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“A conversation about water” with Jeffrey Kightlinger

July 31, 2016 | Maven | News and Features



Metropolitan General Manager answers questions about the California Water Fix and other issues at a recent Sacramento Bee forum

Recently, the Sacramento Bee invited Jeffrey Kightlinger, General Manager of the Metropolitan Water District, to talk about the California Water Fix and other California water issues in a forum attended by newspaper subscribers and students. Maven gratefully acknowledges videographer and Central Valley Business Times correspondent for providing a video of this event.

Here's what they had to say.




Dan Morain began by welcoming everyone to the forum and introducing Jeff Kightlinger, General Manager of the Metropolitan Water District. "Jeff has been to our editorial board a couple of time to explain Metropolitan Water District's view of various issues related to water in California. I invited him to come to more of a public forum. The way I view it is a kind of a



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public version of what we do on our editorial boards. He understands that the Sacramento region is not particularly friendly, to the Metropolitan Water District, and so I appreciate that he has decided to come and come to the lion's den and then explain MWD's view."

Mr. Morain then turned it over to Mr. Kightlinger for his opening comments.

Jeff Kightlinger began by giving some information about the Metropolitan Water District. Metropolitan is a public agency created by the legislature in 1928 for the purpose of building an aqueduct to the Colorado River. In 1900, about the same time the City of San Francisco was trying to look towards Hetch Hetchy, the city of Los Angeles looked to the Owens River and built the Los Angeles Aqueduct system.

"They thought that was going to be enough water for about 50 years, but already by the 1920's, that system came on line in 1913, and already the growth in Los Angeles by the 1920's was out stripping it," he said. "So they looked around for other supplies of water, realized with the technology at the time they could go to the Colorado River, but the even though the city of Los Angeles was rapidly growing, could not afford it on its own, so they needed a new regional cooperative system and the theory was they were going to bring in the neighboring cities, such as Glendale, Burbank and Pasadena, Santa Monica, Beverly Hills. They got together 13 cities agreed to go co-fund this and go build the Colorado River Aqueduct."



Metro politan was found ed in 1928, but by the time it went to the market to get money

to build it, it was 1933. A lot had changed between 1928 and 1933. *"Yet, amazing thing, Southern California voters, by a ten to one vote, agreed to tax themselves for a decade to go build a project that was 10 percent of the entire assessed valuation of all Southern*

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California," Mr. Kightlinger said. *"It was unheard of. It was a huge massive undertaking. \$220 Million in 1933 dollars. The project delivered its first drops of water in 1941, 75 years ago this month."*

The Colorado River Aqueduct was supposed to satisfy the water needs of Southern California for hundred years, but already by the mid-50s, water was starting to be a challenge with the population growth of the post war boom. *"That was when Governor Pat Brown decided that they wanted to go build the State Water Project which would tap into Northern California,"* he said. *"It was fiercely debated at Metropolitan at the time because again the expense was pretty staggering. But after a long internal debate and a significant amount of arm twisting by the Governor, Metropolitan agreed to bankroll 50 percent of that project for 75 years, the most expensive project every built at its time."*

"We signed a contract that said Metropolitan will pay half the cost of the State Water Project through 2035 for 75 years," Mr. Kightlinger said. *"To put it in perspective, Metropolitan's annual budget is \$1.8 billion a year. We write a check to the State of California for the State Water Project; it's typically around \$550 million a year and it's a 75 year commitment. That built all of the facilities – Lake Orville, the aqueduct coming down Highway 5, and the pumping and all the reservoirs and systems throughout that supply Southern California. So those are the sources of water for Southern California."*

"Metropolitan supplies about 50-55% of all Southern California's water; it comes from two places, the Colorado River and Northern California through the State Water Project. These are massive systems, and Metropolitan supplies a little over, close to two million acre feet of water a year to the four million acre feet of all Southern California's demand. The other half of our water comes from our local rivers, our local ground water basins, and the little bit of eight to twelve inches of rain per year that we get. Metropolitan supplies about half of it and that's where we stand today."

"So clearly the Twin Tunnels is a project that MWD supports and as near as we can tell, other than the governor's office, you are the main supporter of it," said Mr. Morain. "Can it happen with just MWD and should the rest of the state accede?"

"Several questions in there," responded Mr. Kightlinger. *"I think it's more accurate to say our board has supported the process. What our board has done is basically taken a hard look at how we get our water through the Delta and through the State Water Project. What we have right now is a status quo that we don't think is working for anybody. It doesn't work very well for Metropolitan, it doesn't work for agriculture, and it doesn't work well for the environment. We are*



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NOV 28 TUE	ACWA Fall Confere 📅 28 Nov — 01 Dec @ /
	Death Knell Barrier 📅 28 Nov @ 11:00 am
	Community Meeting 📅 28 Nov @ 03:00 pm
NOV 30 THU	Delta Caucus Twin 📅 30 Nov @ 10:00 am
	BROWN BAG SEMI policy and regulati 📅 30 Nov @ 12:00 pm
DEC 3 SUN	North American Wa 📅 03 Dec — 05 Dec @ /
DEC 4 MON	Managed Relocatio 📅 04 Dec @ All-day
	2017 Long-term Op 📅 04 Dec — 07 Dec @ /
DEC 5 TUE	State Water Resour 📅 05 Dec @ 09:30 am
	No Drop Left Behin 📅 05 Dec @ 11:30 am
DEC 6 WED	Adaptive capacity: 📅 06 Dec @ 11:00 am
DEC 7 THU	Central Valley Regi 📅 07 Dec — 08 Dec @ /
DEC 12 TUE	Community Meeting 📅 12 Dec @ 05:00 pm
DEC 13 WED	Colorado River Wa 📅 13 Dec — 15 Dec @ /
	GRACast: Lessons 📅 13 Dec @ 12:00 pm
DEC 14 THU	Delta Independent ! 📅 14 Dec @ All-day
	Delta Stewardship 📅 14 Dec @ All-day
	Delta Stewardship 📅 14 Dec @ 04:00 pm
DEC 15 FRI	Central Valley Floo 📅 15 Dec @ 09:00 am

in constant debates and battles over what is the right outflow, what are we doing for fish, and why is the habitat disappearing every year.”

“Regardless of how much money we throw at fishery issues, it seems to get worse every year,” continued Mr. Kightlinger. “So we were very supportive of the 2009 Delta Reform Act that led to a process and this is the process we’re in. This process has led to a preferred project or recommended project of the twin tunnels. We don’t still have the final project. Our board has not voted and said we’re willing and able to spend money to build these tunnels. What we’ve said is we’re going to support this process, get to a conclusion, hopefully soon and assuming it’s the twin tunnels and assuming it’s a fair package that Metropolitan is paying the right portion of, then I assume we’ll be supportive of it.”

“So what in your view is the timeline here?” asked Mr. Morain. “Is it this year? Is it next year? And what if it doesn’t happen during Governor Brown’s tenure?”

“Water projects are big; they’re expensive,” said Mr. Kightlinger. “When we built the Colorado River Project, we started in 1928 and didn’t deliver a drop of water until 1941. We started on this iteration of a Delta fix, a Delta solution. ... Eight years ago, we started in earnest when we just had finished the Delta Reform Act Package. Meanwhile, assuming we go this year, it’s likely to be a decade or so of construction, so it’s going to be a long process. I think the timing is critical now to make a decision. You have six months left in the Obama Administration, and at the end of this year, you’ll have two years left in the Governor Brown Administration. We either need to make a decision on whether or not we’re going to finish this type of project and move forward on it. I believe within the next six months of the Obama Administration on the Federal side and then make progress during the next two years in the Brown administration.”

“Why do you need water in Southern California?” asked Mr. Morain. “You’ve got the ocean; why can’t you do desal plants. Why is there not enough storage and ground water in Southern California in your view?”

“There’s a simple truth that the coast areas, where people do like to live in California, simply don’t have enough water,” responded Kightlinger. “San Francisco essentially imports all of its water from the Sierras. Santa Barbara has to import water. The East Bay, Oakland – they all import water. The coast is not where fresh water is; it’s where salt water is. The same is true with Southern California. We have good ground water basins in Southern California, we have some local rainfall, but the most it can do is about half our demand. So if you’re going to have a growing and vital economy in Southern

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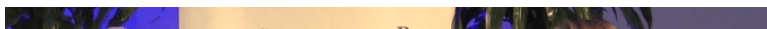
California, you're going to have to have some element of imported water."

"The technology is there to do ocean desalination, but I don't think people sometimes get the scales and volumes of water," Mr. Kightlinger continued. "Southern California just completed in Carlsbad in Sand Diego County, the largest desalination plant in the West Coast. And it will do about 50,000 acre feet of water a year. On average, Metropolitan can get from the State Water Project, back when it was functioning better than it is today, about 1.5 million acre feet of water. Let's say Southern California will no longer get import any water from Northern California, and we're going to switch all to ocean desal. The comparable would be to build the largest desal plant that ever built in the world, every four miles between Los Angeles and San Diego. You would have to basically industrialize the whole coast. It took ten years to get the Carlsbad permits done for 50,000 acre feet. We'd need thirty of those done. So it isn't physically or fiscally feasible or practical to say we're going to roll up one system all over to another technology. They all have to be built and they all have to complement each other."

"So if water stopped flowing today; the big earthquake comes, the Delta is unalterably changed by an earthquake for example, what does Southern California do? What do you do?" asked Mr. Morain.

"Like any agency, we plan for things like natural disasters, we plan for earthquakes," said Mr. Kightlinger. "So one of the things we do is we store water in Southern California to get through droughts but we also store water for earthquakes. At all times in Southern California, my agency has worked to maintain six months of supply of water as an earthquake emergency strategic reserve. We always have six months of water in Southern California that we don't touch in droughts. That is intended to buy us enough time to go patch and fix the system and get water flowing again. That six month's supply."

"Then on top of it of course we build our drought reserves that we pulled down on droughts," he continued. "Metropolitan has the ability to store in its various reservoirs and ground water banks up to a five million acre feet of water a year. And we need to sell about 1.8 two million acre feet. You can store a year's worth of supply. When we went into this drought in 2010, Metropolitan had its 600,000 acre feet of earthquake reserve and about two and a half million acre feet of drought reserve. We're now down to less than a million. So we've had to pull it down to deal with drought. That's not how it's supposed to work, but an emergency reserve is what we want to give us enough time to go fix the break."



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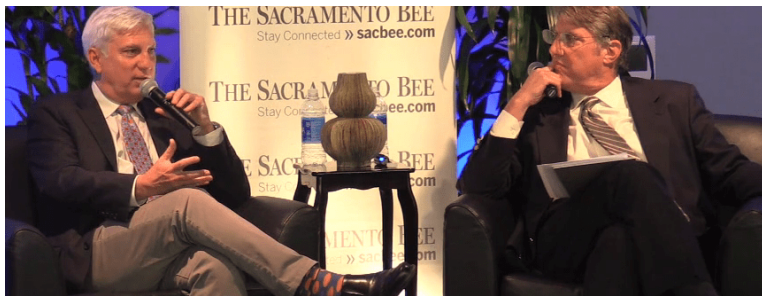
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"You're in the process of trying to buy five Delta Islands, and there is such a level of suspicion about that," said Mr. Morain. "To what do you attribute that and is there anything you can tell to those of us who live in the Delta or near the Delta that, well, any comforting words?"

"We're buying essentially 20,000 acres, it is portions of essentially four islands. These are islands on the Delta and they are currently being used for either farming or pasture today," replied Mr. Kightlinger. *"The owner was a Swiss insurance firm, and their long-term game plan was to turn two of them into reservoirs, capture water, market it, and sell that to places like Southern California. That is the business plan they had. What we are looking for are ways to get more habitat restoration taking place in the Delta."*

"A lot of people say, 'you're a water agency, what do you care about habitat restoration?' Well, Metropolitan has spent hundreds of millions of dollars on the Colorado River restoring habitat. The reason we do that is it's in our self-interest. We get constantly sued and challenged and shut down by fish agencies if the environment isn't doing well. We have the ability to operate, move water, and run our system when the species are doing well. So we want species to do well so we can continue to do our mission and our job."

"We've been talking about restoring 8,000 acres in the Delta for about the last 10 years. And I think we're on about acre 100," Mr. Kightlinger continued. *"Something has to start to happen. We went to our board, and the Swiss insurance company said, 'we're tired of trying to chase a water project, would you guys be interested in the water project.' We said, not particularly in the water project but we are interested in the asset – the land. We have to start getting to restoration, we have to start getting the species better so we can continue to do our job. So we said let's go buy this, make this happen and see if we can start making some progress."*

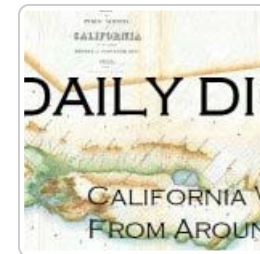
"When you say habitat restoration, isn't that really moving farmland out of production?" asked Mr. Morain.



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"Potentially some of it," he said. "You do have two islands that are pasture, you have a small piece in the northwest area of the Delta called Chipps – a small portion of that. The Chipps piece looks like it would be perfect for marsh habitat. Some of the islands in the heart of the Delta that are well below sea level that are being used for farming, maybe not so much good for fish habitat, but on the other hand, there could be farming operations that would work in conjunction with fowl and other bird species that we've seen a lot of great work on a neighboring island called Mandeville Island where they brought back thousands of duck species and things like that. So there are opportunities there that we would like to explore."



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"How much farmland are you talking about taking out of production?" asked Mr. Morain.

"We really don't know at this point in time," said Mr. Kightlinger. "We don't really know if there is going to be a Delta Tunnels project. If there is a Delta Tunnels project, two of the islands potentially could be valuable for staging equipment, doing geotechnical work, and all that engineering stuff that an agency like mine does. If there is not tunnel project, then they wouldn't have any value for that, so they would probably just leave them in farmland."

"Congressman John Garamendi, who represents the bulk of the Delta, calls the notion of the tunnels a boondoggle, crazy idea," asked Mr. Morain. "And he has come up with alternatives. How do you get this built over opposition like that from a member of Congress in his district?"

"I've known John quite a while and worked with him in the past, I worked with him when he was Deputy Secretary of the Interior under Secretary Babbitt where he was working on Delta projects and ways to improve it," said Mr. Kightlinger. "Now he's in Congress. He represents with a very strong viewpoint and he's doing that as a good elected does. So how do you build any project that has opposition? Almost all projects have some opposition these days. We are a very crowded state, we have 38 million people crammed into this state and by all projections we're going to go to 50 million. So when people say "not in my backyard", everything is somebody's backyard to that. So you're going to have to find a way, to find some give and take and find some degree of consensus, but you're not going to get universal consensus."

"I think it's a dream to say 'not until everyone agrees are we going to move a controversial project forward,'" continued Mr. Kightlinger. "If we do that, then the state will be gridlocked and we're not going to get anything done. At some point you just have to say this does the most value for the greatest number of people and we're going to

have to move forward with it, understanding that some people will be unhappy with it. But nobody in this state or in this country gets completely run over. There's always mechanisms to mitigate, compensate, and make sure there's a balance in how you move it forward."

"If you drive down Interstate 5, invariably you will see signs that say Congress created the dustbowl," said Mr. Morain. "You will see very angry signs put up by basically Westland's Water District people who are blaming members of Congress for the Endangered Species Act. They are your partner here in some sense in getting the tunnels built. Do you buy the notion that Congress has created this water shortage?"

"I don't buy the notion that Congress has created a state shortage, but I do think that all of us can share some responsibility in not being able to find a solution that works," said Mr. Kightlinger. "The Endangered Species Act was written in 1973 and it's a fairly inflexible piece of legislation. But there is flexibility in it to make it work. We did some tremendous work during the Clinton presidency coming up with habitat conservation planning; lots of work about no surprises and safe harbors and ways to make the law more flexible so you can do a lot good for a great number of species and get projects done. But lately, Congress has been quite polarized. We all watch the news and people don't want to compromise and find ways to make things work and that's something I think Congress, but probably all of us can share in some blame for that."

"Restore the Delta put out a press release basically denouncing this event and suggested various questions," said Mr. Morain. "So I wanted to read some of these questions. The first one was, 'Why does MWD continue to tell MWD board members that the Delta Tunnels will provide the more water when it is clear that climate change will lead to less snow pack in the Sierra and reduce flows to the tunnels?'"

"That isn't actually what we tell our board," replied Mr. Kightlinger. "We don't tell our board that building something like the tunnels gets more water. It makes the existing State Water Project system function better. You're basically modernizing and upgrading existing infrastructure for the purpose of reliability for making sure it is reliable. People forget the State Water Project is 1960 engineering. It was state of the art 50 years ago. It is not state of the art today. We need to modernize the system and make it better. That is what the tunnels are intended to do. And we think it's a sound investment in reliability not in more water. If you look at what San Francisco did,

the City of San Francisco just spent \$4 billion on base of three million rate payers to go completely rebuild their Hetch Hetchy system. It doesn't provide one drop of new water, and they essentially tripled their water rates in parts of the city. Why? Because they need reliability. And that's what investments do."

"Given the size and scope of this project, why not put this to a vote for the people statewide?" asked Mr. Morain.

"It's actually really rare that you put projects to vote to the people statewide," responded Mr. Kightlinger. "San Francisco, just right now, they just rebuilt their Hetch Hetchy system. Southern California did not get to weigh in and say whether that was a good idea or not. They were building it, it's their project. Nobody got to weigh in on the Bay Bridge and whether or not that was a statewide project. No, the decision gets made and it gets built. You can start ticking off project after project. It's pretty rare that we go to the statewide voters on the projects. And so that would be the exception not the norm. And I think it would be an odd precedent that you would invite people who aren't paying for the project, they're not a beneficiary of it, they're not a payer, why not have their opinions on it. That would be kind of dangerous. I think the people of the Bay Area would prefer that San Bernardino didn't vote on the efficacy of rebuilding the Bay Bridge. That's not really how you would probably want to do things as a wide diverse state."

Don Morain than asks for questions from the audience. A woman asks about Metropolitan's own ratepayers. "Would you put a vote to your own ratepayers?"



"Metropolitan has a board of 38 members that represent their rate payers, and so the plan would be that our board would vote as their representatives, as opposed to just going to their rate payers," responded Mr. Kightlinger. "It would actually be a very complicated ballot measure to do for our rate payers, because the Metropolitan boundary is very peculiar. We represent a portion of Ventura County, all of Los Angeles County, all of Orange County, all of San Diego County, a portion of Riverside and a portion of San Bernardino. Effectively we serve all portions of six Southern California counties, 19 million people; one in every two Californians we serve water to. But it's never done votes that would have included that 19 million people in a carved out area by itself. I

don't even know how we would do it. The plan is that the Board will make the decision."

But you send them bills, counters the audience member.

"Actually, no," replied Mr. Kightlinger. "We're a wholesaler; we send bills to 26 wholesale agencies, such as the City of Los Angeles. We send them one bill. They now then go among their four million rate payers and collect. We don't do that."

Another audience member asks why the tunnels were selected to go under the Delta.

"The challenge of this whole Delta issue has been known for some time," said Mr. Kightlinger. "In 1930, there was a state water plan that was adopted by the California State Legislature that basically called for systems to move water from the Sierra to the Central Valley and open up that area for agriculture. They proposed the Delta bypass because they knew moving water through the Delta was not going to be a good idea. In 1960, when the state adopted the state water project, again it called for a Delta bypass. San Francisco, the East Bay, they all built Delta bypasses."

"The reason is it's completely at sea level; it's a completely flat area," Mr. Kightlinger continued. "It's a mixing estuary; it's not a good place to pump. So the plan has always been to build a Delta bypass but it kept getting put over for expenses or not. The last time we actually took a statewide vote on the Peripheral Canal was in 1982; that was again a Delta bypass. The thinking now is we've gotten very good at tunneling. We weren't good at tunneling 50 years ago or even 30 years ago. So the thinking today is a Delta bypass but this time tunnels. It has less of a footprint, it does bypass the Delta but it would be done by tunnels so it would be a lot less visible; completely out of sight and out of mind once it's built. It would be much more effective by gravity flow to be able to move water. So it's a good engineering solution. The real question is what are the political aspects of it and obviously that's controversial."

"Why don't you let the people have a vote just like we did on the Peripheral Canal?" asks an audience member. "The reason probably is that you fear it would fail again. That would be my guess to your answer."

"It's not up to me what the people of the State of California vote on," replied Mr. Kightlinger. "I run a water district. It will be up to the governor, the legislature or that people can run initiatives. That's how things get on the ballot in the State of California. So it's not up to me."

"Which bring us to the Cortopassi initiative," said Mr. Morain. "This is a measure that would require a statewide vote for any project that uses revenue bonds in excess of \$2 billion if I understand it correctly. Pretty simple initiative, very straight forward. That could be viewed as a proxy vote on the Delta tunnels. What's your view of that?"

"Our board has taken the position of opposed to the Cortopassi initiative," Mr. Kightlinger said. "Again, I get back to the fundamental principles. Should all the voters of the state weigh in on every project over a certain price tag even if they aren't the beneficiary, even if they aren't paying for it? Should we have Southern California vote on, pick a project-Bay Bridge, Hetch Hetchy expansion, Sites Reservoir. You can go on and on and on. There are many, many projects that cost more than \$2 billion. They are only going to be paid for by a certain class of citizens. Should other people get to vote on that? That's an important policy question of how we do that."

"If the tunnels happen and if MWD, Westlands, and the other users of this pay for it, would it be paid for out of revenue bonds? Would that be the instrument that would be used to pay for this?" asked Mr. Morain.

"Yes, most likely they would be revenue bonds," Mr. Kightlinger replied.

"The other resources intimately involved is the flow of water in the rivers that feed it," asked an audience member. "Those rivers belong to the state and to all of us and there are a lot more of us than those water-specific end users. We would like to vote on it. I would. I'd like to hear an honest answer addressing to what this means to use to using that water. When a river runs dry, it's no longer a river."

Mr. Morain turned to Mr. Kightlinger and asked, "If the tunnels are built, do the rivers run dry?"

"Right now, there are two projects that pump water from the south of the Delta: the Central Valley Project and the State Water Project," said Mr. Kightlinger. "The concept of building a tunnel is to change where they pump from the south of the Delta to move it about 35 miles north so that you don't interfere with the title movement of water within the Delta. The exact same amount of water is proposed to be lifted out, that is currently being lifted out from the south end of the Delta, would now be lifted out in two places, from the north end and from the south and the volumes would be the same. So the amounts of water in rivers are going to be the same. There's going

to be some change in the hydraulics of that 35 mile gap where the tunnels pick it up. Should not be a change."

"Is that so that you're picking up cleaner water, less saline water than you are currently picking up?" asked the audience member.

"There are a number of reasons why," answered Mr. Kightlinger. "There are about three or four reasons why from a technical solution why it's appealing. One is the water is definably cleaner and less saline. That is very important in terms of how you treat water and the human health impacts of that, so that's a very important benefit. The other is, right now, because the water has to move through the Delta, we are interfering with the tidal estuary flows Delta and when we interfere with that, we do harm to the endangered species fish and therefore we get our pumping restricted too. Third is that whole Delta area is a seismic vulnerable area that has the potential to have earthquakes that interrupt the flow of water by tunneling down below, 150 feet below the surface, building concrete steel infrastructure pipes that are much safer in an earthquake. You build a safer, more reliable system. So there's three major reasons."



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further up in the Sacramento River instead of the brackish water you're currently getting, that necessarily leaves the Delta more brackish because it's not getting fresh water that is currently getting," asks an audience member. "That is harming the Delta."

"Technically if that were a goal to approach an original natural condition, that is what you would do," answered Mr. Kightlinger. "Technically, it actually is returning to the Delta to its more natural pre-project state that is running fresh water through it and turning it into a more natural condition and the theory is that's good for the endangered native fish. But there is a couple of percent, a relatively minor amount, but it's a couple of percent change in brackishness in certain times of year and to the extent three are impacts, that's

where you have to mitigate for those, make sure those people are—"

"So you're saying the Delta should be more brackish than it is right now to approach its original natural condition?" countered the audience member.

"Yes, if that were a goal to approach original, natural condition that is what you would do," Mr. Kightlinger replied.

"One of the issues here is Sites Reservoir," said Mr. Morain. "What's MWD's view of Sites Reservoir? Is its construction dependent on a conveyance on tunnels?"

"For those who are unaware, Sites Reservoir is a proposed new storage facility that would be built on the northwest side of the Sacramento Valley," explained Mr. Kightlinger. *"It would be an off stream reservoir, which means it is not built on a river, damming up a river, but rather you find a nice basin area, put up a couple of dams to capture water and you have to pump in all the water ... it's very similar to a project that Metropolitan built and finished building in 2000. It's called Diamond Valley Lake in Southern California, the Riverside area where we built an off stream reservoir. But for Diamond Valley Lake, Southern California would have been in a world of hurt during this recent drought because that enabled us to get through the drought."*

"Off stream reservoirs are very good, low environmental impact, great for storing and capturing water," Mr. Kightlinger said. *"Sites Reservoir from the MWD perspective looks like a good sound project. The problem is, for us, it's north of the Delta. And right now we can't move water through the Delta because we were so restricted in our ability to move water, that it wouldn't provide any real benefits to anyone south of the Delta. It would be still be valuable to people north of the Delta. Now the problem is, people north of the Delta say we would like you to help fund it. I say well, the problem is I don't know why I would fund it unless I could get some of that water and I can't actually get the water unless we build a conveyance system. We have a little bit of a chicken and egg issue there."*

Mr. Morain asked Mr. Kightlinger about the demographics and population of Metropolitan Water District's service area.

"I've done a lot government work over the years and MWD is a fascinating intuition in the sense, unlike most governmental institutions, we don't really have a border," said Mr. Kightlinger. *"We define ourselves as a Southern California Coastal Plain. So we're the southern part of Ventura County, all of Los Angeles, all of Orange,*

all of San Diego and then the western portions of San Bernardino and Riverside Counties. There are the mountains that bring Southern California into a coastal basin, the coastal basin that people have settled in. It's 19 million people, it's one of every two Californians crammed into there. You've got a sense of our traffic. It is probably about 60 to almost 60 some percent of the entire economy. It's an incredibly diverse economy – movies and all the show business and high tech silicone beach area they call it. So it's a huge, incredibly culturally ethnically diverse region with the major city of Los Angeles but we also have the city of San Diego, Anaheim, Riverside, Fullerton, etc."

"One of the fundamental issues here are the endangered species – Delta smelt and various runs of salmon," said Mr. Morain. "Do you believe that the Delta smelt is worth saving and can it be saved? What about the endangered salmon fisheries?"

"Our board strongly supports the Endangered Species Act," replied Mr. Kightlinger. "They tell us that everything we do has to be done in the most environmentally responsible manner we can do it. It's built in to our mission statement, it's where our board puts its money where its mouth is. We spent millions upon millions of dollars and environmental restoration and protection of species. That said, I don't know if we know enough and are smart enough to frankly save some species in the face of climate change. Climate change is real, it's going to have true dynamic changes to the water system, which will have long serious impacts on species that rely on cold water as we have less snow pack, such as the salmon. Delta smelt – a couple of degrees change start to just drive them out of their habitat. The real driver of endangered species is climate change in California and it's coming at us and it may dwarf all of our ability to manage it with all our tools but we're going to have to keep trying to do our best."

"I read about the Tennessee Valley Authority. Did the people of Tennessee vote on that? ... And the great dams that we developed in the state of Nevada and the whole western area?," asked an audience member.

"My question was, who owns the water?"

"The people of the state of California own the water," answered Kightlinger. "What water users have is the right to use that water. And that is what a water right means. We have nice lingo, terminology for it, but you have a right to use the water. The water is owned by the people of the state of California and the public trust doctrine where you have to protect the public trust. You have to

protect the publics' interest in the water and that can trump a water rights right to use the water."

"Doesn't the federal law trump state law and local law?" asked the audience member.

"Now you're getting into a complex issue," replied Mr. Kightlinger. "I think I'm trying to figure out how not to dive into all the weeds; yes, federal law can preempt state law, but the federal law does respect state water rights and then there are all sorts of local water rights as well. I'll leave it at that."

"What's frustrating here is that I think there is not the lack of water; it's just how we manage it. I understand the Sacramento River was running at flood stage through most of December and January of this year. I understand the pumps were being throttled back at that time," an audience member asked. "Is that because of the endangered species or is that due to you do not want silt put into your pipeline or your system?"

"Endangered species drove all that throttling back this year," replied Mr. Kightlinger. "One of the interesting things is I work around the west a lot on water issues, particularly because of Metropolitan's strong interest in the Colorado River. Colorado River has an annual flow of something like 15 million acre feet. Seven states rely on it as well as two countries, United States and Mexico. Seven states and ten Indian tribes. And we're dividing up 15 million acre feet to be shared amongst all those entities. In California we have two, to almost three times the flow of the Colorado River water and one state to share it in and believe me, Arizona and Nevada are kind of jealous and frankly generally resentful at times. They're just saying, yet you can't seem to solve anything within California. We're debating amongst ourselves, it's really hard."

"So is there a way we can work around that issue?," asked the audience member.

"I think you touched on it first," said Mr. Kightlinger. "There is water in California. We are not an arid state, much like Arizona and Nevada. It's how you manage what the choices you make and that's where the political decision making process comes in."

"The legislators from Southern California, Speaker Rendon and Senate Pro Tem De Leon, both from LA, haven't been particularly active in the discussion," said Mr. Morain. "Rendon carried legislation related to water in his first year. But in the question of tunnels, they have

not engaged. If the Southern California legislators are not going to engage in this, why should Northern California?"

"Speaker Rendon was very active in pushing forward a water bond," said Mr. Kightlinger. "But what you're asking is should they engage in debate the tunnels. There actually is no legislation on the tunnels there. Legislators typically debate what is actually before them to debate as opposed to something that is statewide interest that is not before the legislature."

"One of the questions that keeps being raised by those in the north who are suspicious of this project is, it's going to be paid for by your rate payers in MWD but there is a thought that most of the water benefits will be going to Westlands or the Valley Farmers," asked an audience member. "That the farmers are getting the biggest benefit of this and water is going to grow almonds in Westlands that would ship to China or something, and there's not really a lot of water that's going to go to those folks in LA and Orange county and so forth, will be paying most of the costs. What's your answer to that charge?"

"The question basically was, it's my agency that represents the large population, are we basically going to be subsidizing the agricultural agencies and paying their share – they'll get the lion's share of the benefits and my agency people will get the lion's share of the cost," said Mr. Kightlinger. "One thing that I think a lot of people don't understand. The amount of water Metropolitan takes out of the Delta is equivalent to four percent of all the water that goes into the Delta, four percent. And for that, we're supplying the drinking water for one half of the state's population. So it's a pretty remarkable, efficient operation we're trying to run and maintain and people in Southern California have done a good job in conserving and minting a flat water use as our population has grown."

"The current plan on the table, though, is that we're going to pay bucket for bucket. So Southern California uses 25 percent of the water that moves through the tunnel, Southern California will pay 25 percent of the cost," he continued. "The water is going to follow the money, the money is going to follow the water. Westlands gets 25 percent of the water, they would be on the hook for 25 percent of the cost. Now, there's a lot of debate in the farming community for whether they can afford that or not. They'll have to make that decision. But that is the plan that there isn't intended to be an Urban to Ag subsidy to make this happen."

"If the farmers in Westlands and Kern County don't pony up their share, would MWD do it on its own?" asked Mr. Morain.

"I don't believe so," said Mr. Kightlinger. "What we've done here is the state of California, working with the Federal government, has come up with a California Delta plan – not a Metropolitan Delta plan. It's a California-wide plan that benefits about 23, 24 million Californians, which we were at 19 million, but there is another four or five million out there that we don't represent. And would provide water to about four million acres of farmland going down to Central Valley that we have nothing to do with. That is the plan that's on the table. And if those people for the four million acres and the other four or five million people choose not to opt in and do it, I don't see any chance that the Metropolitan Board would say, well, we'll fix this for all of California; it's not politically feasible."

"Sixty-four years ago I was a young engineer working on the Delta, a young civil engineer," said an audience member. "You mentioned climate change several times. Now I think, as an engineer, that



sometimes before the next 64 years go by, climate change, with the ocean rising, the Delta islands continue to subside as they have been, the levees are going to be overcome, and ... you won't be able to get a drop of water across to send south. Has your MWD analyzed that possibility at all?"

"Yes, and our conclusion is that you're going to see greater and greater salt water intrusion moving into the Delta," said Mr. Kightlinger. "You're going to see all the impacts of all the impacts of storm surges and all these things coming from climate change. More volatile conditions as snow pack turns into rain. All of these things point to – you have to do a lot of things. You have to be a lot more local reliant as you can. You have to develop your ground water basins. That's one of the things you have to do that's locally. But you're going to have to build more robust infrastructure, meaning larger size facilities to capture peak flows, tunnels that go north and go further out of the area of sea water intrusion. To my mind, you're going to have to build that infrastructure that climate change is going to call for or relocate millions of people. Those are your options."

"If nothing happens, the status quo, how does that affect the Delta in 20 years?" asked Mr. Morain.

"I don't think what you have currently in the Delta is sustainable without making significant changes in how we operate," he said. "These islands can't survive climate change and they can't be 20 feet below sea level in certain areas. We're going to have to find ways to rebuild them. We're going to have to find a better functioning habitat system for species. Or, we're going to continue to spiral downhill."

"I don't think you're going to be able to find enough money to keep those levees when climate change hits," said the audience member. "I'm sure that MWD knows that and you haven't answered my question. What are you going to do when you can't get a drop of water across the Delta because the levees have collapsed?"

"The game plan we have is two things," said Mr. Kightlinger. "One, build long-term infrastructure such as tunnels or a Delta bypass that you, so in the event of a collapse you are protected and secure. The second thing is we have to build a system that can manage that collapse. We have been working on emergency response pass that would be able to come in, rebuild key levees, rebuild parts of the system, try and get some water system up and running within six months, maybe 18 months at the outside in the response as an earthquake, natural disaster, storm surge response. So we do have emergency response plans. The state of California is stock piling emergency materials, rock, etc. We do plan for emergencies, sometimes we get overwhelmed."



"State Water Project, Oroville water – I kinda get it," said another audience member. "Your partner in this is the Bureau, the Central Valley

Project, and Folsom is the Central Valley Project, and the CVP has been on the short end of a whole bunch of things: the CVPIA took 800,000; the Trinity decision, and so that whole system seems to be collapsing, and Folsom seems to be on the short end of the stick, and that's without Westlands getting their full supply. Help us understand, I understand your not a CVP contractor, but if you speak on their behalf just for a minute, and tell us how we should take some comfort and what's

going to happen at Folsom if the Bureau stays in the project and Westlands gets their equal share of the pie."

"Now we're really getting to truly insider baseball here on the system," replied Mr. Kightlinger. *"What we have here is a very complicated system with reservoirs being operated around California for lots of purposes. Originally these systems were built to supply water for urban and agricultural purposes, and now we have layered on all our existing infrastructure a duty to maintain water quality and endangered species mitigation. Shasta is a very large reservoir in the Central Valley Project in Northern California, it has about 3, almost 4 million acre-feet of water in it right now. They are releasing something like 9,000 cfs per second to maintain various flows in the system. Folsom, a relatively small reservoir, has 6-700,000 acre-feet at the moment, and it's releasing 5,000 cfs – meaning that it's 20% of the size of Shasta, but it's doing more than half of the lifting to maintain flows for species. Why? Because they want to preserve the cold water for salmon, so the federal agencies and the fish agencies have decided to put most of the burden on Folsom. There's a strong local concern here where people rely on Folsom."*

"It has nothing to do with this project, it has nothing to do with the State Water Project; it has everything to do with how we manage our system to protect endangered species," continued Kightlinger. *"So, does the project fix that? No it doesn't. What are we going to have to do? We're going to have to get more robust systems in there to deal with the habitat issues, we're going to have to get in and work with the State Water Board and work with the fish agencies on how do you want to manage this. Right now, if it's all salmon, then why are we releasing all the water from Folsom today to protect that. But again, separate from this project and also separate from the State Water Project, and they aren't going to solve that issue, they aren't [indistinguishable]."*

"My question is about the Delta islands that Metropolitan will be closing on," says another audience member. "My question to you is as an absentee landowner in the Delta, what does it mean to Metropolitan to be a good neighbor?"



"That is a good question," responded Mr. Kightlinger. "So what does that mean to be a good neighbor for us. I guess you could look at it as an absentee landlord, that's certainly not an unfair characteristic. What we'd want to do is to figure out what is a good value use of that land in a way that also that doesn't have any impacts on the locals and the neighbors. Metropolitan owns 20,000 acres in the Palo Verde Valley which is over by Blythe on the Colorado River. We have owned half of that land since the early 2000s, so for about 15 years now. We have worked very closely with the city and the community there as well as the local water district there. We have maintained it in farming, but we've also followed parts of it to move water to us. We meet with them regularly to tell them our plans, and try to make sure that it works in a way that works for both the community and for us. There's been tensions at times; sometimes they feel we're operating at little too much for our water benefit, and they'd like to see more of a community benefit, and we listen to that and try to work closely with them. So that is what our board has said. We want to find ways that we can use this land in a way that is locally beneficial and provides benefits to us, and we would want to hear from the community, are we being successful in doing that?"

"How will they be able to reach you?" asked Mr. Morain.

"Gmail," replied Kightlinger. [laughter]



"Every scientific panel ranging from the Delta Independent Science Board to the EPA, federal scientists, have issued extremely critical reports about the so-called science behind the Delta tunnels," asked another audience

member. "They conclude that the tunnels, if they are built, are likely to hasten the extinction of Central Valley steelhead, winter-run chinook salmon, Delta and longfin smelt, green sturgeon and other species, and they conclude that rather than restoring the Delta, that the tunnels would actually lead to the destruction of the Delta. These are the scientists across the board, ranging from state scientists to federal scientists. How do you possibly support this project if it doesn't have any scientific basis, according to all the available science?"

"That's simply not accurate," said Mr. Kightlinger. "The National Academy of Sciences, the California Department of Fish and Wildlife have all said, this is the type of project that needs to get built if you want to take care of the endangered species of fish. It doesn't answer every other issue, but most of the scientific actual balance has been that you need to have some form of Delta bypass if you're going to protect native species fish. That actually has been the scientific consensus. Then you get into debates on lots of other issues and impacts as well."

"43 pages ..." countered the audience member.

"Totally different, and mostly focused on water quality and endangered species fish ..."

"No, that's not true ..." says the audience member.

"Well then we disagree," answered Mr. Kightlinger.

Mr. Morain goes to another member of the audience. "I understood at least in the old peripheral canal plan, really what that amounted to was a manifold," says the audience member. "We were going to inject water at strategic points and improve water quality in the Delta. Do the tunnels have the same component? You really haven't talked about how – people don't really understand how it's going to improve things. All they see in it is a large conduit to pump more water."

"The actual old peripheral canal was going to be designed with the ability to move 23,000 cubic feet per second, and then deliver about 10,000 cfs to the pumping plants, and the concept was that the canal would drop off water throughout the Delta and add freshwater throughout the Delta to make it much fresher for agricultural purposes," said Mr. Kightlinger. "That was good logic in 1982 thinking. All the thinking today is, we've learned now that salmon want to follow water molecules that they are from, and all we'd be doing is driving all these salmon species extinct as instead of going north, they'd be going south and following the manifold, so California Fish and Wildlife was actually one of the strongest agencies to say we don't want that type of freshening of the Delta, that is bad scientific planning. That was the best thinking at the time in 1982 and it is now considered exactly we do not want to do."

"So this project is not going to do that," Mr. Kightlinger continued.

"The idea is that we're going to allow for a much more natural interface in the Delta of water moving east to west, and the north to south moving water would go into tunnels and be completely separated from it to allow a much more natural system for fish species. That's the best thinking today in 2016, and I'm sure in 2050,

people will say, I wish we'd done something different, but that's our best thinking today."

Mr. Morain then gave Mr. Kightlinger an opportunity to provide some closing comments.

"I'm pretty rare in the sense that I'm an actually an eighth generation Californian, my kids are ninth generation; if one them has a kid at some point, that will be tenth generation," said Mr. Kightlinger. "I grew up my whole life in Southern California; I did all my schooling in Northern California, I tend to think of this place as one state, and we ought to try and solve these things best we can together. Thank you."

- [Click here to watch on video.](#)

Coming up this week on Maven's Notebook

...

- **Much more on the Delta tunnels** with a post from a KQED radio show featuring Secretary John Laird, Barbara Barrigan-Parilla, and Jay Lund, the latest Metropolitan Bay Delta Committee meeting, and all the news from hearings that I can dig up!

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
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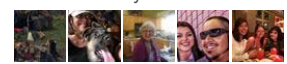
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The diary of a confessed obsessive-compulsive California water news junkie

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