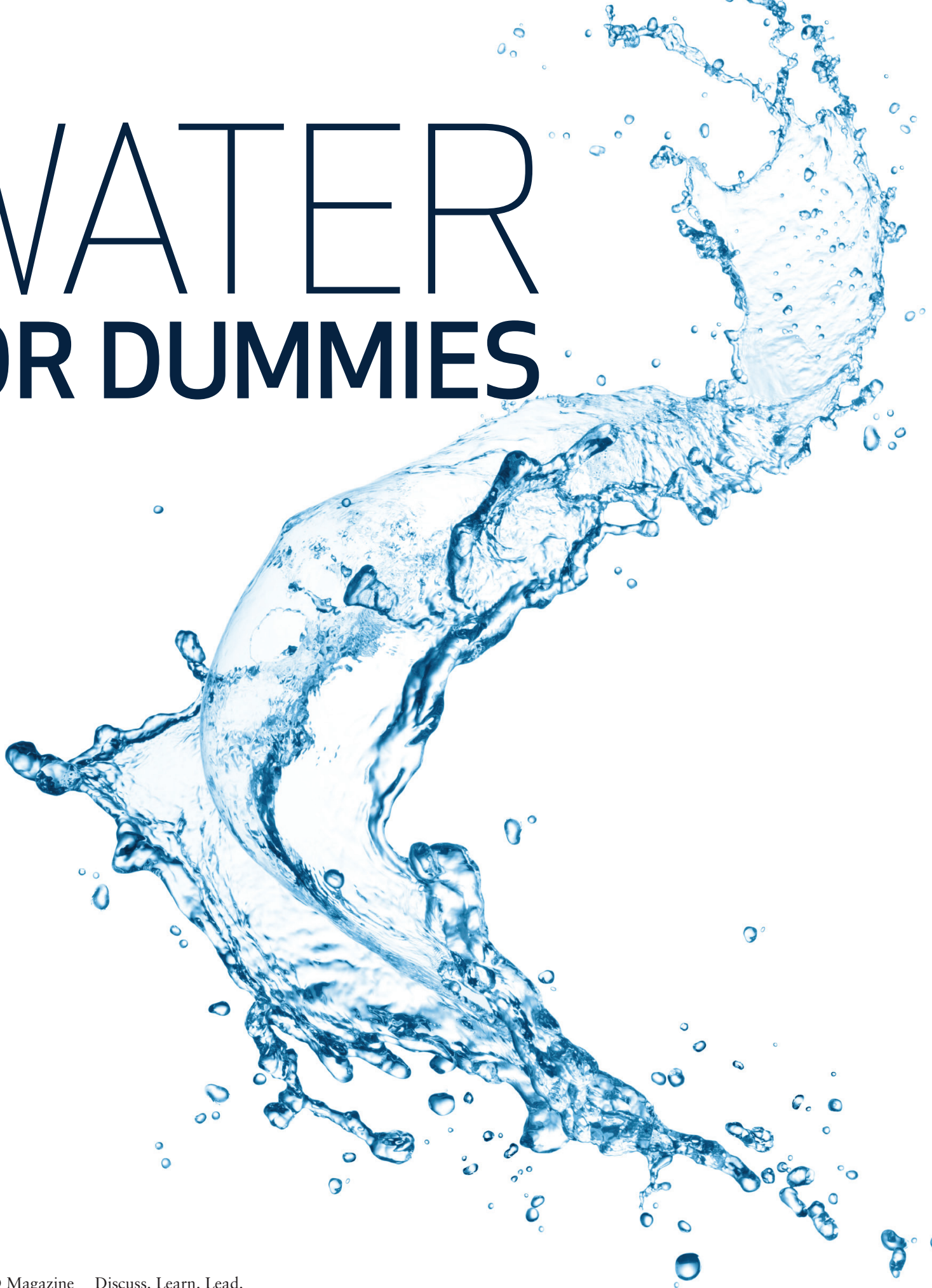


WATER FOR DUMMIES





2015 ENLIGHTENED SPEAKER SERIES

“Whiskey is for drinking and water is for fighting.” Those words, attributed to Mark Twain, still apply to the water situation in Texas. We’re in the middle of a drought the likes of which we haven’t seen since the 1950s, and there are indications that this drought will be worse than the one in the ‘50s.

A Texas CEO Magazine Enlightened Speakers Series event in Austin, addressed our water situation. The speakers included Dean Robbins, the assistant general manager of the Texas Water Conservation Association (TWCA); Russell Johnson, of McGinnis Lochridge, who is probably the leading water attorney in the state; and Carlos Rubinstein, the chairman of the Texas Water Development Board. With a population expected to double over the next 50 years, and increasing demands for water from agriculture and industry, how are we going to cope?

To understand Texas water, we must first start with the difference between surface water and ground water. “Surface water is state water,” Robbins said. “It’s all about droughts and floods.”

To make sure Texas cities have an adequate water supply during droughts, we build reservoirs. “We started building reservoirs in the early 1900’s and our storage capacity peaked out about 1980,” Robbins said. Since then, our per capita storage capacity has been going down.

“Surface water provides about two-thirds of the municipal water supply in Texas,” said Robbins. “If we didn’t build any more reservoirs, we’d be in about the same situation as the drought of the 50’s. Not good.” He said the latest state water

plan has 26 more reservoirs in the works.

“Every one of those projects in the plan is a battle — and they are massive battles,” Johnson said. “It will take 25 years to build a project, and that’s if we started today.”

But surface water isn’t the complete answer to our water needs — groundwater plays a role, too. It’s managed differently than surface water, because it’s a property right, Robbins said. There are more than 100 groundwater conservation districts in the state, and they have “immense” regulatory power, said Russ Johnson. Robbins said about 60 percent of the state’s groundwater is used for agricultural irrigation.

Johnson said if you want to use groundwater you own for anything more than domestic and livestock purposes, it requires permission from the local groundwater conservation district, which is hard to get. In fact, even though you might own your groundwater, you do not have the right to sell it.

That’s one of ten things you should know about water, said Johnson. Oil companies are desperate for sources of water, he said, and if they see a source of water — like a stock pond — they might ask for permission to buy it. But that’s illegal.

The second thing to know is that water is a commodity, but it’s hard to determine its price. “Most utilities charge three to four dollars per thousand gallons of water consumed,” Johnson said. “The average household uses about one-third an acre-foot per year and an acre-foot is 326,000 gallons, which is about \$1,200 per acre-foot.” Johnson said the bottle of water he bought on the way to the event cost about \$2 million an acre-foot. But he was paying for

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Carlos Rubinstein is Chairman of the Texas Water Development Board.

convenience, ease, and availability, he said. The average homeowner would not pay that much for water delivered to the house.

“What is water worth?” asked Johnson. “It’s worth a lot more when you need it.” He cited the city of San Antonio, which is paying \$2,000 per acre-foot for water delivered from the Carrizo-Wilcox Aquifer, east of Austin. But that’s before the water reaches the city’s infrastructure. Then, another \$1,500 per acre-foot will be added to the cost. When that water is delivered in the next four years, said Johnson, the cost will double, or more than double.

In fact, another thing to know about water is that Texas is not short of it. There is more water in the Carrizo-Wilcox aquifer than in the entire Ogallala Aquifer in the Panhandle. But it is off-limits for development, because of groundwater conservation districts, said Johnson.

“Texas, if it lacks anything, lacks the infrastructure to move water from where it is, to where it needs to be,” Johnson asserted. For example, groundwater conservation districts think it’s a bad idea to move water from one basin to another. “I call it the East

Texas rule,” he added. “If you want their water, move to Beaumont.”

The challenge for the Texas Water Development Board is to move water from where it is, to where it needs to be, said Johnson. To fund that infrastructure is the challenge.

Groundwater conservation districts have set goals for their aquifers called Desired Future Conditions, Johnson said. Most GCDs want the future condition not to change from the present. “When you set that boundary, you’ve said we can only use the amount of water we’re currently using and that puts any additional water use off limits,” Johnson said. The GCDs are keeping the state from tapping those water resources.

If we do nothing over the next 50 years, we will be 8.3 million acre-feet short, said Carlos Rubinstein of the Texas Water Development Board. He said in the drought year of 2011, we used 18 million acre-feet of water. “Being short by 8.3 million acre-feet is significant,” he added.

To make up that shortfall, we will have to spend \$231 billion over the next 50

years, he said. It isn’t all for water supply. Water treatment and distribution will cost \$89 billion, and wastewater collection and treatment, another \$82 billion. Another \$53 billion will go to tap new sources of water.

Right now, the state has about three-thousand water projects, but until last year, they were not funded. Then, the Legislature passed SWIFT – the State Water Implementation Fund for Texas. That will provide \$2 billion to political subdivisions for water projects. To qualify for part of that money, a project must be in the state water plan, which is updated every five years.

“Because of the way we are leveraging the \$2 billion, we know today that we will have the capacity to open a funding opportunity every year for the next ten years at \$800 million a year,” Rubinstein said. He said that by March, the board should be prioritizing and scoring projects.

“We’d welcome seeing public-private partnerships,” Rubinstein said.

Fifty years from now, the biggest user of water in Texas will still be agriculture. “Every time I go to one of these events, I get questions about fracking use,” Rubinstein



Attorney Russ Johnson is with McGinnis Lochridge



Dean Robbins of the Texas Water Conservation Association

EVERY ONE OF THOSE PROJECTS IN THE PLAN IS A BATTLE — AND THEY ARE MASSIVE BATTLES. IT WILL TAKE 25 YEARS TO BUILD A PROJECT, AND THAT’S IF WE STARTED TODAY.

said. But fracking accounts for the lowest level of use right now, and after 2030, will begin to decline.

Other, innovative technologies can add to the water supply. Municipal effluent, which was once considered a liability, is now an asset, said Dean Robbins. “In the water business today people say the good news is we can drink our wastewater,” he said. “The bad news? There’s not enough to go around.”

Another promising technology is desalination, both for seawater and for brackish groundwater. “The technology continues to improve,” Robbins said. “It’s still pretty expensive.”

Johnson highlighted the urgency of the current water situation. “During the drought of record in the ‘50s, the Highland Lakes refilled overnight,” he said. “So, all of our models assume the Highland Lakes will refill overnight.” But seven of the worst inflow years to the Highland Lakes have happened in the last 15 years. He concluded, “The Highland Lakes are in serious trouble.”

Thank you to our sponsors:



TEN THINGS YOU SHOULD KNOW ABOUT WATER
By Russ Johnson

1. Just because you own it doesn't mean you can sell it
2. You may own your groundwater, but your use is subject to regulation or limitation by a GCD (Groundwater Conservation District)
3. Water is a commodity – but there is no commodity price for water
 - No infrastructure for moving it
 - Value depends on too many variables
4. Texas is not short of water – it is crippled by lack of infrastructure to move water from where it is to where it is needed
We have massive surface and groundwater resources east and north of I-35 and I-10
5. Texas has created nearly insurmountable regulatory barriers to moving water from where it is to where it is needed
 - GCDs are protective of local sources
6. Surface water rights are curtailed during drought by priority date – not importance of use
 - Brazos River curtailments have a priority date of 1942
7. The price of water depends upon a list of variables, including:
 - Distance from demand
 - Quality
 - Amount
 - Reliability
 - Sustainability
 - Regulatory impediments
 - Political issues
8. Groundwater can be severed from the surface
But it is not the dominant estate – unlike oil and gas
9. Groundwater can easily become surface water
 - Springs, once in a watercourse, are no longer owned by the landowner
 - Groundwater pumped into a creek or impoundment becomes surface water
10. Groundwater Conservation Districts are asserting extensive regulatory authority
 - Limiting or prohibiting groundwater use
 - Seeking party status to protest waste discharge wells
 - Regulating land use to protect groundwater quality