about an incredible amount. It's created this odd house of cards that hasn't fallen down yet, but where you can have this situation where the Delta Commission Report, using water board information, can say that we've allocated more than the average flow of the Delta. It sounds really bad.

Even if you discount that for what actually happens in the real world, it's pretty clear that there are more water rights out there than there is water, except maybe on some extreme period of time. The whole system hasn't fallen apart, but there's a level of discomfort, unease, fear, uncertainty, and a hope for more of the people who have one of these slayers of water rights. Even then, I'm over-simplifying.

But the Water Board feels like the right place, because they have a board, they have the authority, and they have tools where they are allowed to allocate and reallocate water rights. They do have the power to do it. Even though I'm not a water rights lawyer, the interesting issue that I've been thinking about a lot in the last two years, which even goes back to the '90s when I worked on this in the earlier round of negotiation between the state and federal government – and the stakeholders that led to the accord and then the CALFED papers which were another little chunk for the answer – is that the Water Board has seemed to be your bug in those rooms, in part because of their ex parte rules.

the State Water Board has been strangely absent. As we go through these conversations, which are in various back rooms, front rooms, and open settings, the Water Board is sort of the quiet, unsaid item out there.

They say they can't come, which makes it a little harder to involve them in these dialogues. But the State Water Board has been strangely absent. As we go through these conversations, which are in various back rooms, front rooms, and open settings, the Water Board is sort of the quiet, unsaid item out there. People will say that they have the authority to do this, but it hasn't happened yet.

I've spent a little time talking about the Water Board. What do you need to actually get this done? In talking with a number of the water board members, I got a vibrant response about how much authority and power they really had. They may be tortoises, but they're going to get this done; Yuba, the San Joaquin this year, the Delta in 2014, et cetera.

I thought, well that's kind of interesting and something to factor in, because they actually are a forum that has the capacity to do this. But then I thought about it a little more. The legislature wouldn't be a really good place to do this, considering how hard it was keeping this sort of modest step forward that we got in water legislation last year. They could really mess it up; it's way too complex. It's a decision that you want to make in law, science, practice, and all the other equities that you bring to bear.

But the legislature could help the Water Board do this better, whether it's being a little freer on giving them tools for opposing water rights and going after all those different groups that don't have water rights at all, the illegal diversions. When we were doing the legislation, this was radioactive for some players. We ended up, for a variety of

reasons, with a very eviscerated attempt to try and help the Water Board do their job that, in theory, they had the power to do on the books.

We did get them some enforcement staff, which they really needed, but there are a host of other things that we could do to help them. The other things that you could try to go about doing in large scale are groundwater management, basic accounting, having metering before 2025, and all sorts of things that make this system kind of a challenging thing to try and adopt.

So my short answer for the short-term is that the Water Board is the obvious logical place, and some time ought to be spent thinking about how to help them by getting them the tools that they need to do this very challenging job more effectively. This doesn't mean to just solve everything, but rather to feed into the other activities that it takes to make this incredibly complex and very artificial, but very important, system work better for the ecosystem. This includes the economics of the state, and for individual water agencies and the investments that people talked about earlier on other panels.

The $64,000 question is if we can get them the tools, would they be a key player to this and help people who find the whole system fraught with uncertainty? Again, some people are very comfortable. They may cry out for certainty. But the uncertainty works to their advantage. Uncertainty closes the door on that. There's a collusion of that priesthood in complaining about the system, but not actually thinking about what we might be able to do to constructively fix it.

I swear I'm not proposing this last thing but I want to put it out there. If any of you say that I propose this, I will either kill you or have the rest of you vouch for me that I just put it out there as a provocative saying. All of this issue of water rights and the system and making it work better is premised on building on what's come before and just the way it's been.

If someone came from outer space or out of state, or not even from the water world, or my Aunt Charlotte or my best friends, their first question is, "Why in the world does California do this this way?" Those of us who are in it occasionally feel like we're playing with those little games that have the little letters, and you're supposed to move them around and spell something. Every now and then you want to take a screwdriver and pop them all out so you can just put them in.

It is just so hard to work the puzzle. I raise that in part because we think if we don't figure out a way to make this work better while we are relatively flush with water – I don't mean that just because we've had big rains this year; we are relatively flush, even in the drought – we've been talking about compared to what's coming with climate change.

I guarantee you that in 50 years, maybe 30 years, maybe 20 years, we're going to be talking about ripping the whole thing up and starting over. The reason will not be because people are frustrated with playing the game, but it's because we just won't be able to get there from here and hard priorities and decisions will have to be made.

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I was at a seminar yesterday with a world-class professor who was talking about water around the world and dealing with conflicts that would make our little inside thing look like a tea party or a friendly bridge game. I asked him about Australia, which many people point California's sister because it looks sort of similar, their accents are sort of cute, and we relate to them. We like barbecues, too. You know. All of that.

Australia seems like a really good case study to look at. People focus on the fact that they have been able to get their water markets to work. They've been able to deal with the 70% cutback and dealing very darling through water transfers and doing some things. There's some hope in the fact that they've been able to do that without destroying their economy. The professor pointed out that that's because they've been looking at water since the '80s in terms of the economy of the nation as a whole.

If you were actually looking at the economics of water as part of your economic planning, you wouldn't tolerate what the rest of us are playing at right now. So I just put that out there as something to think about to maybe goose those of us who have a chance to try and make this work, or those who fear something more radical that we really do have to make this existing system work better.

JOHN LESHY: I've carefully recorded your remarks. So you're in big trouble. Jay, any comments?

JAY LUND: Yes. I think the case of Australia is really interesting. It shows the importance of being prepared for contingencies. They had a 12-year drought, which essentially promotes – for their upper management, that's a climate change for their career. And now they have a flood of biblical proportions in many parts of the country.

So again, that's similar to California. We have the potential for that kind of climate as well. If you go back in the time, we had a couple of 150-year droughts that we really had

about — at least the southern part of the state, had about 40 or 60 percent of the flow we've seen historically. So these things are not entirely out of realm of possibility for us.

> *Whatever we do will be wrong to some degree. Of course, the option that we do nothing and continue on what we're doing, it might be even more wrong.*

Whatever we do will be wrong to some degree. Of course, the option that we do nothing and continue on what we're doing, it might be even more wrong. So there's a realm of doing things more or less wrong. Nothing perfectly, I'm afraid.

Australia's water markets are a wonderful, very good thing to do. But they allowed a farmer to sell all of the water that he applied to his field, even though a good portion of that water would flow back to the river. So now what are they having to do with it? They're having to spend about $3 or $4 billion to go back and buy back from all those farmers enough flow to keep water in the streams for the fish.

So again, real water and paper water, it's important to know the difference.

JOHN LESHY: Michael?

MICHAEL VAN ZANDT: I'm struck by this process in having dealt with the Water Resources Control Board. They do have some informal interaction with applicants, but at the staff level so they're not policy makers, and they deal with it on the scientific basis. Yet the board itself is kind of disconnected from that process, so I'm not sure that's the good resolution.

The model I look at is the one in Nevada. The Nevada state engineer and the staff are highly engaged in the process of not only working with the applicants and the protestants, but also getting involved with the legislature on setting policy for how to protect water rights, secure water rights, and make sure that we have the water available for environmental purposes. I don't know if it's a good thing or a bad thing.

I have in front of me the 225-page opinion by Judge Wanger on the Delta smelt. Is that process suited to resolve these issues and come up with solutions? I won't voice an opinion, but a single judge has to write a 225-page opinion, and send the biological figures back to the Fish and Wildlife Service. So I agree that the process needs to be vastly improved.

JOHN LESHY: Brian?

BRIAN GRAY: I just want to agree with Felicia that I think the State Water Board is the appropriate place to address these problems. My great concern about the board goes back about two decades and that is that the board has not really acted like an administrative agency. Instead, it's an agency that now convenes consensus discussions that result in a product that the board documents as it's administrative decision.

This began when the board promulgated its water quality plan. The board said it would enforce those export limitations at the Apache Mountains, which meant that the entire burden was placed on Southern California Water Company.

What happened was that the chairman of the board got directed toward the Governor's office, known as the trip to the woodshed. When he came out, they rescinded that plan and embarked on a series of workshops. Those workshops ultimately morphed into a Club-Fed and a CALFED process.

The problem I have with it goes back to what I said at the very outset, which is that I think when we begin with the idea of accommodation, as opposed to looking at what the legal mandates are first and then seeing what we could justify based upon that, the consensus for the model lends itself to this kind of accommodation of all interests. I think that attempt to accommodate all interests has failed and I think it's where we are now.

I would like to see the board be the decision-maker, but I think the board has to act more like an administrative agency. It has to enforce the law, interpret the law, and make science, fact, and policy determinations within its jurisdiction. It will take evidence and its decision has to be based upon a record. But I think it, rather than a consensus process, the focus has to be on the board itself.

JAY LUND: From a distance, with a different academic perspective, what it appears in our process for making decisions is almost a game of chicken. In the absence of having an authority to lay down the law in the end, these consensus processes have often become potentially a game of chicken. As the system is declining for all perspectives, every entity is trying to shift a little bit more of the blame for the final solution to somebody else, rather than being the first to chicken out and accept more of the responsibility for the problem.

In the end, in the Delta we have a high risk that the game of chicken will be out before there's a decision that comes down.

JOHN LESHY: Now let's go finally to Michael and to separate the substance issue from the process. What are the legal standards that should guide this reconciliation? There are a lot of choices out there. We've heard mentioned today the reasonable beneficial use standard, the Public Trust Doctrine, the jeopardy intake requirements, restrictions of the Endangered Species Act, and the property rights protected by the Fifth Amendment. Michael, have at it.

MICHAEL VAN ZANDT: Now that I've got the narrow topic, it reminds me of a quote by Winston Churchill. "The British never draw a line without blurring it." So often it is difficult to look at some of these concepts without seeing the blur. There are no white lines. There are no definitive answers. We have guidance supports from the California Constitution. The policies at the board talk about beneficial use and reasonable use and encourage putting all the water resources of the state into that beneficial use, however that is defined.

Then juxtapose that against the prohibitions, also contained in the Constitution, about unreasonable use and waste and those are the legal standards that we are living with. We have historically defined reasonable use in various ways.

There's a huge struggle going on in the west over who controls the water on the land administered by the BLM and Forest Service. And what are the standards? What are the legal standards that apply when the federal agencies come in and say, "We need the water for management purposes. We need to administrate our mission that Congress has given us to protect these lands, to protect the environment."

We have private property owners who come in and say that first of all, they own the water rights, and second, their rights cannot be interfered with by these federal agencies in the manner in which they attempt to administer the lands. That in itself is an interesting struggle. We can look at all kinds of standards and apply reasonable use, beneficial use, consumptive use, and non-consumptive use.

I'm struck by the fact that a lot of irrigation projects set out at the turn of last century, our flood irrigation projects, and they have no infrastructure to do anything else. And the way the water is delivered to them out at their system, it'd be very, very difficult for them to convert to a drip system or anything like that.

So the question then becomes an impetus by society that is struggling with these other values for restoration, such as endangered species protection, how to accommodate these private property rights, and their limitations in some ways for the manner in which they can put the water to beneficial use.

There's a very well thought-out paper by Craig M. Wilson, the Delta Watermaster, which I recommend to you. It's called the "Reasonable Use Doctrine in Agricultural

Water Use Efficiency." Mr. Wilson is newly appointed under the new law. As the Delta Watermaster, he's the overseer of everything in the Delta. He has to really address the concepts in this paper about how to proceed to make irrigation, in particular, more efficient.

He goes through a description of the various laws that guide us in this process. But ultimately, I think he concludes that unique cooperation with the irrigation community to accept conservation methods to come up with more efficient ways to use the water, and hopefully to do it in a manner that does not significantly interfere with the private property rights.

We had some allusion to the compensation issue and that's part of my world – when the water rights are essentially taken by the government for these other purposes, we do have to allow for compensation?

There was a case last year here in California, recognizing that although you may not have a contractual right to receive water or to prevent you from putting it in a fish ladder, you do have a private property right in the water itself. If the United States tells you have to defer it for Steelhead, then the government may have to compensate for that.

It was determined that that idea of diverting the water to the fish ladder, taking it away from the Municipal Water District, was a physical taking. The case is back on remand. One very interesting issue is if you overlay the Public Trust Doctrine, which is what the federal agencies have demanded this water district do, does that alleviate the United States' obligation to pay just compensation?

This will be an interesting issue, because a lot of these cases arise out of permits; water permits that have been issued by the state of California, but do not necessarily contain permit conditions that are exclusive enough to protect, for example, endangered species.

If you had your permit without the expectation of having to protect the environment, and a federal or state agency comes in and tells you to use it in a different manner, are you entitled to compensation? This is opposed to a permit that's issued and contains those conditions, and presumably would lower one's expectation about whether or not they could use the water in what now might be an unreasonable manner, because their permit conditions contain requirements that you protect endangered species and habitat, and actually require you to conserve.

These are very interesting concepts that are arising in some respects out of takings cases, which I'll say is kind of a last line of defense, challenging restrictions on water use because of the endangered species. You end up in the Eastern District with 40% allocation and you're challenging the science of whether or not an endangered species, like the Delta smelt, should be protected in the manner in which the federal agencies are saying is necessary.

We don't have a way to intersect the use of water, and not just by our agricultural interests, but also by municipalities to provide a way to continue to support our manufacturing arm and our agricultural arm on the productive uses of water that actually contribute in some ways to the protection of the environment.

But you also have to think that there's some way that we can come up with conjunctive use to allow for those uses, and then ultimately make that water available for other uses. One of the projects that I'm involved with over in Nevada utilizes water over and over and over again, and ultimately discharges it to a national wildlife refuge at the end of their system.

They're able to achieve over 70% efficiency in the manner in which they use the water. Some of that is caused by external forces that say you must conserve the water. But a lot of it actually has been by the farmers recognizing that the more distributive water that they get to use, the better the crop yield they'll get.

It's one of those strange dilemmas that we face, almost an inconsistency in some way. But even if you look at somebody like a rice farm that uses a tremendous amount of water, it has unbelievable ecological benefits as well, especially for migratory bird groups.

So we have this interesting tension between beneficial use, reasonable use, and what is waste. We have evolving standards that society is facing to determine what those are. But we also have these private property rights that the law says we still must protect and respect.

We have to find, as a society, a way to accommodate both those interests. And if it means society says, "We're going to use it for endangered species protection, and you're going to be paid compensation," that's the decision society has to make.

It does have to provide some relief for private property groups. If we go down the path of being a more comprehensive review of the permitting process or new water rights, and we condition those with environmental protections, then you have to lower your expectation and your property right is defined by the boundaries of that expectation. But we're not quite there yet in California.

But I think with the help of the legislature, Congress, we need to move off into those directions to find that balance, but also to provide for protections for people who have expectations for the water.

JOHN LESHY: Brian, back to you. Any closing observations on Michael? He sort of started out on the standards. So you want to finish up the standards?

BRIAN GRAY: I just want to second the idea. But I think a better understanding and more effective use of the Reasonable Use Doctrine is really a vital part of our reform. I want to give a shout out to Craig Wilson, Delta Watermaster who came up earlier today. I agree with his recommendation that the council and the State Water Board engage in reasonable use investigations, especially statewide reasonable use investigations, and water uses in the Delta to see whether more efficient practices are possible, plus make a determination whether the existing inefficiencies, as determined by the board, constitute unreasonable use.

I think that's a very constructive suggestion for the reasons I started with. It's heroic, but it shouldn't be regarded as heroic. I think it's a fairly modest application of the Reasonable Use Doctrine. And I hope it'd be a very constructive one. I hope he doesn't get undermined by the political process in posing that.

The only other thing I would say is that Michael mentioned a series of federal takings and breach of contract cases that have placed the burden on the taxpayers to pay for the cost of implementing the Endangered Species Act, and the Central Valley Project Improvement Act, plus some other laws. I think that burden is properly on the water users to the extent that anyone who uses water in a way that destroys or imperils endangered species of fish is engaged in an unreasonable use, and they don't have a water right to do that under California law.

That's an external cost that the law properly should internalize and place upon the water users. I don't see that compensation is appropriate in those cases. It will be interesting on remand to see how the Court of Federal Claims deals with the California Public Trust Doctrine.

I think in all those cases I was disturbed by the fact that either the Court of Federal Claims or the Circuit Court of Appeals for the federal circuit either ignored or misunderstood California law. It just didn't seem to care about California law. The fundamental misunderstanding was that they reached the conclusion that the board had to state specifically that you can't kill fish within your water right.

I think the law is very clear on the constitutional law of reasonable use. The common wealth Public Trust Doctrine should tell everybody you cannot kill, at least an endangered species of fish, within your water right.

So anyway, just to go back again, I think the Reasonable Use Doctrine is a key aspect. I just hope you have a better understanding.

JOHN LESHY: Felicia?

FELICIA MARCUS: Yeah. That's what I was going to say, especially to the law students who might actually be focusing on what "reasonable use" means. It's really important. And obviously, what's reasonable evolves over time. So it has that quality that Jay was talking about, not just because the underlying circumstances evolve, but our thinking about what's reasonable and our technological capacity evolve.

Obviously there are better methods of water use efficiency. Today, certainly in Los Angeles, that is a very big part of the conversation in Southern California.

In a parallel with the long-term view of Metropolitan Water District, they're looking at a 50-year horizon. What's on the table is Metropolitan thinking about storm water capture and doing things that are now separated through different agencies. We will get urban water use in Southern California.

What's reasonable in southern California is maybe different than what's reasonable in the Central Valley. Because agriculture is a much more complicated situation where you have return flows. What's reasonable has many more cascading dynamics in the agricultural context.

So in my view, we need to explore that a little more, but we also need to have the institutions that have the capacity to make fair decisions on that sort of thing. We have to get beyond what I like to call a “Monty Python" level of discourse in this world.

I think there's just a whole issue on figuring out how do we have the institutional infrastructure to be able to handle a very complicated set of circumstances, not just in law, but on the ground. And just being more reality-based in what we do. I think actually some of those tools will allow us to resolve some of these questions in a way that yields more reasonable responses.

I think that part about what Chris had said about which is acting on the ground while the rest of us are arguing about what should happen. Necessity is causing Southern California water agents to be incredibly aggressive, forward thinking, and doing all the things that many people would like the legislature and everybody to do.

JOHN LESHY: Jay, you have the final word before we open it up.

JAY LUND: I didn't come here for an argument. We're all trying to chase this problem. All these professions. The problem is always changing in front of us. Certainly, the water problems of California have been evolving for 100 years so our view of this problem has changed over that historical time frame. It's the economy. It's society, and our consciousness. It's developed over time.

Since we're all paid, in society, they pay us, they pay you as lawyers. They pay us scientists. All of us are following this process. And all of us are trying to change our professions, and the trade tools of our professions. In your case, law. In our case, understanding the data models. We're all trying to chase these problems.

But what I see and what worries me is that this problem is outpacing us. Certainly, the environment will collapse, the climate changes, the difficulties that the environmental centers are having with all these other changes, as well as the growth itself, is outpacing our management ability to be responsive and effective.

Part of that is because we're not organized technically or scientifically to chase this problem effectively. This problem hasn't even changed. In fact, part of it is our institutions are not kept up to be competent and capable at following and managing this problem.

Part of it, I think, is the paper water problem that you highlighted here, the legal aspects and the implication aspects are not kept up with the change in the problem. So I think we're all behind the eight ball on this. I'm worried the eight ball is getting out ahead of its own time.

JOHN LESHY: That's great. Do we have time for a few questions? Let's go here.

QUESTIONER: I'd like to pose a thought. Goes back to the initial question you asked the panels that we met with. Starting after the colon for the title of this panel, you said, that's making "Secure water rights and restoration coequal goals."

And I'd like to offer that it's not the right title. It's not the right title because it does not support the underlying premise of legislation of the 2009 comprehensive legislative package. Because the way I read that title with the conjunction "and" in there, which means water rights, "water supply liability and restoration," as two independent elements.

The intent of the legislature, as I understood it, was they were supposed to be thought of more as two dependent elements. You can't have one without the other. You can't move forward trying to make a paradigm shift in how we address water policy in California unless you look at them as being dependent upon each other.

In other words, what I'd like to offer up there as a change in that title is, after the colon is, "Securing water rights to achieve environmental goals, and achieving environmental goals to secure water rights." Two of them are totally dependent. As long as we look at it as independent, we're going to continue to perpetuate the same problem.

JOHN LESHY: Question, comment?

QUESTIONER: I agree. That's very well put. The only caveat I would add is an unrealistic one. That is, I think if we could operate the system in some pre-European settlement times solely for ecosystem protection restoration, we could today if we wanted to operate the system solely for water supply. That's not what the legislation calls for. That latter alternative is out there. I think that would be tragedy.

Someone said earlier, who wants to pick the last fish out of the river? That would be a tragedy. But to come to grips with the problem, come to grips with the need to try and change both, has to be done in an integrated way. I think you put it beautifully.

JOHN LESHY: Tony?

TONY ROSSMANN: Felicia's comments about what both sides thought they were getting out of this coequal status, it's a very important lesson our students can take away on how legislation is made. Words are not defined because both sides are afraid of the definition. And the word "reliable" — here's why I keep beating up on it. One of my 17 commandments is to define "reliable" as not needing more water, but perhaps a more uniformed supply of less water, and then both of these goals can be achieved.

Brian, it warmed my heart to hear your opening presentation, because I don't think that is the widely shared view among the water administrators of the state. Which is why I put out the idea of a state constitutional amendment that will restate the public trust doctrine as the California Supreme Court did in *National Audubon.*

What I say to our friends in the water community is will you support a constitutional amendment that brings the public trust to the state that has been missing up to this point? If we can create a social contact on water, then yes, we will improve the plumbing, because we have to.

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