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Panel: Ethics-Based Decision-Making in Societal Water Management

Amy Hardberger
St. Mary's University School of Law, ahardberger@stmarytx.edu

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Mr. David DeCosse, Moderator♦

MS. AMY HARDBERGER*

Even though this panel is going to talk more about practical issues, I am going to start us off with a boring, less practical part, which hopefully will serve as a foundation for some discussion. Also, I did talk to Robert [Potts][1] yesterday, and I will cover some of the information he intended to present on the Edwards Aquifer.

When I was tasked with talking about the ethical foundation for decision-making in water, my reaction was that *of course* there is an ethical overlay to water, period. That, however, was not going to turn itself into an article, so I had to figure out a way to understand what the ethical foundation is and, more importantly, where it manifests itself in our water decision-making, water planning, water use, etcetera. I really started reading about ethics and also looking

♦ Mr. David DeCosse is Director of Campus Ethics Programs at the Markkula Center for Applied Ethics at Santa Clara University. A graduate of Harvard University in English and American Literature, Mr. DeCosse has a master's in journalism from Columbia University, a master's in theology from Fordham University, and a doctorate in theological ethics from Boston College-Weston Jesuit School of Theology. Mr. DeCosse's prior work includes newsroom manager at Ascribe Newswire, editor at Doubleday Books, and professor of Religious Studies at Santa Clara University.

* Ms. Amy Hardberger is an attorney with the Texas office of the Environmental Defense Fund. She works with the Climate and Air Program and the Land, Water & Wildlife Program on Texas law and policy issues. She holds a Bachelor's Degree in Geology from Earlham College, a Master of Science in Geology from the University of Texas at San Antonio, and a Juris Doctor from Texas Tech University School of Law.

1. Robert Potts of the Dixon Water Foundation, the planned fourth presenter on this panel, was unable to attend the symposium.

inward, and I think that we have heard some personal experiences here and that there is a personal aspect to water that cannot be ignored. I think that personal aspect in many ways is the basis of water ethics. It seems if you get down to the core of ethics, of what makes something ethical, it really turns on whether a value has been placed on that item.

"Value," although discussed as a commodity, does not necessarily mean commodity when you talk about value placed on something like water. There is a sense of place, there is religion, there is ceremony, there is the sheer life-giving aspect of water, and its beauty in the environment. So automatically you have a format for potential conflict between different peoples' ethical values. A presenter earlier today said when I give something an ethic I am trying to get it on the high ground, and get it above other peoples' valuations of things.[2] But what happens in water often, and what we need to be cognizant of, is that if everybody is doing that, sometimes those two high grounds can bump. We need to find a way for my high ground not to trump your high ground.

There are lots of ethical theories that end up having applications in water that I think are worth talking about, like environmental ethics. Leopold's *Land Ethic* is a newer theory on discussing water for the environment, not in terms of how water serves us, but what value it has in its presence and its sustainability.[3] Obviously, you cannot talk about the sustainability of the environment without talking about water in terms of species and habitat, conservation and sustainability. These issues are more and more involved in our water decision-making.

Turning to how people and the environment interact, we have sustainable development that defines how we can continue to grow and sustain ourselves and all those other things that we have given value to, including the environment. Environmental justice then gets sort of twirled into the sustainable development conversation. Often it is the water "haves" that are coming up with these structures and regimes, which are then pushed down on the water "have-nots." Perhaps the more effective approach is to start with the people who are struggling and not with those of us who have plenty and want to keep that quantity of water available to us.

You can talk about public participation, and other things that have ethical foundations, because they relate in one way or the other to the moral high ground. They relate to the importance of people being able to live and live well, for the environment to survive, and for people to have input into the decision-making that

2. *See* presentation of Professor James Huffman, *supra* pages 21-22.
3. Aldo Leopold, *The Land Ethic, in* ENVIRONMENTAL ETHICS 41 (Michael Boylan ed., 2001).

impacts them. What impacts people more than the ability to have clean, fresh water available in sufficient quantities? When you start looking at this, you start then trying to understand how decision-making is knowingly, or perhaps unknowingly, using both ethics and these intrinsically ethical principles to make decisions. The first thing that you would think about if you are an American is a Congressional bill that would become a law as the result of a back room deal. Well, what we should instead look at is why we should even have a law at all. What gives it that level of value that we should even discuss it? Or try to protect it? Or legislate it in any way, shape or form? Water law is already all over the place, especially in other countries, and even more so in the United States.

We are hopefully moving away, or at least trying to move away, from some of the litigious ways of dealing with water ethics. Look at what Coca Cola is doing: in many ways they're adopting public participation in their approach to water ethics.[4] Similarly, the South African Bill of Rights gives people access to water.[5] Court cases in South Africa have built on the Bill of Rights and have said that you cannot disconnect water service if the person can show that they cannot afford it.[6] This is evidence of an ethical water movement. There is similar case law from India as well.[7] The ultimate manifestation of water as an ethical principal would be a movement to have access to clean water be protected as a human right. We could talk all day about that, but I do think it is interesting and important to recognize the ethical implications of that discussion before you even talk about water as a human right. Just the idea that there is this right that cannot be taken away, and that everybody has the right to have water, is the mountaintop of the ethical argument for water in my mind.

I have two practical examples. First, in Texas, my organization was just recently very involved with passing an environmental flows legislation. It was extremely contentious until the end when we actually achieved perfect consensus, including that of Dow Chemical. It took six years to complete and the bill was significantly different than how it started. Some environmental groups were mad at us for giving too much. But it was still a huge step in a place like Texas to have

4. *See* presentation of Mr. Harry Ott, *supra* pages 24-29.
5. S. AFR. CONST. ch. 2S. AFR. CONST. 1996, Ch. 2, *available at* http://www.inf.go.za/documents/constitution/1996/96cons2.htm.
6. *See*, e.g. Residents of Bon Vista Mansions v. S. Metro. Local Council 2002 (6) BCLR 635 (W) (S. Afr.).
7. *See* WaterAid, *The Right to Water Under the Right to Life: India*, http://www.rightto water.org.uk/code/legal_7.asp (last visited Apr. 18, 2008).

the beginning of the construction of minimum flow values for the environment and habitat, the bays and estuaries, and also just for long-term sustainability of river systems. Texas is extremely hot for those of you who have never been there in August. We have a very strong connection to our bodies of water, because, frankly, we spend *a lot* of time in them when it is 103 degrees outside. So for many Texans, those river systems provide a sense of place that goes beyond just their sheer value for either water supply or for the environment. The many ethical reasons why something like environmental flows legislation gets passed are important in this discussion, even though on the Senate floor nobody said this is the ethical thing to do. Ethics were in fact at the root of what many of these people argued for. Whether it was for the right to fish, or the right to have the flows support healthy bays and estuaries, ethical principals motivated us.

My second practical example relates to Robert's [Potts] presentation. I actually grew up in San Antonio, and for the first twenty-four years of my life all I drank was Edwards Aquifer water. Edwards spans six counties, and remember the sheer width of that—six Texas counties is as big as some east coast states. But what makes the Edwards so incredible is that the city of San Antonio, the seventh largest city in the United States, gets over 90% of its water from the Edwards Aquifer. Until recently, that number was 100%. So you have almost two million people, if you include the surrounding counties, that are completely living off of the Edwards Aquifer. In addition to that, it leads to some beautiful springs and spring-fed rivers that are the home to many endangered species. Once that flow goes to the rivers, it is used all the way to the coast by irrigators, it keeps our bays and estuaries healthy, and it ends in a nature preserve for the endangered whooping crane. So this is just an amazing microcosm to show the importance of one aquifer.

It started out in litigation when the Sierra Club sued based on the Endangered Species Act in the 1980s.[8] Legislation soon followed in 1993 that created the Edwards Aquifer Authority.[9] It is now a permitted system. Texas has the right of capture for water for everything except the Edwards. So in Texas you can take out as much ground water as you want, except from the Edwards Aquifer, which is a permitted, functioning aquifer where water rights are based on prior appropriation. That is similar to what many other states are doing.

More recently, because this has not quite been solved, there has been a threat of more litigation. The U.S. Fish and Wildlife Service approached the stakeholder group that has grown to about seventy people, met with us individually, and said

8. Endangered Species Act, 16 U.S.C. § 35 (1973).
9. Edwards Aquifer Authority Act, 1993 Tex. Gen. Laws 2350.

that they wanted to start a "RIP" program, which is such an unfortunate acronym. It means Restoration Implementation Program and would eventually lead to a signed document that is usually called a Habitat Conservation Plan. That group started about a year ago, and I am a stakeholder in that process. One odd thing that happened is that it actually ended up getting legislated.[10] So we had this dual system. The legislature told us how we were going to do the RIP, and that was not the same as what the stakeholders thought we should do with the RIP when we began. So many stakeholders felt disenfranchised, and this comes back to ethics. The two groups figured out a way to come together and be a solid stakeholder group that had an investment. It has been an amazing process because all of the things that we have talked about today came together in terms of people working together. We are a group; we are a family; we have a lot of scientific challenges in front of us, but we have a good basis. The only reason many of those people are sitting at the table is because they feel like it is the right thing to do and because a value has been given to the Edwards Aquifer. That is just a great example of how ethics is part of decision-making.

MR. DAVID SANDINO*

It is my pleasure to be here this morning. It is a good sign that it was raining a little bit last night. We are suffering from a drought here in California as Commissioner [Robert] Johnson mentioned.[11] Last year was a dry year and so far this year we are also below average so we are watching every drop.

10. Senate Bill 3, Texas legislature (2007), *available at* http://www.capitol.state.tx.us/BillLookup/History.aspx?LegSess=80R&Bill=SB3.

* David Sandino is Chief Counsel for the California Department of Water Resources, appointed by Governor Arnold Schwarzenegger. He has served as lead counsel for the California Reclamation Board, which is responsible for flood control protection in the Central Valley. He also served as lead attorney for the Department from 1995-2000 in the Sacramento-San Joaquin Bay-Delta Hearings, which allocated responsibilities to meet environmental water quality standards in the Delta. He has taught water law, environmental law, energy law, real property, and local government law at Santa Clara University School of Law, University of San Francisco School of Law, and Golden Gate University School of Law. Mr. Sandino received a 1999 Fulbright Fellowship and taught international environmental law at the Moscow State Academy, Moscow, Russia. He is on the Board of Editors of *California Environmental Law Reporter*, and he has written numerous articles on the environment, water, and land use. He currently serves on the City of Davis Policy Advisory Commission, which reviews internal police investigations. Mr. Sandino received an A.B. in chemistry from University of California, Davis in 1980, a Juris Doctor from Santa Clara University School of Law in 1984, and an LL.M in pubic international law in 1987 from the University of London, King's College.

11. Robert W. (Bob) Johnson joined the Bureau of Reclamation, U.S. Department of the

Today I am going to talk a little bit about the forces that are driving California water policy. It overlaps with what Commissioner Johnson talked about, but I will put it into more detail from a California perspective. I also want to talk about some of the legal principles that help with decision-making for some of these water problems that we are facing. Then I will close at the end and talk about the Sacramento-San Joaquin Delta, and I will give some of the details and governmental processes that are grappling with the problems in the delta.

First, I want to lay out some of the forces that are driving California water. Now, this is not a comprehensive list, but these are some of the big ones. [Referring to Power Point slides] The first one, I think the fundamental one, is that demand exceeds supply. We do not have enough water in California to meet all of our needs, and population growth is increasing. In California, hydrology is variable, and it depends on the year whether or not we have sufficient supply. Then we have an ethic in which we have growing environmental demands. The amount of water that we allocated to the environment twenty years ago was a lot less than what we are allocating it today. Also, we have a very complicated structure for dealing with water disputes in California. There are a variety of different "stakeholders"—that is the buzzword now. We have urban users, agricultural users, and environmental users. We have water users that demand water supply for recreation and energy. Then we have this very complex system of ways to deal with these problems through the government entities that we created.

First, there is the question of supply versus demand. I am taking some information from a bulletin that my department, the California Department of Water Resources, published in 2005. We assessed that the average total water demand in California is about 201 million acre-feet per year. An acre-foot, for those who are not familiar with the water lingo, is about the amount of water that it would take to cover a soccer field one foot deep. So we use about 201 million acre-feet per year, and we have an average total supply from surface water, groundwater, and the ocean of about 195 million acre- feet of water. Well, that is a deficit of five or six million acre-feet per year. That is not sustainable. What that means is that we are looking for other sources to try to meet demand in an average year. The deficit is even greater in a dry year, and we depend primarily on groundwater overdraft to make up for the shortages. So as we speak right now the

Interior, in 1975, and has spent his entire federal career with the agency. He was confirmed as the 17th Commissioner of the Bureau of Reclamation on September 30, 2006. Commissioner Johnson presented the second keynote address at this symposium. His comments are not included in this publication.

overdraft in California's water basins is not sustainable. Most of that overdraft occurs in the San Joaquin Valley. You can see another force that is causing us to grapple with additional water problems, and that is population growth. It looks like there is no end in sight. Commissioner [Robert] Johnson mentioned that in 1970 we had twenty million people, and now in 2008 we have about thirty-seven million. We are expecting to have about forty-five million people in California by the year 2020. Whatever the number of people might be, they are all going to draw on our water supply. Well, we are already in a water deficit, so where are we going to get all this water?

We also have a fascination in California with not wanting to live where the water falls. So we have two-thirds of our water supply in Northern California, but two-thirds of the people live in Southern California. Right away we have a problem there, a distribution of water that doesn't coincide with where the people want to live. So what did we do? We move the water to the people. We also pointed out that the hydrology is variable in California, so when the droughts come we struggle.

I mentioned the environmental demands of water. This is a word that deserves some attention because it is so important to how we allocate water resources. When we talk about environmental demands, one of the key ones is in-stream use. How much water should be left in a stream to keep the ecosystem healthy? Typically water use is from surface water, and that water is diverted out of the stream. Well, if you divert all the water then it is not going to be sustainable for the ecosystem. But how much can be diverted without having a significant affect on the environment? That is what we struggle with in all of our river systems. There is also water that is dedicated as wildlife refuge areas around the state. We have also designated rivers in California that are simply off limits; they are part of the Wild and Scenic Rivers Act.[12] These rivers for all practical purposes do not allow water supply development. Well that is a good thing for the environment, but it complicates how we allocate a limited water supply because thirty to forty years ago these rivers were being targeted to be a source of supply for future generations. Now they are off limits.

I am going to touch on some of the tools that lawyers and water policy officials have to deal with water allocation issues in California. These are the legal

12. *See* Wild and Scenic Rivers Act, 16 U.S.C. §§ 1271-1287 (2008).

principles, and some of you could argue, that maybe they are based on ethics, or maybe economics, or possibly other fields as well.

First, this is a fundamental point of how we allocate water, because water is a public resource by California state statute.[13] Contrast that to our land resources, which can be held in fee title or held by private owners. You cannot do that with California water. Both the ground water supply and our surface water supplies, by state law, are a public resource.[14] But, this is the interesting part: even though it is a public resource, individuals—by individuals I mean farmers, cities, industries—can obtain permission, a right, to use that water. So you almost have this contradiction within the law, where on the one hand water is held as a public resource, but on the other hand, private entities can obtain a right to use that water. But the right to use water is circumscribed by the California State Constitution.[15] It is not an absolute right. Under California law the user has to put that water to *reasonable* and *beneficial* use. Those two words have kept California's lawyers busy for the last fifty years.[16] What do we mean by reasonable and beneficial? The example that I like to give to my students when I teach here is, is it reasonable and beneficial to build golf courses in the Palm Springs Desert? Well, it must be beneficial because there are about 120 of them down there. But is it reasonable to take water from Northern California to those Palm Springs Desert golf courses? I am a golfer so I see a lot of the advantages to it, but from a water supply standpoint, it raises issues. Another important principle for California water allocation, and what gets a lot of attention these days, is the public trust doctrine. A public trust doctrine, in essence is a doctrine that demands a look at the environmental needs of a water system before a water resources project is implemented. It applies to both new and already existing projects. It does not demand that the environment be protected in all interests, but it does require that decision-makers take a hard look at the environment and try to protect the environment to the extent feasible.

The last issue or principle that is governing water allocation in California, is the Federal Endangered Species Act.[17] By the way, California also has its own state statute, the California Endangered Species Act.[18] This is where the action really is. If there is an endangered species present in a water system this act requires that the

13. *See* CAL. WATER CODE §§ 1810-1814 (2008).
14. *Id.*
15. CAL. CONST. art. X § 2.
16. *Id.*
17. *See* Endangered Species Act, 16 U.S.C. §§ 1531–1544 (2008).
18. *See* California Endangered Species Act, CAL. FISH & GAME CODE §§ 2050-2068 (2008).

species be protected, and it affects our water decisions. So, let's talk a little bit about the Sacramento-San Joaquin Delta. I assume that many of you have had the privilege of visiting the delta. It is one of those unknown splendors of California.

When the original European explorers sailed through San Francisco Bay and up the delta in 1860-1870, it had to be something else based on the ecosystem there and what it provided. But since then the delta has changed tremendously. The delta is this huge tidal estuary connecting to the San Francisco Bay from the east. This connects into the Golden Gate and out to the Pacific and water flows back and forth twice daily. The delta is fed freshwater by the Sacramento-San Joaquin water sheds; these are the two or three largest river systems in California. Water flows out toward the Pacific, typically the water flows during the winter where you have rain runoff and then during the spring and summer where you have the snow pack from the Sierra Nevada that feeds the system. This system provides tremendous environmental benefits. There are four runs of migratory salmon, there are indigenous fish inside the delta ecosystem, and there is also an important water supply function through the delta. Commissioner [Robert] Johnson talked about the Central Valley Project and the Federal Water Project. What it does is it diverts water from the delta at a point in the southern delta, and it provides water supply to farmers in the San Joaquin Valley. It also supplies some water to Santa Clara. Also located in the southern delta is the large state water project and that is operated by the Department of Water Resources, the entity for whom I work. It diverts and sends water to the Bay Area, including to Santa Clara, and it sends water to the San Joaquin Valley. It also sends a lot of water down to Southern California, into the L.A. area.

So, what has been happening to the delta? Why do we care about it? Well, in the last hundred years of development the delta has changed significantly. Land reclamation, changing wetlands into farmland, levee construction, and new channels have been built in the delta. There has been increased urbanization. You have all of these delta water diversions, and you also have the introduction of foreign species. They examined the mass of fish feces in the delta, and 98% is from foreign species. So, to the extent that we want to protect a native species, it is difficult to do with the competition from foreign species. A variety of chemical pollutants from farmers upstream have also made their way into the delta.

Here are just some of the facts about the delta. The delta accounts for about two-thirds of California's water resources. About twenty-five million Californians depend on the delta for their water supply. But what is happening to the delta as we speak? Well, we can see we have had a loss of wetland habitat; about 90% of

the delta wetland area has been modified. We are losing the migratory bird population. We have had a serious decline in the population of some fish species. We are not sure what the cause is. Whether it is just a natural decline in the population, or whether it is actually a result of the environmental impacts on the delta, we are not sure. We have had land subsidence in the delta. Most of those delta islands are about fifteen to twenty feet below sea level. We have also had declining delta water quality.

I will close with this: with all these problems in the delta, what are the institutional mechanisms to deal with them? Well, every ten years it seems like we get excited about delta problems. In the mid 1980s, the excitement took the form of trying to build a peripheral canal, which came before the voters in 1982. The peripheral canal by the way, is a canal that would run around the eastern edge of the delta and supply water for the diversions to Southern California and the Bay Area. So in the mid 1980s all the hoopla was over the peripheral canal. That went to the voters and it was voted down in 1982. The mid-1990s was shaped by the CALFED process. This was an institutional process among federal and state agencies to come together to try to improve the delta environment.[19] The principle behind CALFED was to allow every delta stakeholder to get better together: get everybody at the table, recognize that we all have the same goal, and all try to improve together rather than trying to decide which value is more important. Well that process eventually ran out of steam. A new process has been created by a Governor Schwarzenegger initiative. What we are doing now instead of trying to have all the stakeholders get better together is trying to prioritize the values for the delta. What can we do realistically? What should we be doing to preserve the delta? How much water supply is really available from the delta to meet California's water needs? So they have taken the form from the Delta Vision Group, which is a blue ribbon panel of experts and government officials that have come together. They came out with a report last December; it is on the Department of Water Resources website. They gave their vision for the delta for the next year, and that is going to drive our operations. So thanks for having me, and I'll look forward to your questions.

19. *See* Welcome to CALFED Bay-Delta Program, http://calwater.ca. gov (last visited April 14, 2008).

MR. PAUL KIBEL*

For my presentation, I am going to focus on the themes of binational cooperation and binational water resource governance. To explore these themes, I will look specifically at the Mexicali Valley Imperial Valley ground-water aquifer, which straddles the Mexico/United States border near the cities of Mexicali in Baja, Mexico, and Calexico, California. In particular, I will examine a project that is now proposed in the United States, which is the paving of the All American Canal ("AAC") that may impact the Mexicali imperial aquifer and identify some of the legal frameworks in which the current debate over the paving of the All American Canal is taking place.

I'll provide some background information about the Mexicali Imperial aquifer and the All American Canal. The Southwest Consortium for Environmental Research and Policy, known as SCERP, is a collaboration among five universities in the United States and five universities in Mexico. It focuses on cross-border environmental issues and has done a lot of work on water issues in particular. In 2006, SCERP published a book titled *Lining the All American Canal: Competition or Cooperation for Water in the U.S. Mexican Border.*[20]

The SCERP book noted the following three points regarding the Mexicali Imperial aquifer. First, the aquifer is a significant source of drinking water for the city of Mexicali in northern Mexico, which will have an estimated population of 1.1 million residents by 2020. Second, the aquifer is a significant source of irrigation supply for about 40,000 farmers in northern Mexico. Third, the aquifer is hydrologically connected to what are known as the Andrade Mesa wetlands in northern Mexico. These wetlands serve as a migratory bird habitat for about

* Paul Stanton Kibel is a Visiting Professor in Environmental Law and Co-Director of the Environmental Law Program at Golden Gate University School of Law. He is also Director of Policy West (a public policy consultancy), Of Counsel and former partner with the water law practice group at the law firm of Fitzgerald Abbott & Beardsley, and a former lecturer in Water Policy at the University of California, Berkeley, Goldman School of Public Policy. His publications include the books *Rivertown: Rethinking Urban Rivers* (MIT Press 2007), and *The Earth on Trial: Environmental Law on the International Stage* (Routledge 1999), and the articles *Grasp on Water: A Natural Resources That Eludes NAFTA's Notion of Investment* (Ecology Law Quarterly 2007), and *Rio Grande Designs: Texans' NAFTA Water Claim Against Mexico* (Berkeley Journal of International Law 2007). He holds an LL.M from the University of California, Berkeley, School of Law and a B.A. from Colgate University in New York. Since 2002, Mr. Kibel has served as Co-Chair of the Natural Resources Subsection of the California State Bar.

20. SOUTHWEST CONSORTIUM FOR ENVIRONMENTAL RESEARCH AND POLICY [SCERP], LINING THE ALL AMERICAN CANAL COMPETITION OR COOPERATION FOR WATER IN THE U.S. MEXICAN BORDER (Vicente Sánchez Munguía ed., U.S. G.P.O. 1989).

10,000 birds annually and more then 100 different bird species have been identified there.

The All American Canal is located exclusively in the United States and essentially begins at the Colorado River and runs west towards the Imperial Valley and the Coachella Valley essentially paralleling the U.S.-Mexico border. The water diverted to the Imperial and the Coachella Valleys is used primarily for agriculture. The canal was approved in 1928 as part of the Boulder Act Project,[21] which was the initial Federal legislation authorizing the construction of Hoover Dam, which was called Boulder Dam back in 1928. The construction of the All American Canal began in the 1930s, was completed in the early 1940s, and became operational in 1942.

Most of the All American Canal, at this point in time, is earthen and the water moving through the canal percolates down through the canal bed to recharge and replenish the Mexicali-Imperial aquifer. According to the 2006 SCERP book that I mentioned earlier, it is estimated that the recharge of the waters moving through the All American Canal currently represents between ten and twelve percent of the water that is recharging and replenishing the aquifer.

In 1988, the Congress authorized the U.S. Bureau of Reclamation to pave a significant portion of the All American Canal with concrete. The lining project was presented as a water conservation measure. That is, the lining project was necessary to prevent water traveling through the canal from seeping down into the aquifer and being lost. Although the lining project was approved in 1988, the Bureau of Reclamation's record of decision setting forth the details of the project—of its "preferred alternative" in NEPA[22] speak—was not actually issued until 1994. The funding for the project did not come together actually until a couple of years ago, and the final regulatory approvals were not secured until 2005. So it is a project that has been under consideration for a long time, but the final green light from a regulatory perspective for it to go forward has come fairly recently.

One of the reasons that the funding finally came together relates to a deal that was negotiated between the Imperial Irrigation District, IID, which is in Imperial Valley, and the San Diego Water Authority. That deal essentially conveyed water that is currently being used for agriculture in the Imperial Valley for urban uses in

21. Boulder Canyon Project Act of Dec. 21, 1928, Pub. L. No. 642 (codified as amended at 43 U.S.C. §§617 et seq. (1998)).
22. The National Environmental Policy Act of 1969, 42 U.S.C. §§4321-4347 (1982) [hereinafter NEPA].

the San Diego Metropolitan Area. As part of that deal, which the Bureau of Reclamation participated in actively, they wanted to increase the total amount of water supplied, and the lining of the All American Canal was sort of part of that negotiation.

Because the proposed lining of the All American Canal will reduce the recharge and seepage going into the Mexicali-Imperial aquifer, it is anticipated that the lining of the canal will have adverse impacts on the municipal water supply for the city of Mexicali, the irrigation supply for farmers in northern Mexico, and significant adverse impacts on the Andrade Mesa wetlands. In the 2006 SCERP book that I mentioned earlier, it was reported that if the AAC lining is implemented, the Andrade Mesa wetlands will likely disappear absent a significant engineering project to artificially recreate the seepage from the area. From a hydrologic and a historical standpoint, that is where we are with the aquifer and with the canal.

Now for some of the legal frameworks. In considering the legal frameworks for the dispute over the All American Canal lining and its impacts on this cross-border aquifer, there are really three separate legal frameworks. The first legal framework is United States law. When the final decision was made to proceed with the lining project in 2005, the U.S. Bureau of Reclamation was sued in Federal Court in Las Vegas by business and farming interests in Northern Mexico, who were also joined as plaintiffs by the city of Calexico in California and also by two U.S.-based environmental groups.[23] Among other things, the plaintiffs in this lawsuit alleged that the Environmental Impact Report, the EIR, that was prepared for the project to comply with the National Environmental Policy Act (NEPA) was inadequate. The plaintiffs alleged it was inadequate because the EIR and the supplemental EIR did not assess adverse environmental impacts in Mexico. For purposes of the NEPA EIR that was prepared for this project, the U.S. Bureau of Reclamation took the position that NEPA only required the assessment of impacts domestically in the United States, and did not require the assessment of extra-territorial or transnational impacts across the border.

The plaintiffs' NEPA argument, which was essentially that it required cross-border assessment, was rejected by the United States District Court in Las Vegas in a July 2006 decision. The case was appealed to the Ninth Circuit Court of Appeals, which then promptly issued a preliminary injunction to halt the Bureau of

23. Consejo de Desarrollo Economico de Mexicali, AC v. U.S., 438 F.Supp.2d 1207 (2006), *rev'd*, 482 F.3d 1157 (9th Cir. 2007).

Reclamation from going forward with the project because the court believed there was a significant likelihood that it would reverse the District Court on the NEPA issue and require assessment of cross-border impacts. One of the reasons for the plaintiffs' considerable optimism was that just a couple of years earlier a similar argument had been made by the Bush administration over certain submarine sonar activities that were taking place on the international high seas. The Bush administration had argued that they needed to assess the impacts in U.S. waters but did not have an obligation to assess the impacts on whales and other marine wildlife on the international high seas. That went up to the Ninth Circuit which rejected the argument. There was a sense that the court was likely to do so again. While this appeal before the Ninth Circuit was pending, however, Congress stepped in.

In December 2006—remember this is after the November 2006 elections, so we actually had a fair number of lame duck representatives there—the U.S. Congress enacted a rider to an omnibus tax bill that required the Secretary of Interior to carry out the All American Canal Lining Project without delay.[24] This December 2006 legislation also provided that the Treaty between the U.S. and Mexico relating to the utilization of the waters of the Colorado, Tijuana and Rio Grande Rivers[25] is the exclusive authority for identifying, considering, analyzing or addressing impacts outside the boundary of the U.S. for works constructed, acquired, or used within the territorial U.S.

Following the enactment of this federal legislation, in April 2007 the Ninth Circuit lifted its injunction and issued a ruling that the underlying case from the plaintiffs was now essentially moot.[26] If you have some further questions about this I am happy to answer them because I was actually one of the attorneys that was consulting with the plaintiffs about the appeal to the Ninth Circuit, so I had some involvement with that.

The second legal framework for considering the All American project is the 1944 waters treaty between Mexico and the United States, which was referenced in that December 2006 federal legislation.[27] Among other things the 1944 waters treaty allocated the surface waters of the Colorado River between the U.S. and

24. Energy and Water Development Appropriations Act, Pub. L. 109-103 (2005).
25. Treaty between the United States of America and Mexico relating to the waters of the Colorado and Tijuana Rivers, and of the Rio Grande (Rio Bravo) from Fort Quitman, Texas, to the Gulf of Mexico, U.S.-Mex., February 3, 1944, T.S. 994 (59 Stat.1219) [hereinafter U.S.-Mexico Treaty of 1944].
26. Consejo de Desarrollo Economico de Mexicali, *supra* note 23.
27. U.S.-Mexico Treaty of 1944, *supra* note 25.

Mexico. Under the treaty, the U.S. was allocated fourteen million annual acre-feet of Colorado River water and Mexico was allocated 1.5 million annual acre-feet of Colorado River water. On the subject of allocation of cross-border ground water resources however, the 1944 treaty is in fact silent. Under the treaty, the International Boundary and Water Commission, the IBWC, is designated as the binational forum for Mexico and the United States to seek resolution of disputes over shared water resources. In 1973, the IBWC adopted Minute No. 242, which provided: "With the objective of avoiding future problems, the United States and Mexico shall consult with each other prior to undertaking any new development of either the surface or the groundwater resources or undertaking substantial modifications of present development in it's own territory in the border area that might adversely affect the other country."[28]

To date the United States has consistently held the position that under the 1944 treaty, any waters diverted from the Colorado River in the United States and placed in the All American Canal for transport are part of the fourteen million acre-feet of annual surface water that it is entitled to under the treaty, and therefore Mexico has no claim to any of the water traveling through the canal and has no basis to object to the canal's paving. In terms of IBWC Minute No. 242, to date the United States' position has been that the duty to consult with Mexico about the proposed lining of the All American Canal is simply the duty to provide advanced notice to Mexico that the project is going forward. To date, the United States has not interpreted the consult provision in Minute No. 242 to mean that this consultation has to result in any type of consensus as to whether the project should go forward or when it will go forward.

Back in 1991, Professor Albert Utton, for whom the Utton Transboundary Resource Center at the University of New Mexico Law Center is named, observed that the groundwater in the Mexicali Valley are return flows for seepage water from the Colorado River. Accordingly, he concluded that the United States is correct in its assertion that the Colorado River waters have already been allocated by mutual agreement under the 1944 treaty. Nevertheless, he noted one remaining question. Even if the source of the ground water is the surface flow from the Colorado River and even if the surface flow has been allocated, does the United

28. International Boundary and Water Commission, United States & Mexico, Minute 242, Permanent and Definitive Solution to the International Problem of the Salinity of the Colorado River (August 30, 1973), *available at* http://www.ibwc.state.gov/Treaties_Minutes/Minutes.html.

States have the right to interrupt return flows by lining the canal, thus enabling it to recapture seepage waters upon which Mexican farmers have developed a dependency and corresponding expectancy over the course of several decades? To answer Professor Utton's question, we will need to look at sources of international water law outside the 1944 treaty and outside IBWC Minute No. 242.

This brings us to our third legal framework for considering the lining project, which is international law on transnational watercourses. I wanted to briefly touch on three items within this subject. The first is the equitable apportionment doctrine, the second is the trans-boundary environmental impact assessment, and the third is recharge zone protection.

A fundamental concept of international law relating to transnational water resources is the notion of equitable apportionment. This is set forth in a number of international water treaties, including the 1992 Helsinki Convention,[29] the 1999 U.N. Convention on the Law of Non-Navigational Uses of International Watercourses,[30] and the 2004 International Law Association Berlin Rules on Water Resources.[31] As articulated in Article 6 of the 1997 U.N. Convention on International Watercourses, determining the equitable portion of a shared water resource should take account of the population dependent on the watercourse in each watercourse State and the effects of the uses of the watercourses in one watercourse State on other watercourse State.[32] Application of these criteria suggest that, after more then a half century of reliance by farmers and cities in Northern Mexico on the canal seepage and given what we know now about the foreseeable damage of this project on the Andrade Mesa wetlands, perhaps these are factors that should be considered in what determines or what constitutes equitable utilization by Mexico and the U.S. of the aquifer.

The international law doctrine of prescription may also be relevant to the application of the concept of equitable utilization. Professor Utton observed, once again back in 1991, that an argument may exist based on the law of prescription: Prescription under international law has strong echoes of abandonment. Perhaps the long uses by Mexico of the seepage waters of the All American Canal might

29. Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 (entered into force on 17 January 2000), *available at* http://www.helcom.fi/Convention/en_GB/text/.
30. Convention on the Law of the Non-navigational Uses of International Watercourses, G.A. Res. 51/229, U.N. GAOR, 51st Sess., Supp. No. 49, U.N. Doc. A/RES/51/229 (July 8, 1997) [hereinafter G.A. Res 51/229].
31. International Law Association Rules on International Water Resources, Berlin Rules, 2004, *available at* http://www.asil.org/ilib/WaterReport2004.pdf [hereinafter Berlin Rules].
32. G.A. Res. 51/229, *supra* note 30, at art. 6.

arguably create a prescriptive right to the continued flow of these ground waters. The U.S. would surely counter that it has not intentionally abandoned this water, but at all times it intended to recapture the water when it was needed. But the fact that the U.S. has not put this water to beneficial use for forty-eight years would cast doubt on the robustness of U.S. intent. That forty-eight year delay, that was noted by Utton in 1991, is now about a sixty-five year delay as we sit here in 2008, which would seem to lend additional weight to a potential prescription argument.

On the issue of transboundary environmental impact assessment, as I mentioned, the EIR that was prepared by the U.S. under NEPA took the position that there was no obligation to assess transboundary impacts, and essentially the U.S. could draw a line at the border in terms of its impact analysis. I would point out that many international water law experts, such as Professor Owen McIntyre in his 2007 book *Environmental Protection of International Water Courses Under International Law*, have argued that the U.S. Bureau of Reclamation's position in this regard does not square with current international law. In particular, Professor McIntyre in his book pointed to Section 29.1 of the 2004 Berlin Rules, which states that States shall undertake prior and continuing assessment of the impact of programs, projects, or activities that may have a significant effect on aquatic environment or the unsustainable development of waters.[33] There was no caveat in this rule that said impact assessments should stop at the borders. Professor McIntyre also went on to explain that in 2004 the members of the Water Resource Committee of the International Law Association clearly regarded the requirement to conduct transboundary environmental impact assessment as a rule of customary international law, stating that the commentary to article 29 of the Berlin rules expressly notes that the International Law Association recognized that the practice has crystallized into a rule of customary international law, at least insofar as trans-boundary effects are concerned.[34]

My final point deals with the framework of recharge zone protection. Currently under international law, there is no comprehensive international treaty that deals specifically with the question of groundwater resources. But in 2006, the Drafting Committee of the U.N.'s International Law Commission approved a document titled *Draft Articles on the Law of Trans-boundary Aquifers*.[35] Professor Gabriel

33. Berlin Rules, *supra* note 31, at art. 29.
34. *Id.*
35. United Nations General Assembly International Law Commission, Draft Articles of the Law of Transboundary Aquifers, June 7, 2006, A/CN.4/L.688, *available at* http://untreaty.un.org/ilc/documentation/english/a_cn4_l688.pdf.

Eckstein, who is with us today, has written some of the most current scholarly work on it. Included within this draft is Article 10, which is labeled *Recharge and Discharge Zones* and provides that aquifer states shall identify recharge and discharge zones of their transboundary aquifers or aquifer systems and within these zones shall take special measures to minimize detrimental impacts on the recharge and discharge process.[36] Granted this is only a draft treaty. But when you look at this provision, it is questionable whether the U.S. approach is consistent with it.

So what we can say in terms of the governance structure of the All American Canal lining project is that at this point we have a situation where it has, by and large, been a unilateral government structure with the U.S. making the decisions. The U.S. Congress has intervened to prevent the courts from ruling that there should be any cross border environmental impact assessment. The U.S. has taken the position under IBWC Minute No. 242 that consultation simply requires notification. At this point in time these very heady concepts of equitable utilization, and prescription and recharge zone protection have really had essentially no impact on the outcome.

Concluding with one final excerpt from that 2006 SCERP book, which states: "it makes sense to look at this dispute through the lens of greater economic integration and mutual cooperation rather then through the narrow slit of issue specific zero sum/loser pays outcome. Unfortunately, bilateral discussion of the AAC lining dispute has thus far framed the issue in zero sum terms. There is little evidence of the willingness in the United States to consider Mexico's concerns, even the environmental impact statement on the canal lining project did little to incorporate Mexico's concerns in its final recommendations, proceeding on the assumptions that the legal and international issues were essentially settled. They are not."[37] So, to return to the title of the conference, I think this is a situation where there may be common waters, but at this point we have very little common ground.

36. *Id.* at art. 10.
37. SCERP, *supra* note 20, at 190.

PROFESSOR GABRIEL ECKSTEIN*

I have a question regarding the discussion in the first or second presentation about needs, and how we have not been meeting our needs. I wonder if we really need to separate needs versus wants in terms of the decision-making and governance process? What really are our needs versus what really are our wants? Actually, I think it was David Sandino's presentation on California that mentioned that our demand is higher then our supply, but that is demand based on wants, not based on needs. I wonder if that has been thought out in terms of incorporating that into the process.

MR. DAVID SANDINO

Well, the way that I look at it is we have a growing population in California, and each person demands a certain amount of water supply. The trends over the past twenty to thirty years indicate that the population is going to increase. So, until we have some societal decision that we are not going to serve the new population, we are operating under the assumption that these folks are going to get water and that we are going to supply it. We also have in California an important agricultural economy that demands a large water supply as well. So you have these givens, and unless we are going to have some fundamental changes to how society is structured, we are going to try to service those demands.

* Gabriel Eckstein and Irene Klaver served as Symposium Chairs in planning and coordinating this symposium. Gabriel Eckstein is the George W. McCleskey Professor of Water Law at Texas Tech University and specializes in U.S. and international water law and policy. He directs the Texas Tech Center for Water Law & Policy and, separately, he directs the internet-based International Water Law Project (http://www.InternationalWaterLaw.org). In addition to lecturing in law and science fora around the world, he has also served as an expert advisor and consultant on U.S. and international environmental and water issues to various organizations, including the United Nations, World Commission on Dams, Organization of American States, U.S. Agency for International Development, and local water conservation districts in Texas. Professor Eckstein currently advises the U.N. Educational, Scientific, and Cultural Organization and Ambassador Chusei Yamada of the U.N. International Law Commission on the development of an international convention on transboundary groundwater resources. Prior to joining Texas Tech, Professor Eckstein served as Senior Counsel for CropLife America, a U.S. trade association of agricultural chemicals and biotech companies and as a litigator in private practice working on environmental, toxic tort, and asbestos cases. Professor Eckstein holds an LL.M. in International Environmental Law and a Juris Doctor from American University, a Master of Science in International Affairs from Florida State, and a Bachelor of Arts in Geology from Kent State University. He is admitted to the bars of New York, West Virginia, and the District of Columbia.

Now that does not mean that there are not going to be improvements to efficiency in water conservation. That is a big part of the story. It is incorporated in the California Constitution in article 10 section 2, that waste is prohibited. That prohibition takes all kinds of forms, both on agriculture and urban users from low flow showers to pricing according to use.[38] There are many tools to try to reduce those demands. But there comes a point where you cannot reduce the demand any more. I am going to use x amount of water for me, for drinking, bathing, cooking etc. Given that, your point is a valid one—you need to look hard at those demands and we are doing that now, we continue to do that as a society to find ways to reduce those. We also are working as Commissioner [Robert] Johnson said to try to maximize existing supply, not just in conservation, but also through reuse. It is a big part of meeting demand so we do not have to turn to new water supply facilities. So all those things are part of it, but there is going to be a base demand that is not going to go away.

MS. AMY HARDBERGER

I can add to that from the Texas perspective. The state of Texas came out with something called the State Water Plan, which forecasts water use out to the year 2060, and it quantifies the amount of water that is going to be necessary for citizens, assuming certain population growth.[39] One of the issues that we, the Environmental Defense Fund, had with that project, which I think ties into what was said, is this assumption that we are going to use water fifty years from now in the same way that we use water today. That has not been true for the last fifty years, and it most likely will not be true for the next fifty years either. So, to simply say the average person uses 200 gallons per capita per day, and we are going to triple the amount of people in the state so we are going to need x number is not a smart way to do it. For most areas, especially arid areas, all it is going to do is come up with a large delta in terms of need versus what we have. Conservation is a huge consideration. I know that in Texas one of the goals is to reduce use to 140 gallons per capita per day, and I have found only three cities that have achieved that. San Antonio is one of them. I think too that when we talk about need we automatically start talking about municipal need, and we need to remember that this is actually a patchwork need.

You mentioned in California not knowing how much water needs to stay in stream. Part of our Environmental Flows Legislation is to do basin-by-basin

38. C.A. Const. art. X, § 2.
39. TEXAS WATER DEVELOPMENT BOARD, STATE WATER PLAN (2007).

research with a stakeholders group to figure out exactly how much water needs to be in each. Similarly, for the bays and estuaries, which is a huge issue in Texas, we need to know how much freshwater inflow needs to be there. So I think when you are calculating need, the most effective manner is to look at cross cutting needs. That does not necessarily mean that you are not going to have a delta, but it just gives you a much better way to calculate need. We found with our numbers that you can take your curve for need and flatten it considerably once you start taking all of those factors into consideration.

MR. PAUL KIBEL

In terms of basing water policy decisions on population increase projections, there is an interesting example that actually relates to the CALFED Bay Delta Program, which David Sandino mentioned in his presentation. CALFED came up with a series of macro programmatic projects that it is going to do, which had an environmental component and a storage component, that was challenged in the California courts and went up to the California Court of Appeal, which is below the California Supreme Court.[40] In a very interesting decision that may well be overturned, the Judge threw out the environmental impact assessment document done for the CALFED program on a number of bases, one of which was that this document assumed there is going to be a certain level of projected population growth. However, without certain infrastructure, there will not be water for these people, and so they will not move here. So essentially what the court did—and some might argue that it is not the appropriate role for a court—was to ask if what we are calling assumptions might actually be consequences of what we are doing and not assumptions that exist in a void. Even those of us who might have been philosophically sympathetic to what the Judge said, thought that from a judicial perspective there was a pretty high likelihood of the decision being overturned by the California Supreme Court. But the mere fact that the case articulated this issue gets at those wants-and-needs issues.

40. In Re Bay Delta Programmatic Environmental Impact Report Coordinated Proceedings, 133 Cal.App.4th 154 (2006) (review granted by California Supreme Court).

DR. HELEN INGRAM*

Probably not a polite question, but Al Utton wrote his article maybe fifteen years ago, and it seems pretty clear that international water law says that we cannot go ahead and line the All American Canal the way we are doing it, and yet we are doing it anyway. So my question is what is the use of international water law, when the nation taking action does not pay any attention to it?

MR. PAUL KIBEL

I think your question probably answered itself to a large degree. Right now international environmental law and international water law are not particularly enforceable compared to other areas of international law. They do not have effective dispute resolution mechanisms or enforcement mechanisms. So part of the answer is that you have these principals out there but there are no mechanisms of enforcement. The other part of the answer is perhaps a political one: why hasn't Mexico pressed its claim more strongly? Why was it left to farming and business interests in Mexicali to bring the lawsuit? I think there was a political calculation. Northern Mexico does not have as much pull in Mexico City in terms of effecting federal policy, and they were on the defensive about Rio Grande issues and water debt, and it was not a high enough priority politically or diplomatically for Mexico to press its point at this juncture. I read commentary saying that if they were to bring it before the International Court of Justice and if the U.S. were unable to get out of that jurisdiction, there would be a pretty strong likelihood that the U.S. would lose. Now as to whether, if they lost, you could force them to stop the project is questionable.

* Dr. Helen Ingram is a Research Fellow at the Southwest Center at the University of Arizona. She is a professor emeritus at the University of California, Irvine and the University of Arizona. Until 2006, she was the Warmington Endowed Chair of Social Ecology at the University of California, Irvine. She chaired an National Research Council panel for the Committee on the Human Dimensions of Climate Change in the Division of Behavioral and Social Sciences that completed its work in 2008 and issued a report entitled *Research and Networks for Decision Support in the NOAA Sectoral Applications Research Program.* Dr. Ingram also chairs the writing committee for the Climate Change Science Program 5.3 Product. She is also on the Advisory Committee of the Rosenberg Forum on International Water Policy. Dr. Ingram holds a B.A. in government from Oberlin College and a Ph.D. in public law and government from Columbia University. Her published works include thirteen authored, coauthored, and edited books and over a hundred articles and book chapters on public policy, policy design, water policy, environmental policy, and the politics of water in the Southwestern United States and the U.S.-Mexico transboundary area.

MR. DAVID SANDINO

I just wanted to point out how this illustrates certain tensions. A method to line the unlined canal is what we wanted, because that promotes water conservation. So this is the tension that we have all the time in terms of the water community. We are trying to do something positive on one hand by promoting conservation values, but on the other hand, someone is being harmed because they are relying on the groundwater. It is a very complicated problem.

AUDIENCE MEMBER

Did Congressional action also make moot the question of executive branch policy? Meaning that when we have a shift to a new administration, like a new Secretary of the Interior, does that Congressional action then make moot any chance for potential change in the Department of Interior?

MR. PAUL KIBEL

The legal answer is that this really was beyond what the Ninth Circuit considered. The Ninth Circuit was limited in their view to the fact that Congress passed this legislation, and it appears to have mooted out the NEPA claim because it essentially exempted this project from NEPA. So they said there is no relief we can grant you, you have no case. If you are asking whether if a new administration came in and chose to interpret NEPA differently, or their obligations under IBWC Minute 242 differently, I don't think there is anything that would stop them from doing that. Is that responsive to your question?

AUDIENCE MEMBER

Yes, it is. And a related question is whether NAFTA is at all relevant to finding an enforcement mechanism?

MR. PAUL KIBEL

When NAFTA was signed, they also entered into an environmental side agreement, and the environmental side agreement does provide for what is called a citizen submission process, which also has no enforcement mechanism. There has been some talk amongst the plaintiffs that lost this case as to whether it would be a productive default measure to try to use that. At this point, I am not aware that a citizens' submission has been filed.

PROFESSOR JEAN FRIED*

I have a comment to what Gabriel [Eckstein] said. He had a very important question on needs versus wants. I think it is a problem of historical and cultural dimensions of the population to see what is really needed and just what they are used to having. The answer is education. This afternoon I will discuss one example in Central Asia, which I think is a good demonstration of that problem. In an oasis in an area where they otherwise would have no water, the custom is for housewives to use a very large amount of water to wash the fronts of their house every morning. It is in the region of Bukhara in Central Asia, and there is no water there, and it is a big problem. This afternoon I will talk about the Aral Sea, and how we are trying to educate the people in the area in order for them to change ancestral habits. Of course, it is a challenge. But I will use the example of cigarettes to say that education is possible. Years ago, when I was much younger, people used to smoke a lot. Now it is very difficult to find a public place where you are allowed to smoke. So it is possible to educate people on using their water differently than they are right now.

* Professor Fried is a Senior Consultant at UNESCO where he directs the Transboundary Groundwater Education project and belongs to the Advisory and Peer Review Group of the International Hydrological Programme (IHP) Phase VII 2008-2013. He is currently a Project Scientist at the Planning, Policy and Design Department of the School of Social Ecology at the University of California, Irvine. Professor Fried also recently was appointed as Cooperating Scholar of the School of Policy and International Affairs at the University of Maine. Professor Fried has developed an expertise in water sustainable management and the interaction between science, legislation, and policy-making through his work as Expert-Consultant and Science Advisor to policy-makers and legislators on water and sustainable development at the European Commission from 1976 through 1996 and as Tenured Professor of Fluid Mechanics at the Universite Louis Pasteur in Strasbourg, France, until 2006. Professor Fried presented the keynote address at the symposium *Common Grounds, Common Waters: Toward a Water Ethic*, held at Santa Clara University on March 14, 2008. Professor Fried's keynote address can be found at the beginning of this publication.